

Virginia Association of Recovery Residences

ANNUAL REPORT 2023



REC-CAP - A Measure of Recovery Capital

the resources and capacities that enable growth and human flourishing



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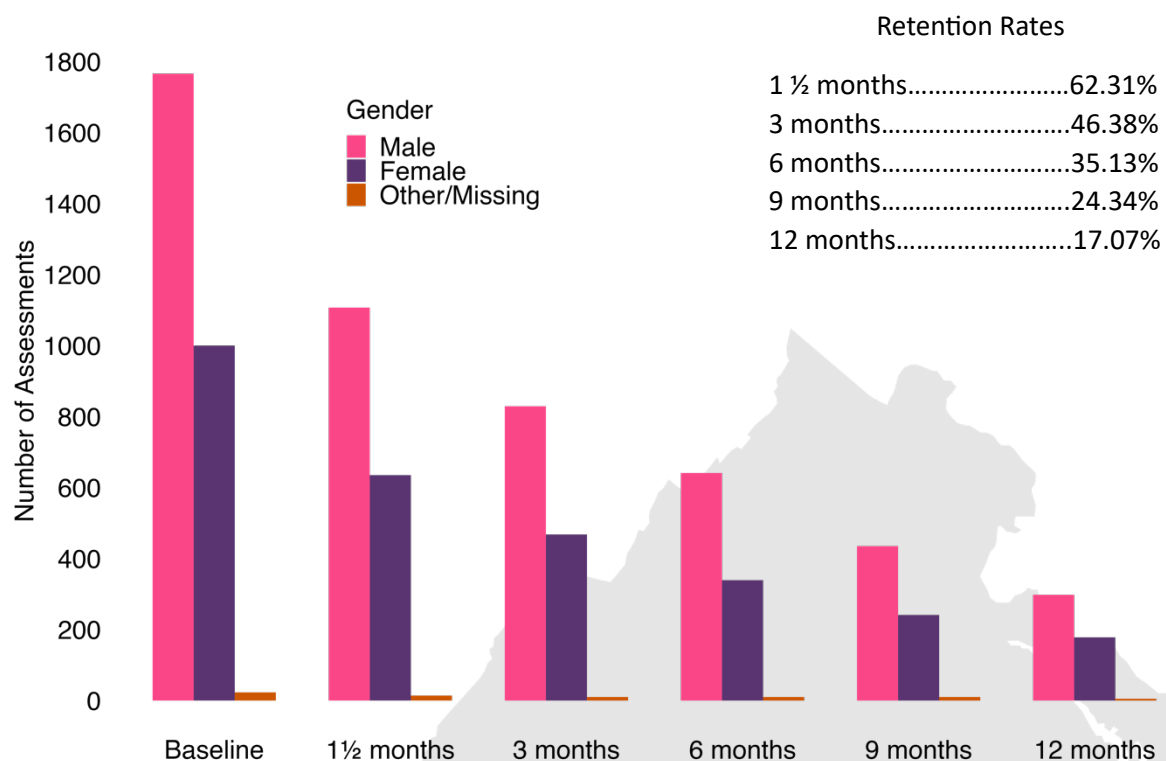
This is the annual report from ROI of data recorded on the ARMS system using REC-CAP as a means of mapping and measuring recovery strengths and barriers among residents in certified recovery housing in Virginia. We have outlined the key characteristics of this group and mapped their changes in recovery wellbeing over time. We first present instances of recovery capital growth, then outline challenges the residents face that contribute negatively to their recovery, such as continued drug consumption or unmet needs. We also make an initial assessment of how clients are retained and what their recovery capital changes are over time with the three years of data available to us. Preliminary conclusions and recommendations are provided at the end of this report. This report is limited to clients engaged in VARR services between January 1st, 2023, through December 31st, 2023.

Section 1: Client Demographics, Admissions, and Discharges

2917 clients were admitted to VARR residences between January 2023 and December 2023. There were **2818** clients engaged in REC-CAP assessments and recovery goal planning during this timeframe.

This report will provide an overview of the 2818 residents in VARR housing who participated in the REC-CAP assessment at least once. There were more males than females at all assessment timepoints. Among the 2818 clients, there were **1777** males and **1017** females. 24 people did not want to report their gender or identified as something other than male or female. [Figure 1](#) outlines the number of assessments carried out over time, separated by gender. Retention rates at each timepoint are also given.

Figure 1. Gender distribution over time.



The ages of the 2818 residents ranged from 18 to 78 years. On average, residents in this cohort were in their early forties (average: 40.16 years).

The majority of the clients identified as Caucasian (n=1827). There were 811 Black or African American clients, 3 Alaska Natives, 2 Native Americans, 16 Asian, 87 Hispanic clients, 1 Hawaiian/Pacific Islander, 71 Other, and 2 preferred not to disclose.

Of the 2818 recent admissions, 2117 were in a recovery residence for the first time, 423 for the second time and 278 residents for the third time or more.

Figure 2. Discharges.

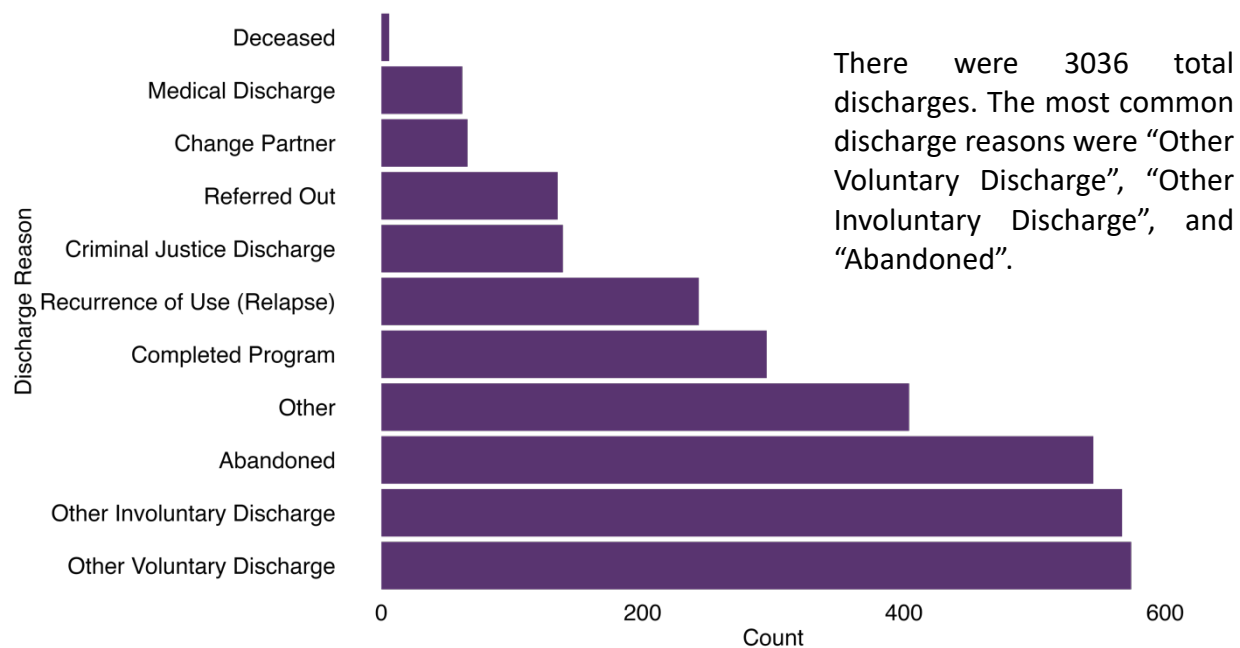
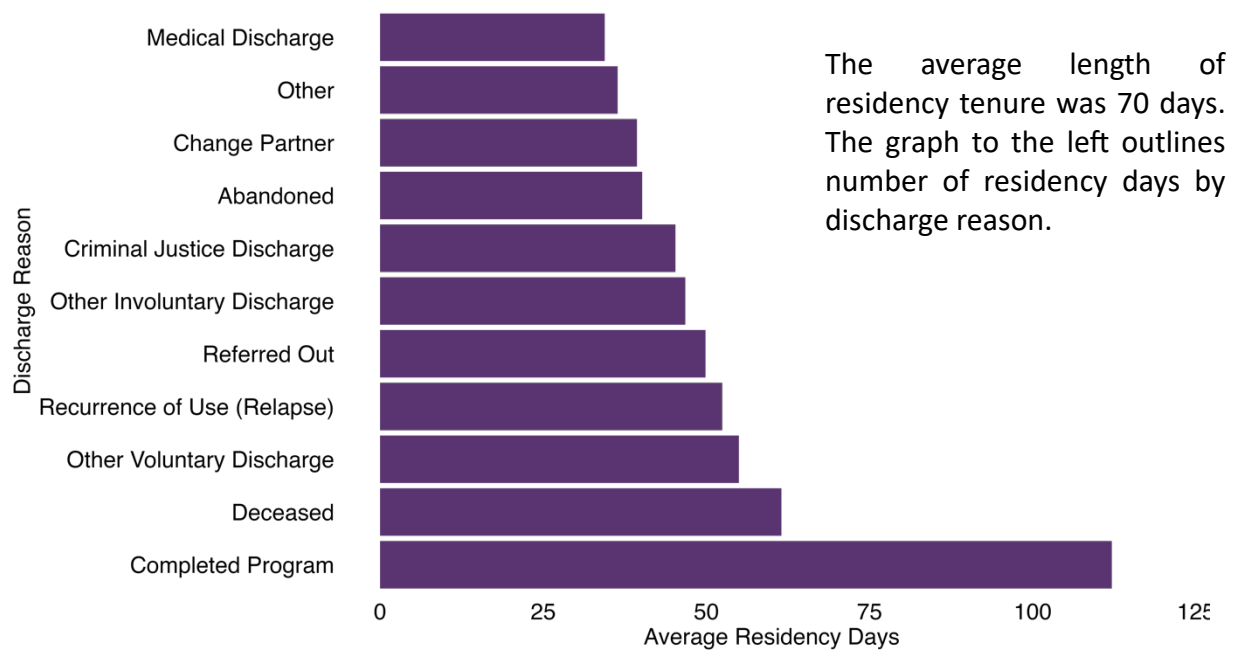


