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

August 13, 2021

Kelly Cunningham
Interim Medicaid Administrator
Illinois Department of Healthcare and Family Services
201 South Grand Avenue East, 3rd Floor
Springfield, IL 62763

Dear Ms. Cunningham:

The Centers for Medicare & Medicaid Services (CMS) completed its review of the Evaluation Design, which is required by the Special Terms and Conditions (STCs), specifically, STC #26, of Illinois's section 1115 demonstration, "Behavioral Health Transformation" (Project No: 11-W-00316/5), effective through June 30, 2023. CMS has determined that the evaluation design, submitted in January 2019 and revised on June 17, 2021, meets the requirements set forth in the STCs and our evaluation design guidance, and, therefore, approves the state's Evaluation Design.

CMS has added the approved Evaluation Design to the demonstration's STCs as Attachment C. A copy of the STCs, which includes the new attachment, is enclosed with this letter. In accordance with 42 CFR 431.424, the approved Evaluation Design may now be posted to the state's Medicaid website within thirty days. CMS will also post the approved Evaluation Design as a standalone document, separate from the STCs, on Medicaid.gov.

Please note that an Interim Evaluation Report, consistent with the approved Evaluation Design, is due to CMS one year prior to the expiration of the demonstration, or at the time of the extension application, if the state chooses to extend the demonstration. Likewise, a Summative Evaluation Report, consistent with this approved Evaluation Design, is due to CMS within 18 months of the end of the demonstration period. In accordance with 42 CFR 431.428 and the STCs, we look forward to receiving updates on evaluation activities in the demonstration monitoring reports.

We appreciate our continued partnership with Illinois on the Behavioral Health Transformation section 1115 demonstration. If you have any questions, please contact your CMS demonstration team.

Sincerely,

Danielle Daly -S
Digitally signed by Danielle Daly -S
Date: 2021.08.13 13:26:05 -04'00'

Lisa A. Marunycz -S6
Digitally signed by Lisa A. Marunycz -S6
Date: 2021.08.11 16:06:11 -04'00'

Danielle Daly
Director
Division of Demonstration Monitoring and Evaluation

for
Angela D. Garner
Director
Division of System Reform Demonstrations

cc: Courtenay Savage, State Monitoring Lead, CMS Medicaid and CHIP Operations Group

Illinois 1115 Substance Use Disorder Demonstration Evaluation Plan (Revised Per CMS Feedback on March 15th, 2021)

A. General Background Information

Illinois is one of the largest funders of health and human services (HHS) in the country. With approximately $32 billion spent across its HHS agencies, amounting to more than 40% of its total budget, the State is deeply invested in the health and well-being of its 12.7 million residents and 3.4 million Medicaid members. There is an urgent need to get more from this investment - the State must improve health outcomes for residents while slowing the growth of healthcare costs and putting the State on a more sustainable financial trajectory.

To this end, Illinois has embarked on a transformation of its HHS system. The transformation, which was originally announced in 2016, has the broad aim of improving population health, improving experience of care, and reducing costs. It is grounded in five themes:

1. Prevention and population health
2. Paying for value, quality, and outcomes
3. Rebalancing from institutional to community care
4. Data integration and predictive analytics
5. Education and self sufficiency

The initial focus of the transformation effort is on behavioral health (mental health and substance use) and specifically the integration of behavioral and physical health service delivery. Behavioral health was chosen due to the urgency of the issue as well as the potential financial and human impact. Building a nation-leading behavioral health strategy will not only help bend the healthcare cost curve in Illinois but also help turn the tide of the opioid epidemic, reduce violent crime and violent encounters with police, and improve maternal and child health. There is also a large financial payoff in improving behavioral health: Medicaid members with behavioral health needs (referred to henceforth as “behavioral health members”) represent 25% of Illinois Medicaid members but account for 56% of all Medicaid spending. Medicaid beneficiaries with behavioral health needs, such as mental illness or drug and alcohol use disorders incur costs that are 2-3 times higher than those who do not have co-occurring disorders.

Under the demonstration, which was approved May 7, 2018, Illinois proposed the introduction and limited piloting of certain services that are currently not directly available to Illinois Medicaid beneficiaries. The additional services are expected to inform the state’s efforts to transform the behavioral health system in Illinois as some beneficiaries will have access to less costly community-based services, which are expected to help beneficiaries improve their health and avoid costlier services provided in an institution. The demonstration period is July 1, 2018 through June 30, 2023.

Connection of Waiver Project to Broader Transformation Efforts

At the point of its introduction in 2018, HFS' Section 1115 Medicaid Demonstration Waiver, entitled: Illinois Behavioral Health Transformation Demonstration, was the first of a planned series of initiatives under Illinois' *Health and Human Services (HHS) Transformation* initiative. The HHS Transformation intended to focus on prevention and public health strategies, pay for performance, and data-driven health efforts. At the core of Illinois' 1115 Waiver was a package of Substance Use Disorder (SUD) initiatives that targeted the opioid epidemic in Illinois and efforts to serve as a catalyst for a modernization of the Illinois SUD infrastructure. Testing the Medicaid sustainability potential of previously grant-funded services and the introduction of health infrastructure to help inform and reduce problematic prescription practices of medical professionals – the 1115 could clearly be characterized as a SUD-based initiative. Additionally, HFS sought to take advantage of the 1115 financial authority and test several new community-based behavioral health services focused on the more traditional mental health service continuum.

In the two and a half years since the approval and initial implementation of the Illinois Behavioral Health Transformation Demonstration, HFS has refined its healthcare strategy for individuals with complex healthcare needs – those with and without behavioral health conditions. In a more nuanced approach, the Medicaid agency is seeking to replace its original multifaceted approach to testing multiple system enhancements for a more targeted, population management approach. Introducing a new 1915(i) State Plan Amendment in 2020, HFS appears to be implementing services and supports that it once intended to test as a limited-scale pilot under the 1115 now as services available statewide to all individuals that qualify. Additionally, legislation proposed by the Illinois Legislature in Spring 2021 seeks to introduce evidence-based home visiting and doula services more broadly into the Illinois Medicaid program.

With the impending revisions to the 1115 that will surely remove the 1915(i)-like and home visiting pilots from its financial authority, HFS appears to be concentrating the Demonstration Waiver on the improvement of Illinois' SUD delivery system. An effort that underscores the State's overall commitment to SUD transformation and aligns with ongoing efforts from the State's Department of Human Services, Division of Substance Use Prevention and Recovery (SUPR) to move the SUD service delivery system forward. At a time when SUPR finds itself re-basing individualized provider rates in favor of cost-based rate structures to establish service equity and introducing system enhancements via federal grants (SAMHSA's State Opioid Response federal grant and CMS' Substance Use Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities (SUPPORT) Act: Section 1003 – Planning Grant) Illinois' 1115 Demonstration Waiver, when considered without its 1915(i)-like and home visiting components, fits within the context of the State seeking to transform its SUD service delivery system.

List of 1115 Demonstration Waiver Pilot Programs

Service Name	Start Date	Status in 1115
1. SUD Implementation Protocol featuring up to 30 Day IMD Funding	7/1/2018	Ongoing
2. Clinically Managed Withdrawal Management Services Pilot	2/1/2019	Ongoing
3. SUD Case Management Pilot	2/1/2019	Ongoing
4. Peer Recovery Support Services Pilot	2/1/2019	Ongoing
5. Crisis Intervention Services Pilot	Anticipated 2021	Ongoing
6. Evidence-Based Home Visiting Services	N/A	Anticipated transition to State Plan authority
7. Assistance in Community Integration Services	N/A	Transition to 1915(i)
8. Supported Employment Services	N/A	Transition to 1915(i)
9. Intensive In-Home Services		Transition to 1915(i)
10. Respite Services	N/A	Transition to 1915(i)

Rationale for this Waiver Project

This 1115 Medicaid Waiver project will address several pressing needs in the state of Illinois. First, it will fill gaps left at the intersection of the state substance use authority and state Medicaid program regarding the opioid crisis. Specifically, there is a need for high quality residential treatment for individuals, withdrawal management services (i.e., detoxification), case management, and peer recovery support services. Second, there is a strong need to emphasize community-based care for individuals that are severely or persistently mentally ill (SMI). For such individuals, there is recognition that services will be needed, and the critical goal is to enhance these citizens' quality of life by attempting to alleviate the stress of crisis events. Below, we briefly discuss the impact of the opioid crisis on the State of Illinois and rationale for the pilots Illinois will implement to address the crisis. Additionally, we will discuss the need for improving the quality of life of individuals with severe and persistent mental illnesses, and how we address it with our pilot that focuses on crisis intervention services.

