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 30, 2020

Nathan Checketts
Director
Utah Division of Medicaid and Health Financing
Department of Health
PO Box 143101
Salt Lake City, UT 84101

Dear Mr. Checketts:

The Centers for Medicare & Medicaid Services (CMS) has approved two evaluation designs comprising five program component under Utah's section 1115(a) demonstration entitled, "Primary Care Network (PCN)" (Project Nos. l1-W00145/8 and 21-W-00054/8), and effective through June 30, 2022. The programs include: community engagement, targeted adult Medicaid program for dental services, adult clinically managed withdrawal program, adult expansion, and employer sponsored insurance. We sincerely appreciate the state's commitment to a rigorous evaluation of your demonstration.

CMS has added the approved evaluation designs to the demonstration's Special Terms and Conditions (STC) as Attachment O. A copy of the STCs, which includes the new attachment, is enclosed with this letter. The approved evaluation designs may now be posted to the state's Medicaid website within thirty days, per 42 CFR 431.424(c). CMS will also post the approved evaluation designs as a standalone document, separate from the STCs, on Medicaid.gov.

Please note that an interim evaluation report, consistent with the approved evaluation designs, is due to CMS one year prior to the expiration of the demonstration, or at the time of the renewal application if the state chooses to extend the demonstration. Likewise, a summative evaluation report, consistent with the approved designs, is due to CMS within 18 months of the end of the demonstration period.

We look forward to our continued partnership with you and your staff on the PCN demonstration. If you have any questions, please contact your CMS project officer, Ms. Dina Payne, at Dina.Payne1@cms.hhs.gov.

Sincerely,

Danielle Daly -S
Digitally signed by Danielle Daly -S
Date: 2020.11.30 10:39:11 -05'00'

Danielle Daly
Director
Division of Demonstration Monitoring and Evaluation

Andrea J. Casart -S
Digitally signed by Andrea J. Casart -S
Date: 2020.12.03 10:10:16 -05'00'

Andrea J. Casart
Director
Division of Eligibility and Coverage Demonstrations

cc: Mandy Strom, State Monitoring Lead, Medicaid and CHIP Operations Group

UTAH 1115 PRIMARY CARE NETWORK DEMONSTRATION WAIVER

EVALUATION DESIGN

COMMUNITY ENGAGEMENT

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Social Research Institute
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INTRODUCTION

Utah's 1115 PCN Demonstration Waiver (hereinafter referred to as "Demonstration") is a statewide waiver that was originally approved and implemented in 2002. Since that time, the Demonstration has been extended and amended multiple times to add additional benefits and Medical programs. This proposal will describe the design for the Community Engagement amendment component.

A. GENERAL BACKGROUND INFORMATION

This Demonstration waiver amendment was approved March 29, 2019 as part of Medicaid expansion and will begin January 1, 2020 and operate through the waiver approval period, June 30, 2022.

Rationale for Community Engagement

Work requirements have been in effect in the Temporary Assistance for Needy Families (TANF) program and Supplemental Nutrition Assistance Program (SNAP) for many years. This is the first time they have been applied to the Medicaid program in Utah. The theory behind community engagement (work requirements) suggest that the requirements will help low-income unemployed adults gain employment and reduce dependency. It is thought that the work requirements address the concern that Medicaid discourages adults from working.[1] Other research indicates that measures of both physical and mental health are improved among the working population compared to those who are unemployed. Specifically an analysis of longitudinal studies on the relationship between health measures and exit from paid employment found that poor health, particularly self-perceived health, is associated with increased risk of exit from paid employment.[2]

Community Engagement is required for those eligible to receive Adult Expansion Medicaid, unless the individual is exempt or qualifies for exemption for good cause. Community Engagement consists of several job search and/or training activities that must be completed to remain eligible for Adult Expansion Medicaid. Exemptions are granted by meeting one of the following reasons:

1. Working at least 30 hours a week, or working and earning the equivalent of 30 hours a week at federal minimum wage;
2. Age 60-64
3. Pregnant or within the 60-day post-partum period;
4. Physically or mentally unable to meet the participation requirements, as determined by a medical professional;
5. Responsible for the care of a dependent child under age six. This applies to only one parent in the household per child;
6. Responsible for the care of a person with a disability recognized under federal law. This applies to only one family member per disabled person;
7. A member of a federally recognized tribe;

8. Currently receiving unemployment insurance benefits, or awaiting an eligibility decision for those benefits;
9. Participating regularly in a Substance Use Disorder (SUD) treatment program, including intensive outpatient treatment;
10. Enrolled at least half time in any school (such as a college or university), vocational training or apprenticeship program;
11. Participating in refugee employment services offered by the state. This may include vocational training and apprenticeship programs, case management, and employment planning;
12. Currently receiving SNAP (Supplemental Nutrition Assistance Program—Food Stamps) and exempt from SNAP and/or FEP employment requirements.

B. EVALUATION QUESTIONS & HYPOTHESES

The primary goals of the community engagement waiver is to increase and / or sustain employment, improve the socio-economic status of beneficiaries, and improve health outcomes.

This evaluation design will describe how the University of Utah's Social Research Institute (SRI) and Department of Economics will evaluate the implementation of the community engagement requirements. The driver diagram that follows illustrates the relationship between the outcomes and activities of the waiver amendment component. Table 2 provides details of waiver hypothesis, research questions, outcome measures, populations involved, data sources, and analytic methods.

C. METHODOLOGY

1. Evaluation Design

A quasi-experimental design will be utilized for the Community Engagement demonstration evaluation. The general approach for many of the hypothesis will be to compare adult expansion enrollees subject to community engagement requirements to enrollees who do not have the requirement to participate in community engagement. Both a difference in difference (DiD) and a regression discontinuity (RD) approach will be used to estimate the effect of the demonstration. The regression discontinuity approach will be used to examine individuals based on ages just above and just below age 60 since the policy limits community engagement to adults age 60 or younger. The assumption is that individuals of similar age may not differ significantly on other waiver characteristics, even though the cutoff places them in different treatment groups where the (RD) design will provide a viable comparison.

2. Target and Comparison Populations

The target population is the adult expansion group approved March 29, 2019 whose eligibility is for adults ages 19-64, who have household income up to 133 percent of the federal poverty level (FPL). There will be three comparison groups, the first will consist of select adult expansion subgroups that are exempt from the requirement. The second will be comprised of Medicaid Current Eligibles, who also do not have the requirement to participate in community engagement. The last will be out-of-state comparisons using BRFSS data.

3. Evaluation Period

The community engagement waiver component will be effective January 1, 2020 and is aligned with the current 1115 Waiver Demonstration, which will end June 30, 2022.

4. Evaluation Measures

Process measures collected for each waiver component will include the total number of individuals served by age, gender, and geographical location. Outcome measures will include probabilities of being employed and being employed for various time frames, proportions of beneficiaries meeting community engagement-related requirements and being eligible for ESI and alternative health plans. Other measures will include: proportion of individuals disenrolled, and barriers to enrollment.

The use of both quantitative and qualitative data will be important to this design. Quantitative data will come from State Administrative data from the Department of Workforce Services eREP (Electronic Resource and Eligibility Product) and UWORKS (Utah's Workforce System), Utah Medicaid claims, and a beneficiary survey. Qualitative data will also come from the beneficiary surveys, in-depth interviews and focus group research. In addition to specific questions related to community engagement hypothesis and implementation questions, the beneficiary survey also includes questions from the CAPHS and BRFSS surveys. These questions are labeled in the draft survey found in Appendix 3.

5. Data Sources

State administrative data from the Department of Workforce Services (DWS) will be used as a primary source for the evaluation and will include standardized data elements from DWS's eREP, which is the online portal to apply for Medicaid and other supports. The second database that will be used is UWORKS which tracks participants seeking employment and employers, from initial contact through all phases of employment and training services. The real-time system combines all aspects of case management seamlessly, integrating with eREP for eligibility determination and supporting local labor market information data. The third source of data for this evaluation will include the UDOH's Medicaid (HIPPA transaction set) consisting of a cleaned set of all Utah claims data. The final source of data for the community engagement waiver will include data from a beneficiary survey. This data will be collected at the beginning of waiver implementation and annually thereafter. BRFSS data from Utah and other out-of-state sources will also be utilized to strengthen the overall approach.

The beneficiary survey will be used to collect critical data to support the measurement of the demonstration's impact on a number of variables including: employment and community involvement, health care utilization, health status, insurance status, finances, attitudes and beliefs about the program, and care provided. The beneficiary survey will employ a multifaceted approach, with annual surveys of Medicaid members using a self-administered online survey. In-depth interviews with a cohort of Medicaid enrollees will be conducted annually including those who have been disenrolled and beneficiaries who participate in ESI. Focus groups will also be held with UDOH Medicaid staff and staff of contracted "navigator" programs that assist individuals with enrollment.

6. Analytic Methods

The evaluation will incorporate initial baseline measures for each of the selected variables included in the evaluation. State administrative data for each of the targeted variables and measures will be analyzed bi-annually so that outcome measures and variables can be monitored on a regular basis. The hypothesis (see Table 2 below) utilize a DiD design since baseline data collection is available for both target and comparison group analysis of the data. DiD studies utilize a comparison group, sensitivity analyses, and robustness checks to help validate the method's assumptions. The actual analysis is a linear probability model which is estimated via least squares. The advantages of this approach three-fold 1) the DiD coefficient is readily interpretable, 2) there are several options to correct for serial correlation of the errors, and 3) the linear probability approach is much faster, which is particularly true where large data sets are used.

Propensity score matching also will be used to minimize bias from observable confounders that could potentially affect the outcomes. To implement propensity score matching, a logistic regression model will first be fit to the waiver implementation to calculate the propensity score. Baseline characteristics for matching will include age, gender, socioeconomic status, educational status, and comorbid conditions. These baseline variables that will be used for matching will be incorporated in the logistic regression to control for remaining differences between the waiver group and the matched comparison group. These two approaches (i.e. matching and factors that will be adjusted in both matching and regressions) mitigate confounding bias. The parallel trend assumption for pre-intervention outcomes in DiD will be checked. If the parallel trend assumption with pre-intervention outcomes is not met, we will include pre-intervention outcomes in our propensity score matching. A sensitivity analysis will be conducted to evaluate the potential effect of unmeasured confounding.

The beneficiary survey will include questions on particular demographic characteristics: health care utilization, health outcomes, socioeconomic status, participation in work, and financial security. The sampling frame for the survey was the population identified by the state in the waiver expansion who are subject to community engagement requirements and other Medicaid eligible members who do not have the requirement to participate in community engagement. See Appendix 1 for estimated sample size and power calculations.

COVID-19 Impacts

There are likely to be numerous impacts to the community engagement of the 1115 demonstration resulting from the novel coronavirus (COVID-19) pandemic. A challenge in trying to anticipate and address these impacts is the uncertainty of the virus spread in the population and how long the current pandemic will last. Given these limitations, there are a number of concerns and adjustments that are discussed below.

A. Implementation and Evaluation Changes

With regard to the community engagement portion of the waiver, significant adjustments will be needed to address the assumptions inherent in the driver diagram. For example, all four primary drivers (e.g. increased income, higher likelihood of employment, increase uptake of commercial health care coverage, and offers of ESI / take up of ESI) and both of the secondary drivers (e.g. availability of jobs and access to health care services) have been negatively impacted due to the pandemic. Specifically, in Utah there were historic levels of unemployment during March-April 2020 which directly and indirectly impact five of the six driver components. Although the unemployment rate has decreased since then, the impacts on the state economy persists.

Other factors impacting the evaluation is the timing of the pandemic impact in relation to waiver implementation. The approved Medicaid expansion was effective January 1, 2020 (through June 30, 2022) when new enrollment began but the community engagement requirement was suspended in late March, 2020 so there were less than 3 full months of implementation. Additionally, during this same period of time the number of beneficiaries eligible for ESI was well below the projections anticipated by the state.

B. Data Collection

The pandemic will affect both primary and secondary data collection in number of ways. First the planned beneficiary survey which was scheduled for spring 2020 will need to be adjusted. This will require a modified survey design that will include subgroup data collection. Survey content also need to change to include targeted questions designed for retrospective response among beneficiaries who enrolled prior to the suspension of the community engagement requirement. Since it is not known when or if the community engagement requirement will be reinstated, a revised data collection timeline including plans to ensure an adequate sample of beneficiaries are surveyed this year. Planned focus groups have been postponed to 2021, given the uncertain status of COVID-19 and the need to maintain social distancing in Utah.

An adjusted design for analyzing Medicaid data will also be required to accommodate subgroup populations with disproportionately high pandemic impacts. For example, subgroup beneficiary data analysis could be defined based on client age and presence of a COVID-19 high risk underlying condition.

There are obvious important cost implications associated with changes in both primary and secondary data collection, study design, and implementation. These budget amendments would be fully addressed once the bid has been awarded to conduct the community engagement evaluation.

C. Study Design

The current evaluation design calls for the use of both DiD and regression discontinuity designs which will likely provide the most robust outcomes possible. The appropriate use of subgroup analysis previously mentioned for both primary (beneficiary survey) and secondary (Medicaid data) data

collection should strengthen the planned designs. As a result this will provided additional insight into isolating and understanding COVID-19 impacts in Utah. Most of the hypothesis that follow in Table 2 below include comparison groups (those subject to community engagement requirements compared to those who do not have the requirement to participate in community engagement) and that approach will not be adjusted.

