DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop S2-25-26
Baltimore, Maryland 21244-1850

State Demonstrations Group

November 18, 2024

Stephen Smith
Director of TennCare
Tennessee Department of Finance and Administration
310 Great Circle Road
Nashville, TN 37243

Dear Director Smith:

The Centers for Medicare & Medicaid Services (CMS) completed its review of the Interim Evaluation Report, which is required by the Special Terms and Conditions (STCs), specifically STC #93 "Interim Evaluation Reports" of Tennessee's section 1115 demonstration, "TennCare III" (Project No: 11- W-00369/4 and 21-W-00075/9), effective through December 31, 2030. This Interim Evaluation Report covers the period from January 2021 through December 2022. CMS determined that the Evaluation Report, submitted on February 23, 2024 and revised on September 22, 2024, is in alignment with the CMS-approved Evaluation Design and the requirements set forth in the STCs, and therefore, approves the state's Interim Evaluation Report.

Overall, the evaluation findings were mixed. Some utilization measures decreased during the implementation period of TennCare III (January 2021 – December 2022), likely in part due to the public health emergency (PHE), while other measures had no observable change, which could be explained by the long-standing nature of the demonstration. However, there were also some strong positive and statistically significant findings related to the demonstration, including improved health outcomes of the I/DD population, increases in the proportion of TennCare enrollees receiving care through the patient-centered medical home (PCMH) model, increases in the proportion of behavioral health and I/DD providers, and increases in access to HCBS services for the CHOICES and I/DD populations. CMS looks forward to receiving the following Interim Evaluation Reports and Summative Evaluation Reports over the next years of the demonstration to see how the demonstration improves healthcare access, quality of care, and health outcomes.

In accordance with STC #97 "Public Access", the approved Interim Evaluation Report may now be posted to the state's Medicaid website within 30 days. CMS will also post the Interim Evaluation Report on Medicaid.gov.

We look forward to our continued partnership on the TennCare III section 1115 demonstration. If you have any questions, please contact your CMS demonstration team.

Sincerely,

Danielle Daly -S

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Date: 2024.11.18 13:04:04 -05'00'

Danielle Daly
Director
Division of Demonstration Monitoring and Evaluation

cc: Tandra Hodges, State Monitoring Lead, CMS Medicaid and CHIP Operations Group

Tennessee's Section 1115 TennCare III Demonstration Evaluation

Interim Evaluation Report

Project No. 11-W-00369/4

Prepared by Guidehouse

Updated August 1, 2024

Table of Contents

A. Executive Summary

The Centers for Medicare & Medicaid Services (CMS) approved Tennessee's Section 1115 demonstration project, TennCare III, for ten years, beginning on January 8, 2021. TennCare provides coverage to over 1.7 million Tennesseans through its managed care system. TennCare III built on many of the policies established in previous iterations of the demonstration and incorporated additional policies. The managed care system, CHOICES program, Employment and Community First (ECF) CHOICES program, Katie Beckett/Medicaid Diversion program, and retroactive eligibility waiver all continued from TennCare II to TennCare III. New policies included Designated State Investment Programs (DSIPs), Fraud Penalties, and Integration of Services for Individuals with Intellectual Disabilities. Tennessee selected Guidehouse to conduct an independent evaluation of the TennCare III demonstration. This document serves as the first interim evaluation report for the ten-year demonstration period. The independent evaluator examined data from January 2017 through December 2020 (pre-implementation of TennCare III) and January 2021 through December 2022 (post-implementation of TennCare III).

1. Summary of the Goals of the Demonstration

Tennessee outlined five primary goals for the TennCare III demonstration, as follows:

1. Provide high-quality care to enrollees that will improve health outcomes,
2. Ensure enrollee access to health care, including safety net providers,
3. Ensure enrollees' satisfaction with services,
4. Provide enrollees with appropriate and cost-effective Home and Community-Based Services (HCBS) within acceptable budgetary parameters, and
5. Manage expenditures at a stable and predictable level, and at a cost that does not exceed what would have been spent in a Medicaid fee-for-service program.

2. Summary of Evaluation Methodology

The independent evaluator used a mixed-methods approach to track the quality of care, health outcomes, access to care, enrollee satisfaction, and cost-effectiveness of the TennCare program. The target population for this analysis is all beneficiaries covered by TennCare, or where applicable, the TennCare member subgroup specific to the research question, such as CHOICES, Programs for Individuals with an Intellectual or Developmental Disability (I/DD), and Katie Beckett/Medicaid Diversion. The evaluation included a wide range of data sources, such as national surveys and national claims databases, Tennessee-specific surveys, and Tennessee claims, administrative, and enrollment data. The independent evaluator also crafted and distributed online surveys, as well as facilitated key-informant interviews. The independent evaluator applied these data sources using multiple analytic methods, including difference-in-differences, interrupted time series, comparison of means, pretest-posttest, and descriptive and qualitative analysis.

Beginning in March 2020, the COVID-19 Public Health Emergency spurred significant changes in health care service delivery and utilization, as well as prevented standard data collection for measures such as the National Core Indicators, among others. To account for gaps in data due to the COVID-19 Public Health

Emergency, the independent evaluator removed CYs 2020 and 2021 from the baseline and intervention evaluation periods when it was inappropriate or impossible to account for the effects of the COVID-19 pandemic. Some research questions were excluded from this interim evaluation report entirely due to a lack of data but will be addressed in future reports.

3. Interim Evaluation Observations

Figure 1 below lists the five goals of the TennCare III demonstration, summarizing overall conclusions and highlighting specific findings of note.

Figure 1: Interim Evaluation Observations by Goal

Goal	Observations
1. Provide high-quality care to enrollees that will improve health outcomes	**Key Finding:** TennCare III maintained the delivery of high-quality physical and mental health care as established in previous iterations of the program. There were no statistically significant results for any research questions related to Goal 1. Since the implementation of TennCare III, TennCare enrollees had better controlled blood pressure and HbA1c levels compared to national averages during the demonstration period, and CHOICES enrollees also reported better management of chronic conditions. Utilization of EPSDT services, management of behavioral health conditions, and access to medication-assisted treatment through the BESMART Program all maintained or improved since the implementation of TennCare III. The independent evaluator could not draw conclusions related to utilization of preventive services or impact on Neonatal Abstinence Syndrome live birth rates. Opioid-use rates and opioid-use disorder rates decreased before and after the implementation of TennCare III, but the lack of comparison data does not allow the independent evaluator to conclude that TennCare III caused this result.
2. Ensure enrollee access to health care, including safety net providers	**Key Finding:** The implementation of TennCare III did not have a significant impact on levels of utilization for preventive services and mental health care established prior to the demonstration. There was a statistically significant increase in number of enrollees in Patient Centered Medical Homes (PCMHs) and in population to behavioral health provider ratio. Since the implementation of TennCare III, Tennessee has made several policy changes intended to increase access to care through the TennCare demonstration. These include expanding the scope of Medicaid coverage for pregnant and postpartum women in Tennessee, implementing an adult dental benefit, and increasing enrollment in HCBS. Since the implementation of TennCare III, the proportion of TennCare enrollees receiving care through the PCMH model increased significantly, as did the number of behavioral health and I/DD providers relative to the population. Managed Care Organizations (MCOs) played a key role in ensuring enrollee access to health care and services for non-medical needs; the MCOs developed relationships with Community-Based Organizations (CBOs) to implement structured screening processes in provider offices, foster connections to

Goal	Observations
	resources in communities, and follow up with enrollees about whether their needs were met. Adult enrollee utilization of preventive services, inpatient visits, and mental health visits, and children and adolescent utilization of dental services all maintained rates similar to those prior to the implementation of TennCare III, indicating consistent access. Additionally, TennCare III generally did not significantly impact engagement in prenatal care. However, the independent evaluator did observe an increase in the percentage of births associated with a postpartum visit. Dental care for pregnant TennCare enrollees was added as a benefit in April 2022, and subsequently for all adults in January 2023, and will be evaluated further in later evaluation reports.
3. Ensure enrollees' satisfaction with services	**Key Finding:** TennCare III did not significantly impact enrollee satisfaction with services. Both overall beneficiary satisfaction and satisfaction among CHOICES enrollees (surveyed in the National Core Indicators – Aging and Disabilities survey) have remained similar before and during the demonstration period.
4. Provide enrollees with appropriate and cost-effective Home and Community-Based Services (HCBS) within acceptable budgetary parameters	**Key Finding:** TennCare III increased access to HCBS for enrollees with I/DD, as well as improved rates of enrollees with I/DD participating in integrated employment; both results were statistically significant. TennCare III did not significantly impact CHOICES enrollees' access to HCBS. Since TennCare III, average costs of long-term services and supports increased. The number and percent of CHOICES enrollees actively receiving HCBS and the ratio of HCBS to nursing facility cost per CHOICES enrollee both remained consistent since the implementation of TennCare III. The percentage of enrollees who met a nursing facility level care and accessed HCBS for 90+ days increased significantly post-implementation. From a budgetary perspective, the average long-term services and supports costs per CHOICES enrollee and per individual with I/DD increased since the implementation of TennCare III. This may in part be a reflection of activities undertaken by the State to enhance, expand, and strengthen HCBS under Section 9817 of the American Rescue Plan Act during the period covered by the demonstration.
5. Manage expenditures at a stable and predictable level, and at a cost that does not exceed what would have been spent in a Medicaid fee-for-service program	**Key Finding:** TennCare maintained an expenditure growth rate that is slower than the average national Medicaid expenditure growth rate between FY 2020-FY2022. Expenditures on TennCare III were highest in FY2020 ($11.5B), but similar to FY2021 ($11.1B) and FY 2022 ($11.3B).

B. General Background Information

This is the Independent Evaluation Interim Report for Tennessee's Section 1115 demonstration project, TennCare III (Project Number 11-W-00369/4), approved by CMS on January 8, 2021. This Independent Evaluation Interim Report examines demonstration activities from January 8, 2021, through December 31, 2022, with qualitative data collection (i.e., interviews with managed care organizations and Enrollee Surveys) occurring in 2023. The purpose of the demonstration is to test and evaluate innovative solutions to improve health outcomes through high-quality and accessible care while maintaining expenditures at a predictable level. This also includes ensuring enrollees' access to care, including safety net providers, and satisfaction with services.

TennCare, which began in January of 1994, is one of the longest-running Medicaid demonstrations in the nation. The original TennCare demonstration created the first Medicaid managed care program in Tennessee. The original TennCare demonstration employed managed care organizations (MCOs) and extended coverage to many previously uninsured individuals.

TennCare II, which revised the existing TennCare demonstration and divided program populations into "TennCare Medicaid" (for enrollees who are Medicaid-eligible under Tennessee's Title XIX State Plan) and "TennCare Standard" (for enrollees who are Medicaid-eligible through the demonstration's expenditure authorities), was first implemented in July 2002. Over time, the TennCare demonstration has been revised to integrate more components of the Medicaid program into managed care.

The current TennCare III demonstration, which began on January 8, 2021, subsumes TennCare II and continues many of the existing TennCare II authorities, as well as new flexibilities. TennCare provides Medicaid health insurance coverage to approximately 1.7 million Tennesseans, equivalent to about 23% of the State's population. The majority of TennCare III demonstration policies pre-date its approval and are a continuation of TennCare II components. The managed care system, CHOICES program, Employment and Community First (ECF) CHOICES program, Katie Beckett/Medicaid Diversion program, and retroactive eligibility waiver were all implemented in prior demonstration periods and continue under TennCare III.

To comply with CMS requirements, TennCare selected Guidehouse to conduct an independent evaluation of the TennCare III demonstration. The evaluation uses quasi-experimental study designs to assess how TennCare met its programmatic goals.

Limitations

The information contained in this document, including any attachments and appendices, has been prepared by Guidehouse Inc. for the sole use and benefit of, and pursuant to a client relationship exclusively with the Division of TennCare. It is our understanding that the information contained in this document may be utilized in a public document. To the extent that the information contained in the document is provided to third parties, the document should be distributed in its entirety. Any user of this report must possess a certain level of familiarity with Medicaid programs in general and TennCare, specifically, to avoid misinterpretations of the report's contents. Accordingly, Guidehouse disclaims any contractual or other responsibility to others based

on their access to or use of the deliverable. The work presented in this deliverable represents Guidehouse's professional judgment based on the information available at the time this report was prepared.

1. Demonstration Goals

The TennCare III demonstration, like prior iterations of the TennCare demonstration, seeks to address the issue of providing enrollees with high-quality, accessible care while balancing cost-effectiveness and managing expenditures at a sustainable and predictable level. Further, TennCare III also aims to address the administrative barriers that can be associated with implementing changes in a Medicaid program in a timely manner. With the new demonstration, Tennessee was granted greater autonomy over the TennCare program, including increasing coverage and benefits without additional CMS approval, which allows for more timely updates to the program. TennCare's primary goals remain consistent with past demonstrations and are as follows:

1. Provide high-quality care to enrollees that will improve health outcomes,
2. Ensure enrollee access to health care, including safety net providers,
3. Ensure enrollees' satisfaction with services,
4. Provide enrollees with appropriate and cost-effective Home and Community-Based Services (HCBS) within acceptable budgetary parameters, and
5. Manage expenditures at a stable and predictable level, and at a cost that does not exceed what would have been spent in a Medicaid fee-for-service program.

Demonstration goals address objectives of the Section 1115(a) demonstrations, including health care accessibility, improved health outcomes, and cost-effectiveness.

2. Description of the Demonstration and Implementation Plan

TennCare, which began in January of 1994, is one of the longest-running Medicaid demonstrations in the nation. The original TennCare demonstration created the first Medicaid managed care program in Tennessee. The original TennCare demonstration employed managed care organizations (MCOs) and extended coverage to many previously uninsured individuals.

TennCare II, which revised the existing TennCare demonstration and divided program populations into "TennCare Medicaid" (for enrollees who are Medicaid-eligible under Tennessee's Title XIX State Plan) and "TennCare Standard" (for enrollees who are Medicaid-eligible through the demonstration's expenditure authorities), was first implemented in July 2002. Over time, the TennCare demonstration has been revised to integrate more components of the Medicaid program into managed care.

The current TennCare III demonstration, which began on January 8, 2021, subsumes TennCare II and continues many of the existing TennCare II authorities, as well as new flexibilities. Because in many cases, TennCare III represents a continuation of policies that were already in effect prior to January 2021, rather than new interventions, the TennCare III evaluation design largely focuses on whether the current TennCare III demonstration has maintained or continued progress on key indicators. Where new policies have begun

under TennCare III, the evaluation design seeks to assess the impact of those discrete policy changes to the extent possible.

Continuing Policies

The majority of TennCare III demonstration policies pre-date its approval and are a continuation of TennCare II components. The managed care system, CHOICES program, Employment and Community First (ECF) CHOICES program, Katie Beckett/Medicaid Diversion program, and retroactive eligibility waiver were all implemented in prior demonstration periods and will continue under TennCare III. This subsection further describes select key, continuing policies continuing under TennCare III.

CHOICES Program

The CHOICES managed long-term services and supports (MLTSS) program was first implemented in 2010 to provide older adults and adults with physical disabilities an integrated benefits package of long-term services and supports (LTSS), which includes both home and community-based services (HCBS) and nursing facility (NF) services. Under TennCare III, the State continues the CHOICES program for eligible individuals and, in doing so, maintains or expands access to HCBS for TennCare enrollees who are elderly or physically disabled.

ECF CHOICES Program

The ECF CHOICES program, implemented in 2016, expanded the use of managed care to provide HCBS to individuals who have an intellectual or developmental disability (I/DD). This program provides an integrated HCBS benefits package that includes integrated employment supports. The ECF CHOICES program continues under TennCare III, and the State prioritizes reducing the ECF CHOICES waitlist, increasing enrollee independence, and continuing to achieve individual employment goals for the I/DD population.

Katie Beckett/Medicaid Diversion Program

In November 2020, the State began implementing a Katie Beckett/Medicaid Diversion program for children with disabilities or complex needs whose parents' income or assets render the child ineligible for traditional Medicaid coverage. The State's program consists of two parts: Part A and Part B.

The Katie Beckett component of the program (Part A) targets children with the most severe needs, and provides a pathway to traditional Medicaid coverage, supplemented by a package of essential supportive services. The Medicaid Diversion component of the program (Part B) provides a targeted package of services and supports designed to prevent or delay the need for traditional Medicaid supports. Children in Katie Beckett (Part A) are subject to premiums, which are set on a sliding scale.

Retroactive Eligibility Waiver

TennCare's retroactive eligibility waiver enables the State not to extend eligibility to an enrollee prior to the date that an application for assistance is made. This waiver was first authorized by CMS in 1994 and continues under TennCare III; however, the waiver no longer applies to pregnant women and children who enroll in TennCare. Under TennCare III, these pregnant women and children receive retroactive coverage for medical costs incurred up to three months before the month of application.

Uncompensated Care Pools

TennCare authorizes the State to make uncompensated care payments to hospitals and other safety net providers. The demonstration includes two funds from which uncompensated care payments may be made, the "Virtual DSH" fund and the Uncompensated Care Fund for Charity Care. TennCare III gives the State certain flexibility to adjust the distribution methodology for uncompensated care payments.

New Policies Under TennCare III

Multiple policies and flexibilities were approved by CMS as part of the TennCare III demonstration. As a means of advancing the programmatic goals outlined in section 1 CMS has authorized the following:

- **Designated State Investment Programs (DSIPs).** Provides Tennessee with an opportunity to obtain shared savings.
- **Fraud Penalties.** Allows TennCare to temporarily suspend Medicaid eligibility for enrollees convicted of Medicaid fraud.
- **Integration of Services for Individuals with Intellectual Disabilities.** Integrates 1915(c) HCBS waiver services for individuals with intellectual disabilities and ICF/IID services into the larger managed care program.

Designated State Investment Programs (DSIPs)

The TennCare III demonstration gives Tennessee the opportunity to share in savings each year if the State underspends the budget neutrality cap specified in the demonstration's special terms and conditions. The shared savings component of the demonstration creates potential opportunities for the State to make key investments in the Medicaid program and the health of Medicaid beneficiaries.

Fraud Penalties

TennCare has the authority to suspend, for up to 12 months, Medicaid eligibility for individuals who have been convicted of Medicaid fraud. At this time, Tennessee has not implemented any new policies relative to suspending individuals convicted of fraud.

Integration of Services for Individuals with Intellectual Disabilities

Prior to the implementation of ECF CHOICES in 2016, the State provided HCBS to individuals with intellectual disabilities through a set of 1915(c) HCBS waivers. Individuals who were enrolled in one of these 1915(c) waivers prior to 2016 may elect to continue to receive their HCBS through these 1915(c) waivers rather than ECF CHOICES. While ECF CHOICES is fully integrated into the demonstration's larger managed care program, HCBS delivered through the 1915(c) waivers currently sit outside the managed care program. The State plans to integrate all Medicaid services for individuals with intellectual disabilities into the TennCare managed care program. Although this policy was not part of the TennCare III demonstration as approved in January 2021, the State subsequently submitted a demonstration amendment to CMS to make this policy change. In anticipation that this demonstration amendment would be approved, the policy is addressed in the evaluation design submitted by the State to CMS. However, at this time, the State is still awaiting CMS action on this demonstration amendment.

3. Impacts of COVID-19 Public Health Emergency

Beginning in March 2020, the COVID-19 Public Health Emergency spurred significant changes in health care service delivery and utilization. The public health emergency altered Medicaid enrollment levels, program expenditures, enrollee satisfaction, service utilization, and access to care. The COVID-19 pandemic also prevented standard data collection for multiple measures, including the National Core Indicators (NCI) and the National Core Indicators – Aging and Disabilities (NCI-AD) Surveys, which involve in-person interviews. Since in-person interviews were infeasible in CY 2020-2021, NCI and NCI-AD data were not collected for this time period.

To account for gaps in data due to the COVID-19 Public Health Emergency, the independent evaluator removed CYs 2020 and 2021 from the baseline and intervention evaluation periods when it was inappropriate or impossible to account for the effects of the COVID-19 pandemic. The independent evaluator carefully analyzed any data from CYs 2020 and 2022 and supplemented with data from additional pre-COVID-19 or post-COVID-19 years. Utilization data from these years was particularly scrutinized and/or avoided due to COVID-19 pandemic-related impacts. In cases calling for interrupted time series analysis, the independent evaluator used a multiple-intervention technique to capture effects of both the COVID-19 pandemic and TennCare III. For difference-in-differences analyses with more than two observations available, year-fixed effects were added to capture time-varying effects, including the COVID-19 pandemic. For most pretest-posttest cases, the independent evaluator excluded 2020 and 2021 data from both the baseline and intervention groups.

As this evaluation focused on the impact of the demonstration on total computable costs (i.e., both federal and state share of expenses) overall, as well as total PMPM expenditures, the enhanced Federal Medical Assistance Percentages (FMAP) available through the Families First Coronavirus Response Act (FFCRA) and the American Rescue Plan (ARP) were out of the scope of the evaluation. The enhanced FMAP available through FFCRA did not directly impact total expenditures, merely the share to be assumed by the state and federal budgets. The enhanced FMAP available under Section 9817 of the ARP allowed for additional funding to enhance, expand, or strengthen Medicaid HCBS, although the specific investments undertaken by Tennessee under Section 9817 were not the focus of this evaluation.

4. Population Groups Impacted by the Demonstration

The target population for this analysis was all beneficiaries covered by TennCare, or where applicable, the TennCare member subgroup specific to the research question, such as Katie Beckett Program enrollees and enrollees in CHOICES or ECF CHOICES. Target populations are further outlined in **Section D.5**.

TennCare Enrollment Over Time

The independent evaluator used preexisting data to determine enrollment numbers from 2018-2022. Enrollment was defined as the total number of unique enrollees who appeared in TennCare's claims data during a given year. **Figure 2** below shows enrollment trends from 2018-2022.

Figure 2: Total Enrollment Over Time

	Enrollment Year				
	2018	2019	2020	2021	2022
Total Enrollees	1,723,682	1,644,796	1,682,442	1,762,925	1,846,965
Percent Change	-	-4.58%	+2.29%	+4.78%	+4.77%

TennCare Enrollee Sociodemographic

Demographics: Sex

Figure 3 shows the proportion of females and males across all TennCare, TennCare CHOICES, TennCare ECF CHOICES, and TennCare Non-CHOICES enrollees from 2018-2022. Women make up a majority of all TennCare enrollees as well as non-CHOICES TennCare enrollees, consistently around 58% across all years for both categories. Females make up 66% of CHOICES Only enrollees across all years. ECF CHOICES enrollees are predominantly male, around 62% across all years.

Figure 3: Sex Demographics[1]

	Enrollment Year				
	2018 (n= 1,723,682)	2019 (n= 1,644,796)	2020 (n= 1,682,442)	2021 (n= 1,762,925)	2022 (n= 1,846,965)
All TennCare	58% Female	58% Female	58% Female	58% Female	58% Female
TennCare Excluding CHOICES	58% Female	58% Female	58% Female	58% Female	58% Female
CHOICES Only	67% Female	66% Female	66% Female	65% Female	65% Female
ECF CHOICES Only	38% Female	38% Female	38% Female	38% Female	38% Female

Demographics: Age

Figure 4, **Figure 5**, **Figure 6**, and **Figure 7** display the breakdown of TennCare enrollees by age for All of TennCare, TennCare excluding CHOICES, CHOICES Only, and ECF Choices Only. Over two-thirds of TennCare enrollees fall either within the 0-13 or 21-44 age bracket. Roughly 40% of TennCare enrollees are ages 0-13, while only 5% of TennCare enrollees are over 65+. However, for CHOICES, an average of 71% of enrollees fell in the 65+ age group between 2018-2022.

Figure 4: Age, All TennCare[2]

	Enrollment Year				
	2018 (n=1,723,682)	2019 (n=1,644,796)	2020 (n=1,682,442)	2021 (n=1,762,925)	2022 (n=1,846,965)
Age 0-13	41%	42%	41%	41%	40%
Age 14-20	15%	15%	15%	16%	16%

[1] Guidehouse analysis of TennCare Claims and Encounter Data
[2] Guidehouse analysis of TennCare Claims and Encounter Data

	Enrollment Year				
	2018 (n=1,723,682)	2019 (n=1,644,796)	2020 (n=1,682,442)	2021 (n=1,762,925)	2022 (n=1,846,965)
Age 21-44	25%	24%	24%	25%	26%
Age 45-64	11%	11%	11%	11%	11%
Age 65+	5%	5%	5%	5%	5%

Note: Rounding and minor age coding discrepancies cause some columns not to add up to 100%.

Figure 5: Age, TennCare Excluding CHOICES[3]

	Enrollment Year				
	2018 (n=1,688,883)	2019 (n=1,610,194)	2020 (n=1,648,788)	2021 (n=1,730,944)	2022 (n=1,815,912)
Age 0-13	42%	43%	42%	42%	40%
Age 14-20	15%	15%	16%	16%	17%
Age 21-44	25%	24%	25%	25%	26%
Age 45-64	11%	11%	11%	11%	11%
Age 65+	3%	3%	3%	3%	4%

Note: Rounding and minor age coding discrepancies cause some columns not to add up to 100%.

Figure 6: Age, CHOICES Only[4]

	Enrollment Year				
	2018 (n=34,799)	2019 (n=34,602)	2020 (n=33,654)	2021 (n=31,981)	2022 (n=31,053)
Age 0-13	0%	<1%	<1%	0%	0%
Age 14-20	<1%	<1%	<1%	<1%	<1%
Age 21-44	5%	6%	6%	7%	7%
Age 45-64	22%	22%	22%	23%	24%
Age 65+	73%	72%	72%	70%	69%

Note: Rounding and minor age coding discrepancies cause some columns not to add up to 100%.

[3] Guidehouse analysis of TennCare Claims and Encounter Data
[4] Guidehouse analysis of TennCare Claims and Encounter Data

Figure 7: Age, ECF CHOICES Only[5]

	Enrollment Year				
	2018 (n=2,544)	2019 (n=2,917)	2020 (n=3,391)	2021 (n=3,760)	2022 (n=5,039)
Age 0-13	2%	2%	1%	2%	2%
Age 14-20	26%	20%	18%	14%	16%
Age 21-44	61%	65%	67%	70%	69%
Age 45-64	10%	11%	12%	12%	11%
Age 65+	1%	2%	2%	2%	2%

Note: Rounding and minor age coding discrepancies cause some columns not to add up to 100%.

Demographics: Race

Figure 8, Figure 9, Figure 10, and Figure 11 display the breakdown of TennCare enrollees by race for All of TennCare, TennCare excluding CHOICES, CHOICES Only, and ECF Choices Only. Roughly 50% of TennCare enrollees are White Non-Hispanic, making up a majority of enrollees in both CHOICES and TennCare broadly. For CHOICES, the percentage of White Non-Hispanic is closer to two-thirds. About one in five TennCare enrollees is Black, and this proportion is consistent across TennCare, TennCare CHOICES, and TennCare Non-CHOICES.

Figure 8: Race, All TennCare[6]

	Enrollment Year				
	2018 (n=1,723,682)	2019 (n=1,644,796)	2020 (n=1,682,442)	2021 (n=1,762,925)	2022 (n=1,846,965)
American Indian or Alaskan Native	<1%	<1%	<1%	<1%	<1%
Asian or Pacific Islander	<1%	1%	1%	1%	1%
Black	20%	22%	22%	21%	21%
Hispanic	<1%	<1%	<1%	<1%	<1%
Native Hawaiian	<1%	<1%	<1%	<1%	<1%
White (Non-Hispanic)	45%	50%	50%	49%	49%
Other	10%	11%	10%	9%	9%
Not Provided	23%	15%	16%	18%	19%

[5] Guidehouse analysis of TennCare Claims and Encounter Data
[6] Guidehouse analysis of TennCare Claims and Encounter Data

Figure 9: Race, TennCare Excluding CHOICES[7]

	Enrollment Year				
	2018 (n=1,688,883)	2019 (n=1,610,194)	2020 (n=1,648,788)	2021 (n=1,730,944)	2022 (n=1,815,912)
American Indian or Alaskan Native	<1%	<1%	<1%	<1%	<1%
Asian or Pacific Islander	<1%	1%	1%	1%	1%
Black	20%	22%	22%	21%	21%
Hispanic	<1%	<1%	<1%	<1%	<1%
Native Hawaiian	<1%	<1%	<1%	<1%	<1%
White (Non-Hispanic)	45%	50%	50%	49%	49%
Other	10%	11%	10%	10%	9%
Not Provided	24%	15%	17%	18%	19%

Figure 10: Race, CHOICES Only[8]

	Enrollment Year				
	2018 (n=34,799)	2019 (n=34,602)	2020 (n=33,654)	2021 (n=31,981)	2022 (n=31,053)
American Indian or Alaskan Native	<1%	<1%	<1%	<1%	<1%
Asian or Pacific Islander	<1%	<1%	<1%	<1%	<1%
Black	21%	21%	21%	21%	22%
Hispanic	<1%	<1%	<1%	0%	0%
Native Hawaiian	0%	0%	<1%	0%	<1%
White (Non-Hispanic)	72%	69%	67%	66%	65%
Other	5%	6%	6%	6%	6%
Not Provided	2%	3%	6%	6%	7%

Figure 11: Race, ECF CHOICES Only[9]

	Enrollment Year				
	2018 (n=2,544)	2019 (n=2,917)	2020 (n=3,391)	2021 (n=3,760)	2022 (n=5,039)
American Indian or Alaskan Native	<1%	<1%	<1%	<1%	<1%

[7] Guidehouse analysis of TennCare Claims and Encounter Data
[8] Guidehouse analysis of TennCare Claims and Encounter Data
[9] Guidehouse analysis of TennCare Claims and Encounter Data

	Enrollment Year				
	2018 (n=2,544)	2019 (n=2,917)	2020 (n=3,391)	2021 (n=3,760)	2022 (n=5,039)
Asian or Pacific Islander	<1%	<1%	<1%	<1%	<1%
Black	9%	12%	13%	13%	13%
Hispanic	<1%	<1%	0%	0%	0%
Native Hawaiian	0%	0%	0%	0%	0%
White (Non-Hispanic)	42%	42%	41%	41%	41%
Other	42%	40%	38%	36%	33%
Not Provided	3%	4%	7%	9%	11%

Demographics: Geographic Residence

Figure 12 displays geographic residence data among TennCare enrollees between 2018-2022. Geographic residence remained consistent across all TennCare, CHOICES, and non-CHOICES populations throughout 2018-2022. Among all TennCare enrollees and non-CHOICES enrollees, 64% live in rural areas as of 2022. Seventy percent of CHOICES Only enrollees live in rural areas, compared to 63% of ECF CHOICES enrollees.

Figure 12: Geographic Residence Demographics[10]

	Enrollment Year				
	2018 (n= 1,723,682)	2019 (n= 1,644,796)	2020 (n= 1,682,442)	2021 (n= 1,762,925)	2022 (n= 1,846,965)
All TennCare	65% Rural	64% Rural	64% Rural	64% Rural	64% Rural
TennCare Excluding CHOICES	65% Rural	64% Rural	64% Rural	64% Rural	64% Rural
CHOICES Only	70% Rural	70% Rural	70% Rural	70% Rural	70% Rural
ECF CHOICES Only	62% Rural	61% Rural	62% Rural	63% Rural	63% Rural

5. Evaluation Questions and Hypotheses

Figure 13 - **Figure 17** outline the hypotheses and research questions (RQs) related to each of the five demonstration goals**.** In addition, this section includes the TennCare III Driver Diagram and related Logic Models.

Note: Some of the research questions included in the Evaluation Design were omitted from this interim evaluation report, due to data access or because the questions were intended for future evaluation reports. ***Figure 18*** *outlines the omitted research questions*.

[10] Guidehouse analysis of TennCare Claims and Encounter Data

Goal 1: Provide high-quality care to enrollees that will improve health outcomes

Figure 13: Goal 1 – Hypotheses and Research Questions

Hypotheses	Research Questions	Applicable Figures
Hypothesis 1.1 – Following implementation of the TennCare III demonstration, quality of care and health outcomes for TennCare enrollees will maintain or improve.	**Primary RQ 1.1.a:** Has the implementation of TennCare III maintained or improved physical health outcomes for TennCare enrollees? **Primary RQ 1.1.b:** Has the implementation of TennCare III maintained or increased the utilization rates of preventive or wellness services for TennCare enrollees? **Primary RQ 1.1.c:** Has the implementation of TennCare III maintained or increased the utilization rates of EPSDT services for TennCare enrollees? **Primary RQ 1.1.d:** Has the implementation of TennCare III maintained or improved the management of behavioral health (BH) conditions for TennCare enrollees?	Figure 35-Figure 43
Hypothesis 1.2 – Following implementation of the TennCare III demonstration, opioid misuse will maintain or decrease among TennCare enrollees, access to medication-assisted treatment (MAT) will maintain or increase, and health outcomes associated with opioid misuse will maintain or improve.	**Primary RQ 1.2.a:** Has the implementation of TennCare III maintained or decreased opioid misuse among TennCare enrollees (i.e., first-time, acute, and chronic opioid users)? **Primary RQ 1.2.b:** Has the implementation of TennCare III maintained or decreased the number of Neonatal Abstinence Syndrome live births? **Primary RQ 1.2.c:** Has the implementation of TennCare III maintained or improved the rate of opioid use disorder (OUD) treatment for TennCare enrollees? **Primary RQ 1.2.d:** Has the implementation of TennCare III maintained or improved access to MAT?	Figure 44-Figure 47
Hypothesis 1.3 – Following implementation of the TennCare III demonstration, quality outcomes and quality of life	**Primary RQ 1.3.a:** Has the implementation of TennCare III maintained or improved quality outcomes for CHOICES enrollees? **Primary RQ 1.3.c:** Has the implementation of TennCare III maintained or improved quality outcomes for individuals with I/DD? **Primary RQ 1.3.d:** Has the implementation of TennCare III maintained or improved quality of life for individuals with I/DD?	Figure 48-Figure 60

Hypotheses	Research Questions	Applicable Figures
for TennCare CHOICES enrollees and individuals with I/DD will maintain or improve.		

Goal 2: Ensure enrollee access to health care, including safety net providers

Figure 14: Goal 2 – Hypotheses and Research Questions

Hypotheses	Research Questions	Exhibits
Hypothesis 2.1 – Following implementation of the TennCare III demonstration, enrollee utilization of services will maintain or improve.	**Primary RQ 2.1.a:** Has the implementation of TennCare III maintained or improved enrollee utilization of services? [11] • Primary care visits • Inpatient visits • BH visits • Prescription drugs **Subsidiary RQ 2.1.a.i:** Has the implementation of TennCare III maintained or improved utilization of primary care? **Subsidiary RQ 2.1.a.ii:** Has the implementation of TennCare III maintained or improved utilization of inpatient care? **Subsidiary RQ 2.1.a.iii:** Has the implementation of TennCare III maintained or improved utilization of BH treatment? **Subsidiary RQ 2.1.a.iv:** Has the implementation of TennCare III maintained or improved utilization of outpatient prescription drugs?	Figure 61-Figure 65
Hypothesis 2.2 – Following implementation of the TennCare III demonstration, access to comprehensive primary care will	**Primary RQ 2.2.a:** Has the implementation of TennCare III maintained or increased the number and proportion of TennCare enrollees cared for through the PCMH model?	Figure 66

[11] The independent evaluator will examine whether observed changes in service utilization measures suggest that the volume and mix of services utilized is shifting in the direction of lower cost types of care, when clinically appropriate (e.g., if increased primary care visits are observed, if there is an association between primary care visit rates and emergency department visit and inpatient visit rates). The independent evaluator will interpret the service utilization measures in the context of other measures in the Evaluation (e.g., health outcome measures).

Hypotheses	Research Questions	Exhibits
maintain or increase.		
Hypothesis 2.3 – Following implementation of the TennCare III demonstration, member engagement in prenatal and postpartum care will maintain or increase.	**Primary RQ 2.3.a:** Has the implementation of TennCare III maintained or increased member engagement in prenatal care? **Primary RQ 2.3.b:** Has the implementation of TennCare III maintained or increased member engagement in postpartum care?	Figure 67-Figure 71
Hypothesis 2.4 – Following implementation of the TennCare III demonstration, MCOs will encourage and/or facilitate the identification of non-medical needs affecting enrollees' health and the referral of enrollees to resources.	**Primary RQ 2.4.a:** What strategies did the MCOs implement to address non-medical needs affecting enrollees' health?	Figure 72-Figure 73
Hypothesis 2.5 – Following implementation of the TennCare III demonstration, participant engagement in dental services for eligible TennCare III enrollees will maintain or increase.	**Primary RQ 2.5.a:** Has participant engagement in dental services for TennCare children and adolescents maintained or increased following implementation of TennCare III? **Primary RQ 2.5.b:** Has participant engagement in dental services for pregnant TennCare enrollees maintained or increased following implementation of TennCare III?	Figure 74-Figure 77
Hypothesis 2.6 – Under TennCare III, enrollees will receive Medicaid	**Primary RQ 2.6.a:** What benefits did TennCare enrollees receive that were in excess of the benefits authorized under the Medicaid State Plan following implementation of TennCare III?	N/A

Hypotheses	Research Questions	Exhibits
benefits in excess of those available under the Medicaid State Plan.		
Hypothesis 2.7 – DSIPs will continue to provide important services to Tennesseans.	**Primary RQ 2.7.b:** Do Tennesseans have access to BH and I/DD provider and service delivery networks?	Figure 78-Figure 79
Hypothesis 2.9 – The retroactive eligibility waiver will not significantly impact likelihood of enrollment, health status of enrollees, or have an adverse financial impact.	**Primary RQ 2.9.a:** Do Medicaid eligible individuals in Tennessee subject to the retroactive eligibility waiver enroll in Medicaid at the same rates as eligible individuals in other states who have access to retroactive eligibility? **Primary RQ 2.9.c:** Do the health outcomes of enrollees subject to the retroactive eligibility waiver differ from those of enrollees in other states who have access to retroactive eligibility? **Primary RQ 2.9.d:** What are common barriers to timely renewal for enrollees subject to the retroactive eligibility waiver?	Figure 80-Figure 89

Goal 3: Ensure enrollees' satisfaction with services

Figure 15: Goal 3 – Hypotheses and Research Questions

Hypotheses	Research Questions	Exhibits
Hypothesis 3.1 – Following implementation of the TennCare III demonstration, TennCare enrollee satisfaction with health care services will maintain or improve.	**Primary RQ 3.1.a:** Has the implementation of TennCare III maintained or improved TennCare enrollee satisfaction with overall health care? **Primary RQ 3.1.b:** Has the implementation of TennCare III maintained or improved CHOICES enrollee satisfaction?	Figure 90-Figure 91

Goal 4: Provide enrollees with appropriate and cost-effective Home and Community-Based Services (HCBS) within acceptable budgetary parameters

Figure 16: Goal 4 – Hypotheses and Research Questions

Hypotheses	Research Questions	Exhibits
Hypothesis 4.1 – Following implementation of the TennCare III demonstration, the proportion of individuals who receive HCBS rather than NF care will maintain or increase.	**Primary RQ 4.1.a:** Has the implementation of TennCare III maintained or increased the number and percentage of CHOICES enrollees actively receiving HCBS? **Primary RQ 4.1.b:** Has the implementation of TennCare III maintained or increased the ratio of HCBS to NF service costs for CHOICES enrollees? **Primary RQ 4.1.c:** Has the implementation of TennCare III maintained or decreased the average LTSS costs per CHOICES enrollee?[12] **Primary RQ 4.1.d:** Has the implementation of TennCare III maintained or increased the number and percentage of individuals with I/DD actively receiving HCBS? **Primary RQ 4.1.e:** Has the implementation of TennCare III maintained or increased the ratio of HCBS to ICF/IID service costs for individuals with I/DD? **Primary RQ 4.1.f:** Has implementation of the TennCare III demonstration maintained or decreased the average LTSS costs per individual with I/DD? **Primary RQ 4.1.g:** Has the implementation of TennCare III maintained or increased the level of institutional transition and diversion for CHOICES enrollees?	Figure 92-Figure 97
Hypothesis 4.2 – Following implementation of the TennCare III demonstration, participation levels in integrated employment for individuals with I/DD will maintain	**Primary RQ 4.2.a:** Has the implementation of TennCare III maintained or increased the number of individuals with I/DD that participate in integrated employment and earn at or above the minimum wage?	Figure 98

[12] The independent evaluator will consider impacts of the COVID-19 pandemic, including potential increases in NF payments.

