Pilot Study of a Substance Use After-Care and Sobriety Support Program: Analysis of Health Care Claims Costs

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Abstract**:** Substance use disorders are prevalent in construction workforces and often drive repeated, high-cost episodes of care. This pilot study evaluated a longitudinal, peer-delivered after-care and sobriety support program – Manifesto Health – embedded within a multi-employer union health fund covering approximately 32,000 lives in the eastern United States. A retrospective analysis of employer-paid medical, behavioral health, and pharmacy claims was conducted for all members referred to the program between the 12-month period of March 2024 and February 2025, integrating utilization data with self-report measures. Among the 152 members referred, total health-care spending averaged more than three times the plan norm ($21,380 vs. $6,900 per member per year), driven primarily by behavioral-health treatment costs that were over sixty times higher than average. Nineteen percent (n = 29) engaged at high fidelity, averaging roughly 21 sessions over six months. Twenty-one participants met criteria for longitudinal analysis. For this subgroup, annualized total costs declined from approximately $27,500 per member before engagement to $16,800 during participation which equates to a reduction of $10,800, or 37 percent. The decrease was concentrated in substance-use–related spending, with smaller reductions in mental-health care and a modest rise in general medical costs, consistent with a shift from crisis to maintenance care. Baseline self-report data confirmed elevated risks for alcohol and drug misuse, depression, and stress, aligning with the high-cost claims profile. Findings indicate that certified peer specialists can be integrated within existing employee-assistance and benefit infrastructures to provide sustained recovery support for members at elevated risk of return to use (relapse). Although promising, the results cannot establish causality due to voluntary participation, small sample size, variable observation windows, and the absence of significance testing. Moreover, claims-based analyses exclude broader returns such as employee retention and productivity, enhanced job-site safety, improved long-term stability of recovery, and reduced member cost sharing. Overall, this pilot demonstrates the feasibility and potential economic value of a peer-delivered after-care model for substance-use recovery in a labor workforce. Continued research using quasi-experimental designs, multi-year follow-up, and functional outcomes such as crisis-free and relapse-free days are warranted to estimate the full value of longitudinal peer support.

Index Terms: alcohol, applied research, coaching, drug, healthcare claims costs, medical, mental health, peer-support, pharmacy, substance use disorder

I. Introduction

Ssubstance use disorders (SUD) affect about 1 in 10 employees on a yearly basis and up to one-third of employees over the course of their lifetimes [1-4]. Among industries, construction is disproportionately affected: pooled data show past-year SUD prevalence of approximately 14.3% among construction workers, one of the highest rates across sectors. Moreover, construction ranks near the top across multiple measures: highest for heavy alcohol use and among the highest for past-year SUD [5]. These population patterns align with chronic condition realities: relapse risk in the first year after treatment is commonly 40%–60% across substances, underscoring the need for longitudinal continuing care rather than brief, episodic interventions [6]. Acute-care utilization is also heavier: SUD is associated with higher likelihood of 30-day re-hospitalization compared with non-SUD admissions, and psychiatric cohorts generally show readmission rates of about 17% of cases at 30-days and twice this rate at about 34% after one year. These benchmarks contextualize the scale of recurrent use and instability when support interventions are not provided [7,8]. The economic cost is comparably strong for employers; in the employer-sponsored insurance population, enrollees with an SUD diagnosis incur an estimated $15,640 in attributable excess medical expenditures per year, roughly 2 to 3 times the spending of otherwise similar peers without SUD [9].

Against this landscape, the Manifesto Health program delivers longitudinal, 24/7 peer-delivered recovery support designed to complement EAPs and traditional treatment with hands-on care management and sustained one-to-one engagement. We partnered with a multi-employer union health fund that covers approximately 13,000 carpenters (and over 32,000 covered lives when including spouses and family members) across four states in the Eastern United States (DE, MD, NJ and PA) to offer a new kind of support program. After the program was implemented, we conducted a pilot study to analyze the medical, behavioral health, and pharmacy claims among members referred to Manifesto Health in a 12-month period (March 2024 to February 2025). The goal of the pilot study was to assess the levels of service utilization and cost outcomes in this high-risk industry context.

Research Questions to Examine

RQ 1: How did the referral group compare to the norms of the larger insured population on average annual total claims costs and for provider categories of behavioral health, general medical and pharmacy in the most recent year (when referral was made in 2024)?

RQ 2: How did the referral group compare to the norms of the larger insured population on average annual total claims costs over the three years prior to 2024 (historical trend)?

RQ 3: Among the referral group, what was the average annual claims costs in year 2024 specific to diagnosis types of SUD, mental health and general medical?

RQ 4: Among the referral group, how many became active users of the support program and what was the extent of participation (program utilization metrics)?

RQ 5: Among the referral group, how similar were the active users of the program on demographic and claims cost factors to the other referral cases who did not participate?

RQ 6: Among the active program participants, what was the range between the individual member's in their total claims costs for the 12-months before the date of first use (a period defined uniquely for each person)?

RQ 7: Among the active program participants, how many had various SUD and mental health clinical risks at the start of use (self-report data)?

RQ 8: Among the active program participants with valid longitudinal data, what was the average change in total claims costs from before to after use of the program and also for costs specific to diagnosis types of SUD, mental health and general medical?

II. Methodology

2.1. Intervention

Manifesto Health is a Pennsylvania-registered limited liability company that provides peer-delivered recovery support services across the United States. The program extends the continuum of care beyond time-limited treatment episodes by engaging individuals during high-risk transition points (e.g., discharge from inpatient or intensive outpatient [IOP] treatment, workplace incidents, or acute family disruption) and sustaining support through stabilization and early recovery. Services are delivered by Certified Recovery Specialists (CRS) and Certified Family Recovery Specialists (CFRS) operating under structured training, digital documentation and outcomes tracking, and clinical oversight by licensed supervisors. Core activities include rapid post-referral engagement; weekly one-to-one peer sessions offered virtually or in person; collaborative recovery planning using evidence-informed practices; and coordinated care management with existing benefit vendors and community providers.

