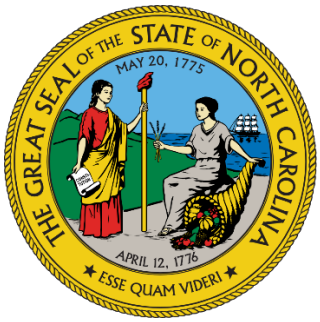

Interim Evaluation Report for the Managed Care Component of the NC Section 1115 Demonstration Waiver

Interim Evaluation Report for the Managed Care Component of the NC Section 1115 Demonstration Waiver

Executive Summary

The goal of the NC 1115 Demonstration Waiver is to improve Medicaid beneficiary health outcomes through the implementation of a new delivery system, to enhance the viability and sustainability of the NC Medicaid program by maximizing the receipt of high-value care and to reduce the burden from substance use disorders (SUD) statewide.

The demonstration consists of two major elements: components to restructure the Medicaid and Health Choice delivery system and benefit structure in NC and components to address the opioid use epidemic and general substance use treatment needs in the state of North Carolina. This report evaluates changes in measures reflecting quality of care, process of care and health outcomes focused on the first two goals of the 1115 Demonstration Waiver related to system transformation.

This report does not include findings on the Healthy Opportunities Pilots (HOP) program, which is part of the 1115 Demonstration Waiver but is being evaluated separately. **Findings presented in this summary are not final and are pending CMS review.**

The report presents two driver diagrams developed for the Evaluation Design document that convey the pathways by which waiver goals would be achieved. These diagrams lead to a number of testable hypotheses and research questions, which are developed and tested below. We focus on Goals 1 and 2 of the waiver and test research questions using a number of data sources including Medicaid enrollment, claims and encounters and state-level public data sources such as the Behavioral Risk Factor Surveillance System.

The evaluation study period for the Interim Evaluation Report runs from November 1, 2019 – February 28, 2023. Standard Plans, a major component of the 1115 Demonstration Waiver, launched July 1, 2021, and most analyses in this report compare the trends in metrics before and after the launch of Standard Plans, controlling for observable variables, such as comorbidities and demographic characteristics.

A major (potentially) confounding event occurred during the Standard Plan implementation period: the Public Health Emergency (PHE) from the COVID-19 pandemic began with stay-at-home orders in March 2020 and ended in May 2023. In our Interim Evaluation Report on the SUD components of the waiver (May 2023), we developed a novel method of identifying the return-to-normal dates in our data, which we continue to use.

We use interrupted time series models to examine the trends in metrics before the start of the Standard Plans and during the waiver implementation period. These models control for changes due to other factors such as the COVID-19 PHE, month effects, county effects and beneficiary-level controls for age, race/ethnicity, sex and the Chronic Disease Payment System (CDPS-Rx) risk score.

The ITS analysis does not incorporate a comparison group that was not exposed to NC Medicaid transformation and thus the models will attribute any remaining factors that occurred during the Standard Plan implementation period to the Standard Plan waiver. We take this into account when describing results. We compare Level 3 Advanced Medical Homes (AMH) to Levels 1-2 AMHs using difference-in-differences analyses that compare the rate of change by AMH type from before to after the launch of Standard Plans.

Below, we summarize the findings by the theme of the hypothesis:

1. **Hypotheses that evaluate the effect of Standard Plan launch**

   Hypothesis 1.1 examined the impact of Standard Plan launch on a variety of measures of access to health care, quality of care and health outcomes. Of the 35 measures examined, eight showed marked improvement. These included two metrics from the Standard Plan measure set: avoidance of antibiotic treatment for acute bronchitis and concurrent use of opioids and benzodiazepines.

   The six other measures that improved included breast cancer screening, postpartum contraceptive care within 90 days of delivery, appropriate testing for pharyngitis, reductions in the hospitalization rate for diabetes short-term complications among children and adolescents, reductions in the admissions rate for asthma among children and adolescents and reductions in the rate of hospitalizations for urinary tract infections among children and adolescents.

   Interestingly, these rates are all based on medication use or hospital care. Fifteen measures worsened since the launch of Standard Plans, even after attempting to control for changes due to the COVID-19 PHE, although our methods are incomplete in capturing its full effect on patterns of care. These measures reflect a broad range of pharmacy, outpatient, dental and preventative care services. The remaining 12 measures did not exhibit any statistically significant differences from pre- to post-Standard Plan implementation, including one Standard Plan/AMH measure set metric.

   Hypothesis 1.2 examined the impact of Standard Plan launch on measures of behavioral health access to care and quality among the population of beneficiaries in Standard Plans. We found significant progress by Standard Plans in engaging beneficiaries with behavioral health needs in care in nine metrics.

   These include greater retention in antidepressant medication use for beneficiaries with diagnosed depression at both the acute and continuation phases, greater follow-up after hospitalization for mental illness with enhanced behavioral services, greater rates of initiation in services for alcohol use disorder, initiation and engagement in treatment for opioid use disorder (OUD) and overall.

   Six measures of behavioral health care and quality worsened, even after adjusting for COVID-19 effects. These include adherence to antipsychotic medication for Standard Plan beneficiaries with Schizophrenia, two measures of metabolic monitoring for children and adolescents on

antipsychotics, continuity of pharmacotherapy for OUD, the use of behavioral health services by beneficiaries with a serious mental illness, SUD, or severe emotional disturbance, and access to preventative/ambulatory health services for people with a SUD diagnoses. The remaining 15 metrics showed no difference between the pre- and post- Standard Plan implementation periods, including four measures from the Standard Plan Measure Set.