Overview of the Opioid Crisis in Illinois

In a 2017 comprehensive report on opioids, the Illinois Department of Public Health[1] reported alarming increases in consequences of opioid use across the board. Emergency department visits increased by 77% from 2015 to 2016, with the largest increase due to heroin overdoses. Hospitalizations also increased by 42% from 2014-2016. Naloxone administrations by EMS personnel increased 250% from 2013 to 2016, and neonatal abstinence syndrome increased 53% from 2011 to 2016. The most recent data from the Illinois Department of Public Health[2] showed that overdoses from heroin and other opioids nearly tripled from 6,868 in 2013 to 15,702 in 2018. In 2018, 2,086

overdoses were fatal. Overdoses were primarily seen in white males between the ages of 25-34 and 45-54. This is especially alarming given that the total number of prescription opioids filled decreased from 7,562,123 in 2015 to 4,850,691 in 2018.

Illinois 1115 SUD Demonstration Goals

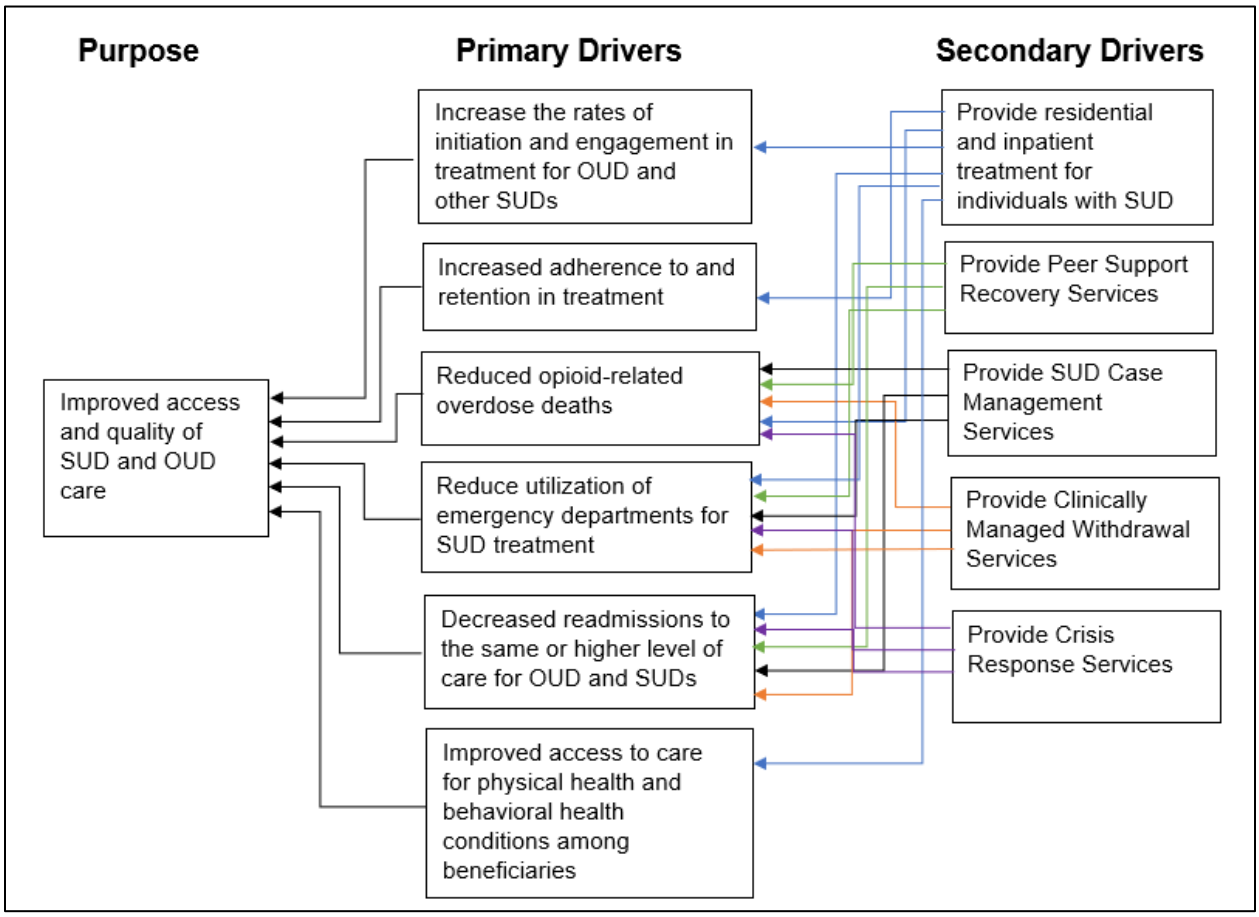
Against the backdrop provided, this project has six goals, including:

1. Increased rates of identification, initiation, and engagement in treatment;
2. Increased adherence to and retention in treatment;
3. Reductions in overdose deaths, particularly those due to opioids;
4. Reduced utilization of emergency departments and inpatient hospital settings for treatment where the utilization is preventable or medically inappropriate through improved access to other continuum of care services;
5. Fewer readmissions to the same or higher level of care where the readmission is preventable or medically inappropriate; and
6. Improved access to care for physical health and behavioral health conditions among beneficiaries.

B. Evaluation Questions and Hypotheses

The following driver diagram presented in Figure B-1 shows the relationships between the demonstration's purpose, the primary drivers that contribute directly to achieve the purpose, and secondary drivers necessary to achieve the primary drivers.

Figure B-1. Purpose and Drivers



Illinois 1115 SUD Demonstration Goals, Evaluations Questions and Hypotheses

The overall goal is to conduct a robust and data-driven analysis to identify, to the greatest extent possible, a causal relationship between the intervention component and the key outcomes of interest. Where possible, it will be important to explore mechanisms either aiding or hindering the impact of the Waiver component. Table B-1 outlines our goals, evaluation questions and hypotheses.

Table B-1. Illinois 1115 SUD Demonstration Goals, Evaluation Questions, and Hypotheses		
Goals	**Evaluation Questions**	**Hypotheses**
1. Increased rates of identification, initiation, and engagement in treatment.	1. Does the demonstration increase access to and utilization of SUD treatment services?	1. The demonstration will increase the percent of members referred to and engaging in SUD treatment.
2. Increased adherence to and retention in treatment	2. Does the demonstration increase adherence to and retention of SUD treatment services?	2. The demonstration will increase the percent of members adhering to SUD treatment.
3. Reductions in overdose deaths, particularly those due to opioids.	3. Are rates of opioid-related overdose deaths impacted by the demonstration?	3. The demonstration will result in decreased opioid-related overdose deaths.
4. Reduced utilization of emergency departments and inpatient hospital settings for treatment where the utilization is preventable or medically inappropriate through improved access to other continuum of care services.	4. Does the waiver result in fewer preventable ER visits for SUD?	4. The demonstration will result in fewer ER visits for SUD in the member population.
5. Fewer readmissions to the same or higher level of care where the readmission is preventable or medically inappropriate.	5. Do waiver enrollees receiving SUD/OUD services experience reduction in readmissions to the same or higher levels of care for SUD/OUD?	5. The demonstration will reduce readmissions to the same or higher levels of SUD care.
6. Improved access to care for physical health and behavioral health conditions among beneficiaries	6. Do enrollees receiving SUD services experience improved access to care for physical health conditions?	6. The demonstration will increase the percentage of members with SUD who access care for physical health conditions.

