Interim Report – LEAD Bernalillo County (January 2023 – June 2023)

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Report Overview

In this interim report of LEAD – Bernalillo County for 2023, we provide an overview of statistics on LEAD – Bernalillo County program implementation covering the first half of the 2023 calendar year. Specifically, we review statistics on the number of unique individuals who were referred to and enrolled in LEAD in the first six months of 2023, officers' degree of use of warm handoff to link referrals to case managers and how use of the warm handoff correlates with enrollment success, the amount of time officers spend on scene during a LEAD referral, and a descriptive characteristics of enrolled participants (e.g., sociodemographic traits; housing safety and security; substance use and frequency of substance use). We append an analysis completed in May 2023 which explores the effect of early case management engagement on subsequent engagement within the cohort of LEAD participants who enrolled in the program between July 2021 and April 2023. As we intend on completing an outcome evaluation of LEAD – Bernalillo County by the end of the 2024 calendar year, we highlight an issue – high rates of participant attrition at quarterly intervals - which limits our capacity to evaluate the effect of LEAD on a host of COSSAP-recorded outcomes.

The Descriptive Profile of LEAD Referrals in 2023

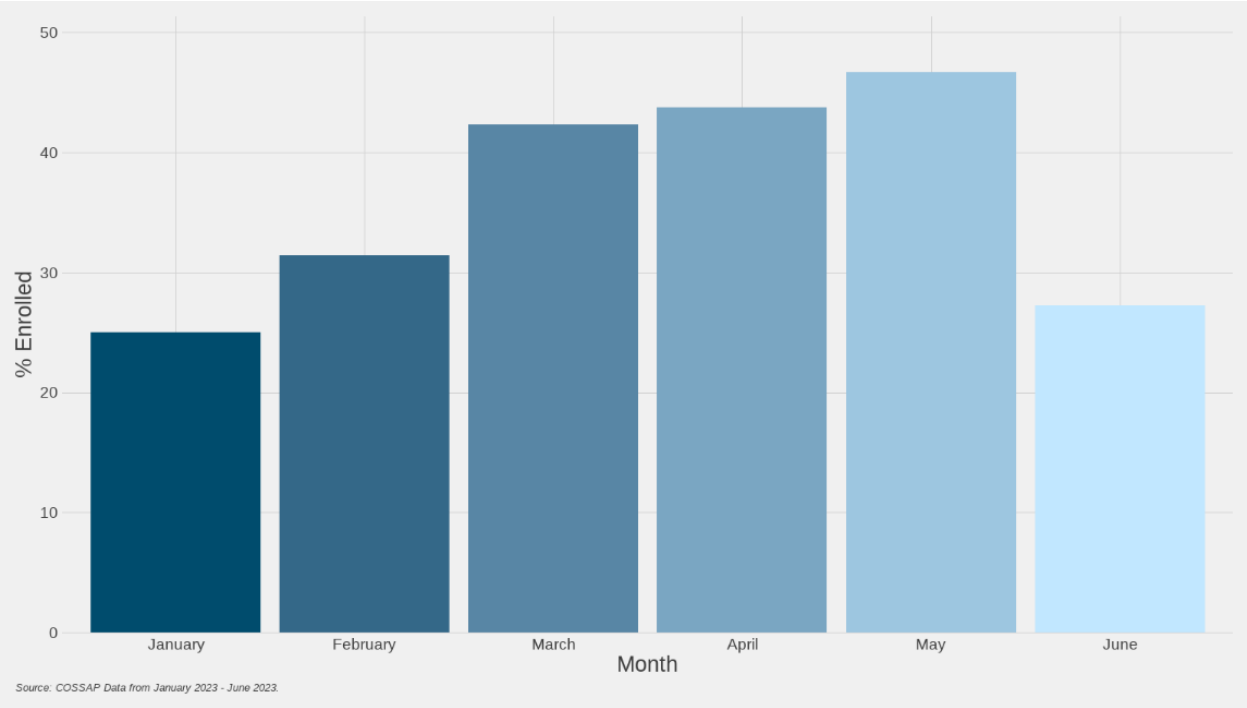
Between January 1, 2023, and June 30, 2023, 134 individuals were referred to LEAD – Bernalillo County for an average of 22 referrals per month and a median of 20 referrals per month. Assuming the pace of referrals continued through the end of 2023, an estimated 268 individuals would be referred to LEAD – Bernalillo County in 2023, which would represent a 9% year-over-year increase in referrals relative to the 2022 calendar year in which 245 individuals were referred to LEAD.