Figure 3. Residency tenure in days.



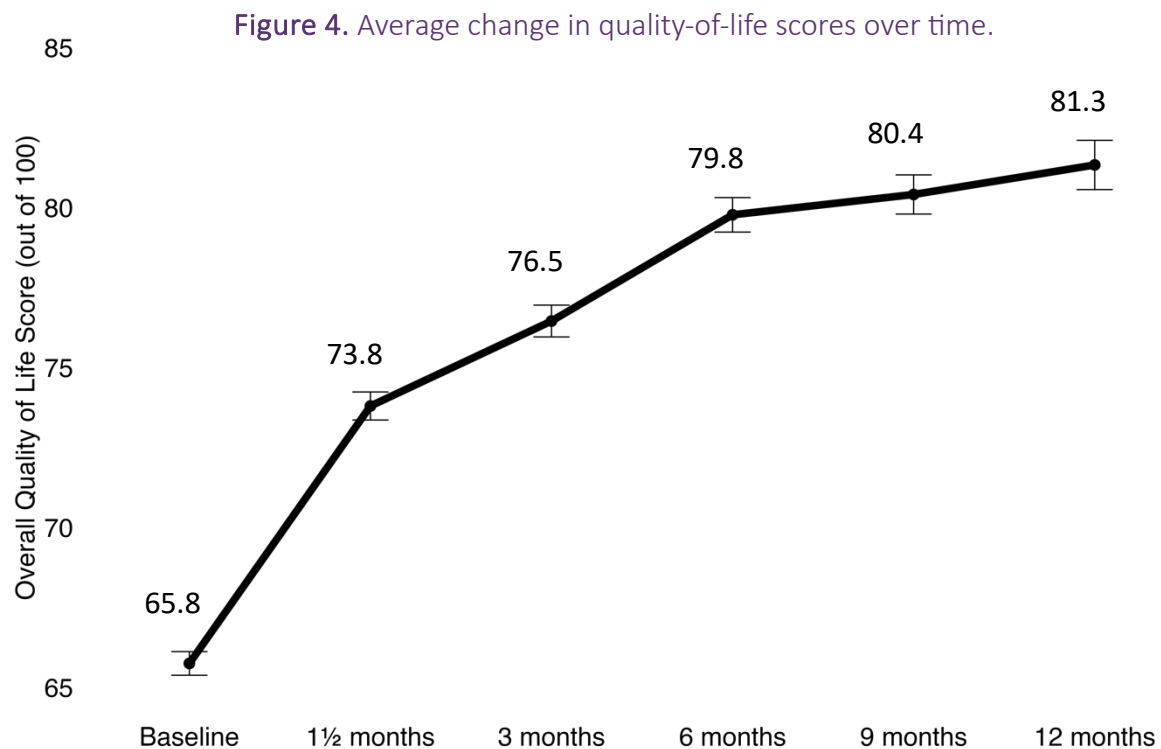
Early dropouts were defined as those with a residency tenure fewer than **45 days** (which is when the first follow-up REC-CAP is normally assessed). The following table outlines the most common dropout reasons for this group, as well as some additionally selected informational reasons.

Table 1. Early dropout reasons.

Reason	Number	Percentage
Abandoned	367	22.89%
Other Involuntary Discharge	365	22.77%
Other Voluntary Discharge	329	20.52%
Other	284	17.72%
Recurrence of Use (Relapse)	135	8.42%
Criminal Justice Discharge	79	4.93%
Medical Discharge	44	2.74%

Section 2: Quality of Life

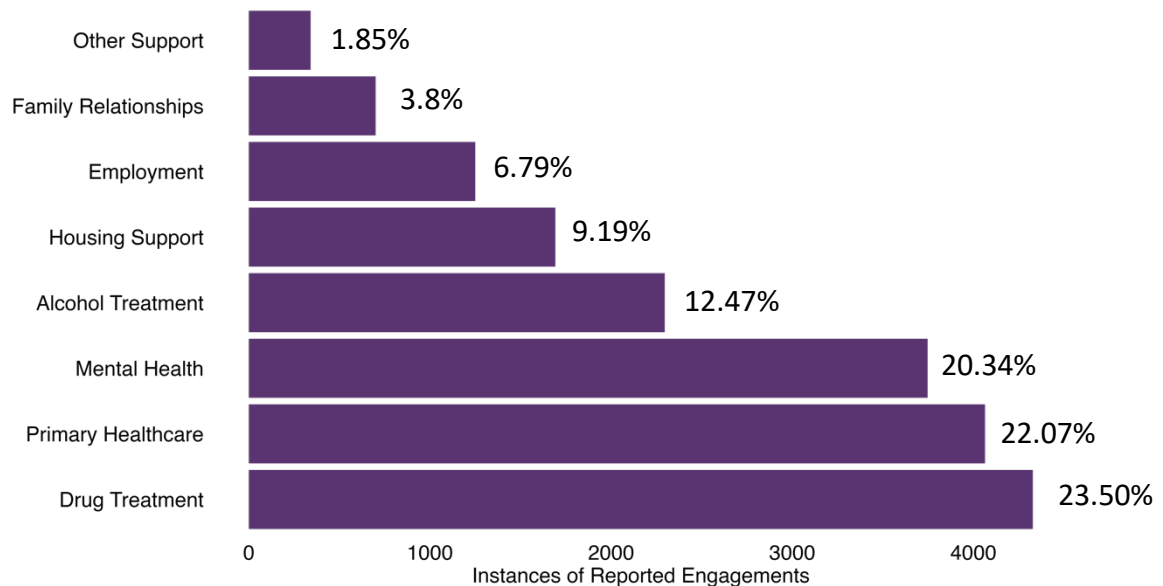
In the REC-CAP, quality of life is scored between 0 and 100 with higher scores illustrating greater reported quality of life.



For the majority of the group, all five quality of life indicators (psychological health, physical health, quality of life, accommodation, and support network) increased. There is a dramatic increase between baseline and 45 days, which continues to rise over time for those who remain engaged. Compared to baseline, each subsequent timepoint is statistically significant, meaning the increases we observe are substantial and unlikely to have occurred by chance.

