

# Home Again evaluation report: Case management and selected outcomes

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## Executive Summary

In January of 2007, The Health Foundation of Central Massachusetts funded a proposal submitted by a collaborative of homeless service providers, named the Comprehensive Homeless Assessment and Intervention Network (CHAIN), to plan and then pilot test a Housing First-type approach to addressing chronic homelessness in Worcester, Massachusetts. Members of CHAIN include: Central Massachusetts Housing Alliance, Community Healthlink, Dismas House, Henry Lee Willis Community Center, Jeremiah's Inn, and PIP Shelter/South Middlesex Opportunity Council. The planned project was named "Home Again," and was modeled and has been evaluated over the course of 34 months (January 1, 2008-November 30, 2010). The primary goal of the project was to reduce the number of adults in Worcester who were chronically homeless, or on the verge of becoming chronically homeless.

The impact of Home Again is being assessed by an evaluation team from the Boston University School of Public Health. As detailed in prior evaluation reports, Home Again has demonstrated success in achieving its primary goal (*i.e.*, to keep chronically homeless and potentially chronically homeless adults housed), and secondary goals including having a positive impact on clients' mental health symptomatology and frequency of alcohol use. The present evaluation was designed to determine if the amount of case management services that clients received were associated with greater improvements on these and other selected outcomes. In short, the number of case management sessions, and number of minutes spent on case management per clients, were compared to clients' gains in mental health symptomatology, alcohol use, and self-reported health. This report details the methods and findings.

Key findings include:

- To date, Home Again has delivered a total of 6,279 case management sessions to 44 clients, which amounts to an average of 65 hours of case management per client. The first clients were enrolled in Home Again in January 2008, so clients' program tenure ranges from six months to more than two years.
- The majority (51%) of case management sessions are to assist clients with housing, life skills, or income-related issues.
- On average, Home Again clients receive between two and five case management sessions per month, although the number of sessions delivered per month ranges from 0-34.
- Over time, most clients participated in fewer case management sessions.

Receiving more case management sessions was correlated with a statistically significant improvement in self-reported mental health symptoms. However, receiving more case management sessions was not correlated with improvements in self-reported health, emergency room visits, alcohol use, brief instrumental functioning, or social support

## Case management and selected outcomes: An analysis of Home Again data

### *Introduction*

Home Again is a “Housing First-style” intervention (*i.e.* housing is provided and accompanied by case management and other support services); it is modeled after other successful Housing First programs in other cities, with some minor modifications that make it suitable for Worcester, Massachusetts. Home Again was first tested and evaluated against what might reasonably be called the “standard care” for homeless individuals in Worcester in 2008-09 (evaluation report available at <http://www.homeagaincentralma.org>). For the purpose of this report, we use the term “standard care” to refer to the local system of services that comprises outreach, emergency shelter, and in some cases, temporary housing that is typically predicated on achieving and maintaining sobriety. Perhaps the most widely-known feature of Home Again is that clients need not be sober (*i.e.*, refrain from drinking alcohol or using drugs) in order to participate. Instead, case management and other services are provided to clients in order for them to develop a harm-reduction action plan—that is, reducing use of alcohol or other drugs rather than abstaining--and achieve a healthy lifestyle.

In Home Again, case managers accompany clients as they search for a place to live, and in some cases, are able to direct them towards housing units, some of which were owned by agencies represented on the Home Again Steering Committee. Further, in Home Again, case managers will deliver the exact services that the client needs in the most efficient way possible; for example, they will drive to the client’s home to meet with them, drive them to their appointments, or supply them with taxi vouchers. Case managers and clients will identify a key issue with which the client needs assistance, such as finding employment, managing interpersonal relationships, or obtaining mental health care, and the case manager will make active referrals, and provide coaching and support to clients to ensure that they are able to follow through on plans and appointments with service providers. The intensity of the case management available to clients through Home Again is one of the distinguishing features of the program. Thus, the primary evaluation question for this analysis was: “Is the amount of case management clients’ received correlated with the extent of their improvements across selected outcomes of interest?”