D. Isolating Demonstration Effects

Since there is considerable uncertainty in trying to understand changes resulting from the pandemic, it may make demonstration policy effects difficult to observe. Such may be the case with very low uptake of ESI or trying to understand the impact of community engagement based on less than 90-day implementation period. As a result, the independent evaluators together with the State may reconsider some of the planned analysis. For instance, since there will likely be insufficient ESI data, reducing the likelihood of viable evidence about demonstration effects. In this case decisions regarding the worth of resource allocations for this waiver component must be made.
Additionally, planned data collection spanning 2020 will require robustness checks to examine the effects of including peak pandemic time periods. However, the exact months to exclude may not be clear until additional time has passed given the unstable and frequently changing conditions of the pandemic. At the present time it appears that the community engagement component will only include the period (less than 90 days) during initial implementation, which will likely be too short a period to determine job acquisition and retention.

Robustness Checks
The data analysis strategy will also employ the use of robustness checks. On purpose for these checks is to assess if conclusions change following data analysis when assumptions related to the model change. This mainly applies to the extent there may be uncertainty in the way assumptions are being applied. Another more important reason is to demonstrate that the main analysis is supported. This is accomplished by conducting an analysis of core regression coefficient estimates when the regression specification is modified by adding or removing regressors. If the coefficients remain both plausible and robust, this will be evidence of structural validity. This approach will be applied using both critical and non-critical core variables.

Since the Medicaid data is discrete with many categories, the fit will use a continuous regression model which will yield an analysis that is easier is easier to perform, more flexible, and also easier to understand and explain—and then robustness check, with re-fitting using ordered logit, just to check that there are no changes in the outcome.

Driver Diagram

Aim: The Community Engagement demonstration will lead to increased employment which will contribute to increased health and well-being.

Outcome Measures:

1. Increased or sustained employment,
2. Improves socio-economic status of beneficiaries, and
3. Improves health outcomes.

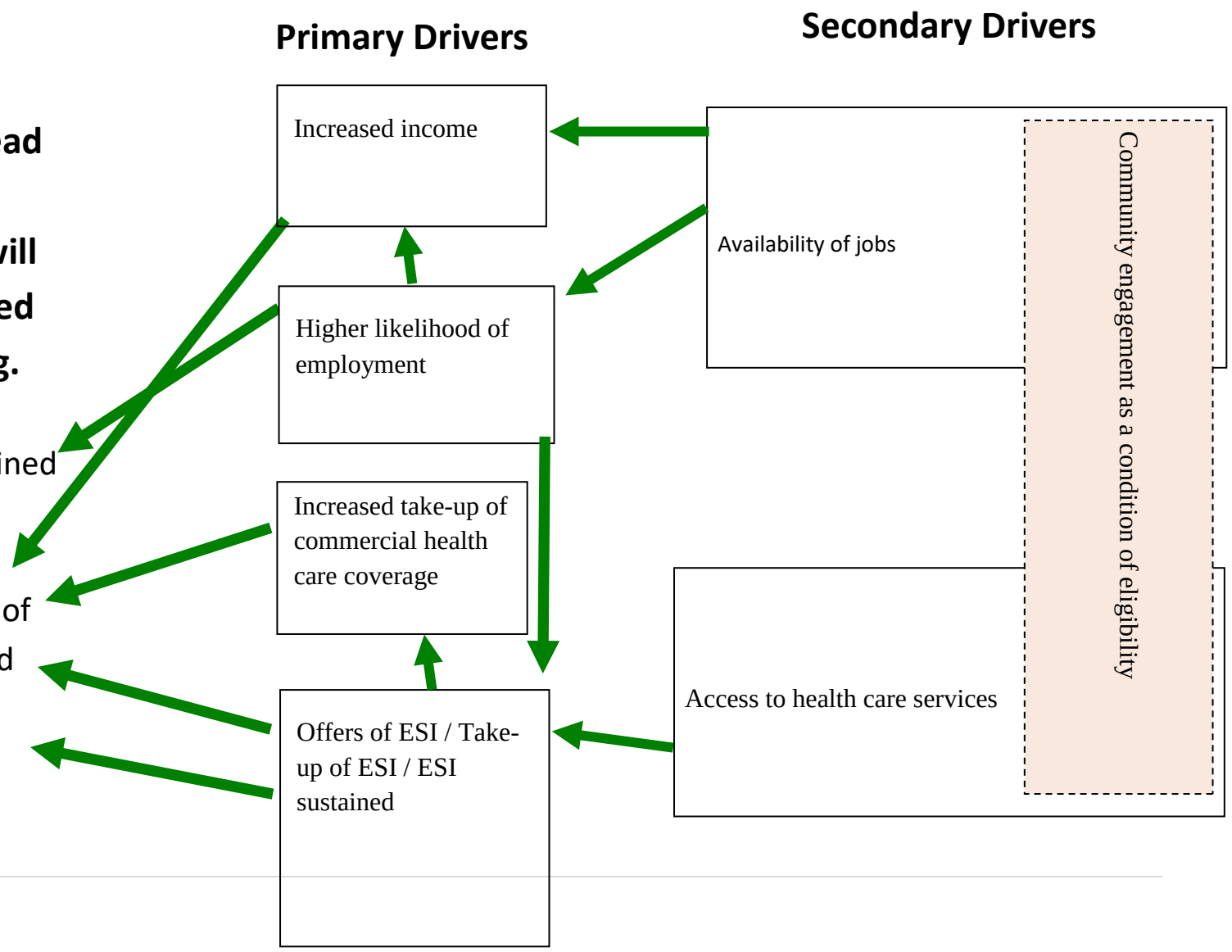

Table 2: Summary of Hypothesis, Research Questions, Outcome Measures, Populations, Data Sources, and Analytic Approaches.

Community Engagement

Hypothesis 1. The Demonstration will improve employment levels of beneficiaries.				
Research Question	**Outcome measures used to address the research question**	**Sample or population subgroups to be compared**	**Data Sources**	**Analytic Methods**
Q1. Will individuals participating in community engagement activities have higher levels of employment?	Probability of being employed Probability of being employed > 20 hrs. /week # of hours worked per week.	Individuals subject to community engagement requirements compared to members who do not have the requirement to participate in community engagement	State Admin data: eREP & UWORKS data	Quasi-experimental DiD model of employment among beneficiaries Regression discontinuity based on age requirements.
Q1a. Will individuals who initially participate in community engagement activities gain employment more quickly?	Proportion of individuals meeting requirement by activity (employment, education, volunteer work, etc.) Proportion employed at 6 months (1 year, 2 years) Proportion employed at least 20 hours per	Individuals subject to community engagement requirements compared to members who do not have the requirement to participate in community engagement	State Admin data: eREP & UWORKS data	Quasi-experimental DiD model of employment among beneficiaries Regression discontinuity based on age requirements.

	week at 6 months (1 year, 2 years)			
Q1b. Will individuals who participate in community engagement activities and gain employment maintain employment over time?	Proportion of beneficiaries employed for one year or more, continuously, since enrollment Probability of being employed > 20 hrs. /week Probability of being employed at least 20 hours per week at 6 months (1 year, 2 years) Average length of continuous employment since enrollment	Individuals subject to community engagement requirements compared to members who do not have the requirement to participate in community engagement	State Admin data: eREP & UWORKS data State beneficiary survey	Quasi-experimental Regression-adjusted means in employment 1 and 2 years post-enrollment among: 1) those who were already employed at enrollment (or at implementation of requirements) 2) those who gained employment in the first six months of enrollment 3) those who did not gain employment in the first six months of enrollment
Q2. Will individuals participating in community engagement attain better educational outcomes?	Highest grade attained, degrees/credentials attained, and certifications attained	Individuals subject to community engagement requirements compared to members who do not have the requirement to participate in community engagement	State Admin data: eREP & UWORKS data State beneficiary survey	Quasi-experimental DiD model of educational outcomes.

Hypothesis 2: The Demonstration will increase the average income of beneficiaries.				
Q2. Will individuals participating in community engagement activities have higher levels of income?	Income	Individuals subject to community engagement requirements compared to members who do not have the requirement to participate in community engagement	State Admin data: eREP & UWORKS data State beneficiary survey	Quasi-experimental DiD model of income changes, repeated annually after baseline
Q2a. Will individuals participating in community engagement activities have increased expenses for childcare and transportation due to loss of public benefits?	Childcare costs Transportation costs	Individuals subject to community engagement requirements compared to members who do not have the requirement to participate in community engagement	State beneficiary survey	Quasi-experimental DiD model of changes in childcare and transportation repeated annually after baseline Regression discontinuity analysis based on age requirements.
Q2b. Will individuals who participate in community engagement activities have income sustained over time?	Proportion of beneficiaries employed reporting higher or lower income from being employed > 20 hrs. /week Probability of being employed at least 20	Individuals subject to community engagement requirements compared to members who do not have the requirement to participate in community engagement	State beneficiary survey	Descriptive analysis of sustained income changes, 1 and 2 years post enrollment Quasi-experimental DiD model of changes in income and employment

	hours per week at 6 months (1 year, 2 years) Average length of continuous employment since enrollment		State Admin data: eREP & UWORKS data	repeated annually after baseline
Hypothesis 3: The Demonstration will increase the likelihood that Medicaid beneficiaries will transition to commercial insurance.				
Q3. Will individuals participating in community engagement requirements lead to increased enrollment in commercial, ESI, and Marketplace plans?	Proportion of beneficiaries reporting enrollment in alternative health plans	Individuals subject to community engagement requirements compared to members who do not have the requirement to participate in community engagement	Medicaid claims data State beneficiary survey	Quasi-experimental DiD model of likelihood of increased enrollment in commercial, ESI, and Marketplace plans
Q3a. Will individuals participating in community engagement requirements be more likely to obtain employment with offers of ESI?	Proportion of beneficiaries reporting employment offers with ESI	Individuals subject to community engagement requirements compared to members who do not have the requirement to participate in community engagement	Medicaid claims data State beneficiary survey	Quasi-experimental DiD model of likelihood of obtaining employment with offers of ESI
Q3b. What proportion of those individuals who are offered employment	Percent of individuals accepting employment with ESI	Individuals subject to community engagement requirements compared to members who do not have the requirement to	Medicaid claims data State beneficiary survey	Quasi-experimental DiD model of being offered ESI and accept

with ESI accept?		participate in community engagement		
Q3c. How long is new coverage sustained by individuals starting employment with ESI?	Proportion of individuals maintaining ESI coverage at 6 months (1 year, 2 years)	Individuals subject to community engagement requirements compared to members who do not have the requirement to participate in community engagement	Medicaid claims data State beneficiary survey	Quasi-experimental DiD model of being employed with ESI
Q3d. Will individuals participating in community engagement requirements be more likely to enroll in qualified health plans offered in the Marketplace?	Proportion of individuals enrolled in a qualified health plan	Individuals subject to community engagement requirements compared to members who do not have the requirement to participate in community engagement	State beneficiary survey	Quasi-experimental DiD model of participation in community engagement and status of enrollment in qualified health plan
Q3e. Will individuals participating in community engagement requirements experience health care coverage loss?	Proportion of individuals experiencing a loss of health care coverage Barriers to enrollment	Individuals subject to community engagement requirements compared to members who do not have the requirement to participate in community engagement	Medicaid claims data State beneficiary survey	Quasi-experimental DiD model of participation in community engagement and status of health care coverage

Hypothesis 4: The Demonstration will improve the health outcomes of current and former Medicaid beneficiaries.				
Q4. Will individuals participating in community engagement requirements have improved health outcomes?	Reported physical and mental health status measured annually after initial enrollment.	Individuals subject to community engagement requirements compared to members who do not have the requirement to participate in community engagement	State beneficiary survey BRFSS	Quasi-experimental DiD model of participation in community engagement and changes health outcomes over time
Q4a. What are the trajectories of beneficiary health status over time, including after separation from Medicaid?	Reported physical and mental health status measured annually after initial enrollment. Reported ER or hospital admission in past year, measured annually after initial enrollment	Individuals subject to community engagement requirements compared to members who do not have the requirement to participate in community engagement	State beneficiary survey	Descriptive analysis of self-reported health status over time.
Q4b. Is disenrollment for noncompliance with community engagement requirements associated with differences in health outcomes?	Proportion of individuals disenrolled	Individuals subject to community engagement requirements	State Admin data: eREP data Sample of those disenrolled	Quasi-experimental DiD model of changes in enrollment status and self-reported health status
Implementation Questions.				