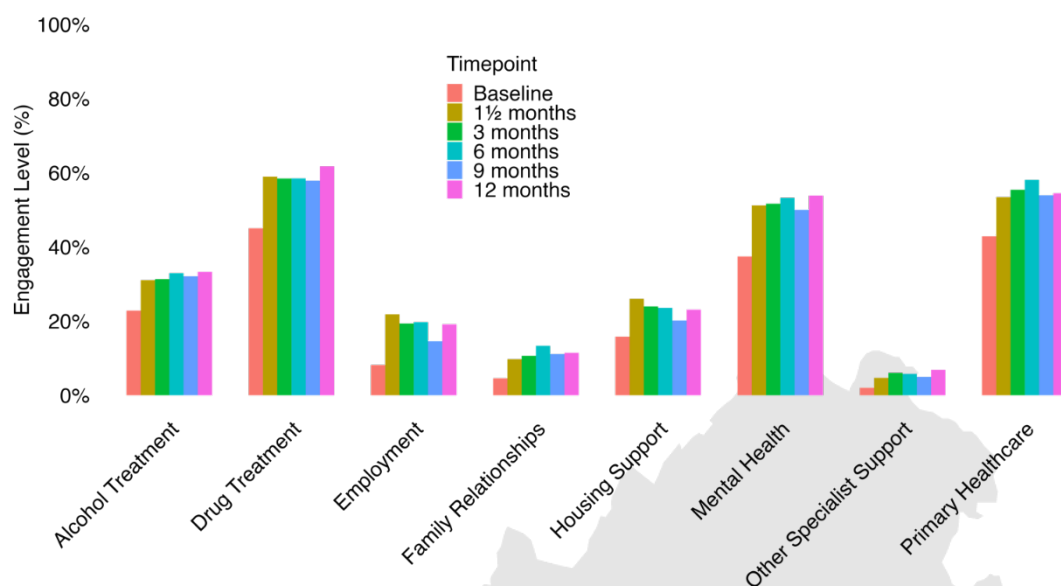
Section 3: Engagement with Services

Figure 5. Total number of engagements with various services over time.



Percentages out of total engagement counts are given in the plot above. The most engaged service was drug treatment, followed by primary healthcare and mental health treatment services.

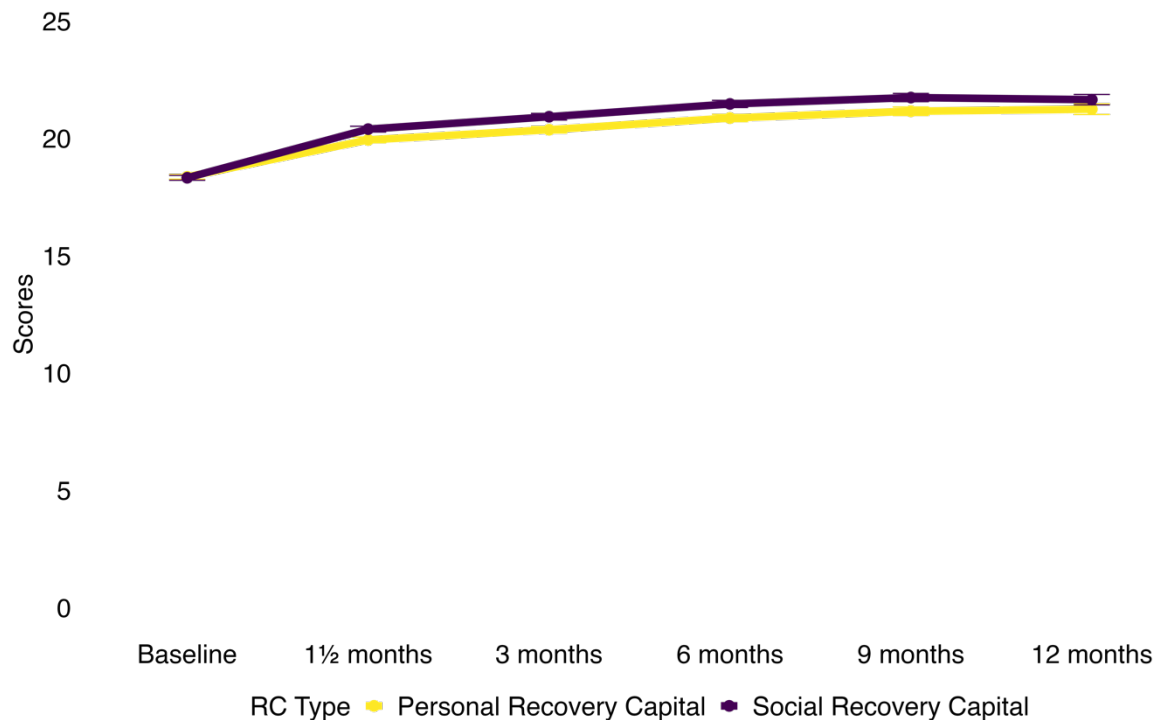
Figure 6. Overall engagement in community-based resources.



Engagement tends to increase over time within each sector of services (with some minor fluctuations). Compared to baseline, increases in engagement over time were observed to be highly significant. We will link engagement to perceptions of unmet needs below.

Section 4: Personal and Social Recovery Capital

Figure 7. Personal and Social Recovery Capital scores over 6 months.

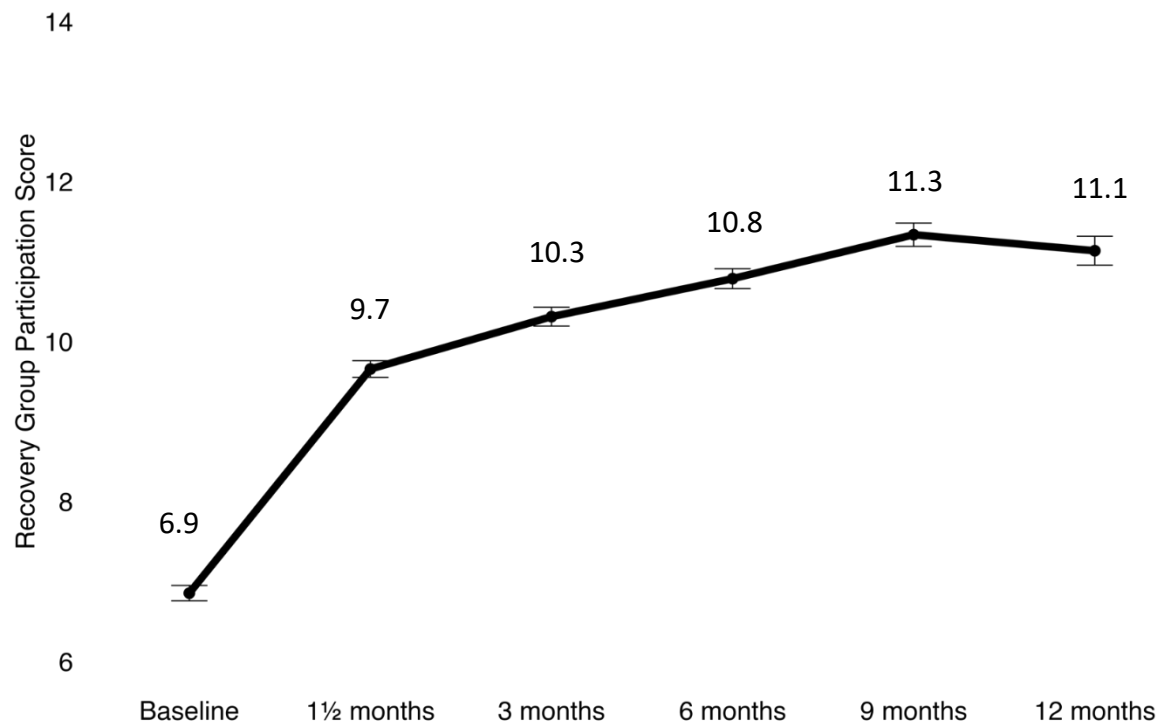


In this cohort, personal and social recovery capital (the essential elements of recovery capital) levels were generally high at admission (the scale represented in Figure 7 has a range of 0-25). Over time at the group level, PRC and SRC increased by approximately 3 points. Observed increases were statistically significant for both PRC and SRC and were sustained over the first year of residence for those remaining in recovery residences to that point.

