

Evaluating Housing First Programs in Anchorage and Fairbanks, Alaska: Final Report

Prepared for:

The Alaska Housing Finance Corporation

The Alaska Mental Health Trust Authority



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Executive Summary

The Alaska Housing First Program Evaluation was initiated in December, 2011, by the Institute for Circumpolar Health Studies at the University of Alaska at Anchorage. The longitudinal project consisted of two parallel and linked evaluative processes—a quality of life (QoL) study and a cost analysis.

The QoL study commenced in early 2012 and was completed in 2014. This study included an individual semi-structured life history interviews and a structured quantitative health survey at baseline and a follow-up semi-structured interview and structured health survey 12 to 18 months later. The cost analysis involved a retrospective review of service use and costs of providing emergency services, correctional services, and health care to Housing First tenants in the year before and the first two years after moving into Housing First.

A total of 94 tenants participated in the baseline quality of life data collection process, and 68 continued to follow-up. Karluk Manor houses 46 residents in Anchorage. Due to tenant turnover, 47 tenants participated in baseline evaluation and 31 continued to participate in the follow-up evaluation. TCC Housing First South Cushman (referred to South Cushman in this report) houses 47 tenants in Fairbanks; 47 participated at baseline, and 37 continued to follow-up. Tenants were lost to follow-up due to death, eviction, or move-out.

The average participant is 50 years old, male, with a high school diploma or GED, and was born in Alaska. The average tenant has multiple chronic conditions as well as long-term struggles with alcohol.

Tenants reported significant declines in alcohol consumption after moving into Housing First. After a year or more living at Housing First, tenants reported higher levels of engagement within the community, fewer symptoms of depression, and lower levels of pain. While tenants reported improved mental welfare, they also presented with persistent medical ailments and struggles with grief and alcohol. Case management and attentive staff have an influence on tenant participation in services and recreation outside of alcohol consumption.

Cost and service use data was collected by ICHS staff for 23 Anchorage tenants who consented to the cost study and signed a Release of Information (ROI). These data were collected for 31 Fairbanks tenants who likewise consented and signed the ROI by the Goldstream Group under contract to TCC for 31 Fairbanks tenants who were similarly consented and signed the ROI. We collected cost data on emergency services (police calls, fire calls, safety center nights and pick-up van, homeless shelters nights) from the Anchorage and Fairbanks municipalities, correctional services (jail nights) from the Alaska Department of Corrections, and health care from local hospitals, health care

clinics, behavioral health providers, and detox facilities.

Decreases were seen in the use of all emergency services between the year before moving into a Housing First facility and the year after moving into Housing First. Use of emergency services remained at this lower rate in the second year after moving in. The number of jail nights also decreased, but not significantly. However, many of the jail nights were related to previous arrests.

Changes in health care use and costs were more variable. Health care visits and costs were divided into emergency room, inpatient, and outpatient. Inpatient and outpatient data are more complete in Anchorage than in Fairbanks, with emergency room data being comparable across the two facilities. Emergency room data is also complete across the three years of the study while missing inpatient and outpatient data may vary across the three years. Combining data from the two facilities, the number of emergency room visits decreased significantly from the year before moving into Housing First to the first year after, and then remained relatively stable the second year after moving in. Despite the change in the number of ER visits per tenant, the costs remained constant across the three years of the study.

For the two facilities combined and for Anchorage, inpatient days and costs decreased significantly from the year before moving into Housing First and the first year after moving in. However, use and costs rose again the second year after moving in. For Fairbanks, inpatient use was much lower than in Anchorage, and decreased from the year

before moving in to the first year after, and then remained lower. However, differing patterns of hospital use between the two locations, with more Fairbanks resident likely to be transferred out of the municipality for care, may have affected these patterns of use and costs.

Again, for the two sites combined and for Anchorage, outpatient days and costs increased over the three years of the study. In Fairbanks, outpatient use dropped over the course of the study.

Behavioral health data was the most difficult to obtain, and for reasons explained in the report the data did not seem comparable between the two facilities. In Anchorage, where behavioral health data was provided by Anchorage Community Mental Health Services, there were no records of services provided to HF tenants in the year before moving in or the first year after moving in. During the second year after moving in, tenants accrued 274 days of care with a mean of 12 days and a median of 1. In Fairbanks, behavioral health data was provided for services provided by TCC. Fairbanks tenants received a mean of 5 and a median of 0 days of behavioral health services in the year before moving in to Housing First which then increased to a mean of 10 and a median of 2 in the first year after moving in before leveling off at a mean of 7 and a median of 1 in the second year. Detox service use was limited and decreased significantly from the year before moving into Housing First to the two years after, with reductions seen at both facilities.

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I. Background

The Housing First (HF) model is an evidence-based supportive housing initiative aimed at providing permanent housing for the homeless. Harm reduction is one of the central tenets of HF, and as such there is emphasis on pragmatically reducing the adverse consequences of substance abuse and psychiatric symptoms by providing housing without preconditions of sobriety or treatment compliance. (1)

Housing First stands in contrast to a more traditional or stepwise model of care that requires sobriety, or engagement with treatment as a pre-condition for housing. In the HF model a robust array of non-mandatory services such as case management, physical and mental health services and substance abuse treatment are offered to the tenant. Providing permanent, affordable housing without preconditions can promote a sense of home, safety, security, privacy, and valued membership in a community. (2, 3)

In randomized control experiments, participants assigned to Housing First sites without treatment prerequisites remained housed longer and participated in more treatment than participants who had no housing or housing only as a condition of treatment. (4, 5) Housing First models have been implemented across diverse geographic and demographic settings. In Seattle, Washington, the Downtown Emergency Service Center (DESC) 1811 program offers a project-based Housing First site for chronically homeless individuals with

alcohol use and co-occurring severe mental illness (SMI).

Several peer reviewed studies conducted by DESC have shown the efficacy of Housing First approaches. (6, 7, 8, 9, 10) Over the course of a two-year evaluation, participants decreased alcohol use, despite living in a project-based Housing First facility that permitted alcohol consumption. (11) The 1811 site, along with the New San Marco Housing First apartments in Duluth, Minnesota, provided the models from which Karluk Manor and South Cushman were developed.

The body of evidence supporting the Housing First model is not without critics. Especially important in this criticism is the notion that costs and cost savings have not always been accurately accounted, the depth of time used to measure program impact has been shallow, and the individual program applications have not been structured in a way that fits the specific needs of the population being served. (12) Numerous long-term peer-reviewed studies conducted at Housing First sites internationally have sought to reduce this criticism by demonstrating shifts in both service use patterns (i.e. reductions in acute emergency and correctional care) and public costs. (13, 14, 15) This evaluation serves to expand on the growing body of knowledge regarding Housing First by presenting the first study of its kind in Alaska.

Housing First in Alaska

In 2009, the State of Alaska commissioned a 10-year plan to confront the growing issue of homelessness. (16) The plan focused on three general approaches to homelessness; two were preventative in nature and the third was the creation of supportive housing targeted at those who have been historically difficult to house. That population included high consumers of emergency, correctional and acute care services who experience substance use disorder and frequently co-occurring severe mental illness. A project-based Housing First design was identified as a means of reaching this vulnerable population and achieving the goal of providing permanent supportive housing.

Two Housing First facilities were planned for Alaska; one in Anchorage and another in Fairbanks. The first project-based Housing First apartments in Alaska, Karluk Manor, opened in November of 2011 in Anchorage. South Cushman, the Housing First facility in Fairbanks, opened in May 2012. In Anchorage, the Housing First facility is operated by the Rural Alaska Community Action Program (RurAL CAP) while in Fairbanks the Housing First facility is operated by the Tanana Chiefs Conference.

Both facilities are converted hotels. South Cushman contains 47 units and Karluk Manor contains 46. The sites include three floors of studio apartments, laundry facilities, lobby, dining room, group activity room and sheltered smoking area. Tenant rent is determined on a sliding fee scale based on ability to pay (with tenants paying no more than 30% of available income). Formal case

management is provided on-site at South Cushman. Each tenant is assigned to one of the two case managers who work at the facility, although participation in services is not mandatory for tenants to remain housed. While participation in services is not a condition of housing, it is encouraged through frequent staff interaction with tenants. Case management at Karluk Manor was provided by a local non-profit service provider, Anchorage Community Mental Health Services. Not all tenants were engaged with case management. Two full-time Housing Services Specialists are employed at Karluk Manor, and provide many services including transportation, medication monitoring, and some mild alcohol and money management on a case-by-case basis.

Tenants were recruited to live at Karluk Manor and South Cushman based on criteria modelled after existing vulnerability indices (Appendix 2). The objective of using a vulnerability index is to house the most vulnerable and save lives, as those who scored higher on the scale were statistically more likely to suffer from life threatening conditions of material insecurity, physical health problems and co-occurring severe mental illness and substance use disorders. (17) It includes the number of years homeless, the number of community service patrol pick-ups, the number of emergency room visits, military service, repeated incarceration for nonviolent offenses, chronic alcohol use, and a social service providers' assessment of vulnerability. It explicitly excludes sex offenders from eligibility.

There is a need to understand both qualitatively and quantitatively how HF programs achieve, or struggle with certain outcomes, and to understand which components are critical and which may need to be adapted. This is particularly important when HF is introduced into a new community context. As such, this evaluation reports on the results of a three-year longitudinal study to investigate the effects of Alaska's inaugural Housing First project-based

endeavors on local service usage, costs and tenant quality of life.

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II. Methods

Mixed Methods Approach

This study employed a concurrent mixed method data collection strategy in which qualitative and quantitative data were collected simultaneously, and the data compared during the analytic phase. Survey and in-depth interview data were collected at baseline, and again 12 to 18 months later, to assess changes to quality of life and health among residents. Historical quantitative data were collected throughout the study to assess changes in service use and costs by residents and controls prior to and after implementation of the Housing First Model.

Quality of Life Evaluation

Tenants were recruited for participation at Karluk Manor and South Cushman in spring 2012 at Karluk Manor and fall 2012 at South Cushman. ICHS research staff and Housing First employees partnered to recruit tenants through flyers, in-person, and phone conversations. Participants reviewed and signed an informed consent form at baseline and at follow-up, and received a \$20 gift card for each evaluation activity completed. The study protocol was approved by the UAA Institutional Review Board (IRB).