Hypotheses	Research Questions	Exhibits
or increase.		
Hypothesis 4.5 – Following implementation of the TennCare III demonstration, premium requirements for participants in Part A of the Katie Beckett program will not reduce the likelihood of enrollment or enrollment continuity among participants.	**Primary RQ 4.5.d:** What is the health insurance status and reported change in health status among Katie Beckett Part A enrollees that were: • Suspended from the program due to non-payment of premiums; or • Voluntarily separated from the program? **Primary RQ 4.5.d.i:** What is the health insurance status and reported change in health status among Katie Beckett Part A enrollees that were suspended from the program due to non-payment of premiums? **Primary RQ 4.5.d.ii:** What is the health insurance status and reported change in health status among Katie Beckett Part A enrollees that voluntarily separated from the program?	N/A

Goal 5: Manage expenditures at a stable and predictable level, and at a cost that does not exceed what would have been spent in a Medicaid fee-for-service program

Figure 17: Goal 5 – Hypotheses and Research Questions

Hypotheses	Research Questions	Exhibits
Hypothesis 5.1 – Following implementation of the TennCare III demonstration, TennCare expenditures will grow at a slower and more sustainable rate than the average national Medicaid expenditures.	**Primary RQ 5.1.a:** Has TennCare maintained an expenditure growth rate that is slower than the average national Medicaid expenditure growth rate?[13] **Primary RQ 5.1.b:** What is the difference between TennCare III's aggregated costs and the budget neutrality cap, and how does this change over the duration of the demonstration period? **Primary RQ 5.1.c:** What are the administrative operational costs of the demonstration?	Figure 99-Figure 101

[13] The independent evaluator will consider impacts of the American Rescue Plan, including enhanced Federal Medical Assistance Percentages (FMAP) funds.

6. Research Questions Not Included in the Interim Report

Figure 18 outlines the research questions that were omitted from the interim report and the reason for exclusion for each.

Figure 18: Research Questions Excluded from Interim Report

Research Questions	Reason for Exclusion
Primary RQ 1.3.b: Has the implementation of TennCare III maintained or improved quality of life for CHOICES enrollees?	Data unavailable – outcome measures no longer in NCI-AD survey; updated evaluation design with alternative measures for future evaluation reports
Primary RQ 1.4.a: Has enrollment in the Katie Beckett program maintained or improved quality of life for eligible children?	Applies to future reports
Primary RQ 1.4.b: Has enrollment in the Katie Beckett program maintained or improved health and family outcomes for eligible children?	Applies to future reports
Primary RQ 2.4.b: Has the percentage of enrollees screened for non-medical needs affecting enrollees' health increased following the implementation of TennCare III?	Applies to future reports
Primary RQ 2.4.c: Has the percentage of enrollees referred to resources to address non-medical needs affecting enrollees' health increased following the implementation of TennCare III?	Applies to future reports
Primary RQ 2.7.a: How many individuals receive services through each DSIP?	Data unavailable – Tennessee has not historically tracked data in this manner. Tennessee is replacing this RQ with new RQs that better evaluate the impact of the intent of the DSIP program.
Primary RQ 2.8.a: Have TennCare's UC pools maintained or increased access to care for TennCare enrollees served by eligible safety net providers?	Data unavailable – Tennessee has not historically tracked data in this manner and is developing the infrastructure to report this data in future

Research Questions	Reason for Exclusion
	evaluation reports
Primary RQ 2.8.b: How has the implementation of TennCare III impacted UC costs?	Applies to future reports
Primary RQ 2.9.b: Does the retroactive eligibility waiver significantly impact likelihood of enrollment continuity for enrollees?	Applies to future reports
Primary RQ 2.10.a: Has the implementation of TennCare III (and resulting extension of TennCare coverage to children adopted from state custody) increased the number and percentage of children adopted from state custody?	N/A[14]
Primary RQ 3.1.c: Has the implementation of TennCare III maintained or improved satisfaction of individuals with I/DD?	Data unavailable – NCI-IDD surveys not conducted since start of TennCare III due to the public health emergency
Primary RQ 3.1.d: Are parents of children enrolled in the Katie Beckett program satisfied with the services received from TennCare?	Applies to future reports
Primary RQ 4.3.a: Has the integration of existing HCBS waivers into managed care maintained or improved independence for individuals with intellectual disabilities?	Applies to future reports
Primary RQ 4.3.b: Has the integration of existing HCBS waivers into managed care maintained or improved coordination of services for individuals with intellectual disabilities?	Applies to future reports
Primary RQ 4.4.a: Has enrollment in the Katie Beckett program maintained or improved access to care for eligible children?	Applies to future reports
Primary RQ 4.5.a: How many and what percentage of children approved for Part A of the Katie Beckett program do not enroll due to non-payment of the premium?	Data unavailable – counts too small to report; will be assessed for future evaluation years using eligibility and enrollment data
Primary RQ 4.5.b: How many and what percentage of Katie Beckett Part A program enrollees are suspended from the program due to non-payment of premiums?	Data unavailable – counts too small to report; will be assessed for future evaluation years using

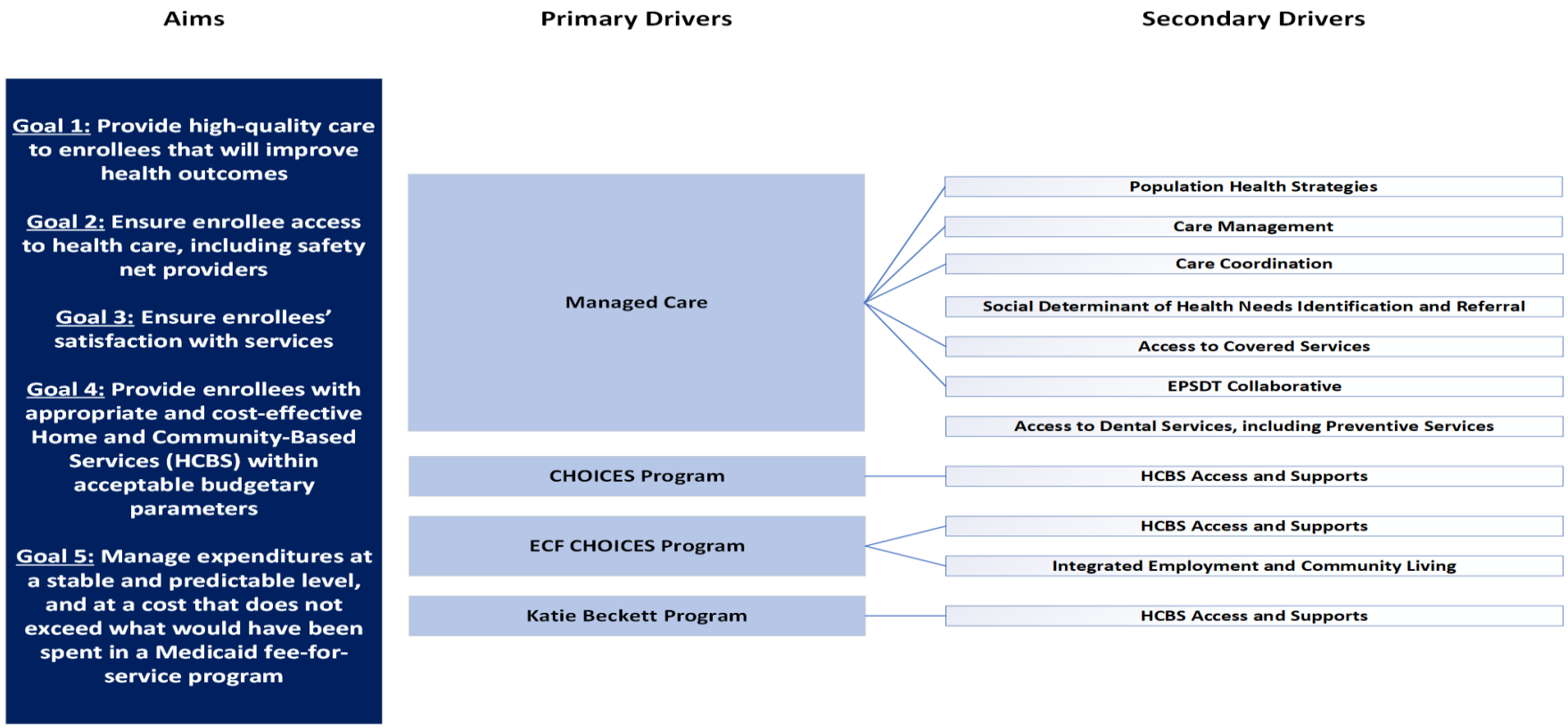
[14] This research question was included in the evaluation design to address the impact of a proposed demonstration amendment that CMS has not yet approved.

Research Questions	Reason for Exclusion
	eligibility and enrollment data
Primary RQ 4.5.c: How many and what percentage of Katie Beckett Part A program enrollees voluntarily separate from the program?	Data unavailable – counts too small to report; will be assessed for future evaluation years using eligibility and enrollment data
Subsidiary RQ 4.5.c.i: Among Katie Beckett Part A program enrollees who voluntarily separate from the program, to what extent is this voluntary separation associated with the premium requirements?	Data unavailable – sample sizes too small to report; will be assessed for future evaluation years using focus groups
Primary RQ 4.6.a: Has the implementation of Part B of the Katie Beckett program delayed and/or diverted eligible children from enrolling in TennCare?	Data unavailable – counts too small to report; will be assessed for future evaluation years using eligibility and enrollment data
Primary RQ 5.2.a: Has the implementation of TennCare's authority to suspend Medicaid eligibility for individuals convicted of Medicaid fraud maintained or decreased the number of enrollees who have been convicted of Medicaid fraud in State or Local courts?	N/A. At this time, Tennessee has not implemented this authority.
Primary RQ 5.2.b: What is the reported health insurance status among individuals who are suspended from TennCare due to a Medicaid fraud conviction?	N/A. At this time, Tennessee has not implemented this authority.

7. TennCare III Driver Diagram

The TennCare III Driver Diagram, illustrated in **Figure 19**, establishes a visual relationship between TennCare's five programmatic goals (aims), the primary drivers that advance those goals, and the secondary drivers fundamental to support the primary drivers.

Figure 19: TennCare III Driver Diagram



8. TennCare III Logic Models

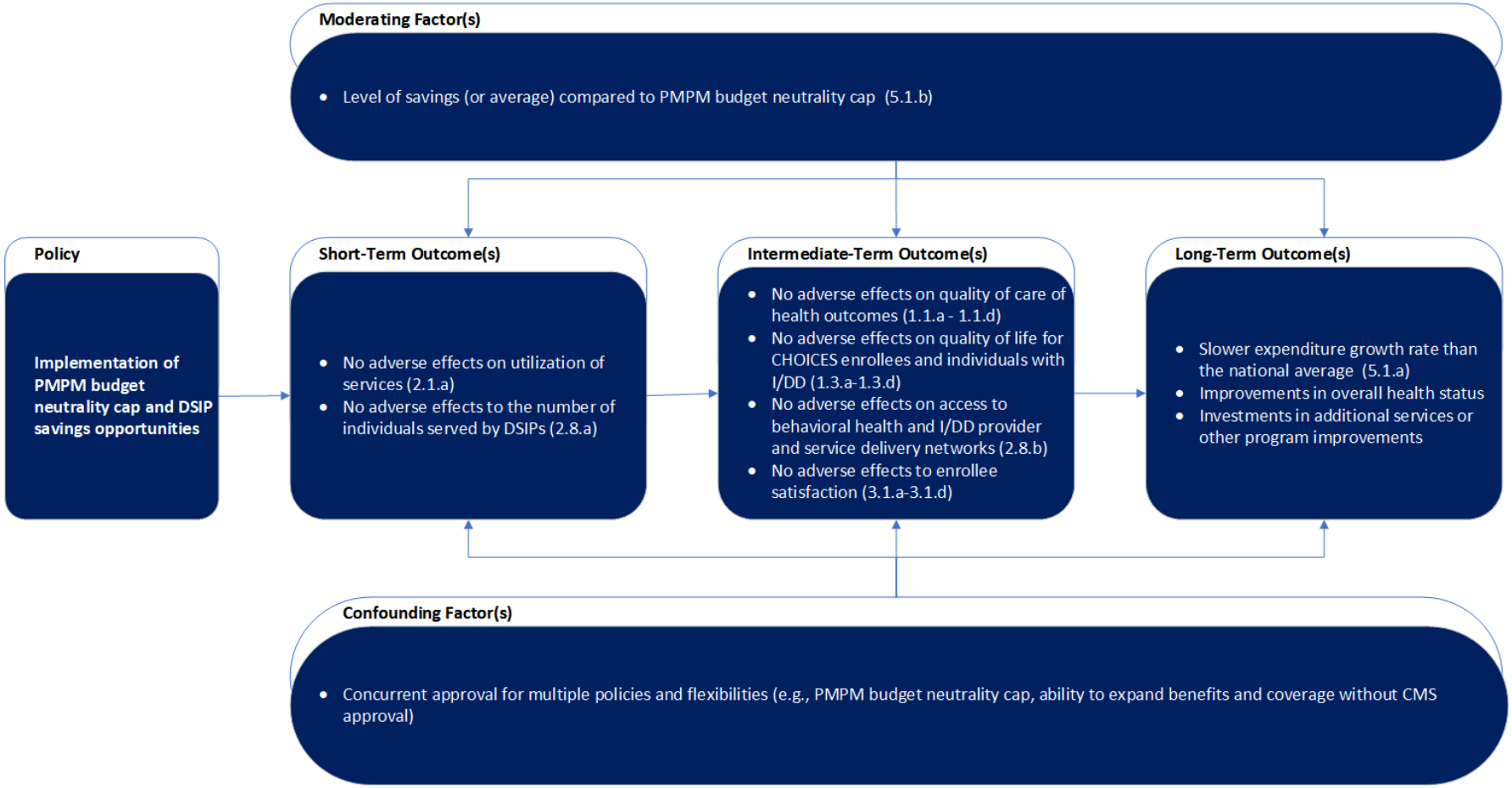
TennCare III Logic Models, included in **Figure 20** and **Figure 21**, focus on the new, key policies and flexibilities approved as part of the TennCare III demonstration: DSIP savings opportunities, and suspension of eligibility for State or Local Medicaid fraud conviction.

Logic Models are not provided for policies that have been in effect since before the approval of TennCare III (e.g., broader managed care programs, CHOICES program, I/DD programs, Katie Beckett/Medicaid Diversion Program).

For each Logic Model, research questions associated with the outcomes, moderating factors, and/or confounding factors are included in parentheses.

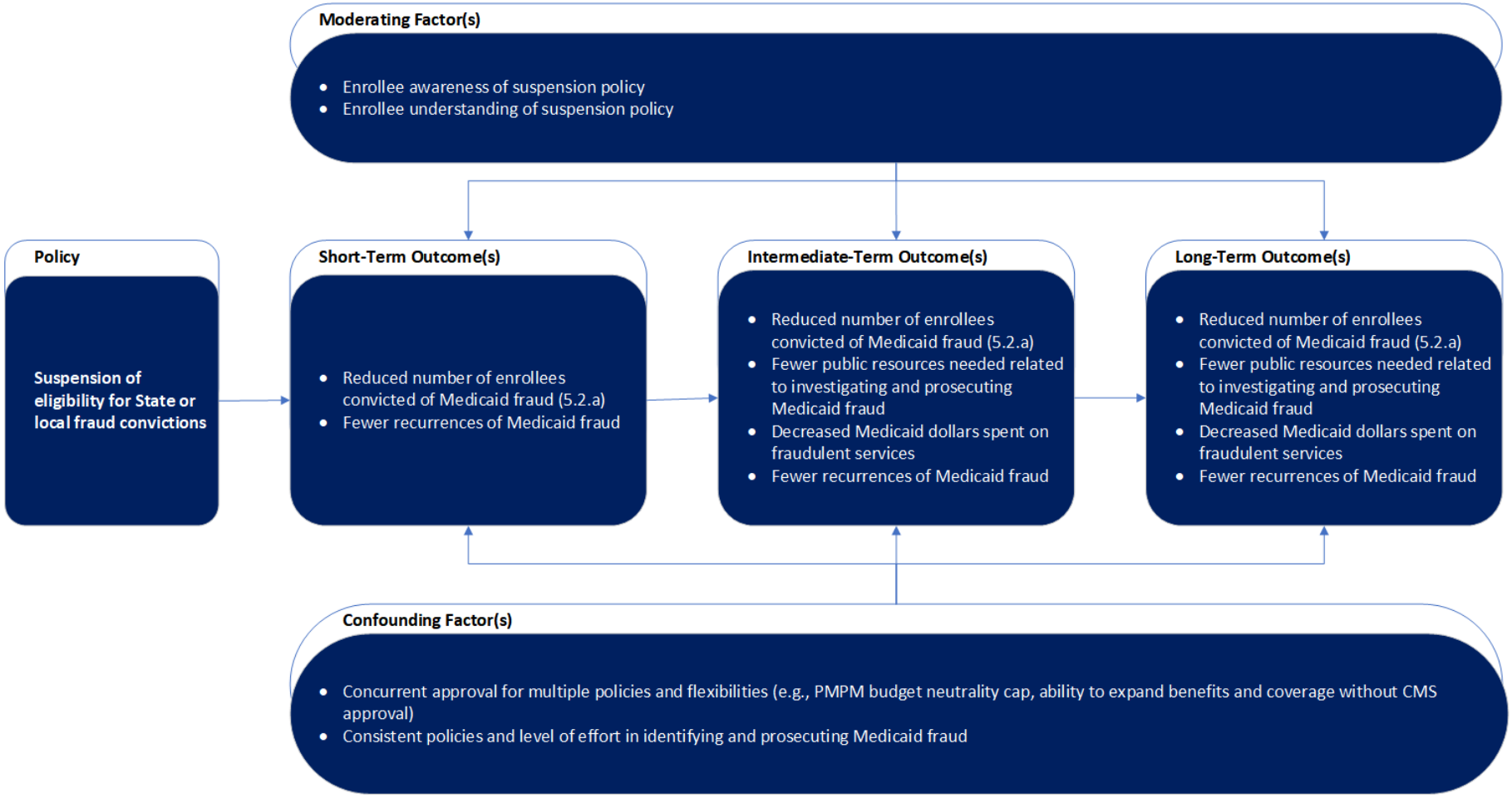
The Logic Model in **Figure 20** illustrates the expected short-term, intermediate, and long-term outcomes for implementation of the DSIP savings opportunities.

Figure 20: Logic Model – Implementation of DSIP Savings Opportunities



The Logic Model in **Figure 21** illustrates the expected short-term, intermediate, and long-term outcomes for the suspension of eligibility for State or Local Medicaid fraud convictions.

Figure 21: Logic Model – Suspension of Eligibility for State or Local Medicaid Fraud Convictions



C. Methodology

The TennCare III Evaluation Design, submitted to CMS on September 9, 2022[15], describes the analytic approach for the Interim and Summative Evaluation Reports. The Independent Evaluation Interim Report used a mixed-methods approach for qualitative and quantitative analysis to track the quality of care, health outcomes, access to care, enrollee satisfaction, and cost-effectiveness of the TennCare program.

Per the Evaluation Design, the independent evaluator planned to use T-MSIS data to address several of the research questions; however, due to a number of administrative challenges, the independent evaluator was unable to obtain access to T-MSIS data in the timeframe leading up to this report. As a result, many difference-in-differences analyses were not feasible, and the independent evaluator used interrupted time series and pretest-posttest analyses instead. The independent evaluator will re-assess the potential use of T-MSIS data in future evaluation cycles.

1. Data Sources

The independent evaluator compiled data for the independent evaluation interim report from a range of quantitative and qualitative data sources including national surveys, Tennessee-specific surveys, national claims databases, and State-level claims, administrative, and enrollment data. These data sources are described in further detail below.

Figure 22 outlines the data sources used to evaluate each demonstration goal. The "X" indicates the relevant data sources corresponding to each goal. A strikethrough indicates the independent evaluator planned to but did not use the data source in the evaluation, either because the data was not available or because it is intended to be used in future reports.

Figure 22: Data Sources by Demonstration Goal

Data Source	Goal 1: Quality of Care and Health Outcomes	Goal 2: Access	Goal 3: Satisfaction	Goal 4: HCBS	Goal 5: Expenditures
External Data Sources					
1. National Committee for Quality Assurance (NCQA) Healthcare Effectiveness Data and Information Set (HEDIS®)	X	X			
~~2. Transformed Medicaid Statistical Information System (T-MSIS) Data~~	~~X~~	~~X~~		~~X~~	~~X~~

[15] In accordance with the special terms and conditions of the TennCare III demonstration, Tennessee submitted its proposed evaluation design for the demonstration to CMS on July 7, 2021. After receiving feedback from CMS, Tennessee submitted a revised evaluation design to CMS on September 9, 2022. The evaluation methodology used for this interim report reflects the revised evaluation design submitted in September 2022.

Data Source	Goal 1: Quality of Care and Health Outcomes	Goal 2: Access	Goal 3: Satisfaction	Goal 4: HCBS	Goal 5: Expenditures
3. National Core Indicators - Aging and Disability™ (NCI-AD) Survey	X		X		
4. National Core Indicators (NCI) Survey	X		X	X	
5. NCI Child Family Survey	X		X	X	
6. Integrated Public Use Microdata Series (IPUMS) American Community Surveys (ACS)		X			
7. Behavioral Risk Factor Surveillance System (BRFSS)		X			
8. Medicaid Budget and Expenditure System (MBES)					X
Internal Data Sources					
1. Early and Periodic Screening, Diagnostic and Treatment (EPSDT) Data	X				
2. TennCare Claims and Encounter Data	X	X		X	X
3. Pharmacy Claims Data	X	X			X
4. TennCare Dental Benefit Manager (DBM) Claims Data		X			
5. CHOICES and I/DD Program Claims and Encounter Data				X	
6. Tennessee Department of Health Vital Statistics Records (2017-2030)	X				
7. TennCare Provider Enrollment Data	X				
8. State Administrative Data		X			
~~9. TennCare MCO Population Health Data~~		~~X~~			
10. Tennessee Department of Health Safety Net Reports		X			
11. Tennessee Uncompensated Care Data		X			

Data Source	Goal 1: Quality of Care and Health Outcomes	Goal 2: Access	Goal 3: Satisfaction	Goal 4: HCBS	Goal 5: Expenditures
12. TennCare Eligibility and Enrollment Data		X		X	
13. Beneficiary Satisfaction Survey of TennCare Recipients			X		
14. TennCare Individual Employment Data Survey (EDS)				X	
15. TennCare Expenditure Data					X
~~16. State and Local Law Enforcement Agency Data~~					~~X~~
17. MCO Interviews		X			
18. TennCare Enrollee Surveys and/or Focus Groups		X		X	
19. TennCare Medicaid Rules		X			
20. TennCare Benefit Packages		X			

2. External Data Source Descriptions

For each of the national surveys, the independent evaluator consulted the survey's technical documentation to ensure effective use of the survey data, displayed in **Figure 23.**

Figure 23: External Data Sources

Data Type	Description
National Committee for Quality Assurance (NCQA) Healthcare Effectiveness Data and Information Set (HEDIS®)	• National data set that measures the quality of care received by Medicaid enrollee. • Provides annual national and regional standards that states can use to benchmark their performance on quality and health outcomes through its Quality Compass publication.
National Core Indicators - Aging and Disability™ (NCI-AD) Survey	• Survey jointly administered by Advancing States, Human Services Research Institute (HSRI), and participating states. • Tracks the performance of State Medicaid, aging, and disability agencies.
National Core Indicators™ (NCI) Survey	• Survey collaboratively administered by the National Association of State Directors of Developmental Disabilities Services (NASDDDS), HSRI, and participating states. • Tracks service planning, employment, community inclusion, and safety, but instead targets individuals with I/DD.
National Core Indicators™ (NCI) Child Family Survey	• National Survey tool conducted by the same entities as NCI and NCI-AD, for the Katie Beckett program.

Data Type	Description
Integrated Public Use Microdata Series (IPUMS) American Community Surveys (ACS)	• National annual survey that provides key demographic, insurance, and other socioeconomic variables on the total U.S. population.
Behavioral Risk Factor Surveillance System (BRFSS)	• Nationwide annual survey that gathers large samples of data on health status, health risk behaviors, access to health care, and utilization of preventive health services.
Medicaid Budget and Expenditure System (MBES)	• Report generated every fiscal year by CMS that tracks budgeted and actual State expenditures for each fiscal period and actual expenditures for each quarter.

3. Internal Data Source Descriptions - Quantitative

The independent evaluator leveraged several internal data sources for quantitative analysis, displayed in **Figure 24.**

Figure 24: Internal Data Sources

Data Type	Description
Early and Periodic Screening, Diagnostic and Treatment (EPSDT) Data	Database for child health screening services, corrective treatment referrals, and dental services for TennCare enrollees.
TennCare Claims and Encounter Data	Database of claims and encounter data for health care utilization patterns of TennCare enrollees.
Pharmacy Claims Data	Database of pharmacy claims data developed by OptumRx and TennCare.
Dental Benefit Manager (DBM) Claims Data	Database developed in collaboration with DentaQuest, TennCare's DBM, for dental claims data.
CHOICES and I/DD Program Claims and Encounter Data	Data hub for information on access to LTSS for CHOICES enrollees and individuals with I/DD, diversion rates from institutional to HCBS care, service costs associated with LTSS, and other measures.
Tennessee Department of Health Vital Statistics Records	Database of vital statistics, including resident live births.
TennCare Provider Enrollment Data	Data on Buprenorphine Enhanced Supportive Medication-Assisted Recovery and Treatment (BESMART) providers enrolled in MCO networks.
State Administrative Data	Data on individuals served by each DSIP, BH and I/DD provider to population ratios, and the number and percentage of children adopted from state custody.
Tennessee Department of Health Safety Net Reports	Annual report to the Tennessee General Assembly that includes data relating to access to care through safety net service providers.
TennCare Eligibility and Enrollment Data	Data collected by TennCare on enrollees' access to care.
Primary Care Medical Home (PCMH) Data	Data collected by TennCare on enrollees' access to comprehensive primary care services.

Data Type	Description
Beneficiary Satisfaction Survey	Surveys Tennessee residents to measure their insurance status, medical service utilization, and level of satisfaction with the TennCare program.
TennCare Individual Employment Data Survey (EDS)	Annual survey on employment status for TennCare enrollees who receive LTSS.

4. Internal Data Source Descriptions - Qualitative

Enrollee surveys and MCO interviews were conducted to gather qualitative data. This provided useful context for the quantitative analyses and enabled the independent evaluator to explore certain trends and outliers in the data, as well as bolster analysis for smaller populations that were not suitable for quantitative analysis (e.g., Katie Beckett Program participants).

MCO Interviews

The independent evaluator conducted three separate interviews (one with each MCO) between October 30 and November 10, 2023, to evaluate MCO efforts to address non-medical needs affecting enrollees' health. Tennessee provided the independent evaluator with the necessary contact information for each MCO, and the independent evaluator reached out to each MCO via email to request their participation. The independent evaluator prefaced that the calls were part of the evaluation to better understand how MCOs address non-medical needs among TennCare enrollees. All three MCOs agreed to participate and were given a summarized list of agenda topics ahead of the interview.

Interviews were 45 minutes long and conducted virtually using Microsoft Teams video calls. The interviews were limited to the MCO participants and the independent evaluator; no representatives from TennCare participated.

During these interviews, the independent evaluator asked questions about strategies to address enrollee access to transportation, housing, food, and other resources that may impact enrollee health. See the Attachments section for the MCO Interview Guide.

TennCare Retroactive Eligibility Surveys

In November 2023, the independent evaluator worked with TennCare and a third-party mailing company to distribute retroactive eligibility surveys (sent to enrollees as "Enrollment Experience Surveys") to 32,942 individuals that were subject to the retroactive eligibility waiver in calendar year 2021. The survey can be found in the Attachments Section. Participants received a QR code and an access code; the QR code allowed for participants to complete the survey on mobile phones or tablets and the access code allowed the independent evaluator to link survey responses non-Personal Identifiable Information (PII) data, such as geographic residence. Materials were distributed on November 3, 2023, and responses were collected from November 9, 2023, through November 30, 2023.

Survey Eligibility

TennCare and the independent evaluator worked together to generate an estimate of how many enrollees were subject to the retroactive eligibility waiver in 2021 and could participate in the survey. The following groups are exempt from the retroactive eligibility waiver and were removed during the estimate-generating process:

- Children (i.e., MAGI children, Katie Beckett, Foster Care, and Deemed Newborns),
- Pregnant women,
- Enrollees receiving HCBS,
- Medicare Savings Program-only enrollees,
- Enrollees with presumptive eligibility, and
- Enrollees eligible for Emergency Medical Services only.

Figure 25 outlines the approach for the retroactive eligibility enrollee surveys.

Figure 25: Summary of TennCare Enrollee Surveys – Retroactive Eligibility

Area	TennCare Enrollee Surveys – Retroactive Eligibility
Individuals Surveyed	TennCare enrollees subject to the retroactive eligibility waiver; excludes Children (i.e., MAGI children, Katie Beckett, Foster Care, and Deemed Newborns), pregnant women, enrollees receiving HCBS, Medicare Savings Program-only enrollees, enrollees with presumptive eligibility, and enrollees eligible for Emergency Medical Services only
Timeframe	November 3-30, 2023
Topics	• Barriers to timely enrollment • Health insurance status • Change in health status
Mode of Administration	Mobile Phone-Compatible Online Survey, available via QR code on a mailed document
Sampling Strategy	Entire universe – 32,942
Number of completed surveys	252
Statistical power assumptions	Response rate allowed for estimating population metrics with a 95% confidence level and a margin of error of 6.2%.

TennCare Katie Beckett Program Surveys

In November 2023, the independent evaluator distributed surveys to individuals or guardians of individuals that disenrolled from the Katie Beckett program in calendar years 2021 and/or 2022, with emphasis on the extent to which premiums were a factor in those disenrollments. The survey can be found in the Attachments Section. The independent evaluator followed the same QR code design and distribution as outlined for the enrollment experience surveys for the Katie Beckett Program surveys.

Due to the smaller size of the Katie Beckett program, the independent evaluator opted to survey the entire population of Katie Beckett program enrollees that disenrolled from Part A in 2021 or 2022. The surveys were distributed on November 1, 2023, and responses were collected through November 30, 2023.

Figure 26 outlines the approach for the Katie Beckett and retroactive eligibility enrollee surveys.

Figure 26: Summary of TennCare Enrollee Surveys – Katie Beckett

Area	TennCare Enrollee Surveys – Katie Beckett
Individuals Surveyed	Beneficiaries in the Katie Beckett (Part A) Program that were separated from the program in 2021 or 2022
Timeframe	November 1-30, 2023
Topics	• Reasons for disenrollment • Health insurance status • Change in health status
Mode of Administration	Mobile Phone-Compatible Online Survey, available via QR code on a mailed document
Sampling Strategy	Entire universe
Number of completed surveys	5
Statistical power assumptions	Due to the small universe of monthly Katie Beckett enrollees (approximately 150/month), the independent evaluator was limited in their ability to draw statistical conclusions applicable to the broader population. However, the survey will aim to inform rationales and areas for descriptive analysis exploration in future evaluations.

5. Target and Comparison Populations

The target population for the independent evaluation is all beneficiaries covered by TennCare, or where applicable, the TennCare member subgroup specific to the RQ, such as:

- **CHOICES**. The CHOICES program covers older adults and adults with physical disabilities. To qualify for CHOICES, beneficiaries must need the level of care provided in a NF, or be determined by the state to be at risk of needing institutional care without additional supports, and qualify for Medicaid LTSS.
- **Programs for Individuals with I/DD**. Programs for individuals with I/DD include ECF CHOICES, 1915(c) waivers, and ICF/IID services. Beneficiaries must meet the definition of intellectual disability or developmental disability.
- **Katie Beckett/Medicaid Diversion.** The Katie Beckett program covers children with disabilities or complex needs through age 18 with disabilities and/or complex medical needs who are not otherwise Medicaid eligible due to their parents' income or assets.

Comparison Populations

Comparison populations are used in program evaluation and impact assessment to serve as a counterfactual group from the intervention group where the intervention is not applied. The use of a counterfactual group supports a quasi-experimental study in circumstances where an experimental design (e.g., randomized control trial) would be unethical or infeasible.
The independent evaluator considered both in-state and out-of-state comparison groups. There are several aspects of the demonstration that rendered in-state comparison groups infeasible for the independent evaluation:

- Many of the demonstration components impact the entire TennCare enrollee population. In these cases, all in-state enrollee populations must be considered part of the intervention group.
- For the components that target specific subgroup, such as the Katie Beckett program, the unique characteristics of the target population limit the availability of appropriate in-state comparison groups.
- None of the new demonstration components involve random assignment or staggered implementation.
- Tennessee does not actively maintain an all-payer claims database from which to identify a comparable in-state, low-income, and non-Medicaid population.

As a result, when identifying comparison groups for quasi-experimental analyses, the independent evaluator used either beneficiaries with similar characteristics from other states or national/regional benchmarks, depending on the RQ.

Out-of-State Comparison Groups

To select the out-of-state comparison groups, the independent evaluator focused on selecting states similar to Tennessee based on relevant characteristics, such as overall demographics and Medicaid policies. The independent evaluator used data sources such as ACS and BRFSS to find states similar to Tennessee on key state characteristics, such as unemployment rate, Medicaid eligibility Federal Poverty Level cut-off points, percent uninsured, demographic composition, percentage of Medicaid enrollees covered by MCOs, and health status on key indicators. The covariates included cover differences in policy, demographics, and general health outcomes between states. To identify the most similar states, the independent evaluator computed a similarity score that is the inverse of the Euclidean distance between Tennessee and the potential comparison states. The independent evaluator selected the 10 comparison states with the lowest distance metrics relative to Tennessee.[16]

Comparison states and selection criteria may differ depending on the RQ (e.g., for RQs regarding the retroactive eligibility waiver, comparison states will provide retroactive coverage to serve as an appropriate counterfactual).

As part of the Interim Evaluation Report, the independent evaluator followed this methodology to determine the appropriate states to use as comparisons, using the data sources and variables in **Figure 27**.

[16] See Stuart, E. A. (2010). Matching methods for causal inference: A review and a look forward. *Statistical science: a review journal of the Institute of Mathematical Statistics*, *25*(1), 1.

Figure 27: Summary of State Characteristics and Variables for Euclidian Matching Model to Select Comparison States

Characteristic	Data Source	Variable Name
Population Estimate	ACS	Population Estimate, July 1, 2021
Medicaid expansion status	KFF	N/A
Percent FPL Limit (Parents, as of January 1, 2022)	KFF	N/A
Min Wage	DOL	N/A
Percent Urban Population	BRFSS	_URBSTAT
Percent Medicaid Coverage	BRFSS	HLTHCVR1
Marketplace Type	KFF	N/A
Demographics	ACS	S2502_C01_002E through S2502_C01_010E
Unemployment Rate	BRFSS	EMPLOY1
Uninsured Pct of Population	ACS	DP03_0097PE, DP03_0098PE, DP03_0099PE
Percent with cash public assistance income	ACS	DP03_0073PE
Percent of Enrollees with Disabilities	KFF	N/A
MLTSS in place	KFF	N/A
Percent of enrollees in MLTSS	KFF	N/A
Percent using cigarettes	BRFSS	SMOKDAY2
Percent obese	BRFSS	_BMI5CAT
Percent under 100% FPL	KFF	N/A

The independent evaluator originally intended to use propensity score matching to improve difference-in-differences analyses, which depended on T-MSIS data. Because T-MSIS data was unavailable for this evaluation, the independent evaluator did not use propensity score matching in the reported difference-in-differences models. Most remaining difference-in-differences models utilize a benchmark comparison for HEDIS measures. For other analyses using survey datasets like IPUMS ACS and BRFSS, the independent evaluator used the comparison state list from the Euclidian matching model to inform comparison group creation, but not propensity score matching. In lieu of propensity score matching, the independent evaluator utilized the weights that are included in each ACS and BRFSS data extract to achieve more representative samples.

National/Regional Benchmarks

For data sets where beneficiary-level data are not available, the independent evaluator used state-level aggregate measures or national/regional benchmarks for comparison. The independent evaluator used the method described under Out-of-State Comparison Groups above to select appropriate states or regions to serve as comparison benchmarks. When aggregate measures or national/regional benchmarks were used, the independent evaluator identified the necessary covariates to include in the model to control for differences between Tennessee and the selected comparison benchmarks.

6. Analytic Methods

The independent evaluator used a mixed-methods approach to answer the RQs in this Evaluation.

- **Quasi-Experimental Quantitative Methodology.** Used to assess program impact:
    - Difference-in-Differences
    - Interrupted Time Series
    - One Group Pretest-Posttest
    - Comparison of Means
    - Descriptive Analyses and One Group Posttest
- **Qualitative Analysis.** Used to assess stakeholders' perspectives and experiences:
    - Enrollee Surveys
    - Key Informant Interviews
    - The following analytic methods were used for this Evaluation.

Difference-in-Differences

The independent evaluator used a quasi-experimental, quantitative design to estimate the causal impact of the TennCare III implementation and policy changes wherever possible. Specifically, for RQs where there are pre-intervention data and a valid comparison group identified, the independent evaluator used Difference-in-Differences (DiD). DiD is a regression technique that measures the impact of an intervention by comparing changes in outcomes for the target population to changes in outcomes for a comparison group. Using DiD, the impact of TennCare III was isolated as the pre-post difference in an outcome for the intervention group minus the pre-post difference for the comparison group (see methodology described above for comparison group selection). As noted in Section E – Methodological Limitations, the use of DiD was limited due to the lack of available comparison data from T-MSIS.

The identifying assumption for DiD requires "parallel trends," which specifies that the change in the intervention group would have been the same as the change in the comparison group if the intervention (i.e., TennCare III) had not been applied. Violations of this assumption (e.g., the outcome of interest in the comparison state is affected by a separate policy that changes the trend from baseline) will limit the validity of any causal inference from a DiD methodology. Out-of-state comparison groups were selected with the "parallel trends" criterion in mind, and the independent evaluator conducted visual trend analysis and other statistical testing to ensure the assumption holds during the baseline period for the selected comparison states.

The independent evaluator used standard power calculations to assess the appropriate sample size for model specifications. Because T-MSIS data was unavailable for this evaluation, there were not appropriate opportunities for DiD regression models to include beneficiary and geographic-level covariates to control for underlying differences. DiD models either focused on HEDIS measures to compare Tennessee to national benchmarks or used

survey data. In cases using HEDIS measures, covariates were inappropriate because of the low statistical power and lack of beneficiary-level information. The independent evaluator applied sampling weights and weighting techniques to any survey sample data sources used like BRFSS and ACS. Unless otherwise specified, the DiD analysis used a baseline period of 2017-2020 and an intervention period of 2021 forward. For RQs relying on HEDIS measures, which constitute single observations (i.e., not individual-level) of annual metrics, statistical power is relatively low. In spite of this, the independent evaluator identified some significant results for these RQs. Additionally, with the short baseline period, parallel trends were often difficult to satisfy. Cases where parallel trends may not hold are noted in the results section.

For hypotheses and research questions for policy components that remain unchanged between TennCare II and TennCare III (e.g., CHOICES), it is less likely that a significant change in utilization or other outcomes will be observed between the two demonstrations. In these scenarios, the independent evaluator used pre-period data to address questions about impacts or changes; however, for policies that have been longstanding features of the TennCare demonstration, the ability to use or access pre-period data is limited or infeasible. In those cases, the independent evaluator used DiD (or pre-test/post-test), and the results were interpreted as the change between TennCare II and TennCare III.