### *Methods*

To answer the evaluation question, case management data on the number and types of sessions delivered to Home Again clients were linked with the outcome evaluation database and correlation coefficients were assessed. The outcome evaluation database was compiled by collecting self-report survey data from clients upon their entry into the program (*i.e.*, at baseline) and again at the 3-month, 6-month, 12-month, 18-month, and 24-month follow-up points. Clients were surveyed at each time point on their frequency of alcohol and drug use, self-esteem, social support, brief instrumental functioning, mental health symptomatology, physical health, health care use, and housing status. This evaluation has been reviewed and approved by Human Subjects Committees at Boston University School of Public Health and the University of Massachusetts Medical School.

### *The sample*

The Home Again evaluation study sample was drawn from the population of homeless individuals living in Worcester who requested services from Community Healthlink, the lead agency for the grants from The Health Foundation of Central Mass, which funded Home Again. The recruitment procedure was as follows: homeless individuals requesting services were asked if they were interested in participating in an evaluation study. If so, they were screened for eligibility. Individuals were considered eligible for the study if they met the HUD definition for being chronically homeless (see background section), or if they were considered to be at a high risk for becoming chronically homeless. People were considered at high risk if they had been incarcerated as an adult, met the federal poverty guidelines, were over age 29, and had been homeless for 9 months or less. In total, 44 individuals have been in the Home Again evaluation study.

The demographic characteristics of the evaluation study sample are as follows. Eighty-three percent of the sample is male. Over half (57%) are White, 17% Hispanic, 21% Black, and less than 4% multiracial or other. The average age of individuals in the evaluation sample is 48 years. Forty-four percent do not have a high school diploma or equivalent, 37% have graduated from high school, and approximately 19% of participants received some education after high school. These demographic characteristics are consistent with HUD data on the homeless population in the U.S., and with previous studies that estimate that the majority of homeless individuals are men who are 31 to 50 years old.<sup>21</sup>

### *Case management data*

Case management data was recorded by the Home Again case manager staff. Each time a case manager met with a client, he or she recorded the length of the session (in minutes) and main topic of the case management into a computer database. In cases where the “main topic” of the case management session was difficult to specify, case managers used their judgment to classify the type of case management as precisely as possible. Reports of case management data were generated by client ID number and linked with the outcome evaluation database.

### *Mental health symptomatology*

Mental health was assessed using the Modified Colorado Symptom Index. The index contains 14 items which ask about how often in the past month an individual has experienced a variety of mental health symptoms including, loneliness, depression, anxiety, and paranoia. Participants respond to each item using a Likert-scale from 0-4 (0-not at all, 1-once, 2-several times during the month, 3-several times a week, 4-at least every day). An index score for this scale is calculated by summing each response. Higher scores indicate higher likelihood of mental health problems. We used the scores on this index in a continuous manner and created a new variable to represent improvement on the index from baseline to the furthest possible follow-up point. A decrease (or negative integer) is desirable, because that represents a change from a higher (*i.e.*, more symptomatic) score to a lower (*i.e.*, less symptomatic) score. This instrument has a reported  $\alpha = 0.85-0.90$ .

### *Other measures*

Other measures, such as self-reported alcohol use, physical health, and emergency room use, are described in detail in the text of the evaluation report available at <http://www.homeagaincentralma.org>.

## *Analysis*

Client ID numbers were used to link the case management data to the outcome data. The frequency of case management sessions by type was calculated and is presented in both number of sessions, and in number of minutes (see Charts 1-4). Pearson correlation coefficients were calculated to assess the relationship between the number of case management sessions and difference in outcome scores for the following outcomes: mental health symptomatology, self-reported health, use of emergency department services, frequency of alcohol use, brief instrumental functioning, and social support (Table 2). All analyses were conducted using SAS version 9 (SAS Institute, North Carolina).