Outcome Evaluation – Primary Drivers

As shown in the driver diagram for the overall SUD Demonstration (Figure B-1, above), the six primary drivers and five secondary drivers support the hypotheses for the evaluation questions (Table B-1, above) to the performance of the SUD Demonstration. The SUD Demonstration evaluation questions and hypotheses are matched to their respective drivers and measure details within tables B-2 through B-7 below. Additional information about a cost analysis is provided in table B-8.

Table B-2. Summary of Measures and Analytic Approach for Primary Driver 1

Demonstration Goal 1: ***Increased rates of identification, initiation, and engagement in treatment.***
Evaluation Question 1: *Does the demonstration increase access to and utilization of SUD treatment services?*
Evaluation Hypothesis 1: *The demonstration will increase the percent of members referred to and engaging in SUD treatment.*

Measure Description	Steward	Numerator	Denominator	Data Source	Analytic approach
Initiation and Engagement in SUD Treatment (IET)	NQF #0004 NCQA	Initiation: Number of members who began initiation of treatment through an inpatient admission, residential, outpatient visits, intensive outpatient encounters, or partial hospitalization within 14 days of the index episode start date	Initiation: Members who were diagnosed with a new episode of SUD during the first 10½ months of the measurement year	State Medicaid Claims Data	Descriptive statistics; Interrupted Time Series (ITS) design (pre- & post-intervention period comparison)
Initiation and Engagement of SUD Treatment (IET)	NQF #0004 NCQA	Engagement: Initiation of treatment and two or more engagement events (inpatient admissions, residential, outpatient visits, intensive outpatient encounters or partial hospitalizations) with any SUD diagnosis within 34 days after the initiation event	Engagement: Members who were diagnosed with a new episode of SUD during the first 10½ months of the measurement year	State Medicaid Claims Data	Descriptive statistics; Interrupted Time Series (ITS) design (pre- & post-intervention period comparison)

Table B-3. Summary of Measures and Analytic Approach for Primary Driver 2					
<u>Demonstration Goal 2</u>: Increased adherence to and retention in treatment. **Evaluation Question 2:** *Does the demonstration increase adherence to and retention of SUD treatment services?* **Evaluation Hypothesis 2:** *The demonstration will increase the percent of members adhering to SUD treatment.*					
Measure Description	**Steward**	**Numerator**	**Denominator**	**Data Source**	**Analytic approach**
Percentage of beneficiaries with an SUD diagnosis (including beneficiaries with an OUD diagnosis) who used SUD services per month (CMS Metric #3)	CMS	Number of enrollees who receive a service during the measurement period by service type	Number of enrollees	State Medicaid Claims Data	Descriptive statistics; chi square tests of significance comparing target population to baseline and to the comparison group
Continuity of pharmacother-apy for OUD	NQF #3175	Number of participants who have at least 180 days of continuous pharmacotherapy with a medication prescribed for OUD without a gap of more than seven days	Individuals who had a diagnosis of OUD and at least one claim for an OUD medication	State Medicaid Claims Data	Descriptive statistics; chi square tests of significance comparing target population to baseline and to the comparison group
Continuity of Care after Inpatient or Residential Treatment for SUD	NQF #3453	Members with an outpatient visit, intensive outpatient encounter or partial hospitalization, telehealth or filled a prescription for or were administered or ordered a medication for SUD within 7 and 14 days after discharge	Adult Medicaid beneficiary discharges from inpatient or residential treatment for SUD with a principal diagnosis of SUD during from January 1 to December 15 of the measurement year	State Medicaid Claims Data	Propensity-score matching- with control groups (i.e., pre-test period beneficiaries; beneficiaries not receiving case management) after matching on demographic characteristics. Logistic regression (i.e., predicting dichotomous variable of

					receipt of subsequent services, coded 0 for no and 1 for yes)
Continuity of Care After Medically Managed Withdrawal from Alcohol and/or Drugs	NQF#3312	Discharges in the denominator who have an inpatient, intensive outpatient, partial hospitalization, outpatient visit, residential, or drug prescription or procedure within 7 or 14days after discharge from an inpatient hospital, residential addiction program, or ambulatory medically managed withdrawal.	Adult Medicaid beneficiary discharges from medically managed withdrawal from January 1 to December 15 of the measurement year.	State Medicaid Claims Data	Propensity-score matching- with control groups (i.e., pre-test period beneficiaries; beneficiaries not receiving case management) after matching on demographic characteristics. Logistic regression (i.e., predicting dichotomous variable of receipt of subsequent services, coded 0 for no and 1 for yes)

Table B-4. Summary of Measures and Analytic Approach for Primary Driver 3					
Demonstration Goal 3: ***Reduction in overdose deaths, particularly those due to opioids.*** **Evaluation Question 3:** *Are rates of opioid-related overdose deaths impacted by the demonstration?* **Evaluation Hypothesis 3:** *The demonstration will result in decreased opioid-related overdose deaths.*					
Measure Description	**Steward**	**Numerator**	**Denominator**	**Data Source**	**Analytic approach**
Opioid Drug Overdose Deaths (CMS Metric #27, OUD Stratum)	CMS	Number of overdose deaths due to opioids among eligible beneficiaries	Number of adult beneficiaries enrolled in Medicaid for at least one month (30 consecutive days) during the measurement period	Mortality data (Vital Statistics); State Medicaid Eligibility and Enrollment data	Descriptive statistics; Trend analysis via Mantel-Haenszel (MH) chi-square test or Fisher's Exact test for comparison of percentages for final year (2023) and pretest year (2017)
Use of Opioids at High Dosage in Persons without Cancer per 1,000 Medicaid beneficiaries (CMS Metric #18)	NQF #2940 (Adult Core Set) PQA NCQA	Number of beneficiaries with opioid prescription claims with daily dosage greater than 120 morphine milligram equivalents for 90 consecutive days or longer	Number of adult beneficiaries without cancer divided by 1,000. Note: Hospice patients will be excluded	State Medicaid Claims Data	Descriptive statistics; Interrupted Time Series (ITS) design (pre- & post-intervention period comparison.
Concurrent use of opioids and benzodiaze-pines per 1,000 Medicaid beneficiaries (CMS Metric #21)	PQA (Adult Core Set)	Number of beneficiaries with concurrent use of prescription opioids and benzodiazepines for at least 30 days	Number of adult beneficiaries without cancer divided by 1,000. Note: Excludes patients in hospice care and those with cancer	State Medicaid Claims Data	Descriptive statistics; Trend analysis via Mantel-Haenszel (MH) chi-square test or Fisher's Exact test for comparison of percentages for final year (2023) and pre-test year (2017).

Table B-5. Summary of Measures and Analytic Approach for Primary Driver 4					
Demonstration Goal 4: ***Reduced utilization of emergency departments and inpatient hospital settings for treatment where the utilization is preventable or medically inappropriate through improved access to other continuum of care services.*** **Evaluation Question 4:** *Does the waiver result in fewer preventable ER visits for SUD?* **Evaluation Hypothesis 4:** *The demonstration will result in fewer ER visits for SUD in the member population.*					
Measure Description	**Steward**	**Numerator**	**Denominator**	**Data Source**	**Analytic approach**
ED utilization for SUD per 1,000 Medicaid beneficiaries (CMS Metric #23)	CMS	Number of ED visits for SUD during the measurement period	Beneficiaries enrolled in Medicaid for at least one month (30 consecutive days) during the measurement period divided by 1,000	State Medicaid Claims Data	Descriptive statistics; Interrupted Time Series (ITS) design (pre- & post-intervention period comparison).
ED utilization for OUD per 1,000 Medicaid beneficiaries (CMS Metric #23, OUD stratum)	CMS	Number of ED visits for SUD during the measurement period	Beneficiaries enrolled in Medicaid for at least one month (30 consecutive days) during the measurement period divided by 1,000	State Medicaid Claims Data	Descriptive statistics; ITS design; Trend analysis
Inpatient stays for SUD per 1,000 Medicaid beneficiaries (CMS Metric #24)	CMS	Number of inpatient discharges related to a SUD stay during the measurement period.	Beneficiaries enrolled in Medicaid for at least one month (30 consecutive days) during the measurement period divided by 1,000	Encounter, eligibility, and enrollment data	Descriptive statistics; ITS design; Trend analysis.
Inpatient stays for OUD per 1,000 Medicaid beneficiaries (CMS Metric #24, OUD stratum)	CMS	Number of inpatient discharges related to an OUD stay during the measurement period.	Beneficiaries enrolled in Medicaid for at least one month (30 consecutive days) during the measurement period divided by 1,000	Encounter, eligibility, and enrollment data	Descriptive statistics; ITS design; Trend analysis.