Section 5: Recovery Group Participation

This is a measure of engagement in recovery support and mutual aid groups.

Figure 8. Recovery Group Participation Score changes over time.

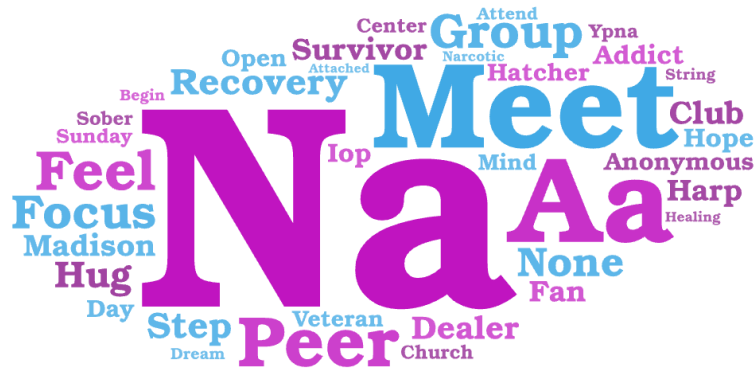


Of the residents engaged in REC-CAP assessments during 2023, there were dramatic increases in recovery group participation scores (the scale ranges from 0-14), from moderate to high levels of engagement over the course of the first nine months of residence. This is clearly a success of the recovery residences as previous research has indicated that recovery group participation is protective against relapse, particularly in the early stages of recovery.

The most substantial increase occurred between baseline and 45 days (a difference of 2.8 points), which then continued to increase over time. There was a very slight decrease of 0.2 points between 9 months and 1 year, but this change was not statistically significant ($t(1009.5) = 0.862$, $p = .39$), meaning that participation remained stable and high.

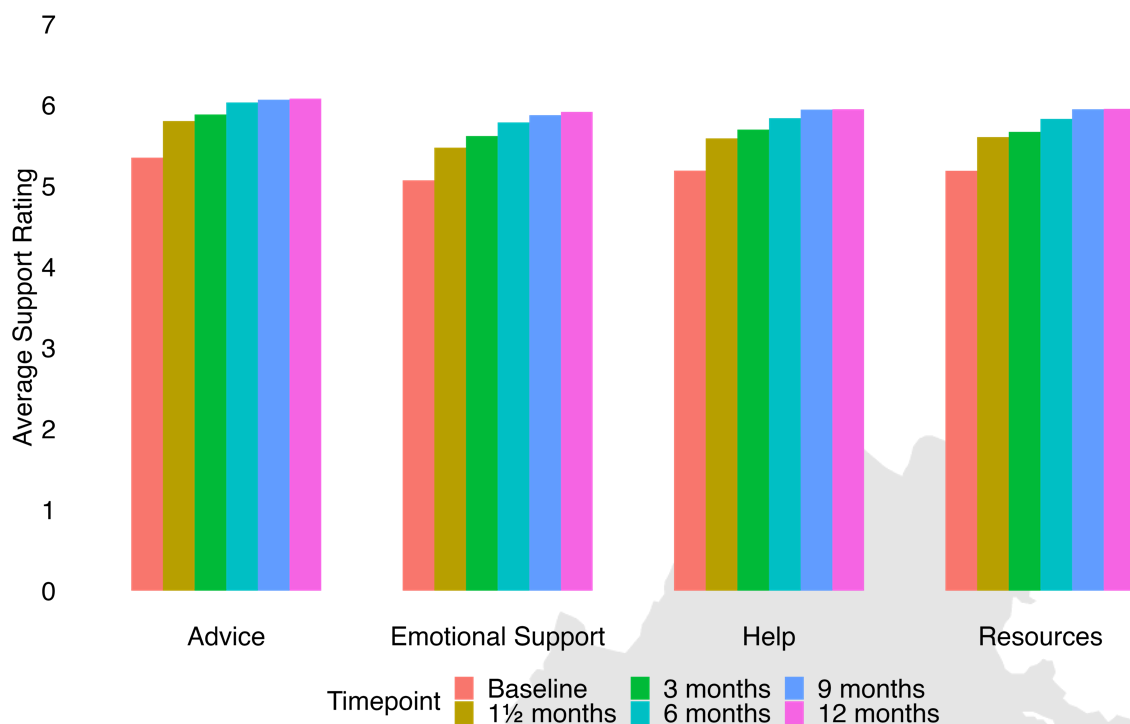
We used a technique called Natural Language Processing to analyze people’s responses about their face-to-face recovery group participation. The most common words are plotted below, which allows us to evaluate themes among the responses.

Figure 9. Common responses about face-to-face recovery groups.



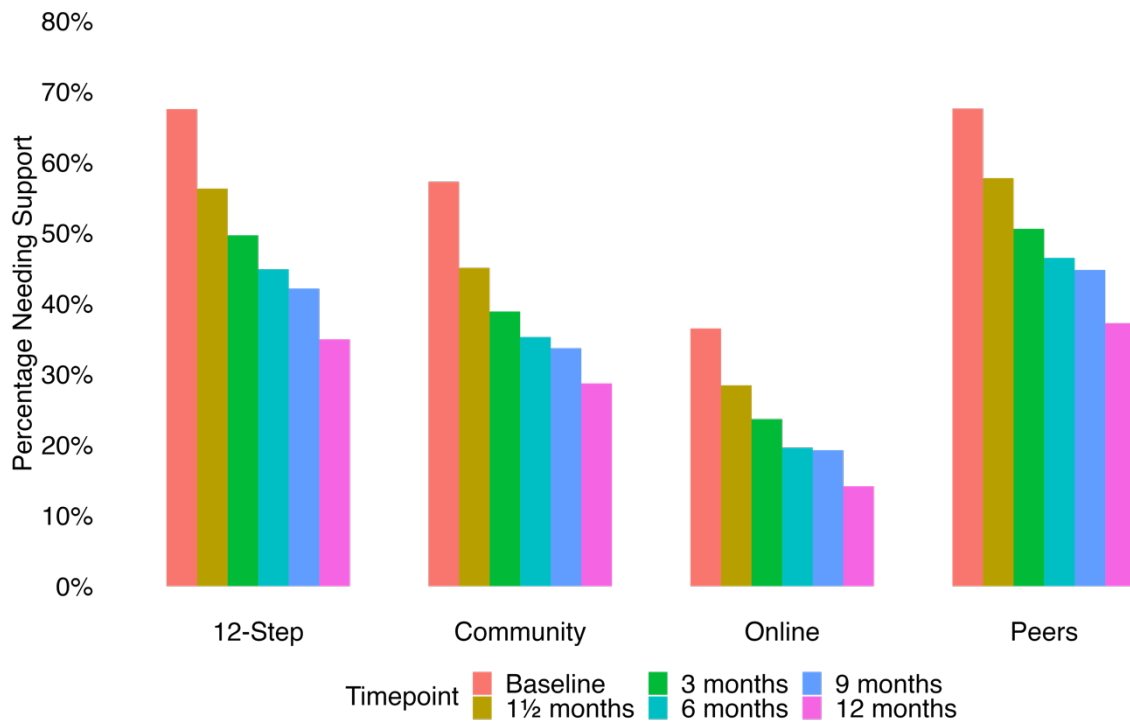
Many residents mention AA, NA, and meetings with recovery groups. “AA” was mentioned 936 times, while “NA” was mentioned 1278 times. “Meetings” was mentioned 1109 times.

Figure 10. How much support do the clients get from other people?



The plot above outlines the clients’ perceptions over time, rating their perceived levels of support on a scale from 0-7. Support significantly increased across all timepoints.