## *Results*

To date, Home Again has delivered a total of 6279 case management sessions to 44 clients, which amounts to an average of 65 hours of case management per client (Table 1). The majority (51%) of case management sessions are to assist clients with housing, life skills, or income-related issues (Chart 2). On average, Home Again clients receive between two and five case management sessions per month (Chart 3). The number of case management sessions delivered in a month ranged from zero to 34 per client. Over time, most clients require fewer and fewer case management sessions (Chart 3). Receiving more case management sessions was correlated with a statistically significant improvement in self-reported mental health symptoms (-0.34,  $p < .05$ ) (Table 2). However, receiving more case management sessions was not correlated with improvements in self-reported health, emergency room visits, alcohol use, brief instrumental functioning, or social support (Table 2).

## *Limitations*

This evaluation study is subject to at least four limitations. First, although the number of case management sessions clients received was associated with a greater improvement in mental health symptomatology, the correlation between the number of minutes of case management a client received and greater mental health symptomatology improvement was only borderline significant ( $p < .10$ ). It is possible that the relatively small sample size affected our power to reach statistical significance even where there were clinically relevant differences. Second, the Colorado Mental Health Symptom Index utilizes clients' self-reported mental health symptomatology information. This is not the same as a clinician's assessment of mental health disorder. Thus, while our study indicates that clients' experienced improvements in their own mental health symptomatology, it is possible that their own subjective experiences of their mental health may not have aligned with clinical diagnoses. Third, not all clients have been enrolled in Home Again for the same amount of time. In this evaluation study, we looked at all available data from all 44 clients, regardless of how long they had been in the program. It is possible that using data from both recent and long-term clients introduced bias into our analysis, although the chance that this occurred is reasonably small. Finally, the Home Again case management staff used their best judgment to estimate the number of minutes and type of case management service that they delivered in each instance. There was likely some misclassification of session type due to the lack of a predetermined set of criteria for classification.