Table B-6. Summary of Measures and Analytic Approach for Primary Driver 5					
<u>Demonstration Goal 5</u>: ***Fewer readmissions to the same or higher level of care where the readmission is preventable or medically inappropriate.*** **Evaluation Question 5***: Do waiver enrollees receiving SUD/OUD services experience reduction in readmissions to the same or higher levels of care for SUD/OUD?* **Evaluation Hypothesis 5***: The demonstration will reduce readmissions to the same or higher levels of SUD care.*					
Measure Description	**Steward**	**Numerator**	**Denominator**	**Data Source**	**Analytic approach**
30-Day Readmission for SUD treatment (CMS Metric #25)	CMS	Number of discharges with a subsequent admission to a residential or inpatient facility for SUD treatment at the same or higher level of care within 30 days (i.e., inpatient-to-inpatient, inpatient-to-residential, and residential-to-residential)	Number of discharges from a residential or inpatient facility for SUD treatment.	State Medicaid Claims Data	Descriptive statistics; Interrupted Time Series (ITS) design (pre- & post-intervention period comparison).

Table B-7. Summary of Measures and Analytic Approach for Primary Driver 6					
Demonstration Goal 6: Improved access to care for physical health and behavioral health conditions among beneficiaries **Evaluation Question 6:** *Do enrollees receiving SUD services experience improved access to care for physical health conditions?* **Evaluation Hypothesis 6:** *The demonstration will increase the percentage of members with SUD who access care for physical health conditions.*					
Measure Description	**Steward**	**Numerator**	**Denominator**	**Data Source**	**Analytic approach**
Access to preventive/ ambulatory health services for adult Medicaid beneficiaries with SUD	NCQA	Number of beneficiaries with SUD who had an ambulatory or preventive care visit during the measurement period	Number of beneficiaries with an SUD diagnosis	State Medicaid Claims Data	Descriptive statistics; chi square tests of significance comparing target population to baseline and to the comparison group
Tobacco use screening and follow-up for people with alcohol or other drug dependence	NQF #2600	Tobacco use screening and follow-up for people with alcohol or other drug dependence	Total number of beneficiaries	State Medicaid Claims Data	Descriptive statistics; chi square tests of significance comparing target population to baseline and to the comparison group
Annual Dental Visits (ADV) (SUD stratum)	NCQA	Eligible beneficiaries 2–20 years of age with SUD diagnosis enrolled in Medicaid	Number of members 2–20 years of age who had one or more dental visits with a dental practitioner during the measurement year	State Medicaid Claims Data	Descriptive statistics; ITS design; Trend analysis
Adults' Access to Preventive/ Ambulatory Health Services (AAP) (SUD stratum)	NCQA	Eligible beneficiaries 20 years and older with SUD diagnosis enrolled in Medicaid	Number of members 20 years and older who had an ambulatory or preventive care visit during the measurement year	State Medicaid Claims Data	Descriptive statistics; ITS design; Trend analysis
Adolescent Well-Care Visits (AWC) (SUD stratum)	NCQA	Eligible beneficiaries 12–21 years of age with SUD diagnosis enrolled in Medicaid	Number of members 12– 21 years of age who had at least one comprehensive well-care visit with a PCP or an OB/GYN practitioner during	State Medicaid Claims Data	Descriptive statistics; ITS design; Trend analysis

			the measurement year		
Prenatal and Postpartum Care (PPC) – Timeliness of Prenatal Care (SUD stratum)	NCQA	Number of deliveries with live births for eligible members with SUD diagnosis	Number of deliveries that received a prenatal care visit in first trimester, on or before enrollment start date, or within 42 days of enrollment in the organization	State Medicaid Claims Data	Descriptive statistics; ITS design; Trend analysis
Prenatal and Postpartum Care (PPC) – Postpartum Care (SUD stratum)	NCQA	Number of deliveries with live births for eligible members with SUD diagnosis	Number of deliveries that had a postpartum visit on or b/w 7 & 84 days after delivery	State Medicaid Claims Data	Descriptive statistics; ITS design; Trend analysis

Cost Analysis

As part of the overall evaluation and in addition to the evaluation measures listed above, a cost analysis of the 1115 Waiver in Illinois will be conducted using three approaches (see table B-8 below). Difference-in-difference analyses comparing beneficiaries two years pre-waiver with those who received services under the waiver will be used for Illinois beneficiaries if feasible, depending on data quality and availability. If not, comparison state data and/or Interrupted Time Series analysis will be considered as alternatives.

The first approach will examine total costs across all beneficiaries with a SUD diagnosis and/or treatment service by month. This will be based on the claims data for inpatient, outpatient, pharmacy, and long-term care claims. Second, the total SUD costs will be calculated, including IMD costs, other SUD costs, and non-SUD costs to determine the level of costs related to diagnosis and treatment of SUD. Third, changes in expenses as a predictor or driver will be considered, including ED visits, overdose deaths, service utilization, and any other relevant predictor variables encountered during our investigation that are reasonable to include in the analysis.

Approximately 80% of Illinois' Medicaid beneficiaries are in managed care. SUD treatment services, including demonstration pilot program costs, are built into the Managed Care capitation rates. Payment rates reported by MCOs on encounter claims will be used to identify costs for MCO-enrolled beneficiaries, depending on data quality and availability. If it is determined this data is not sufficient, the Medicaid FFS cost for the same service will be applied to encounter claims to calculate costs.

Table B-8. Overall Evaluation Cost Analysis					
Measure Description	**Steward**	**Numerator**	**Denominator**	**Data Source**	**Analytic approach**
Total Cost PMPM	CMS-constructed	Total cost for all claims for beneficiaries with SUD	Total number of beneficiaries with SUD diagnosis and/or treatment services	State Medicaid Claims Data	Descriptive statistics; Difference-in-difference or ITS as appropriate
Non-IMD SUD Spending	CMS-constructed	Total cost of non-IMD claims for SUD diagnosis and treatment	Total number of beneficiaries with SUD diagnosis and/or treatment services	State Medicaid Claims Data	Descriptive statistics; Difference-in-difference or ITS as appropriate
SUD Spending within IMDs	CMS-constructed	Total cost of SUD IMD claims for beneficiaries with SUD	Total number of beneficiaries with SUD diagnosis and/or treatment services	State Medicaid Claims Data	Descriptive statistics; Difference-in-difference or ITS as appropriate
Outpatient costs, non-ED	CMS-constructed	Total cost of outpatient, non-ED claims for beneficiaries with SUD	Total number of beneficiaries with SUD diagnosis and/or treatment services	State Medicaid Claims Data	Descriptive statistics; Difference-in-difference or ITS as appropriate
Outpatient costs, ED	CMS-constructed	Total cost of outpatient, ED claims for beneficiaries with SUD	Total number of beneficiaries with SUD diagnosis and/or treatment services	State Medicaid Claims Data	Descriptive statistics; Difference-in-difference or ITS as appropriate
Inpatient costs	CMS-constructed	Total cost of inpatient claims for beneficiaries with SUD	Total number of beneficiaries with SUD diagnosis and/or treatment services	State Medicaid Claims Data	Descriptive statistics; Difference-in-difference or ITS as appropriate
Pharmacy costs	CMS-constructed	Total cost of pharmacy claims for beneficiaries with SUD	Total number of beneficiaries with SUD diagnosis and/or treatment services	State Medicaid Claims Data	Descriptive statistics; Difference-in-difference or ITS as appropriate
LTC costs	CMS-constructed	Total cost of LTC claims for beneficiaries with SUD	Total number of beneficiaries with SUD diagnosis and/or treatment services	State Medicaid Claims Data	Descriptive statistics; Difference-in-difference or ITS as appropriate