Hypothesis 1.3 examines the use of medications for opioid use disorder (MOUD) and behavioral health services by Standard Plan enrollees and reductions in the use of opioids. We analyzed five metrics for this hypothesis. The initiation and engagement of opioid use treatment have both improved among beneficiaries in Standard Plans since Standard Plan implementation. One measure of use of opioids in high dosages worsened, and the remaining two metrics showed no differences.

Hypothesis 2.1 examines whether improved access and quality of care through Standard Plans decreased reactive services such as emergency department (ED) or hospital admissions. We analyzed three metrics for this hypothesis. One demonstrated substantial progress after Standard Plan implementation (ED visits per capita), one worsened (avoidable ED visits) and one demonstrated no difference from what is estimated to occur in the absence of the waiver (hospital admissions).

Hypothesis 2.2 examines measures of access to community care after hospital discharge. We examined two measures for this hypothesis. One measure reflected the percent of beneficiaries in the Standard Plan population who received care management services. This increased appreciably after Standard Plan implementation.

The second metric reflecting patient engagement in post-discharge care worsened, indicating a large reduction in care by adult beneficiaries after an acute or non-acute inpatient stay.

Hypothesis 2.3 examines trends in expenditure patterns. While the budget neutrality and formal cost analysis is not conducted by the evaluation team, we did examine trends in per-member per-month expenditures by NC Medicaid and the Standard Plans for components of expenditures. We found that per capita spending in many areas were lower after Standard Plan implementation than what was projected in the absence of the waiver, although we notably found increases in spending on ED services. No changes were observed for behavioral health or prescription medication spending per capita.

2. Hypotheses that evaluate the effect of Advanced Medical Homes (1.4)

Hypothesis 1.4 examines whether outcome measures are different between level 3 Advanced Medical Homes (AMH3) as compared to levels 1-2 AMHs, controlling for differences in beneficiary characteristics including comorbidities, and controlling for practice level characteristics that have been constant over time. In level 1-2 AMHs, Standard Plans are responsible for care management of beneficiaries, while AMH3s assume primary responsibility for care management, delivered either directly through the practice or through a Clinically Integrated Network (CIN) or other partner.

We examined 23 outcome measures to test this hypothesis to determine whether AMH3s had improved outcomes over level 1-2 AMHs since the implementation of Standard Plans. While we did find an impressive rate of growth in the number of practices designated as an AMH and the percent of the beneficiary population receiving care management services, we found no differences in patterns of care for the remaining 21 measures.

We do note that in some cases, beneficiaries in all types of AMHs had better outcomes after Standard Plan launch than before it, as noted in the results for hypotheses 1.1-1.3.

3. Hypotheses that evaluate health equity (1.5)

We looked at the degree to which the Standard Plan implementation affected groups differently. Here, there was more evidence of heterogenous effects than we expected. For three stratification approaches – age, White race, and Black race – roughly one third of metrics had statistically significant differential effects at the last month of the study period. That is, there is evidence the Standard Plan implementation affected one group more than the other. Not all of these are clinically significant effects (e.g. a tenth of a percentage point may not be of the utmost concern).

In some cases, the differential effects led to attenuation of disparities; in others, it exacerbated existing disparities. The metrics most likely to identify differential effects were those with the largest sample size (e.g. expenditures, utilization and quality metrics where a large portion of the population were eligible for inclusion).

In summary, the interim analysis examining changes in measures of access to care, quality of care, process and outcomes found many ways in which Standard Plans have improved these measures of health care over the fee-for-service NC Medicaid Direct program that existed prior to the launch of Standard Plans in July 2021.

Improvements were noted not just in primary care, but in access to quality care for beneficiaries with behavioral health diagnoses. At this writing, we do not find consistent patterns in the types of care improved under Standard Plans versus the types of care that remained the same or even worsened. Some metrics of post-hospital care improved, while others did not, and thus we cannot consistently point to the overwhelming need for system improvements in interactions between primary care and hospital care. Hospital care was especially disrupted by the PHE, with enormous rates of critical care use for COVID-19 cases and substantial reductions in many clinical areas such as elective surgeries. Patterns of hospital care still have not returned to normal. Many measures of behavioral health showed remarkable improvements, while some declined.

Many of the metrics still in need of improvement can be accomplished through system improvements in primary care. For example, automated electronic health record (EHR) processes could better identify beneficiaries who are appropriate for statin prescriptions or hospital follow-ups. Increased care management, not yet analyzed for this report due to continued data challenges, could be one method of accomplishing these improvements, as

could information technology enhancements through the health information exchange or shared EHRs.

Finally, we did not find any improvement by AMH3 practices in any of the metrics examined as compared to level 1-2 AMHs. In level 1-2 AMHs, Standard Plans are responsible for care management of beneficiaries, while AMH3s assume primary responsibility for care management, delivered either directly or through a CIN.

The analysis controls for the selection bias inherent in the voluntary participation in the AMH3 recognition program and thus uses a more rigorous analysis approach by examining improvements since AMH recognition rather than allowing practices with long-standing track records of quality improvement that predate Standard Plan launch to drive differences by AMH level.

That is, our analysis does not just look at whether practices with long-standing records of high quality elected to participate in the AMH program, but whether changes in AMH status after Standard Plan launch were associated with improvements in metrics.