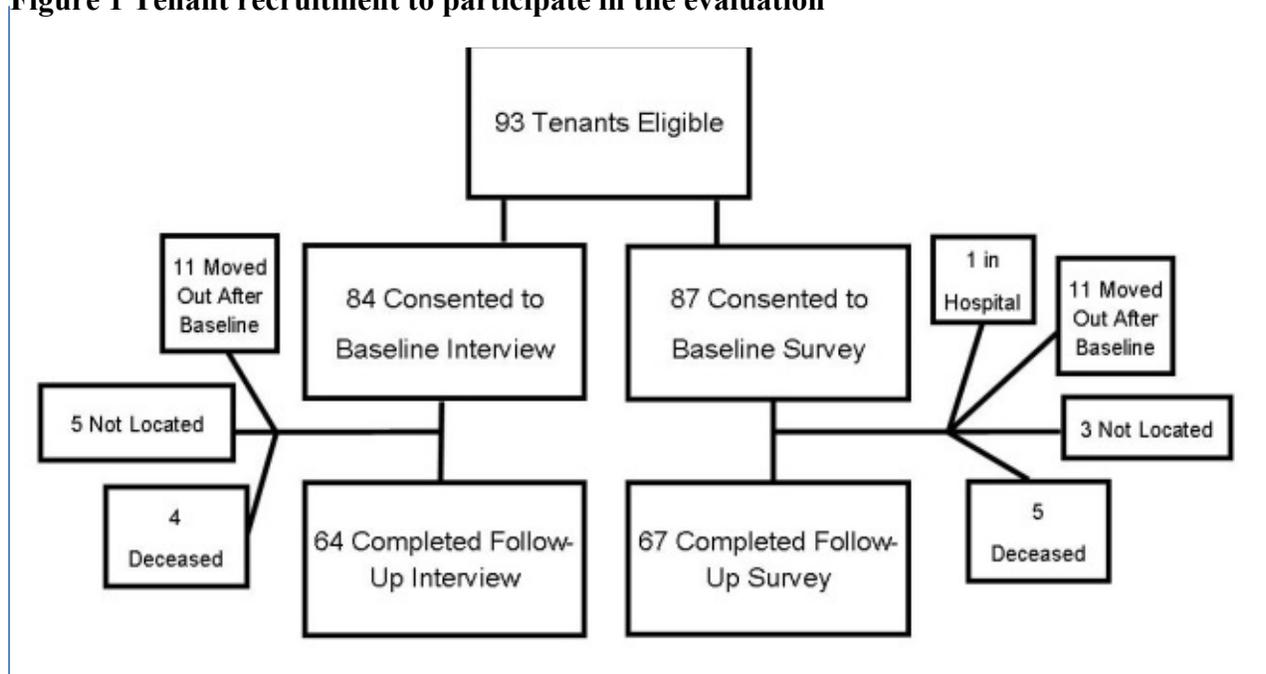
At baseline, tenants were recruited for a baseline individual semi-structured life history interview and a baseline, structured quantitative health survey. The baseline interview followed a life history model, including questions about where participants

The datasets were analyzed separately, and the findings combined to validate and/or augment results and recommendations.

One advantage of concurrent designs, as compared to sequential designs, is that they allow more time for the collection of both quantitative and qualitative data. It should be noted that concurrent data collection designs preclude follow-up on interesting or confusing responses. In this study, we relied on residents to augment our quantitative findings with their in-depth responses. Many respondents did provide such explanatory detail, as described below, but some did not.

were from, how they came to the city, what services they found most useful before they were housed, and what their goals for the future might be. After completing the interview, participants were approached to participate in a health survey. Surveys were read aloud to participants and each answer was recorded on paper or computer by the researcher. Questions covered demographics, self-reports of lifetime medical diagnoses, medical symptoms, physical pain and physical limitations, mood, suicidal ideation, sobriety, and alcohol consumption. Alcohol consumption questions addressed measures of quantity, frequency, and pace.

Figure 1 Tenant recruitment to participate in the evaluation



The community of Fairview surrounding Karluk Manor was recruited as a part of this evaluation. Community members were recruited primarily from the Fairview Community Council’s monthly meetings. Interested community members were asked to perform “pile sorts” that helped researchers identify qualities that they believed to define a healthy and positive neighborhood. Community members were given flash cards with community values listed on them. They ordered the cards by perceived priority. The highest ranking values were then incorporated into the follow-up survey with tenants. Community members were also invited to complete an online survey of qualities of a good neighbor.

After 12-18 months of living in Housing First facilities, tenants were approached for a follow-up semi-structured interview and structured health survey. Given the time between initial and second data collection, tenants consented to participating in the study

at both baseline and at follow-up. The follow-up interview focused on the effect of Housing First on various aspects of tenant lives including changes in substance use, social connection and service use. The structured survey was identical to the first with the addition of questions regarding how tenants adhered to community values as articulated in the pile-sort activity.

Interviews and surveys were conducted in a private office or, if the participant preferred, in the tenant’s private apartment. Two researchers participated in each interview, with one conducting the interview while the second researcher kept notes. Each interview lasted approximately one hour. Each interview was recorded if the tenant permitted. All but one tenant consented to a recorded interview. Interviews were transcribed verbatim from recordings, with emphasis, inflection, tone and gestures recorded from notes taken during the interview.

In addition to structured data, researchers collected unstructured observations of facility operations. This included observing and participating in meals and recreational activities. Through these unstructured observations, researchers were able to form a more complete understanding of life at Karluk Manor and South Cushman.

The project team coded and organized all interview data using N*Vivo 10 qualitative data analysis software. The analytic process consisted of two phases. In the first phase of coding, the unit of analysis was the interview participant, and the data consisted of entire interview transcripts. After gaining familiarity with the interview data, the project team selected three *a priori* codes as providing the most substantive and relevant insights into the observations offered by tenants. The three *a priori* codes were research constructs assessed in semi-structured interviews, and consisting of responses related to substance use, social connectedness, and wellbeing.

In the second phase of coding, the unit of analysis was the *a priori* response code, and the data consisted of segments of summary transcripts coded as relevant to substance use, social connectedness and wellbeing. The team further augmented the coding structure hierarchically to incorporate several emergent codes. These second-level codes consisted of additional dimensions of meaning within these *a priori* codes. Two investigators reviewed and coded each segment using the emergent codes identified in the first phase of qualitative analysis. After receiving results from the cost analysis, additional qualitative analysis was performed

in order to triangulate service use findings with tenant self-report of service use. A similar analytical technique was employed and the findings used to shed light on observed changes in tenant service use. These emergent codes were:

- Mental Health Service Use: Comments on tenant encounters with mental healthcare professionals.
- Physical Health Service Use: Comments on encounters with physical healthcare professionals, specifically hospitalization for emergency or in-patient care.
- Incarceration: Comments on tenant history with Department of Corrections facilities and encounters with the law.
- Physical Wellbeing: Tenant self-assessment of physical condition.
- Mental Wellbeing: Tenant self-assessment of mental and emotional condition.
- Goals: Tenant statements describing goals, or answer to the interviewer question about goals.
- Changes in consumption: Comments on substance use patterns, specifically as impacted by living at Housing First.

The project team met to assess inter-rater reliability between coders, and to discuss any revisions to the codebook and analytic protocol, throughout both phases of analysis. The team assessed inter-rater reliability using Cohen's kappa, and maintained a kappa coefficient of 0 .80 or greater between all coders throughout the analytic process. Any

kappa score lower than 0.80 resulted in a discussion and reconciliation of coding differences.

Survey results were analyzed using the Statistical Package for the Social Sciences Version 19 (SPSS) data analysis software systems. Chi squared tests were used to assess differences between Karluk Manor and South Cushman. When the expected values were less than five, Fisher's exact test was used to determine differences between the two sites. The related samples Wilcoxon signed-rank test was used to assess differences over time, matching each tenant's baseline and follow-up data. A significance level of $p \leq 0.05$ was used for all tests. Because the sample sizes were small, we did not attempt to run multivariable regression models to adjust comparisons for confounders.

Service Use and Costs

The Housing First Cost Evaluation used a retrospective review of existing administrative data to collect data on service utilization and associated costs before and after tenants moved into a Housing First facility in Alaska. Agencies that provide services to tenants were initially identified through interview and survey data. Agencies were then contacted to discuss the study, determine necessary internal review requirements, and review and edit proposed Consent and Release of Information forms.

Karluk Manor tenants in Anchorage were recruited to the cost study in the summer of 2014 and Anchorage service providers were asked to provide data for calendar years 2011, 2012, and 2013. South Cushman tenants in Fairbanks were recruited to the study in the fall of 2014 and Fairbanks service providers were asked to provide data for 2012, 2013, and 2014.

The goal of the study is to compare service use and costs in the year before moving into the Housing First facilities to service use and costs in the two years after moving into those facilities. However, in order to balance sample size and length of follow-up considerations, we included tenants in the study if they moved into the Housing First Facility early enough to allow for at least 18 months of follow-up. Therefore Karluk Manor tenants were eligible if they moved in between December 2011 and July 2012 and South Cushman tenants were eligible if they moved in between May 2012 and March 2013. As an incentive for participation, each tenant was given a \$10 gift card and a gift bag

with personal hygienic items, such as socks, toothbrush, toothpaste, and shampoo.

Each participant signed a release of information form and a consent form for the cost of services provided to them by various agencies to be released to ICHS. Sample copies of the HIPPA-compliant Release of Information forms are included in Appendix 4. ICHS requested the date, type of service, and cost from the service providers, but did not request any specific diagnosis, treatment, or outcome information. Service providers included the police, fire department, community service patrol, safety center, jail, homeless shelters, hospitals, health clinics, mental health services, and alcohol or drug detox and treatment centers. Twenty-three tenants were recruited from Karluk Manor and forty seven from South Cushman.

In Anchorage ICHS staff provided agencies with the signed tenant ROI and consent forms and requested data including the date of service, type of contact, service provided, and charges accrued for each service provided. A similar process was followed in Fairbanks, where data was provided to the Goldstream Group who de-identified it and the provided it to ICHS.

Service use and cost data were aggregated by month and entered into an internal database using 100% double entry verification to ensure accuracy. Monthly data for each tenant and each service provided were then aggregated into the year before moving into Housing First, and the first year and second years after doing so.

Depending on the move-in date, some tenants had fewer than 12 months of data during the year before moving in or during the second year after moving in. For example, because we collected data for calendar years 2011, 2012, and 2013 in Anchorage, a tenant who moved in during December 2011 would have only 11 months of data for the year before moving in and a tenant who moved in after December 2012 would have fewer than 12 months of data for the second year after moving in. Therefore, for ease of data presentation and to account for some tenants having less than twelve months of data during some years, we annualized the data by calculating the average monthly cost for each tenant for each year and multiplied that number by 12. Yearly totals were compared between tenants and controls using t-tests. Similarly, repeated measures analysis of variance was used to compare costs across

the three years separately for tenants and controls. Throughout the Service Use and Cost Study results section, Year 1 refers to the 12 months before moving into a Housing First facility, Year 2 refers to the first 12 months after moving in, and Year 3 refers to the second 12 months after moving in.

Tenants moved into Karluk Manor starting in December 2011. Sixteen study participants for the Cost Evaluation moved in that month and four more moved in during January 2012. An additional three tenants moved in between May and July 2012. Tenants moved into South Cushman beginning in May 2012. Thirty-six study participants for the Cost Evaluation moved in between May 2012 and August 2013. Due to the inclusion of 2014 data for South Cushman tenants, the time window for inclusion in the study was broader than at Karluk Manor.

III. Results and Discussions

Quality of Life Demographics

Tenants at Karluk Manor and South Cushman exhibited a wide range of ages and levels of education. Almost half of tenants in both Karluk Manor and South Cushman are between 50 and 59 years old, with 68% aged 50 or older, as shown in **Table 1**. Throughout this report, an asterisk (*) will indicate a statistical significance level of 0.05 or less.

Most tenants of Housing First facilities in Alaska were male, with a greater disparity

between male and female at Karluk Manor (73% male and 27% female).

The majority of tenants at Karluk Manor and South Cushman have at least a high school diploma or GED (69%). Thirty-one percent of tenants have less than a high school diploma. There is no statistical difference between education levels Karluk Manor and South Cushman.

Table 1. Demographics of Karluk Manor and South Cushman at Baseline

Demographic Characteristic	Tenants (N = 90)	
	Number	%
Male	57	63.3
Female	33	36.7
Age		
18 to 39 years	10	11.5
40 to 49 years	18	20.7
50 to 59 years	45	51.7
60 years or older	14	16.1
Education		
Some high school	17	31.0
High school diploma or GED	37	42.5
Some college or 2 year degree	21	24.1
4 year college degree or higher	2	2.2

Self-Reported Health Characteristics

Physical Health

Most tenants at Housing First entered the housing facilities were older, and more vulnerable to behavioral health conditions than members of the general population. The vast majority of tenants used tobacco (88%) and all were current or recent recovering from substance use disorders resulting from frequent and long-term alcohol consumption. During baseline data collection, tenants reported whether they had ever been diagnosed with specific health conditions. **Table 2** illustrates the combined results of reported health problems at Karluk Manor and South Cushman at the time of move-in and at follow-up. Overall, tenants reported fewer acute health conditions at follow-up than at baseline. Chronic conditions, as well as conditions attributable to long term alcohol use, persisted. While the sample size

was smaller at follow-up, most tenants reported the same health conditions as at baseline. Discrepancy in reporting (a lower prevalence at follow-up of a chronic condition) is likely due to loss of follow-up, and to the nature of self-reported medical data. There were some differences between Karluk Manor and South Cushman in follow-up reporting. Karluk Manor had significantly more reports of PTSD ($p=0.017$), seizures ($p=0.013$), chronic infection ($p=0.02$), and phobias ($p=0.004$) than South Cushman. However the sample size is small, which makes differences between the sites difficult to distinguish.