Individual SUD Pilot Demonstration Evaluations

In addition to the overall demonstration evaluation shown above, Illinois will also conduct evaluations for four of the individual pilots that are currently being implemented. Due to the varying implementation dates, the pre- and post-waiver data will be gathered according to reflect the demonstration period. These four pilots support the secondary drivers and the hypotheses for the evaluation questions (Table B-1, above) to the performance of the SUD Demonstration. The SUD Demonstration hypotheses and research questions are presented in tables B-9 through B-12 below, along with measure details and the analytic approach to be used. Demonstrations 1-3 began on February 1, 2019. Propensity score matching will compare pre-intervention groups from July 2017 through June 2018 and post-intervention groups who received services on or after February 1, 2019.

Table B-9. Pilot Demonstration 1 (Clinically Managed Withdrawal Management Services Pilot)

Hypothesis 1*: Individuals receiving clinically managed withdrawal management for OUD/SUD will have fewer ED visits relative to matched controls.*

Research question 1: *Will Medicaid recipients exposed to clinically managed withdrawal management have fewer ED visits?*

Measure description	Steward	Numerator	Denominator	Data source	Analytic approach
Emergency department visits for SUD-related diagnoses and specifically for OUD	None	The number of ED visits for SUD during the measurement period	Beneficiaries enrolled in Medicaid for at least one month (30 consecutive days) during the measurement period	State Medicaid Claims data	Propensity score matching-comparing withdrawal management recipients in Waiver with control groups after matching on demographic characteristics.

Table B-10. Pilot Demonstration 2 (SUD Case Management Pilot)

Hypothesis 1*: Individuals newly receiving SUD Case Management will have reduced criminal justice involvement.*

Research question 1: *Will Medicaid recipients receiving SUD case management report fewer arrests at discharge from treatment?*

Measure description	Steward	Numerator	Denominator	Data source	Analytic approach
Number of Arrests reported in the 30 days prior to discharge from SUD treatment	None	Number of beneficiaries reporting any (i.e., 1+) arrests in the past 30 days prior to discharge	Total number of beneficiaries receiving SUD case management services.	DARTS discharge data collected as part of monitoring SAMHSA's National Outcome Monitoring Standards (NOMS)	Propensity score matching comparing participants receiving case management in Pilot 3 vs. Matched controls reporting 1+ arrest but not receiving case management.

Hypothesis 2: *Individuals receiving SUD Case Management (CM) will have improved continuity of care.*
Research question 2: *Will Medicaid recipients exposed to SUD CM have an additional SUD visit within 7 to 14 days post index service?*

Measure description	Steward	Numerator	Denominator	Data source	Analytic approach
Continuity of Care after SUD CM	NQF #3453	Members with an outpatient visit, intensive outpatient encounter or partial hospitaliza-tion, telehealth or filled a prescription for or were administered or ordered a medication for SUD within 7 and 14 days after discharge	Adult Medicaid beneficiary discharges from inpatient or residential treatment for SUD with a principal diagnosis of SUD during from January 1 to December 15 of the measurement year	State Medicaid Claims Data	Propensity-score matching- with control groups (i.e., pre-test period beneficiaries; beneficiaries not receiving case management) after matching on demographic characteristics. Logistic regression (i.e., predicting dichotomous variable of receipt of subsequent services, coded 0 for no and 1 for yes)

Table B-11. Pilot Demonstration 3 (Peer Recovery Support Services (PRSS) Pilot)

Hypothesis 1: *Individuals newly receiving peer recovery support services will have improved continuity of care after receiving the service.*
Research question 1: *Will Medicaid recipients exposed to peer recovery support services have an additional SUD visit within 7 to 14 days post index service?*

Measure description	Steward	Numerator	Denominator	Data source	Analytic approach
Continuity of Care after Peer Recovery Support Services (PRSS)	NQF-3453	Members with an outpatient visit, intensive outpatient encounter or partial hospitalization, telehealth or filled a prescription for or were administered or ordered a medication for SUD within 7	Adult Medicaid beneficiary discharges from inpatient or residential treatment for SUD with a principal diagnosis of SUD during from January 1 to December 15 of the measurement year	State Medicaid Claims Data	Propensity-score matching with control groups (i.e., beneficiaries receiving residential from an MCO-covered facility not providing PRSS) after matching on demographic characteristics. Logistic regression (i.e., predicting dichotomous variable of receipt of subsequent services, coded 0 for no and 1 for yes)

		and 14 days after discharge			
ED utilization for SUD per 1,000 Medicaid beneficiaries (CMS Metric #23)	None	Number of ED visits for SUD during the measurement period	Beneficiaries enrolled in Medicaid for at least one month (30 consecutive days) during the measurement period divided by 1,000	State Medicaid Claims Data	Propensity-score matching with control groups (i.e., beneficiaries receiving residential from an MCO-covered facility not providing PRSS) after matching on demographic characteristics Logistic regression (i.e., predicting dichotomous variable of receipt of ED services, coded 0 for no and 1 for yes)

Crisis Intervention Pilot Demonstration Evaluation

In addition to the SUD-based evaluation components detailed above (overall and individual pilots), Illinois seeks to evaluate its piloted introduction of Crisis Intervention, an alternative to inpatient hospitalization. Demonstration 4, the Crisis Intervention Pilot, is slated to begin in 2021. This evaluation's post-intervention comparison will be based on the actual start the date and the pre-intervention period will be the preceding year.

Table B-12. Pilot Demonstration 4 (Crisis Intervention Services Pilot)

Hypothesis 1: *Individuals Newly Receiving Crisis Intervention Services Will Have Greater Initiation and Engagement in Treatment*

Research question 1: *Does the demonstration increase access to and utilization of SUD treatment services?*

Measure description	Steward	Numerator	Denominator	Data source	Analytic approach
Plan All-Cause Readmissions	None	At least one acute unplanned readmission for any diagnosis within 30 days of the date of discharge from the index hospital stay, that is on or between the second day of the measurement year and the end of the measurement year	Medicaid beneficiaries age 18 and older with a discharge from an acute inpatient stay (index hospital stay) on or between January 1 and December 1 of the measurement year.	State Medicaid Claims Data	Descriptive statistics; chi square tests of significance comparing target population to baseline and to the comparison group

Thirty-day all-cause unplanned readmission following psychiatric hospitalization in an inpatient psychiatric facility (IPF)	NQF # 2860	The measure estimates the incidence of unplanned, all-cause readmissions to IPFs or short-stay acute care hospitals following discharge from an eligible IPF index admission. A readmission is defined as any admission that occurs within 3-30 days after the discharge date from an eligible index admission to an IPF, except those considered planned.	The target population for this measure is beneficiaries discharged from an inpatient psychiatric facility with a principal diagnosis of a psychiatric disorder. A readmission within 30 days is eligible as an index admission, if it meets all other eligibility criteria.	State Medicaid Claims Data	Logistic regression: Predicting dichotomously scored variable of readmission within 30 days after index event (coded as 0 for no and 1 for yes).

