LifeMoves

HOMELESS OUTREACH:

LEVERAGING DATA TO PREDICT CLIENT OUTCOMES

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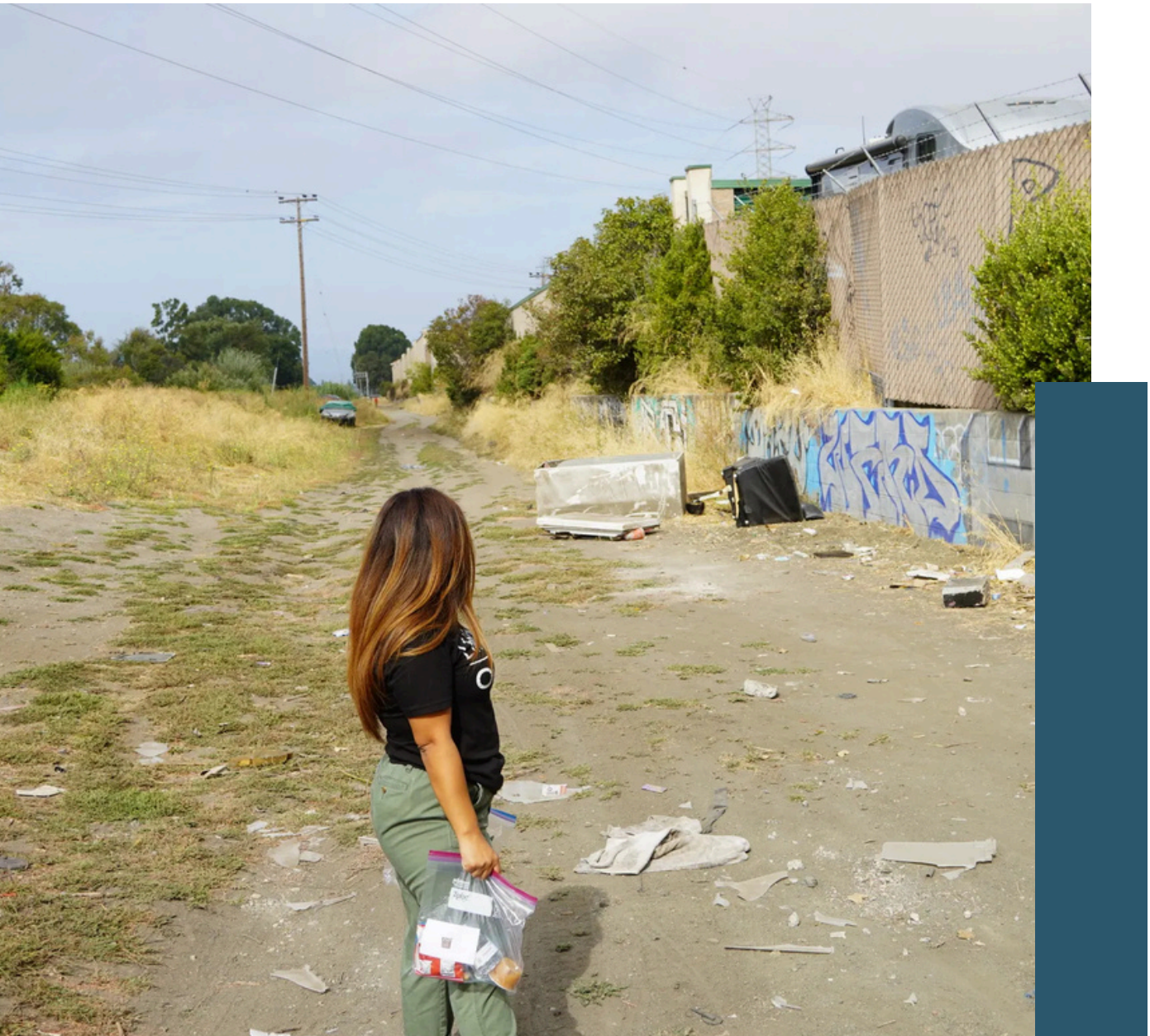


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Executive Summary:
Leveraging Data to Better Serve Unsheltered Clients

Homelessness in the Bay Area is a multifaceted challenge that is shaped by a large unsheltered population[1], limited shelter capacity, and the complex needs of each unsheltered individual. As outreach teams work to engage people living in encampments, vehicles, and public spaces, understanding which factors can predict successful entry into interim supportive housing (shelter) is critical for client outcomes and effective use of resources. This paper examines whether shelter entry can be predicted through a combination of client characteristics, early engagement patterns, and/or programmatic factors – in other words, whether it is who the client is, or rather whether it is the outreach support they receive, that determines whether they uptake shelter.