Interrupted Time Series

Where valid in-state and out-of-state comparison groups were unavailable due to data limitations but extended pre-intervention data were available, the independent evaluator used an interrupted time series (ITS) design. ITS estimates the impact of an intervention based on the pre-intervention and post-intervention period, using a longitudinal measure of the outcome of interest. ITS requires observations on the target population taken at equal intervals over a time period during which the intervention is implemented (the “interruption”). By repeatedly observing the measure before and after the intervention, the independent evaluator can assess whether the level or trend of the outcome has shifted. If there are sufficient pre-intervention observations and adequate statistical power, ITS may support causal interpretation.

Due to the long intervention period expected for the demonstration (i.e., 10 years) and the balanced observation requirement, utilizing a formal ITS design was not feasible for many RQs. Many measures in available data sets may not have been collected for the entire pre-intervention period, or certain outcome measures may be affected by other events (e.g., separate policy change or recession), rendering any conclusions invalid. The RQs that were most suitable for ITS analysis were ones that focused on metrics that could be converted to a monthly (rather than annual) frequency to increase statistical power. Like DiD, it is necessary to conduct visual trend analysis on the pre-intervention period to ensure linearity of the trends and the absence of seasonal effects. Additionally, using regression analysis with relevant covariates can strengthen the ITS design by controlling for other potential confounding external factors; the covariates should include demographic characteristics, health status, regional and location data, and other variables as relevant and available.

One-Group Pretest-Posttest

In many cases, there are insufficient data points before the implementation of TennCare III to support an ITS design, which requires balanced data points surrounding the intervention period. For these questions, the independent

evaluator compared rates/measures calculated before and after the implementation of TennCare III to assess changes in a one-group pretest-posttest design. This design did not permit a causal interpretation; however, the independent evaluator used this analysis to estimate trends in the outcome of interest following the implementation of the intervention. Where applicable, the evaluator used regression techniques to control for changes in enrollee characteristics over time to improve the estimation of the trend in the measured outcome.

Comparison of Means

In instances where a comparison group or national/regional benchmark are available for the selected measure, but pre-intervention data are limited or unavailable, the independent evaluator used a comparison of means (i.e., post-test only with non-equivalent comparison group). This method estimated changes in the outcome of interest for the intervention group against the comparison group over time. Where applicable, the independent evaluator incorporated regression techniques to control for observable characteristics and potential confounding variables to support an improved comparison. Additionally, the independent evaluator leveraged statistical tests to test for the significance of findings (e.g., Chi-squared tests). However, because this analysis did not control for pre-intervention trends that could continue during the intervention period, the conclusions did not support causal inference and were be limited to observational trends regarding the outcomes of interest.

Descriptive Analyses and One-Group Posttest-Only

For measures without pre-intervention data, the interim evaluation was limited to summary statistics and observational (non-causal) inference on trends from the baseline period. For RQs assessing beneficiary characteristics, service utilization, or other descriptive variables, the independent evaluator calculated standard summary statistics (e.g., total, median, mean, etc.) to report findings. Where appropriate, the independent evaluator used statistical tests (e.g., Chi-Squared test) to assess the statistical significance of findings and differences between subgroups.

The independent evaluator used a one-group posttest-only design to analyze measures without pre-intervention data or a comparison group over time. This analysis describes change in the outcome of interest for the target population from baseline over time, but the assessment is limited by the lack of pre-intervention data. Where appropriate, the evaluator used regression techniques to control for changes in enrollee characteristics over time to improve the estimation of the trend in the measured outcome.

Qualitative Analysis

The independent evaluator collected qualitative data from TennCare enrollees through mobile phone-compatible online surveys. The qualitative data was categorized and coded systematically using a standard qualitative methodology or software. The independent evaluator used thematic analysis, which is a systematic and iterative data coding and analysis process that allowed the independent evaluator to identify themes or patterns within the responses. The independent evaluator also conducted key informant interviews with Tennessee Managed Care Organizations (MCOs).

7. Analytic Tables

Figure 28, Figure 29, Figure 30, Figure 31, and Figure 32 outline the hypotheses, RQs, outcome measures, related data specifications, data sources and timeframes, comparison groups, analytic approaches, and exhibits for each demonstration goal.

Figure 28: Analytic Table – Goal 1: Provide high-quality care to enrollees that will improve health outcomes

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
Hypothesis 1.1 – Following implementation of the TennCare III demonstration, quality of care and health outcomes for TennCare enrollees will maintain or improve.						
Primary RQ 1.1.a: Has the implementation of TennCare III maintained or improved physical health outcomes for TennCare enrollees?	- Controlling High Blood Pressure	- Numerator: number of enrollees 18–85 years of age who had a diagnosis of hypertension and had adequately controlled blood pressure (<140/90 mm Hg) - Denominator: the eligible population	- NCQA HEDIS® (2017-2030)	- National / regional benchmarks	- Difference-in-differences - Descriptive analysis	- Figure 35-Figure 36
	- Comprehensive Diabetes Care: HbA1c Poor Control (>9.0%)	- Numerator: number of enrollees 18–75 years of age with diabetes (type 1 and type 2) who had HbA1c poor control (>9.0%) - Denominator: the eligible population				

Primary RQ 1.1.b: Has the implementation of TennCare III maintained or increased the utilization rates of preventive or wellness services for TennCare enrollees?	- Cervical Cancer Screening	- Numerator: number of female enrollees 21–64 years of age who were screened for cervical cancer using any of the following criteria:
		  - Female enrollees 21–64 years of age who had cervical cytology performed within the last 3 years
		  - Female enrollees 30–64 years of age who had cervical high-risk human papillomavirus (hrHPV) testing performed within the last 5 years
		  - Female enrollees 30–64 years of age who had cervical cytology/high-risk human papillomavirus (hrHPV)
			- NCQA HEDIS® (2017-2030)	- National / regional benchmarks	- Difference-in-differences
					- Descriptive analysis
						- Figure 37-Figure 39

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
		cotesting within the last 5 years - Denominator: the eligible female population				
	- Well-Child Visits in the First 30 Months of Life, First 15 Months[17]	Rate 1 – Well-Child Visits in the First 15 Months - Numerator: number of enrollees with six or more well-child visits with a PCP on different dates of service on or before the 15-month birthday - Denominator: The Rate 1-eligible population Rate 2 - Well-Child Visits for Age 15 Months–30 Months - Numerator: number of enrollees with two or more well-child visits with a PCP on different dates of service between the child's 15-month birthday plus 1 day and the 30-month birthday - Denominator: The Rate 2-eligible population				
	- Child and Adolescent Well-Care Visits	- Numerator: number of enrollees ages 3-21 with one or more well-care visits during the MY - Denominator: the eligible population				
	- Childhood Immunization Status, Combo 10	- Numerators: number of enrollees 2 years of age who had four diphtheria, tetanus, and acellular pertussis (DTaP); three polio (IPV); one measles, mumps, and rubella (MMR); three haemophilus influenza type B (HiB);				

[17] As of 2020, Well-Child Visits in the First 30 Months of Life contains two rates.

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
		three hepatitis B (HepB), one chicken pox (VZV); four pneumococcal conjugate (PCV); one hepatitis A (HepA); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday - Denominator: the eligible population				
Primary RQ 1.1.c: Has the implementation of TennCare III maintained or increased the utilization rates of EPSDT services for TennCare enrollees?	- EPSDT Screening ratio	- Numerator: total EPSDT screenings received by eligible enrollees, by age group - Denominator: total expected number of screenings, by age group	- EPSDT Data (2017-2030) - Annual National EPSDT Data (2017 – 2030)	- National / regional benchmarks	- Difference-in-differences - Descriptive analysis	- Figure 40-Figure 42
	- EPSDT Participant ratio	- Numerator: total eligible enrollees receiving at least one initial or periodic screening - Denominator: total eligible enrollees who should receive at least one initial or periodic screening				
Primary RQ 1.1.d: Has the implementation of TennCare III maintained or improved the management of BH conditions for TennCare enrollees?	- Follow-Up after Hospitalization for Mental Illness (Adults)	- Numerator: number of enrollees 18 years and older who were hospitalized for treatment of selected mental illness or intentional self-harm diagnoses and who had a follow-up visit with a MH provider within 30 days after discharge - Denominator: the eligible population	- NCQA HEDIS® (2017-2030)	- National / regional benchmarks	- Difference-in-differences - Descriptive analysis	- Figure 43
	- Follow-up after Hospitalization for Mental Illness (Children)	- Numerator: number of enrollees ages 6 to 18 years who were hospitalized for treatment of selected mental illness or intentional self-harm diagnoses and who had a follow-up visit with a MH provider within 30 days after discharge - Denominator: the eligible population				

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
Hypothesis 1.2 – Following implementation of the TennCare III demonstration, opioid misuse will maintain or decrease among TennCare enrollees, access to MAT will maintain or increase, and health outcomes associated with opioid misuse will maintain or improve.						
Primary RQ 1.2.a: Has the implementation of TennCare III maintained or decreased opioid use among TennCare enrollees (i.e., first-time, acute, and chronic opioid users)?	- Number of Opioid Users – First Time	- Number of unique enrollees receiving an opioid prescription for the first time, annually	- Pharmacy Claims Data (2017-2030)	- Not applicable	- One-group pretest-posttest	- Figure 44
	- Number of Opioid Users – Acute	- Number of unique enrollees that have received less than a 90-day quantity of prescribed opioids in the 180 days period immediately preceding the opioid's prescription day, annually				
	- Number of Opioid Users - Chronic	- Number of unique enrollees that have received more than a 90-day quantity of prescribed opioids in the 180 days period immediately preceding the opioid's prescription day, annually				
	- Number of Opioid Prescriptions per 1,000 Members	- Numerator: total number of opioids prescriptions in a MY x 1,000 - Denominator: total number of unique enrollees in the same year				
	- Days' Supply of Opioid Prescriptions	- Average days' supply of opioid prescriptions to enrollees annually				
Primary RQ 1.2.b: Has the implementation of TennCare III maintained or decreased the number of Neonatal Abstinence Syndrome live births?	- Neonatal Abstinence Syndrome Live Births	- Total annual number of live births associated with neonatal abstinence syndrome	- TennCare Claims and Encounter Data (2017-2030) - Tennessee Department of Health Vital Statistics Records (2017-2030)	- Not applicable	- Interrupted time series	- Figure 45

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
Primary RQ 1.2.c: Has the implementation of TennCare III maintained or improved the rate of OUD treatment for TennCare enrollees?	- Use of Pharmacotherapy for OUD	- Numerator: number of enrollees ages 18 to 64 with an OUD who filled a prescription for or were administered or dispensed an FDA-approved medication for the disorder during the MY - Denominator: number of enrollees with at least one encounter with a diagnosis of opioid abuse, dependence, or remission (primary or other) at any time during the MY	- NCQA HEDIS® (2022-2030)	- National/regional benchmarks	- Difference-in-differences - Descriptive analysis	- Figure 46
Primary RQ 1.2.d: Has the implementation of TennCare III maintained or improved access to MAT?	- Total number of unique providers in BESMART program	- Total number of unique providers in BESMART program across all MCOs	- TennCare Provider Enrollment Data (2019-2030) - TennCare Claims and Encounter Data (2019-2030)	- Not applicable	- One-group pretest-posttest	- Figure 47
	- Total number of unique TennCare enrollees served in BESMART program	- Total number of unique TennCare enrollees served in BESMART program				
Hypothesis 1.3 – Following implementation of the TennCare III demonstration, quality outcomes and quality of life for TennCare CHOICES and individuals with I/DD will maintain or improve.						
Primary RQ 1.3.a: Has the implementation of TennCare III maintained or improved quality outcomes for CHOICES enrollees?	- Percentage of people who know how to manage their chronic conditions	- Numerator: number of people who reported they know how to manage their chronic conditions (Response Options: Yes, In-Between/Some Conditions, No, Don't Know, Unclear/Refused/No Response) - Denominator: total number of respondents	- NCI-AD Survey (MY 2016-2030)	- Not applicable	- One-group pretest-posttest	- Figure 48
	- Percentage of people whose health was described as having gotten better compared to 12 months ago	- Numerator: number of people whose health was described as having gotten better compared to 12 months ago (Response Options: Much Worse, Somewhat Worse, About the Same, Somewhat Better, Much Better, Don't Know, Unclear/Refused/No				

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
		Response) - Denominator: total number of respondents				
	- Percentage of people who reported they always have a way to get places when they need to go somewhere	- Numerator: number of people who reported they always have a way to get places when they need to go somewhere (Response Options: No, Almost Never, Sometimes, Almost Always, Yes) - Denominator: total number of respondents				
Primary RQ 1.3.c: Has the implementation of TennCare III maintained or improved quality outcomes for individuals with I/DD?	- The percentage of people who report regularly participating in everyday integrated activities in their communities	- Numerator: number of people who reported regularly participating in everyday integrated activities in their communities (Response Options: Zero times, Once or Twice, Three to Four Times, More than Five Times) - Denominator: total number of respondents	- NCI Survey (MY 2019-2030)	- Respondents to NCI Survey in other states	- Difference-in-differences	- Figure 49-Figure 60
	- The percentage of people who report being able to see and/or communicate with their families and friends when they want	- Numerator: number of people who reported being able to see and/or communicate with their families and friends when they want (Response Options: Yes, No, Chooses Not to See Family) - Denominator: total number of respondents				
	- The percentage of people who report that staff treat them with respect	- Numerator: number of people who reported that staff treat them with respect (Response Options: No, Yes, Sometimes or Some Staff) - Denominator: total number of respondents				
Primary RQ 1.3.d: Has the implementation of TennCare	- Percentage of people who reported they chose	- Numerator: number of people who reported they chose or had some input in choosing				

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
III maintained or improved quality of life for individuals with I/DD?	or had some input in choosing their residence -	their residence (Response Options: Someone Else Chose, Person Made the Choice, Person Had Some Input) - Denominator: total number of respondents				
	- Percentage of people who reported they chose or had some input in choosing their work	- Numerator: number of people who reported they chose or had some input in choosing their work (Response Options: Someone Else Chose, Person Made the Choice, Person Had Some Input) - Denominator: total number of respondents				
	- Percentage of people who reported they chose or had some input in choosing their day activity	- Numerator: number of people who reported they chose or had some input in choosing their day activity (Response Options: Someone Else Chose, Person Made the Choice, Person Had Some Input) - Denominator: total number of respondents				
	- Percentage of people who reported they chose or had some input in choosing their staff	- Numerator: number of people who reported they chose or had some input in choosing their staff (Response Options: Someone Else Chose, Person Made the Choice, Person Had Some Input) - Denominator: total number of respondents				
	- Percentage of people who reported they chose or had some input in choosing their roommates	- Numerator: number of people who reported they chose or had some input in choosing their roommates (Response Options: Someone Else Chose, Person Made the				

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
		Choice, Person Had Some Input) - Denominator: total number of respondents				
	- Percentage of people who reported they decided or had help deciding their daily schedule	- Numerator: number of people who reported they decided or had help deciding their daily schedule (Response Options: Someone Else Chose, Person Made the Choice, Person Had Some Input) - Denominator: total number of respondents				
	- Percentage of people who reported they decided or had help deciding how to spend money	- Numerator: number of people who reported they decided or had help deciding how to spend money (Response Options: Someone Else Chose, Person Made the Choice, Person Had Some Input) - Denominator: total number of respondents				
	- Percentage of people who reported they decided or had help deciding how to spend free time	- Numerator: number of people who reported they decided or had help deciding how to spend free time (Response Options: Someone Else Chose, Person Made the Choice, Person Had Some Input) - Denominator: total number of respondents				
	- Percentage of people who reported they always have a way to get places when they need to go somewhere	- Numerator: number of people who reported they always have a way to get places when they need to go somewhere (Response Options: No, Almost Never, Sometimes, Almost Always, Yes) - Denominator: total number of respondents				

Figure 29: Analytic Table – Goal 2: Ensure enrollee access to health care, including safety net providers

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
Hypothesis 2.1 – Following implementation of the TennCare III demonstration, enrollee utilization of services will maintain or improve.						
Primary RQ 2.1.a: Has the implementation of TennCare III maintained or improved enrollee utilization of services?[18] • Primary care visits • Inpatient visits • BH visits • Prescription drugs	See subsidiary questions below.	See subsidiary questions below.	See subsidiary questions below.	See subsidiary questions below.	See subsidiary questions below.	See subsidiary questions below.
Subsidiary RQ 2.1.a.i: Has the implementation of TennCare III maintained or improved utilization of primary care?	- Adults' Access to Preventive / Ambulatory Health Services	- Numerator: number of members 20 years and older who had one or more ambulatory or preventive care visit during the measurement year - Denominator: the eligible population	- NCQA HEDIS® (2017-2030)	- National/regional benchmarks	- Difference-in-differences - Descriptive analysis	- Figure 61
Subsidiary RQ 2.1.a.ii: Has the implementation of TennCare III maintained or improved utilization of inpatient care?	- Total Inpatient – Inpatient Discharges per 1,000 Member Months	- Numerator: number of acute inpatient discharges during the measurement year x 1,000 - Denominator: total number of unique enrollees in the same year	- NCQA HEDIS® (2017-2030)	- National/regional benchmarks	- One group pretest-posttest - Descriptive analysis	- Figure 62
Subsidiary RQ 2.1.a.iii: Has the implementation of TennCare III maintained or	- Mental Health Utilization – Services per 1,000 Member Months	- Numerator: number of members receiving any mental health service (including inpatient, intensive outpatient or partial	- NCQA HEDIS® (2017-2030)	- National/regional benchmarks	- One group pretest-posttest - Descriptive analysis	- Figure 63

[18] The independent evaluator will examine whether observed changes in service utilization measures suggest that the volume and mix of services utilized is shifting in the direction of lower cost types of care, when clinically appropriate (e.g., if increased primary care visits are observed, if there is an association between primary care visit rates and emergency department visit and inpatient visit rates). The independent evaluator will interpret the service utilization measures in the context of other measures in the Evaluation (e.g., health outcome measures).

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
improved utilization of BH treatment?		hospitalization, outpatient, and emergency department) during the measurement year x 1,000 - Denominator: total number of unique enrollees in the same year				
Subsidiary RQ 2.1.a.iv: Has the implementation of TennCare III maintained or improved utilization of outpatient prescription drugs?	- Per member per month number of outpatient prescriptions for members utilizing prescription services	- Numerator: Total number of outpatient prescriptions for members utilizing prescription services - Denominator: Member months	- Pharmacy Claims Data (2017-2030)	- Not applicable	- Interrupted time series	- Figure 64-Figure 65
	- Per member per month number of outpatient prescriptions filled per month	- Numerator: Total number of outpatient prescriptions filled per month - Denominator: Member months				
Hypothesis 2.2 – Following implementation of the TennCare III demonstration, access to comprehensive primary care will maintain or increase.						
Primary RQ 2.2.a: Has the implementation of TennCare III maintained or increased the number and proportion of TennCare enrollees cared for through the PCMH model?	- Total number of unique TennCare enrollees in PCMHs	- Total number of unique TennCare enrollees in PCMHs	- TennCare PCMH Enrollment Data (2017-2030)	- Not applicable	- One-group pretest-posttest	- Figure 66
	- Proportion of TennCare enrollees in a PCMH	- Numerator: number of unique enrollees receiving PCMH care - Denominator: total number of enrollees				
Hypothesis 2.3 – Following implementation of the TennCare III demonstration, member engagement in prenatal and postpartum care will maintain or increase.						
Primary RQ 2.3.a: Has the implementation of TennCare III maintained or increased member engagement in	- Timeliness of Prenatal Care	- The percentage of deliveries that received a prenatal care visit in the first trimester, on or before the enrollment start date or within 42 days of enrollment in the organization.[19]	- NCQA HEDIS® (2017-2030)	- National / regional benchmarks	- Difference-in-differences - Descriptive analysis	- Figure 67

[19] The independent evaluator will adhere to the detailed HEDIS® specifications for this measure.

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
prenatal care?						
Primary RQ 2.3.b: Has the implementation of TennCare III maintained or increased member engagement in postpartum care?	- Postpartum Care	- The percentage of deliveries that had a postpartum visit on or between 7 and 84 days after delivery.[20]	- TennCare Enrollee Data (2017-2030) - TennCare Claims Data (2017-2030)	- Not applicable	- One-group pretest-posttest	- Figure 68-Figure 71
	- Contraceptive Care Postpartum: Women Ages 15-20	**Rate 1** - Numerator: number of women ages 15-20 who had a live birth and were provided a most effective or moderately effective method of contraception within 3 and 60 days of delivery - Denominator: number of women ages 15-20 who had a live birth in the measurement year **Rate 2** - Numerator: number of women ages 15-20 who had a live birth and were provided a long-acting reversible method of contraception (LARC) within 3 and 60 days of delivery				
	- Contraceptive Care Postpartum: Women Ages 21-44	**Rate 1** - Numerator: number of women ages 21-44 who had a live birth and were provided a most effective or moderately effective method of contraception within 3 and 60 days of delivery - Denominator: number of women ages 21-44				

[20] The independent evaluator will adhere to the detailed HEDIS® specifications for this measure.

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
		who had a live birth in the measurement year **Rate 2** - Numerator: number of women ages 21-44 who had a live birth and were provided a long-acting reversible method of contraception (LARC) within 3 and 60 days of delivery				
	- Screening for Postpartum Depression and Follow-Up Plan: Ages 18 years and older	- Numerator: Number of enrollees, ages 18 years and older, screened for postpartum depression on the date of the encounter or up to 14 days prior to the date of the encounter using an age-appropriate standardized tool AND if positive, a follow up plan is documented on the date of the eligible encounter - Denominator: number of enrollees aged 18 years and older at the beginning of the measurement period with at least one eligible encounter during the measurement period				
Hypothesis 2.4 – Following implementation of the TennCare III demonstration, MCOs will encourage and/or facilitate the identification of non-medical needs affecting enrollees' health and the referral of enrollees to resources.						
Primary RQ 2.4.a: What strategies did the MCOs	- MCOs' strategies related to non-medical needs	- Not applicable	- MCO Interviews (2023)	- Not applicable	- Qualitative Analysis	- Figure 72-Figure 73

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
implement to address non-medical needs affecting enrollees' health?	affecting enrollees' health, such as: - Food insecurity - Transportation - Housing instability - Other domains of non-medical needs affecting enrollees' health					
Hypothesis 2.5 – Following implementation of the TennCare III demonstration, participant engagement in dental services for eligible TennCare III enrollees will maintain or increase.						
Primary RQ 2.5.a: Has participant engagement in dental services for TennCare children and adolescents maintained or increased following implementation of TennCare III?	- Partial Enrollment Adjusted Ratio (PEAR)	- Numerator: sum of the full-time equivalent (FTE) for qualifying eligibles with 1 or more qualifying services in the MY - Denominator: sum of FTE for all qualifying eligible - FTE equals the number of days eligible divided by 365.25	- DBM Claims Data (2017-2030)	- Not applicable	- Interrupted time series	- Figure 74-Figure 75
	- DBM dental sealant rate	- Numerator: number of unduplicated enrollees receiving qualifying dental sealant service in the MY on at least one of the following teeth: 2, 3, 14, 15, 18, 19, 30, 31 - Denominator: number of unduplicated sealant-eligible population	- DBM Claims Data (2017-2030)	- Not applicable	- Interrupted time series	- Figure 76
	- DBM silver diamine fluoride (SDF) rate	- Numerator: number of unduplicated enrollees receiving qualifying SDF service in the MY on a primary or permanent tooth - Denominator: number of unduplicated eligible population	- DBM Claims Data (2017-2030)	- Not applicable	- Interrupted time series	- Figure 77
Primary RQ 2.5.b: Has participant engagement in	- Number of pregnant TennCare enrollees over	- Number of pregnant TennCare enrollees over 21 utilizing dental services during the	- DBM Claims Data (2022-2030)	- Not applicable	- One-group posttest-only	- N/A

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
dental services for pregnant TennCare enrollees maintained or increased following implementation of TennCare III?	21 utilizing dental services during the perinatal period	perinatal period				
Hypothesis 2.6 – Under TennCare III, enrollees will receive Medicaid benefits in excess of those available under the Medicaid State Plan.						
Primary RQ 2.6.a: What benefits did TennCare enrollees receive that were in excess of the benefits authorized under the Medicaid State Plan following implementation of TennCare III?	- Description of benefits and coverage in excess of benefits under Medicaid State Plan	- Not applicable	- TennCare Medicaid Rules (2022-2030) - TennCare Benefit Packages (2022-2030)	- Not applicable	- Qualitative analysis	- N/A
Hypothesis 2.7 – DSIPs will continue to provide important services to Tennesseans.						
Primary RQ 2.7.b: Do Tennesseans have access to BH and I/DD provider and service delivery networks?	- Population to BH provider ratio	- Numerator: number of Tennessee residents per county - Denominator: number of BH providers per county	- Tennessee Department of Health Safety Net Reports (2011-2030) - State Administrative Data (2017-2030)	- Not applicable	- Descriptive analysis	- Figure 78
	- Population to I/DD provider ratio	- Numerator: number of Tennessee residents per county - Denominator: number of I/DD providers per county	- State Administrative Data (2017-2030)	- Not applicable	- One-group pretest-posttest	- Figure 79

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
Hypothesis 2.9 – The retroactive eligibility waiver will not significantly impact the likelihood of enrollment, health status of enrollees, or have an adverse financial impact.						
Primary RQ 2.9.a: Do Medicaid-eligible individuals in Tennessee subject to the retroactive eligibility waiver enroll in Medicaid at the same rates as eligible individuals in other states who have access to retroactive eligibility?	- Percentage of Medicaid enrollees by eligibility group out of estimated eligible Medicaid recipients	- Numerator: total number of Medicaid enrollees subject to the retroactive eligibility waiver - Denominator: estimated number of Medicaid-eligible individuals that would be subject to the retroactive eligibility waiver	- TennCare Eligibility and Enrollment Data (2017-2030) - Integrated Public Use Microdata Series (IPUMS) American Community Surveys (ACS) (2017-2030)	- Similar adults in other states that provide retroactive coverage	- Difference-in-differences	- Figure 80-Figure 81
Primary RQ 2.9.c: Do the health outcomes of enrollees subject to the retroactive eligibility waiver differ from those of enrollees in other states who have access to retroactive eligibility?	- Reported excellent or very good health status; healthy days	- BRFSS variables: GENHLTH, MENTHLTH, PHYSHLT, POORHLTH	- Behavioral Risk Factor Surveillance System (BRFSS) (2017-2030)	- Similar adults in other states that provide retroactive coverage	- Difference-in-differences	- Figure 82-Figure 85
Primary RQ 2.9.d: What are common barriers to timely renewal for enrollees subject to the retroactive eligibility waiver?	- Reported barriers to timely renewal	- Not applicable	- TennCare Enrollee Survey	- Not applicable	- Descriptive analysis	- Figure 86-Figure 89

Figure 30: Analytic Table – Goal 3: Ensure enrollees' satisfaction with services

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
Hypothesis 3.1 – Following implementation of the TennCare III demonstration, TennCare enrollee satisfaction with health care services will maintain or improve.						
Primary RQ 3.1.a: Has the implementation of TennCare III maintained or improved TennCare enrollee satisfaction with overall health care?	- Percent of Respondents Indicating Satisfaction with TennCare	- Numerator: number of respondents indicating they are "very satisfied" or "somewhat satisfied" with the TennCare program - Denominator: total number of survey respondents	- Beneficiary Satisfaction Survey (2011-2030)	- Not applicable	- Interrupted time series	- Figure 90
Primary RQ 3.1.b: Has the implementation of TennCare III maintained or improved CHOICES enrollee satisfaction?	- Percentage of people whose paid support staff do things the way they want them done	- Numerator: number of respondents who reported paid support staff do things the way they want them done (Response Options: No/Never/Rarely, Some/Usually, Yes/Always/Almost Always, Don't Know, Unclear/Refused/No Response) - Denominator: total number of respondents	- NCI-AD Survey (MY 2016-2030)	- Not applicable	- One-group pretest-posttest	- Figure 91
	- Percentage of people whose long-term care services meet all their current needs and goals	- Numerator: number of respondents who reported long-term care services meet all their current needs and goals (Response Options: No/Not at All, Some Needs and Goals, Yes/Completely/All Needs and Goals, Don't Know, Unclear/Refused/No Response) - Denominator: total number of respondents				
	- The percentage of people who report satisfaction with their level of	- Numerator: number of people who reported that satisfaction with their level of participation in various community				

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
	participation in various community activities	activities (Response Options: No, Yes, In Between) - Denominator: total number of respondents				

Figure 31: Analytic Table – Goal 4: Provide enrollees with appropriate and cost-effective HCBS within acceptable budgetary parameters

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
Hypothesis 4.1 – Following implementation of the TennCare III demonstration, the proportion of individuals who receive HCBS rather than NF care will maintain or increase.						
Primary RQ 4.1.a: Has the implementation of TennCare III maintained or increased the number and percentage of CHOICES enrollees actively receiving HCBS?	- Number and percentage of CHOICES enrollees actively receiving HCBS at a point-in-time, by benefit group	- Numerator: number of CHOICES enrollees actively receiving HCBS at the end of each demonstration year - Denominator: total number of CHOICES enrollees at the end of each demonstration year	- TennCare Claims and Encounter Data (2017-2030)	- Not applicable	- One group pretest-posttest	- Figure 92
	- Aggregate number and percentage of CHOICES enrollees actively receiving HCBS, by benefit group	- Numerator: unduplicated number of CHOICES enrollees receiving HCBS over a 12-month period - Denominator: unduplicated number of CHOICES enrollees over the same 12-month period				
	- Number and percentage of CHOICES enrollees actively receiving NF services at a point-in-time, by benefit group	- Numerator: number of CHOICES enrollees actively receiving NF at the end of each demonstration year - Denominator: total number of CHOICES enrollees at the end of each demonstration year				
	- Aggregate number and percentage of CHOICES	- Numerator: unduplicated number of CHOICES enrollees receiving NF over a 12-				

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
	enrollees actively receiving NF services, by benefit group	month period - Denominator: unduplicated number of CHOICES enrollees over the same 12-month period				
Primary RQ 4.1.b: Has the implementation of TennCare III maintained or increased the ratio of HCBS to NF service costs for CHOICES enrollees?	- Annual HCBS service costs for CHOICES enrollees	- Based on encounters and not cap payments	- TennCare Claims and Encounter Data (2017-2030)	- Not applicable	- One group pretest-posttest	- Figure 93
	- HCBS service costs for CHOICES enrollees as a percentage of total long-term care service costs	- Numerator: total annual HCBS service costs for CHOICES enrollees - Denominator: total annual LTSS service costs (HCBS and NF) for CHOICES enrollees				
	- Annual NF service costs for CHOICES enrollees	- Based on encounters and not cap payments				
	- NF service costs for CHOICES enrollees as a percentage of total long-term care service costs	- Numerator: total annual NF service costs for CHOICES enrollees - Denominator: total annual LTSS service costs (HCBS and NF) for CHOICES enrollees				
Primary RQ 4.1.c: Has the implementation of TennCare III maintained or decreased the average LTSS costs per CHOICES enrollee?	- Average annual HCBS service costs per CHOICES enrollee	- Based on encounters and not cap payments	- TennCare Claims and Encounter Data (2017-2030)	- Not applicable	- Descriptive analysis	- Figure 94
	- Average annual NF service costs per CHOICES enrollee	- Based on encounters and not cap payments				
Primary RQ 4.1.d: Has the implementation of TennCare III maintained or increased the number and percentage of individuals with I/DD actively receiving HCBS?	- Number and percentage of individuals with I/DD actively receiving HCBS at a point-in-time, by benefit group	- Numerator: number of individuals with I/DD actively receiving HCBS at the end of each demonstration year - Denominator: total number of individuals with I/DD at the end of each demonstration year	- TennCare Claims and Encounter Data (2017-2030)	- Not applicable	- One group pretest-posttest	- Figure 95

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
	- Aggregate number and percentage of individuals with I/DD actively receiving HCBS, by benefit group	- Numerator: unduplicated number of individuals with I/DD receiving HCBS over a 12-month period - Denominator: unduplicated number of individuals with I/DD over the same 12-month period				
Primary RQ 4.1.e: Has the implementation of TennCare III maintained or increased the ratio of HCBS to ICF/IID service costs for individuals with I/DD?	- Annual HCBS service costs for individuals with I/DD	- Based on encounters and fee-for-service expenditures, not capitation payments	- TennCare Claims and Encounter Data (2017-2030)	- Not applicable	- Descriptive analysis	- Figure 96
	- HCBS service costs for individuals with I/DD as a percentage of total long-term care service costs	- Numerator: total HCBS service costs for individuals with I/DD annually - Denominator: total LTSS service costs (HCBS and ICF/IID) for individuals with I/DD annually - Based on encounters and fee-for-service expenditures, not capitation payments				
	- Annual ICF/IID service costs	- Based on encounters and fee-for-service expenditures, not capitation payments				
	- ICF/IID service costs as percentage of total LTSS service costs for individuals with I/DD	- Numerator: total ICF/IID service costs for individuals with I/DD annually - Denominator: total LTSS service costs (HCBS and ICF/IID) for individuals with I/DD annually - Based on encounters and fee-for-service expenditures, not capitation payments				
Primary RQ 4.1.f: Has implementation of the TennCare III demonstration	- Average HCBS service costs per individual with I/DD	- Based on encounters and fee-for-service expenditures, not capitation payments	- TennCare Claims and Encounter Data (2017-2030)	- Not applicable	- Descriptive analysis	- Figure 96

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
maintained or decreased the average LTSS costs per individual with I/DD?	- Average ICF/IID service costs per individual with I/DD	- Based on encounters and fee-for-service expenditures, not capitation payments				
Primary RQ 4.1.g: Has the implementation of TennCare III maintained or increased the level of institutional transition and diversion for CHOICES enrollees?	- Institutional diversion – CHOICES enrollees who meet NF level of care but access HCBS as an alternative	- Numerator: Number of CHOICES enrollees annually who meet level of care for NF but access HCBS for a minimum of 90 days - Denominator: total number of unique CHOICES enrollees annually	- TennCare Claims and Encounter Data (2017-2030)	- Not applicable	- One group pretest-posttest	- Figure 97
	- Institutional transition – number of CHOICES enrollees who transition from NFs to HCBS annually	- Number of CHOICES enrollees who use transition services to move from NFs to HCBS annually				
	- Diversion – NF diversion rate	- Numerator: number of individuals applying for NF care but diverted to HCBS annually - Denominator: total number of individuals applying to NF care annually	- TennCare Claims and Encounter Data (2012030)	- Not applicable	- One-group pretest-posttest	
	- Diversion – average CHOICES enrollee length of stay in HCBS yearly	- Numerator: total length of stay in HCBS for all unique CHOICES enrollees annually - Denominator: total number of unique CHOICES enrollees annually	- TennCare Claims and Encounter Data (2012030)	- Not applicable	- One group pretest-posttest	
	- Diversion – percent of new LTSS recipients admitted to NFs yearly	- Numerator: number of new LTSS recipients in CHOICES admitted to NFs annually - Denominator: number of new LTSS recipients in CHOICES				
Hypothesis 4.2 – Following implementation of the TennCare III demonstration, participation levels in integrated employment for individuals with I/DD will maintain or increase.						
Primary RQ 4.2.a: Has the implementation of TennCare III maintained or increased	- Number of working age adults with I/DD enrolled in HCBS programs who	- Number of working age adults with I/DD enrolled in HCBS programs who are employed in an integrated setting earning	- TennCare Individual Employment Data	- Not applicable	- One-group pretest-posttest	- Figure 98

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
the number of individuals with I/DD that participate in integrated employment and earn at or above the minimum wage?	are employed in an integrated setting earning at or above the minimum wage	at or above the minimum wage	Survey (2017-2030)			
	- Percentage of working age adults with I/DD enrolled in HCBS programs who are employed in an integrated setting earning at or above the minimum wage	- Numerator: number of individuals (22-62) with I/DD enrolled in HCBS programs who are employed in an integrated setting earning at or above the minimum wage as reported in the Individual EDS annually - Denominator: Total number of individuals with I/DD enrolled in HCBS programs annually				
Hypothesis 4.5 – Following implementation of the TennCare III demonstration, premium requirements for participants in Part A of the Katie Beckett program will not reduce the likelihood of enrollment or enrollment continuity among participants.						
Primary RQ 4.5.d: What is the health insurance status and reported change in health status among Katie Beckett Part A enrollees that were: • Suspended from the program due to non-payment of premi-ums; or • Voluntarily separated from the program?	- See subsidiary questions below.	- See subsidiary questions below.	See subsidiary questions below.	- See subsidiary questions below.	- See subsidiary questions below.	- N/A

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
Subsidiary RQ 4.5.d.i: What is the health insurance status and reported change in health status among Katie Beckett Part A enrollees that were suspended from the program due to non-payment of premiums?	- Insurance status for Katie Beckett Part A enrollees who were suspended	- Not applicable	TennCare Enrollee Survey or Focus Groups (2023, 2026, 2029)	- Not applicable	- Descriptive analysis	- N/A
	- Reported health status for Katie Beckett Part A enrollees who were suspended		TennCare Enrollee Survey (2023, 2026, 2029)	- Enrollees who remain in Tennessee's Katie Beckett program	- Comparison of means	- N/A
Subsidiary RQ 4.5.d.ii: What is the health insurance status and reported change in health status among Katie Beckett Part A enrollees that voluntarily separated from the program?	- Insurance status for Katie Beckett Part A enrollees who voluntarily separated	- Not applicable	TennCare Enrollee Survey or Focus Groups (2023, 2026, 2029)	- Not applicable	- Descriptive analysis	- N/A
	- Reported health status for Katie Beckett Part A enrollees who voluntarily separated		TennCare Enrollee Survey (2023, 2026, 2029)	- Enrollees who remain in Tennessee's Katie Beckett program	- Comparison of means	- N/A

Figure 32: Analytic Table – Goal 5: Manage expenditures at a stable and predictable level, and at a cost that does not exceed what would have been spent in a Medicaid fee-for-service program

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
Hypothesis 5.1 – Following implementation of the TennCare III demonstration, TennCare expenditures will grow at a slower and more sustainable rate than the average national Medicaid expenditures.						
Primary RQ 5.1.a: Has TennCare maintained an expenditure growth rate that is slower than the average national Medicaid	- Total TennCare expenditure growth rate	- Numerator: TennCare expenditures from the previous year subtracted from TennCare expenditures in the current year - Denominator: TennCare expenditures from the previous year	- TennCare Expenditure Data (2017-2030) - Medicaid Budget and Expenditure System (MBES) (2017-2030)	- National benchmarks	- Difference-in-differences	- Figure 99

Research Question	Outcome Measure(s)	Specifications	Data Source(s)	Comparison Group	Analytic Approach	Applicable Figures
expenditure growth rate?[21]						
Primary RQ 5.1.b: What is the difference between TennCare III's aggregated costs and the PMPM budget neutrality cap, and how does this change over the duration of the demonstration period?	- Total TennCare expenditures vs. PMPM budget neutrality cap	- Total annual TennCare expenditures subtracted from annual PMPM budget neutrality cap	- TennCare Expenditure Data (2021-2030)	- Not applicable	- Descriptive analysis	- Figure 100
Primary RQ 5.1.c: What are the administrative operational costs of the demonstration?	- Administrative cost of ongoing demonstration operation	- Administrative cost of ongoing demonstration operation	- TennCare Expenditure Data (2021-2030)	- Not applicable	- Descriptive analysis	- Figure 101

[21] The independent evaluator will consider impacts of the American Rescue Plan, including enhanced Federal Medical Assistance Percentages (FMAP) funds.

D. Methodological Limitations

The following section details the methodological limitations of the TennCare III Evaluation, how said limitations limit causal inferences about the impact of TennCare III program components, and what approaches were taken by the independent evaluator to minimize these limitations. Additionally, the section details roadblocks encountered by the independent evaluator that impacted the execution of the evaluation.

Figure 33 details overarching limitations that impact all demonstration goals, including data limitations encountered during the development of the evaluation report. **Figure 34** provides a detailed breakdown of methodological limitations specific to demonstration goals.