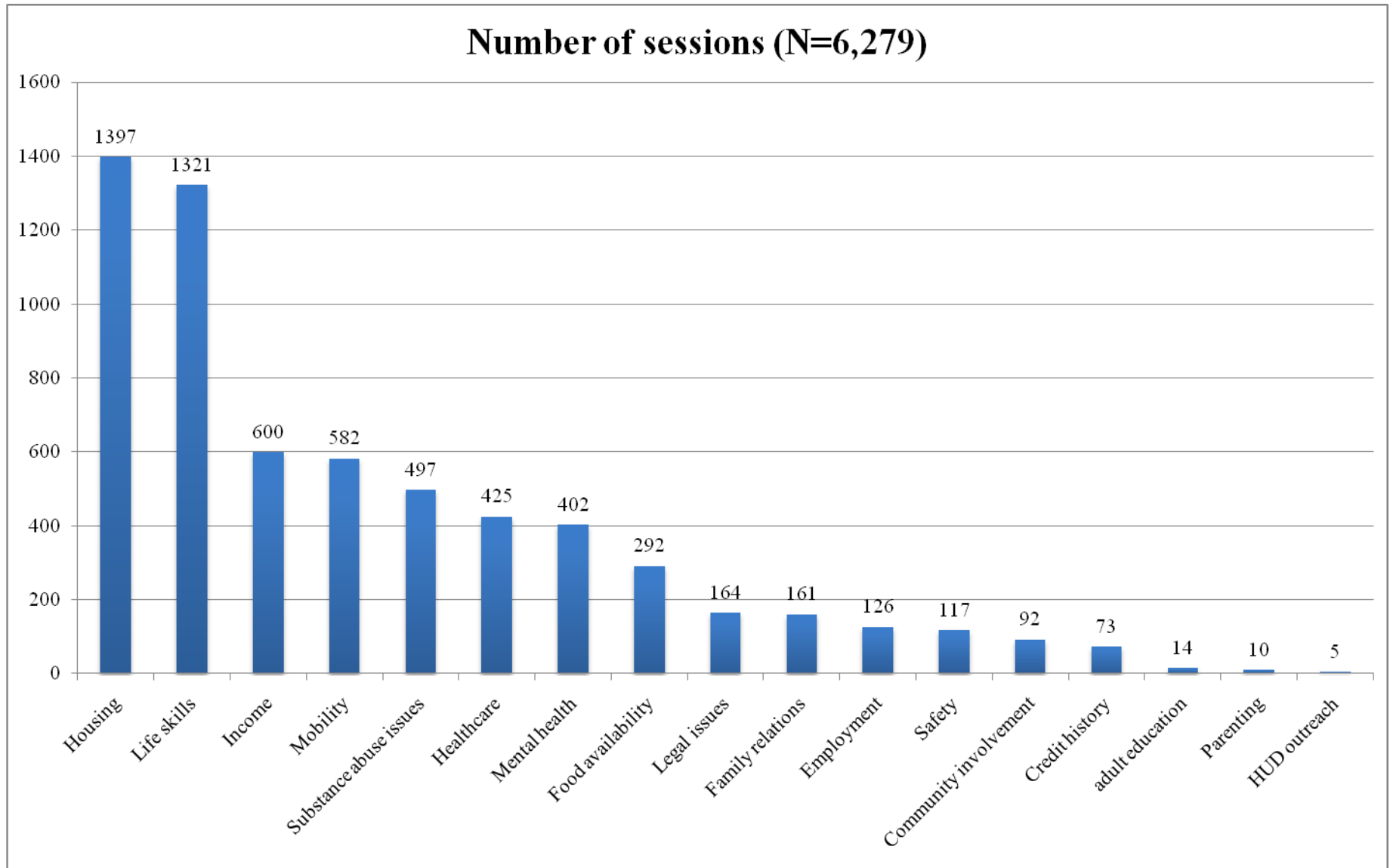
## *Conclusion*

As detailed in prior evaluation reports, Home Again has demonstrated success in achieving its primary goal (*i.e.*, to keep chronically homeless and potentially chronically homeless adults housed), and secondary goals including having a positive impact on clients' mental health symptomatology and frequency of alcohol use. An important feature of Home Again is delivering a high intensity dose of case management to each client. Data indicate that the amount of case management delivered is related to the amount of mental health symptomatology improvement that clients experienced.