Using data collected from LifeMoves' outreach teams – composed of the Encampment Resolution Fund (ERF) team, Homeless Outreach Team (HOT), and healthcare outreach team – this analysis reinforces what staff experience in the field: early and persistent engagement is the strongest and most reliable predictor of

Research Findings at-a-Glance

Encampment Resolution Fund (ERF):

- ***Interact over a longer time horizon:*** Each additional day of staff interaction increases the odds of clients' shelter placement by 25.6%

Homeless Outreach Team (HOT):

- ***Return for a Day 2***: when staff return for a 2nd visit, clients' rate of shelter entry nearly doubles
- ***Bundle services***: when staff provide more than one service per visit, clients' rate of shelter entry more than doubles

Healthcare outreach:

- ***Service volume*** and ***days of engagement*** are the strongest predictors of shelter entry

Executive Summary, continued

shelter entry across programs. While each team's work and client populations differ, the findings consistently highlight the importance of multiple days of engagement, repeated service touch points, and increased service volume.

These findings highlight the successes and opportunities to further strengthen outreach programs, system design, and policy. Outreach teams can more effectively identify clients that are at higher risk of non-entry by monitoring early engagement patterns and bundling the relevant services in the first days of interaction. Across programs, improved coordination between outreach teams in terms of client warm handoffs can ensure clients are supported by the services that meet their needs. At the system level, embedding early engagement patterns and indicators into dashboards that the Outreach team can regularly use to monitor their clients is essential for prioritizing clients who require more engagement. Lastly, for policymakers and funders, continued support in predictive data systems, staff training, and targeted resources for the clients facing the highest barriers to housing will lead to improvements in the homelessness response system overall.

This paper demonstrates that relentless engagement is the catalyst for successful shelter entry. By using data to ground outreach strategies and elevate what already works, LifeMoves and other service providers can better support their clients on their journeys to shelter entry and ultimately to permanent housing.

March 2026

Sarah Walsh, Claire Rosenbaum, Justin Hui, & Jocelyn Michelsen

Introduction:
Outreach Is The Foundation of a Client's Journey Toward Permanent Housing

The issue of street homelessness is complex and multilayered in the Bay Area, including in San Mateo County (SMC) and Santa Clara County (SCC) which are the core counties comprising Silicon Valley and the counties in which LifeMoves works. Both counties have a relatively large unsheltered homeless population (over 1,100 in SMC[2] and over 7,400 in SCC[3], per each county's most recent point-in-time count). While shelter capacity is increasing across these two counties, there are other factors that continue to impact how effectively people can be connected to housing. The varying lengths of individuals' episodes of homelessness, the characteristics of their living situations, and the large supply gap between the number of unsheltered clients and available housing options are just a few variables that can make it more difficult to connect individuals to the right housing options.

These realities mean that it is highly important for providers to understand what factors support successful placements for clients all across the Bay Area and beyond. If service providers can predict what factors can lead to more shelter and housing placements, they will be able to ultimately connect unsheltered individuals to housing more effectively. Strengthening homeless outreach efforts through data-informed program refinements can be an effective approach to ensure better use of resources. By identifying the patterns and service types that most influence shelter entry, communities and service providers will be able to identify and engage with chronically homeless individuals with complex needs and connect them with the appropriate resources with the ultimate goal of finding permanent housing solutions.



"My case manager was there for me all those months and helped me see that there could be a better path."

Victor, LifeMoves Client

Research Scope:
What Factors Predict Entry into Interim Supportive Housing?

This paper seeks to determine whether successful entry into interim supportive housing (shelter) programs can be predicted by a combination of client and/or programmatic factors observed during the initial stages of outreach. Our key research questions were:

- ***Can we predict shelter entry (successful uptake of services) based on client demographics, service-engagement patterns, and/or outreach program combinations?***
- ***What programs, services, and frequency of engagement are the biggest influences on clients entering shelter?***

Understanding if there are predictive relationships is essential for improving efficiency during the outreach process and ensuring the best possible outcomes for clients experiencing homelessness. By leveraging data to anticipate service trajectories, this paper aims to inform data-driven decision-making for program services, optimize case management strategies, and improve homeless outreach services overall.

We analyzed data from the three teams that make up LifeMoves' outreach program: Encampment Resolution Fund (ERF), Homeless Outreach Team (HOT), and healthcare outreach. Because each team performs distinct types of work and serves varying numbers of clients (Table 1), it is important to analyze their programming separately. Being able to identify predictors requires understanding each program's client profile to establish a foundation for interpreting any outcome differences.

Table 1.

Data included for analysis

Type of Outreach	Unique Clients Served	Service Records	Date Range
Encampment Resolution Fund (ERF)	N=199	N=699	11/2024 - 6/2025
Homeless Outreach Team (HOT)	N=2,018	N=6,868	7/2022 - 6/2025
Healthcare outreach	N=1,373	N=10,471	7/2022 - 6/2025