Q5. What are the common barriers to compliance with community engagement requirements?	Number and proportion of beneficiaries reporting barriers to compliance as specified in survey instrument	Individuals subject to community engagement requirements	State beneficiary survey Beneficiary focus group	Descriptive analysis of barriers to compliance with community engagement
Q6. Do beneficiaries understand the community engagement requirements, including how to satisfy them and the consequences of noncompliance?	Scaled measures of enrollee knowledge of requirements and consequences of noncompliance	Individuals subject to community engagement requirements	State beneficiary survey Beneficiary focus group	Descriptive analysis of beneficiary knowledge of community engagement requirements
Q7. How many beneficiaries are required to actively report their status, including exemptions, good cause circumstances, and qualifying activities?	Eligibility related variables: exemptions, good cause, and qualifying activities	Individuals subject to community engagement requirements	State Admin data: eREP & UWORKS data State beneficiary survey	Descriptive analysis of beneficiary reporting obligations

Q7a: What strategies has the state pursued to reduce beneficiary reporting burden, such as matching to state databases?	State provided response	State Medicaid staff	In depth interviews with key stakeholders	Descriptive analysis of qualitative data – including planned and implemented reporting methods and passive reporting through data matching
Q7b*:* How commonly do beneficiaries claim good cause circumstances that waive community engagement requirements and/or reporting?	Eligibility related variables: good cause circumstances from community engagement requirements & good cause circumstances from community engagement reporting	Individuals subject to community engagement requirements	State Admin data: eREP	Descriptive analysis of requests for good cause exemptions
Q8. What is the distribution of reasons for disenrollment among demonstration beneficiaries?	Range of disenrollment reasons	Individuals subject to community engagement requirements	State Admin data: eREP	Descriptive analysis of disenrollment by length of enrollment span and by new and previously enrolled beneficiaries, including before community engagement implementation and measured annually after implementation
Q9. Are beneficiaries who are disenrolled for noncompliance	Probability of re-enrolling in Medicaid after a gap in	Individuals subject to community engagement requirements	State Admin data: eREP	Comparison of regression-adjusted probability of re-enrollment among beneficiaries initially

with community engagement requirements more or less likely to re-enroll than beneficiaries who disenroll for other reasons?	coverage of at least 1 month (3 months)			subject to the community engagement requirement who were: 1) disenrolled for noncompliance 2) disenrolled for reasons other than noncompliance
Q10. Do beneficiaries subject to the requirement report that they received supports needed to participate?	Combination of closed ended and open ended responses and rating scales	Individuals subject to community engagement requirements compared to those not subject to the requirement	State beneficiary survey State Admin data: eREP	Pre-post analysis of beneficiaries, including before and after community engagement implementation
Hypothesis 7: Administrative cost of demonstration operation.				
Q1. What are the total costs associated with implementation of the waiver?	Includes: cost of DWS and /other contracts, including staff time equivalents required to plan, administer and implement demonstration policies, including all community engagement activities.	Individuals subject to community engagement requirements	UDOH Medicaid costs, DWS contract costs. Pre-waiver and annual costs	Descriptive analysis of all DWS and UDOH costs required to plan, administer, and implement the demonstration.
Hypothesis 8: The demonstration will reduce uncompensated care provided by Utah hospitals.				

Will implementation of the waiver reduce uncompensated care?	Total annual cost of uncompensated care.	Utah hospitals uncompensated care, pre – and post waiver demonstration	Comparison to other states based on Center for Budget & Policy Priority definition: any services for which a provider is not reimbursed	Quasi-experimental Analysis comparing uncompensated care in Utah and other states in a single interrupted time series design.

D. METHODOLOGICAL LIMITATIONS

The primary limitation is that waiver demonstration beneficiaries cannot receive services based on random assignment or delayed implementation approach (by geography) which limits the type of evaluation design used. The second limitation is the lack of historical information regarding the efficacy of Medicaid beneficiary surveys per se in Utah. There has not been beneficiary surveys previously and as a result, sample size calculations and attrition rates must be estimated for this design. Comparison group availability for the community engagement requirement is also a challenge due to all of the exempted groups. Efforts to minimize limitations have been made by using recommended approaches such as regression discontinuity and propensity score matching to strengthen the design and analysis. Lastly, the implementation of adult expansion coupled with the community engagement requirement nearly half-way through the 5 year waiver demonstration significantly limits the capacity of the evaluation.

E. ATTACHMENTS

A. Independent Evaluator

The Social Research Institute (SRI) will conduct the evaluation activities related to this proposal to fulfill Utah's 1115 PCN Waiver. SRI was established in 1982 as the research arm of the College of Social Work. Its goal is to be responsive to the needs of community, state, national and international service systems and the people these systems serve. Through collaborative efforts, SRI facilitates innovative research, training and demonstration projects. SRI provides technical assistance and research services in the following functional areas: conducting quantitative and qualitative research; designing and administering surveys; analyzing and reporting data analysis; designing and conducting needs assessments of public health and social service problems and service systems; planning and implementing service delivery programs; evaluating program and policy impacts; training in research methods and data analysis; providing technical assistance. SRI has conducted program evaluation research and provided continuous quality improvement feedback and training to the Department of Workforce Services for more than 20 years, including conducting telephone, mail, in-person, and online surveys and interviews with Medicaid eligible beneficiaries who qualify for SNAP, TANF, and other supports.

SRI staff are experienced in complying with state and federal laws regarding protecting human subjects and assuring confidentiality of data. SRI will complete the required IRB applications for this project including any data sharing agreements that may be necessary. SRI staff comply with generally accepted procedures to safeguard data by ensuring all data is stored on password protected and encrypted computers. Specifically, we use two-factor authentication (2FA) verification as an extra layer of security. All data collection and analysis SRI is responsible for will be based on the agreed upon data collection

plan and in accordance with HIPAA-compliant data management systems available to University of Utah researchers.

Independent Evaluator Selection Process

SRI staff have contracted with the Utah Department of Human Services, Division of Child and Family Services (DCFS) to evaluation their IV-E waiver demonstration project for the past 4 years. Simultaneously, SRI also served as the independent evaluator for the State of Idaho's IV-E waiver demonstration for two years. Within the past year, key research staff from DCFS who were familiar with the work performed by SRI staff changed jobs and now work for UDOH Office of Health Care Statistics. As result, when UDOH was trying to locate an independent evaluator a referral was provided and several preliminary meetings and discussions were held. This led to SRI developing a proposal for UDOH to conduct the Demonstration evaluation.

The research team will consist of Rodney W. Hopkins, M.S., Research Assistant Professor, Kristen West, MPA., Senior Research Analyst, and Jennifer Zenger, BA, Project Administrator.

Mr. Hopkins in an Assistant Research Professor and has 25 years' experience in conducting program evaluations for local, state, and federal agencies. He has an M.S. and will be the project lead, with responsibility for evaluation design and implementation, data collection, and reporting. He will be .45 FTE.

Kristen West, MPA (.25 FTE) is a Senior Research Analyst with experience conducting multi-year program evaluations for DCFS and JJS. She has expertise with a variety of statistical software programs to analyze data including multi-level regression models, linear regression, and descriptive statistics (SPSS and R). She also has experience developing and data visualization dashboards. Jennifer Zenger (.05 FTE) is SRI's Project Administrator and has 25 years' experience in budgeting, accounts payable, and working with state and federal agencies. She will be responsible for contract setup, monitoring, and accounting services.

An interdepartmental consortium has been established between SRI and the University of Utah's Department of Economics and the Department of Family and Consumer Studies. The Department of Economics, Economic Evaluation Unit led by Department Chair, Norm Waitzman, Ph.D., (.03 FTE) a Health Economist who has extensive health care utilization and cost analysis experience will lead this effort. The other principal researcher is Jaewhan Kim, Ph.D. (.21 FTE) a Health Economist and Statistician with a broad background in health care utilization and cost analysis, statistical design and data analysis including cohort studies and cross-sectional studies. He currently co-directs the Health Economics Core, Center for Clinical & Transitional Science (CCTS) at the University Of Utah School Of Medicine. He has expertise in analyzing claims databases for health care utilization and costs and has worked on multiple federal studies of health care utilization using diverse claims data such as Medicare, Medicare-SEER, Medicaid, MarketScan, PHARMetrics, University of Utah Health Plan's claims data and Utah's All Payers Claims Database (APCD). He was one of the original l developers of the APCD, published the first paper with Utah's APCD data, and has worked collaboratively with other researchers

to successfully conduct more than 20 studies using the APCD. They will also be supported by a to-be-named Graduate Research Assistant (1.0 FTE).

D. References

1. Jonathan Ingram and Nicholas Horton, The Future of Medicaid Reform: Empowering Individuals Through Work (Foundation for Government Accountability, Nov. 14, 2017).

2. Rogier van Rijn, Suzan Robroek, Sandra Brouwer, and Alex Burdorf, "Influence of Poor Health on Exit from Paid Employment: A Systematic Review," *Occupational & Environmental Medicine* 71 no. 4, (2014): pp. 295-301, https://oem.bmj.com/content/71/4/295

3. Donald B. Rubin. Multiple Imputation After 18+ Years. Journal of the American Statistical Association, Vol. 91, No. 434 (June 1996), 473-489.

APPENDIX 1

Sampling strategy

A stratified random sample approach will be used for the beneficiary survey since there are multiple groups of interest that may be impacted by various waiver policies. Table 3 below provides a description of each beneficiary group, its estimated population as well as the planned sample (with margin of error) as well as length of the beneficiary survey (see proposed survey in Appendix 3).

Subgroups of Interest

Community engagement requirements are applicable to the adult expansion population. There are also 12 specific expansion population groups that are not subject to the community engagement requirements (all exempt groups identified on page 2-3). For example, exempt groups in Utah include those: working at least 30 hours a week, or working and earning the equivalent of 30 hours a week at federal minimum wage; Pregnant or within the 60-day post-partum period; or physically or mentally unable to meet the participation requirements, as determined by a medical professional, to name a few.

Additionally, since the adult expansion waiver raised the income eligibility from 95% to 133% FPL we are particularly interested in assessing how various income subpopulation groups may be impacted, including those less than 50% of FPL, 50- 95% FPL, and more than 95%% FPL. Another waiver policy, Employee Sponsored Insurance (ESI) is also applicable to the adult expansion population (and thus the community engagement requirement) and requires beneficiaries to obtain health insurance coverage, if offered by their employer (the state will reimburse the eligible individual for the insurance premium). Two ESI groups, those who qualify by accepting offers of employment with ESI and enroll in an alternative health plans and those who accept employment offers and qualify for ESI, but then become ineligible because they do not enroll in ESI or who subsequently lose their job or eligibility or other reasons will be treated as distinct groups for survey/analysis purposes.

Finally, given the primary outcome for community engagement is to improve the likelihood employment among this population, a logical intermediate outcome would be to improve educational attainment among the beneficiary population. As a result, the educational attainment metric will be used to examine this hypothesis.

Table 3: Summary of beneficiary groups, planned sample size, and survey fielding characteristics.

1115 Waiver Beneficiary Group	Estimated Population	Planned Survey Sample / Margin of Error	Length of survey / interview	Mode	Duration in Field
Adult Expansion (with CE requirement)	40,000	1,480 (2.5%)	70Q (18 min.) (45 min.)	Online (CS) In-depth interview (LG)	Survey: 4 weeks Interviews:6 weeks
Adult Expansion – Exempt (without CE requirement)	40,000	1,480 (2.5%)	70Q (18 min.) (45 min.)	Online (CS) In-depth interview (LG)	Survey: 4 weeks Interviews:6 weeks
ESI (qualified)	14,000	1,385 (2.5%)	70Q (18 min.) (75 min.) (45 min.)	Online (CS) Focus group In-depth interview (LG)	Survey: 4 weeks Focus groups: 6 weeks Interviews:6 weeks
ESI (lose eligibility)	300	169 (5%)	70Q (18 min.) (75 min.) (45 min.)	Online (CS) Focus group In-depth interview (LG)	Survey: 4 weeks Focus groups: 6 weeks Interviews:6 weeks
Income (<50% FPL, 50- 95% FPL, and >95% FPL)	5,000	400 (5%)	70Q (18 min.)	Online (CS)	Survey: 4 weeks
Educational Attainment	5,000	400 (5%)	70Q (18 min.)	Online (CS)	Survey: 4 weeks

CS=cross sectional survey, LG = longitudinal in-depth interviews

Power calculation

Based on an alpha of .05, and desiring to achieve a power calculation of .90, the planned sample sizes listed in Table 3 above will be sufficient to detect a moderate effect (.40 ES) if differences exist (the null hypothesis is rejected) between waiver groups and subgroups over time. For example in measuring the effects of community engagement on obtaining employment, obtaining employment with ESI, and physical and mental health. As no previous research was available on which to base standard deviation estimates, these estimates are considered conservative approximations.

Reaching hard-to-reach populations

SRI staff have extensive experience collecting data with generally hard-to-reach populations. For more than 20 years SRI staff have conducted in-person, telephone, and more recently, web-based surveys. During this time the Department of Workforce Services (DWS) has contracted with SRI staff to conduct evaluations with hard-to-reach populations who are eligible to receive cash assistance, SNAP, and TANF, most of whom are Medicaid eligible. As a result of this long-term contractual relationship, several enrollment policies have been established which have increased the likelihood that SRI staff are able to make and maintain contact with Medicaid beneficiaries which have contributed to high response rates. For example, in 2019 SRI completed a longitudinal study which ended with a 67% completion rate for in-person surveys with more than 1,000 beneficiaries.

The specific enrollment policies require individuals to provide a valid: 1) mailing AND email address that is verified during follow-up eligibility checks, 2) working telephone number, and 3) permanent contact information (mailing address, email, and telephone) for someone who will always know the whereabouts of the individual. All three of these policies are contained in the consent language of the application so that individuals seeking these benefits and supports are aware that the University of Utah Social Research Institute may be contacting them for study participation.

Adjusting for incomplete and non-response

Incomplete online surveys will be adjusted using statistical imputation procedures. While there are several different approaches to imputation, Rubin (1996) developed a procedure that has been widely accepted that is flexible and can be used in a wide variety of scenarios.