In the pilot study context, the health benefits fund sponsored the program, making services available at no cost to eligible members and dependents. The employee assistance program (EAP) functioned as the carve-out behavioral health administrator, maintaining its clinical provider network and adjudicating behavioral health claims; it also partnered operationally with Manifesto Health to identify and refer

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members who might benefit from longitudinal peer support. Referrals were initiated through multiple pathways: (a) direct referral from the EAP; (b) proactive outreach to members following SUD-related inpatient or IOP admissions identified through available notifications; (c) inbound self-referrals prompted by word-of-mouth within the union population; and (d) collaborative referrals from other benefit vendors and case managers encountering SUD-related concerns. Collectively, this design integrates peer support into existing benefit infrastructure while enabling timely, personalized engagement and continuity after formal treatment ends.

2.2. Data Sources

2.2.1. Healthcare Insurance Claims Archival Records

Claims data from the insurance plan sponsor (Funds) for medical and pharmacy services was obtained for all 152 referral members. These claims included details on place of service (i.e., in-patient hospital, out-patient, clinic office) and diagnostic categories (i.e., substance use disorders, mental health disorders, various medical disorders, other).

Claims data from the employee assistance program (EAP) for behavioral health services was obtained for all 152 referral members. These claims included details on place of service and diagnostic categories (i.e., substance use disorders, mental health disorders, other). Years 2021, 2022, 2023, 2024 and early part of 2025 January 1 through February 25.

Claims were assigned to time periods of interest by the date of when the service was provided (not by the date the claim was paid, which was later in time for the medical and behavioral health sources). Analysis of 25,518 medical health provider claim records determined the average time between the date of treatment service use and the date of the payment for the service was an average of 37 days (SD = 53; median = 17; range 0 to 633). Analysis of 10,891 behavioral health provider claim records determined the average time between the date of treatment service use and the date of the payment for the service was an average of 105 days (SD = 80; median = 83; range 0 to 1227). Pharmacy claims data only had date of service and missing data for date paid.

The amount paid by the employer fund for the claim was the primary outcome. Other data was also available [but not analyzed in this report] for the full amount charged for the services, the amount allowed by insurance plan factors, the amount paid by the individual member (co-pay, other patient portion of claim cost-sharing) and the total amount paid by the fund and patient combined. Comparison of the average amount paid per each claim record by the employer sponsor and by the patient is shown below:

- Medical = fund paid $137.08; patient portion paid $12.16 (12% of total $149.24)
- Pharmacy = fund paid $67.39; patient portion paid $16.85 (20% of total $84.24)
- Behavioral = fund paid $318.88; patient portion paid $45.98 (13% of total $364.86)

The claims data records from each source in each year for each referral person were combined into one master file in SPSS. This analytical tool can sort and sum the claims data by the unique member identification number assigned by the insurance plan for each person referred to the program. Valid cases were included if: Criteria 1: Had insurance coverage eligibility per 6-month periods (defined as yes/no on dates of May 1 and November 1; valid when one or both periods had active coverage (even if zero claims were paid); and Criteria 2: or had a paid claim during a non-eligibility period (excluding adjustment negative number claim). The normative averages for years 2021 to 2024 for the entire 32,000+ insured population was also provided as a reference to compare with the program referral group. This data included the per member per year (PMPY) total costs and costs by medical, behavioral health and pharmacy provide categories.

2.2.2. Program Use Archival Records

Program participation data for all referrals to the program was examined. This included data on the total number of sessions used per case and the dates from the first to last session used.

2.2.3. Self-Report Behavioral Health Risk Factors

Multiple self-report clinical status measures also collected from most of the program participants. These included the following: alcohol misuse was assessed by the 10-item Alcohol Use Disorders Identification Test (AUDIT) [10-15]; illicit drug use was assessed by the

10-item Drug Abuse Screening Test (DAST-10) [14]; addiction treatment support and readiness was assessed by the 10-item Brief Assessment of Recovery Capital scale (BARC-10) [15]; mental health depression symptom level was assessed by the 9-item Patient Health Questionnaire (PHQ-9) [16]; mental health anxiety symptom level was assessed by the 7-item General Anxiety Disorder scale (GAD-7) [17-19]; and general stress level was assessed by 10-item Perceived Stress Scale (PSS-10) [20]. A self-developed measure – called the "Manifesto Mindset" also collected data from participants on the level of confidence, goals, and motivations for recovery from substance use and maintaining harm reduction or sobriety during after care.

2.3. Sample of Referrals to the Program

Table 1 presents characteristics of the 152 people in referral group. The sample had an average of 39, but this is better understood by splitting age into groups with 19% under age 30, 41% in the 30s, 24% in the 40s, 13% in the 50s and 5% in the 60s. Thus, this was a group with 60% in the early stage of their working career. For insurance coverage status, most were employees covered by the insurance fund (78%), with 12% spouses and 10% adult child dependents.

Table 1. *Characteristics of Referral Sample*

Age	Insurance status
<30 *n* = 29 (19 %) 30s *n* = 62 (41%) 40s *n* = 36 (24%) 50s *n* = 20 (13%) 60s *n* = 7 (5%) Average = 39 years (range 19 to 64)	Employee *n* = 120 (78%) Spouse *n* = 17 (12%) Dependent (age 18-26) *n* = 15 (10%)

2.4. Ethical Considerations

The privacy of users was protected by having all archival claims data deidentified before being shared with the independent consultant (first author) who conducted all statistical analyses. All program use data was shared among the research team in password protected data files. As this was an applied study of archival program and claims data collected from routine use of the service, additional informed consent from individual participants beyond their initial consent agreement in terms of use of the program was not required. The use and analysis of archival operational data in this manner for applied research is consistent with the published ethical guidelines of the American Psychological Association [21].

III. RESULTS

The findings are presented in three parts. The first part examines how the referral group compared to the norms for the overall insured population in health care costs totals per person per year and explored costs within categories of treatment providers. The second part focuses on the referral group only and adds findings for cost sorted by different clinical diagnosis types and examination of active program participants vs. non-participants. The third part reviews the change in healthcare treatment costs for only the valid program participants with paired longitudinal data from both the 12-month period before starting participation and also the period during program use.

3.1. PART I - Program Referral Total Group Compared to Norms

3.1.1. Healthcare Costs in Past Year 2024

There were 152 people referred to the program in year 2024. Are these employees (and spouses/dependents) covered by the employer appropriate for the intervention program? Supportive data is defined as having a past year of high levels of costs and use of services to treat substance use and/or mental health disorders that is higher than other employees. This higher cost should prompt the referral status. The answer from the data is "Yes" (see Table 2). The program referral members were 3.1 times higher than the average member for total health care treatment costs in year 2024 paid by the employer fund (M = \$21,380 vs. \$6,970, respectively). These comparisons in Year 2024 are also shown visually in Figure 1.