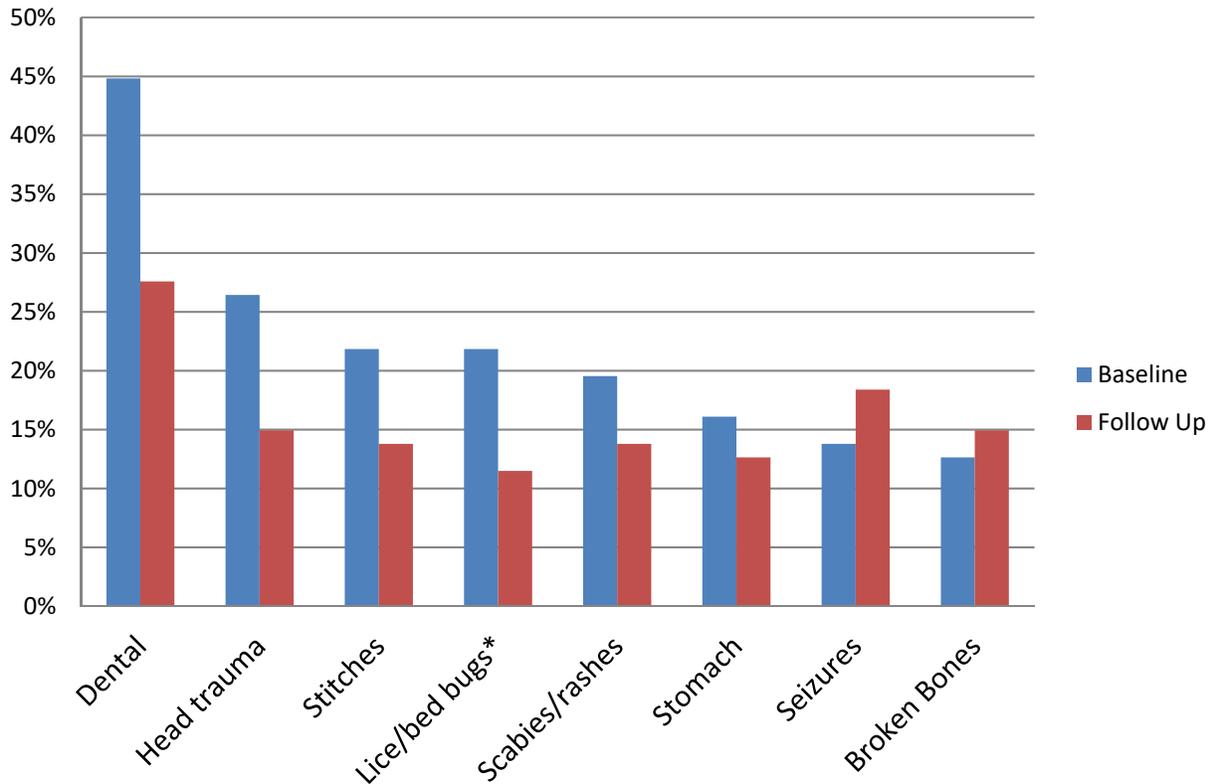
Table 2. Self-reported health conditions at baseline and follow-up

Health Condition	Baseline n=90		Follow-up n=68	
	n	%	n	%
PTSD	54	62%	14	16%
High blood pressure	43	49%	23	26%
Other	42	48%	16	18%
Depression/Bi-polar	29	33%	14	16%
Seizures	25	29%	21	24%
Hepatitis	16	18%	4	5%
Tuberculosis	13	15%	4	5%
Ulcer	13	15%	6	7%
Chronic Infection	13	15%	4	5%
Asthma	12	14%	5	6%
Heart Disease	10	11%	5	6%
Phobias	7	8%	11	13%
Diabetes	7	8%	1	1%
OCD	6	7%	5	6%
Low blood pressure	6	7%	3	3%
Cancer	6	7%	3	3%
Other liver disease	4	5%	5	6%
HIV	3	3%	0	0%
Schizophrenia	2	2%	2	2%
Emphysema	2	2%	1	1%

At baseline and follow-up, tenants were asked what health problems they had experienced in the previous month. Tenants were asked to select all that applied. At baseline, the question referred to the month prior to move in at Housing First. At follow-up, this referenced the month prior to the interview, which was 12-18 months after living at Housing First. Reported incidences of most health problems diminished at

follow-up. Marked with an asterisk in the table below, lice and bed bug complaints declined significantly from baseline to follow-up ($p=0.033$). As seen in **Figure 2**, tenants also reported a decrease in dental problems, head trauma or head injury, cuts requiring stitches, scabies or other skin problems, although these differences were not statistically significant.

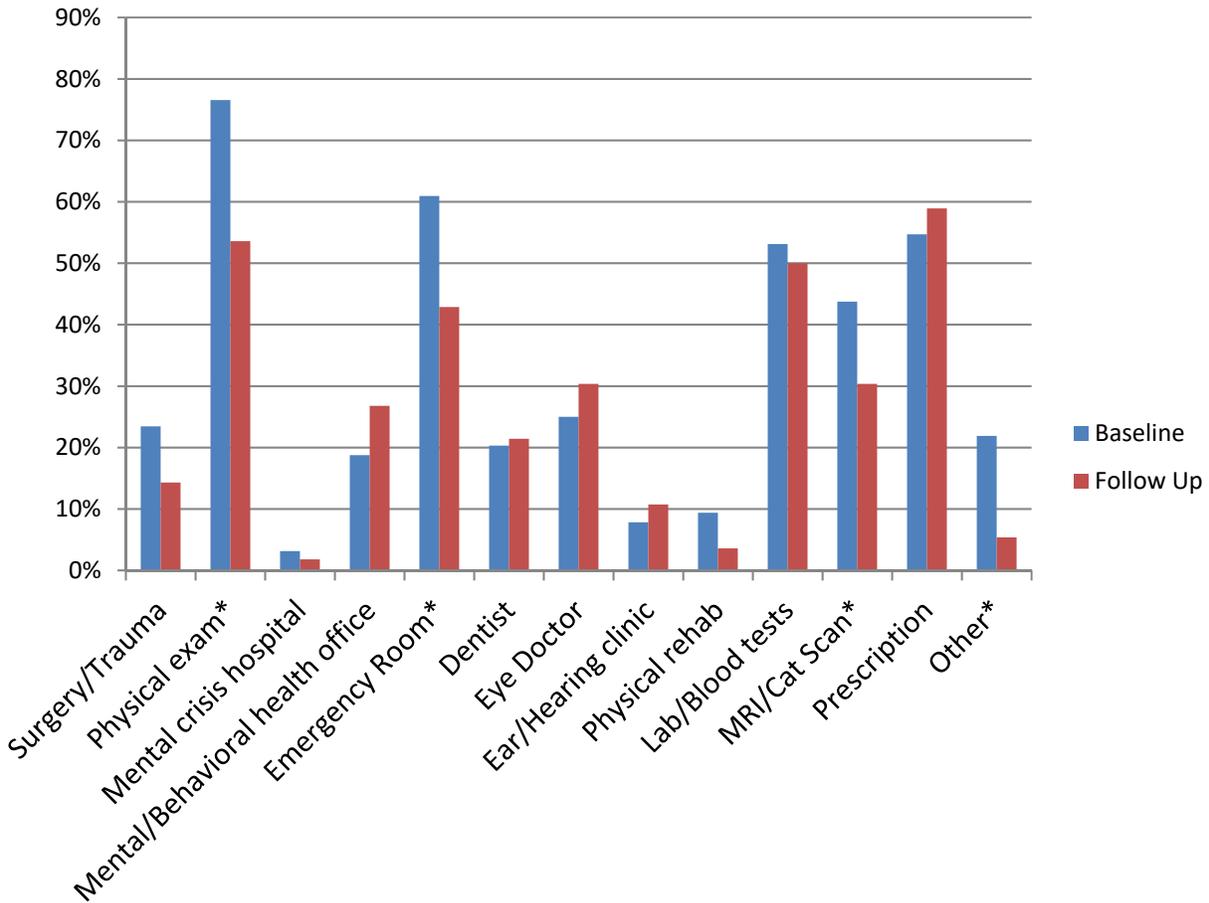
Figure 2 Self-reported health problems of the last month at baseline and follow-up. n=68



Tenants listed which health services they had visited in the past six months, at baseline and follow-up (**Figure 3**). There were significant declines, marked with an asterisk in the table, at follow-up in the number of physical exams, emergency room visits, MRI/CT scans, or other. The category of “other” included unspecified visits and vaccination

clinics. There were slight increases in visits to preventative care services, such as dentist, eye doctor, and ear/hearing clinic, although these were not statistically significant. There were no significant differences between Karluk Manor and South Cushman in self-reported use of services in the past six months.

Figure 3. Health care services used in six months prior to survey administration. n=68



Despite the persistence of chronic health conditions and advancement of age, tenants report improved sense of mobility ($p=0.032$). Specifically, tenants reported a significant improvement in the ability to bend, kneel, or stoop. Tenants also reported feeling less limited in their ability to perform moderate or vigorous activity, or walking one block since moving into Housing First.

Tenants reported pain both at baseline and follow-up. At follow-up, a higher percentage of tenants report experiencing pain in the past month than those at baseline ($p=0.013$). Despite an increase in the number of tenants

reporting pain, the average level of pain was lower (6.5 to 5.0 on average, scale 1-10). In follow-up interviews, eighteen tenants talked explicitly about persistent pains, describing the numbing effects of alcohol, efforts to remain sober in spite of physical pain, and in some cases, frustration at being denied access to strong pain medication. One tenant described their efforts, “Since I have started Celebrate Recover, I only drank one time and I haven’t been drinking, so now, I would say I’m feeling better, but now I’m finding all these aches and pains.”

Mental Health

In surveys and interviews, tenants were asked non-clinical questions about their personal assessment of their mental health, in order to derive a realistic evaluation of their quality of life. Tenant self-assessment of mental wellbeing was described in terms of grief, therapeutic drugs, having a place to sleep securely and their goals for the future.

Grief from losses throughout tenants' life was discussed in a majority of tenant and staff interviews both at baseline and follow-up, but at follow-up it appeared less overwhelming to tenants. The death of friends and family was addressed in survey responses, and often brought up when tenants were asked about their mental health. Thirty-eight percent of all tenants reported they were currently grieving at the time of follow-up, with no significant difference between sites. There were significantly more reports of difficulty in moving on from the loss of a friend or loved one at South Cushman than at Karluk Manor ($p=0.002$). Twenty-three percent (23%) of Karluk Manor tenants and 59% of South Cushman tenants reported that they felt like they could not move on with life a year or more later. Despite these reports of grief, tenants reported an improvement in overall mental welfare.