**Table 1. Total case management**

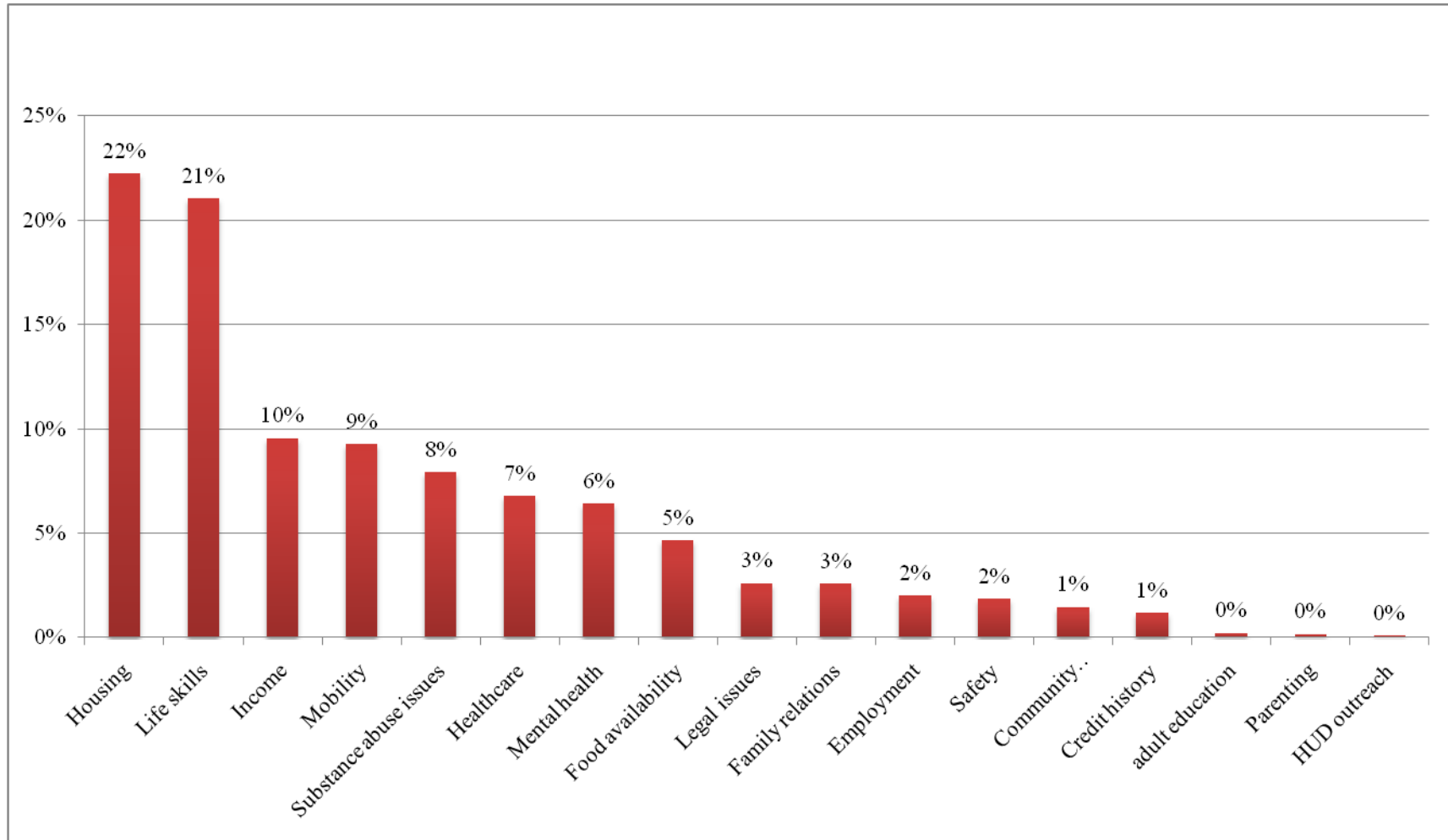
Total number of sessions delivered, across all clients (N=44):	6,279
Total number of minutes of case management delivered, across all clients (N=44):	173,080
Average number of hours of case management per client	65