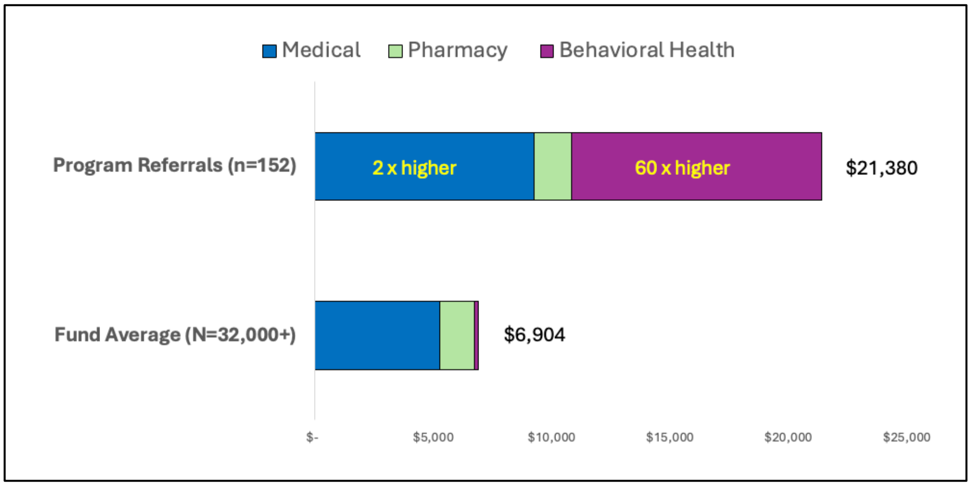

Figure 1. *Paid Claims Total PMPY in 2024: Program Referral Group vs Norm (Non-referrals)*

Which categories of claims costs described how the program referral group compared to the norm? This data for per member per year costs by different categories of claims data sources was examined for the referral year of 2024 (see Table 2). From above we know that the overall total cost amount paid was more than three times as costly for the referral group than the norm. This difference was accounted for largely by the behavioral health related treatment costs, which were 60 times greater for behavioral health treatment services in the referral group than in the norm ($19,557 vs. $175, respectively). The referral group was also almost twice as costly for general medical provider treatment claims ($9,253 vs. $5,251). Yet, the two groups were similar in their pharmacy costs (both about $1,500). These categories of treatment source amounts are also shown the colored parts of the bars in Figure 1.

Table 2. *Claims Costs Per Person by Category in Year 2024: By Group*

Claims Type by Service Category:	Group		$ Difference
	Non-Referral Norm	Referrals to Program	
	N = 32,000+	*N* = 152	
	$	$	
Behavioral Health	175 (3%)	10,557 (49%)	**60.3 x higher**
Medical	5,251 (86%)	9,253 (43%)	**1.8 x higher**
Pharmacy	1,478 (11%)	1,570 (8%)	Similar
Total	6,094	21,380	3.1 x higher

3.1.2. Healthcare Costs in Prior Years 2021, 2022 and 2023

A related question is if the members referred into the program were also higher in their total healthcare costs in the years farther back in the past beyond just the most recent year (i.e., historical cost profile)? These findings are shown in Table 3 and Figure 2. The results indicated that while the immediate past year was about triple the norm (3.1 times higher for the referral members), the referral group was still 2.4 higher than the norm in the year before that (2023). However, going back two years (2022) and three years (2021) before the referral period year found that both of these years were closer to the norms, at 1.3 times higher in annual total costs for the referral group than the norms. This pattern suggests that future cost trend after participation in the program could potentially return costs to lower "more normal" levels again.

Table 3. *Claims Costs Total Per Person in Years 2021 to 2024: By Referral Group*

Year:	Group		Difference
	Non-Referral Norm	Referrals to Program	
	$	$	
2021	5,604	7,462	1.3 x higher
2022	5,797	7,471	1.3 x higher
2023	5,996	14,701	2.4 x higher
2024	6,904	21,380	3.1 x higher

Note: PMPY = per member per year; total claims paid by employer fund; year period determined by service use dates for program referrals. Norms *n* = 32,000 approximately. Referral group: 2021 *n* =135; 2022 *n* = 133; 2023 *n* = 151; 2024 *n* = 152.

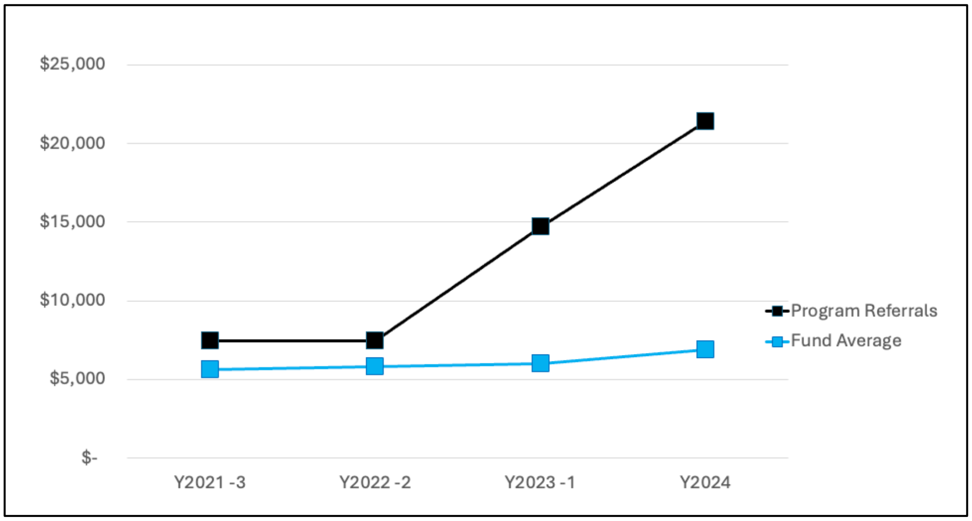

Figure 2. *Paid Claims Total PMPY in 2021 to 2024: Program Referral Group vs. Norm (Non-referrals)*

3.1.3. Clinical Profile of Program Referral Total Group

Within the referral group, what was the mix of paid claim costs by different relevant diagnosis types? And was this mix of diagnoses consistent over the past several years? The aftercare support program focuses on alcohol and drug problems. The claims data from medical, pharmacy and behavioral health treatment sources was also split by diagnosis codes for this analysis. As expected, the findings reveal that the diagnosis type of substance use disorders accounted for the majority of total treatment costs in the year the referral to the program was made ($12,936 or 61% in year 2024) and in the year before ($8,576 or 58% in year 2023). In earlier past years, substance use disorders were still far above the fund average but accounted for relatively less of the annual totals ($2,963 or 40% in 2022; $3,337 or 31% in 2021). The other non-SUD related costs were mostly due to other medical conditions than to mental health therapy services or psychiatric medications (see Table 4 and Figure 3).