Table 1 displays the number of referrals received by referral pathway and month between January 2023 and June 2023. Consistent with 2022, most referrals came from the social referral pathway: 75% of referrals were from social referral sources (n = 100), 25% were from arrest diversion sources (n = 33; 82% from APD and 18% from BCSO), and less than 1% were from social LEO referral sources (n = 1).

Overall, 37% of individuals referred to LEAD in 2023 enrolled (n = 50) (Figure 1). The percent of referrals who enrolled in LEAD generally increased each month within the reporting period, except for June 2023, though the explanation for the lower enrollment rate in June is unknown (e.g., reduced staff loads; incomplete enrollment data at the point of the data extraction in mid-July 2023).

Figure 1.

The Percent of LEAD Referrals Who Enroll by Month (n = 134)



As reported previously, individuals referred to the program through arrest diversion enrolled at significantly lower rates than social referrals (15% versus 45%; p-value = 0.02), and the use of a warm handoff, within the subset of arrest diversions, was a significant predictor of subsequent enrollment. Individuals referred without a warm handoff by diversion enrolled 7% of the time whereas individuals referred with a warm handoff through diversion enrolled 50% of the time (p-value = 0.05). Per incident reports, diversion referrals took officers, on average, 40 minutes.

Table 1.

Count of LEAD Referrals by Referral Type and Month (2022 Monthly Figures)

Month	Arrest Diversion	Social	Social LEO	2023 Totals
January	4 (10)	12 (17)	0 (0)	16 (27)
February	8 (10)	27 (19)	0 (1)	35 (30)
March	1 (4)	25 (8)	0 ()	26 (12)
April	7 (5)	9 (12)	0	16 (18)
May	5 (10)	24 (10)	1	29 (22)
June	8 (4)	3 (10)	0	11 (15)

We present the demographic characteristics of LEAD referrals in Table 2 below.

Table 2.

Crosstabulation of Gender and Race-Ethnicity of LEAD Referrals (n = 134)

Gender	White	Hispanic	Native American	Black	Other	Total
Female	18	17	8	1	4	48
Male	40	26	5	11	2	84
Total	58	43	13	12	6	132

Most LEAD referrals identified as male (63%), and a plurality of LEAD referrals identified as White (44%).

A Descriptive Profile of LEAD Participants at Enrollment in 2023

51 referrals enrolled in the first half of the calendar year. 55% of enrollments identified as male in contrast to 45% who identified as female. Table 3 outlines the cross-tabulation of gender with race-ethnicity and shows the distribution of enrollments across these dimensions.

Table 3.

Crosstabulation of Gender and Race-Ethnicity of LEAD Enrollments (n = 51)

Gender	White	Hispanic	Native American	Black	Other	Total
Female	8	7	5	0	1	22
Male	13	10	0	3	0	28
Other	0	1	0	0	0	1
Total	21	18	5	3	0	51

86% of enrollments reported not having stable housing at the point of program enrollment (n = 44). Table 4 spotlights the housing profiles of LEAD enrollments at intake.

Table 4.

Housing Status of LEAD Enrollments at Baseline (n = 51)

Housing Safety	Percent (Count)
Outside – Camping	31% (16)
Outside – Unsheltered	16% (8)
Own House	12% (6)

Hotel	12% (6)
Family or Friends' House	12% (6)
Car	12% (6)
Shelter	6% (3)

Per Table 4, most LEAD participants were precariously housed, and few had stable housing at enrollment. 14% of LEAD participants were employed, either full-time or part-time, at the point of program enrollment. 43% were unemployed and not actively searching for a job whereas 43% were unemployed and actively searching for a job (n = 22; n = 22). Mean quality of life ratings on a 1 – 7 scale where 1 = Terrible Quality of Life and 7 = Excellent Quality of Life was 3.1. 40% reported having a primary care physician (n = 20).

40% reported an OD history at enrollment (n = 20). 57% reported not receiving any services in the 30 days prior to enrollment, inclusive of services related to employment, housing, alcohol treatment, medication assisted treatment, inpatient or outpatient substance use treatment, and syringe/needle exchanges. Of those who received services in the 30 days prior to enrollment, 10% reported accessing housing-related services in the 30 days prior to enrollment (n = 9), and 8% reported accessing MAT – Methadone services (n = 8).

Table 5.