In order to accommodate for different nonresponse patterns between waiver population groups weighting adjustment procedures will be employed. Particular emphasis will be given to ensuring the adjustments correlate with whether the sample member responded and with the specific data outcomes of interest and that the variables are available for both respondents and non-respondents. Specific analytic tools like partial R-indicators, R-indicators (and other techniques) can be used to deal with the identification of nonresponse patterns, which can then support appropriate weighting adjustments. States should seek to partner with independent evaluators who have experience with nonresponse adjustments, and/or use technical assistance provided by CMS. Finally, after adjusting for nonresponse, evaluators may want to make post-stratification adjustments and do weight trimming.

APPENDIX 2: BUDGET

The estimated budget for the evaluation design for the period SFY 2020 – SFY 2023 is $731,790. The estimated cost associated by evaluation component are described below.

Evaluation Components	**2020**	**2021**	**2022**	**2023**	**Total Cost**
Data analytic plan & timeline	9,400	6,900	4,928	-	21,228
Beneficiary survey planning and implementation	3,200	5,908	5,000	-	14,108
Focus group and in-depth interview planning and implementation	1,400	4,432	3,000	-	8,832
Beneficiary survey data collection, including follow up	25,550	78,442	80,000	-	183,992
Conducting focus groups and in-depth interviews	12,000	50, 800	34,956	-	97,756
Qualitative and quantitative data analysis and cleaning		135,150	120,300	35,000	290,450
Draft and Final Interim Reports	5,000	50,174	-	-	55,174
Draft and Final Summative Reports	-	-	24,630	35,620	60,250
Total	**$56,550**	**$331,806**	**$272,814**	**$70,620**	**$731,790**

TIME LINE

Evaluation Components	**2020**	**2021**	**2022**	**2023**
Data analytic plan & timeline	9/2020	-	-	-
Beneficiary survey planning and implementation	9/2020	On-going	On-going	-
Focus group and in-depth interview planning and implementation		1/2021-6/2021	-	-
Beneficiary survey data collection, including follow up		1/2021-5/2021	1/2022-9/2022	-
Qualitative and quantitative data analysis and cleaning	-	1/2021-5/2021	1/2022-9/2022	-
Draft and Final Interim Reports	-	5/2021	-	-
Draft and Final Summative Reports	-	-	12/2022	10/2023

APPENDIX 3

DRAFT Medicaid Health Care Beneficiary Survey

Start of Block: Default Question Block

Q1 What is the name of your Medicaid medical plan?

- O Healthy U Medicaid Health Insurance
- O Medicaid Fee for Service
- O Molina Healthcare
- O SelectHealth Community Care
- O Health Choice Utah
- O Not currently enrolled

Skip To: Q8CAHPS If What is the name of your Medicaid medical plan? = SelectHealth Community Care

Q2 How long have you received health care through your medical plan?

- O Less than 6 months
- O 6 months to 12 months
- O More than 12 months

Q3BRFSS Prior to being enrolled in your current medical plan, did you have other health care coverage, including health insurance, prepaid plans such as HMO's or government plans such as Medicare, or Indian Health Service?

- O Yes
- O No

Skip To: Q5 If Prior to being enrolled in your current medical plan, did you have other health care coverage, in... = Yes

Skip To: Q6CAHPS If Prior to being enrolled in your current medical plan, did you have other health care coverage, in... = No

Q4BRFSS Was there a time before you were enrolled in your current medical plan when you needed to see a doctor but could not because of cost?

- O Yes
- O No

Q5 How long were you enrolled in that coverage?

- O Less than 6 months
- O 6 months to 11 months
- O 2 months to 23 months
- O More than 24 months

Q6CAHPS
Prior to being enrolled in your medical plan, how would you rate your overall physical health?

- O Excellent
- O Very good
- O Good
- O Fair
- O Poor

Q7CAHPS
Prior to being enrolled in your medical plan, how would you rate your overall mental or emotional health?

O Excellent

O Very good

O Good

O Fair

O Poor

Q8CAHPS Your Health Care in the Last 6 Months: These questions ask about your own health care. Do not include care you got when you stayed overnight in a hospital. Do not include the times you went for dental care visits.

In the last 6 months, did you have an illness, injury, or condition that needed care right away in a clinic, emergency room or doctor's office?

O Yes

O No

Skip To: Q12CAHPS If Your Health Care in the Last 6 Months: These questions ask about your own health care. Do not in... = No

Q9CAHPS In the last 6 months, when you needed care right away, how often did you get care as soon as you needed it?

O Never

O Sometimes

O Usually

O Always

Q10ED When you needed care right away, did you go to an emergency room?

O Yes

O No

Skip To: Q11ED$ If When you needed care right away, did you go to an emergency room? = Yes

Skip To: Q13CAHPS If When you needed care right away, did you go to an emergency room? = No

Q11ED$ When you received medical treatment in the emergency room, were you required to pay a surcharge?

O Yes

O No

Q12CAHPS In the last 6 months, did you make any appointments for a check-up or routine care at a doctor's office or clinic?

O Yes

O No

Skip To: Q14CAHPS If In the last 6 months, did you make any appointments for a check-up or routine care at a doctors o... = No

Q13CAHPS In the last 6 months, how often did you get an appointment for a check-up or routine care at a doctor's office or clinic as soon as you needed?

O Never

O Sometimes

O Usually

O Always

Q14CAHPS In the last 6 months, not counting the times you went to an emergency room, how many times did you go to a doctor's office or clinic to get health care for yourself?

- O None
- O 1 time
- O 2 times
- O 3 times
- O 4 times
- O 5-9 times
- O 10 or more times

Skip To: Q17BRFSS If In the last 6 months, not counting the times you went to an emergency room, how many times did yo... = None

Q15CAHPS What number would you use to rate all your health care?

	WORST POSSIBLE									BEST POSSIBLE
	0	1	2	3	4	5	6	7	8	9	10
Worst to Best health care											

Q16CAHPS In the last 6 months, how often was it easy to get the care, tests, or treatment you needed?

- O Never
- O Sometimes
- O Usually
- O Always

Q17BRFSS In thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?

0 10 20 30

How many days? 

Q18BRFSS In thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?

0 10 20 30

How many days? 

Q19BRFSS During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

0 10 20 30

How many days? 

Q20CAHPS Your Personal Doctor: This is someone you would see if you need a check-up, want advice about a health problem, or get sick or hurt.

Do you have a personal doctor?

O Yes

O No

Skip To: Q29CAHPS If Your Personal Doctor: This is someone you would see if you need a check-up, want advice about a h... = No

Q21CAHPS In the last 6 months, how many times did you visit your personal doctor to get care for yourself?

- O None
- O 1 time
- O 2 times
- O 3 times
- O 4 times
- O 5 to 9 times
- O 10 or more times

Skip To: Q28CAHPS If In the last 6 months, how many times did you visit your personal doctor to get care for yourself? = None

Q22CAHPS In the last 6 months, how often did your personal doctor explain things in a way that was easy to understand?

- O Never
- O Sometimes
- O Usually
- O Always

Q23CAHPS In the last 6 months, how often did your personal doctor listen carefully to you?

- O Never
- O Sometimes
- O Usually
- O Always

Q24CAPHS In the last 6 months, how often did your personal doctor show respect for what you had to say?

- O Never
- O Sometimes
- O Usually
- O Always

Q25CAHPS In the last 6 months, how often did your personal doctor spend enough time with you?

- O Never (1)
- O Sometimes (2)
- O Usually (3)
- O Always (4)

Q26CAHPS What number would you use to rate your personal doctor?

WORST POSSIBLE BEST POSSIBLE

0 1 2 3 4 5 6 7 8 9 10

Worst to Best doctor ()	

Q27CAHPS Getting Health Care From Specialists: For the next set of questions, do not include dental visits or care you got when you stayed overnight in a hospital.

Specialists are doctors like surgeons, heart doctors, allergy doctors, skin doctors, and other doctors who specialize in one area of health care.

In the last 6 months did you make any appointments to see a specialist?

- O Yes (1)
- O No (2)

Skip To: Q31CAHPS If Getting Health Care From Specialists: For the next set of questions, do not include dental visits... = No

Q28CAHPS In the last 6 months, how often did you get an appointment to see a specialist as soon as you needed?

- O Never (1)
- O Sometimes (2)
- O Usually (3)
- O Always (4)

Q29CAHPS How many specialists have you seen in the last 6 months?

- O None (1)
- O 1 specialist (2)
- O 2 specialists (3)
- O 3 specialists (4)
- O 4 specialists (5)
- O 5 or more specialists (6)

Skip To: Q31CAHPS If How many specialists have you seen in the last 6 months? = None

Q30CAHPS What number would you use to rate the specialist you saw most often in the last 6 months?

	WORST POSSIBLE 0 1 2 3 4 5 6 7 8 9 10 BEST POSSIBLE
Worst to Best specialist ()	

Q31CAHPS Your Health Plan: The next questions ask about your experience with your health plan.

In the last 6 months, did you get information or help from your health plan's customer service?

- O Yes (1)
- O No (2)

Skip To: Q34CAHPS If Your Health Plan: The next questions ask about your experience with your health plan. In the last... = No

Q32CAHPS In the last 6 months, how often did your health plan's customer service give you information or help you needed?

- O Never (1)
- O Sometimes (2)
- O Usually (3)
- O Always (4)

Q33CAHPS In the last 6 months, how often did your health plan's customer service staff treat you with courtesy and respect?

- O Never (1)
- O Sometimes (2)
- O Usually (3)
- O Always (4)

Q34CAHPS
In the last 6 months, did your health plan give you any forms to fill out?

- O Yes (1)
- O No (2)

Skip To: Q36CAHPS If In the last 6 months, did your health plan give you any forms to fill out? = No

Q35CAHPS In the last 6 months, how often were the forms from your health plan easy to fill out?

- O Never (1)
- O Sometimes (2)
- O Usually (3)
- O Always (4)

Q36CAHPS What number would you use to rate your health plan?

	WORST POSSIBLE									BEST POSSIBLE
	0	1	2	3	4	5	6	7	8	9	10
Worst to Best health plan ()											

Q37CAHPS About You: The next questions ask about your health?

In general, how would you rate your overall physical health?

- O Excellent (1)
- O Very good (2)
- O Good (3)
- O Fair (4)
- O Poor (5)

Q38CAHPS
In general, how would you rate your overall mental or emotional health?

- O Excellent (1)
- O Very good (2)
- O Good (3)
- O Fair (4)
- O Poor (5)

Q39CAHPS
In the last 6 months, did you get health care 3 or more times for the same condition or problem?

- O Yes (1)
- O No (2)

Skip To: Q41CAHPS If In the last 6 months, did you get health care 3 or more times for the same condition or problem? = No

Q40CAHPS
Is this a condition or problem that has lasted for at least 3 months? Do not include pregnancy or menopause.

- O Yes (1)
- O No (2)

Q41CAHPS
Do you now need or take medicine prescribed by a doctor? Do not include birth control.

O Yes (1)

O No (2)

Skip To: Q43BRFSS If Do you now need or take medicine prescribed by a doctor? Do not include birth control. = No

Q42CAHPS
Is this medicine to treat a condition that has lasted for at least 3 months? Do not include pregnancy or menopause.

O Yes (1)

O No (2)

Q43BRFSS What is your age? (nearest year)

18 25 31 38 44 51 58 64 71 78 84 91 97 104

Slide to age ()	

Q44CAHPS Are you male or female?

O Male (1)

O Female (2)

Q45 What language do you mainly speak at home?

- O English (1)
- O Spanish (2)
- O Other (3) _____

Q46CAHPS What is the highest grade or level of school you have completed?

- O 8th grade or less (1)
- O Some high school, but did not graduate (2)
- O High school graduate or GED (3)
- O Some college or 2-year degree (4)
- O 4-year college graduate (5)
- O More than 4-year college degree (6)

Q47CE Have you completed any educational training, certification, courses, or degrees since being enrolled in Medicaid health care?

	YES (1)	No (2)
Training (1)	O	O
Certification (2)	O	O
Courses (3)	O	O
Credential or licensure (4)	O	O
Degree (5)	O	O

Q48CAHPS Are you of Hispanic or Latino origin or descent?

- O Yes, Hispanic or Latino (1)
- O No, not Hispanic or Latino (2)

Q49CAHPS What is your race?

- O White (1)
- O Black or African American (2)
- O Asian (3)
- O Native Hawaiian or Other Pacific Islander (4)
- O American Indian or Alaska Native (5)
- O Other (6) _____

Q50 Which county do you live in?

▼ Beaver(1) ... Weber (29)

Q51BRFSS Are you currently. . ?

- O Employed for wages (1)
- O Self-employed (2)
- O Out of work for 1 year or more (3)
- O Out of work for less than 1 year (4)
- O A Homemaker (5)
- O A Student (6)
- O Retired (7)
- O Unable to work (8)

Skip To: Q52ACS If Are you currently. . ? = Employed for wages
Skip To: Q52ACS If Are you currently. . ? = Self-employed
Skip To: Q59CE If Are you currently. . ? = Out of work for 1 year or more
Skip To: Q59CE If Are you currently. . ? = Out of work for less than 1 year
Skip To: Q59CE If Are you currently. . ? = A Homemaker
Skip To: Q59CE If Are you currently. . ? = A Student
Skip To: Q59CE If Are you currently. . ? = Retired
Skip To: Q59CE If Are you currently. . ? = Unable to work

Q52ACS How many hours did you work LAST WEEK at all jobs? (Specify total hours by subtracting any time off and adding overtime or extra time worked)

0 10 20 30 40 50 60 70 80

Total hours worked ()	

Q53wages For your MAIN job, what is the easiest way for you to report your total earnings BEFORE taxes or other deductions?