Table 4. *Claims Costs By Diagnosis Category in Years 2021 to 2024: For Program Referral Group Only*

Claims Paid PMPY	Claims Type by Diagnostic Category		
	Substance Use Disorders	Mental Health Disorders	All Other
Year (valid case count)	$	$	$
2021 (*n* = 135)	3,337 (**31%**)	559 (7%)	4,565 (54%)
2022 (*n* = 133)	2,963 (**40%**)	616 (8%)	3,883 (52%)
2023 (*n* = 151)	8,576 (**58%**)	1,743 (12%)	4,372 (30%)
2024 (*n* = 152)	12,936 (**61%**)	2,130 (10%)	6,314 (30%)

Note: PMPY = per member per year; total claims paid by employer fund; year determined by program use dates.

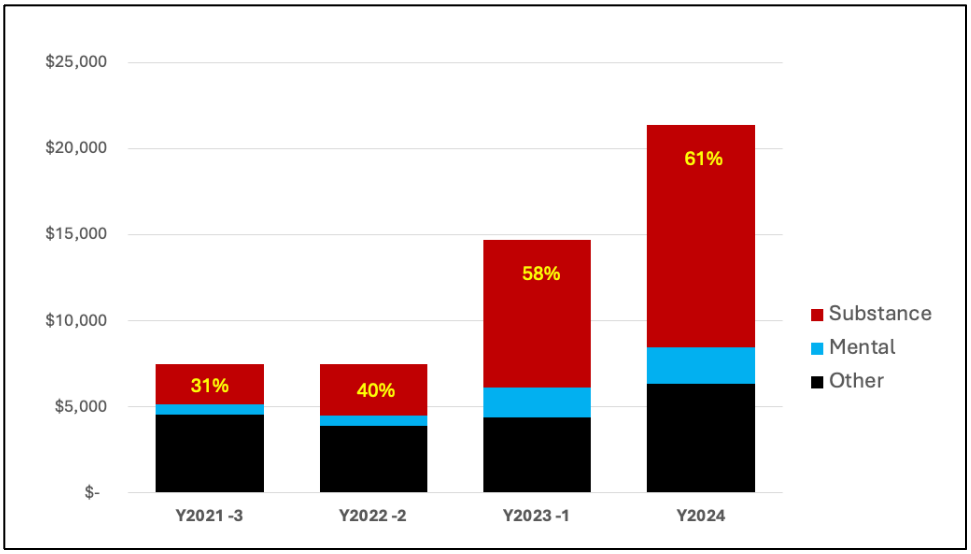

Figure 3. *Paid Claims PMPY by Diagnosis Type in Years 2021 to 2024: Program Referral Group Only*

3.2. PART II - Program Use and Participant vs. Non-Participant Profiles

3.2.1. Program Use

How many of the total people referred into the program became active participants? Of the 152 referrals, 29 people were active participants in the support program (called the high-fidelity group). The answer is about 1 in every 5 referrals (19%). Another 15 referrals had only minimal contact with the program and not enough to qualify as receiving the intended intervention experience (i.e., called the low-fidelity group). The remaining 109 people did not engage with the program after the referral.

Program Participants Compared to Non-Participants

As expected, the high-fidelity participant group differed substantially from the low-fidelity use group, both in the number of coaching support sessions used (average of 21 sessions used vs. 2) and the duration of time active in the program (average of 6.2 months vs. 1.5 months). The high-fidelity program user group was compared against the other two conditions as one combined group (see Table 5). Both study groups were mostly men (86% high-fidelity participants vs. 90% non-participants), of similar typical age (average of 40 years old vs. 38), and were mostly employees covered by the insurance fund (86% vs. 78%). The total healthcare costs were generally similar in the two groups for the most recent referral year (2024) but were 30% higher among the participants, on average, than the non-participants. This slight difference in total costs was explained by isolating the diagnosis types in the referral year (2024), with both groups being similar on SUD related services, but the participants were 153% higher for mental health services and also 50% higher for other medical services.

Table 5. *Characteristics of Referral Sample: By Program Participant Status*

	Group		Difference
	Non participants or low fidelity (LF) participants (*n* = 124; 109 + 15 LF)	Participants high fidelity (*n* = 29)	
Gender	Male = 13 (90%) F = 1 (missing = 1) [LF only]	Male = 25 (86%) Female = 4 (14%)	Similar
Age	20s = 25 30s = 53 40s = 27 50s = 13 60s+ = 6	20s = 4 30s = 10 40s = 9 50s = 7 60s+ = 0	Similar

	Average = 38 years	Average = 40 years	
Insurance status mix	Employee = 101 (78%) Spouse = 13 (10%) Dependent Child (age 18-26) = 15 (12%)	Employee = 25 (86%) Spouse = 4 (14%) Dependent Child = 0	Similar – but no adult children
Number of program sessions used during support episode	0 session = 1 1 session = 6 2 sessions = 6 3 sessions = 1 Average = 1.5 for 14 people [low-fidelity only]	2 to 3 sessions = 3 4 to 9 sessions = 7 10 to 19 sessions = 6 20 to 29 sessions = 6 30 to 39 sessions = 6 40 to 49 sessions = 2 50 to 63 sessions = 2 Average = 21	Much more use of program services
Number of months of program use during support episode	1 month = 12 2 months = 2 Average = 1.0 for 14 people [low-fidelity only] [NA = 109 no data]	1 month = 4 2 months = 3 3 months = 1 4 months = 2 5 months = 1 6 months = 1 7 months = 0 8 months = 0 9 months = 2 10 months = 2 11 months = 2 12 months = 5 13 months = 3 Average = 6.2	Much longer time engaged in program use
Total healthcare claims costs paid by employer: Year 2021 Year 2022 Year 2023 Year 2024 2024 – Substance 2024 – Mental health 2024 – Medical other	$ PMPY 6,322 (*n* = 107) 7,751 (*n* = 107) 14,659 (*n* = 122) 20,257 (*n* = 123) 12,811 1,648 5,798	$ PMPY 11,817 (*n* = 28) 6,316 (*n* = 26) 14,875 (*n* = 29) 26,140 (*n* = 29) 13,464 4,172 8,505	 90% higher Similar Similar 30% higher Similar 153% higher 50% higher

Figure 4 shows the comparison of total paid claims in each year from 2021 to 2024 for the two groups. The two lines for each group are close together in each year. This indicated the two groups are generally similar in their claims cost averages each year.