Figure 33: Methodological Limitations – Overall

Limitation	Description of Limitation	Approaches to Minimizing Limitation
COVID-19 impact	• Beginning in March 2020, the COVID-19 public health emergency spurred significant changes in health care service delivery and utilization. The public health emergency altered Medicaid enrollment levels, program expenditures, service utilization, and access to care. • The COVID-19 public health emergency prevented standard data collection for multiple measures, including the NCI and NCI-AD Surveys, which involve in-person interviews. Since in-person interviews were infeasible in MY 2020-2021, NCI and NCI-AD data were not collected for this time period.	• CYs 2020 and 2021 were removed from the analytic method baseline and intervention evaluation periods when it was inappropriate or impossible to account for the effects of the COVID-19 public health emergency. • The inclusion of any data from CYs 2020 and 2021 was carefully analyzed by the independent evaluator and supplemented by data from additional pre-COVID-19 or post-COVID-19 years. Utilization data from these years was particularly scrutinized or avoided due to COVID-19-related impacts. • In cases calling for interrupted time series analysis, the independent evaluator used a multiple-intervention technique to capture the effects of the COVID-19 public health emergency and TennCare III. • For difference-in-differences analyses with more than two observations available, year-fixed effects were added to capture time-varying effects, like the COVID-19 public health emergency. • For some pretest-posttest cases with

Limitation	Description of Limitation	Approaches to Minimizing Limitation
		sufficient data, the independent evaluator excluded 2020 and 2021 data from both the baseline and intervention periods. In other cases, only 2020 data was excluded to improve statistical power. Many pretest-posttest analyses will be more robust in future evaluation years.
Limited number of in-state comparison groups	• In-state comparison groups were infeasible since many of the TennCare III demonstration components impact the entire Medicaid enrollee population. For demonstration components that target specific subgroups, such as the Katie Beckett program population, the unique characteristics of the target population (e.g., children under the age of 18 with complex medical needs or disabilities) also limited the availability of appropriate in-state comparison groups. Certain outcomes were rendered partly attributable to extraneous factors outside of the demonstration due to the inability to identify in-state comparison groups.	• The independent evaluator included out-of-state comparison groups wherever possible. Out-of-state comparison groups were selected for similarity to the TennCare intervention population. However, the use of out-of-state comparison groups was limited (see T-MSIS data limitation described below). • The independent evaluator included comparisons to national and regional benchmarks, which provided a valid counterfactual, or an approximation of the intervention group had they not been exposed to the intervention. These benchmarks assumed that TennCare enrollees were similar to Medicaid enrollees either nationally or in the chosen regions.
Unable to access T-MSIS Data	• The independent evaluator had to change the analytic approach for many RQs due to the lack of access to T-MSIS data.	• For RQs relying on T-MSIS data, the independent evaluator changed the analytic approach from difference-in-differences analysis to interrupted time series, one group pretest-posttest, and descriptive analyses where appropriate. • If available, the independent evaluator will re-consider the use of T-MSIS data for future evaluation reports.

Limitation	Description of Limitation	Approaches to Minimizing Limitation
Unable to access certain internal data sources	• Some TennCare data sources were not available in time for the first interim evaluation, while others had to be exported in aggregate (i.e., not at the individual level) for the independent evaluator.	• The independent evaluator did not assess certain RQs as a result of the lack of data, as outlined in Section 7. These will be assessed in future evaluation reports.
Limited ability to control for differences in Medicaid populations in other states	• Medicaid population demographics and other characteristics varied among states. As a result, when using data sources like BRFSS and ACS for out-of-state comparison groups, the independent evaluator had limited ability to control for different characteristics.	• The independent evaluator selected out-of-state comparison groups from states with similar Medicaid eligibility requirements, geographic landscapes, and income levels.
Limitations of ITS and one-group pretest-posttest analyses	• The independent evaluator could not access T-MSIS data and leveraged ITS and one-group pretest-posttest analyses in its place. • ITS required data for the same time period length before and after the implementation of treatment. This disqualified certain data sources that do not provide a sufficient volume of historical data from being included in the later Interim and Summative Evaluations, given the 10-year length of the TennCare III demonstration. • When using longitudinal analytic methods such as ITS and pretest-posttest, the independent evaluator was unable to control for certain changes over time, including economic changes and characteristics of the intervention population.	• The independent evaluator interpreted findings as correlations and not causal. • The independent evaluator observed population differences over time. In cases where population differences were significant over time, the independent evaluator used regression to address the differences.
Confounding factor: changes in population composition over time	• The TennCare population will change and fluctuate in terms of eligibility, enrollee demographics, service utilization, medical needs, and other demographic characteristics throughout the 10-year demonstration period.	• The independent evaluator reported on appropriate caveats, context, and discussion of data limitations related to the TennCare enrollee population. • The independent evaluator assessed demographic changes for the relevant years for the interim report and will continue to monitor in future evaluation reports.
Limitations Retroactive Eligibility	• The number of eligible participants and response rate for surveys targeting	• The independent evaluator designed the surveys so that it could be

Limitation	Description of Limitation	Approaches to Minimizing Limitation
and Katie Beckett Surveys	individuals not actively enrolled in the Katie Beckett program was low. • Use of online surveys with access codes negatively impacted the representativeness and generalizability of the survey data due to limitations in technology literacy among the Medicaid population. • Using a third-party mailer to distribute surveys resulted in inconsistencies in access codes, which impacted the independent evaluator's ability to analyze the data. • Delays in distributing surveys resulted in a shorted timeframe to collect responses and lowered the response rate. • A lower response rate also negatively impacted the representativeness and generalizability of the survey data.	completed in a reasonable amount of time. On average, the surveys took less than 10 minutes to complete. • Despite technology literacy concerns, online surveys reduced administrative burden on enrollees and created real-time responses. • Appropriate caveats, context, and discussion of data limitations on response rate and sample size were included in the report. • The independent evaluator analyzed the data on an aggregate level. • The surveys contained retrospective questions about enrollee outcomes and perspectives of the demonstration implementation and the years leading up to implementation, where applicable.
Limitations in isolating the effects of overlapping demonstration components	• The independent evaluator could not establish a causal relationship between a singular demonstration component and a demonstration outcome. Since many TennCare III program components impact the entire TennCare population, multiple components contributed to a certain outcome in the intervention population.	• The independent evaluator used regression analysis to control for confounding factors where appropriate. • Qualitative analysis and interpretation of quantitative results provided context for any potential overlap in outcomes.
Limitation of DiD analysis	• Multiple difference-in-differences analyses use national or regional benchmarks (e.g., HEDIS® measures). This limited the statistical power of the DiD approach and out-of-state comparison because the benchmarks were set at an aggregate level (program- or plan-wide). • DiD analyses that planned to use T-MSIS were switched to methods that do not require comparison groups, but also carry weaker interpretations. • DiD analyses using survey data from ACS and BRFSS contain limited beneficiary-level	• Comparison to benchmarks offered a higher level of rigor than if there was no comparison group whatsoever. • The independent evaluator supplemented comparisons to benchmarks with descriptive analysis, comparison to historical data, and additional context where possible. • The independent evaluator used techniques such as visual trend analysis to confirm that the "parallel trend" assumption is met with the

Limitation	Description of Limitation	Approaches to Minimizing Limitation
	information, so propensity score matching is impossible.	selected out-of-state comparison group or national benchmark. • In lieu of propensity score matching, the independent evaluator used sampling weights when provided by survey data sources.
Limitation of availability of pre-period data	• For hypotheses and research questions related to policy components that remain unchanged between TennCare II and TennCare III (e.g., CHOICES), the independent evaluator hypothesized that there would not be a significant change in utilization or other outcomes between the two demonstrations. Therefore, the independent evaluator planned to use pre-period data (e.g., prior to TennCare I implementation) to address questions about impacts or changes but had limited access to such data.	• The independent evaluator interpreted results for research questions related to policy components that remain unchanged between TennCare II and TennCare III as the change in observed trends between TennCare II and TennCare III, as opposed to interpreting as the effect of the original policy implementation.

Figure 34: Methodological Limitations – Goal-Specific

Limitation	Description of Limitation	Approaches to Minimizing Limitation
Goal 2: Ensure enrollee access to health care, including safety net providers		
Limited ability to isolate the impact of TennCare III on the longstanding retroactive eligibility waiver	• Since the retroactive eligibility waiver has been in place since 1994, the independent evaluator could not isolate the effect of the waiver specifically under TennCare III. • When comparing to other states, the independent evaluator could not isolate differences in outcomes due to the impact of the retroactive eligibility waiver since Medicaid programs vary widely in policies and implementation.	• The independent evaluator included appropriate context regarding retroactive eligibility limitations. • The independent evaluator compared Tennessee to similar Medicaid programs using the aforementioned comparison state selection approach.
Goal 4: Provide enrollees with appropriate and cost-effective HCBS within acceptable budgetary parameters		
Limited ability to isolate the impact of TennCare III on the longstanding CHOICES program and I/DD programs	• Since the CHOICES program has existed since 2010, ECF CHOICES since 2016, and 1915c waiver programs since 1987, the independent evaluator could not isolate the effect of TennCare III on each MLTSS program.	• The independent evaluator included appropriate caveats, context, and discussion of data limitations.

E. Results

This section provides observations organized by the five TennCare III demonstration goals and related evaluation hypotheses and research questions.

1. Goal 1: Provide high-quality care to enrollees that will improve health outcomes

The evaluation tested four hypotheses to evaluate whether TennCare III policies have impacted health outcomes. The findings are organized by hypothesis and associated research question.

Hypothesis 1.1 – Following the implementation of the TennCare III demonstration, quality of care and health outcomes for TennCare enrollees will maintain or improve.	
Primary RQ 1.1.a	Has the implementation of TennCare III maintained or improved physical health outcomes for TennCare enrollees?
Summary	From 2020 to 2021, Tennessee saw a slight increase in the percentage of enrollees who had hypertension and adequately controlled blood pressure and a slight decrease in enrollees who had diabetes and poor HbA1c control. Both of these are positive results, and both metrics moved similarly to the national benchmarks.
Analytic Approach	The independent evaluator assessed this RQ using two HEDIS measures - Controlling High Blood Pressure and Comprehensive Diabetes Control: HbA1c Poor Control (>9%) - to compare Tennessee to a national benchmark.
Results	**Figure 35** displays the percentage of enrollees 18-85 years old who had a diagnosis of hypertension and had adequately controlled blood pressure from 2017 through 2021. Compared to the national average, overall TennCare enrollees with a hypertension diagnosis more adequately controlled their high blood pressure. The difference-in-differences estimate, which measures how the metric changed in Tennessee post-TennCare III versus the rest of the country, was 0.925% (p-value = .91). This result indicates that TennCare III was estimated to raise the metric by 0.925% more than the national benchmark in 2021; the effect of TennCare III was estimated to be slightly positive, but the result was statistically nonsignificant. The use of aggregated HEDIS measures and the lack of 2022 HEDIS numbers reduced the statistical power. Additionally, the parallel trends assumption is likely not satisfied. **Figure 36** displays the percentage of enrollees 18-75 years old with diabetes who had poor HbA1c control (>9.0%) from 2017 through 2021. Compared to the national average, TennCare enrollees with diabetes have had better HbA1c control over the entire observed period. However, the effect of TennCare III itself was not significant - the difference-in-differences estimate was -0.078% with p-value = .97. TennCare III's implementation was estimated to slightly lower the percentage of people with poor HbA1c control, but because this analysis used aggregated HEDIS measures, this result was statistically insignificant. Additionally, the lack of 2022 HEDIS figures reduced the statistical power.

Figure 35: Controlling High Blood Pressure – Percentage of enrollees 18-85 years old who had a diagnosis of hypertension and had adequately controlled blood pressure, 2017-2021[22]

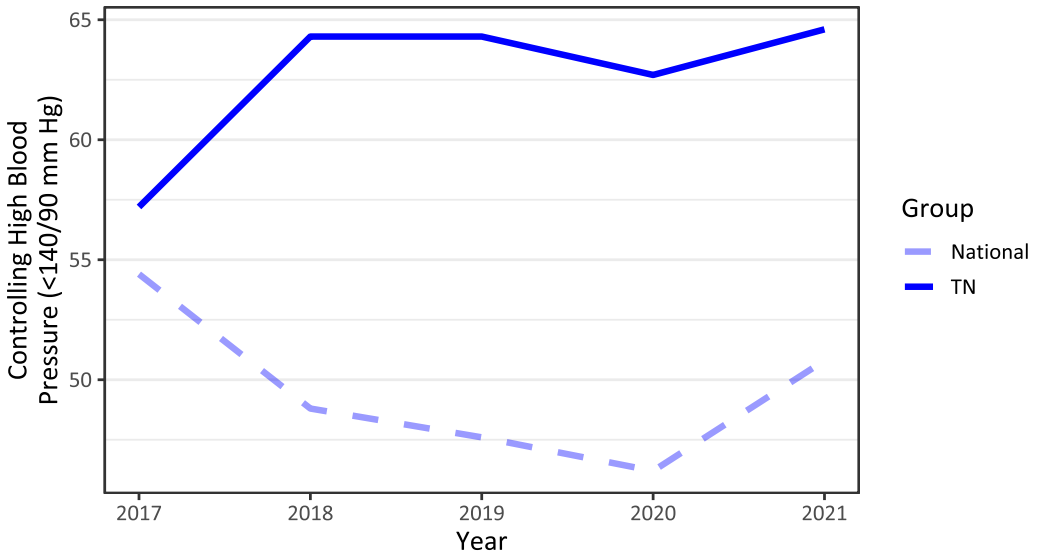
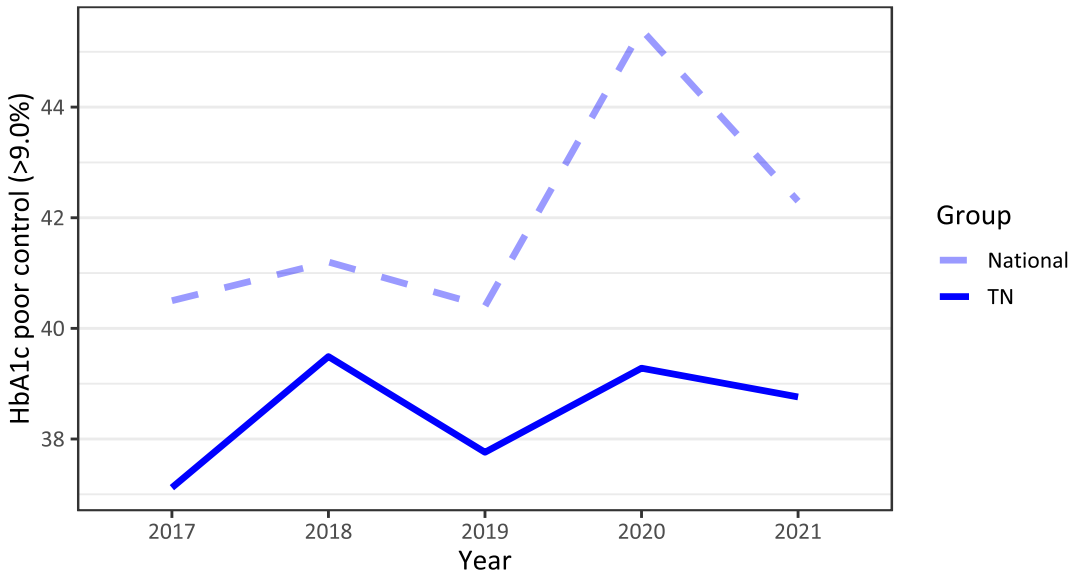


Figure 36: HbA1c Poor Control – Percentage of enrollees 18-75 years old with diabetes who had poor HbA1c control (>9.0%), 2017-2021[23]



[22] Guidehouse analysis of NCQA HEDIS measures, 2017-2021
[23] Guidehouse analysis of NCQA HEDIS measures, 2017-2021

Hypothesis 1.1 – Following the implementation of the TennCare III demonstration, quality of care and health outcomes for TennCare enrollees will maintain or improve.	
Primary RQ 1.1.b	Has the implementation of TennCare III maintained or increased the utilization rates of preventive or wellness services for TennCare enrollees?
Summary	TennCare III has mostly maintained utilization rates of preventive and wellness services for its enrollees. Rates of cervical cancer screening in female enrollees fell while the benchmark rose. Well-child visit rates were stronger than the benchmark in the first 15 months but were weaker (and decreased from 2020 to 2021) in the first 30 months. Child and adolescent well-care visits were stronger than the benchmark but fell from 2020 to 2021. Childhood immunization status has fallen from 2020 to 2021 by half a percentage point while the benchmark fell by about 3 percentage points.
Analytic Approach	The independent evaluator assessed this RQ by comparing Tennessee to a national benchmark for multiple HEDIS measures including Cervical Cancer Screening (CCS), Well-Care Visit (WCV), and Child Immunization rates (CIS) The independent evaluator reported both a descriptive analysis and the results of a simple difference-in-differences analysis.
Results	**Figure 37** displays the percentage of female enrollees, 21-64 years old, that were screened for cervical cancer between 2017-2021. Compared to the national benchmark, TennCare enrollees are screened less frequently, with a difference-in-differences estimate of -3.37% (p-value = .0083). The difference-in-differences estimate was negative and statistically significant. There is no policy change that suggests that TennCare III's implementation caused a drop in the rate of cervical cancer screening, but this analysis does find that Tennessee's CCS rate fell from 2020 to 2021 while the national benchmark's CCS rate rose. **Figure 38** shows the percentages of children who received Well-Child Visits in the First 15 Months, Well-Child Visits in the First 30 Months, and Child and Adolescent Well Care Visits (WCVs) in 2020 and 2021. Since data prior to 2020 was unavailable for this evaluation, the independent evaluator was not able to establish parallel trends or assign p-values to difference-in-differences estimates. Tennessee's rate of WCVs in the First 15 Months improved by 7.1 percentage points, compared to 1.2 percentage points for the national benchmark. Tennessee and the benchmark both showed a lower rate of WCVs in the First 30 Months – Tennessee's percentage decreased 2.68 percentage points versus the benchmark's 5.1 percentage points. Tennessee's percentage for Child and Adolescent WCVs stayed nearly flat with 51.18% and 50.99%, while the national benchmark rose by 3.4 percentage points, indicating greater improvement than Tennessee. **Figure 39** displays the trends in child immunization status from 2019 through 2021. Both Tennessee and national benchmark child immunization rates decreased during this time. Tennessee child immunization rates decreased less in 2021 than the national benchmark's, with a difference-in-differences estimate of 1.80% (p-value = .458), though this result does not carry statistical significance or a causal interpretation. In this case, the parallel trends assumption is likely not satisfied. For this and other difference-in-differences analyses, the analysis is strongest when the measure for the benchmark and the group of interest have

Hypothesis 1.1 – Following the implementation of the TennCare III demonstration, quality of care and health outcomes for TennCare enrollees will maintain or improve.	
	mostly moved together over time – i.e., their trends are parallel before the intervention happened. Breaking this assumption of difference-in-differences analysis limits the causal interpretation of the results.

Figure 37: Cervical Cancer Screening – Percentage of female enrollees 21-64 years old that were screened for cervical cancer, 2017-2021[24]

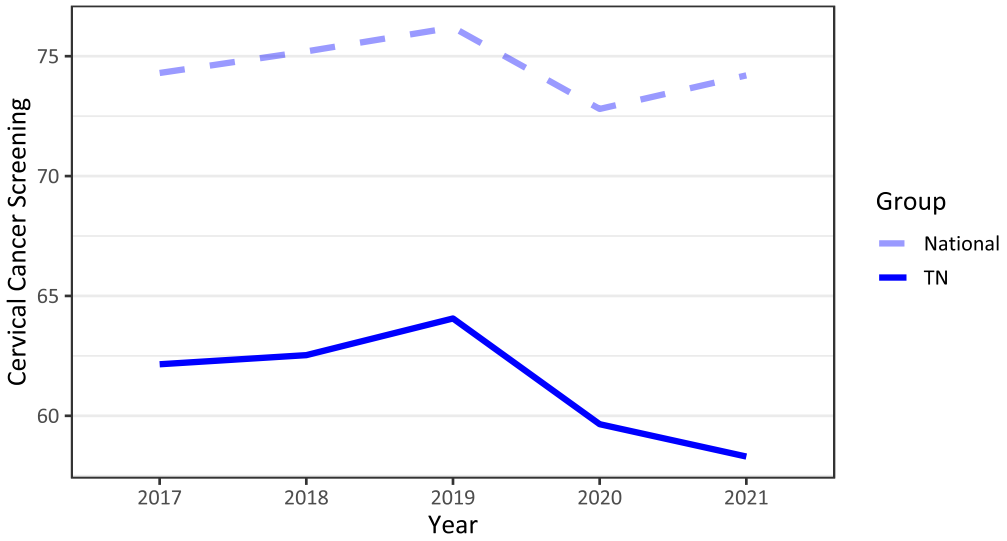
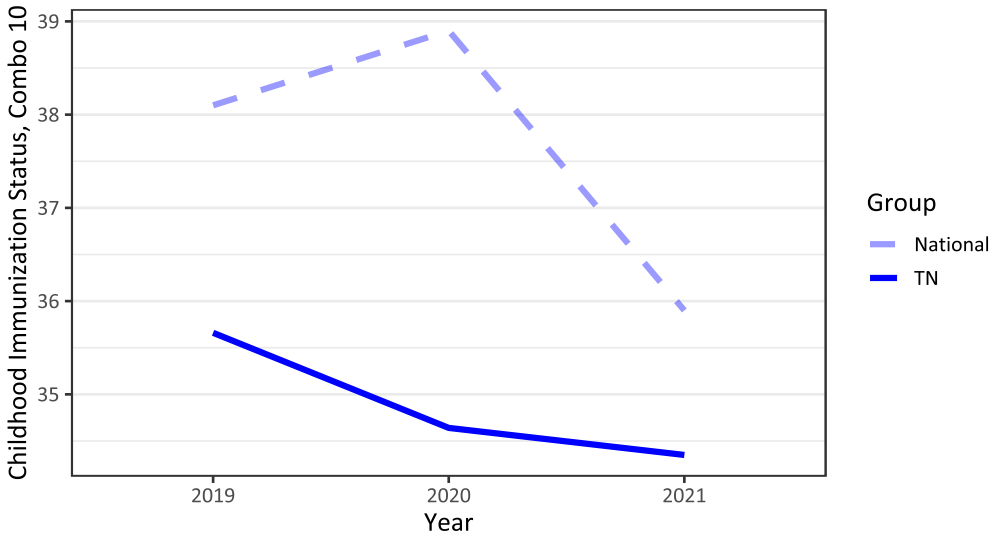


Figure 38: Well-Child and Well-Care Visit Measures, 2017-2021[25]

Year	% Well-Child Visits in First 15 Months (vs. Benchmark)	% Well-Child Visits in First 30 Months (vs. Benchmark)	% Child and Adolescent Well-Care Visits (vs. Benchmark)
2020	53.55% (52.90%)	67.69% (71.00%)	51.18% (46.10%)
2021	60.65% (54.10%)	65.01% (65.90%)	50.99% (49.50%)

[24] Guidehouse analysis of NCQA HEDIS measures, 2017-2021
[25] Guidehouse analysis of NCQA HEDIS measures, 2020-2021

Figure 39: Childhood Immunization Status, Combo 10[26], 2017-2021[27]



Hypothesis 1.1 – Following the implementation of the TennCare III demonstration, quality of care and health outcomes for TennCare enrollees will maintain or improve.	
Primary RQ 1.1.c	Has the implementation of TennCare III maintained or increased the utilization rates of EPSDT services for TennCare enrollees?
Summary	TennCare III has mostly maintained utilization rates of EPSDT services for TennCare enrollees. EPSDT participant ratios stayed flat between 2020 and 2021. EPSDT screening ratios fell for some age groups and rose for others, but overall stayed close to national benchmarks.
Analytic Approach	The independent evaluator assessed this RQ using EPSDT data, reported by Medicaid at state and national levels.
Results	**Figure 40** displays the percentage of eligible enrollees receiving at least one initial or periodic screening from 2017 through 2021. Tennessee performed similarly to the national benchmark, with a difference-in-differences estimate of 0.01% (p-value = .74). The parallel trends assumption was only partially satisfied for this dataset. The independent evaluator specified the difference-in-differences model with and without 2017 data in the dataset to verify if violating the parallel trends assumption affected results but found that omitting 2017 data still yielded an insignificant difference-in-differences. **Figure 41** and **Figure 42** provide a breakdown of the expected versus total number of screenings received for both Tennessee and the national average for each age group. No difference-in-differences estimators returned significant p-values. In general, trends were

[26] Combo 10 definition - number of enrollees 2 years of age who had four diphtheria, tetanus, and acellular pertussis (DTaP); three polio (IPV); one measles, mumps, and rubella (MMR); three haemophilus influenza type B (HiB); three hepatitis B (HepB), one chicken pox (VZV); four pneumococcal conjugate (PCV); one hepatitis A (HepA); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday.

[27] Guidehouse analysis of NCQA HEDIS measures, 2017-2021

Hypothesis 1.1 – Following the implementation of the TennCare III demonstration, quality of care and health outcomes for TennCare enrollees will maintain or improve.	
	relatively parallel, indicating that Tennessee mostly mirrored national benchmarks. Additionally, EPSDT screening ratios indicate that older children have consistently been less likely to receive screenings. This finding occurred in Tennessee and the national benchmark.

Figure 40: EPSDT Participant Ratio – Percentage of eligible enrollees receiving at least one initial or periodic screening, 2017-2021[28]

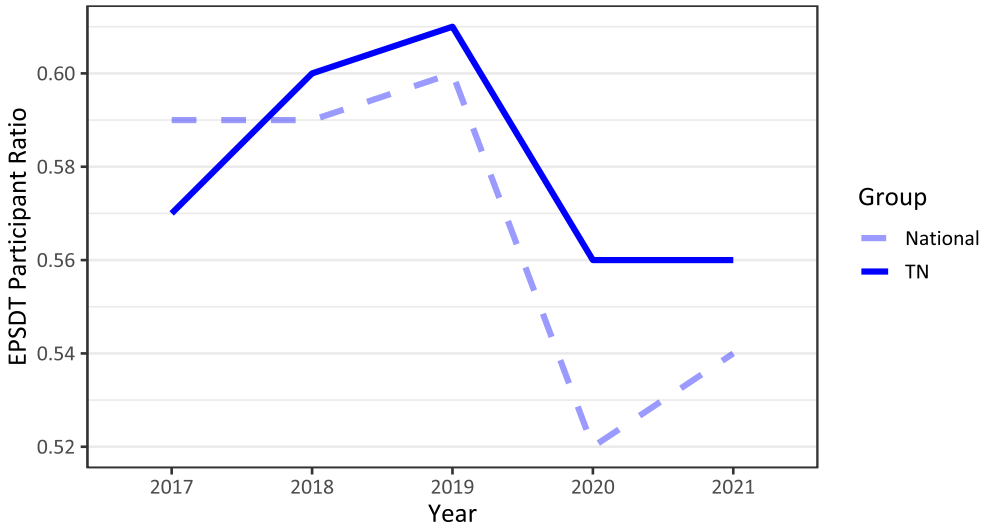


Figure 41: Tennessee EPSDT Screening Ratio – Expected vs. total EPSDT screenings received by eligible enrollees, by age group, 2017-2021[29]

Year	< 1	1 to 2	3 to 5	6 to 9	10 to 14	15 to 18	19 to 20
2017	1.00	0.91	0.85	0.61	0.61	0.47	0.31
2018	0.98	0.96	0.9	0.65	0.67	0.51	0.34
2019	1.00	0.94	0.93	0.67	0.68	0.53	0.36
2020	0.93	0.85	0.81	0.58	0.58	0.46	0.28
2021	0.97	0.86	0.81	0.56	0.58	0.46	0.26

[28] Guidehouse analysis of state and national EPSDT data, 2017-2021
[29] Guidehouse analysis of state and national EPSDT data, 2017-2021

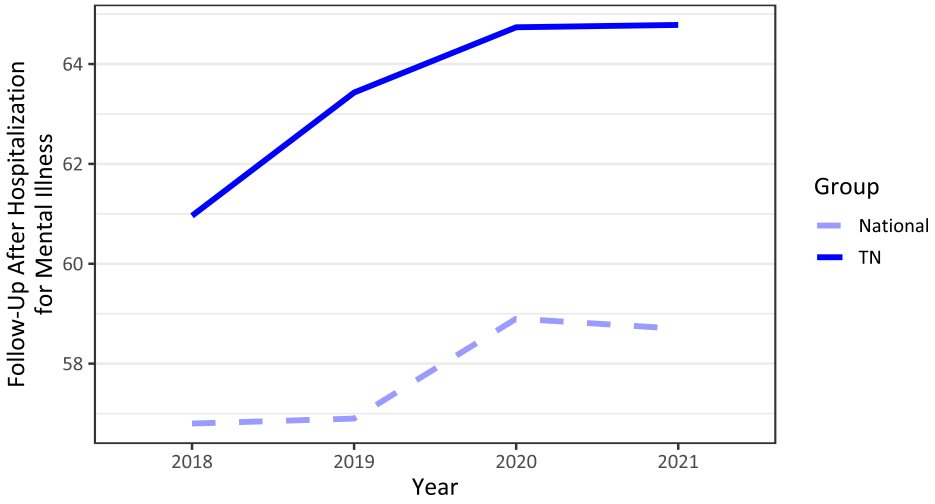
Figure 42: National Benchmark EPSDT Screening Ratio – Expected vs. total EPSDT screenings received by eligible enrollees, by age group[30]

Year	< 1	1 to 2	3 to 5	6 to 9	10 to 14	15 to 18	19 to 20
2017	0.97	0.99	0.8	0.63	0.61	0.51	0.25
2018	0.98	0.96	0.9	0.65	0.67	0.51	0.34
2019	1.00	1.00	0.89	0.65	0.67	0.57	0.31
2020	0.96	0.92	0.75	0.53	0.54	0.47	0.25
2021	0.96	0.89	0.79	0.58	0.59	0.5	0.25

Hypothesis 1.1 – Following the implementation of the TennCare III demonstration, quality of care and health outcomes for TennCare enrollees will maintain or improve.	
Primary RQ 1.1.d	Has the implementation of TennCare III maintained or improved the management of BH conditions for TennCare enrollees?
Summary	TennCare III has maintained the management of BH conditions for its enrollees. The rate of follow-up after hospitalization for mental illness stayed flat from 2020 to 2021 and was still over 5 percentage points higher than the national benchmark.
Analytic Approach	The evaluator originally intended to evaluate this RQ using two separate measures – Follow-Up After Hospitalization for Mental Illness for Adults and Follow-Up After Hospitalization for Mental Illness for Children. Since NCQA reports these measures as a combined measure, the independent evaluator used a member month weighted average to create a matching single measure.
Results	**Figure 43** displays the trends in percentage of enrollees 6 years and older who had a follow-up visit with a mental health provider within 30 days of hospital discharge for mental illness treatment from 2018 through 2021. Visual inspection indicates that Tennessee has been consistently higher than the national benchmark – on average, Tennessee's measure was 5.65 percentage points higher than the national benchmark. The estimated difference-in-differences of 0.57 percentage points (p-value = .722) indicates that the difference between Tennessee and the national benchmark did not change significantly in 2021. Additionally, the parallel trends assumption is likely not satisfied.

[30] Guidehouse analysis of state and national EPSDT data, 2017-2021

Figure 43: Follow-Up After Hospitalization for Mental Illness - percentage of enrollees 6 years and older who were hospitalized for treatment of selected mental illness or intentional self-harm diagnoses and who had a follow-up visit with a mental health provider within 30 days of discharge, 2017-2021[31]



Hypothesis 1.2 – Following implementation of the TennCare III demonstration, opioid misuse will maintain or decrease among TennCare enrollees, access to MAT will maintain or increase, and health outcomes associated with opioid misuse will maintain or improve.	
Primary RQ 1.2.a	Has the implementation of TennCare III maintained or decreased opioid use among TennCare enrollees (i.e., first-time, acute, and chronic opioid users)?
Summary	Since the implementation of TennCare III, nearly all metrics related to opioid use and prescriptions have maintained or fallen. First-time opioid users has risen slightly, though 2020 being the last year before implementation likely means that COVID-19 affected the baseline number.
Analytic Approach	The independent evaluator assessed this RQ using one-group pretest-posttest analyses. The independent evaluator reports the relevant metrics in **Figure 44**, followed by hypothesis testing results, p-values, and effect sizes.
Results	**Figure 44** displays metrics related to opioid use from 2017 through 2022, such as first-time opioid users, acute opioid users, and chronic opioid users. **First-time Opioid Users –** The number of first-time opioid users decreased from 2017-2020 but stayed between 38,000 and 42,000 in 2021 and 2022. A chi-square test using 2017-2019 as the baseline and 2021-2022 as the TennCare III demonstration period returned a near zero p-value, supporting the hypothesis that first-time opioid use would decrease during the

[31] Guidehouse analysis of NCQA HEDIS measures, 2017-2021

Hypothesis 1.2 – Following implementation of the TennCare III demonstration, opioid misuse will maintain or decrease among TennCare enrollees, access to MAT will maintain or increase, and health outcomes associated with opioid misuse will maintain or improve.	
	TennCare III demonstration. The baseline period showed 34.1 first time users per 1,000 enrollees, and the demonstration period showed 22.8 per 1,000 enrollees. **Acute Opioid Users –**The number of acute opioid users has also decreased from 2017-2020, and then leveled off in 2021 and 2022. A chi-square test using 2017-2019 as the baseline and 2021-2022 as the demonstration period returned a near zero p-value, supporting the hypothesis that acute opioid use would decline during the TennCare III demonstration. The baseline period showed 96.1 acute users per 1,000 enrollees, and the demonstration period showed 64.2 per 1,000 enrollees. **Chronic Opioid Users –** Unlike the previous metrics, the number of chronic opioid users decreased every year from 2017-2022. A chi-square test using 2017-2019 as the baseline and 2021-2022 as the demonstration period returned a near zero p-value, supporting the hypothesis that chronic opioid use would decline during the demonstration. The baseline period showed 14.98 chronic users per 1,000 enrollees, and the demonstration period showed 5.27 per 1,000. **Opioid prescriptions per 1,000 Enrollees –** The number of prescriptions per 1,000 enrollees has continued to fall through the demonstration period. A chi-square test using 2017-2019 as the baseline and 2021-2022 as the demonstration period returned a near zero p-value, supporting the hypothesis that this number would fall during the demonstration. The baseline period showed 285 prescriptions per 1,000 enrollees, and the demonstration period showed 124 per 1,000 enrollees. **Days' Supply per Prescription** – The average days' supply per prescription has fallen slightly over time. A chi-square test using 2017-2019 as the baseline and 2021-2022 as the demonstration period returned a near zero p-value, supporting the hypothesis that this number would fall during the demonstration. The baseline period showed an average of 17.5 days' supply per prescription, and the demonstration period showed an average of 15.1.

Figure 44: Tennessee Opioid Use Measures (2017 – 2022)[32]

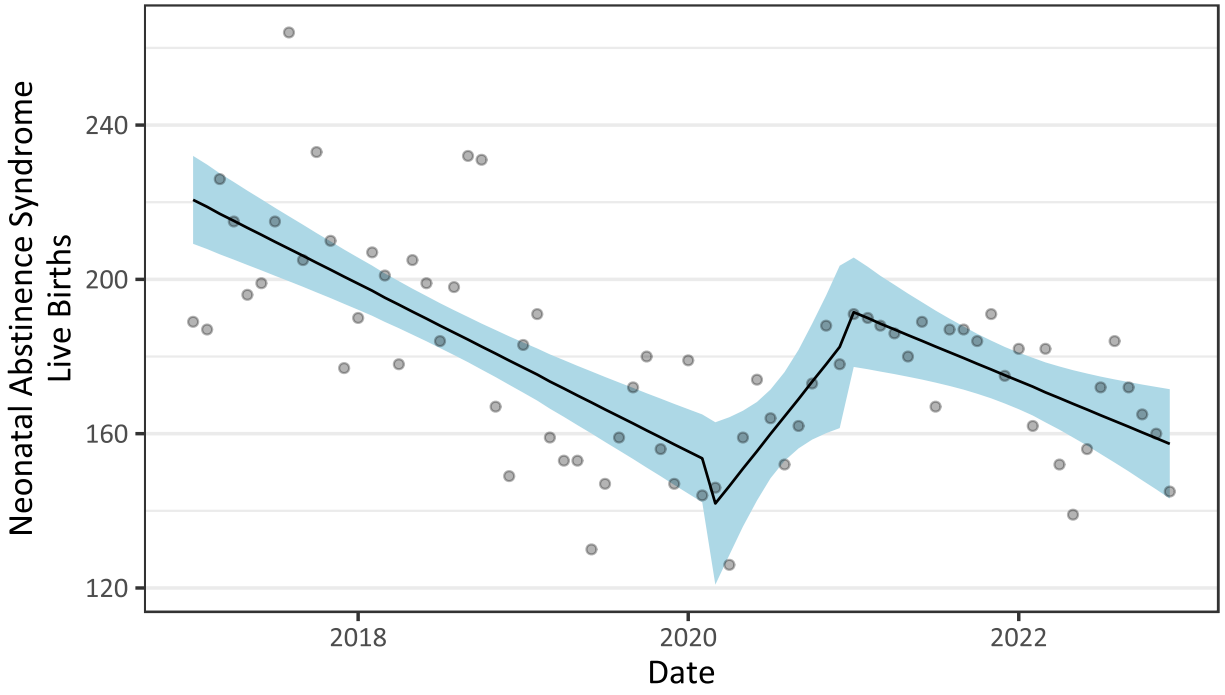
Year	Total Enrollees	First-time Opioid Users	Acute Opioid Users	Chronic Opioid Users	Total Opioid Prescriptions	Days' Supply per Prescription	Opioid Prescriptions per 1,000 Enrollees	Enrollees Receiving an Opioid Prescription
2017	1,712,028	75,855	213,247	31,612	733,443	16.53	428.41	244,859
2018	1,723,682	51,342	144,398	27,239	404,668	19.23	234.77	171,637
2019	1,644,796	46,242	130,999	17,268	309,477	17.53	188.16	148,267
2020	1,682,442	38,134	115,841	12,388	277,732	16.98	165.08	128,229
2021	1,762,925	41,525	117,857	10,606	237,571	15.70	134.76	128,463
2022	1,846,965	40,828	114,053	8,441	210,309	14.52	113.87	122,494

Hypothesis 1.2 – Following implementation of the TennCare III demonstration, opioid misuse will maintain or decrease among TennCare enrollees, access to MAT will maintain or increase, and health outcomes associated with opioid misuse will maintain or improve.	
Primary RQ 1.2.b	Has the implementation of TennCare III maintained or decreased the number of Neonatal Abstinence Syndrome live births?
Summary	Since TennCare III's implementation, the rate of NAS live births has resumed a negative trend after rising during 2020. The post-implementation trend is very similar to the trend from 2017-2019.
Analytic Approach	Since T-MSIS data was unavailable, this RQ was evaluated using TennCare claims and encounter data with an interrupted time series analysis rather than difference-in-difference. The ITS analysis used a linear model and a two-intervention design – one to represent the start of COVID-19 and one to represent the start of TennCare III. The independent evaluator calculated the number of NAS live births per month rather than per year in order to achieve stronger statistical power.
Results	**Figure 45** shows the number of NAS live births each month in Tennessee along with a line of best fit from the interrupted time series model. The effects of the COVID-19 parameter are shown clearly where the consistent downward trend temporarily turns upward in early 2020. The coefficient that represents a sudden, one-time shift at the onset of COVID-19 was not significant but is shown as a small drop in March 2020. The difference in slope associated with COVID-19 was estimated at +6.32 (p-value = .0027), which reflects the upward shift in births associated with neonatal abstinence syndrome (NAS). When the TennCare III demonstration begins in January 2021, the trend reverses again – the difference in slope is estimated at -5.99 (p-value .00539), though the one-time shift is insignificant at 4.48 (p-value .76). The fact that the COVID-19 and TennCare III parameters nearly mirror each other means that the post-TennCare III trend is very close to the pre-COVID trend. The

[32] Guidehouse analysis of Tennessee Claims and Encounter data, 2017-2022

Hypothesis 1.2 – Following implementation of the TennCare III demonstration, opioid misuse will maintain or decrease among TennCare enrollees, access to MAT will maintain or increase, and health outcomes associated with opioid misuse will maintain or improve.	
	interpretation here is that TennCare III's demonstration was likely not the sole cause of the trend's reversal. It is unclear exactly how much COVID-19 and the TennCare III implementation each affected the rate of births associated with NAS, but the data indicates that the NAS measure is back to maintaining a negative trend.