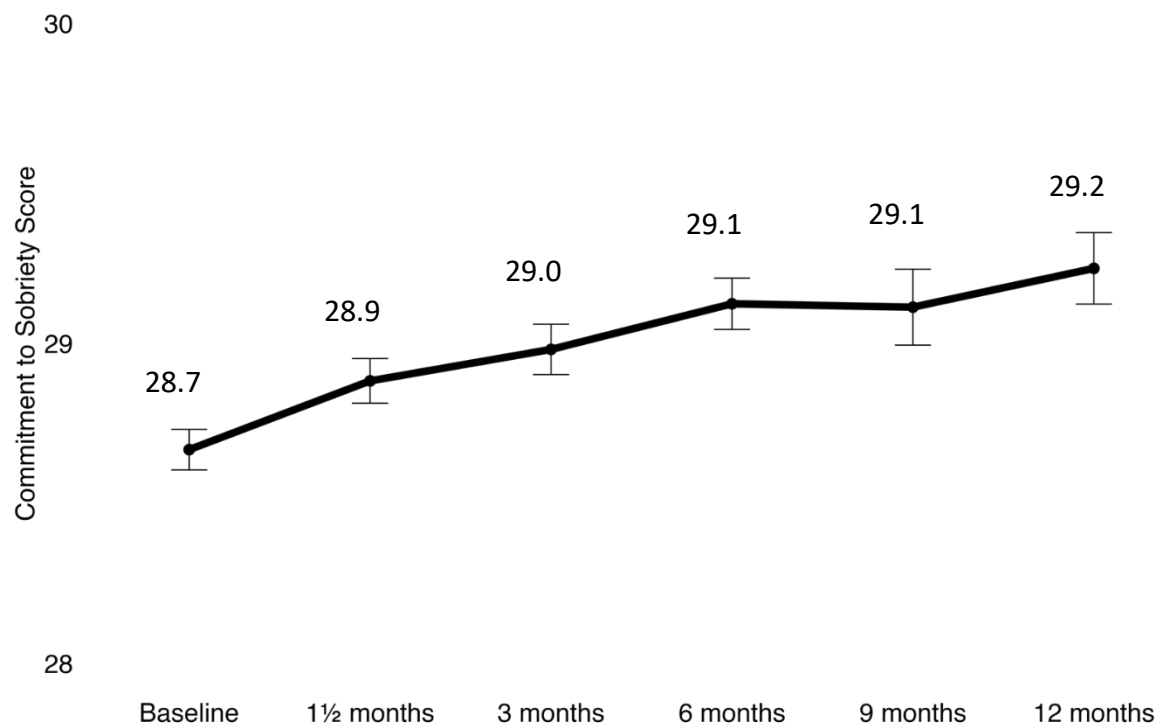
Figure 11. Additional needs around peer support.



Additional needs appear to stepwise decrease over time. The decreases we observed were all statistically significant. However, it is worth noting that around one third of participants continue to express the need for more peer support and greater 12-step involvement 12 months after entering the residence.

Section 6: Commitment to Sobriety

Figure 12. Commitment to Sobriety scores over time.



For most clients, commitment to sobriety starts very high yet we still observe statistically significant increases over time, even though there was little improvement to be made within this domain as most residents were close to the maximum level of commitment upon admission (the available range on this scale is 0-30).

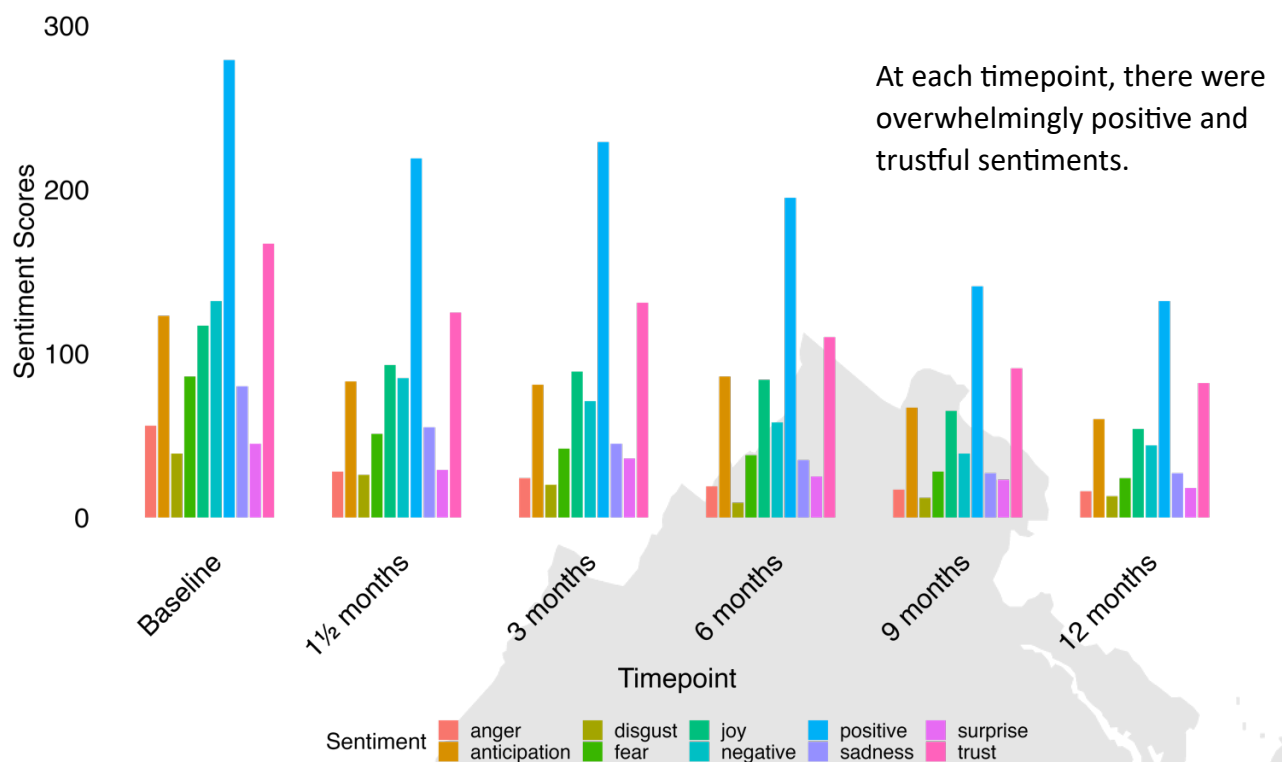
Figure 13. Visions of Recovery.



When asked about their recovery vision, many residents reported that they are at the beginning. Others focus on staying sober and see progress in their life.

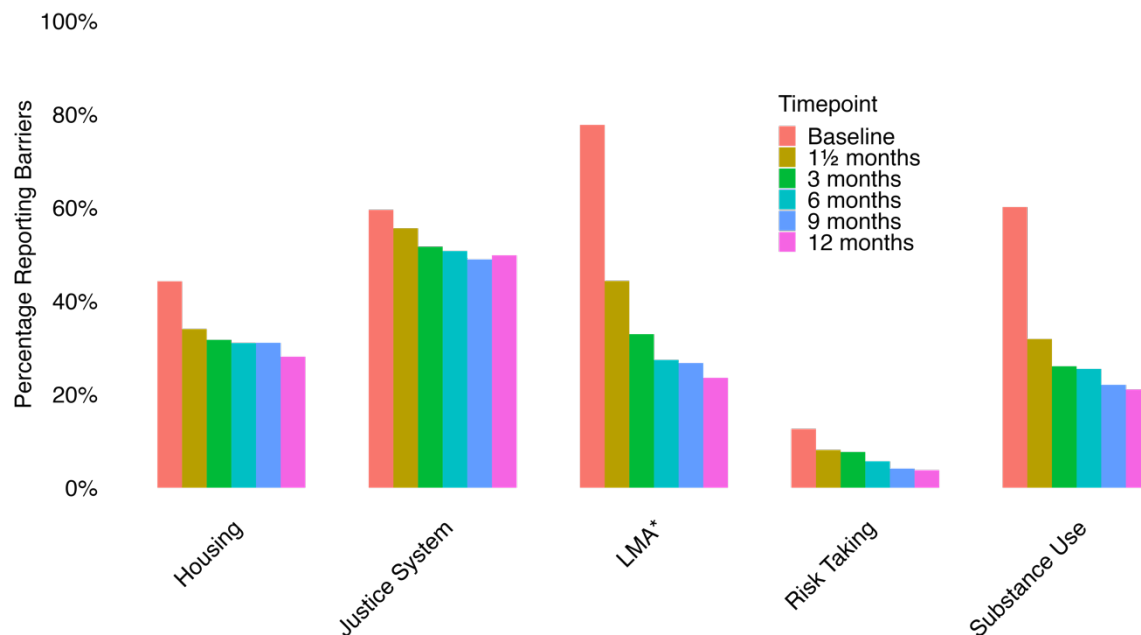
We conducted sentiment analysis regarding the clients' visions of their recovery over time. This analysis investigates clients' sentiments, opinions, attitudes, and emotions from written language. As a basis for this analysis, we used Saif Mohammad's NRC Emotion Lexicon. This lexicon is a list of English words and their associations with eight basic emotions (anger, fear, anticipation, trust, surprise, sadness, joy, and disgust) as well as two sentiments (negative and positive).