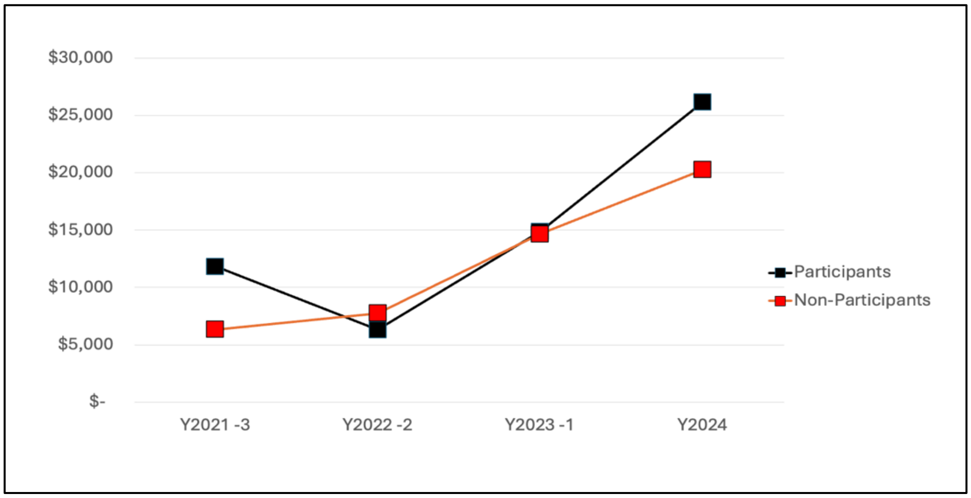

Figure 4. *Paid Claims PMPY in Years 2021 to 2024: Participants and Non-Participants*

3.3. PART III - Profile of Program Participant Group

3.3.1. Cost Profile of the Program Participant Group in Past Year

What was the range in healthcare costs for the 29 users of the program during the case-specific year before starting to use the program (not just the 2024 calendar period)? This was operationalized as the 12-month period preceding the first day of program use. Note this could have included dates of treatments experienced in 2023 and 2024 depending on each case's start date. For example, a participant who started use of the program on May 1 of 2024 would have a pre period of May 1 2023 to April 28, 2024.

The results from this re-examination of the data organized by first use date found an average of $26,791 per participant in the 12-months before starting use. But there was a very wide range in the total PMPY cost between different participants (see Figure 5). On the lower end of the cost spectrum, thirteen participants (44%) had less than $10,000; another ten participants (34%) were in the expensive level range of $10,000 to $49,999; and six participants (22%) were in the very expensive level (ranging from $64,533 to $111,377). This very wide range of past-year costs indicates differences in clinical severity and health complexity within the program use group, with about half of these cases being in the expensive or very expensive (outlier) levels of total cost. These high costs do offer the chance for a reduction in the next year when benefitting from the after-care support program, especially when much of the total cost was due to substance use disorder related kinds of treatments and that is the focus of the program content.

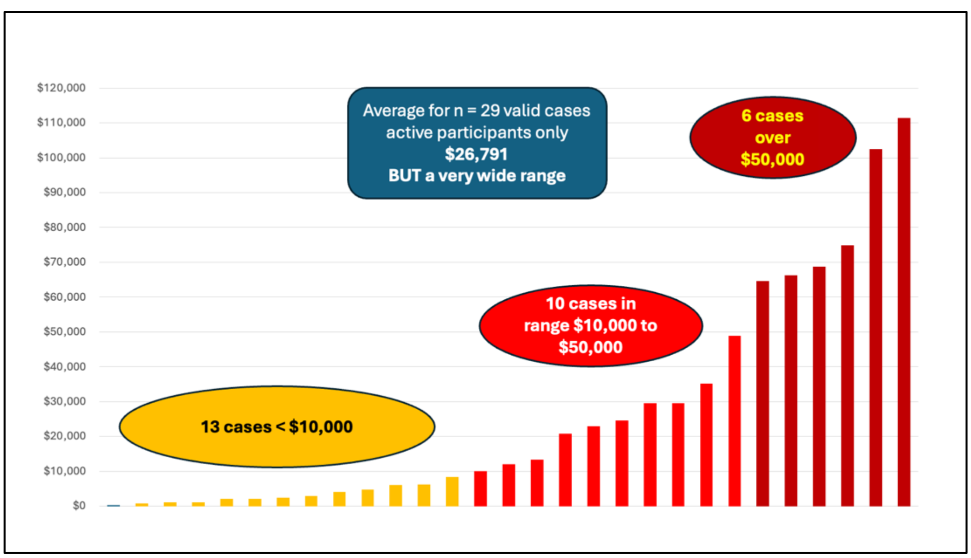

Figure 5. *Paid Claims PMPY in 12-months Before Use: Program Referral Group Participants Only*

3.3.2. Program Participants' Behavioral Health Risk Profile

The self-reported data on clinical health status collected at the start of the program from a subset of the participants revealed that some of this group were indeed at-risk on multiple substance and mental health factors. During the initial phase of program use, 40% of participants were at-risk for alcohol use disorder (4/11); 45% were at-risk for drug use (5/11); 44% needed to improve their recovery capital (8/18); 28% were at-risk for depression (5/18); 22% were at-risk for anxiety (4/18) and 100% were at-risk for stress (11/11). Although these sample sizes are very small, the findings are of interest for descriptive purposes to help understand who was active in the program. There is the potential reduce these risks in future as participation continues over next year. This range among participants in healthy or at-risk status on these behavioral health factors is consistent with the wide range in the group for their total claims treatment costs (described above).