Figure 45: Interrupted time series model of NAS Live Births in Tennessee each month, 2017-2022[33]

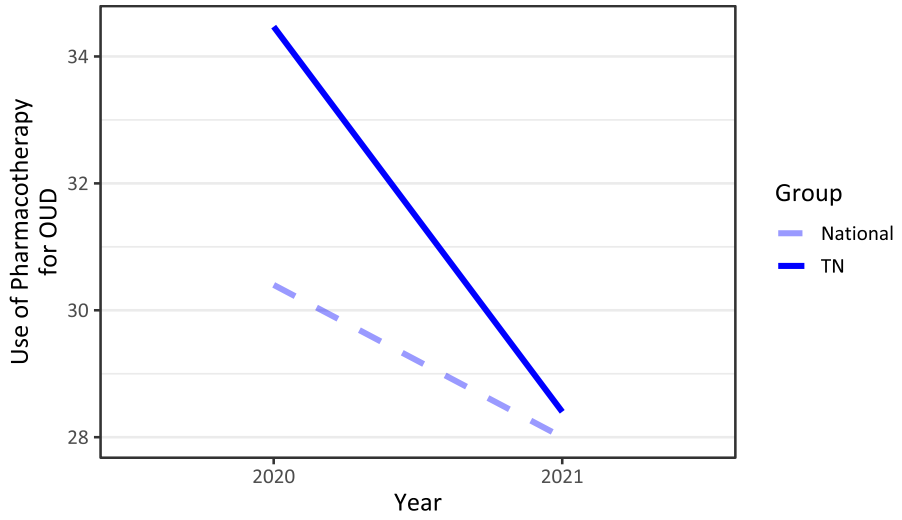


Hypothesis 1.2 – Following implementation of the TennCare III demonstration, opioid misuse will maintain or decrease among TennCare enrollees, access to MAT will maintain or increase, and health outcomes associated with opioid misuse will maintain or improve.	
Primary RQ 1.2.c	Has the implementation of TennCare III maintained or improved the rate of OUD treatment for TennCare enrollees?

[33] Guidehouse analysis of Tennessee Claims and Encounter Data, 2017-2022

Hypothesis 1.2 – Following implementation of the TennCare III demonstration, opioid misuse will maintain or decrease among TennCare enrollees, access to MAT will maintain or increase, and health outcomes associated with opioid misuse will maintain or improve.	
Summary	This item is inconclusive because of a lack of data over time. However, the rate of OUD treatment for enrollees fell sharply from 2020 to 2021. Future evaluation reports will be able to revisit this more effectively.
Analytic Approach	The independent evaluator assessed this RQ with a difference-in-differences analysis between Tennessee and the national HEDIS benchmark.
Results	**Figure 46** displays the change in use of pharmacotherapy for opioid use disorder from 2020 to 2021 for both Tennessee and the national average. Difference-in-differences was -3.67%. Due to the lack of earlier data, it is impossible to verify parallel trends or assign a p-value to estimates. From 2020-2021, Tennessee's rate of use of pharmacotherapy for OUD decreased from 34.47% to 28.4% while the national rate decreased from 30.4% to 28%.

Figure 46: Use of Pharmacotherapy for OUD – Percentage of enrollees ages 18 to 64 with an OUD who filled a prescription for or were administered or dispensed an FDA-approved medication for the disorder during the MY, 2017-2021[34]



Hypothesis 1.2 – Following implementation of the TennCare III demonstration, opioid misuse will maintain or decrease among TennCare enrollees, access to MAT will maintain or increase, and health outcomes associated with opioid misuse will maintain or improve.	
Primary RQ 1.2.d	Has the implementation of TennCare III maintained or improved access to MAT?

[34] Guidehouse analysis of NCQA HEDIS measures, 2017-2021

Hypothesis 1.2 – Following implementation of the TennCare III demonstration, opioid misuse will maintain or decrease among TennCare enrollees, access to MAT will maintain or increase, and health outcomes associated with opioid misuse will maintain or improve.	
Summary	Since the implementation of TennCare III, access to MAT has increased.
Analytic Approach	The independent evaluator analyzed this RQ with a one group pretest-posttest method. Because BESMART started in May 2019, the chi-square test of proportions used 2020 as the pre-intervention period and 2021-2022 as the post-intervention period. 2023 was omitted from testing because the data includes only records up to June 30, 2023.
Results	BESMART Metrics are shown in **Figure 47**. With the mentioned pre- and post-intervention periods, the difference in the proportion of TennCare enrollees who received care through MAT/BESMART before (0.066%) and after (0.08%) TennCare III was significant, with a p-value near 0.

Figure 47: BESMART Metrics, 2019-2023[35]

Year	Number of Unique Enrollees who Received Care through MAT/BESMART Program	Number of Unique Providers in The BESMART Program
2019[36]	6,372	Not available
2020	11,056	267
2021	13,643	356
2022	15,296	446
2023[37]	14,658	497

Hypothesis 1.3 – Following implementation of the TennCare III demonstration, quality outcomes and quality of life for TennCare CHOICES and individuals with I/DD will maintain or improve.	
Primary RQ 1.3.a	Has the implementation of TennCare III maintained or improved quality outcomes for CHOICES enrollees?
Summary	NCI-AD data is incomplete, so comparisons are made between 2017-2018 and 2021. Significantly more enrollees know how to manage their chronic conditions. The percentage whose health was described as having gotten better did not change significantly.
Analytic Approach	The independent evaluator evaluated this RQ using one-group pretest-posttest methods. The independent evaluator reported results using a table, test statistics, p-values, and effect sizes. Data for these items came from NCI-AD surveys. Because survey data was unavailable for 2019 and 2020, the baseline period is 2017 and 2018, and the demonstration period is 2021.
Results	**Figure 48** displays trends for percentage of enrollees who know how to manage their chronic conditions as well as health status improvement for 2017, 2018, and 2021.

[35] Guidehouse analysis of TennCare Provider Enrollment Data, 2019-2023

[36] BESMART was instituted in May 2019 as the Enhanced Medication Assisted Treatment (MAT) program and rebranded to BESMART in March 2020. The number of providers in the program in 2019 was unavailable.

[37] 2023 BESMART data covers January 1, 2023 – June 30, 2023 due to a 3-month lag for the claims data.

Hypothesis 1.3 – Following implementation of the TennCare III demonstration, quality outcomes and quality of life for TennCare CHOICES and individuals with I/DD will maintain or improve.	
	Percentage who know how to manage their chronic conditions – The independent evaluator conducted a chi-square test with a p-value of .011, so the percentage of respondents who know how to manage their chronic conditions has improved significantly. **Percentage whose health was described as having gotten better compared to 12 months ago –** The independent evaluator conducted a chi-square test with a p-value of .634, so the data does not indicate a significant change in this metric.

Figure 48: Selected NCI-AD metrics, 2017, 2018, 2021[38]

Year	% Who Know How to Manage Their Chronic Conditions (n)	% Whose Health was Described as Having Gotten Better Compared to 12 Months Ago (n)
2017	60% (701)	15% (831)
2018	65% (738)	19% (788)
2021	70% (354)	16% (626)

Hypothesis 1.3 – Following implementation of the TennCare III demonstration, quality outcomes and quality of life for TennCare CHOICES and individuals with I/DD will maintain or improve.	
Primary RQ 1.3.c	Has the implementation of TennCare III maintained or improved quality outcomes for individuals with I/DD?
Summary	Results for this RQ come with significant caveats because of data issues. The items assessed were: • Percentage of people who report regularly participating in everyday integrated activities in their communities • Percentage of people who report being able to see and/or communicate with their families and friends when they want • Percentage of people who report that staff treat them with respect Tennessee has generally showed higher quality outcomes for individuals with I/DD than the NCI average, which gives a representative mean of all respondents. The percentage of people reporting regularly participating in everyday activities in their communities and the percentage of people reporting their staff treats them with respect both fell after implementation of TennCare III, but the unusually small dataset for 2022 figures means that more data is needed to make a robust conclusion around quality of care for individuals with I/DD.
Analytic Approach	Where possible, the independent evaluator assessed this RQ with a difference-in-differences analysis between Tennessee and the NCI weighted average for each item. The NCI-IDD in-

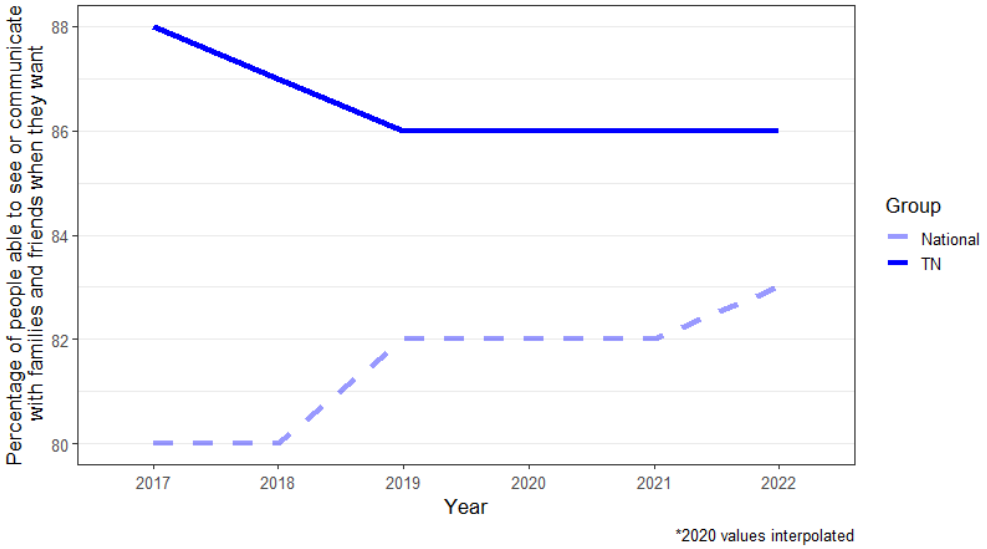
[38] Guidehouse analysis of NCI-AD data, 2017, 2018, 2021

Hypothesis 1.3 – Following implementation of the TennCare III demonstration, quality outcomes and quality of life for TennCare CHOICES and individuals with I/DD will maintain or improve.	
	person survey was interrupted in 2020 due to the COVID-19 public health emergency, so 2020 values are missing for every item. Plots in **Figure 50** and **Figure 51** use an interpolated value for 2020, but difference-in-differences models omitted data for 2020. With a missing year of data just before implementation of TennCare III, difference-in-differences estimates are not as reliable and should be interpreted with caution. The first item – the percentage of people who report regularly participating in everyday integrated activities in their communities – was not presented in the 2021-2022 NCI-IDD National Report, so a descriptive analysis is not presented and the 2022 NCI average is reported as NA. Additionally, all 2022 survey results for Tennessee are derived from raw survey data. Tennessee did collect some data for the 2021-2022 survey, but NCI determined it was not statistically significant due to sample size and response rate. Because of these factors, the 2021-2022 results carry a higher margin of error than the results for 2017-2019 and may be less reliable.
Results	**Figure 49** shows the values over time for the Community Inclusion Scale included in the NCI-IDD survey results. Since 2020, both Tennessee and the NCI average have fallen. This measure was likely affected by the COVID-19 public health emergency, and Tennessee's value was less affected than the NCI average. More data from future years will be key in obtaining more conclusive results. **Figure 50** shows values over time for an NCI-IDD item concerning what percentage of people can contact family and friends when they want. Tennessee consistently showed higher values for this survey question than the NCI average. Because Tennessee's and the national benchmark's figures were not trending the same direction before TennCare III's implementation, the parallel trend assumption did not hold for this metric. The difference-in-differences (-2.83 percentage points) was not significant and likely is unreliable because of the broken parallel trend assumption. Visual inspection shows that Tennessee's performance has remained at 86% since 2019, well above the 2022 NCI average of 83%. **Figure 51** below shows values over time for an NCI-IDD item concerning what percentage of reported that their staff treat them with respect. From 2017-2021, Tennessee showed higher values for this survey question than the NCI average. In 2022, which used the smaller sample, Tennessee's percentage dropped from 97% to 91%, which was lower than the NCI average for the first time in the study period. Because Tennessee's and the national benchmark's figures were not trending the same direction before TennCare III's implementation, the parallel trend assumption did not hold for this metric and the difference-in-differences estimate (-4.5 percentage points) is not reliable.

Figure 49: Percentage of people who report regularly participating in everyday integrated activities in their communities, 2017-2019 and 2021-2022[39]

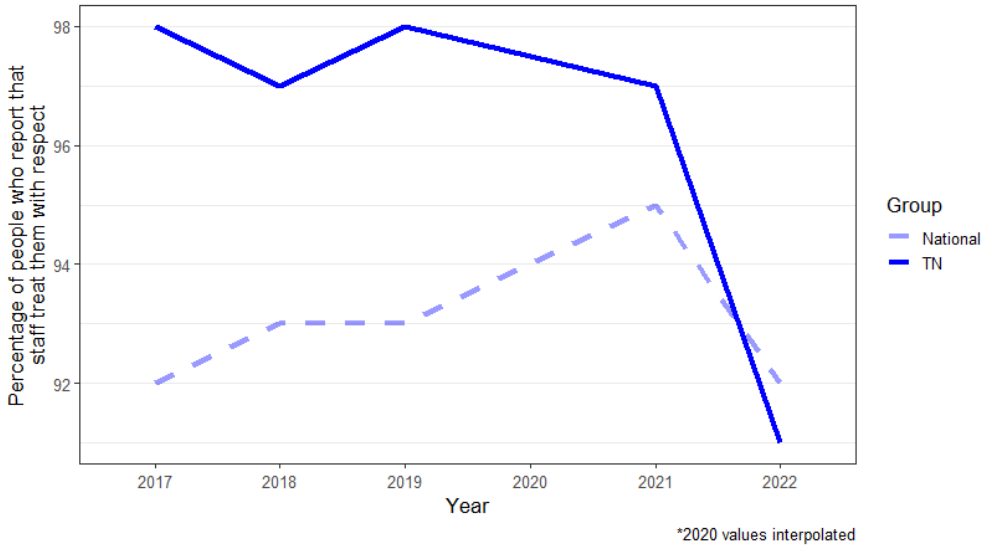
Year	Tennessee	NCI Weighted Average
2017	90%	85%
2018	85%	84%
2019	82%	85%
2020	NA	NA
2021	76%	59%
2022	75%	NA

Figure 50: Percentage of people who report being able to see and/or communicate with their families and friends when they want, 2017-2022[40]



[39] Guidehouse analysis of NCI survey data, 2017-2022
[40] Guidehouse analysis of NCI survey data, 2017-2022

Figure 51: Percentage of people who report that staff treat them with respect, 2017-2022[41]



Hypothesis 1.3 – Following implementation of the TennCare III demonstration, quality outcomes and quality of life for TennCare CHOICES and individuals with I/DD will maintain or improve.	
Primary RQ 1.3.d	Has the implementation of TennCare III maintained or improved quality of life for individuals with I/DD?
Summary	Most survey items related to personal choice and quality of life stayed flat or declined from 2017-2022. The items assessed were: • Percentage of people who report that they chose or had some input in choosing their residence • Percentage of people who report that they chose or had some input in choosing their work, • Percentage of people who report that they chose or had some input in choosing their day activity • Percentage of people who report that they chose or had some input in choosing their staff, • Percentage of people who report that they chose or had some input in choosing their room/housemates • Percentage of people who report that they decided or had help deciding their daily schedule • Percentage of people who report that they decided or had help deciding how to spend money • Percentage of people who report that they decided or had help deciding how to spend free time

[41] Guidehouse analysis of NCI survey data, 2017-2022

Hypothesis 1.3 – Following implementation of the TennCare III demonstration, quality outcomes and quality of life for TennCare CHOICES and individuals with I/DD will maintain or improve.	
	• Percentage of people who report that they always have a way to get places when they need to go somewhere Because of the lack of 2020 data, other potential effects of the COVID-19 public health emergency, and the smaller survey sample used by Tennessee in 2022, the data limitations are significant enough that further NCI survey data is required before this RQ can be confidently answered.
Analytic Approach	Similarly to RQ 1.3.c, the independent evaluator assessed this RQ with a difference-in-differences analysis between Tennessee and the NCI weighted average for each item. Because of lacking data availability, 2020 is missing for every item. Plots in Figures 51-59 use an interpolated value for 2020, but difference-in-differences models omitted data for 2020. With a missing year of data just before implementation of TennCare III, difference-in-differences estimates are not as reliable and should be interpreted with caution. Additionally, all 2022 numbers for Tennessee are derived from raw survey data. Tennessee's 2021-2022 survey was not deemed statistically significant and featured smaller samples than usual, so the 2021-2022 results carry a higher margin of error and are less reliable than the results for 2017-2019.
Results	**Figure 52** shows the percentage of surveyed enrollees who reported they helped choose where they live. For 2017-2022, enrollees with I/DD in Tennessee reported having more choice of residence to enrollees with I/DD compared to the NCI average. The percentage of people who report they chose or had some input in choosing their residence has fallen slightly in recent years but has remained around 5 percentage points higher than the national rate. The difference-in-differences (-3.67 percentage points) was not significant and the parallel trends assumption was not met, so the independent evaluator does not find that the implementation of TennCare III significantly impacted this measure. **Figure *53*** shows results for the survey item asking respondents if they had input in choosing their work. The national benchmark was volatile from 2017-2022, so the parallel trend assumption is broken. Tennessee's rate has slowly decreased from 91% to 86%, but this change started well before the implementation of TennCare III in 2021. More post-implementation data will provide a stronger comparison, though the parallel trends assumption is not met in the baseline data. **Figure 54** displays the percentage of respondents who had input in their day activity, which captures choice in activities other than employment or day programs. The difference-in-differences (-8.17 percentage points) was not significant and the parallel trends assumption was not met. Future data will likely make analysis of this item stronger, especially with the sudden observed drop in 2022, when the smaller dataset was used. Although Tennessee's rate has decreased since 2017, Tennessee has maintained a rate higher than the national benchmark other than in 2022.

Hypothesis 1.3 – Following implementation of the TennCare III demonstration, quality outcomes and quality of life for TennCare CHOICES and individuals with I/DD will maintain or improve.	
	Figure 55 shows the percentage of respondents who had input in choosing their staff. Tennessee has remained higher than the national benchmark but has also seen its rate drop every year since 2017. This trend began before TennCare III, and further data is needed to assess if the negative trend continues. The difference-in-differences was significant at -14.83 percentage points and a p-value of .025. However, the parallel trends assumption was broken – Tennessee's figure has fallen every year, while the NCI average has risen and fallen each year and stayed flat overall. Because of the violated assumption, the difference-in-differences estimate is not reliable. **Figure 56** shows the percentage of respondents who had input in choosing their room/housemates over time. The difference-in-differences (-2.17 percentage points) was not significant, as both the national and Tennessee rates have stayed mostly flat from 2019 on. **Figure 57** shows the percentage of respondents reporting they decided (or had help deciding) their daily schedule. The parallel trend assumption is broken for this item. Tennessee saw a significant increase from 2018 to 2019 but the rate began decreasing after 2019. In 2021 and 2022, Tennessee's rate fell below the national benchmark. **Figure 58** displays the percentage of respondents who decided or had help deciding how to spend money. Again, the parallel trends assumption is broken, so this item is interpreted descriptively. Similarly to the previous item addressing decisions around daily schedules, Tennessee's rate increased from 2017 to 2019 before decreasing. In 2022, Tennessee's rate tied with the national benchmark at 90%. **Figure 59** displays results from the survey item asking respondents about how they decide how to spend free time. The parallel trend assumption is broken so difference-in-differences analysis is omitted. Tennessee's rate remained at 96% from 2017 to 2019. Tennessee's rate fell to 91% in 2021, then to 87% in 2022 with the smaller survey sample. The national benchmark slowly improved over the same time period, with a rate of 95% in 2022. **Figure 60** displays the percentage of respondents who reported they always have a way to get where they need to go. Between 2017-2021, Tennessee's rate stayed at 97% or 98% and the national benchmark stayed at 93%. Tennessee's rate dropped to 92% in 2022, which may be an artifact of the smaller sample used for 2022. Further data is needed to confirm a post-implementation trend.

Figure 52: Percentage of people who report that they chose or had some input in choosing their residence, 2017-2022[42]

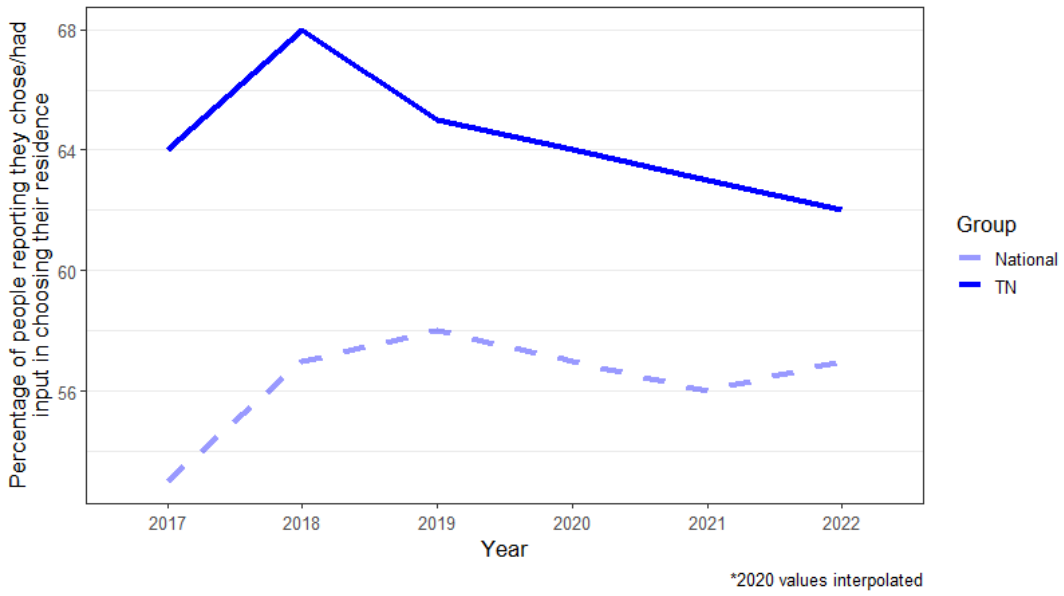
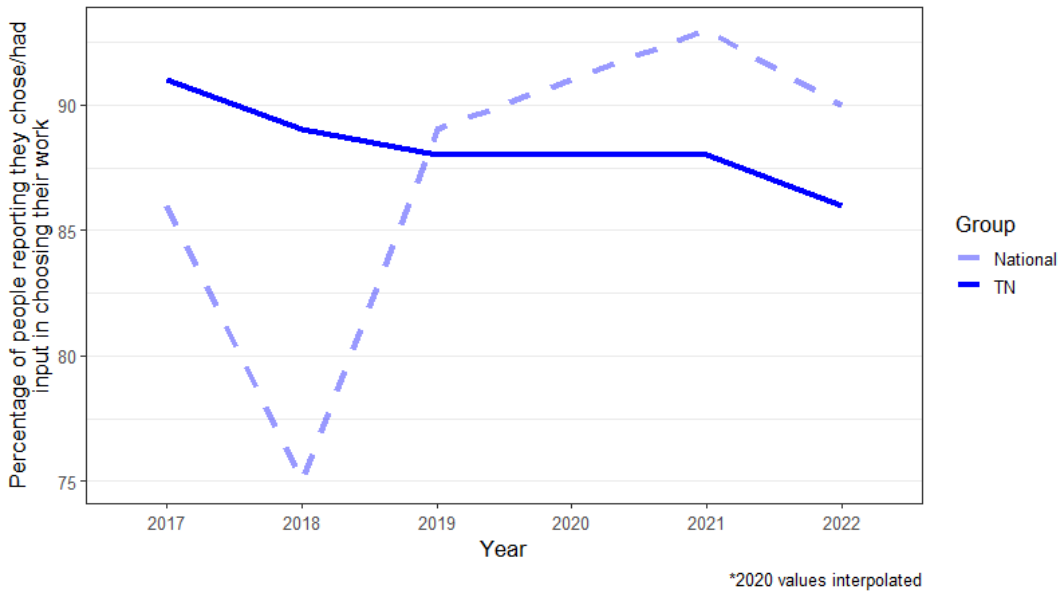


Figure 53: Percentage of people who report that they chose or had some input in choosing their work, 2017-2022[43]



[42] Guidehouse analysis of NCI survey data, 2017-2022
[43] Guidehouse analysis of NCI survey data, 2017-2022

Figure 54: Percentage of people who report that they chose or had some input in choosing their day activity, 2017-2022[44]

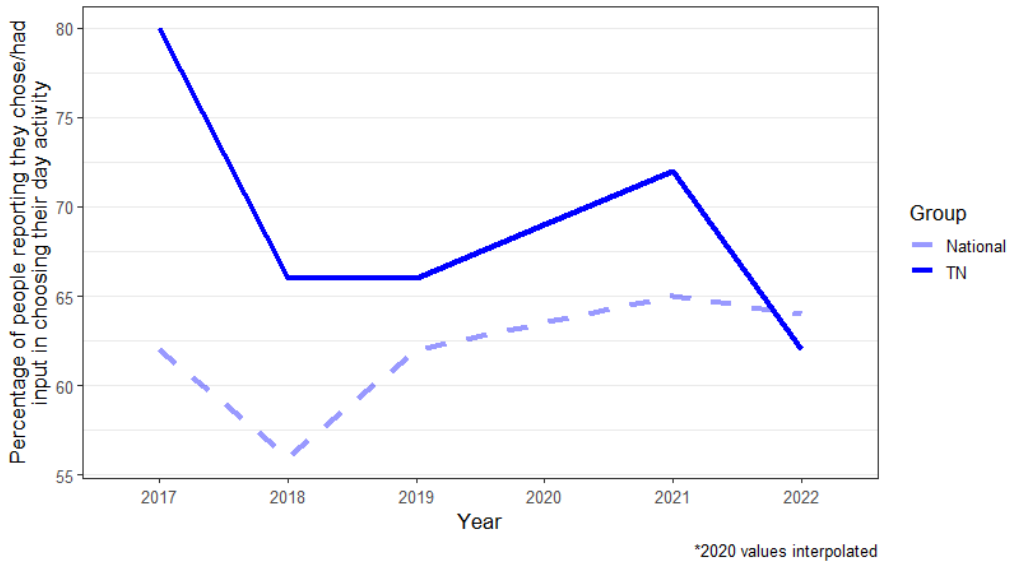
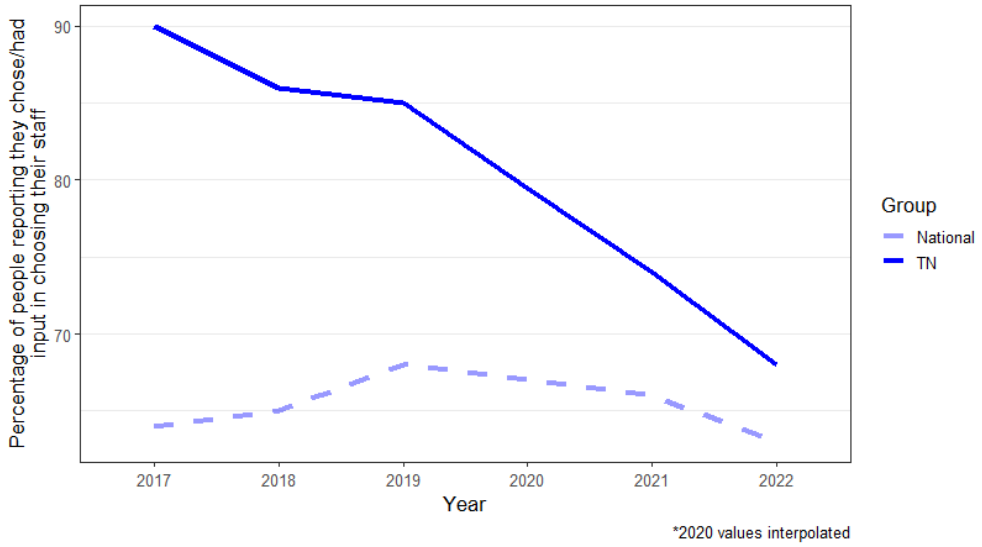


Figure 55: Percentage of people who report that they chose or had some input in choosing their staff, 2017-2022[45]



[44] Guidehouse analysis of NCI survey data, 2017-2022
[45] Guidehouse analysis of NCI survey data, 2017-2022

Figure 56: Percentage of people who report that they chose or had some input in choosing their room/housemates, 2017-2022[46]

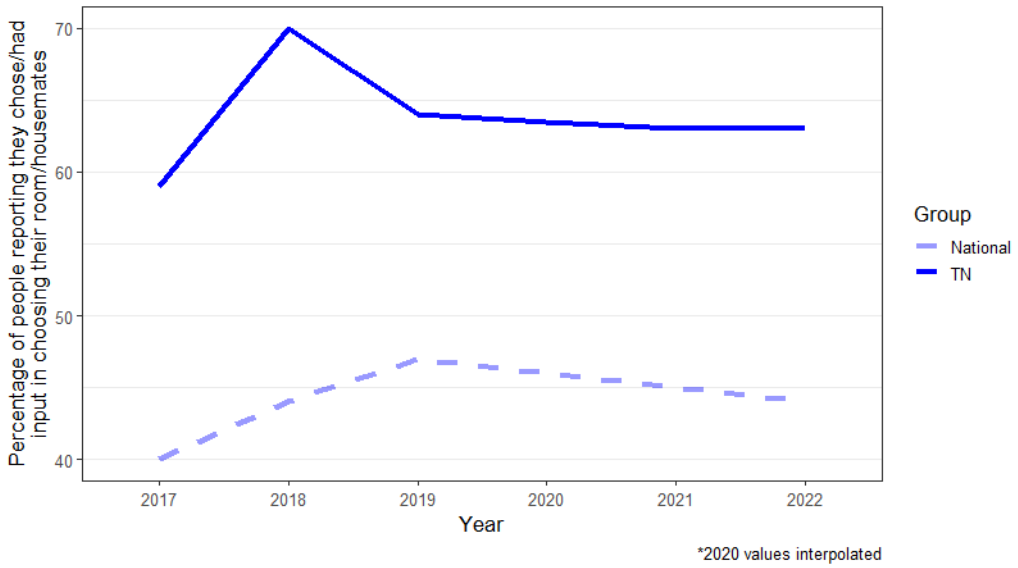
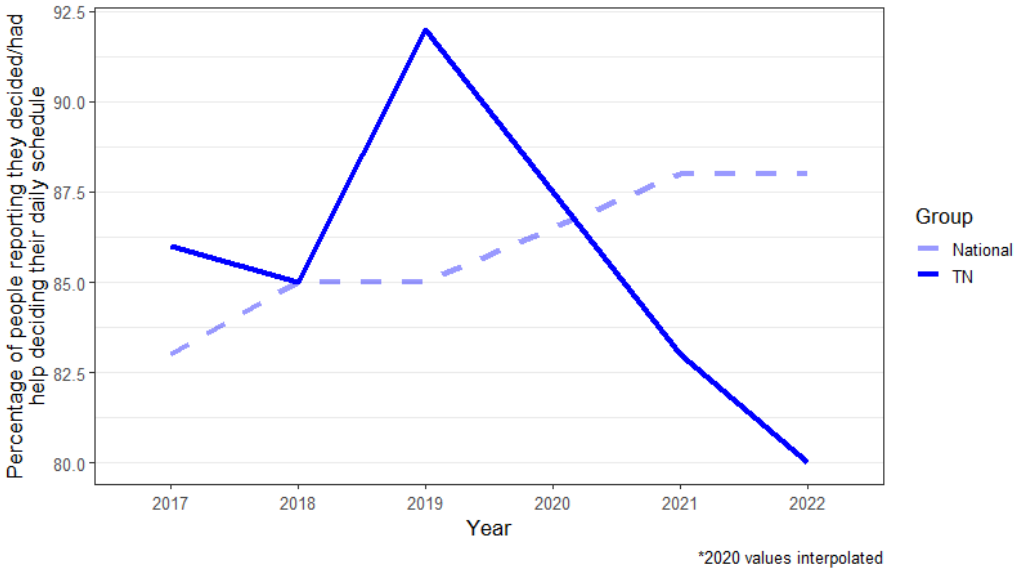


Figure 57: Percentage of people who report that they decided or had help deciding their daily schedule, 2017-2022[47]



[46] Guidehouse analysis of NCI survey data, 2017-2022
[47] Guidehouse analysis of NCI survey data, 2017-2022

Figure 58: Percentage of people who report that they decided or had help deciding how to spend money, 2017-2022[48]

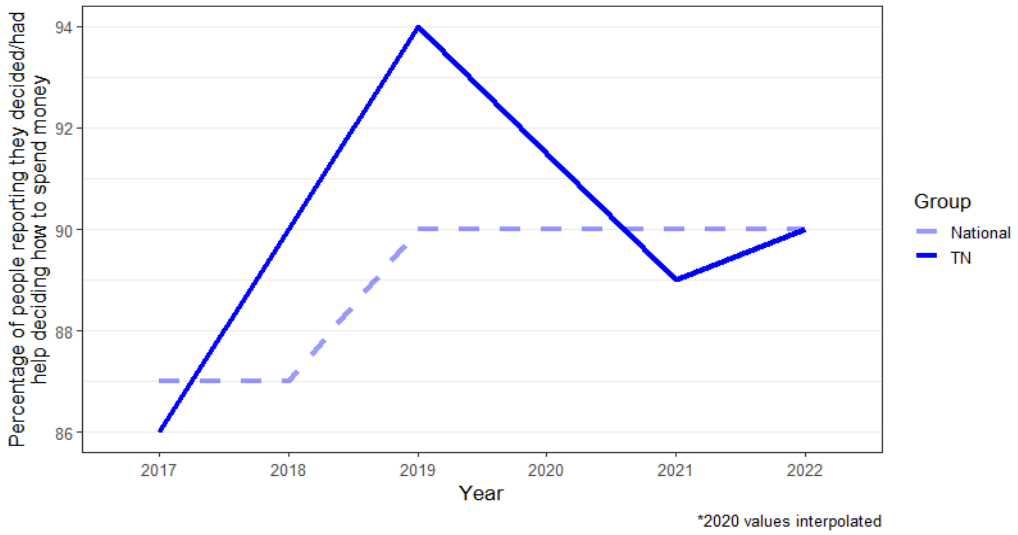
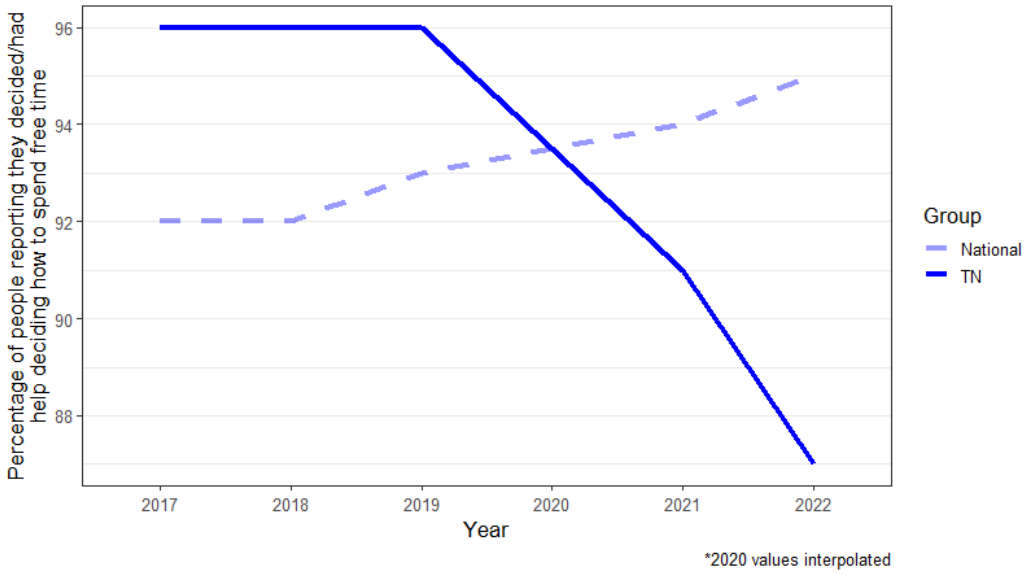
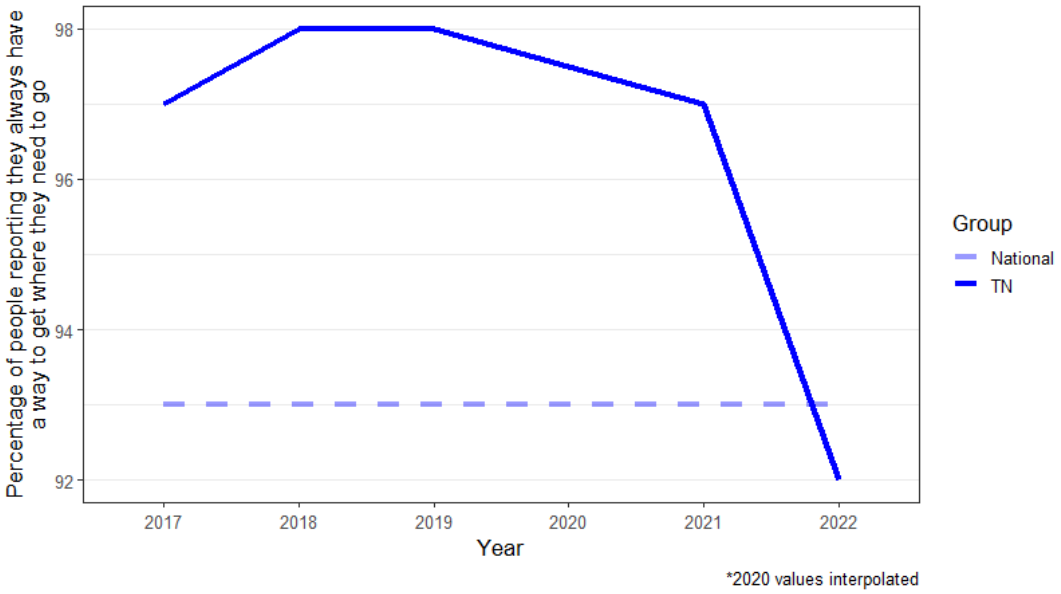


Figure 59: Percentage of people who report that they decided or had help deciding how to spend free time, 2017-2022[49]



[48] Guidehouse analysis of NCI survey data, 2017-2022
[49] Guidehouse analysis of NCI survey data, 2017-2022

Figure 60: Percentage of people who report that they always have a way to get places when they need to go somewhere, 2017-2022[50]



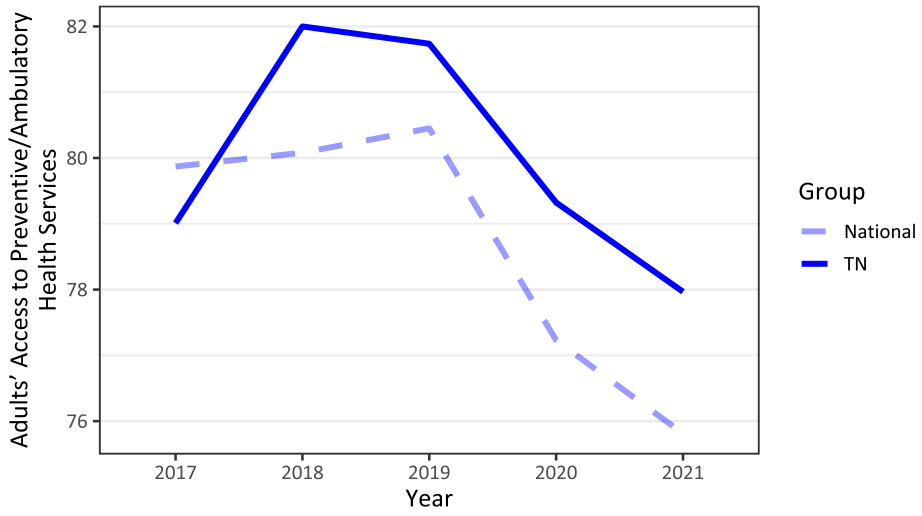
2. Goal 2: Ensure enrollee access to health care, including safety new providers

The evaluation tested ten hypotheses to evaluate whether TennCare III policies have impacted enrollees' access to health care. Outlined below are each hypothesis, subsequent research questions, and the analysis for each.