Figure 14. Sentiment analysis of visions of recovery.



Section 7: Barriers To Recovery

Figure 15. Barriers to recovery over time.



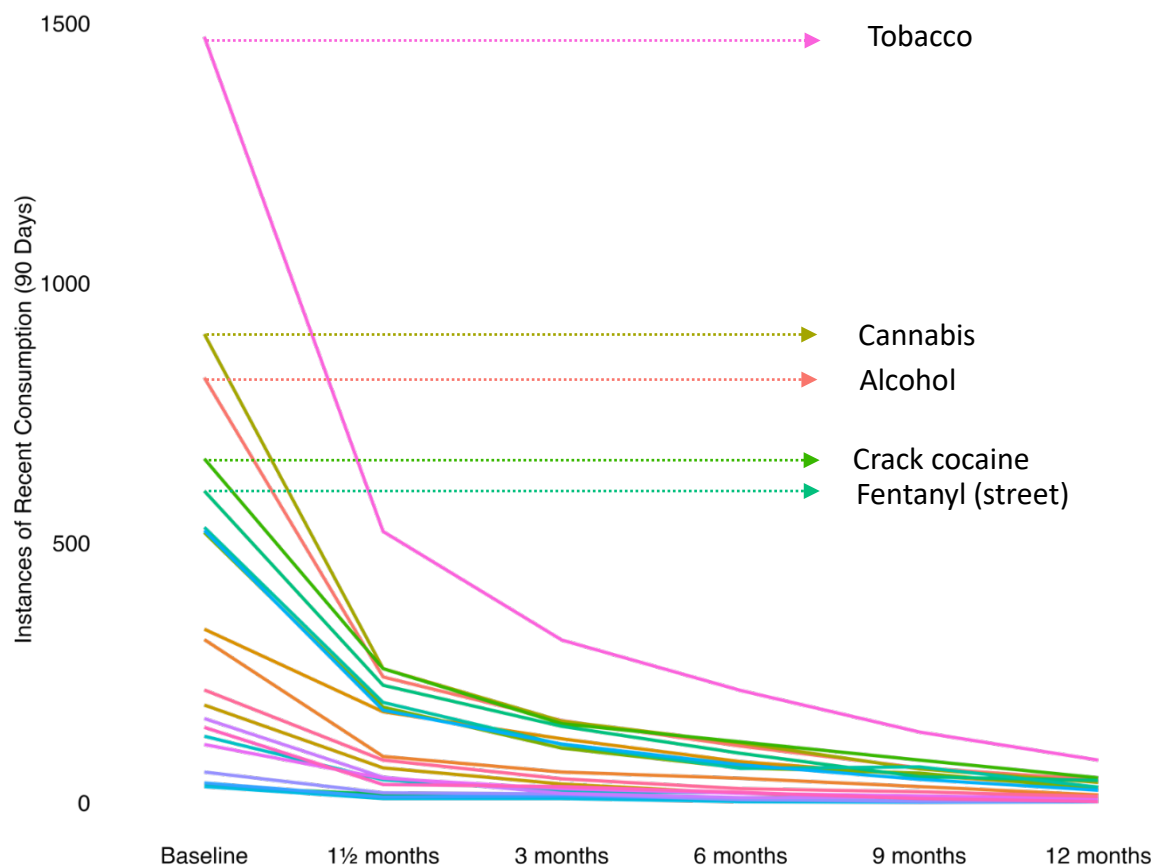
*LMA = Lack of Meaningful Activities

Lack of Meaningful Activities (LMA) was the most pressing barrier that needed tackling upon entering the recovery house, which was successfully accomplished over time for most residents. Within each domain, barriers significantly decrease over the year. However, housing concerns, lack of meaningful activities and substance use issues persist for around one in five residents up to one year into their residence.

Section 8: Substance Use

Among reported instances in which a particular substance has ever been a “problem”, tobacco, cannabis, and alcohol emerged as the most commonly consumed substances in this cohort. But what about recent consumption? The plot below outlines consumption within the past 90 days at each REC-CAP completion.

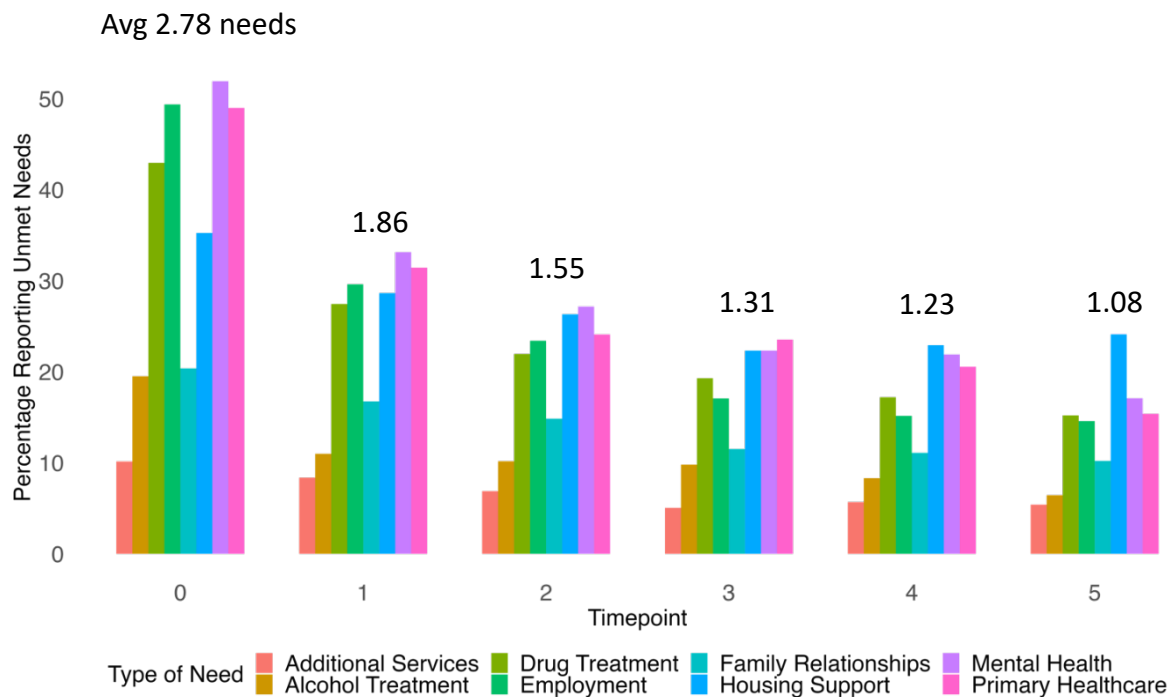
Figure 16. Time series outlining recent consumption over time.



There is a clear decrease over time for each substance. The top 5 “recently used” substances upon admission are outlined. There is rapid decline within the first assessment period, and tobacco, a non-illicit substance and not included as a barrier, persisted as the most consumed at each subsequent time point.