Findings:
Outreach Case Workers Are The Secret Sauce

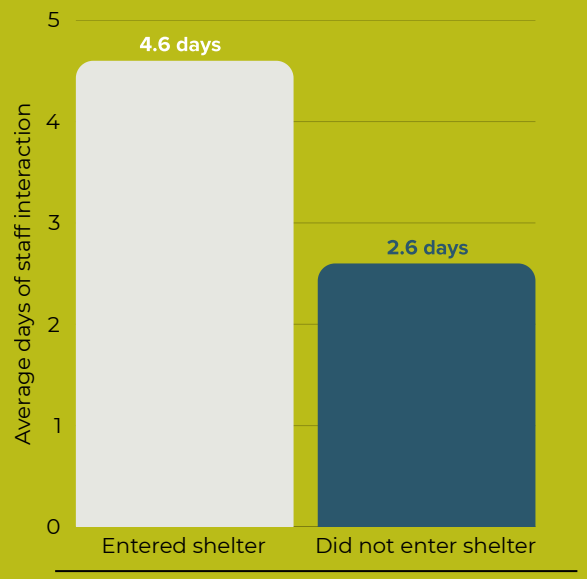
Because LifeMoves' outreach programs are made up of three distinct teams with their own client populations, client volume, and statistical power, we break our findings down by program type:

Encampment Resolution Fund (ERF)

Encampment Resolution Fund outreach is a relatively new program within LifeMoves, having begun operations in November 2024; we were therefore able to analyze eight months of data. From November 2024 through June 2025, the ERF team served 199 unique clients, of which 47 clients (23.6%) entered shelter and 55 clients (27.6%) were able to access any kind of housing, including either shelter or permanent housing. Client engagement had a range of 1-22 days of interaction, with a median of two days. Service delivery had a range of 1-29 services provided, with a median of two. Other key observations were that families with children have the highest shelter entry rate at 34.8% and single adults have a 20.2% shelter entry rate. Additionally, single adults had slightly higher median days of interaction (2) and services provided (3)

Figure 1.

Shelter entry by days of engagement (ERF)



Source: HMIS data from 11/01/2024 -6/30/2025; results statistically significant at p<0.001



when compared to families (2 and 2, respectively). Through further analysis using bivariate and multivariate regressions, some strong predictors of shelter entry rates were identified for each outreach team.

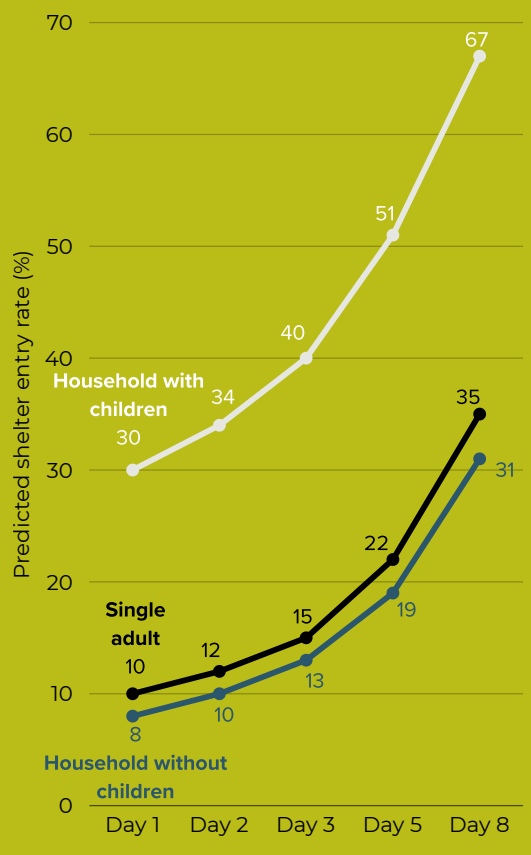
The ERF data revealed some predictors of shelter placement through univariate and logistic regressions. One predictor was the days of client interaction with staff. Clients who entered shelter had nearly double the days of interactions (at an average of 4.6 days) when compared to clients without shelter entry (an average of 2.6 days; Figure 1). The total number of services received was also a strong predictor of shelter entry. Clients who entered shelter received an average of 5.3 services, versus to 3.0 for those who did not).

Household type was a moderate predictor of shelter entry when analyzed alone, but became a much stronger predictor when analyzed together with other factors (e.g., days of interaction). A logistic regression focused on days of interaction and household type strengthens the earlier findings, showing each additional day of interaction increases the odds of shelter entry by 25.6% across household types. However, when separating out household types, single adults and households without children are 73.5% and 77.8% (respectively) less likely to enter shelter compared to families (Figure 2).

Interestingly, key demographic factors, including chronic homeless status and disability, were not statistically significant as predictors of shelter uptake. Instead, the ERF findings reinforce that relentless engagement[4] with clients can increase their odds of finding shelter and moving indoors.

Figure 2.

Shelter entry rate by household type (ERF)



Source: HMIS data from 11/01/2024 -6/30/2025; results statistically significant at p<0.001

Homeless Outreach Team (HOT)

The Homeless Outreach Team (HOT) served 2,108 clients between June 2022 and July 2025. The team provided 6,868 services to these clients over three years and had an overall shelter entry rate of 51.9%. The analysis found a handful of strong predictors of shelter entry rates, along with some more moderate predictors.