- O Hourly (1)
- O Weekly (2)
- O Bi-weekly (3)
- O Monthly or twice monthly (4)
- O Annually (5)

Skip To: Q54hourly If For your MAIN job, what is the easiest way for you to report your total earnings BEFORE taxes or... = Hourly

Skip To: Q55week If For your MAIN job, what is the easiest way for you to report your total earnings BEFORE taxes or... = Weekly

Skip To: Q56biweek If For your MAIN job, what is the easiest way for you to report your total earnings BEFORE taxes or... = Bi-weekly

Skip To: Q57mon If For your MAIN job, what is the easiest way for you to report your total earnings BEFORE taxes or... = Monthly or twice monthly

Skip To: Q58ann If For your MAIN job, what is the easiest way for you to report your total earnings BEFORE taxes or... = Annually

Q54hourly What is your hourly rate of pay on your main job? (EXCLUDING overtime pay, tips, and/or commissions)

- O Enter $ amount (1) _____
- O Don't know (2)
- O Refuse (3)

Q55week What are your usual weekly earnings on your main job, before taxes or other deductions? (INCLUDING overtime pay, tips, and /or commissions)

- O Enter $ amount (1) _____
- O Don't know (2)
- O Refuse (3)

Q56biweek What are your usual bi-weekly earnings on your main job, before taxes or other deductions? (INCLUDING overtime pay, tips, and/or commissions)

- O Enter $ amount (1) _____
- O Don't know (2)
- O Refused (3)

Q57mon What are your usual monthly earnings on your main job, before taxes or other deductions? (INCLUDING overtime pay, tips, and/or commissions)

- O Enter $ amount (1) _____
- O Don't know (2)
- O Refused (3)

Q58ann What are your usual annual earnings on your main job, before taxes or other deductions? (INCLUDING overtime pay, tips, and/or commissions)

- O Enter $ amount (1) _____
- O Don't know (2)
- O Refused (3)

Q59CE In the past 12 months, did you have a job that offered health insurance?

- O Yes (1)
- O No (2)

Skip To: Q61CE If In the past 12 months, did you have a job that offered health insurance? = No

Q60CE In the past 12 months, did you enroll in the health insurance offered to you by your job?

- O No, I was not eligible (1)
- O No, I was eligible but could not afford the insurance (2)
- O Yes, I have been enrolled in the insurance for the entire 12 months (3)
- O Yes, I have been enrolled in the insurance for less than 12 months (4)

Q61CE In the past 12 months, have you spent money on child care?

- O Yes (1)
- O No (2)

Skip To: Q66CE If In the past 12 months, have you spent money on child care? = No

Q62CE On average, how much do you spend for child care each week?

- O Less than $100 (1)
- O $100 - $199 (2)
- O $200 - $299 (3)
- O $300 or more (4)

Q63CENEW In the past 12 months, have you received financial support for child care?

- O Yes (1)
- O No (2)

Q64CENEW In the past 12 months, what types of support or assistance have you received due to your participation in Utah Medicaid's work requirement?

Q65CENEW What number would you use to rate the supports and resources you have received as a result of your enrollment in the Utah Medicaid work requirement?

	WORST POSSIBLE									BEST POSSIBLE
	0	1	2	3	4	5	6	7	8	9	10
Worst to Best health plan ()											

Q66CE On average, how much do you spend on transportation, such as gas or public transportation, each week?

- O Less than $10 (1)
- O $10 to $29 (2)
- O $30 to $49 (3)
- O $50 or more (4)
- O I do not have transportation costs (5)

Q67CE Public assistance programs help individuals pay for monthly household expenses. Examples of these type of public assistance programs include Medicaid, Temporary Assistance for Needs Families (TANF), Child Care Assistance, and Supplemental Nutrition Assistance Program (SNAP).

In the past 12 months, have you lost eligibility for any public assistance program?

- O Yes (1)
- O No (2)

Q68CE In the past 12 months, has your household income changed because of a loss of eligibility for any public assistance program?

- O Yes (1)
- O No (2)

Q69CE Have you lost eligibility for Medicaid health care coverage in the last 12 months?

- O Yes (1)
- O No (2)

Skip To: End of Block If Have you lost eligibility for Medicaid health care coverage in the last 12 months? = No

Q70CE What was the reason you lost your Medicaid health care eligibility?

- O Failure to comply with community engagement (work requirement) activities (1)
- O Failure to pay premiums you owe (2)
- O Intentional program violation (IPV) (3)
- O I don't know (4)
- O Other (5) _____

Q71CE If you have lost your Medicaid health care eligibility, what are some things you can do to regain eligibility?

- O Qualify for an exemption (1)
- O Complete all required activities and reapply for Medicaid (2)
- O Demonstrate "good cause" for non-compliance (3)
- O All of the above (4)

End of Block: Default Question Block

q

UTAH 1115 PRIMARY CARE NETWORK DEMONSTRATION WAIVER

EVALUATION DESIGN

TARGETED ADULT MEDICAID / SUD DENTAL
ADULT CLINICALLY MANAGED WITHDRAWAL
ADULT EXPANSION
EMPLOYER SPONSORED INSURANCE

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INTRODUCTION

Utah's 1115 PCN Demonstration Waiver (hereinafter referred to as "Demonstration") is a statewide waiver that was originally approved and implemented in 2002. Since that time, the Demonstration has been extended and amended multiple times to add additional benefits and Medical programs. This proposal will evaluate the impacts and outcomes of the newly approved amendment components. The findings of the evaluation will be presented in a series reports.

A. GENERAL BACKGROUND INFORMATION

This Demonstration waiver amendment will operate through the end of the current waiver period (from April 1, 2019 - June 30, 2022). Components of the amendment (and number) relevant to this specific evaluation design include the following:

- #16 Extend dental benefits to Targeted Adult members receiving SUD services.
- #19 Provide adult clinically managed residential withdrawal services to eligible adult residents of Salt Lake County with Substance Use Disorders (SUD).
- #15 Expansion provides coverage to adult's age 19-64 who have income up to 133% of the federal poverty limit (FPL) who have limited options for affordable health coverage, and who are not eligible for subsidies to purchase coverage in the marketplace, and
- Employer Sponsored Insurance (ESI) mandates Adult Expansion beneficiaries with access to ESI, to enroll in that coverage. The state will provide premium reimbursement and wrap-around Medicaid coverage.

Adult Expansion- Key Differences from Demonstration Population I

Prior to the implementation of Adult Expansion, most individuals now eligible for Adult Expansion were eligible for the PCN program (Demonstration Population I). PCN provided a limited benefit package consisting of preventive and primary care benefits. As of April 1, 2019, PCN eligible individuals transitioned to Adult Expansion. Individuals eligible for Adult Expansion receive one of two benefit plans; traditional state plan benefits or non-traditional benefits. Adults without dependent children receive traditional state plan benefits. Adults with dependent children receive non-traditional benefits, as defined by the State's 1115 demonstration waiver. Adults in the "Current Eligibles" demonstration population also receive non-traditional benefits. Table 1 below details the differences between state plan benefits, non-traditional benefits and the PCN benefit package.

Table 1: Comparison of Adult Expansion Demonstration Population Benefits, including Changes and Limitations

State Plan (Traditional benefits)	Non-Traditional benefits (Current Eligibles & Adult Expansion)	Limitations for Demonstration Population I- PCN
Hospital Services	Some surgical exclusions	Emergency Services in Emergency Room only
Physician Services	Same as state plan	Services by licensed physicians and other health professionals for primary care services only

Vision Care	One eye examination every 12 months, no eyeglasses	One eye examination every 12 months, no eyeglasses
Lab and Radiology Services	Same as state plan	Lab and Radiology only as part of primary care services or as part of an approved emergency service as identified in the PCN Provider Manual
Physical Therapy	Visits to a licensed PT professional (limited to a combination of 16 visits per policy year for PT and OT)	Not covered
Occupational Therapy	Visits to a licensed OT professional (limited to a combination of 16 visits per policy year for PT and OT)	Not covered
Chiropractic Services- Pregnant Women an	EPSDT only	Not covered
Speech and Hearing Services	Hearing evaluations or assessments for hearing aids are covered. Hearing aids covered only if hearing loss is congenital	Hearing evaluations for hearing loss or assessments for hearing aids are covered
Podiatry Services	Same as state plan	Not covered
End Stage Renal Disease - Dialysis	Same as state plan	Not covered
Home Health Services	Same as state plan	Not covered
Hospice Services	Same as state plan	Not covered
Private Duty Nursing	Not covered	Not covered
Prescriptions	Same as state plan	Four prescriptions per calendar month are covered. Diabetic testing supplies do not count towards limit.
Medical Supplies and Medical Equipment	Same as state plan with exclusions.	Equipment only for recovery (see detail list in the PCN Provider Manual)
Abortions and Sterilizations	Same as state plan	Not covered
Inpatient Treatment for Substance Abuse and Dependency	Same as state plan	Not covered
Organ Transplants	The following transplants are covered: kidney, liver, cornea, bone marrow, stem cell, heart & lung (includes organ donor)	Not covered
Long Term Care	Not covered	Not Covered
Family Planning Services	Same as state plan	Consistent with physician and pharmacy scope of services. Not covered: Norplant, Infertility drugs, Invitro fertilization, Genetic counseling, Vasectomy, Tubal ligation.
High-Risk Prenatal Services	Same as state plan	Not covered
Medical and Surgical Services of a Dentist	Same as state plan	Not covered
Dental- Pregnant Women and EPSDT only	Dental services are not Covered. Emergency codes only.	Specific preventive and restorative dental services are covered. Emergency dental is covered.

Transportation Services	Ambulance (ground and air) for medical emergencies only (non-emergency transportation, including bus passes not included)	Ambulance (ground and air) services are covered for emergencies only.

Oral Health Impacts on General Health Conditions

Oral disease, such as dental caries, periodontal disease, tooth loss, oral lesions, oropharyngeal cancers, and orodental trauma, is a serious public-health problem. Its impact on individuals and communities in terms of pain and suffering, impairment of function and reduced quality of life, is considerable. Globally, the greatest burden of oral diseases lies on disadvantaged and poor populations. Oral disease is the fourth most expensive disease to treat[1]. There are numerous studies indicating that improved oral health is correlated with improved physical health.

Effectiveness of Oral Health Improvement on Substance Abuse Treatment

A groundbreaking study conducted by the University of Utah's School of Dentistry indicated that providing comprehensive dental care can positively enhance SUD treatment outcomes [2]. In this study a control group were not given access to dental care, while a second group of patients who were in SUD treatment received comprehensive dental services. This pilot program demonstrated that comprehensive dental care can dramatically improve outcomes related to length-of-stay in treatment, higher rates of employment, higher rates of recovery, and lower rates of homelessness.

Substance Use Disorders in the United States

Substance use and mental health disorders affect millions of adults in the United States and contribute heavily to the burden of disease.[3, 4,5] Illicit drug use, including the misuse of prescription medications, affects the health and well-being of millions of Americans. Cardiovascular disease, stroke, cancer, infection with the human immunodeficiency virus (HIV), hepatitis, and lung disease can all be affected by drug use. Some of these effects occur when drugs are used at high doses or after prolonged use. However, other adverse effects can occur after only one or a few occasions of use.[6] Addressing the impact of substance use alone is estimated to cost Americans more than $600 billion each year.[7]

Reducing SUD and related problems is critical to Americans' mental and physical health, safety, and quality of life. SUDs occur when the recurrent use of alcohol or other drugs (or both) causes clinically significant impairment, including health problems, disability, and failure to meet major responsibilities at work, school, or home. These disorders contribute heavily to the burden of disease in the United States. Excessive substance use and SUDs are costly to our nation due to lost productivity, health care, and crime. [8,9,10]

Substance Use Treatment in Utah

According to the 2016 National Survey of Drug Use and Health, in Utah there were an estimated 134,764 adults in need of treatment for alcohol and/or drug dependence or abuse. Unfortunately, there were only 13,780 adults received SUD treatment services in FY 2017. [11] Of those in treatment, 46% received outpatient, 21% received intensive outpatient, 21% participated in detox, and 12% participated in residential treatment. Seventy-one percent of those in treatment were retained for 60 or more days.

However, SUDs are preventable and treatable. The Utah State Division of Substance Abuse and Mental Health (DSAMH) has statutory oversight of substance abuse and mental health treatment services statewide through local county authority programs. SUD services are available to all Medicaid members statewide. A full continuum of SUD services becomes even more critical in an effort to address the needs of Medicaid members.[12]

An important treatment component to an effective continuum of SUD care is clinically managed withdrawal services. This service allows those with substance use disorders who need help to safely withdraw from substances, to receive this level of care. Eligible individuals must be medically stable and this service is typically provided in a social setting where structured peer support and daily monitoring to assess and ensure the medical needs of the patient are being met. Specific services provided to the patient often include: psychoeducation groups, health education, recovery support and 12-step groups. This level of withdrawal management aligns with ASAM criteria (level 3.2-WM).