C. *Methodology*

Overall Evaluation

Because the Illinois Medicaid Section 1115 Demonstration Waiver is open to all eligible Medicaid recipients, an experimental evaluation design is not feasible. The overall evaluation of the waiver demonstration will utilize a strong quasi-experimental pre-post design that compares trends in outcome measures before implementation of the waiver amendment to the time period directly after. Such designs are recommended by CMS for waiver demonstrations (see https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/causal-inference.pdf). In order to attribute any observed changes over time to the amendment, a comparison group will be matched to the target population, if possible. Comparison groups will be utilized on an outcome-by-outcome basis when an adequate comparison pool is available. The comparison group will be selected from a similar state who does not have the same community-based behavioral health transformation waiver.

Interrupted Time Series

Interrupted Time Series is an increasingly popular quasi-experimental alternative to true experiments. It is particularly useful when a randomized trial is not feasible or unethical, but multiple measurements are still viable. It works best with short-term outcomes that are expected to change relatively quickly after a policy is implemented.

Interrupted Time Series involves collecting data at multiple time points before and after an interruption; an interruption of introducing a policy or program, such as the Illinois 1115 Waiver Demonstration for behavioral health transformation. It detects whether an intervention has a significantly greater effect than any underlying secular trend. Interrupted Time Series assumes that in the absence of an intervention (waiver demonstration), the trend would remain constant when measuring the changes. It uses segmented regression to measure immediate level changes (i.e., a change in the intercept) in the rate of the outcome as well as changes in the trend (slope). 'Segmented' simply refers to a model with different intercept and slope coefficients for the pre- and post-interruption time periods. Figure C-1 below displays the intended one-year baseline measurements from July 2017 to June 2018 and the five-year intervention period from July 2018 – June 2023.

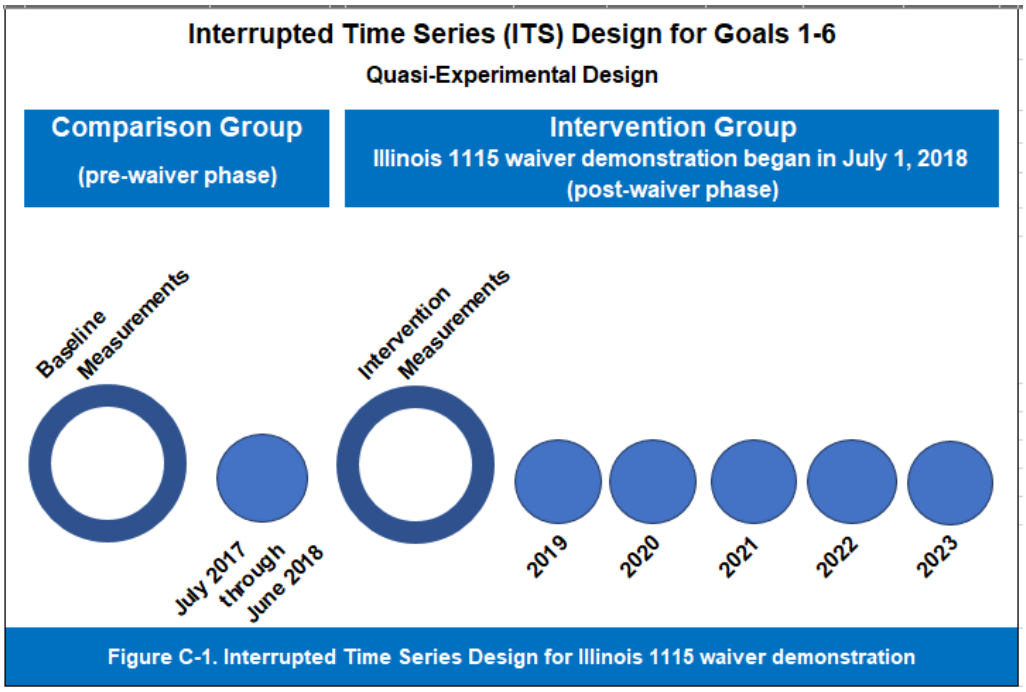


Figure C-1. Interrupted Time Series Design for Illinois 1115 waiver demonstration

A single time series describes only the interruption/waiver state. The pre-waiver trend projected into the waiver period serves as the counterfactual. Such a regression model can be explained as below:

$Y = \beta_0 + \beta_1 T + \beta_2 X + \beta_3 XT + \varepsilon$

Where *T* is the time elapsed beyond the start of the study (July 2017 to June 2018 as pre-period, July 2018 as interruption time, July 2019 to June 2023 as post-interruption time)

X is the study phase (pre-waiver=0, post-waiver=1)

Y is the outcome at time T

XT is the time after interruption/waiver

β_0 represents the intercept or starting level of the outcome variable

β_1 is the slope or trajectory of the outcome variable until the introduction of the waiver in July 2018

β_2 represents the change in the level of the outcome that occurs in the period immediately following the introduction of the waiver (compared with the counterfactual)

β_3 represents the difference between pre-waiver and post-waiver slopes of the outcome

We will look for significant *p*-values in β2 to indicate an immediate waiver effect, or in β3 to indicate a waiver effect over time (Linden and Adams 2011).

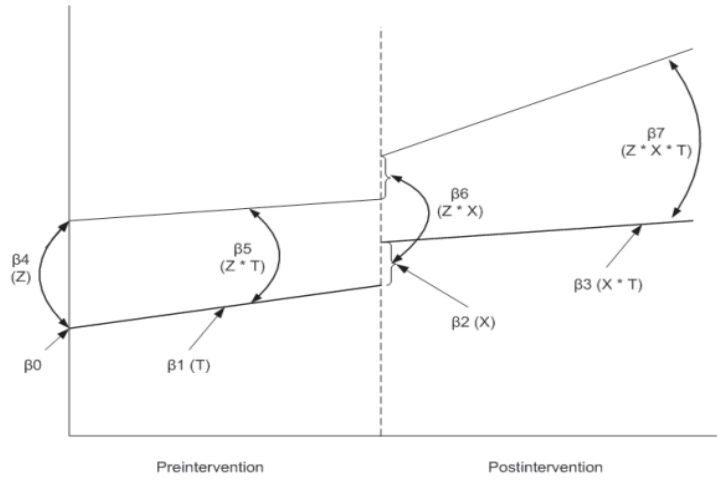


Figure 1. Visual depiction of a single group (lower line) and multiple group (upper and lower lines) interrupted time-series design, from Linden and Adams (2011)

A single interrupted time series cannot exclude confounding due to other interventions or events occurring around the time of the intervention. One approach to minimize such potential confounding events is to add a control series so that there are both before-after comparison and an intervention-control group comparison. Therefore, the above model can be strengthened by including a comparable "control" state where the 1115 waiver demonstration didn't occur. In this case, data will be collected from both treatment state and control state during the same time period. This will compare the changes at the intervention/waiver state (IL) to changes at another state where no intervention/waiver occurred. In this case, the regression equation expands to:

$$y = \beta_0 + \beta_1 T + \beta_2 X + \beta_3 XT + \beta_4 Z + \beta_5 ZT + \beta_6 ZX + \beta_7 ZXT + \varepsilon$$

Where Z is a dummy variable indicating treatment (1) or control (0)

ZT is *t*ime for treatment and 0 for control

ZX is study phase for treatment and 0 for control

ZXT is time after interruption/waiver for treatment and 0 for control

β_4 is the difference in the level between treatment and control prior to the waiver

β_5 is the difference in the slope between treatment and control prior to the waiver

β_6 is the difference in the level between treatment and control in the period immediately following the waiver

β_7 is the difference between treatment and control in the slope after initiation of the waiver

In order to estimate the level and slope changes, Interrupted Time Series requires a minimum of 8 data points before and 8 data points after the waiver implementation to maintain sufficient power to estimate the regression coefficients.[3] However, to incorporate any seasonality in time series data, if the unit of time is month, 12 data points are recommended to avoid seasonal biases.[4]

In selecting a comparison state, the state needs to be exposed to any other interventions or events that might affect the intervention/waiver state. However, it should not be exposed to any interventions or events that could impact on the comparison state alone. Our effort will be to select a comparison state that is similar to our state in terms of exposure to other interventions and demographic characteristics, if possible. Details regarding the selection of a comparison state and any challenges related to data access will be further outlined in the evaluation reports.