In follow-up surveys, compared to baseline, a significant number of tenants reported less time feeling depressed, less difficulty doing activities requiring concentration or thinking; less time spent feeling nervous, anxious, or worried; more time enjoying activities; and more time feeling cheerful or lighthearted ($p<0.05$). Between baseline and follow-up interviews, tenants described symptoms of

depression and anxiety in different contexts. One tenant described stress in this way, "My stress level done went down 'cause I know I got a place to come and be safe, be warm." While tenants may still report anxiety, it is no longer focused on survival and safety issues, such as a finding place to sleep, eat and avoid assault.

In follow-up interviews, staff members emphasized the improvement in tenant's quality of sleep. Tenants described the difficulty in finding somewhere to safe to sleep while homeless, some drinking in order to get access to detox or "sleep-off" centers. In baseline interviews at South Cushman and follow-up interviews at Karluk Manor, tenants described walking through the night in an effort to stay warm, rather than stay in one place and risk freezing to death. While this strategy provided a way to stay warm, sleep was compromised in the process. While staff spoke of improvements in quality of sleep, tenants described the difficulty of sleeping when their neighbors are drinking and being loud, perhaps yelling, banging on walls, playing music or slamming doors.

At baseline, tenant goals included acquiring job skills, employment and various expressions of "being a person again." At follow-up, goals had shifted to emphasize sobriety or a reduction in drinking, staying alive, as well as moving on to an independent apartment or obtaining educational or vocational training. The goal of moving out was most often linked to the ability to host family and friends without regulation, and was often cited in relation to restrictive visiting policies.

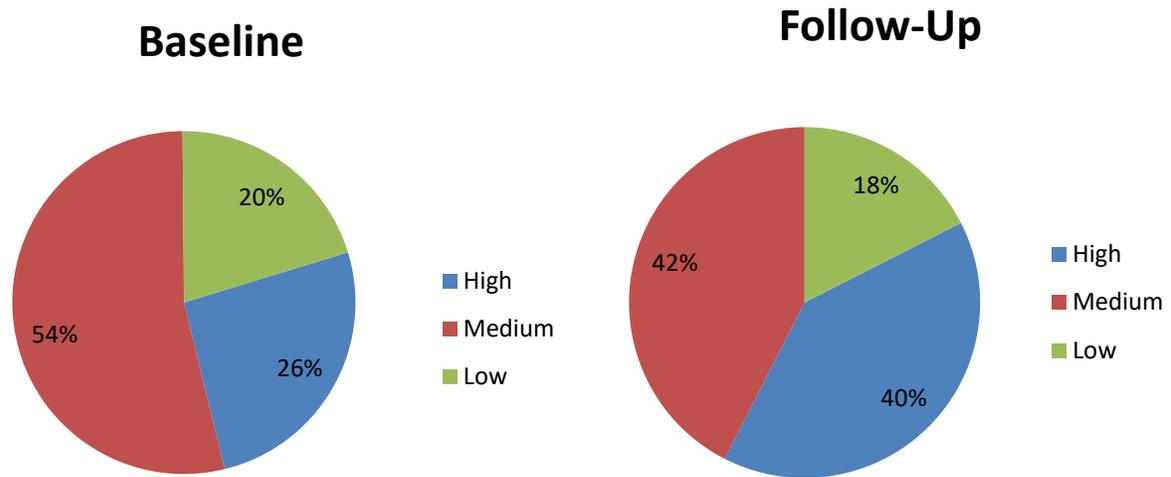
At South Cushman, more tenants retained a goal of employment at follow-up and commented less on moving out. At Karluk Manor, more tenants identified as handicapped and unable to work, and expressed nostalgia for previous jobs and wished for employment. Others, who had no inhibiting disability, described plans for employment in the immediate future. One tenant who has maintained their sobriety in Housing First for over a year commented, “I’m looking for a job right now...I had a couple interviews already...I’m really excited. I’m applying for more jobs, just in case”. Their long-term goal is to leave Housing First and obtain a house so that their kids will be able to visit.

Medication

Using a modified medication adherence scale, tenants reported a significantly higher adherence to prescribed medication regimes ($p=0.007$). One of the services provided by staff at both locations is monitoring tenants’ adherence to prescribed medications. While medication adherence is not a condition of housing and all medications are self-administered by tenants, staff actively encourage adherence, store all medications in a locked central location and track daily medication intake. Tenants described being grateful for the help with their medications, and generally pleased with the way medications were handled. One tenant summarizes his medication habits:

“They get the medication here and I come in twice a day, once in the morning, once at night to take my meds. That’s when I’m prescribed to do it. Sometimes I forget. Sometimes they remind me to do it. But I try to keep on a certain schedule, a certain time.”

Figure 4. Medication adherence among tenants



Physical and Mental Health Discussion

Changes in demands on tenant bodies may account for some of the improvements in physical and mental health. Tenants no longer had to spend most of their day seeking the means of survival, as shelter, food, hygiene, warmth and freedom from serious assault were guaranteed.

This study did not include clinical evaluation of tenant mobility, and sought instead to understand tenant perceptions of their own wellbeing. Improvement in living conditions may lessen certain strains on the body, leading to a reported impression of increased mobility. While physical abilities may or may not have improved over the course of the study, tenant perception of their own physical capabilities and wellness improved.

While unsheltered, tenants had to walk long distances for safe shelter and food, as well as maintain a state of vigilance in case of assault. Tenancy in Housing First eliminated

these challenges. This resulted in tenants reporting lower levels of pain, increased perception of mobility, lower reports of depression and anxiety symptoms, and engagement with physical health services.

Stable housing presented the opportunity for refocusing self-maintenance efforts from survival to wellbeing, including mental wellbeing. Anxiety over survival was lower at follow-up, and overall tenants reported an improvement in mental wellbeing, although staff and tenants revealed nearly universal traumas, which persisted at follow-up. Nearly 40% of tenants described themselves as currently grieving, which, given the private nature of grief and the nature of self-report, may be a low number. However, in spite of these challenges, tenants predominantly described themselves as doing well.

Significant improvements in medication adherence and an increase in medical service

use are likely due to staff assistance with medication storage and scheduled intake, as well as transportation to and from appointments. Tenants self-administer all medications, but staff are able to remind a tenant if they forget, and the medication dose is logged. The highest reported chronic conditions were frequently medicated ailments like PTSD and high blood pressure, so an increase in medication adherence is likely to contribute to positive health outcomes.

We believe that continued housing stability allowed for awareness beyond basic needs, increased access to health services and contributed to the increases in medication adherence, sober activity, improved mental health and exploration of goals. At both locations, encouragement and logistic support from staff were identified as instrumental to tenant success in these domains.

Substance Use

Results show a significant reduction in drinking. Substance use at Housing First in Alaska predominantly concerns alcohol, though researchers also encountered tenant reports of marijuana use, and previous use of the range of drugs called “Spice.” Here we report drinking patterns, perceptions of the project-based Housing First environment on tenant drinking, tenant patterns of engaging with treatment and tenant consumption of other drugs.

Karluk Manor and South Cushman were designed to target a population termed “chronic alcoholic” with the goal of providing safe, permanent supportive housing and a “Harm Reduction” model of care. A focus on the abuse of alcohol distinguishes South Cushman and Karluk Manor from other Housing First projects across the US which may have been designed to house those whose drug of choice is illegal.

Drinking Patterns

At baseline, the average tenant was drinking between 9-17 standard drinks nearly every day. Mean consumption was 12.5 standard drinks. Listed below are key points about alcohol consumption patterns among tenants at baseline.

- 86% of tenants reported drinking more than 8 standard drinks on a typical drinking day.
- 48% of tenants were drinking between a fifth and two fifths on a typical drinking day.
- 92% of tenants reported drinking at least “a few times a week.”

- 53% reported drinking “daily or nearly daily.”
- Normalized drinking with the intention of blacking out.

At baseline, 75.9% of tenants reported liquor as their preferred alcoholic beverage and 35.6% of tenants reported drinking beer most of the time. Wine, energy drinks, mouthwash, or other alcohol-containing beverages were not reported to be commonly consumed among tenants.

In baseline interviews, alcohol is consistently mentioned in concert with interactions with friends on the street, stress, and trauma. Staff interviews emphasized the universality of trauma in tenant life stories. Drinking to intentionally blackout was reported in multiple interviews. Tenants described drinking in response to stress, and as a way to nullify negative feelings.

“And most of the time, it (alcohol) relaxed me, you know, alcohol. Because when I think about my mom and dad—who passed away—and my two sisters, my brothers...that’s when I start drinking. [inaudible] It relaxes me sometimes.” (1001)

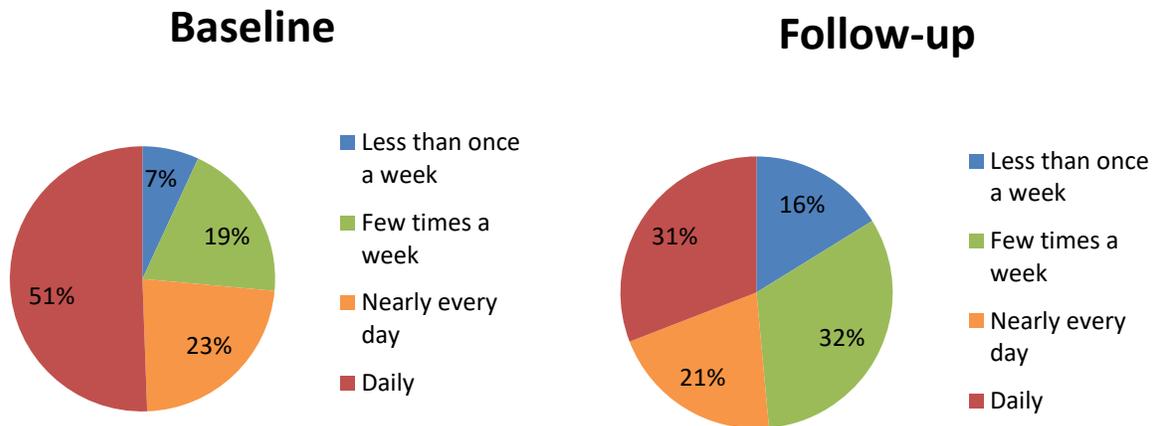
At follow-up, a significant number of tenants reported drinking less alcohol and drinking alcohol less often. (**Figure 5**).

At follow-up, the average tenant drank between 5 and 13 drinks 2-3 times per week. The mean consumption was 9 drinks. Over 40% of tenants reported drinking less often since living in Housing First. The number of tenants drinking once a week or less more than doubled from baseline to follow-up.

Those who drink over 32 units at each drinking episode are down by 60%. Seventy percent of tenants reported drinking a fifth or less per episode. At follow-up, no tenants reported drinking more than 42 drinks in an

episode. Tenants report a decrease in daily drinking from 51% to 31%, and an increase in consumption less than once a week from 7% to 16%.

Figure 5. Frequency of consumption of alcohol at baseline and follow-up



While consumption is still high by current measures, including the validated Alcohol Dependence Scale (Skinner and Horn 1984; Doyle and Donovan 2009) and Quantity-Frequency methods (Greenfield 2000), tenants reported drinking less at follow-up than at baseline. For tenants who are consuming alcohol at the same rate, they often are consuming less quantity, and vice versa. This indicates an overall trend toward less alcohol consumption and lower drinking frequency. **Figure 6** illustrates the percentage of tenants who indicate positive, neutral, or negative changes in drinking patterns from baseline to follow-up.

Nearly half of tenants report drinking less frequently. Of those, many report that when they do choose to drink, they are consuming less. One tenant reduced drinking frequency from every day to once every four or five days, “For me, that’s a big difference” (1012). Another tenant, while not achieving total sobriety, commented about changed drinking patterns.

“I know at least 10 people here that used to, just constantly, if you wanted to find them you just go to sleep-off. Yeah, they’ll be there. And now they’re here and their drinking less and I probably reduced my drinking 90%” (1004).