**Chart 1. Type of case management sessions delivered, January 2008 to November 2010**

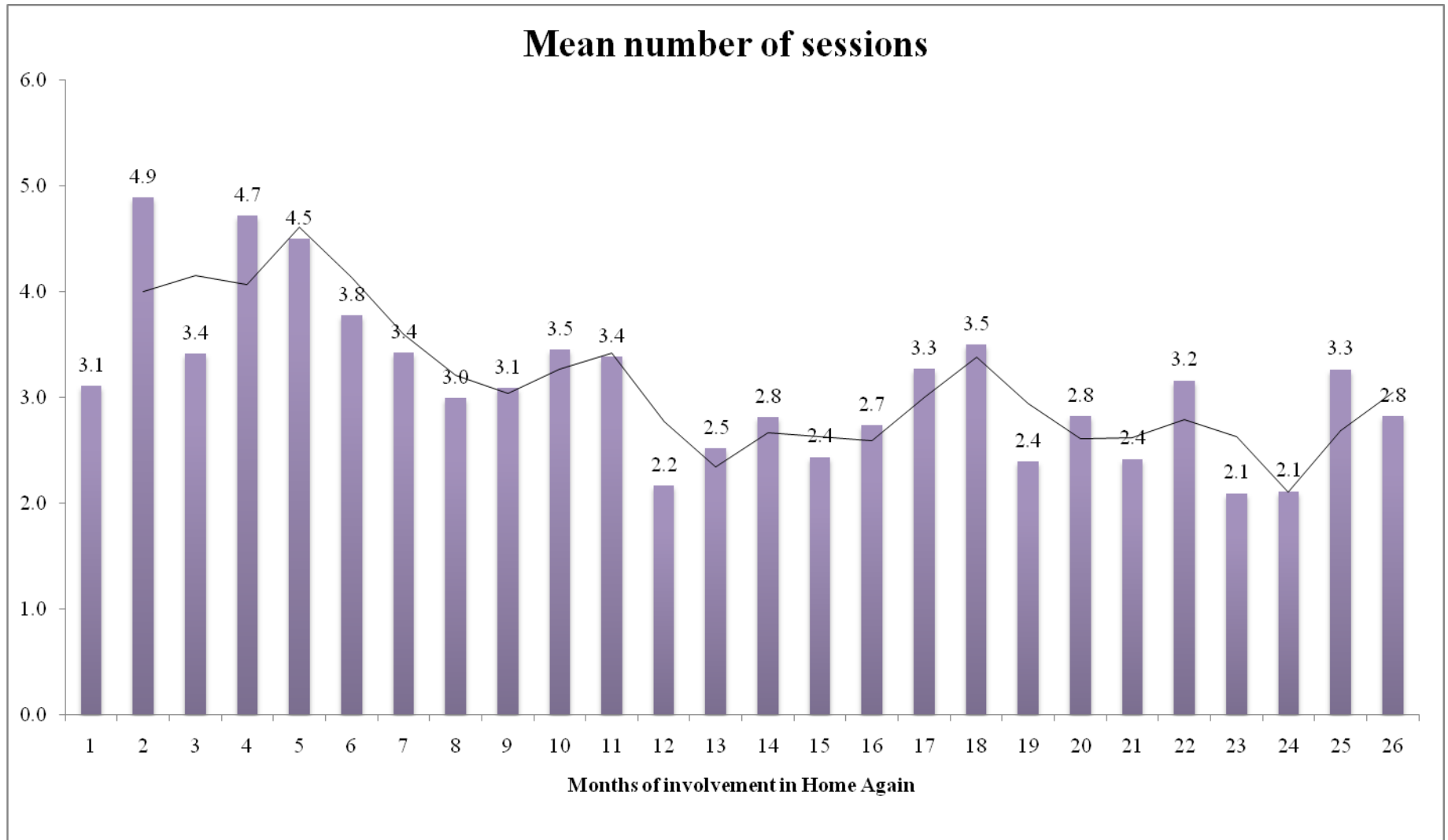


\* Note that case management sessions are not clinical counseling sessions. Case management sessions are focused on providing assistance and referrals related to a particular area of client need. Thus, labels in the chart do not refer to a type of counseling service provided (e.g., “legal issues” does not imply that a lawyer provided legal advice, nor does “substance abuse” imply that a substance abuse counselor provided substance abuse counseling, etc.).