Section 9: Unmet Needs

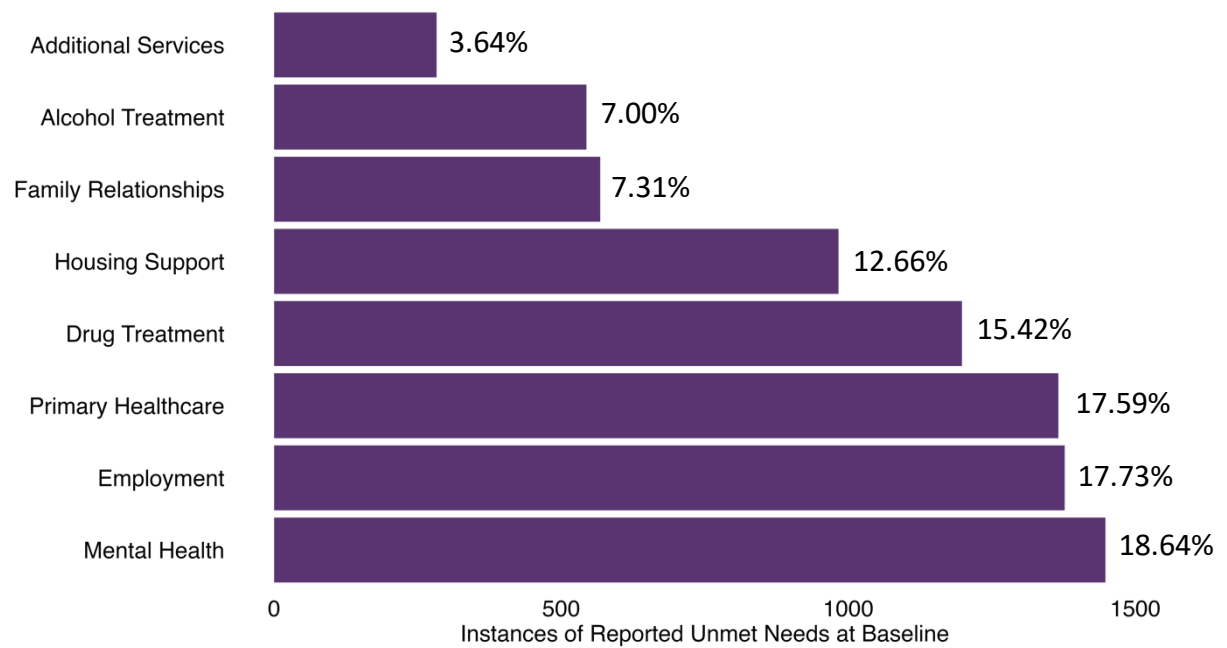
Figure 17. Percentage of reported unmet needs over time.



As an indication of the overall change in unmet needs over time, the total average score at each timepoint is given above the bars in the graph.

As shown in [Figure 18](#), mental health, employment, and primary healthcare were the three domains needed most by the clients at baseline. Needs were observed to consistently decrease over 2023. Unmet needs involving employment, mental health, and primary healthcare reduced significantly. While all decreases were statistically significant, housing support remained as a consistent need over time.

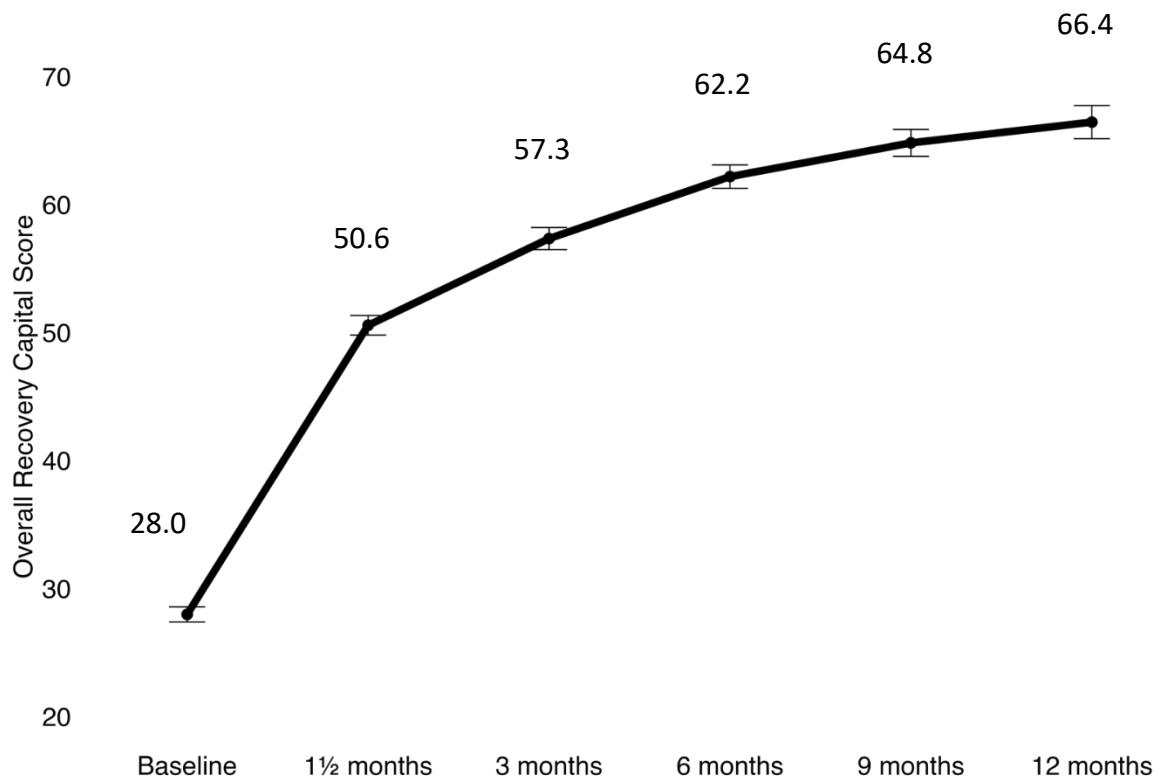
Figure 18. Total number of reported unmet needs by category at baseline.



The unmet need most commonly reported at baseline was mental health, followed by employment services, and primary healthcare. Percentage of the total is given within the graph.

Section 10: Overall Recovery Capital Score (ORCS)

Figure 19. Overall Recovery Capital Score (ORCS).



Measured from -100 to +100, the ORCS considers all recovery barriers and unmet needs, as well as the range of recovery strengths to give a single overall score for the REC-CAP. The group-level trend is positive and significant, with the biggest increase seen in the first 45 days in recovery residences.

Even though the average ORCS is positive at baseline, 525 people (18.56%) started with a **negative** ORCS. These individuals were observed to rapidly increase their ORCS in the subsequent weeks.

Section 11: Recovery Goal Planning

One of the unique features of the REC-CAP model is that not only do we measure changes in recovery capital over time, but we also assess individual and personalized goals that are set after each assessment with the capacity to review how much progress was made toward each goal at the review point.

2548 out of 2818 residents during 2023 were actively engaged in recovery goal planning.

Among the 2548 residents, 34,628 goals were set.

12,791 goals were marked as complete (36.9%), 5859 were marked as engaged (16.9%), and 15,978 were marked as not-yet-engaged (46.1%).

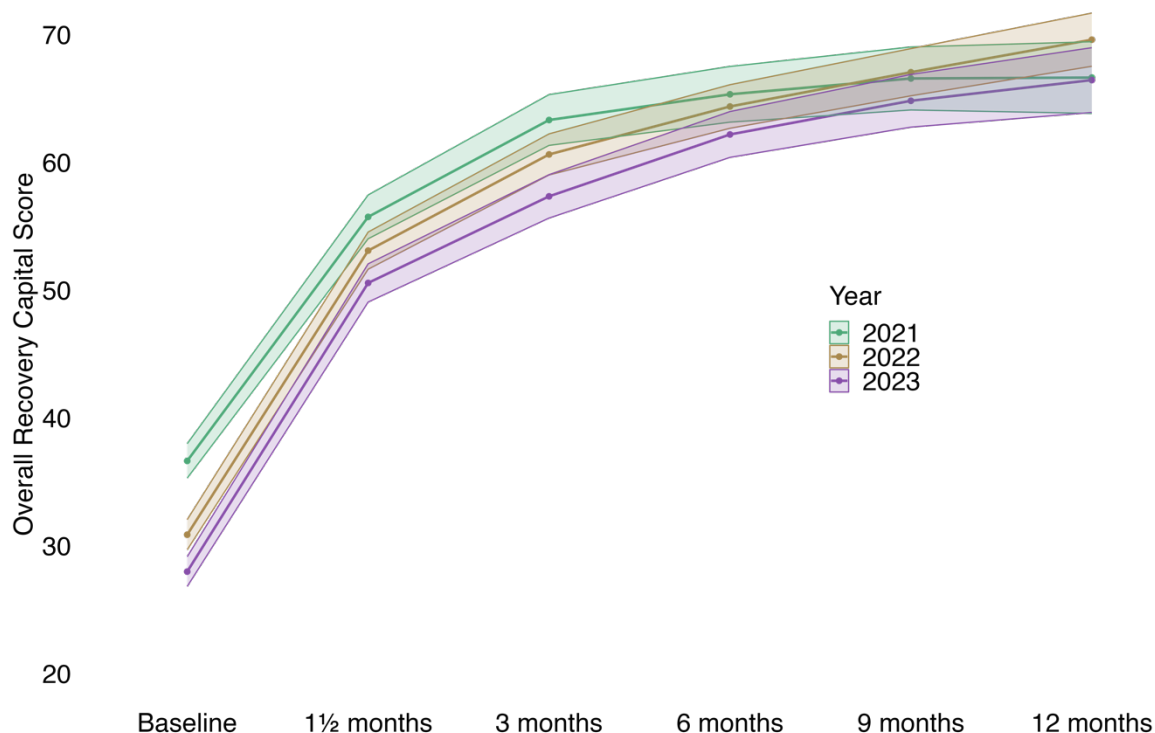
To understand the domains which were prioritized for goal setting, we analyzed the number of goals within each domain. The largest percentage of the goals (26.4%) fell within the Community Capital domain. Barriers (20.2%) and Personal Capital (18.8%) were the second and third most prominent domains.