Data Source

De-identified Medicaid claims and encounter data covering one year prior to waiver (July 1, 2017 to June 30, 2018) and 5 years post waiver (July 1, 2018 to June 30, 2023) will be collected from the Illinois Department of Healthcare and Family Services (HFS). Additional data sources include the Illinois Department of Public Health's data on opioid overdoses, as well as the DARTS data forms collected by the Illinois DHS' Division of Substance Use Prevention and Recovery (SUPR).

The administrative Medicaid and Medicaid Managed Care claims data include the following:

- ICD-9/10 Diagnosis Codes
- CPT procedure codes
- Service dates
- Reimbursement amounts (allowed amounts)
- Deductibles/copays/coinsurance paid (Managed Care patients)
- Identity of the provider (Physician NPI codes)
- Identify of referring provider (Physician NPI code)
- Identity of the facility of service (Organization NPI codes)
- Provider 5-digit zip code
- Place of Service (POS) codes (e.g., physician office, outpatient clinic, etc.)
- Facility type codes (e.g., inpatient, outpatient, ER, Nursing Home, etc.)
- Individual patient identifiers (masked)
- Identifier for plan subscriber (masked)
- Patient age
- Patient income
- Patient gender
- Patient 5-digit zip code of residence
- Admission and discharge dates
- Reason for discharge
- Admission type code (e.g., admitted through ER, transfer from another hospital, etc.)

Target population

Data will be limited to Illinois Medicaid and Medicaid Managed Care (MCO) recipients with Substance Use Disorder (identified using ICD-9 and ICD-10 diagnostic codes) who

are 18 to 64 years of age in the study period. SUD individuals that are enrolled in the waiver demonstration will be flagged to identify the target population.

Comparison Group

Following CMS's "SMI/SED AND SUD EVALUATION DESIGN GUIDANCE", we strive to collect two ideal comparison groups that include another state Medicaid population similar to ours and/or prospectively collected information prior to the start of the intervention/waiver.[5]

Limitations

Limitations in this evaluation include the availability/comprehensiveness of records in the pre-test period and data lag. Per billing record trends, there were fewer than anticipated SUD claims in 2017 (pre-test period). This would result in a possible upward bias in the waiver effects. Because of this, analyzing comparison state data may help address shortcomings of our pre-test period data from the Illinois claims. While the evaluation aims to incorporate such comparison state data, difficulties in identifying an appropriate comparison state and/ or obtaining claims data would present a further limitation.

An additional limitation is that there is often a billing lag in submitting claims, as well as a lag in terms of posting clean statewide datasets. For example, at this writing (March 9th, 2021), the 2019 data for other states is listed as "pending." Thus, our project will access the most recent data possible to fulfill the analyses described above.

Supplemental Pilot Evaluations

The overall evaluation using the Interrupted Time Series design provides a strong quasi-experimental evaluation of the overall 1115 waiver demonstration project. Additionally, whenever it adds value, we will complete supplemental evaluations on select pilots to enhance our understanding of the impact of each individual pilot.

For example, there is little data on whether adding Peer Recovery Support Services (PRSS) to residential treatment enhances outcomes. Thus, by matching those receiving PRSS to comparable control participants, we can isolate the potential benefits of the PRSS services. This adds substantial value to the overall evaluation, as there is much recent interest in adopting PRSS. Furthermore, understanding whether case management reduces criminal involvement, relative to matched controls not receiving case management, would be highly informative.

The outcomes for each pilot evaluation were listed above in tables B6-B8. These pilots include the following services: clinically managed withdrawal support, SUD case management, and peer recovery support.

Each of these evaluations are similar to the overall evaluation, with a key exception. When considering the effects of each of these services separately, we will construct control groups using propensity score matching.

Propensity Score Matching

In many settings, participation in a treatment (in our case, a particular pilot) is voluntary. As a result, outcomes across the participants and non-participants would likely differ even in the absence of any treatment. For example, if individuals who would participate in a given pilot are healthier on dimensions which are unobservable to researchers but contribute to good outcomes, then it would not be surprising to see them have better outcomes (than those who would not participate in the same pilot) even in the absence of any pilot participation or actual treatment.

What is of interest in the effect of the pilot on outcomes NET of any of these unobservable differences. In the absence of a randomized control trial, one could compare outcomes across individuals who participated in a pilot to those from very similar individuals who did not. Although finding a perfect "twin" among non-participants for each participant may be impossible (as it requires matching on all observable and unobservable dimensions), one could at least try to do so using available observable information.

Matching Variables

The following is a non-exhaustive list of potential variables on which participants can be matched.

- County of residence/treatment
- Age group
- Gender
- Income as a percentage of Federal Poverty Level (FPL) (<100% FPL, 100-138% FPL, 138%+ FPL)
- Medicaid plan type (traditional Medicaid, Medicaid Managed Care plan)
- Presence of children in the household
- Presence of comorbidities (i.e., other ICD psychiatric or physical health diagnoses)
- Number of prior hospitalizations for OUD/SUD-related diagnosis (ICD-9) codes
- Presence of a chronic condition as defined by the Healthcare Cost and Utilization Project (HCUP)

Data sources-Treatment and Comparison Groups

Table C-1 summarized the treatment and comparison groups used in the individual pilot evaluations. We present information on the pilot, the outcome variables, the treatment and comparison groups, and the potential limitations of using propensity score matching to make the comparisons. Additional detail about the outcomes appears in Tables B6-B8.

Table C-1. Summary of Treatment and Control Populations for Propensity Score Matching Analyses					
Hypotheses: *Relative to matched controls, participants in the pilots will have better outcomes.*					
Pilot	**Outcomes**	**Treatment Group**	**Matched Controls**	**Data sources**	**Potential Limitations**

Clinically Managed Withdrawal	1. ED visits	Members receiving residential services under waiver	Members with a diagnosis of substance intoxication receiving ED services	State Medicaid Claims Data	1. Too low a ratio of potential matches to waiver recipients 2. Unobserved variables
Case Management	1. Number of Arrests 2. Continuity of Care	Members receiving case management under waiver	Members with similar history of criminal involvement not receiving case management under waiver	SUPR DARTS	1. Too low a ratio of potential matches to waiver recipients 2. Unobserved variables
Peer Recovery Support Services	1. Continuity of Care 2. ED visits	Members receiving case management under waiver	Members receiving residential but not PRSS	MCO-Residential data; Comparison State Data	1. Too low a ratio of potential matches to waiver recipients 2. Unobserved variables

Potential limitations

Although a one-to-one matching of participants to non-participants based on every single observable variable would be favorable, this may require a large ratio of available comparison subjects. Potential solutions involve use of K:1 matching with replacement, where comparison subjects (i.e., good matches) can be matched multiple times to treatment participants (e.g., beneficiary receiving Peer Recovery Support under the waiver). Additionally, purchasing other state's claims data may result in a much larger pool of potential control subjects that would enable the analysis.

Bias could still occur if participants and non-participants remain different on dimensions which are unobservable to the researcher but, nevertheless, contribute to the measured outcomes.