**Chart 2. Percent of case management sessions delivered by service type**

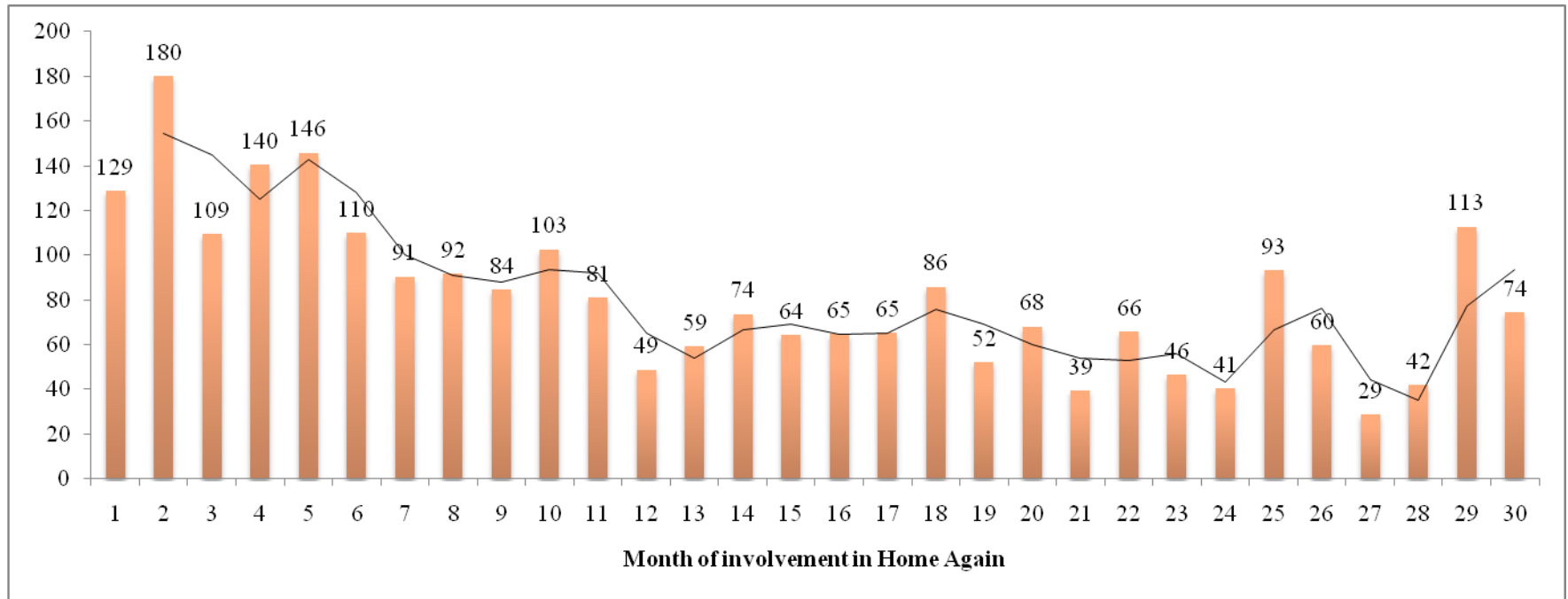


**Chart 3. Average number of sessions by month of client's involvement in Home Again**



There was a statistically significant decline in the number of sessions delivered from the beginning to end.

**Chart 4. Minutes of case management received, by month of involvement in Home Again**



There was a statistically significant decline in the number of minutes of case management delivered from the beginning to end.

**Table 2. Changes in selected outcomes of interest from baseline to follow-up as a function of either case management sessions or minutes**

Outcome of interest	Case management sessions Pearson correlation coefficient, p-value	Case management minutes Pearson correlation coefficient, p-value
<b>Mental Health Index change</b> (The score can range from 0 to 56. Lower scores indicate better mental health.)	-0.34 (p<.05)	-0.28 (p<.10)
<b>Self Reported Health change</b> (The score can range from 0 to 5. Higher scores indicate better health)	-0.11(p=0.46)	-0.00 (p=0.97)
<b>Visits to ER in past 3 months change</b>	-0.07 (p=.67)	0.02 (p=0.88)
<b>Visits to ER in past month change</b>	0.05 (p=0.77)	0.04 (p=0.79)
<b>Times used alcohol in past month change</b>	-0.15 (p=0.33)	-0.08 (p=0.61)
<b>Brief Instrumental Functioning change</b> (Scores can range from 0 to 6. A high score indicates a high level of functioning. )	-0.22 (p=0.15)	-0.17 (p=0.27)
<b>Social Support change</b> (Scores can range from 10 to 40. A high score indicates a high level of social connectedness. A low score indicates a low level of social connectedness. )	0.04 (p=0.78)	0.06 (p=0.70)

**Interpretation:**

Receiving more case management sessions was correlated with a statistically significant improvement in self-reported mental health symptoms. Receiving more case management sessions was not correlated with improvements in self-reported health, ER visits, alcohol use, brief instrumental functioning, or social support.