Hypothesis 2.1 – Following implementation of the TennCare III demonstration, enrollee utilization of services will maintain or improve.	
Primary RQ 2.1.a	Has the implementation of TennCare III maintained or improved enrollee utilization of services?
Subsidiary RQ 2.1.a.i	Has the implementation of TennCare III maintained or improved utilization of primary care?
Summary	From 2020 to 2021, access to preventive/ambulatory health services decreased in Tennessee. This decrease was roughly parallel with the national benchmark's decrease.
Analytic Approach	The independent evaluator assessed this RQ with a difference-in-differences analysis between Tennessee and the NCQA HEDIS national benchmark.
Results	**Figure 61** shows the trend in adult use of primary care from 2017 through 2021. Difference-in-differences was 1.05 percentage points (p-value = .54), though estimates may be biased by the lack of parallel trends. Visual inspection indicates that Tennessee has featured higher utilization of preventive/ambulatory services than the national benchmark every year after 2017, and the TennCare III demonstration has likely not impacted that.

[50] Source: Guidehouse analysis of NCI survey data, 2017-2022

Figure 61: Adults' Access to Preventive / Ambulatory Health Services – Percentage of enrollees 20 years and older who had one or more ambulatory or preventive care visit during the measurement year, 2017-2021[51]



Hypothesis 2.1 – Following implementation of the TennCare III demonstration, enrollee utilization of services will maintain or improve.	
Primary RQ 2.1.a	Has the implementation of TennCare III maintained or improved enrollee utilization of services?
Subsidiary RQ 2.1.a.ii	Has the implementation of TennCare III maintained or improved utilization of inpatient care?
Summary	Utilization of inpatient care, measured as discharges per 1,000 member months, has maintained between 6.21 and 6.56 from 2017 to 2021.
Analytic Approach	The independent evaluator originally intended to evaluate this RQ using a difference-in-differences analysis, but the HEDIS measure titled "Inpatient Discharges per 1,000 Member Months" had been discontinued. Instead, the independent evaluator used a one-group pretest-posttest method since TennCare had the same metric available in reports from 2017-2021.
Results	**Figure 62** shows inpatient discharges per 1,000 member months between 2017 through 2021. Since this data was reported separately for each MCO, the independent evaluator computed a member month weighted average. 2017-2019 was the baseline period, and 2021 was the demonstration period. The chi-square test does return a low p-value (near 0), but the large number of total member months and low effect size (Cramer's V = .0017) indicate that the chi-square test was likely overpowered. This metric has been mostly stable in the last several years, always staying between 6.56 and 6.21 inpatient discharges per 1,000 member months.

[51] Guidehouse analysis of NCQA HEDIS measures, 2017-2021

Figure 62: Total Inpatient – Inpatient Discharges per 1,000 Member Months, 2017-2021[52]

Year	Inpatient Discharges per 1,000 Member Months
2017	6.54877
2018	6.352736
2019	6.564154
2020	6.211424
2021	6.287437

Hypothesis 2.1 – Following implementation of the TennCare III demonstration, enrollee utilization of services will maintain or improve.	
Primary RQ 2.1.a	Has the implementation of TennCare III maintained or improved enrollee utilization of services?
Subsidiary RQ 2.1.a.iii	Has the implementation of TennCare III maintained or improved utilization of BH treatment?
Summary	More data from later years will create a stronger result, but this evaluation finds that utilization of BH treatment has mostly maintained since the implementation of TennCare III.
Analytic Approach	The evaluator originally intended to assess this RQ with a difference-in-differences analysis, but the HEDIS measure titled "Mental Health Utilization – Services per 1,000 Member Months" has since been discontinued. Instead, the independent evaluator used a one-group pretest-posttest method since TennCare had the metric available in reports covering 2017-2021. Since this data was reported separately for each MCO, the independent evaluator computed a member month weighted average. 2017-2019 was the baseline period, and 2021 was the demonstration period.
Results	**Figure 63** shows mental health utilization between 2017 through 2021. The chi-square test does return a low p-value (near 0), but the large number of total member months and very low effect size (.0058) indicate that this is not a significant result. This metric has been fairly stable in the last several years.

Figure 63: Mental Health Utilization - Services per 1,000 Member Months, 2017-2021[53]

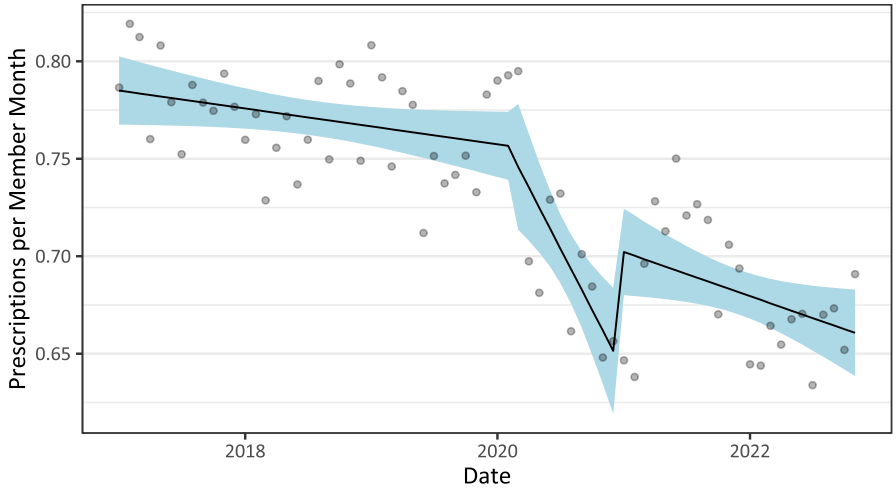
Year	Services per 1,000 Member Months
2017	12.29875
2018	12.56058
2019	11.89358
2020	12.44609
2021	11.97365

[52] Guidehouse analysis of NCQA HEDIS measures, 2017-2021
[53] Guidehouse analysis of NCQA HEDIS measures, 2017-2021

Hypothesis 2.1 – Following implementation of the TennCare III demonstration, enrollee utilization of services will maintain or improve.	
Primary RQ 2.1.a	Has the implementation of TennCare III maintained or improved enrollee utilization of services?
Subsidiary RQ 2.1.a.iv	Has the implementation of TennCare III maintained or improved utilization of outpatient prescription drugs?
Summary	Utilization of outpatient prescriptions has been slowly declining since 2017, and this trend continued after TennCare III's implementation. Prescriptions per member month utilizing prescription services stayed flat from 2017-2019 but have continued on a downward trend since COVID. Having further post-implementation data will make this a stronger result. Overall, it does not appear that TennCare III's implementation has maintained utilization of prescriptions.
Analytic Approach	The evaluator originally intended to address this RQ with a difference-in-differences analysis, but since T-MSIS data was unavailable, the independent evaluator proceeded with an interrupted time series analysis. Both metrics - prescriptions per overall member month and prescriptions per member utilizing prescription services – showed seasonality, meaning that there was a recurring pattern each year. Both metrics were adjusted for this seasonality using a classical moving average decomposition before modeling.
Results	**Figure 64** shows prescriptions per month between 2018 through 2022. The effects of the COVID-19 parameter are shown clearly where the original downward trend becomes significantly steeper in early 2020. The level shift component of the COVID-19 intervention term was not significant. The difference in slope associated with COVID-19 was estimated at -0.0097 (p-value = .0027), which reflects the downward turn in prescriptions per MM in 2020. When the TennCare III demonstration begins in January 2021, the trend changes again – the difference in slope is estimated at +0.0086 (p-value .0093), and the difference in level is significant at .061 (p-value .0076). Like the previous interrupted time series showed, the beginning of 2021 saw a return to a trend that was more like the pre-COVID trend than the 2020 trend. The interpretation here is that TennCare III's demonstration was likely not the sole cause of the trend's shifting back. Two effects in 2021 may have helped the trend revert: recovery from the initial shock of COVID-19 and the implementation of TennCare III. Overall, the data indicates that prescriptions per member month have been on a slight negative trend that accelerated during the height of COVID and decreased after 2020. **Figure 65** shows the trend in prescriptions per member month utilizing prescription services between 2018 and 2022. The effects of the COVID-19 parameter are shown clearly where the slight upward trend becomes negative in early 2020. The level shift component of the COVID-19 intervention term was significant at .087 (p-value = .0013). The difference in slope associated with COVID-19 was estimated at -0.023 (p-value near 0), which reflects the downward turn the series takes. When the TennCare III demonstration begins in January 2021, the trend changes slightly – the difference in slope is estimated at +0.009 (p-value .0399), and the difference in level is not significant at -0.027 (p-value .366). Interpreting this analysis as prescriptions per person that used prescriptions in a given month, we see that

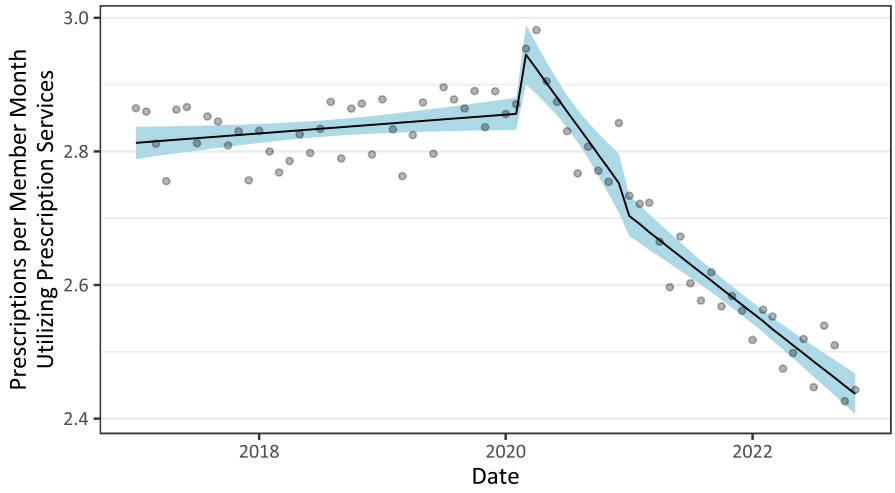
Hypothesis 2.1 – Following implementation of the TennCare III demonstration, enrollee utilization of services will maintain or improve.	
	this number was trending very slightly upward and has dropped quickly since COVID-19 began. The beginning of TennCare III had a slight positive effect on the trend, but it is still downward from 2021-2022. Now, we see that for the average person receiving a prescription, they are receiving slightly above 2.4 prescriptions by the end of 2022, compared to more than 2.8 in 2017, 2018, and 2019.

Figure 64: Interrupted Time Series Model – Prescriptions per Member Month, 2017-2022[54]



[54] Guidehouse analysis of Tennessee Prescription Claims, 2017-2022

Figure 65: Interrupted Time Series Model – Prescriptions per Member Month Utilizing Prescription Services[55]



Hypothesis 2.2 – Following implementation of the TennCare III demonstration, access to comprehensive primary care will maintain or increase.	
Primary RQ 2.2.a	Has the implementation of TennCare III maintained or increased the number and proportion of TennCare enrollees cared for through the PCMH model?
Summary	The number and proportions of TennCare enrollees cared for through the PCMH model has increased since TennCare III's implementation.
Analytic Approach	**Figure 66** shows the number and overall percentage of TennCare enrollees that received care from PCMHs each year. The independent evaluator conducted a chi-square test using 2017-2019 as the baseline and 2021-2022 as the intervention.
Results	A chi-square test using 2017-2019 as the baseline and 2021-2022 as the intervention period indicated that the percentage of enrollees cared for through PCMHS has increased significantly. The overall proportion from 2017-2019 was 23.9%, and the proportion since 2021 is 42.6%. The p-value for the chi-square test was near 0, and the effect size was 0.26, indicating a significant difference.

Figure 66: Number and proportion of TennCare enrollees in PCMHs[56]

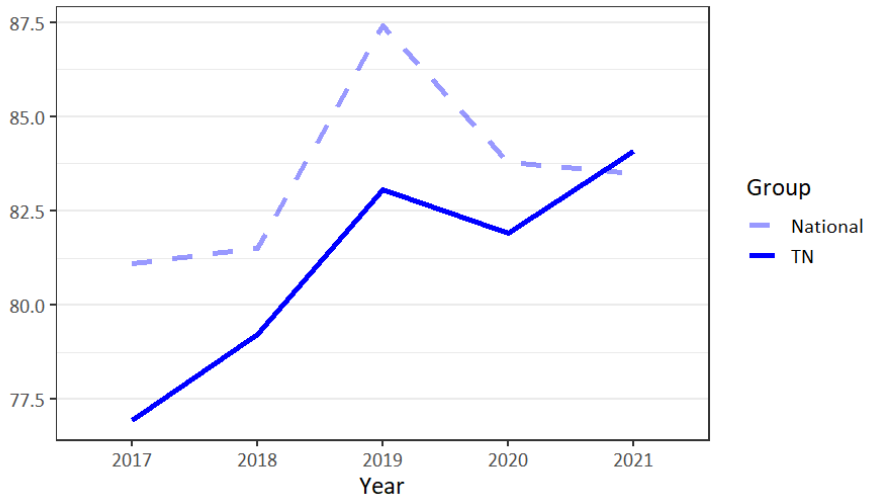
Year	Number of Enrollees in PCMHs	Percentage of Enrollees in PCMHs
2017	194,912	11.38%
2018	213,625	12.39%
2019	542,389	32.98%
2020	631,973	37.56%

[55] Guidehouse analysis of Tennessee Prescription Claims, 2017-2022
[56] Guidehouse analysis of TennCare PCMH Enrollment Data, 2017-2022

Year	Number of Enrollees in PCMHs	Percentage of Enrollees in PCMHs
2021	732,627	41.56%
2022	806,725	43.68%

Hypothesis 2.3 – Following implementation of the TennCare III demonstration, member engagement in prenatal and postpartum care will maintain or increase.	
Primary RQ 2.3.a	Has the implementation of TennCare III maintained or increased member engagement in prenatal care?
Summary	Has the implementation of TennCare III maintained or increased member engagement in prenatal care?
Analytic Approach	The independent evaluator assessed this RQ with a difference-in-differences analysis between Tennessee and the NCQA HEDIS national benchmark.
Results	**Figure 67** shows Tennessee and the national benchmark's percentage of deliveries with qualifying prenatal care visits each year. The difference-in-differences estimate was 3.74 percentage points (p-value = .078), meaning that from 2020-2021, TennCare's percentage of deliveries receiving timely prenatal care rose by 3.74 percentage points relative to the national benchmark. Visual inspection indicates that Tennessee has generally had a lower percentage of deliveries with a prenatal care visit than the national benchmark since 2017, but that Tennessee significantly improved relative to the national benchmark in 2021. The result for this report is nonsignificant, but trends in this metric will be worth watching in future evaluation years.

Figure 67: Timeliness of Prenatal Care – Percentage of deliveries that received a prenatal care visit in the first trimester, on or before the enrollment start date or within 42 days of enrollment in the organization.[57]



Hypothesis 2.3 – Following implementation of the TennCare III demonstration, member engagement in prenatal and postpartum care will maintain or increase.	
Primary RQ 2.3.a	Has the implementation of TennCare III maintained or increased member engagement in postpartum care?
Summary	The overall percentage of deliveries with a postpartum visit has increased since implementation. The percentage of women that received long-acting reversible contraception or most/moderately effective contraception dropped for women aged 15-20 and stayed flat for women aged 21-44. Postpartum depression screenings were down in 2021 and 2022 compared to past years.
Analytic Approach	The independent evaluator assessed this RQ with several one group pretest-posttest analyses. Included areas of analysis are Postpartum Care, Contraceptive Care Postpartum, and Screening for Postpartum Depression. For all metrics, baseline period is 2017-2019 and demonstration period is 2021-2022.
Results	**Figure 68** shows the percentage of deliveries with a post-partum visit from 2017-2021. The chi-square test returns a low p-value (near 0). The percentage of deliveries with postpartum visits has risen slowly over time from 22.52% in 2017 to 24.92% in 2019 and accelerated in 2021 and 2022, rising from 28.45% to 33.59% in one year. The analysis structure does not allow for a causal interpretation but does find a significant difference pre- and post-implementation of TennCare III.

[57] Guidehouse analysis of NCQA HEDIS measure, 2017-2021

Hypothesis 2.3 – Following implementation of the TennCare III demonstration, member engagement in prenatal and postpartum care will maintain or increase.	
	Figure 69 shows the contraceptive care postpartum for women 15-20 and 21-44 receiving long-acting revisable method of contraception, from 2017 through 2022. **Percentage receiving LARCs, ages 15-20:** A chi-square test indicated that this percentage has fallen significantly (p-value near 0) from previous year. 2021 presents as a major outlier, which likely affected this result for this test. Future evaluations with more data after the implementation of TennCare III will likely be more robust to the effects of single years. **Percentage receiving LARCs, ages 21-44:** A chi-square test indicated that this percentage has not changed significantly between baseline and demonstration periods. The p-value was estimated at nearly 1. **Figure 70** shows the percentage of women 15-20 and 21-44 receiving an effective method of contraception within 3 and 60 days of delivery, from 2017 through 2022. **Percentage receiving MoMs, ages 15-20:** A chi-square test indicated that this percentage has fallen significantly (p-value near 0) from previous years, though the effect size is small at .044. Similarly to the LARC metric, 2021 presents as an outlier from other years and was the lowest of all observed years at 13.2%. **Percentage receiving MoMs, ages 21-44:** A chi-square test indicated that this percentage has not changed significantly (p = .32) between baseline and demonstration periods. **Figure 71** shows percentage of enrollees 18 years and older screened for postpartum depression between 2017 and 2022. A chi-square test shows that the percentage screened for postpartum depression fell significantly from the demonstration period with a p-value near 0. The trend for this metric was unusual and should be watched in future evaluations – it may recover toward its 2019 peak in future years, so more data will give a better sense of its trend since the implementation of TennCare III.

Figure 68: Postpartum Care - Percentage of deliveries that had a postpartum visit on or between 7 and 84 days after delivery[58]

Year	Percentage of Deliveries with Postpartum Visit
2017	22.52%
2018	22.30%
2019	24.92%

[58] Guidehouse analysis of Tennessee Claims and Encounter Data, 2017-2022

Year	Percentage of Deliveries with Postpartum Visit
2020	25.74%
2021	28.45%
2022	33.59%

Figure 69: Contraceptive Care Postpartum – Percentage of women who had a live birth and were provided a long-acting reversible method of contraception (LARC) within 3 and 60 days of delivery[59]

Year	Percentage Receiving LARC – ages 15-20	Percentage Receiving LARC – ages 21-44
2017	10.75	7.43
2018	10.20	6.86
2019	9.97	7.88
2020	9.32	7.78
2021	7.35	7.15
2022	8.61	7.66

Figure 70: Contraceptive Care Postpartum – Percentage of women who had a live birth and were provided a most effective or moderately effective method of contraception within 3 and 60 days of delivery[60]

Year	Percentage Receiving MoM – ages 15-20	Percentage Receiving MoM – ages 21-44
2017	17.57%	13.21%
2018	16.63%	12.51%
2019	16.67%	13.64%
2020	15.94%	13.38%
2021	13.20%	12.73%
2022	14.27%	13.20%

Figure 71: Screening for Postpartum Depression – Percentage of enrollees, ages 18 years and older, screened for postpartum depression on the date of the encounter or up to 14 days prior to the date of the encounter using an age-appropriate standardized tool[61]

Year	Percentage Screened
2017	6.88%
2018	8.68%
2019	10.60%
2020	8.98%
2021	7.29%

[59] Guidehouse analysis of Tennessee Claims and Encounter Data, 2017-2022
[60] Guidehouse analysis of Tennessee Claims and Encounter Data, 2017-2022
[61] Guidehouse analysis of Tennessee Claims and Encounter Data, 2017-2022

Year	Percentage Screened
2022	7.22%

Note: This measure was intended to only count encounters that also included a follow-up plan if positive. Due to data availability, the independent evaluator was not able to include this aspect of the measure, so the percentages reported here are likely slightly higher than the intended measure would show.

Hypothesis 2.4 – Following implementation of the TennCare III demonstration, MCOs will encourage and/or facilitate the identification of non-medical needs affecting enrollees' health and the referral of enrollees to resources.	
Primary RQ 2.4.a	What strategies did the MCOs implement to address non-medical needs affecting enrollees' health?
Summary	TennCare and its MCO partner through its Health Starts program to address enrollees' non-medical needs. MCOs leverage Community-Based Organizations (CBOs) to support screening and follow-up efforts with enrollees.
Analytic Approach	Key informant interviews with representatives from TennCare MCOs.
Results	See below for details.

Soon after the launch of TennCare III in early 2021, TennCare coordinated with its three MCOs to establish the Health Starts program in April 2021. The program is designed to screen TennCare enrollees for social determinants of health (SDOH) to identify needs and connect enrollees to community resources. As part of this evaluation and in an effort to answer research question 2.4a, the independent evaluator spoke with representatives from each MCO, BlueCare, Amerigroup, and UnitedHealthcare to better understand their roles in identifying and addressing non-medical needs among enrollees. The observations from the interviews are summarized in **Figure 72**.

Figure 72: MCO Interviews Summary Table

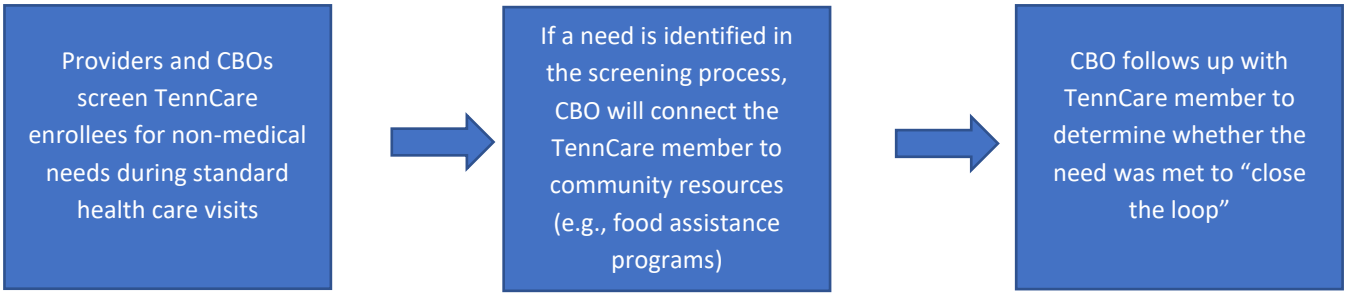
Managed Care Organization	Date of Conversation	Topics Discussed	Key Takeaways
BlueCare	10/31/2023	• Health Starts Program • Screening Process • Technology/Data • Community-Based Organizations • Funding Challenges • Role of Providers	• Non-medical needs must be addressed at each stage of the care continuum, including screening, resource allocation, and closing the loop • Screening is an important yet imperfect process; many tools are burdensome to providers or do not adequately capture current needs • Community-Based Organizations play a critical role in building trust and identify and address
Amerigroup	11/6/2023		
UnitedHealthcare	11/10/2023		

Managed Care Organization	Date of Conversation	Topics Discussed	Key Takeaways
			non-medical needs, but are often limited by financial restraints • Some non-medical needs are easier to solve than others; some providers avoid screening for housing needs knowing there is not much that can be done to help • Providers need motivating factors to continue to do the work (e.g., provider payment reform)

Addressing SDOH throughout the Care Continuum

Through the Health Starts program, MCOs identify and address non-medical needs at each stage of the care continuum, including screening for SDOH, providing resources and connections to community partners to address SDOH deficiencies, and closing the loop with enrollees and following up to determine whether the need was met. This is outlined in **Figure 73**.

Figure 73: Process Flow for Addressing Non-Medical Needs



Screening Process

There are a number of tools that providers and community partners leverage to identify SDOH needs among enrollees, with the most common being the PREPARE tool. MCOs try to 'meet their providers and community partners where they are at' and do not require a single tool to be utilized, recognizing there is no one perfect tool. Some common issues with screening tools included:

- Many tools are long or may result in dual entry by providers, which can reduce utilization.
- The PREPARE tool is not well-designed for screening needs among the pediatric population.
- Screening tools with questions regarding "the last 12 months", can often be misleading as things can change drastically in that timeframe and it does not provide a clear picture as to whether the need is immediate or already resolved.

Key Takeaway: MCOs defer to screening tools preferred by their providers and community partners, recognizing there is no one perfect screening tool

Technology and Data Collection

Many screening tools rely on technology to streamline the screening process, and MCOs have worked with community partners and providers to ensure that baseline technology needs are met. This includes providing tablets to provider offices and community partners to perform screenings with enrollees. Leveraging technology in the screening process is vital for creating a constant flow of data on enrollees' needs to be able to connect them with resources as soon as possible. However, while recognizing the role and benefit of technology, MCOs also emphasize how it can impede the interpersonal connectedness that is vital in health care. MCOs noted that enrollees may be hesitant to share certain non-medical needs, especially as it relates to fears of children's needs not being met and potential repercussions from human services.

Key Takeaway: MCOs all emphasized the importance of the trust building process with enrollees, especially during screening, to promote accurate and complete data collection.

Community-Based Organizations (CBOs)

Each MCO relies on community partners (referred to as Community-Based Organizations or CBOs) to facilitate screenings, connecting enrollees to resource, and closing the loop. CBOs work in provider offices, patient-centered medical homes, and other settings to reach enrollees for SDOH screenings. When needs are identified, the CBOs link enrollees to resources to help address those needs, and then later follow up regarding whether the need had been met. CBOs are an essential part of the Health Starts program as they help reach a wider range of enrollees than what the MCOs would be able to reach itself. Additionally, CBOs play a pivotal role in developing trusting relationships with enrollees, which each MCO cited as essential for gathering honest and accurate data during screening and answering calls during the loop-closing process. Despite the essential role of CBOs, one of the key challenges reported during the interviews was financial constraints. Many CBOs run out of funding, as many of the programs operate on grant money rather than a reliable and consistent source of funding. This creates challenges to provide resources and meet enrollees' needs on a consistent basis. MCOs emphasized the importance of reliable funding sources for CBOs to meet the goals of the Health Starts Program.

Key Takeaway: CBOs are vital in helping MCOs reach more enrollees, develop trust, and connect enrollees to local resources to meet their non-medical needs. However, a more consistent stream of funding is critical to meet enrollees' needs on an ongoing basis.

Address Non-Medical Needs

MCOs cited how some non-medical needs are easier to solve for than others, such as connecting enrollees to local food banks after screening positive for food insecurity. One of the more challenging SDOH to solve for

has been housing, with one MCO reporting that its providers did not want to even screen for it knowing that they have no solution to the issue. This reflected an overall theme around the importance of stratifying needs as part of the screening process, notably as to whether things are immediate needs or if they are needs that the member wants solved. For example, a member might screen for housing instability, but might be content living with family enrollees and therefore not want a housing resource. This gets back at the overall takeaway that the screening process cannot tell the full picture and reinforces the need for those interpersonal connections to get at the details otherwise not captured in a standard screening tool.
During the interviews, MCOs also spoke to the future state and the changes needed to continuously improve the effort to address non-medical needs. MCOs noted the benefits of integrating SDOH needs into claims data and clinical coding so that MCOs and providers could differentiate whether a member was referred to a food bank versus signed up for SNAP benefits to meet their food needs. Further, MCOs recognized the effort on the provider side that goes into screening and addressing non-medical needs, and noted the importance of incentives to stay involved, specifically provider payment reform.

Overall, each MCO spoke extremely highly of TennCare and its commitment to serve its enrollees with the highest possible level of care. MCOs also recognized the unique opportunity to work alongside one another, otherwise competitors, to achieve common goals in supporting enrollees' needs.

Key Takeaway: Housing is one of the most common non-medical need, yet it is also the most difficult for which to provide support. MCOs see potential in better integration of non-medical needs into claims data and clinical coding to better support TennCare enrollees.

Hypothesis 2.5 – Following implementation of the TennCare III demonstration, participant engagement in dental services for eligible TennCare III enrollees will maintain or increase.	
Primary RQ 2.5.a	Has participant engagement in dental services for TennCare children and adolescents maintained or increased following implementation of TennCare III?
Summary	The Partial Enrollment Adjusted Ratio has dipped several points below the 2017-2019 rates but could recover in later evaluation years. The DBM dental sealant rate has also fallen slightly. The silver diamine fluoride rate has consistently increased every year since 2017.
Analytic Approach	The independent evaluator assessed this RQ using interrupted time series (ITS) analysis of 3 metrics – Partial Enrollment Adjusted Ratio, DBM Dental sealant rate, and DBM silver diamine fluoride rate. The independent evaluator reports each metric on an annual basis in **Figure 74** as well as monthly in interrupted time series plots. When these metrics are transformed to monthly numbers, figures are significantly lower. For each interrupted time series analysis, the independent evaluator seasonally adjusted the metrics using classical moving average decomposition.
Results	**Figure 75** shows the partial enrollment adjusted ratio from 2017 through 2022. The one-time shift associated with the onset of COVID-19 was significant at -.045 (p-value near 0). After the sharp drop at the onset of COVID-19, the difference in slope associated with COVID-19 was estimated at +0.0045 (p-value near 0), which reflects the Partial Enrollment Adjustment Ratio (PEAR) coming back toward previous levels after the initial shock. When

Hypothesis 2.5 – Following implementation of the TennCare III demonstration, participant engagement in dental services for eligible TennCare III enrollees will maintain or increase.	
	the TennCare III demonstration begins in January 2021, the trend changes again – the difference in slope is estimated at -0.0047 (p-value near 0), and the one-time shift when TennCare III begins is not significant at -0.01 (p-value .14). The PEAR overall has not recovered to pre-COVID-19 levels, and it does not appear to be trending upward since the beginning of TennCare III. As for all other dental utilization metrics, revisiting this in the next evaluation report will yield more information because TennCare has expanded dental coverage to more adults in 2023. **Figure 76** shows the DBM dental sealant rate from 2018 through 2022. The one-time shift associated with the onset of COVID-19 was significant at -.279% (p-value near 0). After the sharp drop at the onset of COVID-19, the difference in slope associated with COVID-19 was estimated at +0.026 (p-value near 0), which reflects the level coming back after the initial shock. When the TennCare III demonstration begins in January 2021, the trend changes again – the difference in slope is estimated at -0.028 (p-value near 0), and the difference in level is not significant at -0.07 (p-value .06). The two changes in slope indicate that the overall sealant rate trend is returning mostly to its pre-COVID trend, though it is still lower. As mentioned in the PEAR analysis, revisiting this in future years will be more informative with recent eligibility changes. **Figure 77** shows the DBM silver diamine fluoride rate from 2018 through 2022. The one-time change component of the COVID-19 intervention term was significant at -.033% (p-value = .0001). After the sharp drop at the onset of COVID-19, the difference in slope associated with COVID-19 was estimated at +0.0044 (p-value = .0015), which reflects the SDF rate coming back after the initial shock. The TennCare III demonstration beginning in January 2021 sees the trend change again – the difference in slope is estimated at -0.0054 (p-value = .0002), and the one-time change in January 2021 is not significant at +0.0047% (p-value .62). The SDF rate overall has continued rising even through COVID-19. The current trend is slightly lower than the pre-COVID trend, but still positive. A causal interpretation of this model is not appropriate in this situation because of the significant effects COVID-19 showed on the sealant rate. Future evaluation reports with more post-implementation data will be more robust.

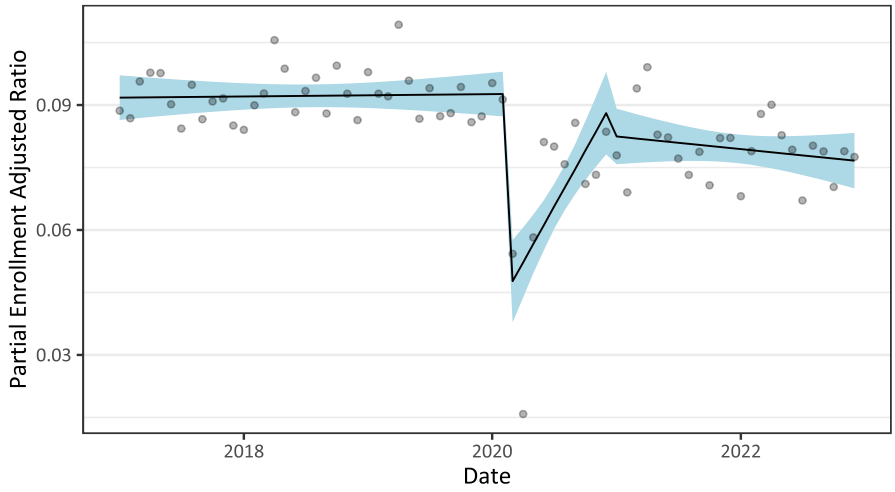
Figure 74: Selected Dental Metrics – 2017-2022[62]

Year	PEAR	DBM Dental Sealant Rate	DBM Silver Diamine Fluoride Rate
2017	0.53	4.40	0.099
2018	0.54	4.48	0.244

[62] Guidehouse analysis of Tennessee DBM Claims Data, 2017-2022

Year	PEAR	DBM Dental Sealant Rate	DBM Silver Diamine Fluoride Rate
2019	0.55	4.97	0.479
2020	0.46	3.84	0.634
2021	0.48	4.36	0.984
2022	0.48	4.21	1.12

Figure 75: Partial Enrollment Adjusted Ratio (PEAR) – Sum of the FTE for qualifying eligibles with 1 or more qualifying services in the MY divided by sum of FTE for all qualifying eligible, 2017-2022[63]



[63] Guidehouse analysis of Tennessee DBM Claims Data, 2017-2022

Figure 76: DBM Dental Sealant Rate – Percentage of unduplicated enrollees receiving qualifying dental sealant service in the MY on at least one of the following teeth: 2, 3, 14, 15, 18, 19, 30, 31, 2017-2022[64]

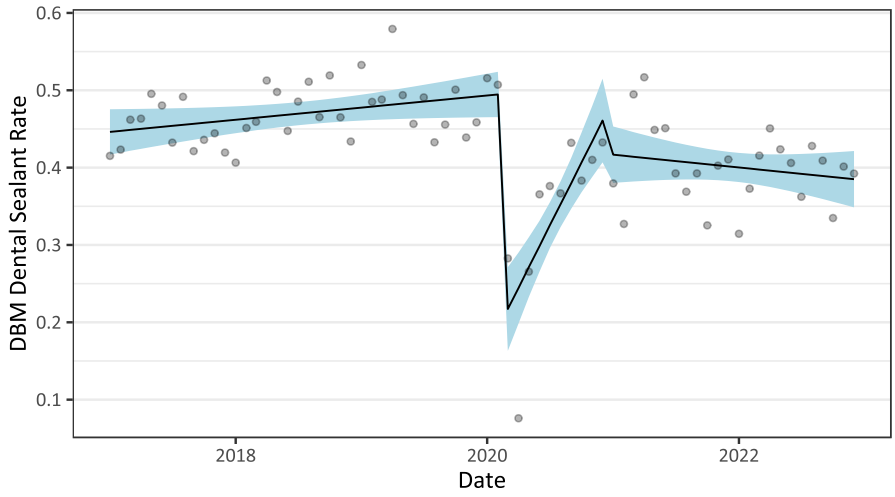
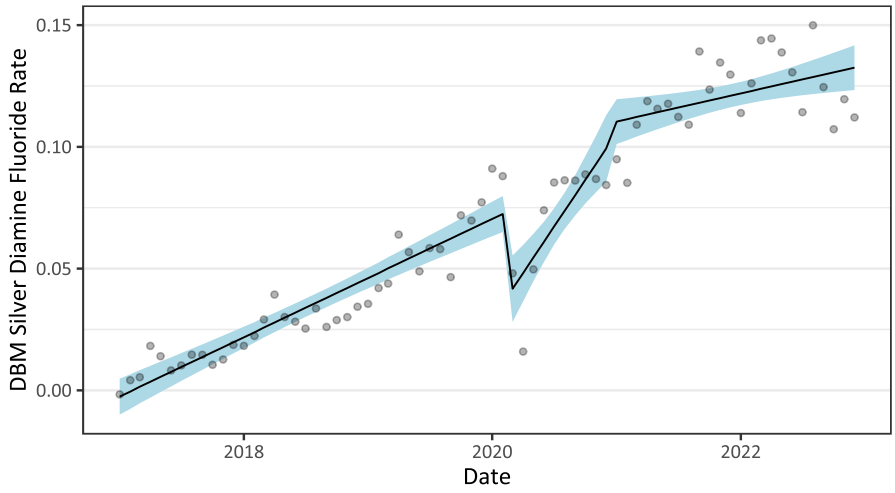


Figure 77: DBM Silver Diamine Fluoride Rate – Percentage of unduplicated enrollees receiving qualifying SDF service in the MY on a primary or permanent tooth, 2017-2022[65]



Hypothesis 2.5 – Following implementation of the TennCare III demonstration, participant engagement in dental services for eligible TennCare III enrollees will maintain or increase.	
Primary RQ 2.5.b	Has participant engagement in dental services for pregnant TennCare enrollees maintained or increased following implementation of TennCare III?

[64] Guidehouse analysis of Tennessee DBM Claims Data, 2017-2022
[65] Guidehouse analysis of Tennessee DBM Claims Data, 2017-2022

Hypothesis 2.5 – Following implementation of the TennCare III demonstration, participant engagement in dental services for eligible TennCare III enrollees will maintain or increase.	
Summary	The independent evaluator will analyze this RQ for a trend in later evaluation years. Since dental coverage was rolled out for pregnant enrollees in April 2022, there is no way to compare engagement before and after implementation of TennCare III.
Analytic Approach	N/A
Results	The independent evaluator reports that an estimated 1,484 pregnant enrollees utilized dental benefits during the perinatal period in 2022.

Hypothesis 2.6 – Under TennCare III, enrollees will receive Medicaid benefits in excess of those available under the Medicaid State Plan.	
Primary RQ 2.6.a	What benefits did TennCare enrollees receive that were in excess of the benefits authorized under the Medicaid State Plan following implementation of TennCare III?
Summary	Benefits available to TennCare enrollees expanded since the implementation of TennCare III compared to benefits authorized under the Medicaid State Plan.
Analytic Approach	Descriptive analysis of TennCare Notices of Amendments since TennCare III implementation.
Results	Expanded benefits included: • Effective January 1, 2022, expanded benefits for chiropractic services; previously, chiropractic services were covered as medically necessary only for children under 21 but are now covered as medically necessary for adult TennCare enrollees.[66] • Effective April 1, 2022, expanded Medicaid postpartum coverage for mothers from 60 days to 12 months. • Effective April 1, 2022, extended dental benefits to pregnant and postpartum enrollees.[67] Previously, dental benefits were covered only for children under age 21 and for adults in certain LTSS programs. • Effective January 1, 2023, extended dental benefits for all adult enrollees. • Effective October 1, 2022, expanded access to the CHOICES program to individuals that were not otherwise eligible for Medicaid. Specifically, TennCare re-opened enrollment for the CHOICES Group 3 which increased the number of adults able to receive TennCare benefits.[68] • Added 2,000 slots to ECF CHOICES to work toward the goal of eliminating all waitlists for HCBS programs. • Effective June 1, 2023, implemented coverage of lactation support services as a preventive service for pregnant women, nursing mothers, and their children. • Effective June 18, 2023, implemented 12 months of continuous eligibility for children. • Effective January 1, 2024, enhanced coverage of low-income pregnant women from 195% FPL to 250% FPL.