Timeline

Task	Projected Dates
Evaluation Contractor (CPRD) Data Processing	
Determine required variables, timeline of variables (monthly, quarterly), and dates needed for overall evaluation and individual pilot evaluations.	July 2021
CPRD requests and receives access to Illinois Medicaid Claims Data	July 2021
CPRD receives data and examines for accuracy and feasibility	July 2021 – August 2021
CPRD processes data – cleaning and merging of data files received	August 2021 - October 2021
Initial Data Analysis and Interim Report Writing	
Descriptive Statistics 1) Primary Driver 1 – Descriptive statistics for 2 measures 2) Primary Driver 2 – Descriptive statistics for one measure	September 2021

3) Primary Driver 3 – Descriptive statistics for 3 measures 4) Primary Driver 4 – Descriptive statistics for 4 measures 5) Primary Driver 5 – Descriptive statistics for 1 measure 6) Primary Driver 6 – Descriptive statistics for 7 measures	
Chi-Square Analyses 1) Primary Driver 2 – Chi-square for 2 measures 2) Primary Driver 3 – Chi-square for 2 measures 3) Primary Driver 6 – Chi-square for 2 measures	September 2021
CPRD team works to develop interim report update to CMS	September 2021
Interim Report Due	October 2021
Accessing Comparison State Data	
Investigate state data sets and waiver status to determine a suitable comparison state dataset	June 2021-July 2021
Determine required variables, number of cases, timeline, dates, and other required information to include in the request	August 2021
Develop a Security Plan for data transfer and data sharing between the University of Illinois and the comparison state's data custodian	October 2021
Submit a request and process payment to access the 2017-most current comparison state data.	October 2021
Estimated date of receipt for comparison state dataset	October 2022
Additional data requests for subsequent year(s) of data	October 2022
Estimated date of receipt for comparison state dataset	October 2023
Overall Evaluation Analysis	
Interrupted Time Series (ITS) Analysis 1) Primary Driver 1 – ITS for 2 measures 2) Primary Driver 3 – ITS for 1 measure 3) Primary Driver 4 – ITS for 4 measures 4) Primary Driver 5 – ITS for 1 measure 5) Primary Driver 6 – ITS for 5 measures	September 2022 – June 2023
Propensity Score Matching (PSM) Analysis 1) Primary Driver 2 – PSM for 2 measures	September 2022 – June 2023
Summarize analysis findings for overall demonstration evaluation	July 2023 – September 2023
Individual Pilot Demonstration Analyses	
Descriptive Statistics and/or Chi-Square Analyses 1) Crisis Intervention Pilot Evaluation, All Cause Readmission	October 2023 – April 2024
Propensity Score Matching (PSM) Analysis and/or Logistic Regression and/or difference-in-differences approach 1) Clinically Managed Withdrawal – 1 measure 2) SUD Case Management – 1 measure under hypothesis one and 1 measure under hypothesis two 3) Peer Recovery Support Specialists – 2 measures 4) Crisis Intervention – 1 measure	October 2023 – April 2024
Summarize analysis findings for pilot demonstration evaluations	May 2024 – July 2024
Compile Analysis Summaries and Develop Final Summative Evaluation Report	July 2024 – December 2024
Summative Evaluation Report Due	December 2024

D. Evaluation Budget

Table D-1. Evaluation Budget FY21-23			
Hypotheses: *Relative to Matched controls, participants in the pilots will have better outcomes.*			
Description	**Percent Effort**	**Role/Description**	**Budgeted Amount**
Personnel			
Evaluator	.15	• Oversee entire evaluation • Lead evaluation reports	Salary: $552,853 Fringe: $259,342
Project Manager	.4	• Assist with evaluation reports	
Data Analysts	2.20	• Analyze data	Total: $812,195
Graduate Assistant	.625	• Clean data • Assist with data analyses • Assist with writing reports	
Supplies			
Computers		• Two computers, one each for 2.0 FTE data analysts	$3,200
Travel			
National Travel	N/A	• Presentation of findings at national conferences (3 staff members at one conference annually)	$12,240
Other			
Comparison claims data/ Telecom	N/A	• Purchase of other state's beneficiary data ($120,000) • Telecom costs ($7,233)	$127,233
CPRD Lease		• Lease expense prorated per FTE	$22,386
Consultant		• Christina Andrews-five days of consulting per year	$15,608
ICR		• ICR (Charged at 21.7% of MTDC)	$233,138
Total Budgeted Amount (Estimated at for full three years, from July 1, 2020 through June 30th, 2023)			$1,329,891

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March 9, 2020

To Whom It May Concern,

This purpose of this letter is to provide a statement about my status as an Independent Evaluator for the State of Illinois' Behavioral Health Transformation 1115 demonstration. Currently, I serve as the director of the Center for Prevention Research and Development (CPRD) at the University of Illinois in Urbana-Champaign. Our agency agrees to do this evaluation under contract with the Office of Medicaid Innovation and the Illinois Department of Healthcare and Family Services.

I was involved in developing the initial evaluation plan in collaboration with other professors at a separate campus in the Illinois system. They have since left the project. I have worked with OMI and IL DHFS to revise the original evaluation plan. Below please find a description of my evaluation team, as well as a detailed response to the reviewer comments on the original evaluation plan.

My experience and that of my staff at CPRD are well suited to conduct a fair and impartial evaluation and ensure that there are no conflicts of interest. We look forward to preparing an objective Evaluation Report for this project.

Sincerely,

Douglas C. Smith, Ph.D.

Professor, School of Social Work

University of Illinois at Urbana-Champaign (UIUC)-Personnel

Douglas C. Smith, PhD (Evaluator), is an Associate Professor of Social Work and Director of the Center for Prevention Research and Development (CPRD) at the University of Illinois at Urbana-Champaign. He has prior direct practice experience working in residential substance use disorder (SUD) treatment and providing case management services in state-funded facilities serving individuals from low-income backgrounds. His research focuses on substance use disorder treatment outcomes among adolescents and emerging adults (ages 18-29). The latter comprise an especially at-risk population that account for approximately 25% of all opiate users in the United States, have poorer retention and engagement in treatment, are of childbearing age, and may need developmentally appropriate case management services focused on occupational functioning. Dr. Smith has previously been funded to complete substance use disorder (SUD) treatment evaluations by the National Institutes of Health (NIH), the Substance Abuse and Mental Health Administration (SAMHSA), and the United States Department of Justice (DOJ). His nearly 50 peer-reviewed publications largely focus on substance use disorder treatment outcomes. Among those most relative to this evaluation are articles or chapters on 1) how the presence of DSM-5 diagnosed withdrawal syndromes predict a return to substance use (Davis, Smith et al., 2017), 2) the limited work on peer recovery support specialists (Smith, Schwebel, and Larimer, 2017) in SUD treatment, 3) the use of case management services in family-based adolescent substance use disorder treatment (Smith et al., 2006), and 4) the use of propensity score matching in evaluating SUD treatment outcomes (Smith et al., 2011).

Crystal Reinhart, PhD, (Project Manager) Dr. Crystal Reinhart is a Research Scientist at the Center for Prevention Research and Development (CPRD) at the University of Illinois in Urbana-Champaign. She currently works on the Illinois Youth Survey project, which collects data from middle and high school students in Illinois. This data has contributed to several peer-reviewed publications and collaborations with researchers around the state to further understanding of substance use, perceptions about substance use, and a variety of other health and safety issues among youth. She is passionate about addressing the opioid crisis in Illinois, is a member of the Illinois Opioid Advisory Council, and recently developed a comprehensive epidemiological profile on opioid use in Illinois. In addition to her work on the survey, Dr. Reinhart is contracted with the Leukemia & Lymphoma Society and Tufts University Medical Center to study cancer survivorship among adolescents and young adults. She received her PhD in Community Psychology from Wichita State University in 2010.

Alex Lee, (PhD Student), is a PhD student supervised by Dr. Smith. He will assist with data cleaning, report writing, and analyses.

Data Analysts (TBA). CPRD currently employs one full time Master's and one full-time PhD level data analysts who have experience working on very large substance use prevention (Illinois Youth Survey, IYS, n=230,000) and home visitation datasets (i.e.,

MIECHV). We will hire two full-time analysts to work on this project to join our data analysis unit at CPRD. Additionally, Shahana Begum will allocate .25 effort on this project. Thus, we will have 2.25 data analysts dedicated to this project.

E. References

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