Most Used Substances Prior to Enrollment (n = 51)

Substance	Percent of Participants Using
Methamphetamine	33% (17)
Cannabis	27% (14)
Alcohol	27% (14)
Fentanyl	22% (11)
Heroin	8% (4)

69% of enrollments indicated they had used at least one substance in the 30 days prior to enrolling (n = 35). Within the subset of participants self-reporting substance use, 60% engaged in polysubstance use in the month prior to enrolling (n = 21). The average number of substances used prior to enrolling among the subset of enrollments was 2.6. The most common substance pairing among polysubstance users was fentanyl and methamphetamine (19%; n = 4). In Table 6, we present the average number of days each of the top five most used substances were used

prior to enrollment within the subset of participants who reported using each substance.

Table 6.

Frequency of Substance Use Prior to Enrollment (n = 51)

Substance	Average # of Days Used
Methamphetamine	19
Cannabis	14
Alcohol	3
Fentanyl	23
Heroin	2

LEAD Participant Engagement Patterns

On May 11, 2023, we presented a slide deck at the Operational Workgroup (OWG) meeting in response to a request from a BCSO LEAD liaison which included an analysis of the scope of intensive case management (ICM) LEAD participants received between the start of the LEAD COSSAP grant and April 2023[1]. We replicate the analysis from that presentation here. The point of the analysis was to see what the scope of early participant engagement in the program typically looked like (i.e., how engaged participants are in Month 1 of enrollment) and see how participant engagement patterns with their case managers evolve over time (e.g., see whether non-engagement in Month 1 predicts non-engagement in later months).

We pulled data from NetSmart CareManager on 162 LEAD referrals who enrolled in LEAD and merged this data with SmartSheet and RedCap data collected as part of the COSSAP grant. We explored (1) how participant engagement patterns with case managers vary based on the degree of case management that happens in Month 1, (2) how participant engagement patterns with case managers vary based on referral type, and (3) how participant engagement patterns vary based on whether a warm handoff was used at referral.

Typically, it took about one week following program enrollment for another two-way interaction to occur between participants and case managers. 7% (n = 12) of LEAD participants had no encounters in the first month after enrolling. 36% (n = 59) of LEAD participants received intensive case management (ICM) [i.e., 4 or more two-way interactions] in the first

[1] Intensive case management is measured as a participant having 4 or more two-way interactions with their case manager within a given month.

month after enrolling. Table 7 shows the percent of LEAD participants with no encounters and receiving ICM within a given month following enrollment.

Table 7.

Scope of LEAD Participant Engagement Following Enrollment

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
% with 0 Encounters	7%	27%	47%	61%	71%	77%
% Receiving ICM	36%	28%	22%	16%	11%	9%

Table 8 provides average and median counts of case management interaction with participants monthly. The median counts, given in parentheses, separate the data into two equal halves, with half of the data points falling below the median and half above it. From Table 8, we see that participants referred by social referral have significantly higher engagement in Month 1 than participants referred through arrest diversion or social LEO referral pathways.

Table 8.