B. EVALUATION QUESTIONS & HYPOTHESES

The primary goals of the waiver amendment are to decrease the number of those without health coverage, increase access to primary health care, improve dental coverage, improve SUD treatment outcomes, and reduce emergency department and uncompensated hospital costs. This evaluation design will describe how the University of Utah's Social Research Institute (SRI) and Department of Economics will evaluate the implementation of these waiver amendments. The driver diagram that follows illustrates the relationship between the outcomes and activities of the waiver amendment component. Table 3 provides details of waiver hypothesis, research questions, outcome measures, populations involved, data sources, and analytic methods.

C. METHODOLOGY

1. Evaluation Design

TAM / SUD Dental. Due to the changing and unique target population groups included in the Demonstration, a combination of quasi-experimental design approaches will be implemented in the independent evaluation. First, a single interrupted time series (SITS) design with difference-in-differences (DiD) estimation will be used to evaluate the new dental benefit change for Targeted Adults (TAM) receiving Substance Use Disorder (SUD) services.

Adult Clinically Managed Withdrawal. The SITS design approach with DiD estimation will also be utilized to control for any existing trends in SUD availability and treatment associated with the demonstration. Propensity score matching techniques will be used to minimize observable differences and ensure better estimates. To strengthen the overall design, Salt Lake County (where clinically managed withdrawal services are an allowable Medicaid expense) will only be compared to 3 other urban counties (Weber, Davis, and Utah) where the service is not Medicaid reimbursable, but where access to health care and other SUD treatment services is similar.

The independent evaluator will not be including a separate plan for conducting a cost analysis for the SUD-related demonstrations (TAM – SUD Dental and Adult Clinically Managed Withdrawal Services). The Utah Department of Health will include its plan for SUD-related cost analysis in the appendix. This cost analysis will align with and supplement the cost analysis included in the previously approved SUD evaluation design. For reporting purposes, the two SUD-related demonstrations included in this design will be included in the original SUD design report.

Adult Expansion. Similarly, the expansion population will employ the same quasi-experimental designs. The first will use SITS with DiD estimation and the second will apply both logistic regression and propensity score matching. Propensity score matching will be used to minimize bias from observable confounders that could potentially affect the outcomes. To implement propensity score matching, a logistic regression model will first be fit to the waiver implementation vs. comparison (APCD), to potential measured baseline confounders to calculate the propensity score. Baseline characteristics for matching will include age, gender, socioeconomic status, educational status, and comorbid conditions. These baseline variables that will be used for matching will be incorporated in the logistic regression to control for remaining differences between the waiver group and the matched comparison group. These two approaches (i.e. matching and factors that will be adjusted in both matching and regressions) mitigate confounding bias. The parallel trend assumption for pre-intervention outcomes in DiD will be checked. If the parallel trend assumption with pre-intervention outcomes is not met, we will include pre-intervention outcomes in our propensity score matching. A sensitivity analysis will be conducted to evaluate the potential effect of unmeasured confounding.

In an effort to increase the evaluation rigor for this design, the state will use other-state comparison groups. Specifically, to compare uncompensated care between Utah and other states that have similar Medicaid eligibility criteria but do not have similar demonstrations, the Healthcare Cost Report Information System (HCRIS) will be used. HCRIS includes annual cost reports from Medicare-certified institutional providers. While the most current data is 2018, HCRIS contains data which permits capturing uncompensated care and related costs. Cost of uncompensated care, cost of charity care, and bad debts expense are available for Utah and other states.

Employer Sponsored Insurance.

Finally, quasi-experimental design will also be used with propensity score matching in a regression model to control for differences between those with ESI offers compared to those without.

2. Target and Comparison Populations

Several target populations have been identified for this design. The first includes Targeted Adults beneficiaries with a substance use disorder (SUD) diagnosis who will be eligible for comprehensive dental services. Pre-demonstration outcomes (without dental benefit) will be compared to post-demonstration (with dental benefit). The second population will include beneficiaries in Salt Lake County with a substance use disorder where clinically managed withdrawal services are a Medicaid reimbursable service. Table 2 below summarizes those that have received SUD treatment in Salt Lake County through publicly funded treatment programs compared to residents in the comparison counties (Davis, Utah, and Weber) where clinically managed withdrawal services are not a reimbursable service.

The third population will be those qualifying for Adult Expansion. They will be compared to those who qualified prior to the expansion and with a matched insured population included in the APCD. This database contains data from health insurance carriers, Medicaid, and third party administrators in Utah. These data consist of medical, pharmacy, and dental claims as well as insurance enrollment and health care provider data. During processing these files are cleaned, standardized, and enhanced with analytics software that produces data on risk and burden of illness. Utah's APCD is a rich source of health care data. Comparison population groups in this design will vary based on the research questions and hypotheses. For some, the target population will serve as its own comparison group utilizing a single interrupted time series (SITS) design where the research question will compare service utilization differences over time. Other comparison groups will be formed using balanced matching based on age, gender, and other factors and utilizing inverse priority rating. APCD matching will include age, gender, socioeconomic status, educational status, and comorbid conditions.

The Adult Expansion group are also the target population for the Employee Sponsored Insurance (ESI) waiver component. This component requires beneficiaries to enroll in ESI when available, for which their premium will be reimbursed via enrollment in Medicaid. The comparison population for analysis will also be matched / balanced Adult Expansion members without access to ESI.

Table 2: Summary of SUD populations in Clinically Managed Withdrawal Services (DiD) design counties in Utah.

Counties with Medicaid Clinically Managed Withdrawal Services	**County Population**	**Annual number of admissions and percent served by: Outpatient / IOP/ Residential / Detox**		
		2016	2017	2018
Salt Lake County	1,137,820	(N=8,874) 36/21/10/33	(N=9,298) 35/19/13/33	(N=10,534) 30/17/17/36
Comparison Counties without Medicaid Clinically Managed Withdrawal Services				
Davis, Utah, & Weber Counties	1,205,150	(N=3,815) 55/25/15/5	(N=2,703) 55/25/15/5	(N=4,534) 51/34/9/5

Evaluation Period

Each of the waiver components have different start dates. The pre-demonstration waiver baseline periods (where baseline data are available for the waiver population identified) are included in Table 3. Data to be used for the evaluation will span the pre-demonstration period and will end 6/30/2022.

Table 3: Summary of pre-demonstration baseline start date and implementation date.

Waiver component	Baseline Start Date	Waiver Implementation Date
TAM Dental	3/1/2016	3/1/2019
Clinically managed withdrawal	4/1/2016	5/1/2019
Adult Expansion	4/1/2016*	4/1/2019
ESI	No pre-demonstration population	1/1/2020

*Only for uninsured rates and uncompensated care in Utah hospitals. Interim report due 6/2021 and Summative report due 12/2023

Evaluation Measures

The measures to be used in the TAM dental expansion include elements related to successful treatment in the Medicaid claims data including number of days in treatment and percent retained in treatment greater than 90 days. The clinically managed withdrawal component will utilize Medicaid claims data to assess emergency department utilization rates and expenditures for SUD treatment, as well as number of days in various treatment modalities. Additional measures to be examined include utilization lower intensity SUD treatment services such as outpatient (OP), intensive outpatient (IOP), and partial hospitalization as potential lower cost options to more acute residential treatment, since the adult clinically managed withdrawal services could impact these services. The adult expansion will focus on standard Medicaid outcome measures such as adults with controlled asthma, adults with an outpatient visit (with a documented BMI assessment), rate of individuals with a preventive care visit, and percent of average monthly ED visits without a diagnosis classified as an emergency, and the costs associated with uncompensated hospital care. The employee-sponsored insurance component will measure the overall cost of care.

Process measures collected for each waiver component will include the total number of individuals served by age, gender, and geographical location as well as the total number of medical and dental procedures received by enrollee.

COVID-19 Impacts

There are likely to be numerous impacts to the TAM/SUD dental, Adult Clinically Managed Withdrawal, Adult Expansion, and Employee Sponsored Insurance (ESI) components of the 1115 demonstration resulting from the novel coronavirus (COVID-19) pandemic. A challenge in trying to anticipate and address these impacts is the uncertainty of the virus spread in the population and how long the current pandemic will last. Given these limitations, there are a number of concerns and adjustments that are discussed below.

A. Implementation and Evaluation Changes

With regard to these demonstration waiver components significant adjustments will be needed to address the assumptions inherent in the driver diagrams. For example, implementation of TAM/SUD dental services were significantly impacted by the closure of dental clinics in March of 2020, less than 90 days after policy implementation. In the Clinically Managed Withdrawal expansion in Salt Lake County, SUD services were unstable in multiple locations as a result of the pandemic. Transition from in-person treatment services were delayed by several weeks until SUD treatment providers were able to establish telehealth delivery systems. Similarly service providers in comparison counties were impacted by delays and implementation-related barriers. The length of delayed implementation varied across counties. ESI policy implementation has been impacted by a number of factors. For example, and offers of ESI / take up of ESI have been negatively impacted due to the pandemic. Specifically, in Utah there were historic levels of unemployment during March-April 2020. Although the unemployment rate has decreased since then, the impacts on the state economy persists. Other influencing factors include the number of beneficiaries eligible for ESI was well below the projections anticipated by the state. This was likely indirectly influenced by the historic levels of unemployment during March – April 2020.

Other potential factors impacting the TAM/SUD policy implementation relate directly to the pandemic – forced transition from in-person SUD treatment to telehealth. For instance, one of the key SUD treatment retention motivators is random urinalysis for clients (and particularly important for those who are court-ordered). When treatment services transitioned to telehealth, urinalysis was not available which likely weakened the ability of treatment professionals to effectively engage with their clients. Conversely, the frequency of skipped appointments between clients and therapists decreased, providing more consistent level of services. However, the impacts of both of these implementation-related impacts are difficult to control or measure.

B. Data Collection

The pandemic will affect both primary and secondary data collection in number of ways. First the planned beneficiary survey of TAM/ SUD beneficiaries which was scheduled for spring 2020 will need to be adjusted. This will require a modified survey design that will include subgroup data collection. Survey content also needs to change to include targeted questions designed for retrospective response among beneficiaries who enrolled prior to the beginning of COVID-19 impacts.

An adjusted design for analyzing Medicaid data will also be required to accommodate subgroup populations with disproportionately high pandemic impacts. For example, subgroup beneficiary data

analysis could be defined based on client age and presence of a COVID-19 high risk underlying condition.

There are also obvious important cost implications associated with changes in both primary and secondary data collection, study design, and implementation. These budget amendments would be fully addressed once the bid has been awarded to conduct the community engagement evaluation.

C. Design

The current evaluation design calls for the use of both DiD and logistic regression /propensity score which will likely provide a robust outcome metric. The appropriate use of subgroup analysis previously mentioned for both primary (beneficiary survey) data collection for TAM/SUD dental and secondary (Medicaid data) data collection should strengthen the planned designs. As a result this will provide additional insight into isolating and understanding COVID-19 impacts in Utah. Most of the hypothesis that follow in Table 4 below include comparison groups (that would be similarly impacted by the pandemic)

D. Isolating Demonstration Effects

Since there is considerable uncertainty in trying to understand changes resulting from the pandemic, it may make demonstration policy effects difficult to observe. Such may be the case with very low uptake of ESI or trying to understand the impact of the adult expansion based on less than 90 day implementation period before the pandemic effects began in Utah. As a result, the independent evaluators together with the State may reconsider some of the planned analysis. For instance, since there will likely be insufficient ESI data, reducing the likelihood of viable evidence about the demonstration effects for this waiver component, key decisions regarding the appropriateness of resource allocations for this waiver component must be made.

Additionally, planned data collection spanning 2020 will require robustness checks to examine the effects of including peak pandemic time periods. However, the exact months to exclude may not be clear until additional time has passed given the unstable and frequently changing conditions of the pandemic.

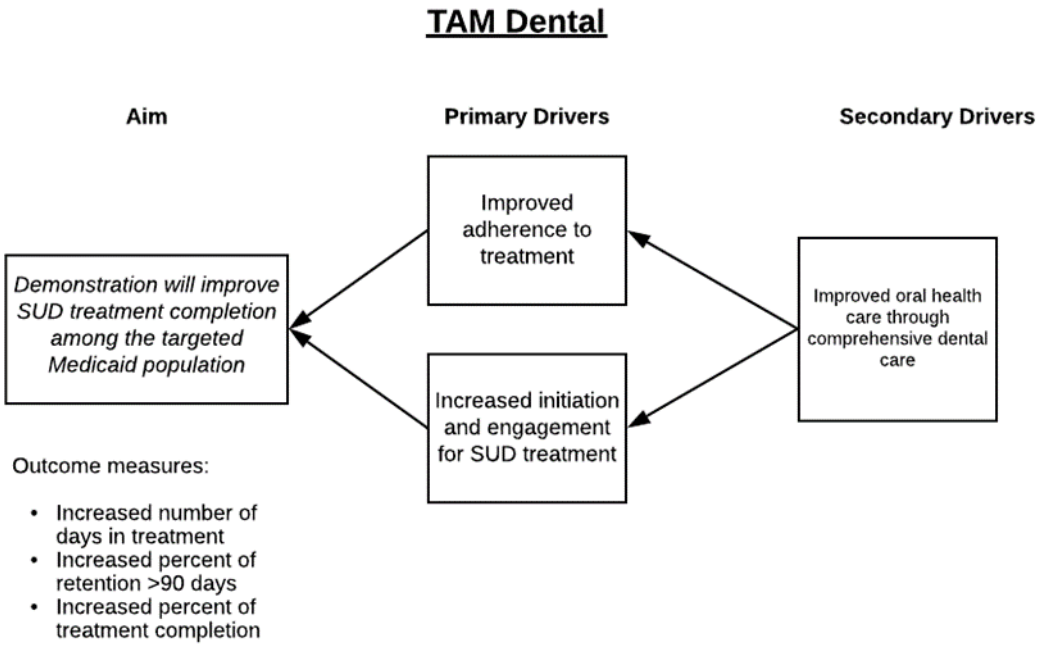
Robustness Checks

The data analysis strategy will also employ the use of robustness checks. On purpose for these checks is to assess if conclusions change following data analysis when assumptions related to the model change. This mainly applies to the extent there may be uncertainty in the way assumptions are being applied. Another more important reason is to demonstrate that the main analysis is supported. This is accomplished by conducting an analysis of core regression coefficient estimates when the regression specification is modified by adding or removing regressors. If the coefficients remain both plausible and robust, this will be evidence of structural validity. This approach will be applied using both critical and non-critical core variables.