Table 2. Distribution of goal domain categories and achievements.

Domain	Number	Percentage (out of total)	Number Completed	Percentage Completed (within-domain)
Barrier	7,000	20.2%	2452	35.0%
Commitment	205	0.6%	79	38.5%
Community Capital	9,127	26.4%	4137	45.3%
Other	2,983	8.6%	827	27.7%
Personal Capital	6,502	18.8%	2361	36.3%
Quality of Life	503	1.5%	134	26.6%
Service Need	5,918	17.1%	1951	33.0%
Social Capital	2,390	6.9%	850	35.6%

Section 12: Comparison With Previous Years

Figure 20. Comparison of Overall Recovery Capital Scores between 2021, 2022, and 2023.



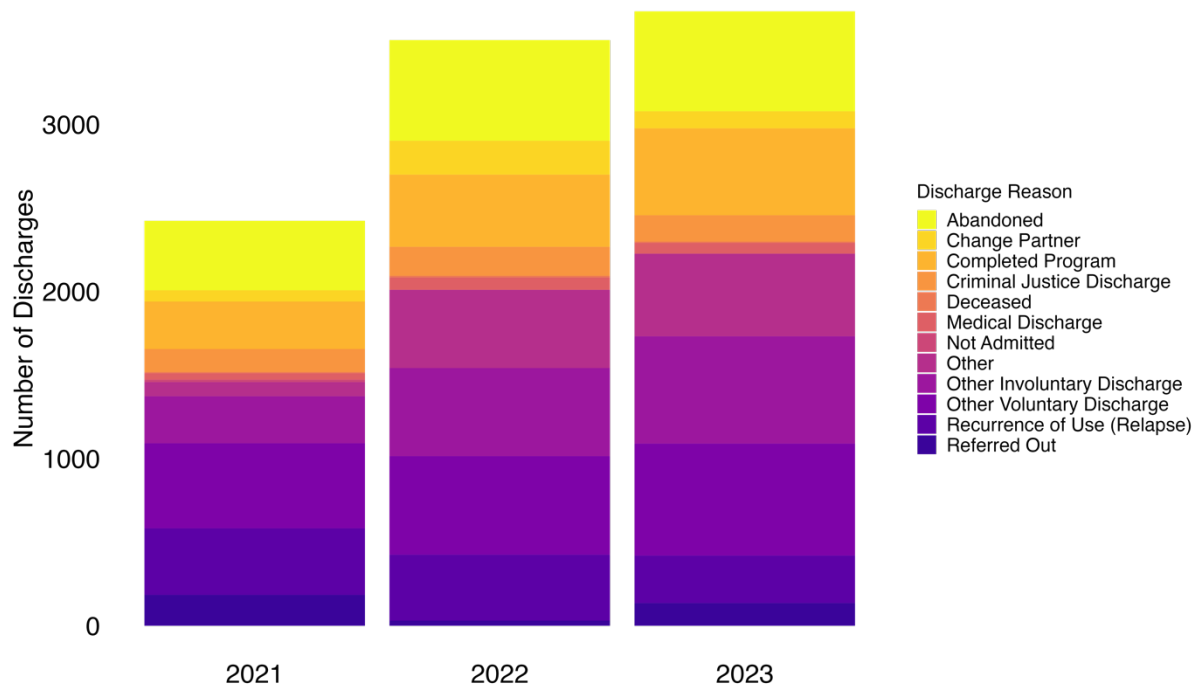
Presently, it appears that people are admitted to VARR residences with lower levels of baseline recovery capital compared to previous years. At baseline, the average ORCS in 2021 was 36.64, compared to 28.0 in 2023. However, the time spent at VARR residences uplifts individuals to about the same level regardless of year, as indicated at the 12-month mark.

Although 2023 residence admissions have the lowest mean ORCS scores when they complete the baseline REC-CAP, this deficit has been eliminated by around 6 months suggesting stronger growth of recovery capital in the first 6 months. [Table 3](#) provides a breakdown of the retention rates over time, separated by year, showing lower retention rates than 2022 (but higher than 2021 with the exception of one-year retention).

Table 3. REC-CAP completions and retention rates.

Year	Baseline	45 Days	90 Days	180 Days	1 Year
2021	2014	1207 (59.93%)	859 (42.65%)	646 (32.08%)	479 (23.78%)
2022	2572	1761 (68.47%)	1358 (52.80%)	1082 (42.07%)	816 (31.73%)
2023	2818	1756 (62.31%)	1307 (46.38%)	990 (35.13%)	686 (17.07%)

Figure 21. Comparison of discharge reasons by year (2021-2023).



There were more discharges in 2023 compared to previous years, however the reasons for discharge appear to remain consistent over time.

Retention in the recovery residences appears to decrease over the years. The average number of residency days in 2021 was 104, compared to 98 in 2022 and 70 in 2023.

Section 13: Summary

- Time in recovery residences in VARR in 2023 was associated with improvements in recovery capital and reductions in recovery barriers and unmet needs. This suggests that living in recovery housing in VARR is beneficial for its participants' recovery journeys. However, the average retention period is only 70 days for 2023 admissions suggesting limited opportunity to maximise the benefits of residence, and a slight reduction on retention in 2022, perhaps reflecting the lower recovery capital scores at baseline.
- The level of recovery group participation increased over time and commitment to sobriety started high and remained high, though we also observed increases in commitment. This is a positive finding, indicating that the residents in VARR are highly engaged in their recovery journeys.
- Time in recovery residences was associated with improved levels of perceived support from others. Moreover, the reported needs for more support from a range of recovery support sources decreased over time. Barriers additionally decreased dramatically after admission to a VARR residence. These are positive findings suggesting that the recovery residences in VARR are able to meet their residents' needs in terms support. However, around one third of participants were still reporting the need for greater peer involvement and more 12-step group involvement at 12 months.
- Unmet needs generally decreased over time for all measured needs, though housing support was consistently needed at each timepoint. This indicates that recovery houses in 2023 successfully supported residents' needs, although additional focus may be needed on residents' needs around housing support services.
- Compared to previous years, residents admitted to VARR houses are presenting with much lower ORCS. Fortunately, the data indicate that VARR residents increase their recovery capital to about the same level by 6 months regardless of their admission ORCS.
- Average retention in the VARR residences appears to remain typical/as expected for the first 180 days between 2021 to 2023. The average number of residency days in 2021 was 104, compared to 98 in 2022 and 70 in 2023. Retention rates for 1 year decreased from 31.73% in 2022 down to 17.07% in 2023, which could explain the decrease in average residency days in 2023 (i.e., not as many long-term residents).
- 2548 out of 2818 residents during 2023 were actively engaged in recovery goal planning (90.42%). This indicates that the staff in the recovery houses were well engaged in the REC-CAP model in 2023.