3.4. PART IV – Longitudinal Change

3.4.1. Validity Criteria for Longitudinal Change Results in Healthcare Costs

- Each program participant had a unique start date in the program.
- The Pre period was defined by the participant's specific date of first session used in the program (this was *not* the date referred to program; which was somewhat earlier) and going backwards in time up to 12 months and inclusive of the start date with the program.
- The Post period was defined as up to 12 months after the date of first session used in the program. The minimum Post period duration was defined as 3 months. Thus, 7 of the 29 high-fidelity program users were excluded from the within-person longitudinal change analyses of changes after program use in claims costs. This criteria resulted in a final valid sample of 22 program participants with valid program experience and claims data at both the Pre and Post periods.
- An outlier claimants with very high total costs due to general medical diagnosis conditions and not substance use disorders was not appropriate to the program objectives. This criteria resulted in one case being excluded.
- The final valid group of program participants with longitudinal paired data was **21 people**. The program use and claims cost data for the 8 cases excluded as invalid are shown in the Appendix.

3.4.2. Longitudinal Change Results in Healthcare Costs – PMPM

What was the change in healthcare costs for the users of the program during the case-specific year before starting program use and the post-period during use of the program? This was operationalized by the 12-month total for the pre use period and the annualized 12-month estimated total based on the maximum months available for each participant (see Table 6). Among the 21 participants with valid conditions, the average actual number of months in the post period was 8.6 (range 3 to 12 months). During this period of participation, the average person had 27 sessions of support (range 5 to 63 sessions).

The results discovered that the average total claims cost per month was $2,295 before the program and $1,398 during the program use period (see bottom of Table 5). This was an average difference of $897 lower cost per month once active in the program. This represents a 37% reduction in total costs from before the program to during the program. This change was largely from a reduction in substance use related treatment costs (57% less) and a smaller reduction in mental health treatment costs (30% less) but a slight increase in medical/other treatment costs (17% more).

Table 6 also shows the costs in each diagnosis type and total costs for each of the 21 valid program participants. About two-thirds of these members (13 of the 21) had a reduction in their per member per month total health care costs (coded as green color). One member had almost no change and the other 7 members had an increase in their costs. This mix of positive and negative change in the group echoes the earlier results that found a wide range of costs among these people in the referral year period before starting the program (see Figure 4), with just over half being at high or very high cost levels and thus having room to go down from that high level once becoming engaged in the program.

Closer examining the person level data for claims costs in Table 6 revealed a sub-group of program participants who had small (i.e., under $100) or zero costs for treatment of SUD (coded as yellow color). This subgroup was 38% of the total at Pre (8 of 21) and 48% at Post (10 of 21). Does this experience reflect goals of abstinence from substance use and maintaining sobriety and thus, not needing treatment for SUD issues?

Table 6. *Claims Costs By Diagnosis Category and Total Compared for Before Use and During Program Use Periods: For Program Referral Group Valid Participants*

Case ID	Months Use & Claims at Post	Number sessions program use	Healthcare Claims Cost Paid by Employer - Average per Month $								Change
			Pre Before Start Program (all cases = full 12 months)				**Post** During Program Participation (# months vary by case)				
			SUD	Psych	Other Dx	Total	SUD	Psych	Other Dx	Total	
n = 21 valid cases for longitudinal analysis											
	#	#	$	$	$	$	$	$	$	$	$
217	10	33	8760	99	423	9281	179	51	291	521	-94%
115	12	47	4836	1899	1808	8543	2625	931	182	3739	-56%
152	12	12	4849	285	1100	6234	2527	0	461	2988	-52%
135	9	21	2536	2658	328	5521	843	1224	0	2067	-63%
250	10	30	3416	119	1843	5378	1148	130	455	1732	-68%
125	11	25	1853	205	404	2462	853	625	2315	3792	54%
169	6	18	1938	371	151	2460	2253	468	920	3641	48%
244	4	31	1687	0	48	1734	0	0	1377	1377	-21%
189	7	39	1365	539	1	1905	460	0	25	484	-75%
159	10	8	33	27	1054	1113	851	366	1033	2249	102%
141	11	34	0	5	824	836	4	7	1085	1096	31%
248	4	27	184	139	378	702	0	239	486	724	3%
129	11	41	166	331	1	498	1769	773	87	2629	427%
209	11	30	290	0	104	394	0	0	122	122	-69%
208	12	5	315	0	19	334	0	0	0	0	-100%
136	11	63	0	183	61	244	0	0	155	155	-36%
165	3	24	0	63	145	208	17	0	24	42	-80%
142	9	24	11	40	119	170	412	40	0	453	166%
234	6	28	0	0	91	91	19	10	7	36	-61%
218	8	9	0	1	69	70	0	0	1510	1510	2073%
194	3	12	0	0	17	17	0	0	0	0	-100%
AVG	**8.6**	**26.7**	**1536**	**332**	**428**	**2295**	**665**	**232**	**502**	**1398**	
						Change $	-871	-100	+74	**-897**	
						Change percentage	-57%	-30%	+17%	**-39%**	

3.4.3. Longitudinal Change Results in Healthcare Costs – PMPY Annualized at Post

Table 7 presents the findings when the during use/post period was estimated to represent a full 12 month period for the 18 members who did not have 12 months of time since the date of first use of the program. For these participants, their monthly average actual claims cost was multiplied by 12 to yield an annualized total cost amount. These results indicate the average total claims cost per year was $27,540 before the program and $16,775 after during program use. This difference is $10,765 less costly per year. Most of this difference was from a reduction of $10,449 in the SUD related treatment category ($18,426 vs. $7,977), compared to only $1,201 reduction in mental health treatment category ($3,979 vs. $2,779), and an $885 increase for general medical care ($5,135 vs. $6,020). These longitudinal changes are displayed in Figure 6. Note that the post period reduced annual cost of $16,775 for program participants is still more than the average insurance plan member annual cost of $6,904.