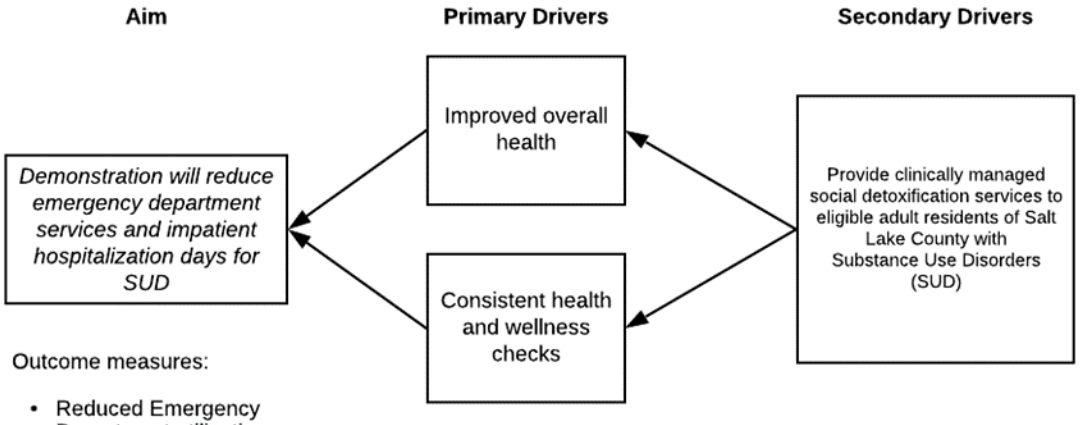
Since the Medicaid data is discrete with many categories, the fit will use a continuous regression model which will yield an analysis that is easier is easier to perform, more flexible, and also easier to understand

and explain—and then robustness check, with re-fitting using ordered logit, just to check that there are no changes in the outcome.

Driver Diagrams



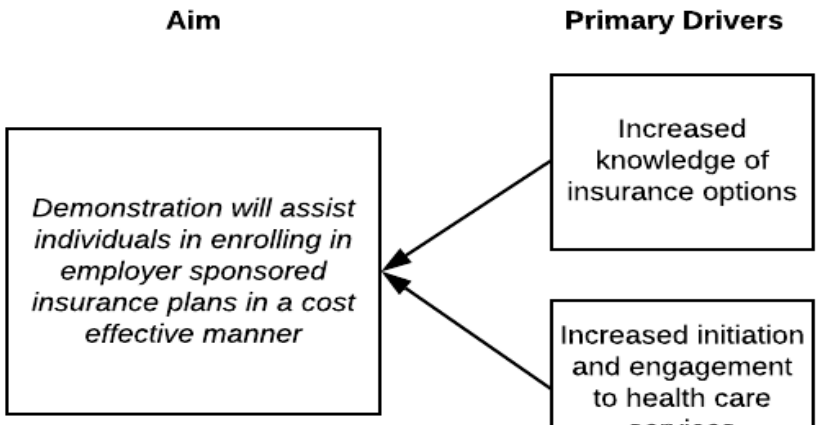
Adult Clinically Managed Withdrawal



Outcome measures:

- Reduced Emergency Department utilization rates for SUD
- Reduced Emergency Department expenditures for SUD treatment

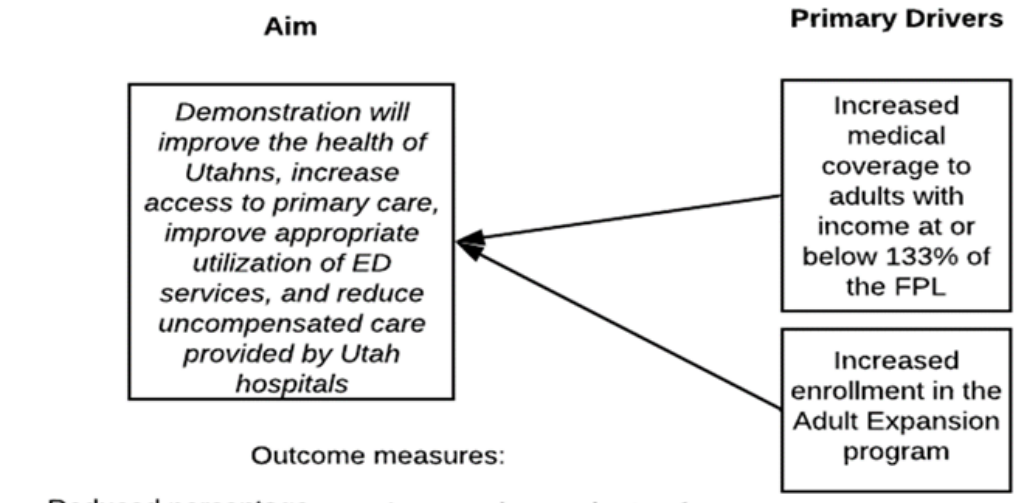
Employer Sponsored Insurance



Outcome measures:

- Reduced overall cost of care for ESI-enrolled individual compared to non-ESI enrolee

Adult Expansion



Outcome measures:

- Reduced percentage of individuals without insurance
- Improved asthma medication ratio
- Percent of adults with an outpatient visit and documented BMI assessment
- Improved annual rate of individuals with a preventative care visit per 1,000
- Decreased percentage of average monthly ED visits without a qualifying diagnosis
- Reduced total annual cost of uncompensated care.

3. Data Sources

Data sources to be used in this design will include several sources. First, UDOH's Medicaid (HIPPA transaction set) consisting of a cleaned set of all Utah claims data for the time period specified. Data from this source is available prior to (4/1/2019) waiver approval and throughout the demonstration. The second data set that will be used for comparison purposes previously discussed will be the APCD. This database contains individual level data from health insurance carriers, Medicaid, and third party administrators in Utah. This comprehensive data set includes medical, pharmacy, and dental claims as well as insurance enrollment and health care provider data. The other data sets that will be used include BRFSS, and the Healthcare Cost Report Information System (HCRIS). Both of these data sets contain state-level data that can be used in the DiD designs.

Both the Medicaid data and the APCD are considered high quality data sources.

4. Analytic Methods

A combination of quantitative statistical methods will be used for the analysis. Specific measures will be utilized for each demonstration as detailed in Table 4. While the Demonstration seeks to increase service provision and promote quality care, observed changes may be attributed to the Demonstration itself and/or external factors, including other State- or national-level policy or market changes or trends. For each Demonstration activity, a conceptual framework will be developed depicting how specific Demonstration goals, tasks, activities, and outcomes are causally connected to serve as the basis for the evaluation methodology. Methods chosen will attempt to account for any known or possible external influences and their potential interactions with the Demonstration's goals and activities. The evaluation will seek to isolate the effects of the Demonstration on the observed outcomes in several ways:

The evaluation will incorporate baseline measures and account for trends for each of the selected variables included in the evaluation. Medicaid data for each of the targeted variables and measures will be analyzed bi-annually so that outcome measures and variables can be monitored on a regular basis. The hypotheses (see Table 5 below) involving the DiD design of comparing SUD clinically managed withdrawal demonstration population Salt Lake County with clinically managed withdrawal services in non-demonstration counties will use regression analysis / propensity score matching. Comparison groups will be created via matching using the APCD to control for and isolate effects of several of the waiver components and the difference-in-difference (DiD) and SITS methods will adjust for differences in comparison populations over time.

Table 4: Summary of Hypothesis, Research Questions, Outcome Measures, Populations, Data Sources, and Analytic Approaches.

TAM Dental

Hypothesis 1. The Demonstration will improve SUD treatment completion among the targeted adult Medicaid (TAM) population.				
Research Question	**Outcome measures used to address the research question**	**Sample or population subgroups to be compared**	**Data Sources**	**Analytic Methods**
Q1. Will individuals receiving comprehensive dental treatment have a higher rate of SUD treatment completion?	Number of days in treatment, percent retained in treatment >90 days, and percent completing treatment successfully	TAM Individuals receiving SUD treatment with comprehensive dental care compared to TAM individuals receiving SUD treatment without comprehensive dental care	Medicaid claims data	Quasi-experimental DiD analysis comparing SUD completion rates with and without comprehensive dental treatment in a single interrupted time series design

Clinically Managed Withdrawal Services

Hypothesis 1. The Demonstration will reduce emergency department services for SUD.				
Research Question	**Outcome measures used to address the research question**	**Sample or population subgroups to be compared**	**Data Sources**	**Analytic Methods**
Q1. Will the number of individuals receiving emergency department services	ED utilization rates for SUD	Individuals in waiver-implementing county (Salt Lake) receiving SUD services in an ED prior to the waiver and post	Medicaid claims	Quasi-experimental DiD analysis comparing waiver implementing (Salt

for substance use disorder decrease in waiver implementing counties? Q2. Will ED expenditures decrease for substance use disorder services in implementing counties?	 ED expenditures for SUD treatment	waiver compared to individuals in non-implementing counties (Weber, Davis, and Utah). Individuals in non-waiver counties receiving SUD services in an ED prior to the waiver and post waiver.		Lake County) vs. those in non-implementing counties in a single interrupted time series design
Hypothesis 2. The demonstration will reduce inpatient hospitalization days for SUD.				
Q1. Will the number of inpatient hospitalization days for SUD services decrease in waiver implementing counties?	Utilization rates for inpatient hospital-based SUD services. Number of days in treatment.	Individuals in waiver-implementing county (Salt Lake) receiving inpatient hospital-based SUD services prior to the waiver and post waiver. Individuals in non-waiver implementing counties receiving inpatient hospital-based SUD services prior to the waiver and post waiver.	Medicaid claims	Quasi-experimental DiD analysis comparing waiver implementing (Salt Lake County) vs. those non –implementing counties in a single interrupted time series design

Hypothesis 3. The demonstration will increase lower cost SUD treatment approaches such as outpatient visits, intensive outpatient, or partial hospitalization.				
Q1. Will the number of outpatient (OP), intensive outpatient (IOP), or partial hospitalization visits for SUD services increase in Salt Lake County?	Utilization rates for outpatient (OP), intensive outpatient (IOP), or partial hospitalization in Salt Lake County.	Individuals in waiver-implementing county (Salt Lake) receiving outpatient, intensive outpatient, or partial hospitalization SUD services prior to the waiver and post waiver. Individuals in non-waiver implementing counties receiving outpatient, intensive outpatient, or partial hospitalization SUD services prior to the waiver and post waiver.	Medicaid claims	Quasi-experimental DiD analysis comparing SUD utilization rates for outpatient (OP), intensive outpatient (IOP), or partial hospitalization treatment in a single interrupted time series design in Salt Lake County vs. non-implementing counties

Adult Expansion

Hypothesis 1. The Demonstration will improve the health and well-being of Utahans.				
Research Question	**Outcome measures used to address the research question**	**Sample or population subgroups to be compared**	**Data Sources**	**Analytic Methods**
Q1. Will the adult expansion reduce the number of uninsured?	Percentage of individuals without insurance	Adult population with incomes between 0-100% FPL	Behavioral Risk Factor Surveillance System (BRFSS)	Quasi-experimental DiD analysis comparing uninsured adult populations in Utah and other states in a single interrupted time series design

Q2. Will the adult expansion improve the health of those enrolled?	Asthma medication ratio. Percent of adults with persistent asthma with a ratio of controller medications to asthma medications of .50 or greater during the measurement year.	Adult expansion population Matched adults in Medicaid database /APCD	Medicaid claims Utah All Payer Claims Database	Quasi-experimental Logistic regression / propensity score matching controlling for age, gender, and health condition.
Q3. Will the adult expansion improve the health of those enrolled?	Percent of adults with an outpatients visit, with a documented BMI assessment.	Adult expansion population Matched adults in Medicaid database /APCD	Medicaid claims Utah All Payer Claims Database	Quasi-experimental Logistic repression / propensity score matching controlling for age, gender, and health condition.
Hypothesis 2. The Demonstration will increase access to primary care and improve appropriate utilization of emergency department (ED) services by Adult Expansion members.				
Q1. Will the adult expansion increase access to primary care?	Annual rate of individuals with a preventive care visit per 1,000.	Adult expansion population Matched adults in Medicaid database /APCD	Medicaid claims Utah All Payer Claims Database	Quasi-experimental
Q2. Will the adult expansion reduce non-emergent ED utilization?	Percent of average monthly ED visits without a qualifying diagnosis (non-emergent).	Adult expansion population Matched adults in Medicaid database /APCD	Medicaid claims Utah All Payer Claims Database	Quasi-experimental Logistic repression / propensity score matching controlling for age, gender, and health condition.