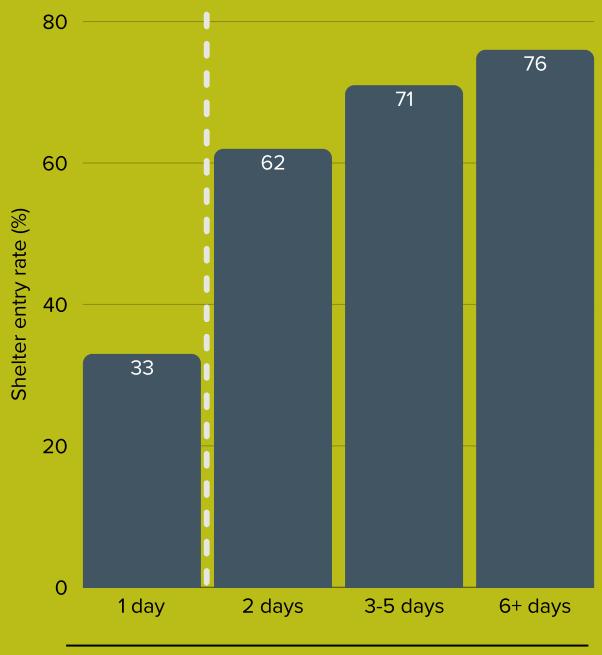
One of the stronger predictors was when the HOT team engaged with clients for a second day of services; this nearly doubled their shelter entry rate from 33% to 61.8% (Figure 3). The second day is the most critical threshold for success as the following days had diminishing returns.

Additionally, service intensity, defined as the number of services a client received per day, was also a strong predictor of shelter entry. By bundling multiple services for a client across fewer days, the shelter entry rate more than doubled (Figure 4). The largest improvement was providing 1-2 services per day – on average – as opposed to having clients show up for a single service on multiple days. This scenario saw the shelter entry rate jump from 34.5% for clients receiving one service per day to over 80% for those receiving more than one service in a day. While the number of services provided in a day varies in improving shelter entries, the overall trend moves upwards, indicating that more efficient service delivery leads to more shelter placements.

A more moderate predictor of shelter uptake was the duration of client engagement. For clients who were *not* chronically homeless,

Figure 3.

Shelter entry by days of interaction with outreach staff (HOT)



Source: HMIS data from 7/1/2022 to 6/30/2025; results statistically significant at p<0.001



the largest increase in shelter entry rate came from front-loading services within a 1-3 month period. This saw a jump from the baseline (1-7 days of engagement) shelter entry rate of 33% to over 70% for clients engaged with the HOT unit (or other LifeMoves services) through three months (Figure 5). For chronically homeless clients, peak effectiveness came between 3-6 months of sustained engagement. This showed a 72.4% shelter entry rate compared to lower rates across other engagement durations (Figure 5). There are diminishing returns for engagement durations beyond six months, but the trend continues to move upwards nonetheless.

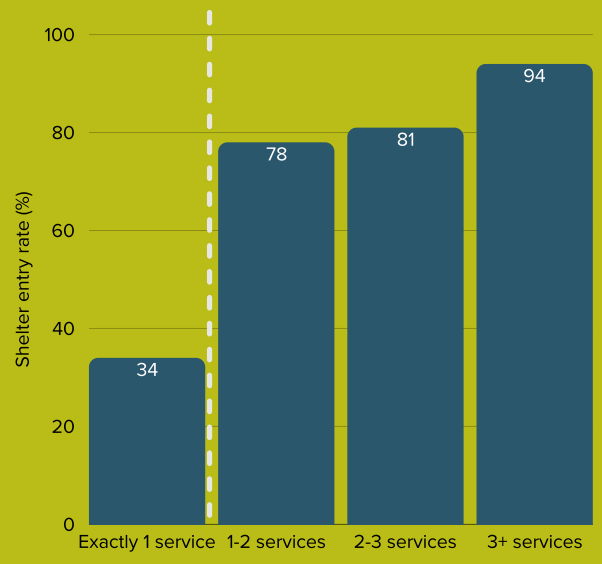
As with our Encampment Resolution Fund (ERF) findings, for HOT key demographic factors – including age, gender, household type, veteran status, and disability status – were not statistically significant as predictors of shelter uptake. Instead, the HOT findings demonstrate that staff activities, both in terms of time and number, do support unsheltered clients in moving indoors.

Healthcare Outreach

Between July 2022 and June 2025, the healthcare outreach team served 1,373 clients with 10,471 service records and a shelter entry rate of 9.8%. What is unique about healthcare outreach compared to LifeMoves' other outreach programs is that clients are referred to LifeMoves after they are served through Kaiser hospitals or present in other outreach programs with medical needs. This difference is important to both how clients are referred to/engage in services as well as the needs they present with.

Figure 4.