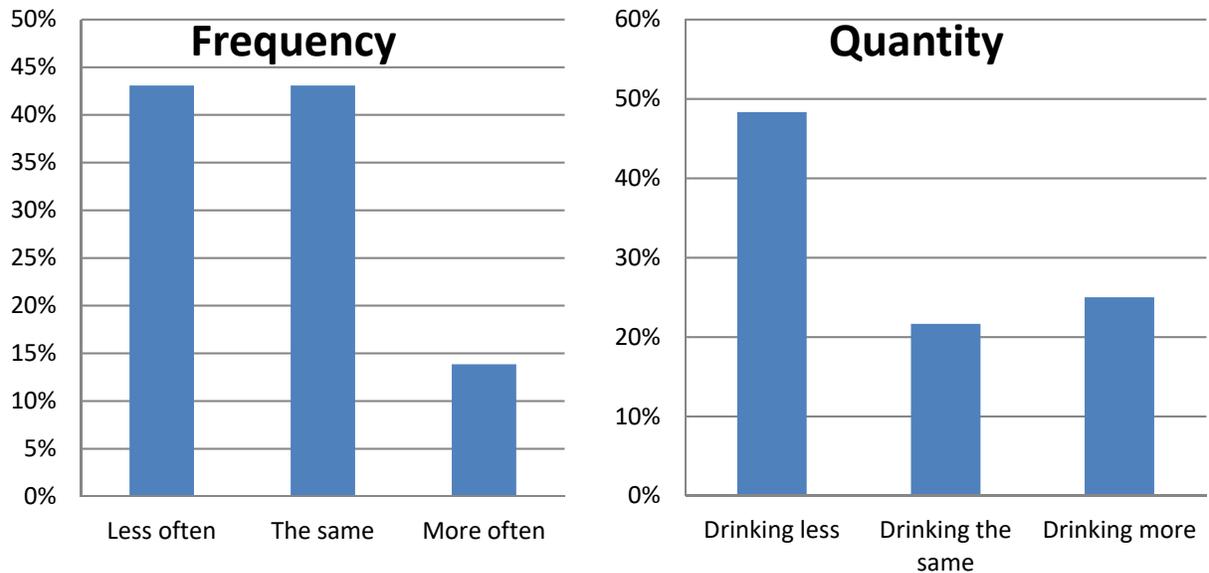


Figure 6. Changes in alcohol consumption between baseline and follow-up n = 65

There is a statistically significant difference between changes in drinking at Karluk Manor and South Cushman ($p=0.018$). Of the follow-up cohort at Karluk Manor, 12% of tenants reported an increase in drinking either in frequency or amount, whereas at South Cushman 15 tenants (44%) reported drinking more in either frequency or amount. At baseline and follow-up data collection, tenants were presented with an illustrated graphic (**Appendix 3**) that researchers translated into an ordinal scale representing of a range of drinking quantities based on the numbers 0 to 10 on the graphic. At South Cushman:

- 11 reported drinking either the same or less frequently, but consuming more drinks per episode, compared to 2 tenants at Karluk Manor.
- 4 reported drinking more often and more quantity, compared to 1 at Karluk Manor.

- The average and median amount of increase reported was 2 abscissas—i.e. levels on an ordinal scale, indicating a range of drinks.
- Those individuals reporting an increase in alcohol consumption increased between 4 to 10 standard drinks.

There was no statistically significant difference between men and women who reported an increase in drinking at either site.

Of the tenants who indicated in surveys that they had increased their drinking at follow-up, in interviews, two reported bigger binges, although less frequent. Three tenants contradicted their survey data in interviews and stated that they had decreased consumption at follow-up. There may be some differences in reporting because interviews and surveys were conducted separately, sometimes with as much as three

months between them. There were four tenants who reported increased drinking in surveys and interviews. These tenants describe long stretches of idle or free time, pursuing solitary activities, and lower levels of connection with staff, combined with high levels of influence from other drinking tenants.

Environmental factors

Tenants reported a range of evaluations of how the Housing First environment influenced their drinking. In interviews, nine tenants directly articulated that they have reduced their consumption of alcohol because they feel safe at Housing First. Safety of Housing First, as well as the worry of possible eviction, is a motivator to some to reduce drinking.

“You know, it’s not so much the physical thing, it’s a mental thing. I feel better mentally. My physical is – I’m getting old. I’m 55. I’m starting to get old. It’s the mental state of mind is what’s keeping me going. Because when you are out there, you know, a mental state, all you’re thinking about is survival, surviving one day to the next. And what people do, they do drugs and drink alcohol to suppress the mental state of mind. Do you understand what I’m saying?” (2026)

All staff at both sites also reported that tenants’ transition from “street life” behavior, including higher levels of drinking, and generally reduce once they have “settled in” to life at Housing First.

While some tenants at each site have achieved total sobriety since baseline, a number of tenants report difficulty in reducing drinking when living in an

environment where drinking is still allowed and social interaction offers an opportunity for drinking with friends, both inside and outside of Housing First. In follow-up interviews, some tenants reported an increase in drinking they attributed to the environment at Housing First. With many neighbors in close proximity drinking, exposure to others’ drinking was enticing and discouraged sobriety. Proximity to liquor stores, drinking with social connections, and dealing with cravings or withdrawal are additional obstacles to reduction.

“I’m trying everything to stay away from it. Getting out of here, and walking, and get away from these people. That’s what triggers me. Sometimes I can’t say no, especially if I’m frustrated, and you know, things don’t go my way, or – I don’t know. I just wanna drink.” (2019)

However, other tenants report they consume less alcohol despite their neighbors drinking because they can close their door and exercise autonomy in their choice to join. Multiple tenants described their room as a safe alternative to social contexts where they may feel pressured to drink. Having a private room allowed tenants the opportunity to disengage from their social networks if they didn’t want to interact or participate in activities that they were trying to avoid, such as drinking.

Staff discussed tenant reductions in drinking. Staff follow-up interviews at both sites described a cycle of greater and lesser sobriety that followed a rhythm throughout the year, and within the month, dependent on the availability of funds.

“We still haven’t cracked the issue of the beginning of the month where they’re drinking so heavily. We all kind of brace for that... Then the second thing we always face in the month is like, toward the middle of the month when they’ve all run out of money and/or booze, then they’re detoxing. Then we get a whole different set of behaviors. So we usually have about two weeks of calmness and then we’re in that cycle again.” (4010)

A majority of tenants had engaged with treatment services multiple times in the past, and while some engaged with treatment programs while housed, others maintained negative perceptions of treatment. Negative views toward treatment programs were present in six interviews, and more expressed ambivalence as to their practical use. As one tenant remarked about attending treatment, “Everything that they do, it makes you want to drink.” (1034) This tenant reported that their experiences with treatment further

Changes in Drinking Over Time

Thirty four tenants reported reducing their drinking after moving into Housing First, both in frequency and total quantity. Ten reported an increase in drinking either in frequency or quantity. There was not an association between the vulnerability index and drinking outcomes at Karluk Manor. The vulnerability index was not available from South Cushman.

As shown in Figure 7, differences between the two groups include level of employment, whether they reported strong, positive relationships with staff and other care providers, whether their relationship to their

exacerbated their emotional agitation and therefore drinking behaviors, rather than leading to sobriety. Drinking to cope with intense emotions and memories is one of the most frequently-cited reasons for drinking.

At follow-up, tenants reported recognition that alcohol is harmful. Tenants with higher reports of hospitalizations described doctors telling them their choice was between drinking and death. Deaths at Housing First and in the wider homeless population were frequently brought up in interviews, often citing alcohol as a contributing factor.

“We’ve lost 7 or 8 people have died that live here...Alcohol being the contributing factor of course, just how it is...after a while, you kinda get immune to it.” (1005)

family helped facilitate their sobriety and whether they expressed the goal to achieve sobriety. Tenants who reported reducing their drinking at Housing First were often those employed at Housing First or in day labor off-site, who also reported positive relationships with staff, had family who supported their sobriety and expressed a personal desire to be sober. Tenants who reduced their drinking credited a combination of social support, from staff, family and sometimes friends, as well as personal determination.

Those who reported drinking more at follow-up were less likely to be employed and

reported less personal connection with staff. Those who reported increasing their drinking described being influenced by friends and

neighbors who drink at Housing First, and lower engagement with staff and counseling services.

Figure 7. Drinking Behaviors Associated with other Aspects of Life at Housing First

	Drinking Less	Drinking More
	N=34	N=10
Current Employment or Volunteering	56%	2 (20%)
Described Pride in Independence (cooking for self, managing own appointments etc.)	44%	2 (20%)
Positive relationships with staff	65%	40%
Family-Facilitator to Sobriety (support sobriety)	47%	20%
Family-Barrier to Sobriety (abusive, encourage alcohol)	17%	40%
Friends-Barrier to Sobriety	38%	70%
Friends-Facilitator of Sobriety	12%	0%
Stated Sobriety as Goal	59%	50%
Physical pain	53%	50%
Emotional pain	47%	20%
Alcohol treatment-Negative experience	18%	30%
Alcohol treatment-Positive experience	28%	10%
Reported taking Naltrexone, Vivitrol etc	9%	0%

Tenants who reported reduced drinking also reported more emotional pain, relative to other tenants. This could underline the importance for social support for tenants who are taking steps toward sobriety. Several tenants suggested that peer outreach and alcohol education would be more effective at reaching this population than classic service professionals.

Social connection was also important when tenants discussed engaging in any kind of treatment, whether AA meetings, outpatient

counseling or residential treatment. Barriers to engaging with treatment included anxiety at meeting new people, a belief that treatment is ineffective, resistance to rules involved in treatment, and low levels of rapport with counselors.

Other Drugs

While most tenants report alcohol as the only intoxicating substance they use, others report marijuana use and occasional use of other drugs. Some marijuana users claim they like

it better than alcohol. Use of the street drug spice was mentioned in 8 interviews between the two sites and in 3 staff interviews. The intoxicant known as “spice” is marketed as artificial marijuana, and comes in many varieties. Those tenants who mentioned familiarity with spice described it as highly accessible. Those who described having used the drug regretted it, and planned on avoiding it in the future.

“Well, I was doing something stupid. I was smoking that spice while I was drinking. I

didn't know. I was drunk and then I guess they said I smoked some and I kinda freaked people out because I was scaring them, the way I was acting. So I kept going to the hospital and I was like, ‘Why do I keep smoking that? It's not even good for you.’”

Illegal activity, including possession and use of intoxicants other than alcohol, is prohibited and grounds for eviction. At the time of follow-up, no evictions for hard drugs had occurred at either site.

Substance Use Discussion

Overall, there was a significant decrease in the amount of drinking reported at follow-up. Tenants described that having their own room and feeling safe reduced their inclination to drink. Tenants also described struggles with or disinterest in treatment, and described the drinking environment of Housing First.

In interviews, tenants reported two benefits of having a private room, an assurance of safety, and increased autonomy if choosing not to drink. Feeling safe was an influencing factor in reducing their drinking—that no longer having the stress of meeting survival needs or needing entrance to overnight incarceration (detox or “sleep-off”) resulted in a decrease in their consumption. The other benefit of a private room was that having their own apartment provided more autonomous choice about whether to drink with friends both inside and outside of Housing First. Tenant perception of safety and self-determination reflect on drinking levels.

While total tenant sobriety is not a stated goal of Housing First programs, tenants and staff reported a minority of tenants at both locations have achieved complete sobriety.

Many tenants who continue to drink have a history of engaging unsuccessfully with treatment, and described a preference for self-directed recovery. It is possible this orientation may not lend itself to success in conventional recovery, and alternative options may be more effective at engaging tenants.