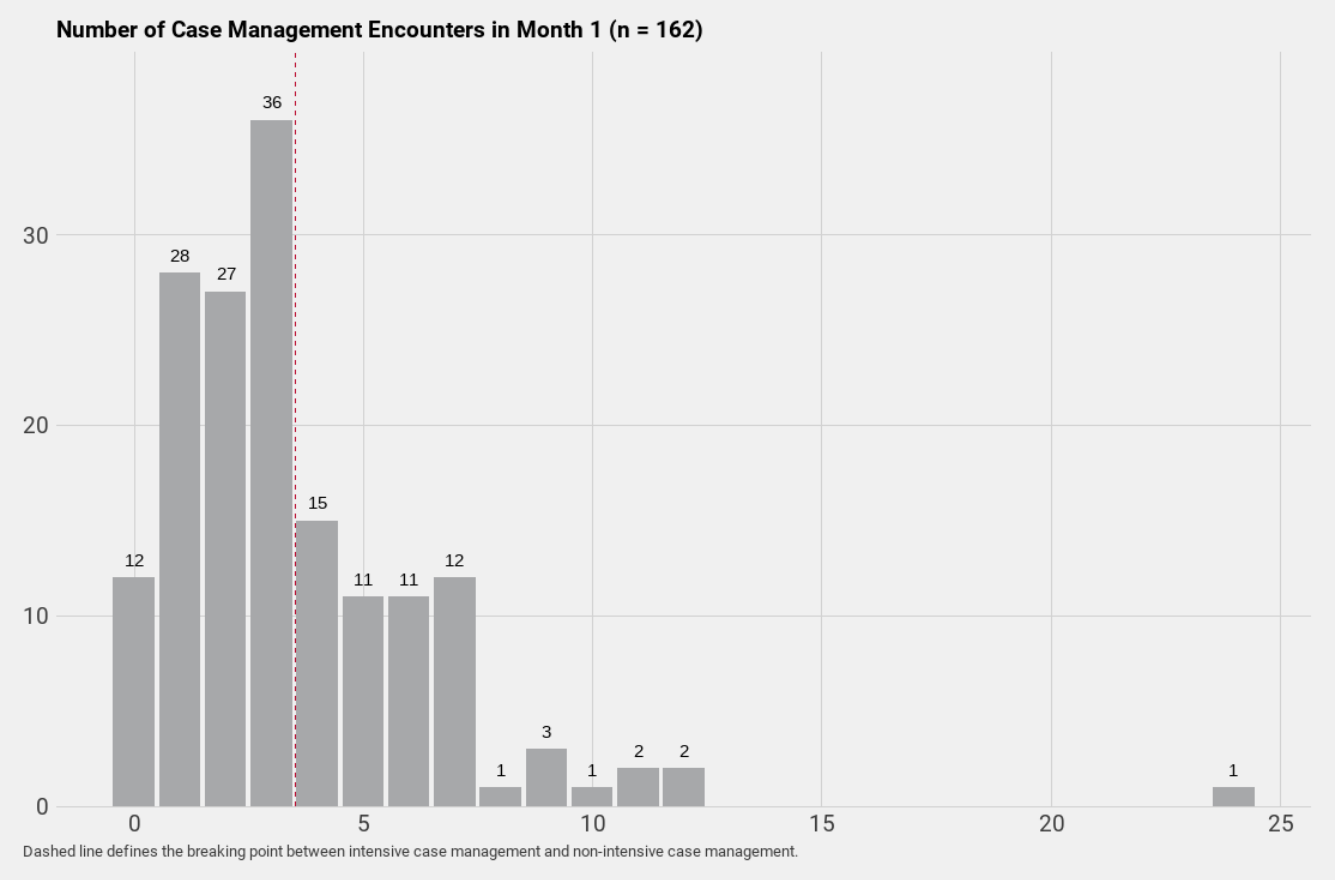
Engagement by Referral Type and Month

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
All	3.5 (3)	2.9 (2)	2 (1)	1.6 (0)	1.2 (0)	0.8 (0)
Diversion	2.6 (2)	2.7 (2)	1.5 (1)	0.9 (0)	0.7 (0)	0.3 (0)
Social LEO	2.6 (3)	1.8 (2)	1.6 (0.5)	2.3 (1.5)	2.1 (1)	2.5 (2.5)
Social	4.0 (3.0)	3.0 (2)	2.2 (1)	1.8 (0)	1.4 (0)	0.9 (0)

Figure 2 shows the number of participants receiving ICM in Month 1 of program enrollment. On the x-axis is the count of the number of two-way interactions case managers had with their participants in Month 1. On the y-axis is the number of participants, of the 162 who enrolled, who had that specific number of encounters in Month 1. Participants to left of the red dashed line did not receive ICM whereas participants to the right of the red dashed line did receive ICM.

Figure 2.

Number of LEAD Participants Receiving ICM within First Month of Enrolling



Figures 3 – 6 highlight the scope of case management services provided to participants in Months 1 – 6 based on various sampling inclusion criteria (e.g., whether a participant had 0 case management encounters in Month 1 versus whether a participant did not receive ICM in Month 1).

Figure 3.

Percent of Participants Receiving ICM Within First Six Months of Program Enrollment (n = 162)