Table 7. *Claims Costs By Diagnosis Category and Total Compared for Before Use and During Program Use Periods: For Program Referral Group Valid Participants Only (n=21)*

Time Period	Healthcare Claims Cost Paid by Employer			
	SUD $	Psych $	Other Dx $	Total $
Pre 12-months Before Date Start Program	18,426	3,979	5,135	27,540
Post 12-months* During Program Participation	7,977	2,779	6,020	16,775
Change $	-10,449	-1,201	+885	**-10,765**
Change %	-57%	-30%	+17%	-37%

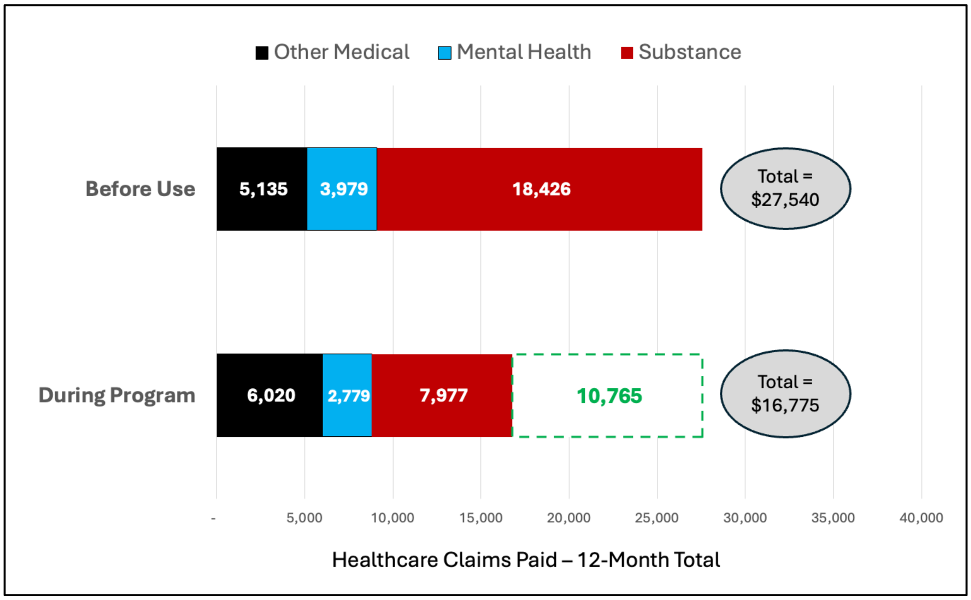

Figure 6. *Paid Claims in 12-months Before Use and Estimated Full 12-Months During Program Use: Valid Participants Only (n=21)*

IV. Discussion

The purpose of this study was to evaluate a peer-delivered recovery support intervention implemented within a large multi-employer union health fund and to examine its association with health care utilization and spending among members referred to the program. A retrospective claims analysis over a 12-month implementation period (March 2024 to February 2025) characterized medical, behavioral health, and pharmacy use and costs among referred members, with particular emphasis on high-intensity services (e.g., inpatient and residential admissions, intensive outpatient), post-discharge readmissions, and patterns of outpatient engagement. Embedded alongside the fund's employee assistance program and benefit administration, the intervention was assessed for feasibility of integration into existing benefit infrastructure and for preliminary evidence of correspondence with changes in service mix and total cost of care within a high-risk construction workforce.

4.1. Key Findings

The 152 program referral members had an average annual cost of $21,380 for total health care treatment costs in year 2024 paid by the employer. This amount was 3.1 times higher than the $6,904 for the average insured member in this population of over 32,000 people. This difference was accounted for by program referral members being 60.3 times higher than the norm for behavioral health care treatment costs and also 1.8 times higher for overall medical provider costs. The referral group's average total spend was split into 49% for behavioral health, 43% for medical and 8% for pharmacy. This was very different from the split in the normative data profile of 3% behavioral health, 86% medical and 11% pharmacy.

The referral group was 2.4 times higher than the norm in the year before being referred to the program (2023). However, in year two (2022) and year three (2021) before the referral year, both periods were closer to the norms, at just 1.3 times higher.

The diagnosis type of substance use disorders accounted for the majority of total treatment costs in the year when referred to the program (61% in 2024) and also in the year prior (58% in 2023). In earlier past years, however, substance use disorders accounted for relatively less of the annual totals (40% in 2022; 31% in 2021).

About 20% of the total people referred to the program became active participants (29 of 152). Both the active participant and non-participant groups were mostly men, of similar typical age and were mostly employees covered by the insurance fund. Total healthcare costs were also generally similar in the two groups for the most recent referral year (2024) but were 30% higher among the participants, on average, than the non-participants. This slight difference in total costs was explained by isolating the diagnosis types in the referral year, with both groups being similar on SUD related services, but the participants were much higher for mental health services and somewhat higher for other medical services.

The average participant with valid data (n = 29) had $26,791in total costs over the 12-months before starting program use. But a very wide range was found such that 44% of participants were under $10,000; 34% were between $10,000 to 49,999; and 22% were over $50,000 (64,533 to $111,377).

For the 21 cases with valid pre and post data, the average total claims cost per year was $27,540 before the program and $16,775 after during program use for a **savings of $10,765 per year**. Most of this difference was from a reduction of $10,449 in the SUD related treatment category ($18,426 vs. $7,977) – compared to only $1,201 reduction in mental health treatment category ($3,979 vs. $2,779) – and an $885 increase for general medical care ($5,135 vs. $6,020).

4.2. Implications for ROI

A positive return on investment (ROI) for this program can be considered based on the preliminary results of the pilot study exploration of claims data. A positive ROI is defined as when the projected annual total cost savings for the program participants (based on the average cost savings created by the valid participants with net outcomes) exceeds the total financial investment in program. Considering that the $10,449 annual reduction per program participant was obtained from 21 of the program referrals. This total of $219,429 in claims savings would need to be considered against the full cost of the support program including the other invalid partial cases and non-participants.

There is also the potential for significant avoided claim costs required to be paid by the patient (12% to 20% of total paid claim amounts, depending on provider type). It is also appropriate to consider the avoidance of multiple years of future cost savings beyond the data examined in this study. Thus, continued longitudinal data collection for program referrals and participants is warranted for analysis in the future.

Furthermore, in addition to direct, near-term claims effects, several return components plausibly increase the total economic value of longitudinal peer support but are not captured in this analysis window. First, multi-year spillover savings are likely when recovery stability persists beyond the index year, including lower rates of relapse-related acute care and fewer high-cost episodes in years 2 to 5; rigorous follow-up is therefore needed to estimate durability and net present value.

Additionally, reductions in member cost sharing (e.g., deductibles, coinsurance, out-of-pocket maximum exposure) accrue to households when care intensity falls, mitigating financial strain that is not reflected in payer claims totals. Third, employer productivity gains (e.g., reduced absenteeism and presenteeism, improved retention, and less supervisor/crew time spent on coverage and rework) affect project timelines and labor continuity but are not reflected on the health plan's budget analysis. Fourth, safety-related events are critical in construction: even small reductions in impairment-related incidents can avoid rare, high-severity events with outsized costs (e.g., workers' compensation, disability, OSHA penalties, schedule delays, and legal exposure), none of which appear in medical claims.