When combining survey and interview data regarding alcohol consumption, there is evidence of predictors of reductions in drinking, and predictors of no change or increase in drinking. Predictors of reduction include strong relationships with staff, case managers, and counsellors, a busy schedule, family connection and encouragement, a sober partner or friends, an ambitious attitude in attaining goals, spiritual motivation, and the threat of conventional treatment or eviction, whether perceived or real. Predictors of no change include a weak

relationship with staff, stretches of boredom or unoccupied time, disagreements with others, disappointments, or overall apathy. Alcohol consumption patterns is just one measure of Housing First, yet these predictors demonstrate the importance of social engagement with tenants from staff in improving their quality of life through social support, engagement, and activities, and with friends and family who can provide support and encouragement in alcohol reduction.

The impact of social connection on tenant substance abuse is clear. Several tenants directly credited their new sobriety to their close relationships with staff members at Housing First. Conversely, those who said they increased their drinking at Housing First reported feeling less connection with staff, and higher susceptibility to peer pressure than their neighbors who reduced alcohol consumption. Peer groups have historically been the primary support for many tenants, prior to moving into Housing First, and the influence of whether peers are drinking or sober is strong. Tenants engaged with treatment, counsellors, case managers and staff when they perceived empathy on the part of the service providers, rather than instruction.

Our data support the importance of social connection in reducing alcohol consumption at Housing First, suggesting that substance abuse interventions targeted toward this population might be strengthened by taking into account the power of social connection as a factor in client success. Tenants themselves suggest that peer-to-peer outreach among tenants should be a part of substance abuse interventions. Tenants who

are working to achieve or maintain sobriety may also benefit from the availability of more sober spaces.

Service Use and Cost Study

Participants

Sixty-three tenants moved into Karluk Manor between the time it opened in December 2011 and the time we started recruiting participants for the Cost Evaluation in November 2013. Of those, 11 moved out and six died before we were able to recruit them into the Cost Evaluation. In order to allow for two years of follow-up after moving in to Housing First, the 15 tenants who moved in after July 2012 were ineligible for the study, leaving 31 eligible tenants. Twenty-three (74%) of the eligible tenants agreed to participate, three (13%) declined to participate, four (17%) could not be contacted despite multiple attempts on multiple days and at a variety of times of day, and one tenant with serious mental illness was not approached.

Sixty tenants moved into South Cushman between the time it opened in May 2012 and

the time we started tenant recruitment. Of those, there were 47 current tenants, and 31 agreed to participate in the Cost Evaluation. An additional 5 tenants agreed to participate as controls, due to the fact that their move-in date was too late to allow for follow-up. At South Cushman, tenant recruitment was performed by staff at TCC, rather than ICBS study staff.

Table 3 provides demographics for Cost Evaluation participants. The majority of both tenants at both facilities were male and 50 years or older when the facility opened. The age distribution at the two facilities was similar based on the Fisher Exact Probability test ($p = 0.56$). Fifty percent of tenants had completed some college education and another 40% had a high school diploma or GED.

Table 3. Demographic Characteristics for Tenants Participating in the Cost Evaluation

Demographic Characteristic	Karluk Manor (N = 23)		South Cushman (N = 31)	
	Number	%	Number	%
Male	16	69.6	19	61.3
Female	7	30.4	12	38.7
Age				
18 to 39 years	3	13.0	3	9.7
40 to 49 years	7	30.4	12	38.7
50 to 59 years	12	52.2	12	38.7
60 years or older	1	4.3	4	12.9

Emergency Services

Tenant survey and interview data indicated frequent use of emergency services at baseline. Tenants often relied on emergency services for housing and medical care, including sleep off center pick-ups and emergency shelters. As tenure at Housing First increased, tenants often reported decreased reliance on emergency services as a direct result of having a safe, warm place to stay. Emergency services included in this report are police and fire department encounters, community service patrol pick-ups and nights spent in the sleep off center, and shelter nights. Correctional services refer to nights spent in state department of corrections facilities.

Based on data provided by the Anchorage and Fairbanks municipalities, in the 12 months before the tenants moved into the Housing First facilities in Anchorage and Fairbanks, a total of \$225,428 was spent on emergency services for the 54 tenants in the study, \$112,412 for 23 tenants in Anchorage and \$113,016 for 31 tenants in Fairbanks. On average across the two communities, costs for emergency services was \$4175 per tenant in the year before they moved into Housing First, with a median cost of \$3,218. These figures dropped to \$94,450 (mean \$1,749, median \$920) spent on emergency services for the 54 tenants in the first 12 months after moving in and then \$81,670 (mean \$1,513, median \$587) in the second 12 months after moving in.

Figure 8 shows the annual total emergency services cost per tenant during the three years of the study, adjusted to 2011 dollars and **Figure 9** shows the annual total emergency services cost per tenant during the three years

of the study separately for Anchorage (**Figure 9A**) and Fairbanks (**Figure 9B**). The circle indicates the mean, the middle blue line indicates the median, and the rectangle indicates the interquartile range (25th percentile to 75th percentile). The lines above the rectangles are used to define outliers. These lines extend above the 75th percentile by 1.5 times the interquartile range. The small diamonds designate outliers, values more than 1.5 times the interquartile range above the 75th percentile. We used a similar methodology to examine outliers below the 25th percentile; however, because costs cannot be negative, there were no outliers on the low end.

The annual total emergency services cost per tenant during the first year of the study, the 12 months before tenants moved into Housing First, is significantly higher ($p < 0.0001$) than during the second year of the study, the 12 months after moving into Housing First. The difference between years two and three is not statistically significant. There was also no significant difference between facilities ($p = 0.39$).

Figure 8. Per Tenant Annual Costs for Emergency Services (in 2011 dollars)

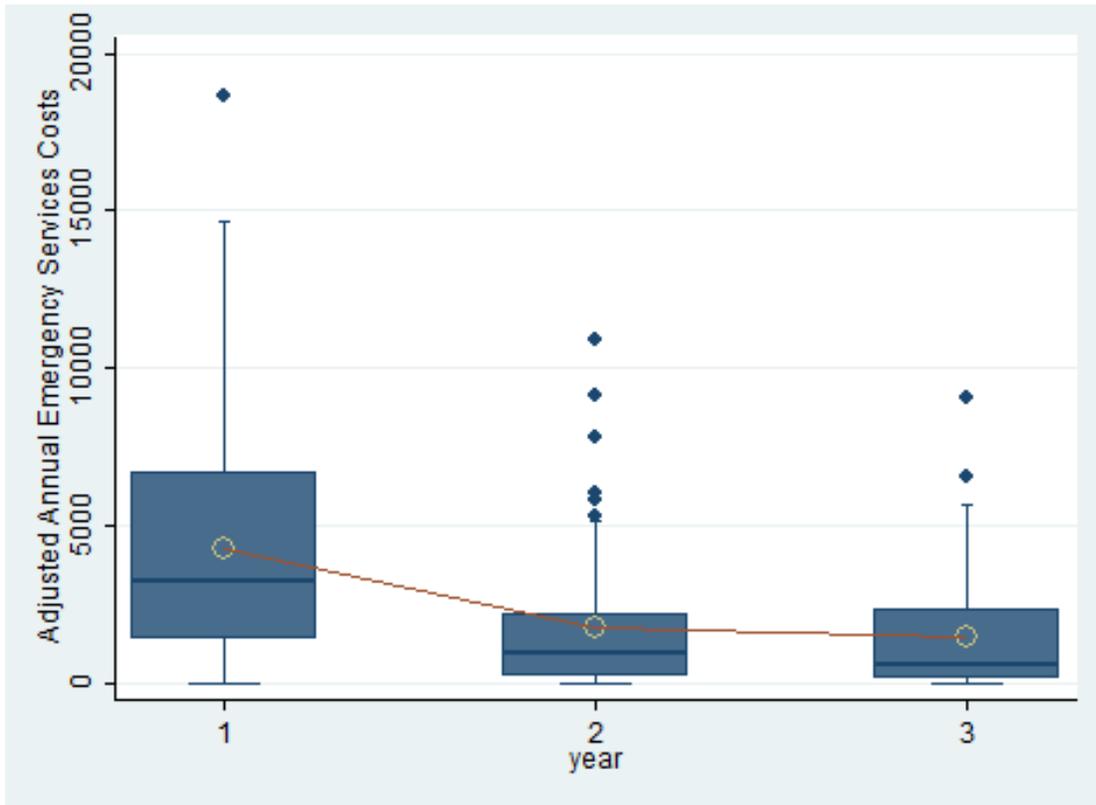
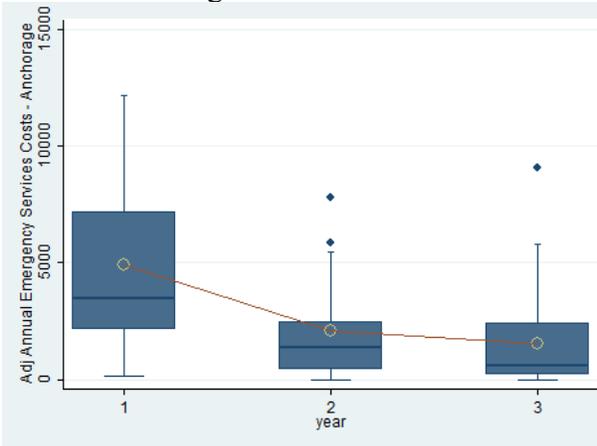
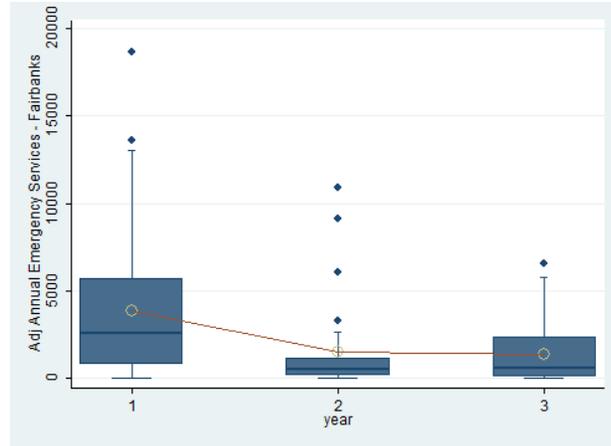


Figure 9. Per Tenant Annual Costs for Emergency Services: Anchorage and Fairbanks

A. Anchorage



B. Fairbanks

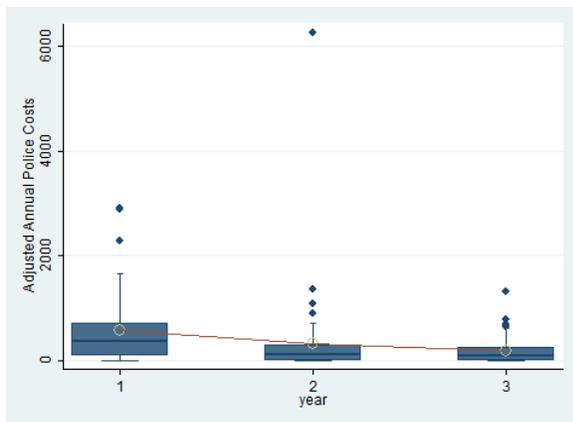


Looking at each of the four emergency services separately, we see a decrease in service use and cost for each of the four services across both locations; however, there are some differences in terms of the timing and the magnitude of the decreases.

Police

When looking at tenant data from the two facilities combined, the adjusted annual costs for police services per tenant were significantly higher ($p = 0.0256$) in year one, before moving into Housing First, compared to year two, the first year after moving in; and the costs in year three the second year after moving in were significantly lower than in year two. **Figure 10** illustrates the adjusted annual police costs for the two locations combined.