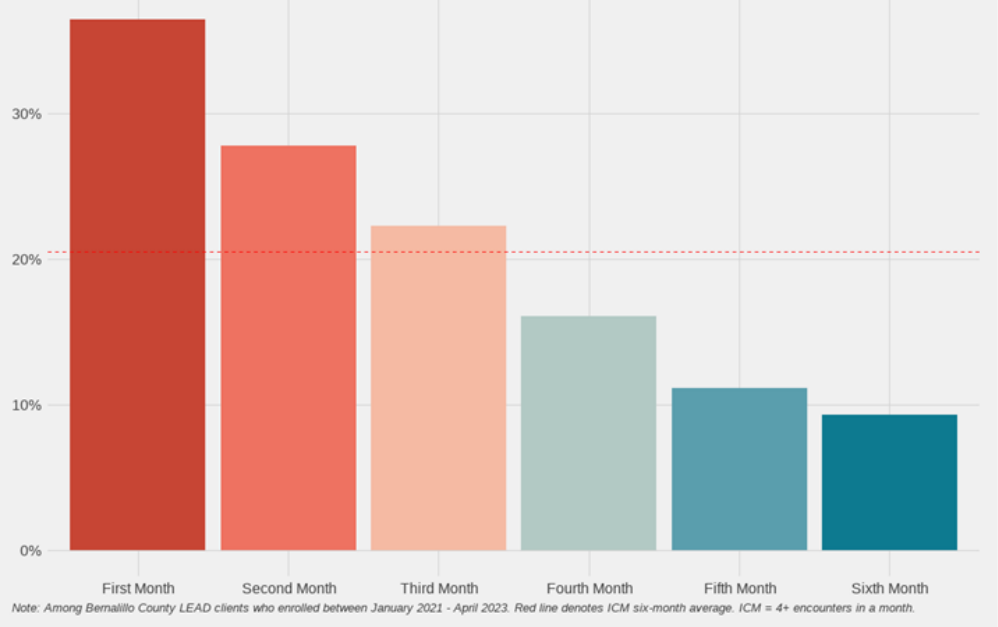


Figure 4.

Percent of LEAD Participants with No Case Management Encounters in First Six Months Following Enrollment (n = 162)

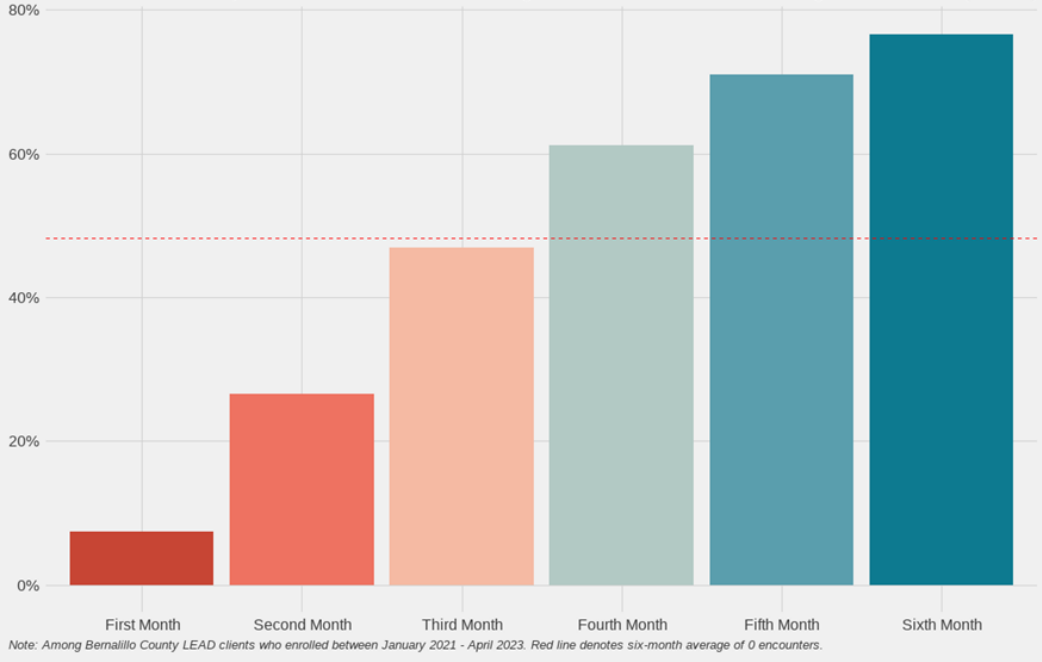


Figure 5.

Percent of LEAD Participants with 0 Case Management Encounters in Month 1 Who Have 0 Encounters in Subsequent Months (n = 12)