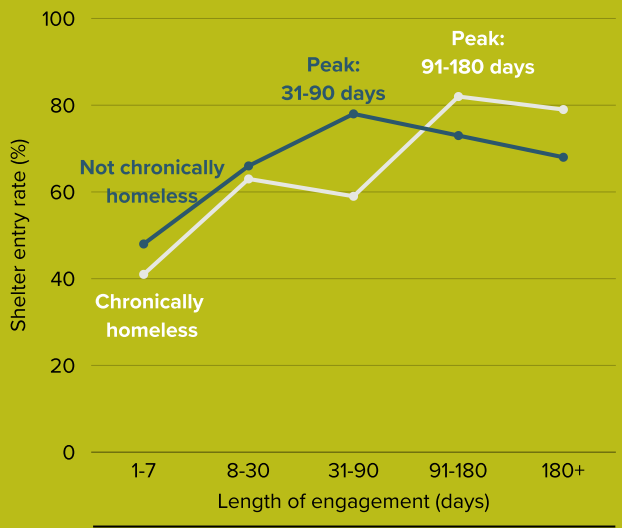
Shelter entry rate by number of services per visit (HOT)



Source: HMIS data from 7/1/2022 to 6/30/2025; results statistically significant at p<0.001

Figure 5.

Shelter entry rate by chronic homeless status (HOT)



Source: HMIS data from 7/1/2022 to 6/30/2025; results statistically significant at p<0.001

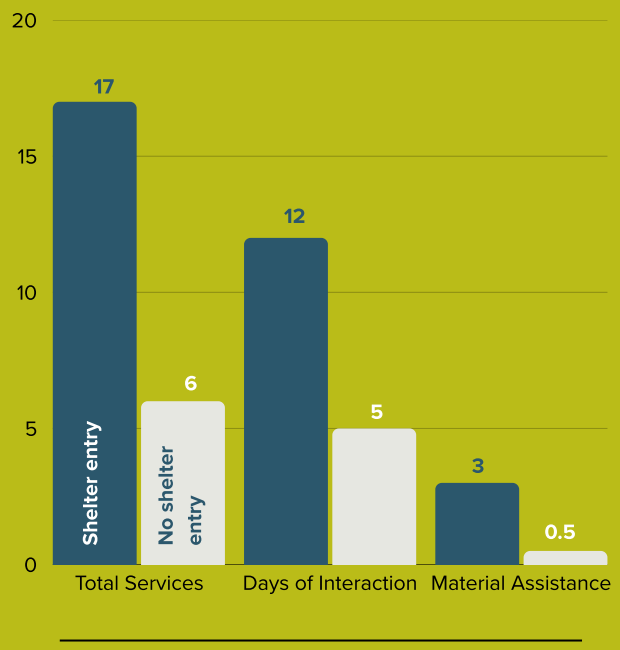
Univariate analysis showed that service volume (number of services and the days of interaction) is a strong indicator for shelter entry (Figure 6). Days of interaction and counts of material assistance (e.g., socks, tent, food) were strong predictors of shelter as well (Figure 6). Clients that entered shelter received on average nearly 11 more services, over 7 additional days of interaction, and over two more counts of material assistance compared to clients that did not enter shelter.

While the above findings are in line with our expectations going into this analysis, there was a counterintuitive finding that presented itself. The analysis found that care coordination and housing support services were negatively correlated with shelter entry. Further analysis beyond this paper may be needed to unpack the details, but an early and likely explanation for this may be that this data speaks to the complexity of individual client cases as opposed to ineffective service delivery. In other words, the immediate goal of the healthcare outreach team may not always be to reach the outcome of housing, but to meet the other intermediate needs of their clients as stepping stones to an eventual housing outcome. This finding suggests that perhaps shelter entry is not the primary outcome measurement that aligns with this team's services.

Finally, as with ERF and HOT, for healthcare outreach key demographic factors – including gender, age, sisability status, and length of homelessness – were not independently statistically significant as predictors of shelter uptake. Instead, our findings show that staff activities, both in terms of time and number, support unsheltered clients in moving indoors.

Figure 6.

Shelter entry by total number of services, days of interaction, and material assistance (healthcare outreach)



Source: HMIS data from 7/1/2022 to 6/30/2025; results statistically significant at p<0.001



Interpreting the Findings:
The Role of Relentless Engagement

Across all three LifeMoves Outreach teams – ERF, HOT, and healthcare outreach – engagement (either frequency in days or number of interactions) were consistently the best predictors of shelter entry. However, the direction and strength of these predictors also vary due to the distinct nature of each program's work and their client populations.

For the ERF team, stronger engagement, both in days of interaction and services provided, appeared to be the strongest predictors of shelter entry. Clients who entered shelter had nearly double the days of interactions and services provided compared to those that did not. Family households with children also had a significantly higher shelter entry rate than single adults. Each additional day of interaction meaningfully increased the odds of shelter placement, while households without children reduced those chances.

Although there were significant indicators identified in the data set, the interpretation of these findings should also consider the limitations that presented itself. The time frame over which the data was collected was rather short, leading to a smaller sample size than the data collected by the other Outreach teams. The ERF team served 199 clients and had 47 shelter entries, which limited the statistical power of the analysis as well as preventing the testing of interaction effects.