Figure 10. Police costs combined



However, combining data from the two facilities masks some of the differences between the two. As shown in **Figure 12A**, in Anchorage, the adjusted costs for police services for Housing First tenants were similar in the year before moving in and the first year after moving in ($p = 0.617$); however, costs then dropped significantly for the second year after moving in ($p < 0.001$).

As shown in **Figure 11A**, the annual number of police incidents per tenant per year in Anchorage was also higher the year before moving to HF compared to the first year after moving in (Year 1: mean 4.2, median 4.1; Year 2: mean 2.1, median 1.0; $p = 0.001$), but rather than leveling off like costs did, the number of police incidents per tenant in Anchorage dropped again in the second year after moving in (Year 3: 0.9, median 0; $p = 0.005$ compared to year 2)

On the other hand, as illustrated in **Figure 12B**, in Fairbanks costs dropped significantly from the year before moving in to the year after moving in ($p < 0.001$) and then remained stable during the second year after moving in ($p = 0.807$).

As shown in **Figure 11**, the number of police incidents involving tenants in the year before moving into Housing First was higher in Fairbanks than in Anchorage with a mean of 14.97 and a median of 12.0. The number of police incidents per tenant in Fairbanks dropped significantly in the year after moving in (Year 2: mean 4.0, median 3.0; $p < 0.001$) and then leveled off (Year 3: mean 5.2, median 3.0, $p = 0.247$ compared to year 2).

Tenants cited alcohol as a major source of police interactions. After tenants moved into Housing First, the ability to consume alcohol in private rooms removed part of the possibility of police interaction by moving drinking from public spaces to private spaces. It is worth noting that police interactions did continue at a lower level even after moving into Housing First.

Figure 11. Police incidents with tenants

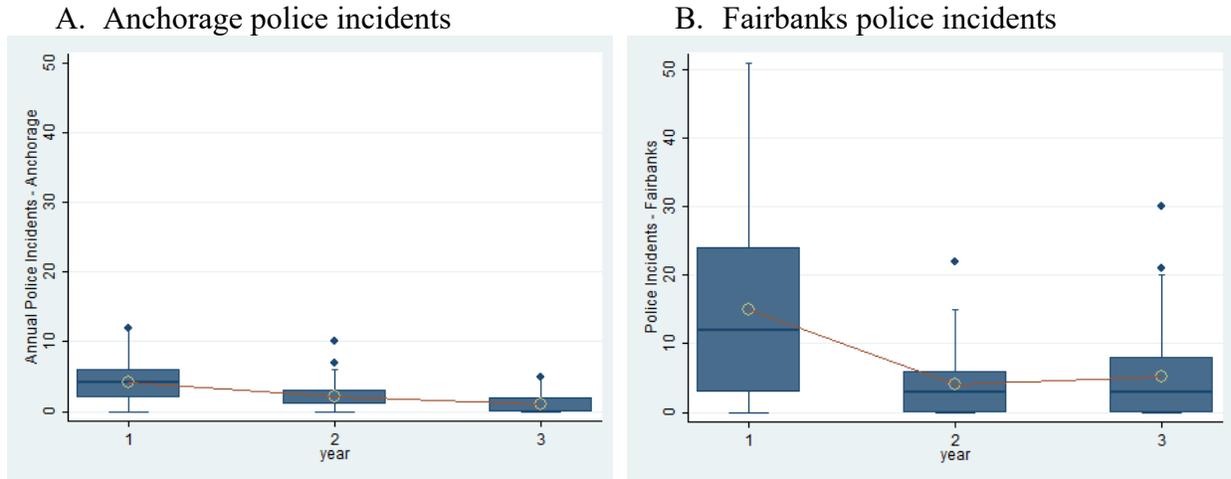
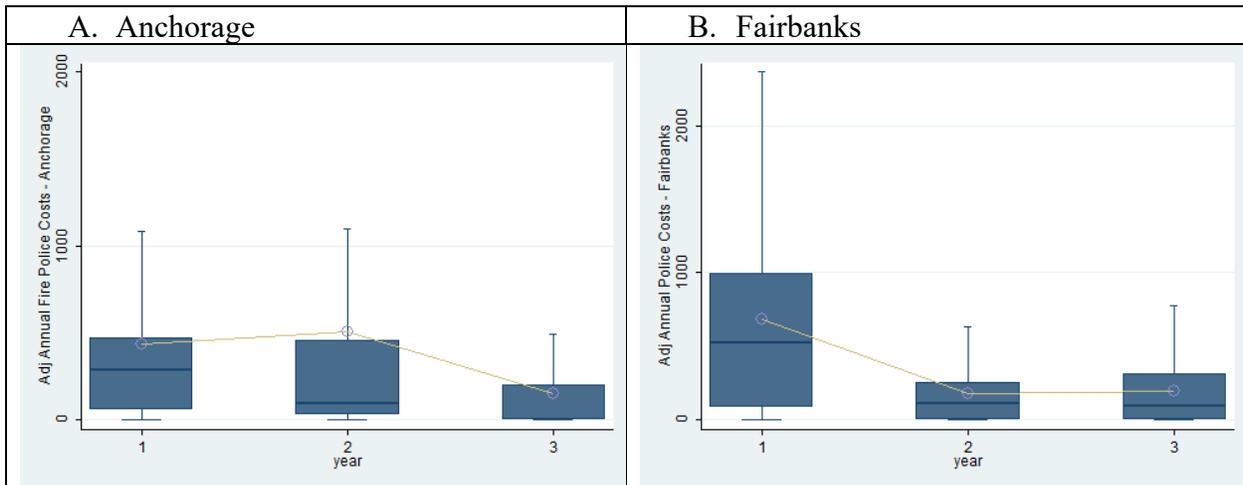


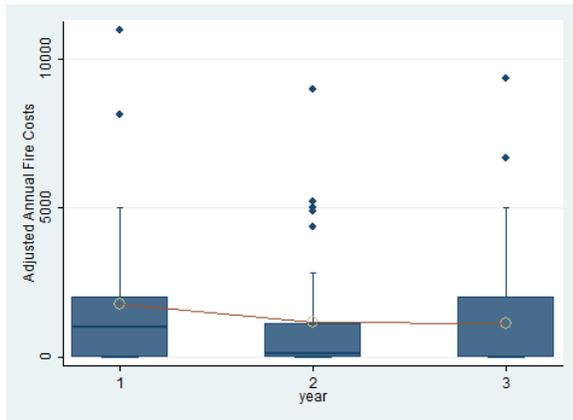
Figure 12. Police costs, outliers removed from both cost graphs



Fire

The cost for fire department calls per tenant per year and the number of fire department calls per year involving HF tenants decreased significantly from the year before moving into HF to the first year after (Year 1: mean 1.9 calls, \$1,756, median 1.1 calls, \$1,000; Year 2: mean 1.2, \$1,146, median 0.5 calls, \$110; $p = 0.033$ for number of calls in Year 1 compared to Year 2), and then leveled off (Year 3: mean 1.3 calls, \$1,106, median 0 calls, \$0; $p = 0.882$). In this case, a similar pattern was observed, both for cost and for number of incidents, at both of the Anchorage and the Fairbanks HF facilities. **Figure 13** illustrated the annual adjusted cost for fire calls per tenant per year for the two facilities combined. Site specific counts and costs for fire calls are provided in **Table 5** and **Table 6**.

Figure 13. Annual adjusted fire department costs

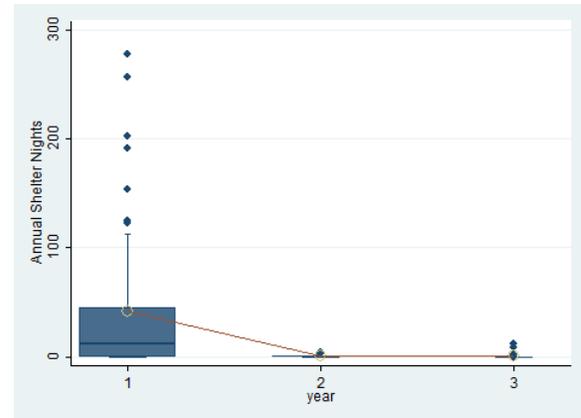


Shelter Nights

The number of shelter nights dropped significantly for tenants at both HF facilities from the year before moving into HF to the first year after ($p = <0.001$ for the first year after moving in compared to the year before) and remained extremely low ($p=0.850$ for the

first year after moving in compared to the second year after moving in) during the second year after moving into HF (**Figure 14**). The number of shelter nights per tenant in the year before moving in to HF was substantially higher in Anchorage (mean 66.8, median 39.3) than in Fairbanks (mean 23.0, median 3.0). The number of shelter night per tenants dropped to a combined mean of 0.5 (median 0) for each of the first two years after tenants moved into Housing First. Site specific means and medians are provided in **Table 5** and **Table 6**.

Figure 14. Annual shelter nights



The cost for each shelter night is estimated to be \$20 in Anchorage and \$12 in Fairbanks. Total annual per tenant shelter costs in the year before moving into Housing First was \$39,322 (\$30,741 in Anchorage and \$8,580 in Fairbanks). This fell to \$580 in the first year after tenants moved in to Housing First and \$502 in the second year. Since no shelter nights were reported in Fairbanks after tenants moved into Housing First, all of these costs were incurred in Anchorage.

The much higher shelter costs on Anchorage during year 1 were driven both by a higher per night cost and by higher shelter usage.

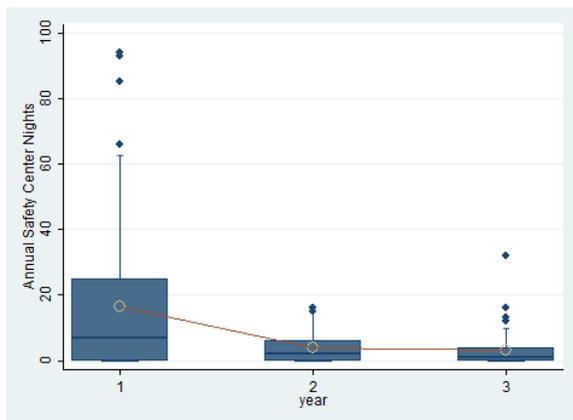
On average Anchorage tenants spent 64 nights in a shelter during the year before moving in to Housing First, with only 3 out of the 23 tenants having no shelter nights that year. In Fairbanks tenants averaged 22 nights in a shelter during the year before moving into Housing First, with 14 out of 31 tenants having no shelter nights.

During tenant interviews, tenants reported pride and appreciation for having their own apartment and prioritized sleeping at Housing First.

Safety Van

The number of safety van pickups dropped significantly for tenants at both HF facilities from the year before moving into HF to the first year after (Anchorage: Year 1 total for all tenants - 602.8, Year 2 total - 97; Fairbanks: Year 1 total - 288, Year 2 total - 107;) and remained at the lower level low (Anchorage Year 3: total 86.8; Fairbanks Year 3 total: 85.7) during the second year after moving into HF.

Figure 15. Per tenant Safety Van pickups and stays for both facilities combined



As shown in **Figure 15**, The number of safety van pickups per tenant dropped significantly from the year before moving in to the first year after ($p < 0.001$) and then stayed stable ($p = 0.411$ comparing years 2 and 3 of the study). The number of pickups per tenant was higher in Anchorage compared to Fairbanks ($p = 0.076$), due primarily to the much higher number of van pickups per tenant in Anchorage in the year before moving into HF (Year 1: Anchorage, mean 26.2, median 12.0 for the year before moving in; Fairbanks mean 9.3, median 3.0).