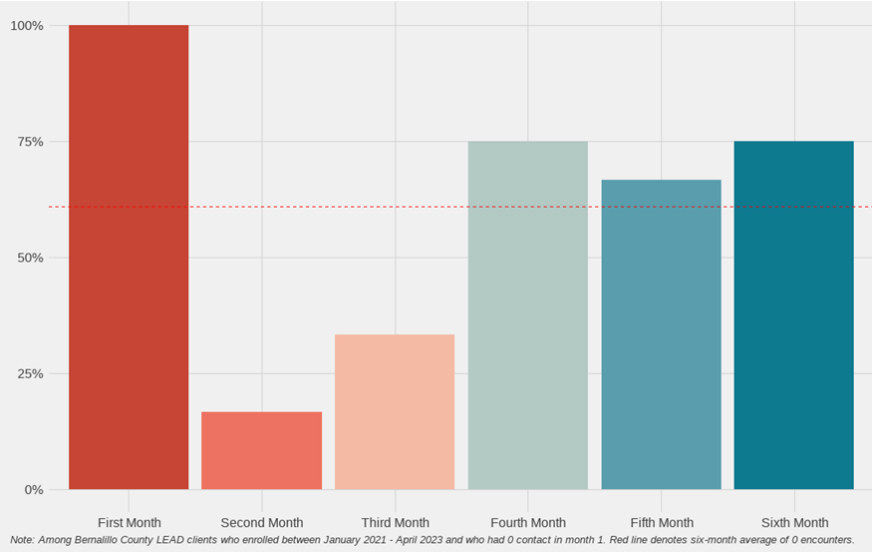
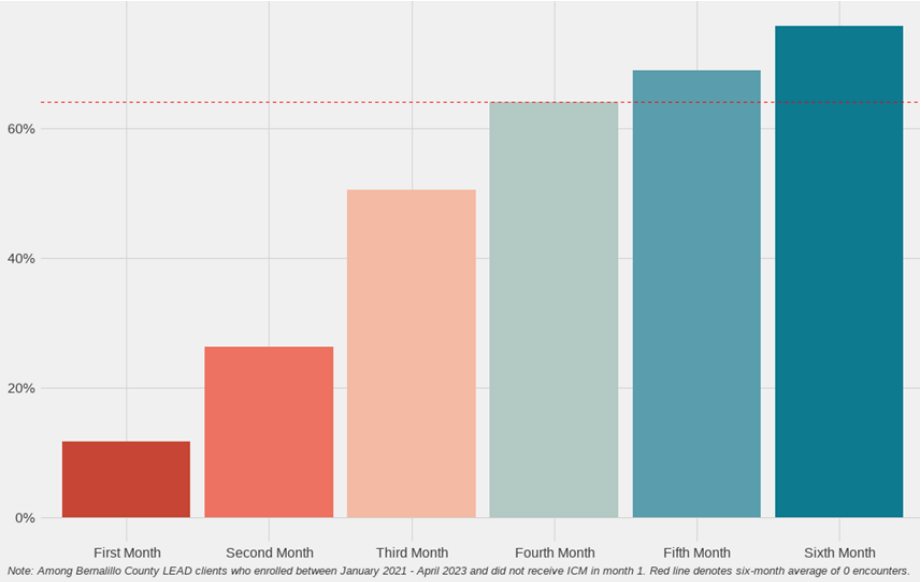


Figure 6.

Percent of LEAD Participants with No ICM in Month 1 Who Have 0 Encounters in Subsequent Months (n = 103)



From Figures 3-6, we observe that just because a participant did not engage in the program following their enrollment within Month 1 does not necessarily mean that no subsequent engagement happens, which speaks to the non-linear and complicated lives lead by LEAD participants. Whether a participant receives ICM in Month 1 or not does not predict subsequent engagement. Referral type was a statistically-significant predictor of early engagement, even after controlling for use of the warm handoff. Social community referrals had significantly more contact with their case managers than arrest diversions or social LEO referrals in Month 1 (i.e., social referrals averaged 4 contacts; diversions averaged 2.6). At the half-year mark, social community and social LEO referrals were more likely to still maintain ICM than arrest diversions. After controlling for referral type, the degree of case management encounters in Month 1 did not predict the number of case management encounters at the half-year mark. While use of warm handoff significantly predicted whether an individual referred to LEAD enrolled, the use of the warm handoff did not have much of an effect on post-enrollment engagement. Among those who enrolled in the program and were referred by arrest diversion, 48% were referred through warm handoffs. The use of the warm handoff among arrest diversions did not predict engagement in Month 1 nor at Month 6.

The Limitations to Using COSSAP Quarterly Data for LEAD Outcome Analysis

One limitation in evaluating the effectiveness of LEAD – Bernalillo County is the challenge of participant attrition and the drop off in data collection following a participant's program engagement, problems highlighted in ISR's process evaluation of LEAD in March 2021. Before receiving the COSSAP expansion grant, LEAD - Bernalillo County did not consistently track outcome measures, such as the scope of substance use or a participant's housing status, at repeated intervals throughout participants' program engagement. However, after receiving the COSSAP expansion grant, LEAD - Bernalillo County began more regularly tracking outcome data, inclusive of outcomes such as whether participants had adequate housing, the type of housing, employment status, substance use, and self-reported quality of life. This data was collected when participants enrolled in the program and approximately at quarterly intervals following enrollment.