Further unmeasured returns may include (a) lower turnover-and-replacement costs tied to stabilizing high-skill workers, (b) reduced leakage to out-of-network or low-value settings through earlier navigation and step-down adherence, (c) fewer pharmacy-related risks (e.g., unsafe polypharmacy, diversion) via ongoing monitoring and care coordination, and (d) indirect benefits to dependents and family members (e.g., caregiver productivity, reduced family crisis utilization).

Taken together, these non-claims domains suggest that a claims-only ROI likely understates the program's total economic impact; comprehensive valuation should incorporate multi-year persistence, member cost sharing, productivity and retention effects, and safety-related losses to reflect the full return of peer-delivered recovery support within a construction workforce.

4.3. Literature Context

It is appropriate to situate these findings within applied research on the chronic, relapsing course of substance use disorders and the economics of long-term care. Longitudinal cohort studies consistently characterize addiction as a multi-year condition in which durable remission typically follows repeated treatment episodes; in a large U.S. sample the median time from first treatment to one year of abstinence was roughly nine years, with three to four treatment episodes on average [22].

Early post-treatment periods often feature higher service use and spending as individuals access specialty care and re-stabilize, with costs rising around treatment entry and acute care utilization tapering thereafter [23]. Over longer horizons, receipt of continuing care is associated with more favorable cost trajectories. For example, in a nine-year managed-care cohort, adults who engaged in continuing care exhibited lower subsequent total health care costs relative to comparable SUD patients without such engagement [24,25]. Parallel intervention trials indicate that structured recovery management and continuing-care models can improve linkage back to treatment and are cost-effective or even cost-saving in certain implementations [26,27].

Medication-based maintenance and harm-reduction approaches likewise demonstrate cost-effectiveness over multi-year windows, underscoring that investments made in the first three years may yield downstream offsets in years 2 to 5 and beyond as relapse, acute care, and crisis utilization decline [28,29]. Taken together, the literature supports a pragmatic expectation that near-term spending may rise as recovery supports intensify, but then sustained engagement in continuing-care frameworks tends to yield improved clinical stability and lower total costs over time, particularly when assertive re-engagement, peer supports, and primary-care coordination are present [22,29,30].

4.4. Limitations of the Study

The study involved a small size of members referred to the program and an even smaller subset who met criteria as a valid program participant. The intervention was in its first year of operation as well, with most of the participants not having a full 12 months of time in the program (yet an average of 9 months). The use of archival claims data records represents a factual cost basis for the descriptive analyses presented in the study. However, the small sample sizes did not allow for proper statistical testing of the significance of the group differences observed in the data. The behavioral health risk factor data also was in the directions expected – with clinical level risks found among some participants – but are based only 11 to 18 cases, depending on the measure. Other studies of alcohol issues and workers tend to find the negative impact of SUDs on work-related outcomes [30], accidents and death [31] can be reduced with effective employee clinical support programs [32-35].

V. Conclusion

This pilot analysis of a peer-delivered recovery support program embedded within a multi-employer union health fund suggests that longitudinal engagement by certified peers can correspond with meaningful shifts in cost patterns for a high-risk construction workforce. Among the 21 participants with valid longitudinal data, total employer-paid claims were an estimated $10,765 lower on an annualized basis during program engagement than in the prior year, driven primarily by a $10,449 reduction in substance use disorder–related spending, with smaller declines in mental health costs and a modest rise in other medical care. Set against the referral cohort's markedly elevated baseline spend (3.1 times higher than the plan norm in 2024) and the concentration of costs in SUD diagnoses (61% of total spend in 2024), these preliminary findings align with the literature in which near-term intensification of recovery supports can enable downstream cost offsets as crisis care recedes and stability takes hold. At the same time, conclusions should be tempered by design limitations that preclude causal inference.

The practical implication for stakeholders is twofold: First, that peer-delivered continuing care can be operationalized within existing EAP and benefit infrastructures for a labor workforce [36,37]; and second, that claims-based ROI likely understates total return by omitting restored work productivity and employee retention effects [38], household cost sharing, and safety-related losses. Future evaluations should therefore employ stronger quasi-experimental designs, extend observation windows to capture multi-year trajectories, and integrate patient-reported outcomes, relapse-free and crisis-free days, as well as job-site safety and productivity metrics. In short, although preliminary, these findings support a straightforward thesis: when recovery is supported over a long horizon by a coordinated care team in which peers continue engagement beyond discharge, expensive volatility can give way to steadier function, generating value for patients, families, and health plans.

Declarations

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Author Contributions: MA created the aggregated claims dataset, performed the statistical analyses, and conducted the literature review and drafted the manuscript. PM developed the study design, led the effort to obtain the healthcare claims raw data and selected the clinical measures and coordinated the data collection of the client reported outcomes. Both authors discussed the results and contributed to the final manuscript.

Conflict of interest/Competing interests: MA is an independent research scholar who received financial support from Manifesto Health for conducting this research study and report preparation. PM works for Manifesto Health company as a Clinical Advisor.

Institutional Review Board & Informed Consent: No formal ethical approval of the study was required due to the retrospective archival naturalistic design of the study. All data was collected as part of the normal business practices and not for a separate specific research project. Consent for participation in a research study and use of data for publication of study results was therefore not necessary.

APPENDIX

Table A1. *Claims Costs for Excluded Program Referral Group Participants*

n = 8 invalid cases excluded from longitudinal analysis			Healthcare Claims Cost Paid by Employer - Average per Month								
			Pre Before Start Program (all cases = full 12 months)				**Post** During Program Participation (# months vary by case)				
Case ID	Months of use & claims at post	Sessions of program use	SUD	Psych	Other Dx	Total	SUD	Psych	Other Dx	Total	Change
	#	#	$	$	$	$	$	$	$	$	%
case excluded for extreme cost in Post period unrelated to SUD care (outlier)*											
251	12	55	819	94	84	997	1,423	220	**5,233***	6,877	590%
case excluded if not at least 3 months of claims data during program use											
130	**1.3**	7	129	0	386	515					
138	**1.2**	5	16	8	5,710	5,733					
144	**1.1**	2	1,678	1,064	204	2,928					
192	**0.6**	11	0	0	168	168					
139	**0.5**	3	245	434	3,395	4,074					
226	**0.2**	2	39	1	47	87					
137	**0.2**	4	1,351	203	494	2,048					

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