Additionally, there is the potential of selection bias since clients who return for further service engagement may be inherently more motivated or ready for services, making it difficult to separate outreach effectiveness from client readiness. Lastly, the days of interaction and total services provided are also highly correlated, which speaks to the clients' overall engagement quality as opposed to identifying a singular causal relationship in either predictor.

The findings for HOT exhibited a similar pattern to ERF: early and intensive engagement was significant in client shelter entry. Clients returning for a second day of services nearly doubled their rate of shelter placement.

Delivering multiple services in a single day proved to be more effective than spreading them over several days and emerged as one of the strongest indicators of increasing shelter entry. The duration of engagement also moderately increased the odds of shelter placement, although the specific duration varied based on length of homelessness. Clients who were not chronically homeless benefited the most from intensive engagement within the first three months, whereas clients experiencing chronic homelessness saw the greatest impact between 3-6 months of engagement. However, sustained engagement continued to see rising shelter entry rates for both client populations.

As for limitations of this analysis, selection bias is present again as clients who are already more motivated to enter shelter may be the ones returning for a second day of engagement. Similar to the selection bias identified in the ERF team analysis, this means that the days of interaction may be a measure of client readiness rather than the Outreach team's effectiveness or that clients may remain uninterested in shelter placement regardless of engagement efforts. Another limitation is the logistic model's prediction of a 92-94% success rate in most scenarios. The model does not



account for which clients will return for a second day of engagement (which is already a threshold that is hard to achieve), but rather it predicts success among clients who do return for further engagement. This analysis also identified some county-level differences which were unexplored here. It appears that there were variations across the San Mateo County and Santa Clara County programs, including differences in program design, resource allocation, and client populations, which may have shaped the outcomes. Continuing to build on this context, the findings and limitations of the healthcare outreach team show how their programmatic differences yield different results from both the ERF and HOT teams.

The healthcare outreach team serves a different client profile – one that has even higher acuity needs than other clients experiencing homelessness – resulting in some findings that are different or seem counterintuitive. The number of clients served and shelter entry rates were lower overall, but service volume surfaced as the top predictor for shelter placement. However, unlike the other Outreach teams, care coordination and housing support services were negatively correlated with shelter entry rates. This likely reflects the complexity and intensive needs of each individual client. Perhaps shelter placement is the wrong outcome measurement for the success of clients being served by the healthcare outreach team. Instead, this client profile may have more intermediate needs that need to be addressed before they are ready for shelter placement.

Research Findings & Limitations

Encampment Resolution Fund (ERF):

- *Stronger engagement (i.e., days of interaction and services provided) are strongest predictors of shelter entry*
- *Clients who entered shelter had nearly double the days of interactions and services provided as those that did not.*
- *Findings tempered by relatively small sample size and shorter time frame*

Homeless Outreach Team (HOT):

- *Early and intensive engagement significant in client shelter entry*
- *Serving clients for a second day of services nearly doubled their rate of shelter placement*
- *Differences in programs between counties may shape the outcomes*

Healthcare outreach:

- *Service volume and days of engagement are the strongest predictors of shelter entry*
- *Differences in client population and program goals/outcomes limit generalizability of findings*

The limitations for this model should be considered when interpreting the results. With only 134 shelter entries observed in this data set, the statistical power of the multivariate logistic analysis is marginal. The analysis conducted can only detect the main effects of the predictors and is limited in identifying any smaller effects. It also does not have the ability to test any interaction effects that these indicators may have due to the small sample size. Another limitation in the model is the aforementioned fact that shelter entry as a primary outcome may not fully reflect this team's outreach efforts, which places an emphasis on emergency housing and medical respite as opposed to traditional shelter placement. Perhaps the outcome measurement for this team should be any form of housing they are able to connect the clients to. Lastly, because the clients served by this team are referred to Kaiser from other hospital or medical settings, there is likely selection bias present once again. These clients come to the healthcare outreach team typically with higher medical needs, which limits their generalizability to the other Outreach teams or with broader client populations.

Considering all of the results and limitations presented above, there is a common thread across the entire Outreach team. All three teams' distinct work speaks to one predictor that continues to increase shelter entry rates: relentless engagement. Persistent engagement and higher service intensity are strong and consistent predictors for increasing shelter placement. While the outreach team can be reassured that their ongoing efforts to help clients address individual housing barriers are proving to be effective, this analysis also highlights opportunities to enhance LifeMoves' overall services.



Implications for Practice:
From Findings to Action

Outreach teams can strengthen outcomes by prioritizing early interventions for clients who demonstrate low engagement or are at high risk of not entering shelter. Early contact, particularly the first two engagements, are strong predictors of shelter uptake. Clients who do not return for a second day of engagement or those who receive fewer than two services could be flagged for follow-up. To further support this, case managers may benefit from training that focuses on early rapport building and strategies to increase client second day returns – such as setting a follow-up meeting upon initial contact. Programs can streamline the early services provided and bundle them to make service delivery more efficient and concentrated.