[66] TennCare Notice of Amendment. https://www.tn.gov/content/dam/tn/tenncare/documents2/ChiropracticSPAPublicNotice.pdf
[67] TennCare Notice of Amendment. https://www.tn.gov/content/dam/tn/tenncare/documents2/Amendment4ComprehensiveNotice.pdf
[68] TennCare Notice of Amendment. https://www.tn.gov/content/dam/tn/tenncare/documents2/CHOICESGroup3ComprehensiveNotice.pdf

Hypothesis 2.7 – DSIPs will continue to provide important safety net services to Tennesseans.	
Primary RQ 2.7.b	Do Tennesseans have access to BH and I/DD provider and service delivery networks?
Summary	Access to BH and I/DD providers has improved since the implementation of TennCare III.
Analytic Approach	The independent evaluator assessed this RQ with descriptive and one group pretest-posttest analyses.
Results	**Figure 78** shows the behavioral health provider ratio for 2019 through 2021. The ratio decreased from 3,668:1 in 2019 to 3,083:1 in 2021, indicating that on average, access to behavioral health provider and service delivery networks is improving. **Figure 79** shows the I/DD provider ratio for 2017 through 2022. There is a downward trend from 49,329:1 to 23,272:1, indicating that access to I/DD provider and service delivery networks is improving. A chi-square test returns a p-value near 0, confirming that the difference between the baseline (2017-2019) and evaluation (2021-2022) periods is significant.

Figure 78: Mean population to BH provider ratio, all counties, 2019-2021[69]

Year	Population: BH Providers
2019	3,668:1
2020	3,562:1
2021	3,083:1

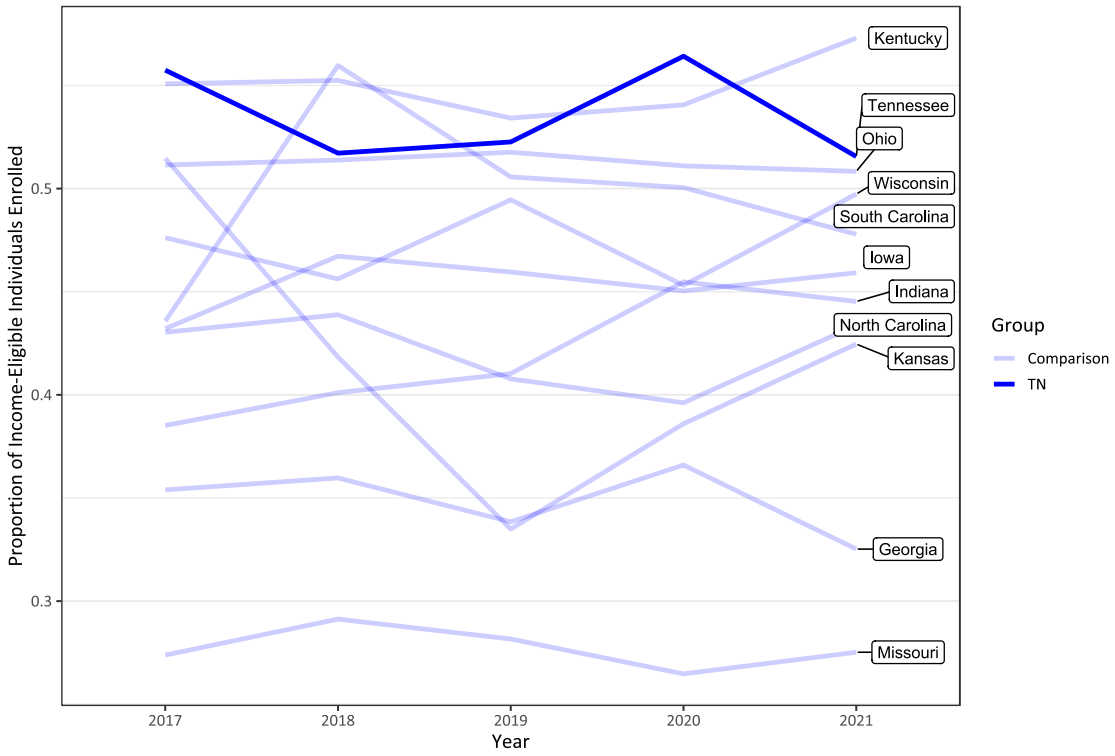
Figure 79: Mean population to I/DD provider ratio, all counties, 2017-2022[70]

Year	Population: I/DD Providers
2017	49,329:1
2018	38,043:1
2019	24,924:1
2020	24,507:1
2021	23,228:1
2022	23,272:1

[69] Guidehouse analysis of Tennessee DOH Safety Net Reports data, 2019-2021
[70] Guidehouse analysis of TennCare data extract, 2017-2022

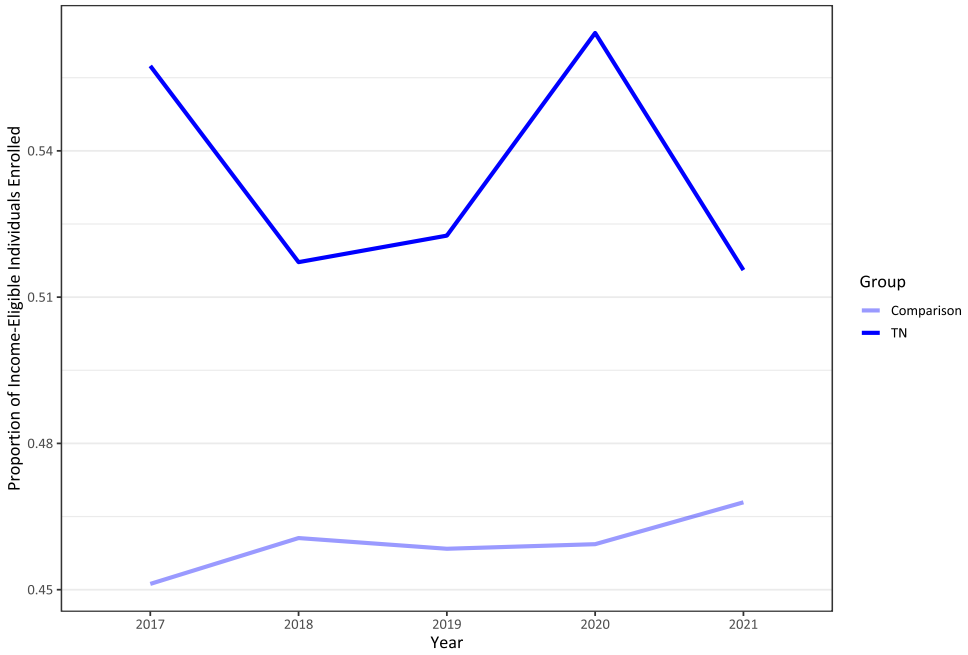
Hypothesis 2.9 – The retroactive eligibility waiver will not significantly impact the likelihood of enrollment or health status of enrollees subject to the retroactive eligibility waiver.	
Primary RQ 2.9.a	Do Medicaid-eligible individuals in Tennessee subject to the retroactive eligibility waiver enroll in Medicaid at the same rates as eligible individuals in other states who have access to retroactive eligibility?
Summary	Tennessee has maintained a higher level of enrollment compared to other similar states.
Analytic Approach	The independent evaluator addressed this RQ with a difference-in-differences analysis of Tennessee compared to 10 comparison states selected using the Euclidean similarity score method outlined in Section C. States were also selected only if they have maintained 90-day retroactive eligibility. The independent evaluator compared the proportion of Medicaid-eligible individuals in Tennessee subject to the retroactive eligibility waiver who enrolled in Medicaid to eligible individuals in other states who have access to retroactive eligibility. The difference-in-differences analysis utilized IPUMS ACS data from 2017-2021 ACS samples. Due to the limitations of ACS data, this analysis focused solely on Medicaid-eligible individuals who were eligible due to their income levels. ACS data did not provide Medicaid eligibility variables to address other categorical reasons for eligibility. This difference-in-differences analysis also did not satisfy the parallel trends assumption. The independent evaluator inspected trends using individual comparison states as well as the calculated comparison group overall, but there were no groupings that provided a parallel trend. The independent evaluator also conducted the analysis using a more limited group of states – Kentucky, Ohio, Wisconsin, Iowa, and Indiana – that had more similar income eligibility limits to Tennessee, but the parallel trend assumption was never satisfied. Given these caveats, the independent evaluator determined a descriptive analysis rather than a difference-in-differences analysis was appropriate.
Results	**Figure 80** shows each state's proportion of income-eligible individuals enrolled each year. **Figure 81** shows the same data, aggregating the comparison group into one series. Tennessee has hovered at just over 50% of its income-eligible individuals enrolled each year, with a spike occurring during 2020. It has also generally remained at a higher level than most comparison states, though the proportion enrolled fell in 2021 from 56.4% to 51.6%. Due to the lack of available 2022 data, the lack of Medicaid eligibility information mentioned above, and the failed parallel trend assumption, difference-in-difference analysis of the proportion of individuals subject to the retroactive eligibility who enroll in Medicaid will be more informative when revisited in future reports. The independent evaluator may also recommend that this item be analyzed using T-MSIS data for a more complete picture of retroactive eligibility analysis in the future.

Figure 80: Proportion of Income-Eligible Individuals Enrolled, 2017-2021[71]



[71] Guidehouse analysis of IPUMS ACS data extracts, 2017-2021

Figure 81: Proportion of Income-Eligible Individuals Enrolled, Aggregated, 2017-2021[72]



Hypothesis 2.9 – The retroactive eligibility waiver will not significantly impact the likelihood of enrollment or health status of enrollees subject to the retroactive eligibility waiver.	
Primary RQ 2.9.c	Do the health outcomes of enrollees subject to the retroactive eligibility waiver differ from those of enrollees in other states who have access to retroactive eligibility?
Summary	Data quality/quantity limitations mean this analysis does not carry a causal interpretation. Tennessee generally saw slightly worse health outcomes in this group of enrollees when compared to similar states.
Analytic Approach	The independent evaluator also addressed this RQ with a difference-in-differences analysis. The analysis focused on four different metrics, enumerated in result figures below. A separate model was fit for each metric. The independent evaluator conducted a difference-in-difference analysis utilizing BRFSS data. Due to the format of BRFSS data, some of the criteria to be subject to the retroactive eligibility waiver, such as being over 21 years of age, had to be approximated with the age categories provided. In this case, 21 years of age was respecified to be 18, so the actual values for each survey metric will be slightly different than reflected here. Additionally, the 2017 and 2020 versions of the BRFSS dataset did not contain any respondents from Tennessee, so all plots will show an imputed value for 2020. The evaluator did not include any imputed values in the models – instead, Tennessee's dataset was left without a value for 2020. Due to this limitation, the parallel trends assumption cannot be fully satisfied.

[72] Guidehouse analysis of IPUMS ACS data extracts, 2017-2021

Hypothesis 2.9 – The retroactive eligibility waiver will not significantly impact the likelihood of enrollment or health status of enrollees subject to the retroactive eligibility waiver.	
	Difference-in-differences results will be reported, but because of the broken parallel trends assumption, the analysis should not be interpreted as a causal analysis. The comparison group is the same as used for RQ 2.9.b previously.
Results	**Figure 82** depicts the results of the analysis of the variable GENHLTH, which was aggregated to reflect the percentage of enrollees who answered with a 1 or 2, indicating very good or excellent health. Trends for this item were similar, but not completely parallel, requiring a limited interpretation of the difference-in-differences result. The difference-in-differences estimate came to -.016, indicating that Tennessee's proportion in good health declined slightly more than the comparison group's proportion, but the result (p = 0.56) was not significant. **Figure 83** depicts the results of the evaluator's analysis of MENTHLTH, which asks respondents how many days in the last month they were in poor mental health. The parallel trend assumption is failed for MENTHLTH, so the difference-in-differences estimate is less likely to reflect the actual effect of TennCare III in this case. The estimate came to 1.6 (p = .018), so the model indicates that Tennessee's average number of days in poor mental health increased significantly more from pre-implementation years to post-implementation years than the comparison group. However, because of violated assumptions and missing 2020 data, causal conclusions cannot be drawn from this analysis. **Figure 84** shows the results of the analysis completed for PHYSHLTH, which asks respondents how many days in the last month they were in poor physical health. Again, the parallel trend assumption is likely not satisfied. The difference-in-differences for this item was estimated at .09 with a p-value of 0.89, so the result is not significant and agrees with visual analysis – Tennessee has stayed mostly on trend with the comparison group. **Figure 85** shows results of the analysis on POORHLTH, which asks respondents how many days in the last month their poor health interfered with their usual activities. Again, the parallel trend assumption may not be satisfied. The difference-in-differences estimate came to .82 (p = .29) and was not significant. Tennessee's average days with interfering poor health was consistently slightly lower than the comparison group, but because of the mentioned data limitations, this analysis will likely be more informative when there is more post-implementation data.

Figure 82: Proportion of enrollees reporting they are in very good or excellent health[73]

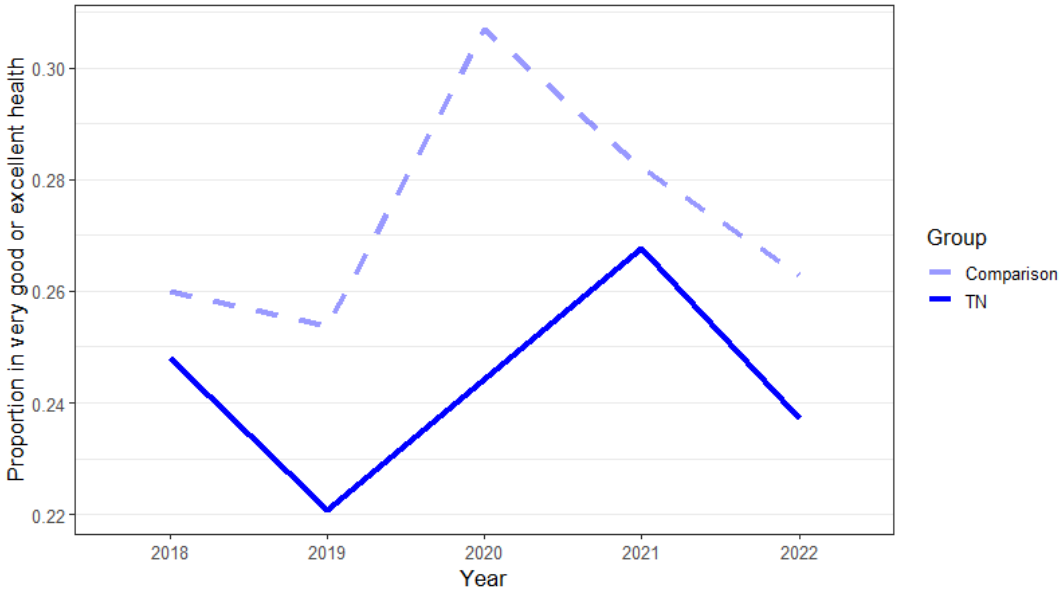
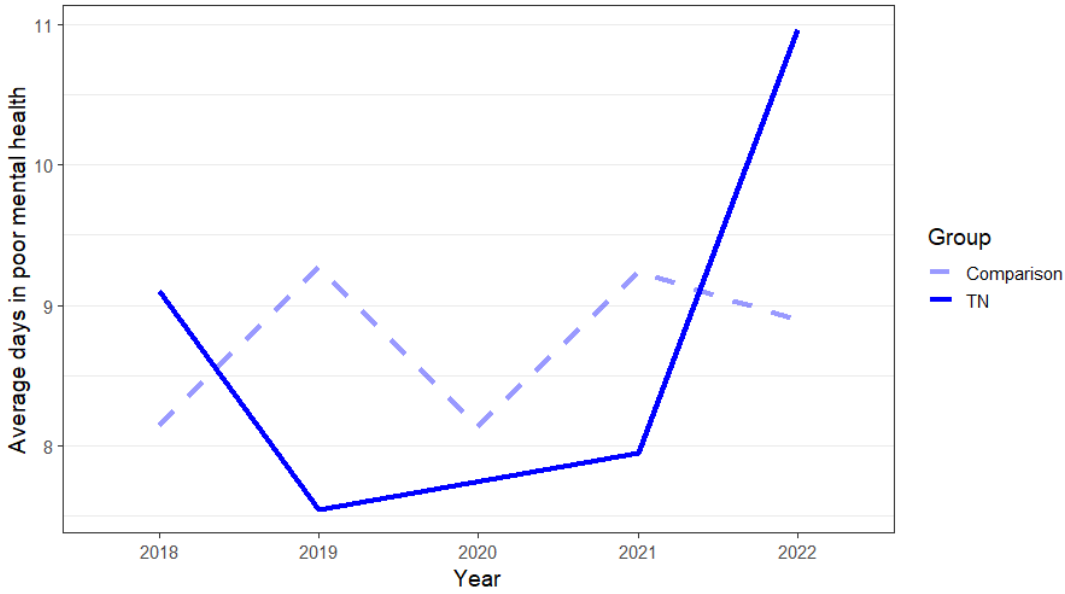


Figure 83: Average number of days in poor mental health[74]



[73] Guidehouse analysis of BRFSS data extracts, 2018-2022
[74] Guidehouse analysis of BRFSS data extracts, 2018-2022

Figure 84: Average number of days in poor physical health[75]

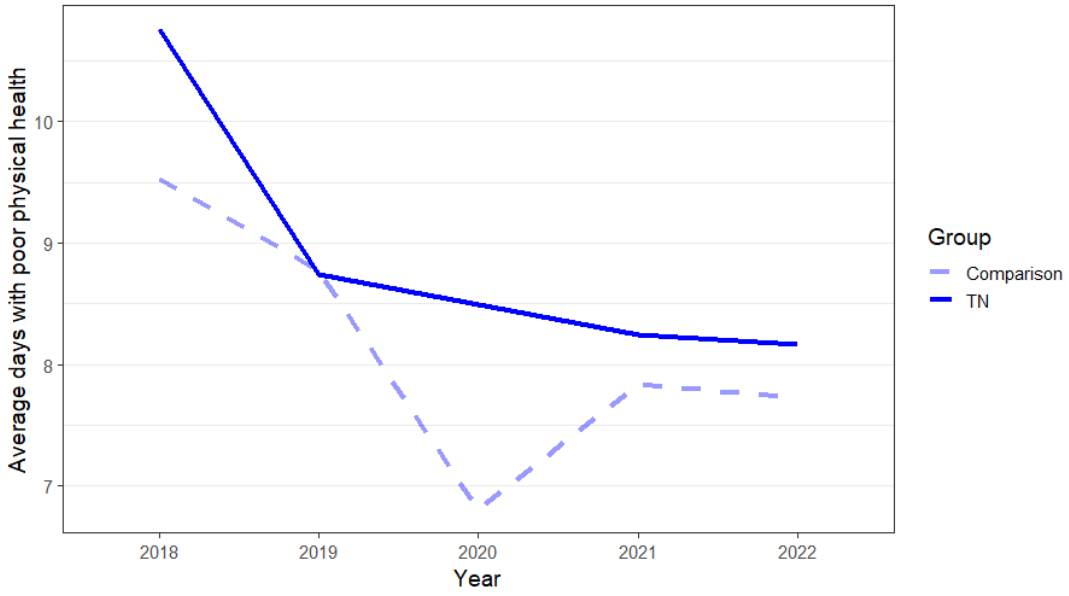
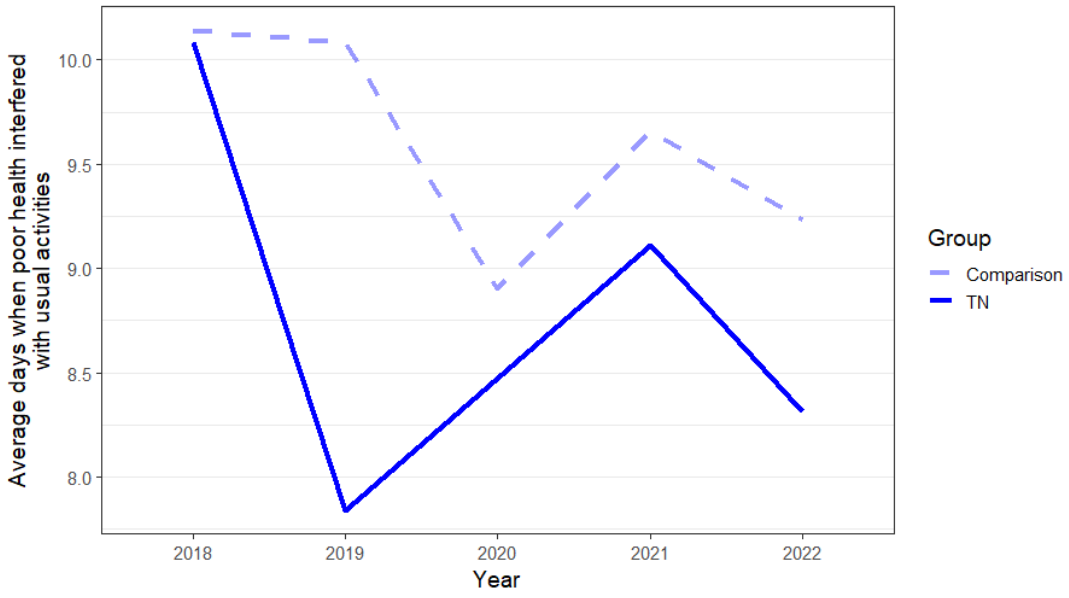


Figure 85: Average days when poor health interfered with usual activities[76]



[75] Guidehouse analysis of BRFSS data extracts, 2018-2022
[76] Guidehouse analysis of BRFSS data extracts, 2018-2022

Hypothesis 2.9 – The retroactive eligibility waiver will not significantly impact the likelihood of enrollment or health status of enrollees subject to the retroactive eligibility waiver.	
Primary RQ 2.9.d	What are the common barriers to timely renewal for enrollees subject to the retroactive eligibility waiver?
Summary	The independent evaluator developed and distributed qualitative surveys to 32,942 enrollees subject to the retroactive eligibility waiver in 2021.
Analytic Approach	Of the 32,942 individuals surveyed, 244 responded, and 44 entered the eight-digit access code provided. Due to the challenges with the access code, demographic-specific analyses could not be performed and were excluded from this report. The survey focused on accessing care, health insurance, and health status. In future reports, the independent evaluator will incorporate additional survey questions as well as hosts focus groups to better assess any barriers that may be related to timely enrollment associated with the retroactive eligibility waiver.
Results	**Figure 86** displays the total responses when asked about accessing care while waiting for TennCare application approval. Of those subject to the retroactive eligibility waiver, a majority reported that their care was not impacted due to the waiver. Of the 70 that did delay care while waiting for their TennCare application to process, a majority reported some or significant impact on their health, shown in **Figure 87**. The survey asked about changes in health three months prior to enrolling in TennCare and after enrolling, and the results are shown in **Figure 88**. A majority reported no change or improved health after enrolling in TennCare. Less than 10% of participants reported their health declined since enrolling. The survey also asked to describe their health, and **Figure 89** displays the responses. Most survey respondents reporting having Good or Excellent Health.

Figure 86: Impact of Waiver on Accessing Care

Impact of the Retroactive Eligibility Waiver on Care Access	Responses
Did not require health care services while awaiting application approval	28% (69)
Required and received health care services while awaiting application approval	43% (107)
Required and delayed health care services while awaiting application approval	29% (70)

Figure 87: Impact on Health while Awaiting Care

Impact on Health of Those that Delayed Care	Responses
No Impact	13% (9)
Some Impact	59% (41)
Significant Impact	28% (20)

Figure 88: Change in Health After Enrolling in TennCare

Change in Health After Enrollment	Responses
No Change	41% (101)
Health Improved	51% (125)
Health Declined	8% (20)

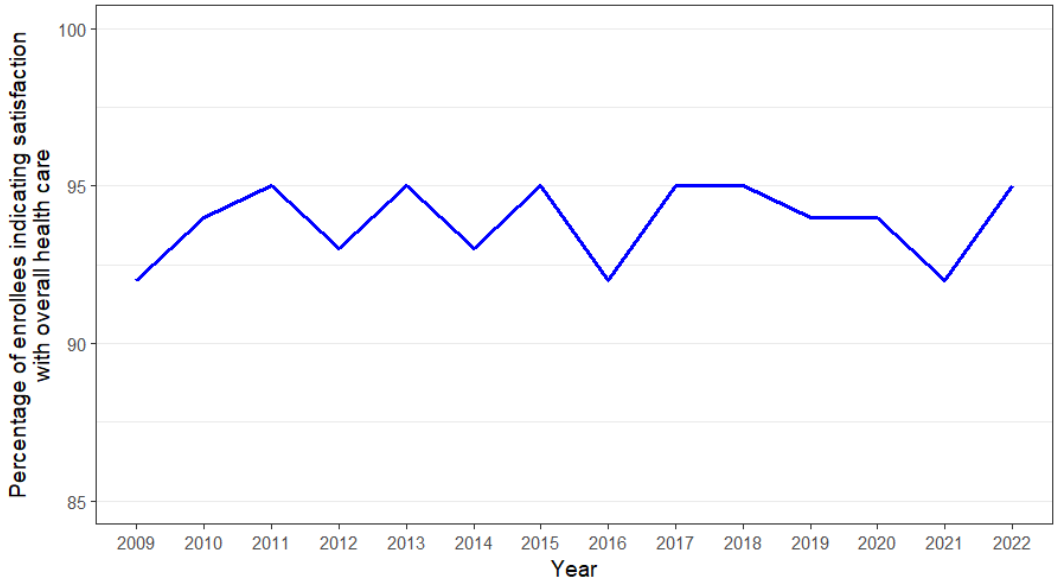
Figure 89: Health Status After TennCare Enrollment

Health After Enrollment	Responses
Excellent	16% (40)
Good	40% (98)
Fair	35% (86)
Poor	9% (22)

3. Goal 3: Ensure enrollees' satisfaction with services

Hypothesis 3.1 – Following implementation of the TennCare III demonstration, TennCare enrollee satisfaction with health care services will maintain or improve.	
Primary RQ 3.1.a	Has the implementation of TennCare III maintained or improved TennCare enrollee satisfaction with overall health care?
Summary	Overall enrollee satisfaction has stayed at consistent high levels since 2009.
Analytic Approach	Enrollee satisfaction may be analyzed with an interrupted time series design in the future, but with only 2 post-implementation observations available, the independent evaluator analyzed enrollee satisfaction descriptively in this report.
Results	**Figure 90** shows yearly enrollee satisfaction percentages. In the entire period that the Beneficiary Satisfaction Survey has reported results (2009-2022), the percentage of enrollees who are satisfied with their care has always hovered between 92% and 95%. This has not changed since the implementation of TennCare III, with a 2021 measure of 92% and a 2022 measure of 95%.

Figure 90: Percentage of enrollees indicating satisfaction with their overall health care, 2009-2022[77]



Hypothesis 3.1 – Following implementation of the TennCare III demonstration, TennCare enrollee satisfaction with health care services will maintain or improve.	
Primary RQ 3.1.b	Has the implementation of TennCare III maintained or improved CHOICES enrollee satisfaction?
Summary	The NCI-AD survey provided limited information, but satisfaction among CHOICES enrollees did not change significantly pre- and post-implementation of TennCare III.
Analytic Approach	The independent evaluator analyzed this RQ with a one group pretest-posttest design. Because of data availability limitations, the baseline period comprised 2017 and 2018, and the implementation period was 2021. No NCI-AD data was available in the 2020-2021 survey period, which would have been used as 2020 data, and Tennessee did not report data in the 2019-2020 period, which would have been used as 2019 data.
Results	Figures are reported in **Figure 91** below. A chi-square test for the percentage of CHOICES enrollees whose paid support staff do things the way they want them done returned a nonsignificant result with a p-value of .22, indicating that the percentage did not change significantly before and after TennCare III's implementation. A chi-square test for the percentage of CHOICES enrollees whose long-term care services meet their needs and goals returned a nonsignificant result with a p-value of .32. This indicates that the percentage did not change significantly before and after TennCare III's implementation.

[77] Source: The Impact of TennCare: A Survey of Recipients, 2009-2022

Figure 91: RQ 3.1.b NCI-AD survey items, 2017, 2018, 2021[78]

Year	Percentage Whose Paid Support Staff Do Things the way They Want Them Done (n)	Percentage Whose Long-Term Care Services Meet Their Needs and Goals (n)
2017	80% (388)	77% (822)
2018	86% (422)	78% (783)
2021	79% (269)	80% (583)

4. Goal 4: Provide enrollees with appropriate and cost-effective Home and Community-Based Services (HCBS) within acceptable budgetary parameters

Hypothesis 4.1 – Following implementation of the TennCare III demonstration, the proportion of individuals who receive HCBS rather than NF care will maintain or increase.	
Primary RQ 4.1.a	Has the implementation of TennCare III maintained or increased the number and percentage of CHOICES enrollees actively receiving HCBS?
Summary	Utilization of HCBS and NF services in CHOICES maintained their pre-implementation levels.
Analytic Approach	The independent evaluator assessed this RQ with one group pretest-posttest methods.
Results	**Figure 92** shows total CHOICES enrollees at the end of each year and overall during the year. It also breaks out the percentage of CHOICES enrollees who receive HCBS and NF services. Overall, observed changes in these proportions were small – usually less than a percentage point each year. Generally, the percentage of CHOICES enrollees receiving HCBS or NF services saw only a 1 or 2 percentage point difference from 2017 to 2022. For the EOY metrics, p-values were nonsignificant, indicating that there was not a significant change in the proportion of enrollees receiving each type of care. For the overall "during year" metrics, p-values were significant, but effect sizes were extremely low. There was a statistically significant difference, but the chi-square test was likely overpowered because of the large dataset. The percentage of CHOICES enrollees receiving HCBS and NF services during a given year changed by 1 percentage point or less pre- and post-implementation. Overall, the percentage of CHOICES enrollees receiving HCBS vs. NF services changed only slightly from year to year, and the percentage of CHOICES enrollees receiving HCBS at the end of each year increased slightly.

Note: Most RQs associated with Goal 4 were intended to use a difference-in-differences method with T-MSIS comparison data. Because T-MSIS data was unavailable, the evaluator instead used one-group pretest-posttest and descriptive analyses to evaluate TennCare's performance in this area.

[78] Guidehouse analysis of NCI-AD data, 2018, 2019, 2022

Figure 92: Percentage of CHOICES enrollees receiving HCBS vs. NF services, at end of year (EOY) and during the entire year, 2017-2022

Year	CHOICES Enrollees at EOY	Percentage of CHOICES Enrollees Receiving HCBS at EOY	Percentage of CHOICES Enrollees Receiving NF Services at EOY	Total Unique CHOICES Enrollees During Year	Percentage of CHOICES Enrollees Receiving HCBS During Year	Percentage of CHOICES Enrollees Receiving NF Services During Year
2017	28,700	41%	59%	38,290	40%	64%
2018	28,647	42%	59%	38,003	40%	64%
2019	28,516	41%	59%	37,896	40%	64%
2020	25,267	43%	56%	36,717	40%	63%
2021	24,962	40%	59%	34,230	41%	63%
2022	24,198	40%	59%	33,168	41%	64%
Chi-square test p-value (effect size)	N/A	.076 (.005)	.11 (.004)	N/A	.0007 (.008)	.0002 (.009)

Note: The percent of CHOICES enrollees receiving HCBS and the percent receiving NF services at EOY do not always sum to 100% for each year due to rounding. The percent of CHOICES enrollees receiving HCBS and the percent receiving NF services during each year add up to more than 100% across the years analyzed. This is caused by 3-4% of CHOICES enrollees switching between HCBS and NF services during the year.

Hypothesis 4.1 – Following implementation of the TennCare III demonstration, the proportion of individuals who receive HCBS rather than NF care will maintain or increase.	
Primary RQ 4.1.b	Has the implementation of TennCare III maintained or increased the ratio of HCBS to NF service costs for CHOICES enrollees?
Summary	The ratio of HCBS to NF service costs stayed flat after TennCare III's implementation.
Analytic Approach	HCBS and NF costs were analyzed with a one-group pretest-posttest.
Results	**Figure 93** displays total LTSS costs since 2017, with columns to break out the percentage of those costs coming from HCBS vs. NF services. Both total LTSS costs and the percentage devoted to each type of service have been stable from 2017-2022. A chi-square test yielded a p-value near 1, indicating the pre- and post-implementation periods do not show a significant difference in the percentage of LTSS costs for each category.

Figure 93: LTSS cost breakdown, 2017-2022[79]

Year	Total LTSS Costs	Percentage of LTSS Costs for HCBS	Percentage of LTSS Costs for NF services
2017	$1,230,168,836	22%	78%
2018	$1,317,309,802	21%	79%
2019	$1,380,470,933	21%	79%
2020	$1,312,773,190	21%	79%
2021	$1,235,920,678	21%	79%
2022	$1,281,592,269	21%	79%

Hypothesis 4.1 – Following implementation of the TennCare III demonstration, the proportion of individuals who receive HCBS rather than NF care will maintain or increase.	
Primary RQ 4.1.c	Has the implementation of TennCare III maintained or decreased the average LTSS costs per CHOICES enrollee?
Summary	This trend was present before the implementation of TennCare III, but HCBS and NF service costs per CHOICES enrollee both increased after implementation
Analytic Approach	The independent evaluator analyzed the average LTSS and NF service costs with t-tests of mean costs per enrollee.
Results	**Figure 94** shows the annual HCBS and NF service costs per CHOICES enrollee. The costs per enrollee for both HCBS and NF services have risen slowly over time. T-tests for average LTSS and NF service costs had p-values near 0, though effect sizes (Cohen's d) were low at approximately .02. This indicates that the increase in costs per enrollee has been statistically significant (due to large sample sizes), but slight. The increase in per-enrollee costs may have been caused partly by ARP funding that precipitated investments like increased wages for the frontline CHOICES HCBS workforce.

Figure 94: HCBS and NF services costs per CHOICES enrollee, 2017-2022[80]

Year	HCBS costs per CHOICES Enrollee	NF Services Costs per CHOICES Enrollee
2017	$7,071	$25,056
2018	$7,375	$27,287
2019	$7,624	$28,803
2020	$7,502	$28,251
2021	$7,486	$28,619

[79] Guidehouse analysis of Tennessee Claims and Encounter data
[80] Guidehouse analysis of Tennessee Claims and Encounter data

Year	HCBS costs per CHOICES Enrollee	NF Services Costs per CHOICES Enrollee
2022	$8,006	$30,632

Hypothesis 4.1 – Following implementation of the TennCare III demonstration, the proportion of individuals who receive HCBS rather than NF care will maintain or increase.	
Primary RQ 4.1.d	Has the implementation of TennCare III maintained or increased the number and percentage of individuals with I/DD actively receiving HCBS?
Summary	More post-implementation data is needed, but the number and percentage of individuals with I/DD receiving HCBS did maintain or increase after implementation of TennCare III.
Analytic Approach	The independent evaluator analyzed this RQ with chi-square testing to identify if the proportion of enrollees with I/DD receiving HCBS increased over time.
Results	**Figure 95** shows that the proportion of enrollees with I/DD receiving HCBS have increased at a statistically significant level, rising from 14% in 2017 to 19% in 2022 for the EOY measure and 7% in 2017 to 10% in 2022 for the total annual measure. P-values were near 0 for both measures, while the EOY measure showed an effect size of .03 and the total annual measure showed an effect size of .02, meaning differences were slight. More post-implementation data could show more robust differences in future years. Additionally, because the evaluator had to attribute I/DD enrollees at a given point in time using actual encounters, the number of I/DD enrollees at EOY reported is likely lower than reality. The number of I/DD enrollees during the year is more representative of the true I/DD population in Tennessee.

Figure 95: Number and percentage of enrollees with I/DD receiving HCBS at EOY and during the year, 2017-2022[81]

Year	I/DD Enrollees at EOY	Percentage of Enrollees with I/DD Receiving HCBS at EOY	I/DD Enrollees During Year	Percentage of Enrollees with I/DD Receiving HCBS During Year
2017	12,673	14%	30,696	7%
2018	14,005	16%	33,098	8%
2019	15,951	16%	36,067	9%
2020	16,738	15%	36,221	9%
2021	18,153	16%	40,243	9%
2022	19,055	19%	43,689	10%

[81] Guidehouse analysis of Tennessee Claims and Encounter data

Hypothesis 4.1 – Following implementation of the TennCare III demonstration, the proportion of individuals who receive HCBS rather than NF care will maintain or increase.	
Primary RQ 4.1.e	Has the implementation of TennCare III maintained or increased the ratio of HCBS to ICF/IID service costs for individuals with I/DD?
Primary RQ 4.1.f	Has implementation of the TennCare III demonstration maintained or decreased the average LTSS costs per individual with I/DD?
Summary	LTSS costs per individual with I/DD have increased post-implementation, but this trend was present before TennCare III as well.
Analytic Approach	The independent evaluator analyzed LTSS costs per individual with I/DD using a t-test.
Results	**Figure 96** shows total and per-enrollee LTSS costs for enrollees with I/DD. LTSS costs for enrollees with I/DD have risen in absolute terms and in per-enrollee terms from 2017 to 2022, going from approximately $23 million to $121 million and $780 to $2,770, respectively. The total number of enrollees with I/DD receiving HCBS has also increased since 2017, from 2,193 to 4,344 enrollees. The t-test returned a p-value near 0 and Cohen's *d* = .05, indicating that costs per enrollee have risen at a statistically significant level.

*Note: Due to data limitations, the independent evaluator was unable to separate HCBS and ICF/IID claims for enrollees with I/DD and therefore RQs 4.1.e and 4.1.f were grouped together. For this report, total LTSS costs are reported in **Figure 96** below.*

Figure 96: Total and per-enrollee LTSS costs for enrollees with I/DD, 2017-2022[82]

Year	Enrollees with I/DD During Year	Enrollees with I/DD Receiving HCBS	LTSS Cost per Enrollee with I/DD	Total LTSS Costs for Enrollees with I/DD
2017	30,696	2,193	$780	$23,936,856
2018	33,098	2,749	$1,270	$42,031,741
2019	36,067	3,141	$1,581	$57,004,438
2020	36,221	3,259	$1,951	$70,652,680
2021	40,243	3,430	$2,233	$89,851,911
2022	43,689	4,344	$2,770	$121,021,297

Hypothesis 4.1 – Following implementation of the TennCare III demonstration, the proportion of individuals who receive HCBS rather than NF care will maintain or increase.	
Primary RQ 4.1.g	Has the implementation of TennCare III maintained or increased the level of institutional transition and diversion for CHOICES enrollees?
Summary	Generally, institutional transition and diversion maintained or increased. The average length of stay in HCBS for CHOICES enrollees did fall from 94 days in 2017 to 82 days in 2022.
Analytic Approach	The independent evaluator addressed this RQ using chi-square and t-testing to determine if levels of transition and diversion maintained or increased after TennCare III's

[82] Guidehouse analysis of Tennessee Claims and Encounter data

Hypothesis 4.1 – Following implementation of the TennCare III demonstration, the proportion of individuals who receive HCBS rather than NF care will maintain or increase.	
	implementation. One metric from this RQ focused on the number of individuals who applied for NF care but were diverted, but data was unavailable for NF care applications. All other metrics were calculated as planned in the evaluation design, including the percentage of CHOICES enrollees who meet NF level of care but access HCBS for 90+ days in a year, the average length of stay in HCBS for CHOICES enrollees, and the percentage of new LTSS recipients in CHOICES who are admitted to NFs.
Results	**Figure 97** shows metrics around institutional transition and diversion. There was no significant difference found in the pre- and post-intervention percentage of new LTSS recipients in CHOICES admitted to NFs (p = .64.) For the average length of stay in HCBS for CHOICES enrollees, a t-test found a significantly lower mean after the intervention, with a p-value near 0 and Cohen's D of .07. The percentage of CHOICES enrollees who meet a NF level of care and access HCBS for 90 or more days rose significantly after the implementation of TennCare III, with a p-value near 0 and an effect size of .05.