Hypothesis 3. The Demonstration will reduce uncompensated care provided by Utah hospitals.				
Q1. Will implementation of the waiver reduce uncompensated care?	Total annual cost of uncompensated care.	Utah hospitals uncompensated care, pre – and post waiver demonstration	Comparison to other states based on Center for Budget & Policy Priority definition: any services for which a provider is not reimbursed Pre-waiver and annual costs.	Quasi-experimental Analysis comparing uncompensated care in Utah and other states in a single interrupted time series design.

Employer Sponsored Insurance (ESI)

Hypothesis 1. The Demonstration (subsidizing ESI enrollment) will reduce Medicaid program costs.				
Research Question	**Outcome measures used to address the research question**	**Sample or population subgroups to be compared**	**Data Sources**	**Analytic Methods**
Q1. Will the overall cost of care for ESI enrollee be lower than a non-ESI enrollee?	Overall cost of care for ESI-enrolled individual compared to non-ESI enrollee.	Adult expansion individuals receiving ESI reimbursement compared to adult expansion individuals who are non-ESI enrollees.	Medicaid claims	Quasi-experimental Propensity score matching approach controlling for age, gender, and health condition.
Hypothesis 2. Administrative cost of operating the demonstration.				
Q1. What are the total administrative costs associated with implementation of the waiver?	Includes: cost of DWS contract for staff time and information technology (IT) upgrades required to	Individuals subject to community engagement requirements	UDOH Medicaid costs, DWS contract costs. Annual administrative costs	Descriptive analysis of all DWS and UDOH costs required to plan, administer, and implement the demonstration.

	plan, administer and implement demonstration policies.			
Q2. What are the costs associated with ESI subsidies?	Process Measures	N/A	Medicaid claims, eREP data	Descriptive analysis
Q3. Which beneficiaries are offered ESI?	Process Measures	N/A	Medicaid claims, DWS State Admin data, eREP data	Descriptive analysis

D. METHODOLOGICAL LIMITATIONS

The first potential limitation is ensuring each individual analysis is based on unduplicated data. SRI staff and researchers from the University of Utah Economics Department will work closely with Utah Medicaid data personnel and Utah Department of Health to ensure the data used for final analysis is as accurate as possible and that errors in the APCD have been minimized to avoid duplication.

E. ATTACHMENTS

A. Independent Evaluator

The Social Research Institute (SRI) will conduct all activities related to this proposal to fulfill the evaluation requirements of Utah's 1115 PCN Waiver with specific emphasis on conducting data analysis to ensure timely reporting. SRI was established in 1982 as the research arm of the College of Social Work. Its goal is to be responsive to the needs of community, state, national and international service systems and the people these systems serve. Through collaborative efforts, SRI facilitates innovative research, training and demonstration projects. SRI provides technical assistance and research services in the following functional areas: conducting quantitative and qualitative research; designing and administering surveys; analyzing and reporting data analysis; designing and conducting needs assessments of public health and social service problems and service systems; planning and implementing service delivery programs; evaluating program and policy impacts; training in research methods and data analysis; providing technical assistance.

SRI staff are experienced in complying with state and federal laws regarding protecting human subjects and assuring confidentiality of data. SRI will complete the required IRB applications for this project including any data sharing agreements that may be necessary. SRI staff comply with generally accepted procedures to safeguard data by ensuring all data is stored on password protected and encrypted computers. Specifically, we use two-factor authentication (2FA) verification as an extra layer of security. All data collection and analysis SRI is responsible for will be based on the agreed upon data collection plan and in accordance with HIPAA-compliant data management systems available to University of Utah researchers.

Independent Evaluator Selection Process

SRI staff have contracted with the Utah Department of Human Services, Division of Child and Family Services (DCFS) to evaluation their IV-E waiver demonstration project for the past 4 years. Simultaneously, SRI also served as the independent evaluator for the State of Idaho's IV-E waiver demonstration for two years. Within the past year, key research staff from DCFS who were familiar with the work performed by SRI staff changed jobs and now work for UDOH Office of Health Care Statistics.

As result, when UDOH was trying to locate an independent evaluator a referral was provided and several preliminary meetings and discussions were held. This led to SRI developing a proposal for UDOH to conduct the Demonstration evaluation.

The research team will consist of Rodney W. Hopkins, M.S., Research Assistant Professor, Kristen West, MPA., Senior Research Analyst, and Jennifer Zenger, BA, Project Administrator.

Mr. Hopkins in an Assistant Research Professor and has 25 years' experience in conducting program evaluations for local, state, and federal agencies. He has an M.S. and will be the project lead, with responsibility for evaluation design and implementation, data collection, and reporting. He will be .45 FTE.

Kristen West, MPA (.25 FTE) is a Senior Research Analyst with experience conducting multi-year program evaluations for DCFS and JJS. She has expertise with a variety of statistical software programs to analyze data including multi-level regression models, linear regression, and descriptive statistics (SPSS and R). She also has experience developing and data visualization dashboards. Jennifer Zenger (.05 FTE) is SRI's Project Administrator and has 25 years' experience in budgeting, accounts payable, and working with state and federal agencies. She will be responsible for contract setup, monitoring, and accounting services.

An interdepartmental consortium has been established between SRI and the University of Utah's Department of Economics and the Department of Family and Consumer Studies. The Department of Economics, Economic Evaluation Unit led by Department Chair, Norm Waitzman, Ph.D., (.03 FTE) a Health Economist who has extensive health care utilization and cost analysis experience will lead this effort. The other principal researcher is Jaewhan Kim, Ph.D. (.21 FTE) a Health Economist and Statistician with a broad background in health care utilization and cost analysis, statistical design and data analysis including cohort studies and cross-sectional studies. He currently co-directs the Health Economics Core, Center for Clinical & Transitional Science (CCTS) at the University Of Utah School Of Medicine. He has expertise in analyzing claims databases for health care utilization and costs and has worked on multiple federal studies of health care utilization using diverse claims data such as Medicare, Medicare-SEER, Medicaid, MarketScan, PHARMetrics, University of Utah Health Plan's claims data and Utah's All Payers Claims Database (APCD). He was one of the original l developers of the APCD, published the first paper with Utah's APCD data, and has worked collaboratively with other researchers to successfully conduct more than 20 studies using the APCD. They will also be supported by a to-be-named Graduate Research Assistant (1.0 FTE).

D. References

1. Petersen, P.E. (2018). World health organization global policy for improvement of oral health. International Dental Journal (2018) 58, 115-121. doi:10.1922/IDJ_1930Petersen07

2. Hanson, G.R., McMillan, S., Mower, K., Bruett, C. T., Duarte, L., Koduri, S., Pinzon, L., Warthen, M., Smith, K., Meeks, H., & Trump, B. (2019). Comprehensive oral care improves treatment outcomes in male and female patients with high-severity and chronic substance use disorders. Journal of the American Dental Association. (In press)

3. World Health Organization. (2013). Mental health action plan 2013–2020. Retrieved from http://www.who.int/mental_health/ publications/action_plan/en/

4. Reeves, W. C., Strine, T. W., Pratt, L. A., Thompson, W., Ahluwalia, I., Dhingra, S. S., McKnight-Eily, L. R., Harrison, L., D'Angelo, D. V., Williams, L., Morrow, B., Gould, D., & Safran, M. A. (2011). Mental illness surveillance among adults in the United States. Morbidity and Mortality Weekly Report CDC Surveillance Summaries, 60(Suppl. 3), 1-29.

5. Murray, C. J. L., & Lopez, A. D. (2013). Measuring the global burden of disease. New England Journal of Medicine, 369, 448-457. doi:10.1056/ NEJMra1201534

6. National Institute on Drug Abuse. (2012, November). Medical consequences of drug abuse. Retrieved from http://www.drugabuse.gov/ related-topics/medical-consequences-drug-abuse

7. Substance Abuse and Mental Health Services Administration. (2014, October 3). Prevention of substance abuse and mental illness. Retrieved from http://www.samhsa.gov/prevention

8. Bouchery, E. E., Harwood, H. J., Sacks, J. J., Simon, C. J., & Brewer, R. D. (2011). Economic costs of excessive alcohol consumption in the U.S., 2006. American Journal of Preventive Medicine, 41, 516-524. doi:10.1016/j.amepre.2011.06.045

9. Office of National Drug Control Policy, Executive Office of the President. (2011). How illicit drug use affects business and the economy. Retrieved from http://www.whitehouse.gov/sites/default/files/ondcp/Fact_Sheets/ effects_of_drugs_on_economy_jw_5-24-11_0.pdf

10. National Drug Intelligence Center. (2011). National Drug Threat Assessment 2011 (Product No. 2011-Q0317-001). Retrieved from http:// www.justice.gov/archive/ndic/pubs44/44849/44849p.pdf

11. FY2017 Utah Substance Abuse Treatment Outcome Measures Scorecard for all clients. (2017). Utah Department of Human Services, Division of Substance Abuse and Mental Health.

12. FY2017 Utah Substance Abuse Treatment Outcome Measures Scorecard for all clients. (2017). Utah Department of Human Services, Division of Substance Abuse and Mental Health.

APPENDIX 1

BUDGET – Targeted Adult Management – SUD Dental

Evaluation Components	2020	2021	2022	2023	Total Cost
Data analytic plan & timeline	2,500	1,500	1,500	-	5,500
Retrospective data analysis	20,000	10,000	-	-	30,000
Beneficiary survey data collection, including follow up	10,550	35,000	35,000	-	80,550
Qualitative and quantitative data analysis and cleaning	5,000	35,000	30,000	5,000	75,000
Draft and Final Interim Reports	3,000	22,000	-	-	25,000
Draft and Final Summative Reports	-	-	3,000	17,000	20,000
Total	**$41,050**	**$103,500**	**$69,500**	**$22,000**	**$235,050**

TIME LINE

Evaluation Components	2020	2021	2022	2023
Data analytic plan & timeline	09/2020	Quarterly	Quarterly	-
Retrospective data analysis	10/2020	05/2021	1/2022-12/2022	-
Beneficiary survey data collection, including follow up	-	1/2021-12/2021	1/2022-12/2022	-
Qualitative and quantitative data analysis and cleaning	-	Ongoing/ by need	Ongoing/ by need	Ongoing/ by need
Draft and Final Interim Reports	-	05/2021	-	-
Draft and Final Summative Reports	-	-	-	10/2023

BUDGET – Adult Clinically Managed Withdrawal

Evaluation Components	2020	2021	2022	2023	Total Cost
Data analytic plan & timeline	2,500	1,500	1,500	-	5,500
Retrospective data analysis (2016 – 2019 data)	40,000	10,000	-	-	50,000
Quantitative data analysis and cleaning	5,000	45,000	30,000	5,000	85,000
Draft and Final Interim Reports	5,000	15,000	-	-	20,000
Draft and Final Summative Reports	-	-	5,000	10,000	15,000
Total	**$52,500**	**$71,500**	**$36,500**	**$15,000**	**$175,500**

TIME LINE

Evaluation Components	2020	2021	2022	2023
Data analytic plan & timeline	09/2020	Quarterly	Quarterly	-
Retrospective data analysis (2016 – 2019 data)	10/2020	5/2021	-	-
Quantitative data analysis and cleaning	-	Ongoing/ by need	Ongoing/ by need	Ongoing/ by need
Draft and Final Interim Reports	-	05/2021	-	-
Draft and Final Summative Reports	-	-	12/2022	10/2023

BUDGET – Adult Expansion

Evaluation Components	2020	2021	2022	2023	Total Cost
Data analytic plan & timeline	10,500	5,500	2,500	-	18,500
Retrospective data analysis (2016 – 2019 data)	30,000	40,500	-	-	70,500
Quantitative data analysis and cleaning	10,000	45,000	40,000	-	95,000
Draft and Final Interim Reports	5,000	25,000	-	-	30,000
Draft and Final Summative Reports	-	-	15,000	25,000	40,000
Total	**55,500**	**116,000**	**57,500**	**25,000**	**254,000**

TIME LINE

Evaluation Components	2020	2021	2022	2023
Data analytic plan & timeline	09/2020	Quarterly	Quarterly	-
Retrospective data analysis (2016 – 2019 data)	10/2020	10/2021	10/2022	-
Quantitative data analysis and cleaning	-	Ongoing/ by need	Ongoing/ by need	Ongoing/ by need
Draft and Final Interim Reports	-	05/2021	-	-
Draft and Final Summative Reports	-	-	-	10/2023

BUDGET – ESI

Evaluation Components	2020	2021	2022	2023	Total Cost
Quantitative data analysis and cleaning	$25,000	$50,000	$65,000	-	$140,000
Draft and Final Interim Reports	$5,000	$10,000	-	-	$15,000
Draft and Final Summative Reports	-	-	$8,000	$15,000	$23,000
Total	**$30,000**	**$60,000**	**$73,000**	**$15,000**	**$178,000**

TIME LINE

Evaluation Components	2020	2021	2022	2023
Quantitative data analysis and cleaning	-	Ongoing/ by need	Ongoing/ by need	Ongoing/ by need
Draft and Final Interim Reports	-	05/2021	-	-
Draft and Final Summative Reports	-	-	-	10/2023