At the system level, tools that track early engagement data can be implemented to help case managers identify clients who require more intensive outreach and follow-ups. Dashboards could track the days of interactions and service intensity, two of the stronger predictors for shelter entry. This will help outreach teams regularly monitor clients and concentrate efforts. Another area to explore for improvements would be the coordination between outreach and interim supportive housing (shelter) programs. The two teams could standardize warm handoffs between programs and coordinate shelter availability with clients who are ready to be placed.

Policymakers and funders can support stronger outcomes by continuing to invest in predictive data systems that help service providers to monitor early engagement and intervene sooner. Investments in data quality and staff capacity will expand the team's ability to make data-informed decisions and enhance overall service delivery. Some client needs are more complex or require more engagement to increase their odds of shelter entry. Resources should be sufficiently allocated to clients with the



highest barriers to shelter placement, ensuring the system supports those unlikely to enter shelter without additional help. By aligning practices, system design, and funding priorities with these insights, communities can more effectively support their clients entering shelters and the steps in their overall journey to find long-term permanent housing.

Strengthening outreach teams in supporting client pathways into shelter is critical for addressing homelessness in the Bay Area. This analysis reflects the tremendous work already being done by LifeMoves' outreach teams and highlights how engagement patterns and programmatic practice improvements can support shelter entry. By identifying patterns and engagement strategies that make the most impact, teams can more intentionally focus efforts on clients with the greatest barriers to entering an interim supportive housing environment by supporting their first steps toward stability and ultimately permanent housing. With continued investments in data-driven decision-making, refinements to outreach strategies, and strengthening coordination between program teams, LifeMoves can empower outreach staff and build an even more robust pathway to shelter and permanent housing.



Appendix A:
End Notes

1 - Across the counties in which LifeMoves operates, San Mateo County and Santa Clara County, there are approximately 12,841 total individuals currently experiencing homelessness per the most recent Point-in-Time Counts; this includes 8,617 unsheltered homeless individuals and 4,224 who are sheltered.

2 - San Mateo County Human Services Agency. "San Mateo County 2024 One Day Homeless Count Executive Summary." San Mateo County, May 2024, www.smcgov.org/media/149456/download?inline=. Accessed 15 January 2026.

3 - Santa Clara County. "Santa Clara County Point-in-Time Count 2025 Executive Summary." Santa Clara County, Sept. 2025, files.santaclaracounty.gov/exjcpb1571/2025-09/santa-clara-county-point-in-time-count-2025-executive-summary.pdf. Accessed 15 January 2026.

4 - LifeMoves uses the term “relentless engagement” to describe our philosophy for engaging the clients we serve. Relentless engagement is defined as continually and consistently connecting with a client in a manner that meets the client on their terms; in this way we remain ready to support that client whenever and however they are ready to engage.

Appendix B: Methodology

This analysis examined predictors of interim supportive housing (shelter) entry across three LifeMoves outreach teams using administrative service data collected between July 2022 and June 2025. The goal was to determine whether shelter entry could be predicted through client characteristics, engagement patterns, and programmatic factors. We employed univariate and multivariate logistic regression analyses to identify the strongest predictors of shelter placement within each team, recognizing that programmatic differences warranted separate analysis.

Data

The analysis included service records from three distinct LifeMoves outreach teams: the Encampment Resolution Fund (ERF), the Homeless Outreach Team (HOT), and the healthcare outreach team. The ERF team, established in November 2024, served 199 unique clients with 699 service records over an 8-month period (November 2024–June 2025), with 47 clients (23.6%) entering shelter and 55 (27.6%) entering any form of housing. The HOT team served 2,018 unique clients with 6,868 service records over a 3-year period (July 2022–June 2025), achieving a shelter entry rate of 51.9%. The healthcare outreach team served 1,373 unique clients with 10,471 service records over the same 3-year period, with a shelter entry rate of 9.8%. Healthcare clients are referred from Kaiser hospitals and/or other outreach programs and differ meaningfully from other outreach populations in terms of referral pathway and presenting needs.

Measures and Variables

Outcome Variable. Shelter entry was defined as a binary outcome indicating whether each client entered interim supportive housing during the observation period. Clients were classified as either "shelter entry" or "no shelter entry."

Key Predictors. Days of interaction was calculated as the number of unique service days per client. Total services represented the total count of services provided to

Appendix B:
Methodology, continued

each client across all interactions. Service intensity was computed as the ratio of total services to days of interaction, capturing the density of service provision. Engagement duration was categorized into five ranges (1–7 days, 8–30 days, 31–90 days, 91–180 days, and 180+ days) to examine whether sustained engagement showed non-linear relationships with shelter entry. Household type was categorized into three groups: families with children, single adults, and households without children. Chronic homeless status was determined based on program definitions indicating whether clients met federal criteria for chronic homelessness. For the healthcare outreach team, material assistance counts (including items such as gift cards, tents, and food) were also analyzed as a predictor. Demographic variables tested across all teams included age, gender, veteran status, and disability status.