Figure 97: Institutional transition and diversion metrics, 2017-2022[83]

Year	Percentage of CHOICES Enrollees who Meet NF Level of Care and Access HCBS	Average Length of Stay in HCBS for CHOICES Enrollees Annually	Percentage of New LTSS Recipients in CHOICES Admitted to NFs
2017	27%	94 days	83%
2018	29%	92 days	81%
2019	30%	90 days	81%
2020	31%	86 days	78%
2021	34%	85 days	82%
2022	33%	82 days	81%

Hypothesis 4.2 – Following implementation of the TennCare III demonstration, participation levels in integrated employment for individuals with I/DD will maintain or increase.	
Primary RQ 4.2.a	Has the implementation of TennCare III maintained or increased the number of individuals with I/DD that participate in integrated employment and earn at or above the minimum wage?
Summary	The number of individuals with I/DD that participate in integrated employment and earn at or above minimum wage has increased each year since 2017, and the percentage has increased slightly post-implementation. More post-implementation data will provide a more complete picture here.

[83] Guidehouse analysis of Tennessee Claims and Encounter data

Hypothesis 4.2 – Following implementation of the TennCare III demonstration, participation levels in integrated employment for individuals with I/DD will maintain or increase.	
Analytic Approach	The independent evaluator addressed this RQ using a chi-square test to determine if a higher percentage of individuals with I/DD participate in integrated employment and earn the minimum wage or higher.
Results	A chi-square test on this metric (shown in **Figure 98**) showed that this percentage has increased significantly since the implementation of TennCare III with a p-value near 0. The percentage of adults with I/DD participating in integrated employment decreased to 19% in 2021 (was previously 23% in 2020), but the positive trend continued in 2022 with 22%. Even with the 2021 decrease, the overall increase in adults with I/DD participating in integrated employment was still statistically significant.

Figure 98: Number and percentage of individuals with I/DD who are enrolled in HCBS programs and making at/above minimum wage, 2017-2022[84]

Year	Number of Adults	Percentage of Adults
2017	1,324	17%
2018	1,549	19%
2019	1,735	21%
2020	1,952	23%
2021	1,610	19%
2022	2,032	22%

Hypothesis 4.5 – Following implementation of the TennCare III demonstration, premium requirements for participants in Part A of the Katie Beckett program will not reduce the likelihood of enrollment or enrollment continuity among participants.	
Primary RQ 4.5.d.i	What is the health insurance status and reported change in health status among Katie Beckett Part A enrollees that were suspended from the program due to non-payment of premiums?
Primary RQ 4.5.d.ii:	What is the health insurance status and reported change in health status among Katie Beckett Part A enrollees that voluntarily separated from the program?
Summary	The independent evaluator developed and distributed qualitative surveys to enrollees that disenrolled from Katie Beckett Part A in 2021 or 2022.
Analytic Approach	The independent evaluator developed and distributed an online survey in November 2023 to assess reasons for disenrollment in Katie Beckett Part A and any subsequent changes in insurance and health status. The independent evaluator sent the survey to 21 TennCare enrollees that disenrolled from the Katie Beckett Program Part A in 2021 or 2022. Each survey included an access code to enable the independent evaluator to perform demographic-specific analyses.

[84] TennCare extract of TennCare Individual Employment Data Survey

Hypothesis 4.5 – Following implementation of the TennCare III demonstration, premium requirements for participants in Part A of the Katie Beckett program will not reduce the likelihood of enrollment or enrollment continuity among participants.	
Results	Only five households responded and therefore the numbers were too low to report. The independent evaluator could not perform demographics analysis without risking that the enrollees who completed the survey could be identified based on the responses. All survey respondents were parents or guardians of Katie Beckett enrollees. None of the respondents reported that their child was suspended from the program due to non-payment of premiums; all respondents reported other reasons for disenrollment. Therefore, there was no data to analyze the change in insurance or health status for enrollees that involuntarily disenrolled from the program due to non-payment of premiums and Primary RQ 4.5.d.i could not be answered. For those that voluntarily separated from the program, a majority of the respondents reported transitioning from Part A to Part B of the Katie Beckett Program, and while the remainder reported leaving the Katie Beckett Program entirely. *Disenrollment:* Of the respondents that left the program entirely, some were unaware of the ability to switch to Part B of the Katie Beckett Program, while others reported aging out of the program. *Changes in Health Status:* A majority of survey participants reported health status stayed the same after disenrolling from Katie Beckett Part A. *Health Insurance Coverage:* All survey participants reported some form of health insurance coverage since disenrolling from Katie Beckett Part A, primarily receiving coverage either through Katie Beckett Part B or TennCare. Only a few respondents reported receiving commercial coverage through employers to supplement coverage received through the state.

Note: Both RQ 4.5.d.i and 4.5.d.ii were evaluated simultaneously in the surveys and reported together.

5. Goal 5: Manage expenditures at a stable and predictable level, and at a cost that does not exceed what would have been spent in a Medicaid fee-for-service program

Hypothesis 5.1 – Following implementation of the TennCare III demonstration, TennCare expenditures will grow at a slower and more sustainable rate than the average national Medicaid expenditures.	
Primary RQ 5.1.a	Has TennCare maintained an expenditure growth rate that is slower than the average national Medicaid expenditure growth rate?
Summary	From 2020 to 2022, TennCare has maintained a slower expenditure growth rate than the national Medicaid expenditure growth rate.
Analytic Approach	The independent evaluator conducted a descriptive analysis to evaluate the national and TennCare expenditure growth rates.

Hypothesis 5.1 – Following implementation of the TennCare III demonstration, TennCare expenditures will grow at a slower and more sustainable rate than the average national Medicaid expenditures.	
Results	As shown in **Figure 99**, publicly available expenditures data from the MBES Financial Management Report indicate that TennCare's total costs for Medicaid and CHIP have grown at a slower rate than the total national expenditures for Medicaid and CHIP.

Figure 99: Medicaid expenditures including CHIP[85]

FY	TN	TN – Year-over-Year Change	National	National – Year-over-Year Change
FY20	$11,538,272,557	N/A	$652,931,212,149	N/A
FY21	$11,097,270,878	-3.8%	$717,143,060,778	9.8%
FY22	$11,264,609,657	1.5%	$792,734,393,498	10.5%

Hypothesis 5.1 – Following implementation of the TennCare III demonstration, TennCare expenditures will grow at a slower and more sustainable rate than the average national Medicaid expenditures.	
Primary RQ 5.1.b	What is the difference between TennCare III's aggregated costs and the PMPM budget neutrality cap, and how does this change over the duration of the demonstration period?
Summary	The difference between aggregated spending and the cap was over $1 billion in 2021 and 2022.
Analytic Approach	The independent evaluator conducted a descriptive analysis to evaluate the difference between spending and the cap.
Results	**Figure 100** displays the gap between TennCare III's aggregated costs and the aggregate of the PMPM budget neutrality caps in 2021 and 2022. The individual caps are set for each eligibility group, and thus it is important to aggregate to take into account actual membership during each period. Costs have remained lower than the budget neutrality cap each year by more than $1 billion. Future evaluations will yield more definitive information on how the gap is trending over time. The gap was larger in 2022 than 2021, so the evaluator will monitor future years for a consistent trend.

Figure 100: Aggregated costs vs. budget neutrality cap, 2021-2022[86]

	DY1 (Jan 8 – Dec 31, 2021)	DY2 (CY22)
Aggregate Cap (Adjusted)	$10,425,540,188	$11,360,348,088
Total Actual Spend	$9,055,773,844	$9,855,056,084
Difference	$1,369,766,344	$1,505,292,004

[85] MBES Financial Management Report
[86] TennCare CMS-64 submission

Hypothesis 5.1 – Following implementation of the TennCare III demonstration, TennCare expenditures will grow at a slower and more sustainable rate than the average national Medicaid expenditures.	
Primary RQ 5.1.c	What are the administrative operational costs of the demonstration?
Summary	Administrative costs were about $467 billion and $502 billion in 2021 and 2022, respectively.
Analytic Approach	The independent evaluator conducted descriptive analysis to illustrate the administrative operational costs of the demonstration.
Results	**Figure 101** displays the administrative costs of the TennCare III demonstration. Administrative costs rose by approximately 7.5% from 2021 to 2022.

Figure 101: Administrative operational costs of TennCare III, 2021-2022

Year	Administrative Costs
2021	$467,194,161
2022	$502,023,850

F. Conclusions

Through TennCare III, Tennessee has brought forth numerous program improvement since January 2021. Listed in chronological order, program improvements implemented between January 2021 and December 2022 that impacted this evaluation include:

- Added 2,000 additional slots in the ECF CHOICES program, which were initially funded through Section 9817 of the ARP.
- Added Enabling Technology as a benefit for persons with disabilities, which was previously part of Tennessee's HCBS plan through the ARP.
- Expanded postpartum coverage from 60 days to 12 months following the end of pregnancy.
- Implemented the dental benefit for pregnant and postpartum women.
- Reopened a pathway for TennCare coverage for individuals at risk of needing institutional care.

The metrics and research questions reviewed as part of this evaluation aimed to assess both the impact of the program improvements listed above as well as program goals that carried over from TennCare II. Overall, many of the metrics reviewed as part of this first interim evaluation report have maintained similar levels since the implementation of TennCare III or were inconclusive due to limited data. Because TennCare III continued many of the policies from the prior version of the TennCare demonstration (TennCare II), maintaining similar levels of performance was in some cases the expected outcome.

Based on the data presented, more time is needed to see the effect of the TennCare III demonstration based on the metrics used for the evaluation. The COVID-19 public health emergency impacted data collection and the ability to interpret the effect of certain policies and programs. Further, the COVID-19 public health emergency impacted how TennCare enrollees used health care, decreasing utilization of some specific types of preventative care such as cancer screenings and wellness visits.

Despite the challenges associated with the COVID-19 public health emergency, TennCare III has helped make progress toward the goals outlined for this evaluation, notably in efforts to improve access to care. TennCare enrollees have greater access to MAT and the overall number of providers in the BESMART Program has increased since the demonstration began. In addition, there are more enrollees in the PCMH model. Further, since TennCare III, the number of behavioral health providers and the proportion of I/DD providers to the population has improved. Since the implementation of TennCare III, Tennessee has made several policy changes intended to increase access to care through the TennCare demonstration. These include expanding the scope of Medicaid coverage for pregnant and postpartum women in Tennessee, implementing an adult dental benefit, and increasing enrollment in HCBS.

Below are summaries of the interim evaluation results by demonstration goal and a discussion of the demonstration policies that are believed to have contributed to those results.

1. Goal 1: Provide high-quality care to enrollees that will improve health outcomes

The goal to provide high-quality care to enrollees has existed since the inception of TennCare. All major program updates and amendments implemented under TennCare III were introduced with the goal to improve access to services while maintaining quality of care. The Patient-Centered Medical Home (PCMH) Program and the BESMART Program were two efforts that impacted Goal 1. Notably, the BESMART program was correlated with improved access to MAT, as examined in RQ 1.2.d.

Other areas where the desired trends were observed within Goal 1 included decreased opioid misuse (RQ 1.2.a) and improved quality outcomes for CHOICES enrollees (RQ 1.3.a).

Research Question	Desired Trend	Observation	Conclusion(s)
Primary RQ 1.1.a: Has the implementation of TennCare III maintained or improved physical health outcomes for TennCare enrollees?	Maintain or Improve	Improved but Inconclusive	TennCare enrollees had better control of high blood pressure and HbA1c compared to national averages, but limited data resulted in insignificant findings. All metrics in this RQ showed improvement.
Primary RQ 1.1.b: Has the implementation of TennCare III maintained or increased the utilization rates of preventive or wellness services for TennCare enrollees?	Maintain or Increase	Inconclusive	TennCare enrollees were screened less frequently for cervical cancer compared to national averages; child wellness visits in first 15 months were higher than national benchmarks, but lower in first 30 months. 15-month well child visits increased in 2021, while 30-month well child visits and child and adolescent well-care visits decreased slightly.
Primary RQ 1.1.c: Has the implementation of TennCare III maintained or increased the utilization rates of EPSDT services for TennCare enrollees?	Maintain or Increase	Maintained	TennCare mirrored national benchmarks for utilization of EPSDT services. The screening ratios stayed level after implementation, and the participant ratio maintained in 2020 and 2021.
Primary RQ 1.1.d: Has the implementation of	Maintain or Improve	Maintained	TennCare continued to maintain higher than

Research Question	Desired Trend	Observation	Conclusion(s)
TennCare III maintained or improved the management of behavioral health (BH) conditions for TennCare enrollees?			national average rates of follow-up after hospitalization for mental health. The rate maintained from 2020 to 2021.
Primary RQ 1.2.a: Has the implementation of TennCare III maintained or decreased opioid misuse among TennCare enrollees (i.e., first-time, acute, and chronic opioid users)?	Maintain or Decrease	Decreased	First time opioid use, chronic opioid use, and opioid prescriptions decreased during the demonstration; acute opioid use has slowly decreased but leveled off from 2020-2022.
Primary RQ 1.2.b: Has the implementation of TennCare III maintained or decreased the number of Neonatal Abstinence Syndrome live births?	Maintain or Decrease	Inconclusive	NAS births maintained a downward trend, but the independent evaluator was unable to differentiate the impact of TennCare III vs. COVID-19 on the trend.
Primary RQ 1.2.c: Has the implementation of TennCare III maintained or improved the rate of opioid use disorder (OUD) treatment for TennCare enrollees?	Maintain or Improve	Inconclusive	Tennessee saw a large decrease in use of pharmacotherapy for opioid use disorder. The decrease was larger than observed in national benchmarks, but a lack of data limited the independent evaluator's ability to draw causal conclusions.
Primary RQ 1.2.d: Has the implementation of TennCare III maintained or improved access to MAT?	Maintain or Improve	Improved	Providers in the BESMART program and enrollees who received care through MAT/BESMART increased since the implementation of TennCare III.
Primary RQ 1.3.a: Has the implementation of TennCare III maintained or improved quality outcomes	Maintain or Improve	Improved	CHOICES enrollees reported better control of chronic conditions since

Research Question	Desired Trend	Observation	Conclusion(s)
for CHOICES enrollees?			the implementation of TennCare III.
Primary RQ 1.3.c: Has the implementation of TennCare III maintained or improved quality outcomes for individuals with I/DD?	Maintain or Improve	Inconclusive	Tennessee generally showed more positive outcomes than the national average. Some survey items showed worse results than usual in 2022, but 2022 results came from a smaller sample that was not considered statistically robust by NCI. Analysis in later years may offer more concrete conclusions.
Primary RQ 1.3.d: Has the implementation of TennCare III maintained or improved quality of life for individuals with I/DD?	Maintain or Improve	Inconclusive	Tennessee generally showed more positive outcomes than the national average. Some survey items showed decline since 2017, but 2022 results came from a smaller sample that was not considered statistically robust by NCI. Analysis in later years may offer more concrete conclusions.

2. Goal 2: Ensure enrollee access to health care, including safety net providers

Many of the program improvements and amendments under TennCare III prioritized access to health care, specifically enhancing benefits and coverage. Notably under TennCare III, dental benefits were implemented first for pregnant and postpartum women in April 2022, and then implemented for all adults in January 2023 (previously dental services were only covered for children under 21 years and certain individuals receiving LTSS). Due to the timing of this evaluation, engagement in dental services were only measured for children and pregnant and postpartum women. As described in the table below for RQ 2.5a, COVID-19 significantly decreased the utilization of dental services in early 2020, although the data showed engagement in dental services was largely maintained for children under 21 years. Similarly, the expansion of dental benefits for pregnant and postpartum women only took effect a few months before this evaluation, and therefore there were not sufficient data to draw a conclusion for RQ 2.5b. In future reports, the independent evaluator will be

able to assess these questions with more robust data as well as expand the analysis to assess for utilization among the general adult population.

In addition to expanding access to dental services, improvements under TennCare III aimed to improve health care access for pregnant and postpartum women by expanding coverage from 60 days to 12 months following pregnancy in April 2022. As seen in RQ 2.3a, timeliness of prenatal care slightly increased since the implementation of TennCare III, which correlates to the newly add program enhancements. As more data is collected on this and other measures in the following years, the independent evaluator should be able to draw more conclusive observations on the impact of these improvements on prenatal and postpartum care utilization.

Overall, TennCare III maintained or improved enrollees' access to health care across a number of areas, including consistent utilization services for preventive care, ambulatory services, inpatient visits, and mental health visits (RQ 2.1.a). The proportion of TennCare enrollees cared for through the PCMH model increased during the demonstration (RQ 2.2.a), as did the number of both BH providers and I/DD providers relative to the population (RQ 2.7.b). One area that will require additional data and analysis regarding its impact on enrollee access to health care is around the retroactive eligibility waiver. The independent evaluator plans to leverage additional data sources, including focus groups, to better understand the impact of the retroactive eligibility waiver in future reports (RQ 2.9).

Research Question	Desired Trend	Observation	Conclusion(s)
Primary RQ 2.1.a: Has the implementation of TennCare III maintained or improved enrollee utilization of services? • Primary care • Inpatient visits • BH visits • Prescription drugs	Maintain or Improve	Maintained	Tennessee continued to maintain consistent utilization rates for preventive and ambulatory care services, inpatient visits, and mental health visits. Prescription drug utilization decreased significantly in 2020, but it was inconclusive as to whether it was due to TennCare III or COVID-19.
Primary RQ 2.2.a: Has the implementation of TennCare III maintained or increased the number and proportion of TennCare enrollees cared for through the PCMH model?	Maintain or Increase	Increased	Proportion of TennCare enrollees cared for through PCMH model increased significantly since the implementation of TennCare III.
Primary RQ 2.3.a: Has the implementation of	Maintain or Increase	Increased but Inconclusive	Tennessee had lower rates of timeliness of prenatal

Research Question	Desired Trend	Observation	Conclusion(s)
TennCare III maintained or increased member engagement in prenatal care?			care compared to national averages until 2021 but has increased slightly since the implementation of TennCare III. The increase was not large enough to draw a conclusion in this evaluation.
Primary RQ 2.3.b: Has the implementation of TennCare III maintained or increased member engagement in postpartum care?	Maintain or Improve	Increased but Inconclusive	Postpartum visits slowly increased over time and accelerated in 2021 and 2022. The pretest-posttest analysis did not allow the evaluator to conclude this was an effect of TennCare III, but the increase after implementation was significant.
Primary RQ 2.4.a: What strategies did the MCOs implement to address non-medical needs affecting enrollees' health?	N/A	N/A	MCOs partnered with Community-Based Organizations to implement structured screening processes in provider offices as well as build trust with enrollees to provide non-medical supports to improve health.
Primary RQ 2.5.a: Has participant engagement in dental services for TennCare children and adolescents maintained or increased following implementation of TennCare III?	Maintain or Increase	Maintained but Inconclusive	Dental services have remained consistent since the implementation of TennCare III but were severely decreased during early 2020 as a result of COVID-19. Because PEAR and DBM dental sealant rates have not fully recovered to pre-COVID levels and the SDF rate has continued trending up, the trend in overall

Research Question	Desired Trend	Observation	Conclusion(s)
			engagement in dental services is mixed.
Primary RQ 2.5.b: Has participant engagement in dental services for pregnant TennCare enrollees maintained or increased following implementation of TennCare III?	Maintain or Increase	Inconclusive	Because dental benefits for pregnant enrollees were implemented in April 2022, no statistical tests could be completed. Future evaluations can analyze potential trends in utilization.
Primary RQ 2.6.a: What benefits did TennCare enrollees receive that were in excess of the benefits authorized under the Medicaid State Plan following implementation of TennCare III?	N/A	N/A	Enrollees received additional benefits for postpartum coverage and chiropractic services. Pregnant and postpartum enrollees received expanded dental benefits. CHOICES program expanded to accommodate more enrollees.
Primary RQ 2.7.b: Do Tennesseans have access to BH and I/DD provider and service delivery networks?	Maintain or Improve	Improved	Tennessee has seen an increase in the number of both BH providers and I/DD providers relative to the population.
Primary RQ 2.9.a: Do Medicaid eligible individuals in Tennessee subject to the retroactive eligibility waiver enroll in Medicaid at the same rates as eligible individuals in other states who have access to retroactive eligibility?	Parallel Trends	Inconclusive	Due to incomplete data, the independent evaluator could not satisfy the parallel trends assumption and therefore the data was inconclusive. In future evaluation years, BRFSS may have more than one post-evaluation year with Tennessee data available, allowing the independent evaluator to establish a post-implementation trend and attain stronger conclusions.

Research Question	Desired Trend	Observation	Conclusion(s)
Primary RQ 2.9.c: Do the health outcomes of enrollees subject to the retroactive eligibility waiver differ from those of enrollees in other states who have access to retroactive eligibility?	Parallel Trends	Inconclusive	TennCare enrollees subject to the retroactive eligibility waiver reported a decline in health compared to enrollees in comparison states, but the results were not significant and parallel trend assumptions could not be met.
Primary RQ 2.9.d: What are common barriers to timely renewal for enrollees subject to the retroactive eligibility waiver?	N/A	Inconclusive	Data was unavailable for the interim evaluation.

3. Goal 3: Ensure enrollees' satisfaction with services

The goal to ensure enrollees' satisfaction continues from previous iterations of the demonstration into TennCare III. All major program updates and amendments implemented under TennCare III were introduced with the intention to maintain or improve enrollees' satisfaction with services. No updates or amendments specifically targeted this goal. Both TennCare enrollees' and CHOICES enrollees' satisfaction remained consistent in the initial years of the TennCare III demonstration. As TennCare continues to invest in new programs and initiatives throughout the demonstration, the independent evaluator expects to see continued or improved levels of satisfaction among enrollees.

Research Question	Desired Trend	Observation	Conclusion(s)
Primary RQ 3.1.a: Has the implementation of TennCare III maintained or improved TennCare enrollee satisfaction with overall health care?	Maintain or Improve	Maintained	Enrollee satisfaction did not change since the implementation of TennCare III.
Primary RQ 3.1.b: Has the implementation of TennCare III maintained or improved CHOICES enrollee satisfaction?	Maintain or Improve	Maintained	CHOICES enrollee satisfaction did not change since the implementation of TennCare III.

4. Goal 4: Provide enrollees with appropriate and cost-effective Home and Community-Based Services (HCBS) within acceptable budgetary parameters

Numerous program improvements and amendments under TennCare III aimed to improve access and quality of care for persons with disabilities. Notably, Tennessee adjusted TennCare's budget to continue initiatives initially funded through Section 9817 of the ARP. These included adding 2,000 slots to ECF CHOICES to enroll persons with intellectual or developmental disabilities and adding Enabling Technology as a benefit for persons with disabilities. Under TennCare III, Tennessee also reopened a pathway for TennCare coverage for individuals at risk of needing institutional care through the CHOICES At Risk Demonstration Group, which had been closed from June 30, 2015 through September 30, 2022.

As shown in the table below for RQ 4.2a, the number of individuals with I/DD that participate in integrated employment increased significantly since the implementation of TennCare III. Other areas where the desired trend was observed for Goal 4 includes increased number and percentage of individuals with I/DD receiving HCBS (RQ 4.1.d), increased level of institutional transition and diversion for CHOICES enrollees (RQ 4.1.g), and increased number of individuals with I/DD that participate in integrated employment and earn at or above minimum wage (RQ 4.2.a). There were a few areas where the opposite of the desired trends were observed, such as costs per CHOICES enrollee (RQ 4.1.c) and LTSS costs per individual with I/DD (RQ 4.1.f). Both of these metrics increased since the implementation of TennCare III. The increase in per-enrollee costs may have been caused partly by ARP funding that precipitated investments like increased wages for the frontline CHOICES HCBS workforce. More time is needed to fully understand the impact of the demonstration on these costs.

Research Question	Desired Trend	Observation	Conclusion(s)
Primary RQ 4.1.a: Has the implementation of TennCare III maintained or increased the number and percentage of CHOICES enrollees actively receiving HCBS?	Maintain or Increase	Maintained	There were not significant observed changes in the percentage of CHOICES enrollees actively receiving HCBS since the implementation of TennCare III.
Primary RQ 4.1.b: Has the implementation of TennCare III maintained or increased the ratio of HCBS to NF service costs for CHOICES enrollees?	Maintain or Increase	Maintained	Costs and percentage devoted to each type of cost for LTSS remained stable since the implementation of TennCare III.
Primary RQ 4.1.c: Has the implementation of TennCare III maintained or decreased the average LTSS costs per CHOICES enrollee?	Maintain or Decrease	Increased	The cost per CHOICES enrollee has increased for both HCBS and NF services since the implementation of TennCare III.

Research Question	Desired Trend	Observation	Conclusion(s)
Primary RQ 4.1.d: Has the implementation of TennCare III maintained or increased the number and percentage of individuals with I/DD actively receiving HCBS?	Maintain or Increase	Increased	The proportion of enrollees with I/DD receiving HCBS increased since the implementation of TennCare III.
Primary RQ 4.1.e: Has the implementation of TennCare III maintained or increased the ratio of HCBS to ICF/IID service costs for individuals with I/DD?	Maintain or Increase	Inconclusive	Data was not available for ratio of HCBS to ICF/IID service costs; partial results reported as part of RQ 4.1.f results.
Primary RQ 4.1.f: Has implementation of the TennCare III demonstration maintained or decreased the average LTSS costs per individual with I/DD?	Maintain or Decrease	Increased	LTSS costs per individual with I/DD increased since the implementation of TennCare III.
Primary RQ 4.1.g: Has the implementation of TennCare III maintained or increased the level of institutional transition and diversion for CHOICES enrollees?	Maintain or Increase	Increased	Percentage of enrollees who met NF level of care but accessed HCBS increased and the average length of stay in HCBS both decreased. Percentage of new LTSS recipients admitted to NFs stayed stable.
Primary RQ 4.2.a: Has the implementation of TennCare III maintained or increased the number of individuals with I/DD that participate in integrated employment and earn at or above the minimum wage?	Maintain or Increase	Increased	The number of individuals with I/DD that participate in integrated employment and earn at or above minimum wage increased significantly since the implementation of TennCare III, though there was a slight decline in 2021.
Primary RQ 4.5.d.i: What is the health insurance status and reported change in health status among Katie	N/A	N/A	No enrollees involuntarily disenrolled from the

Research Question	Desired Trend	Observation	Conclusion(s)
Beckett Part A enrollees that were suspended from the program due to non-payment of premiums?			program due to non-payment of premiums.
Primary RQ 4.5.d.ii: What is the health insurance status and reported change in health status among Katie Beckett Part A enrollees that voluntarily separated from the program?	Maintain	Inconclusive	There were only five responses to the Katie Beckett survey and therefore the independent evaluator could not draw conclusions on the health or insurance status change among those who voluntarily separated from the program.

5. Goal 5: Manage expenditures at a stable and predictable level, and at a cost that does not exceed what would have been spent in a Medicaid fee-for-service program

Similar to Goals 1 and 3, all major program updates and amendments implemented under TennCare III were introduced with the intention to manage expenditures at a stable and predictable level. No major program updates or amendments specifically targeted this goal. The expenditure growth rate continued at a slower rate than the average national Medicaid expenditure growth rate (RQ 5.1.a). More time is needed to better assess how the TennCare III demonstration impacts budget neutrality (RQ 5.1.b) and administrative operational costs (RQ 5.1.c) over time.

Research Question	Desired Trend	Observation	Conclusion(s)
Primary RQ 5.1.a: Has TennCare maintained an expenditure growth rate that is slower than the average national Medicaid expenditure growth rate?	Maintain	Maintained	TennCare expenditure growth continued at a slower rate compared to national expenditures for Medicaid and CHIP.
Primary RQ 5.1.b: What is the difference between TennCare III's aggregated costs and the budget neutrality cap, and how does this change over the duration of the demonstration period?	N/A	N/A	Costs have remained lower than the budget neutrality gap each year (2021-2022). Additional data is needed to assess how the gap is trending overtime.

Research Question	Desired Trend	Observation	Conclusion(s)
Primary RQ 5.1.c: What are the administrative operational costs of the demonstration?	N/A	N/A	Administrative costs rose by approximately 7.5% from 2021 to 2022.

G. Interpretations, and Policy Implications and Interactions with Other State Initiatives

The COVID-19 public health emergency had a substantial impact on Medicaid programs across the country, including Tennessee's. Inflation as a biproduct of the COVID-19 public health emergency led to a 2.24% increase in MCO budget line item, and MCO capitation rates increased 5.5%. Coming out of the public health emergency, Tennessee set itself up for success by investing in its IT systems; this allowed for a smooth transition when Medicaid renewals restarted post-public health emergency. As a result, TennCare enrollees are renewing at 60% since Medicaid unwinding began in April 2023, and 40% of those were automatic renewals (both statistics are above the national average).[87]

TennCare's 2023 budget proposal focus areas align with the goals and objectives outlined for TennCare III. As part of its budget proposal, TennCare allocated investments in children's dentistry, LTSS and home meal deliveries, HCBS workforce shortages and minimum wage raises, and children's hospital infrastructure and addressing behavioral health needs.[88] TennCare also hired two analytics experts to identify fraud, waste, and abuse that investigators otherwise would unlikely be able to identify.[89] Investing in these two skilled experts will allow for an overall reduction in cost for investigation of fraud, waste, and abuse. Additionally, TennCare's budget proposal prioritized ECF CHOICES enrollment, creating additional slots and reducing the waitlist.[90]

TennCare also coordinates the Health Starts program, which supports its MCOs in partnering with community-based organizations to provide non-medical resources to enrollees. TennCare has prioritized robust data collection to better understand the needs of its enrollees and where to prioritize investments to address those non-medical needs.

[87] TennCare State Fiscal Budget Hearing. Mediasite - Mediasite Channel (tn.gov)
[88] TennCare State Fiscal Budget Hearing. Mediasite - Mediasite Channel (tn.gov)
[89] TennCare State Fiscal Budget Hearing. Mediasite - Mediasite Channel (tn.gov)
[90] TennCare State Fiscal Budget Hearing. Mediasite - Mediasite Channel (tn.gov)

H. Lessons Learned and Recommendations

As discussed in the previous sections, the COVID-19 public health emergency occurred during the evaluation years included in this interim evaluation report. The public health emergency effected elements across the health care spectrum, including Medicaid enrollment levels, service utilization, and access to care. Where appropriate and feasible, the independent evaluator removed CYs 2020 and 2021 from the baseline and intervention periods or supplemented with data from additional pre-COVID-19 or post-COVID-19 years. Nevertheless, this interim evaluation report reflects the significant changes that occurred during the public health emergency, and as such, the ability to draw causal conclusions is limited.

Additionally, the independent evaluator and TennCare, with guidance from CMS, elected not to use T-MSIS data in this interim evaluation report due to challenges with T-MSIS data quality and the process to obtain and use the T-MSIS data. This change limited the ability to construct an out-of-state comparison group and draw causal conclusions from the analysis. In future interim reports, the independent evaluator will assess whether T-MSIS data has improved in reliability and if the original evaluation design using out-of-state comparison groups can be implemented.

I. Attachments

1. TennCare Enrollment Experience Survey

The TennCare Enrollment Experience Survey was administered as an online survey. Participant responses were collected electronically from October 25, 2023, through November 30, 2023. See below for the survey instructions and questions.

TennCare Enrollment Experience Survey

Welcome to the TennCare Enrollment Experience Survey! This **voluntary and confidential** survey will help us understand and improve access to services and TennCare experience.

Your household is part of a sample of households enrolled in TennCare in 2021 who received a letter in the mail to participate in the survey below. To begin, enter your access code from your letter and tell us if you agree to complete the survey. By answering yes, you will be asked 5 multiple choice questions about your experience with TennCare and health insurance coverage.

Please provide the Access Code listed on the letter you received from TennCare with a QR code directing you to this survey.

Access Code

1. Are you willing to participate in this survey?
    a. Yes
    b. No

Section A

1. When approved for TennCare, coverage starts on the date a member's application is submitted. This means any bills from services before that date are not covered by TennCare. Think about the three months before you applied for TennCare and select the statement that best describes your need for care and access to services.
    a. I needed and received health care services in the three months before my application. Not having TennCare coverage did not stop me from getting care.
    b. I needed health care services in the three months before my application but did not seek care. I delayed getting care until I had TennCare coverage.
    c. I did not need health care services in the three months before my application.

Follow up question only if the member selected answer b for question 1: You answered that you delayed care until being covered by TennCare. Please describe the impact delaying care had on your overall health:

a. No impact
b. Some impact
c. Significant impact

2. Please describe the difference in health status between the three months before you were enrolled in TennCare and then after you were enrolled in TennCare.
    a. Overall, my health improved after enrolling in TennCare compared to the three months before.
    b. Overall, there was not much difference in my health after enrolling in TennCare compared to the three months before.
    c. Overall, my health declined after enrolling in TennCare compared to the three months before.

3. Before enrolling in TennCare, what was your health insurance coverage? Select all that apply.
    a. Commercial Coverage (e.g., through an employer)
    b. Medicare
    c. TennCare (commonly referred to as Medicaid)
    d. SSI
    e. Tennessee OPTIONS Program
    f. TennCare CHOICES Program
    g. TennCare ECF CHOICES Program
    h. Medicaid Coverage from Another State
    i. No health insurance
    j. Other

Section B

4. Overall, how would you rate your health status today?
    a. Excellent
    b. Good
    c. Fair
    d. Poor

5. Please describe your health insurance status as of today. Select all that apply:
    a. Commercial Coverage (e.g., through an employer)
    b. Medicare
    c. TennCare (commonly referred to as Medicaid)
    d. SSI Tennessee OPTIONS Program
    e. TennCare CHOICES Program
    f. TennCare ECF CHOICES Program
    g. Medicaid Coverage from Another State
    h. No health insurance
    i. Other

2. Katie Beckett Program Survey

The Katie Beckett Program Survey was administered as an online survey. Participant responses were collected electronically from October 25, 2023, through November 30, 2023. See below for the survey instructions and questions.

Katie Beckett Program Survey

Welcome to the TennCare Katie Beckett Program Survey! This **voluntary and confidential** survey aims to help us understand and improve access to services and program experience.

Your household received a letter in the mail containing a QR code to access this survey. All households that disenrolled from Katie Beckett Part A in 2021 or 2022 received a letter with a code to participate in the survey below. Once you enter your access code, you will then be prompted to consent to the survey, after which you will be asked questions regarding your experience with program enrollment and insurance coverage.

Section 1: Introduction

1. Please provide the Access Code listed on the letter you received from TennCare with a QR code directing you to this survey.

Access Code

2. Are you willing to participate in this survey?
    a. Yes
    b. No

3. Who in your household will be completing the survey?
    a. Parent or guardian of a person enrolled in the Katie Beckett Program Members
    b. Katie Beckett Program Member (If Over 18)

Section 2: Program Participation

1) Our understanding is that you/your child was disenrolled from the Katie Beckett Program Part A in Calendar Year 2021 or 2022. Katie Beckett Part A requires a monthly premium to remain enrolled in the program, and involuntary disenrollment can occur if premiums are not paid. When you/your child disenrolled from Part A, was it related to non-payment of the monthly premium?

a) Yes, I/my child was involuntary disenrolled from Part A due to nonpayment of premiums

b) No, I/my child disenrolled from Part A for reasons other than nonpayment of premiums

If the answer to Section 2 Question 1 is Yes (disenrolled due to nonpayment of premiums), question (i) would appear.

i) If you/your child were involuntarily disenrolled from Katie Beckett Part A in Calendar Year 2021 or 2022 due to nonpayment of monthly premiums, have you since re-enrolled in the program?

a. Yes, I/my child have since re-enrolled in Part A
b. No, I/my child have not re-enrolled in Part A

After answering Section 2 Question (i), the survey would jump to Section B

If the answer to Section 2 Question 1 is No (other reason for disenrollment), question (ii) would appear.

ii) If you/your child disenrolled from Part A, did you/your child transition to Katie Beckett Part B? As a reminder, Part B does not require a monthly premium to remain enrolled in the program and children in Part B do not receive their regular health insurance through Medicaid.

a. Yes, I/my child transitioned from Part A to Part B
b. No, I/my child left the Katie Beckett Program entirely and did not enroll in Part B

If the answer to Section 2 Question (ii) is Yes, the survey would skip to Section 3

If the answer to Section 2 Question (ii) is No, question (iii) will appear:

iii) If you/your child disenrolled in Part A and did not enroll in Part B, please select all applicable reasons from the list below.

- ☐ Aged out of program
- ☐ Change in insurance
- ☐ Change in health
- ☐ Inadequate services
- ☐ Moved
- ☐ Unaware of ability to switch to Part B
- ☐ Other (fill in the blank option)

iv) If you selected "Inadequate services" for question 7, please feel free to use the space below to provide more detail if desired. Otherwise proceed to Section 3

After answering Section 2 Question (iv), survey would jump to Section 3

Section 3: Health and Insurance

1) Considering the 6 months following when you/your child disenrolled from Part A in 2021, which of the following statements best describes your health during that time?
   a. Overall, health stayed the same since leaving Part A
   b. Overall, health declined since leaving Part A
   c. Overall, health improved since leaving Part A

2) Overall, how would you rate your/your child's health status today?
    a. Excellent
    b. Good
    c. Fair
    d. Poor

3) Since disenrolling from Part A, describe your/your child's enrollment in health insurance and/or other supports. Select all that apply:
    a. Katie Beckett Part B
    b. Commercial Coverage (e.g., through an employer)
    c. Medicare
    d. TennCare (also known as Medicaid)
    e. Medicaid Alternative Pathways (MAPs)
    f. SSI
    g. Tennessee OPTIONS Program
    h. Tennessee CHOICES Program
    i. Tennessee ECF CHOICES Program
    j. Medicaid Coverage from Another State
    k. No health insurance
    l. Other

3. MCO Interview Guide

Below is the interview guide that served as the standard template for each interview to ensure consistency in data collection and procedures. This interview guide was for internal use only and not shared with the MCO interviewees. MCO interviewees received an agenda of discussion topics along with the calendar invite prior to the call but did not have access to the specific questions listed below.

Interview Guide

Hi all and thank you for speaking with us today. For a bit of context, Tennessee is conducting an independent evaluation of its TennCare III program as required by the Centers for Medicare & Medicaid Services (CMS). TennCare is especially interested in enhancing access and quality of care for its Medicaid population. As part of this evaluation, we are conducting interviews with MCOs to better understand the types of resources and services provided that extend beyond traditional forms of health care, including but not limited to food security, housing, and other social determinants of health.
Your participation in the interview is entirely voluntary. This survey is being conducted by an evaluation team that is entirely separate from the rate-setting team and any information collected will not be shared with them.

This interview is expected to take roughly 45 minutes. Before we get started, do you have any questions?

- Please state your name and role at your organization.
- Please describe any processes in place for **screening** patients for nonmedical needs, such as stable housing, food security, reliable transportation, or other relevant social determinants of health.
    - Please describe any benefits your organization has seen as it relates to screening for nonmedical health needs.
    - If data is collected, how is the data used? (If at all)
- In addition to screening for social determinants of health, describe any measures your organization takes to address social determinants of health (e.g., information pamphlets, food vouchers, public transportation cards).
    - Are there measures targeted to certain populations? (E.g., outreach to pregnant women)
    - Please describe any benefits your organization has seen as it relates to providing resources to support nonmedical health needs. Do you have any data on outcomes relation to these supports?
- What strategies have been most successful for your organization in screening and providing resources for nonmedical health needs?
- What are the barriers your organization faces as it relates to screening and addressing nonmedical health needs?
- How often are new resources or efforts incorporated into your program?
- Do you have an overall strategy, for example, a strategic vision or health equity plan that guides decisions on new resources of efforts added to your program?
- Do you have any data collection efforts or analysis in place regarding resources or service connections you offer to members?

- Do you have an outcome or tracking metrics in place to assess success (e.g., use of quality measures, quantity of referrals)?

- Who in the organization is responsible for things like screening, data analysis, resource creation, care coordination, and other tasks related to non-medical needs?
    - What are their credentials and role in the organization?
    - What is their staffing ratio/case load?
    - Do they have other responsibilities in the organization besides their role in this effort?
- What nonmedical health needs do you feel the population your organization serves could benefit from receiving more support in?
- Is there any additional information you would like to share that has not been discussed?