However, LEAD – Bernalillo County faces a persistent challenge with participant attrition and the difficulty in reestablishing contact with participants at later stages of enrollment. This problem is not unique to LEAD – Bernalillo County. For instance, a 2014 study in *Criminal Justice and*

Behavior on attrition within jail diversion programs for persons with serious mental illness or co-occurring substance use disorders reported:

> *Study attrition is a problem in all community-based intervention studies using longitudinal research designs but is compounded with hard to reach populations. High attrition poses threats to internal and external validity and may result in an inadequate sample size…A 33% and 52% attrition rate was observed at the 6-month and 12-month follow-up interviews, respectively* (Crisanti et al., 2014).

22% of enrolled LEAD participants completed the first quarterly form following program enrollment. After one year, 5% of enrolled participants completed quarterly forms. This degree of attrition limits our ability to draw statistically confident conclusions about the true effect of LEAD on the specific outcome measures reported at quarterly periods (i.e., outcomes evaluated by self-report). Table 9 details the scope of attrition at each quarter through 18 months of enrollment through the end of June 2023.

Table 9.

Percent of LEAD Participants with Completed Quarterly Forms

Time-Point	Percent (Count)
Enrollment	100% (187)
Quarter 1	22% (41)
Quarter 2	11% (20)
Quarter 3	5% (9)
Quarter 4	5%(10)
Quarter 5	3% (5)
Quarter 6	2% (3)

To illustrate the issues with participant attrition, we estimated a series of statistical models (i.e., generalized linear mixed-effects models) to see whether the time that had passed since a participant enrolled in LEAD predicted whether a participant self-reported having stable housing, being precariously housed, being employed, and using substances consistent with the modelling approach used by Collins et al., (2017). We want to underscore that the models we report on are merely illustrative and are not fully-developed (i.e., they do not include a complete set of predictor variables) and, for these reasons, the results should not be interpreted as conclusive. We present results of the models in Figure 7 to highlight the issues associated with participant attrition and how these issues limit our

ability to conduct a rigorous analysis of the effect of LEAD enrollment on changes in COSSAP quarterly form outcome measures.

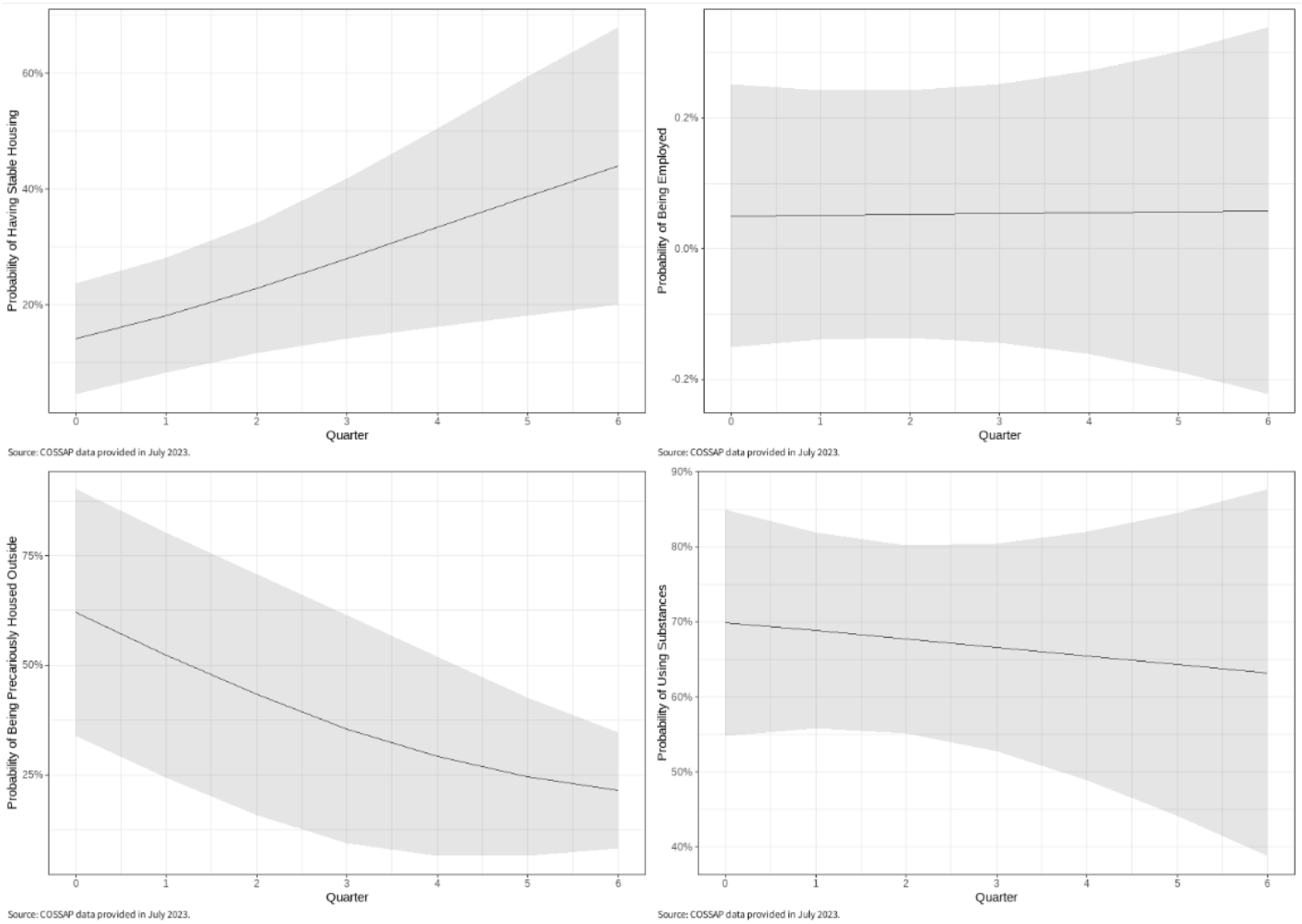
Specifically, there are two problems related to participant program attrition which limit the quality of inferences we can make about COSSAP outcome data. First, self-selection biases – and specifically, survivorship biases – potentially distort estimates of program effectiveness at quarterly timepoints. Self-selection bias occurs when participants voluntarily choose to be part of a program. This bias can lead to a non-representative sample of the population as participants who drop out of LEAD or otherwise do not complete quarterly forms may differ systematically from those who complete quarterly forms. For example, participants who are not experiencing positive outcomes may be more likely to leave the program, leading to an overestimation of positive outcomes among the remaining participants.