Analytical Approach

Encampment Resolution Fund (ERF). For the ERF team, we conducted univariate analyses comparing mean days of interaction and total services between clients with and without shelter entry. Household type was analyzed as both a univariate predictor and through logistic regression that modeled the interaction between days of interaction and household type. Odds ratios were calculated to quantify the effect of each additional day of interaction on the probability of shelter entry. Demographic variables (chronic homeless status, disability) were tested but did not emerge as statistically significant predictors. Note that days of interaction and total services were highly correlated ($R^2 = 0.98$), so only days of interaction were retained in multivariate models.

Homeless Outreach Team (HOT). For the HOT team, univariate analyses compared shelter entry rates across categorical levels of days of interaction, examining the critical threshold of returning for a second day of service. Service intensity was analyzed by computing shelter entry rates for categories of services per day (exactly 1 service, 1–2 services, 2–3 services, and 3+ services per day). Engagement duration was examined separately by chronic homeless status, creating interaction categories that cross chronic status with five engagement duration bins. Logistic regression models

Appendix B:
Methodology, continued

were developed to estimate predicted probabilities of shelter entry for different client profiles. Demographic variables (age, gender, household type, veteran status, disability) were tested through univariate and multivariate approaches but were not statistically significant.

Healthcare outreach. For the healthcare outreach team, univariate analyses compared mean total services, days of interaction, and material assistance counts between shelter entry and non-entry groups. The same engagement duration categorization was applied, and the relationship between engagement duration and shelter entry was examined by chronic homeless status. Logistic regression with marginal statistical power was conducted given the smaller number of shelter entries (n=134). Demographic variables were tested but showed limited significance in this population.

Statistical Tests and Model Specification

Univariate Analyses. For continuous predictors (days of interaction, total services, service intensity, age), we performed independent samples t-tests comparing shelter entry versus non-entry groups, with effect sizes calculated using Cohen's d. Cohen's d values were interpreted as negligible (<0.2), small (0.2–0.5), medium (0.5–0.8), or large (>0.8). For categorical predictors (chronic homeless status, household type, gender, disability status, veteran status), we performed chi-square tests of independence with Cramer's V as the effect size measure, interpreted as negligible (<0.1), small (0.1–0.3), medium (0.3–0.5), or large (>0.5). Statistical significance was assessed at $\alpha = 0.05$.

Logistic Regression Model Building. The HOT team analysis involved building eight logistic regression models to test different interaction hypotheses: a main-effects baseline model, followed by models testing interactions between demographics (chronic homeless status, age, disability) and engagement patterns (services, days, intensity). Models were compared using Akaike's Information Criterion (AIC), with the

Appendix B:
Methodology, continued

model showing the lowest AIC selected as the best model. This model was then used to generate predicted probabilities of shelter entry at specified covariate values.

For the ERF team, a simpler main-effects logistic model was built including only days of interaction and household type, as the small sample size (n=47 shelter entries) precluded robust testing of interaction effects. For the healthcare outreach team, a main-effects logistic model was similarly specified with seven predictors (total services, days of interaction, material assistance, benefits/employment services, care coordination, housing support, age), as the marginal statistical power (n=134 shelter entries, approximately 19 events per variable) limited the ability to test interactions. Model fit was assessed using AIC, null deviance, residual deviance, and McFadden's pseudo R-squared. Predicted probabilities were derived by applying the fitted logistic regression coefficients to prediction grids at specified predictor values.

Limitations

Several important limitations should be considered when interpreting these findings. First, the ERF team's brief operational history (8 months) resulted in a small sample of shelter entries (n=47), limiting statistical power and preventing the robust testing of interaction effects. Similarly, the healthcare outreach team had only 134 shelter entries, yielding marginal statistical power for multivariate analysis and limiting the ability to detect smaller effects or test interaction terms. Second, selection bias is present in all analyses (i.e. clients who return for a second day of engagement or who receive more services may already be more motivated toward shelter entry or more ready for services, making it difficult to disentangle program effectiveness from client readiness). Third, the high collinearity between days of interaction and total services in the ERF analysis ($R^2 = 0.98$) prevented simultaneous inclusion of both variables and suggests these may be measuring an underlying dimension of overall engagement quality rather than distinct causal pathways. Fourth, the healthcare outreach team's findings should not be generalized to other populations, as these clients are referred from hospital settings and/or other o

Appendix B:
Methodology, continued

utreach programs and present with higher medical acuity and more complex barriers to housing than street-based outreach populations. Finally, the logistic regression models for the HOT team predict high success rates (92–94%) in most scenarios, but these predictions are conditional on clients returning for a second day of engagement.

Conclusion

This analysis employed a combination of univariate comparisons and logistic regression to identify predictors of shelter entry across three programmatically distinct outreach teams. While statistically significant findings are reported, the limitations—particularly regarding sample size, selection bias, and the conditional nature of some predictions—should inform the interpretation and application of these results. The consistency of engagement metrics as predictors across all three teams, despite their different client populations and service models, suggests a robust relationship between engagement intensity and shelter entry, though causality cannot be definitively established.

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