Secondly, there are statistical issues associated with the degree of participant attrition. When participant attrition occurs, the sample size we can use for statistical analysis decreases, leading to a reduction in the number of observations available for analysis. A smaller sample size means there is less information available to estimate population parameters and to detect whether program participation predicts changes in various outcome measures (i.e., our capacity to distinguish a pattern from statistical noise is more limited due to a higher noise volume). With a smaller sample size, the estimates of how time from enrollment influences outcome measures become less precise, resulting in larger confidence intervals.

Figure 7 illustrates these two complications. While directionally, the effects of time since LEAD enrollment on housing outcomes appears to be positive (i.e., the two graphs on the left hand side of Figure 1, at first glance, seem to suggest that self-reported stable housing increases and self-reported precarious housing decreases with time since LEAD enrollment), the width of the confidence intervals, as given by the shaded light grey regions around the line, suggests that there is considerable uncertainty around these estimates as distance from enrollment increases and participant attrition increases (i.e., the confidence intervals generally become wider as time goes on and there are fewer participants used to estimate effects from). Because of this and the fact that the Quarter 6 results are only observed for 3 participants, we cannot make confident inferences, at the time of this report, of the effect of enrollment on housing-related outcomes.

Figure 1.

Statistically Weak Estimates of COSSAP Outcome Measures at Quarterly Intervals



Similarly, Figure 7 also demonstrates a possible issue of self-selection bias. The predicted probability of a LEAD participant being employed at enrollment among the subset of individuals with quarterly data reported is approximately 0%. That is, no LEAD participants who had at least one completed quarterly form were employed when they enrolled in the program. This stands in contrast to an overall employment rate of 15% of LEAD participants at enrollment, a sample which includes individuals who both did and did not complete at least one quarterly form. Because the sample for the analysis used in Figure 7 is restricted to a subset of LEAD participants who had at least one completed quarterly form and excludes 78% of the initial enrolled population and because the sample of all enrolled participants had marginally higher rates of employment at baseline, we

cannot confidently estimate the effects of time since LEAD enrollment on employment outcomes because the sample we used to estimate the effect in Figure 7 is different from the broader LEAD participant pool on this measure (e.g., 0% versus 15%).

It seems unlikely, given the rate of attrition and the historic enrollment patterns observed in LEAD – Bernalillo County, that we would have a sufficiently large enough or representative enough sample of LEAD participants completing quarterly forms by November 2023 with which to conduct a sufficiently statistically-powered outcome analysis of COSSAP data. For this reason, we note that the scope of our outcome evaluation will likely be constrained to an analysis of the effect of LEAD enrollment on various criminal justice outcomes since this type of administrative data is observable at the participant-level regardless of participant program attrition.