Tenants reported significantly decreased drinking, which is partly demonstrated by a decrease in safety van pickups. In addition, tenants reported at baseline that they consumed alcohol with the intention of attaining a level of intoxication to be picked up by the safety center and have a warm place to spend the night. After moving into Housing First, tenants no longer felt the need to drink alcohol in the pursuit of a warm place to spend the night. This behavior resulted in a decrease in alcohol consumption, and also a reduction in sleep-off center visits.

Change in Emergency Service Use

Costs for emergency services provided to Housing First tenants decreased from a little over \$4000 per year per tenant in the year before moving into permanent housing to less than \$2000 in the second year after moving in. The mean number of police calls, fire calls, Safety Center pick-ups and stays, and shelter nights also decreased. These findings

are similar to the cost evaluation findings from 1811 Eastlake in Seattle.¹

Table 4 provides details emergency service cost and use data (mean, median, minimum and maximum) for tenants from the two communities combined by year for all emergency services and for individual types of emergency services (police, fire, homeless shelter, and safety center). Table 5 provides similar information for Anchorage and Table 6 provides similar information for Fairbanks.

All of these emergency service reductions are likely to be related to living in a Housing First facility. Tenants reported the value of having their own room and bed, which would correspond to reduced number of shelter nights. However, having one's own personal space may also indicate having the privacy to retreat and avoid confrontational situations that may otherwise result in a police interaction or other emergency service requirements.

¹ Larimer ME, Malone DK, Garner MD, Atkins DC, Burlingham B, Lonczak HS, Tanzer K, Ginzler J, Clifasefi SL, Hobson WG, Marlatt GA. Health care and public service use and costs before and after

provision of housing for chronically homeless persons with severe alcohol problems. JAMA. 2009;301(13):1349-1357.

Table 4. Emergency Services: Both Facilities Combined

Services	Adjusted Cost				Days			
	Mean	Median	Min	Max	Mean	Median	Min	Max
Police Year 1	574.36	358.28	0	2899.83	10.39	5.73	0	51
Police Year 2	312.76	97.04	0	6132.67	3.2	1.50	0	22
Police Year 3	170.29	75.46	0	1231.48	3.39	1.86	0	30
Fire Year 1	1755.87	1000.00	0	11000.00	1.92	1.09	0	11
Fire Year 2	1146.11	110	0	9000.00	1.22	0.50	0	9
Fire Year 3	1105.95	0	0	9378.00	1.26	0	0	12
Shelter Year 1	728.18	158.00	0	5127.27	41.71	12	0	277
Shelter Year 2	10.74	0	0	80.00	0.54	0	0	4
Shelter Year 3	9.29	0	0	240.00	0.46	0	0	12
Safety Center Year 1	1116.20	510.45	0	5750.12	16.5	7	0	93.82
Safety Center Year 2	279.46	132.45	0	1215.00	3.78	2	0	16
Safety Center Year 3	227.22	81	0	1965.45	3.19	1	0	32
Total Emergency Services								
Year 1	4174.60	3218.02	0	18657.73	70.52	45	0	294.55
Year 2	1749.07	919.53	0	11122.10	8.74	6	0	44
Year 3	1512.75	587.30	0	9554.10	8.31	5.24	0	36

Table 5. Emergency Services: Anchorage

Services	Adjusted Cost				Days			
	Mean	Median	Min	Max	Mean	Median	Min	Max
Police Year 1	430.74	281.85	0	2878.46	4.23	4.09	0	12
Police Year 2	496.82	89.65	0	6132.67	2.13	1	0	10
Police Year 3	140.20	0	0	1231.48	0.95	0	0	5
Fire Year 1	1513.77	1194.00	0	8149.09	1.90	2.18	0	10.91
Fire Year 2	1299.57	916.00	0	5234.00	1.48	1	0	6.00
Fire Year 3	1212.51	330.00	0	9378.00	1.58	1	0	12.00
Shelter Year 1	1336.60	785.45	0	5127.27	66.83	39.27	0	256.36
Shelter Year 2	25.22	20.00	0	80.00	1.26	1	0	4
Shelter Year 3	21.82	0	0	240.00	1.09	0	0	12
Safety Center Year 1	1606.38	735.48	0	5750.12	26.21	12	0	93.82
Safety Center Year 2	279.29	132.45	0	1059.57	4.22	2	0	16
Safety Center Year 3	231.77	61.42	0	1965.45	3.77	1	0	32
Total Emergency Services								
Year 1	4887.49	3475.12	160.00	12185.45	99.17	86.18	7	294.55
Year 2	2100.89	1391.04	0	7823.57	9.09	7	0	25
Year 3	1606.30	575.68	0	9554.10	7.39	5	0	36

Table 6. Emergency Services: Fairbanks

Services	Adjusted Cost				Days			
	Mean	Median	Min	Max	Mean	Median	Min	Max
Police Year 1	680.91	526.16	0	2899.83	14.97	12.00	0	51
Police Year 2	176.20	104.44	0	1069.10	4.00	3.00	0	22
Police Year 3	192.61	88.92	0	782.37	5.19	3.00	0	30
Fire Year 1	1935.48	0	0	11000.00	1.94	0	0	11
Fire Year 2	1032.26	0	0	9000.00	1.03	0	0	9
Fire Year 3	1026.88	0	0	6666.67	1.03	0	0	6.67
Shelter Year 1	276.77	36.00	0	3324.00	23.06	3	0	277
Shelter Year 2	0	0	0	0	0	0	0	0
Shelter Year 3	0	0	0	0	0	0	0	0
Safety Center Year 1	752.52	243.00	0	5346.00	9.29	3	0	66
Safety Center Year 2	279.58	81.00	0	1215.00	3.45	1	0	15
Safety Center Year 3	223.84	81.00	0	1296.00	2.76	1	0	16
Total Emergency Services								
Year 1	3645.69	2457.69	0	18657.73	49.26	28	0	284
Year 2	1488.04	489.49	0	11122.10	8.48	3	0	44
Year 3	1443.33	598.92	0	6882.67	8.98	6	0	33

Correctional services: Alaska Department of Corrections – Jail Nights

The Alaska Department of Corrections (DOC) provided a count of the number of jail nights per month for each tenant during the 12 months before moving into Housing First (Year 1) and the first 24 months after moving in (Years 2 and 3). DOC costs were calculated based on a nightly cost of \$136. The same cost estimate was used for all three years of the study.

The total number of jail nights for HF tenants in the year before moving into a HF facility was 378 (159 for Anchorage tenants and 219 for Fairbanks tenants) for a cost of \$51,408 (Anchorage: \$21,624; Fairbanks: \$29,784), as seen in **Table 7**. The mean number of jail nights in the year before moving into HF was 7.0 (Anchorage: 6.9; Fairbanks: 7.1) while the median was 1.0 (Anchorage: 2.0; Fairbanks: 1.0).

The mean number of jail nights fell to 5.9 for the two facilities combined in the first year after moving in and the median fell to zero. In the second year after moving in the mean fell to 4.1 and the median remained at zero. However, the change in the annual number of jail nights per tenant during the three years of the study was not statistically significant ($p = 0.617$) and there was no significant difference between facilities ($p = 0.907$).

We requested information from DOC regarding how many of the jail nights for HF tenants after moving into HF were for new offenses and how many were for previous sentences that had not yet been served, but we did not receive an answer as of March 26, 2015.

Table 7. Correctional services: Jail Nights

	Adjusted Cost				Days			
	Mean	Median	Min	Max	Mean	Median	Min	Max
Both Facilities Combined								
Year 1	952.00	136	0	13,600.00	7.00	1	0	100
Year 2	798.37	0	0	12,784.00	5.87	0	0	94
Year 3	563.31	0	0	12,240.00	4.14	0	0	90
Anchorage								
Year 1	940.17	272	0	9,248.00	6.91	2	0	68
Year 2	650.43	0	0	12,784.00	4.78	0	0	94
Year 3	739.13	0	0	12,240.00	5.43	0	0	90
Fairbanks								
Year 1	960.77	136	0	13600.00	7.06	1	0	100
Year 2	908.13	0	0	12104.00	6.68	0	0	89
Year 3	432.86	0	0	6890.67	3.18	0	0	51

Health Care Services

Emergency Room, Inpatient, and Outpatient Services

We attempted to collect complete health care use and cost records including emergency room visits, inpatient days, outpatient clinic visits. Behavioral health services and detox will be discussed separately in the next section of the report.

For Anchorage participants we received data from the three major acute care hospitals – ANMC, Providence, and Alaska Regional – and for Fairbanks participants we received data from Fairbanks Memorial Hospital, the main Fairbanks acute care hospital. We also received data on outpatient visits from the Anchorage Neighborhood Health Clinic which has special program aimed at providing health care for the homeless, although it is possible that the volume of homeless clients has declined since moving to their new location in 2012.

Completeness of the Emergency Room, Inpatient, and Outpatient Data

It is likely that we have more complete health care data for Anchorage than for Fairbanks. Emergency room data should be comparable, and complete, for the two locations. However, since patients in Fairbanks may be more likely to be transferred out of the city for specialist or longer term hospital care than patients in Anchorage, we may be missing more inpatient data from Fairbanks than we are in Anchorage.

Similarly, we may have more complete outpatient data for Anchorage than for Fairbanks. Many of Karluk Manor tenants receive care from ANMC and the

Southcentral Foundation (SCF). Because ANMC and SCF share the same billing systems, the ANMC data includes the outpatient data from the SCF clinics. Therefore by getting records from both SCF and ANHC, it is likely that we have records for most of the outpatient services for Karluk tenants. In addition we received data from the Anchorage Neighborhood Health Center, which provides a sliding fee scale discount to qualifying patients and has a “Homeless Team” that does health education, outreach and works one on one with homeless patients to connect them with support services.

Many South Cushman tenants are likely to obtain outpatient care from Chief Andrew Isaac Health Center (CAIHC), which has a different billing system than Fairbanks Memorial Hospital. In consequence, the figures provided here should be taken as a minimum estimate of the costs incurred providing services to Housing First tenants in Fairbanks.

It is also likely that the amount of missing data varies by year, in that individuals may seek care from different providers when they are living on the street compared to when they are living in a Housing First facility. For example, in Fairbanks a homeless individual living on the street may be more likely to receive care through the Fairbanks Memorial system while that same individual living in the Housing First facility may receive care from CAIHC. Therefore, while we are providing summaries of the inpatient and outpatient service use and costs for the three

years of the study in **Tables 8, 9, and 10** we are not providing p-values for statistical comparisons between years.

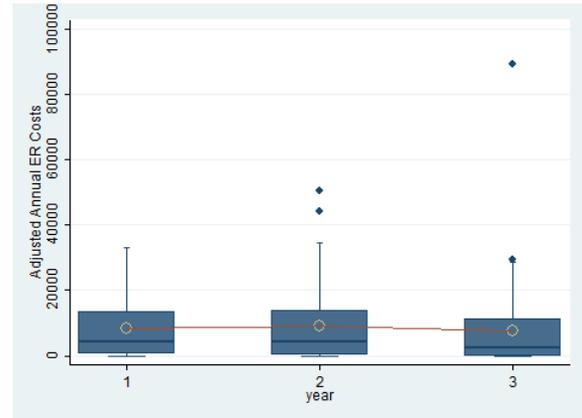
Housing First staff members indicated that there was high variability in tenant hospital use, with changes made on an individual or situational basis.

Emergency Room Use and Costs

The cost and use data for emergency room visits should be the least affected by missing data in that we have requested and received data from all three of the major emergency rooms in Anchorage and the one major emergency room in Fairbanks.

The mean adjusted annual cost for ER visit for HF tenants remained relatively stable across the three years of the study (Year 1: \$8,212; Year 2: \$9,243; Year 3: \$7,702; $p = 0.687$), while the median stayed steady from the year before the tenants moved into HF to the first year after moving in and then dropped by approximately 40% (Year 1: 4,388, Year 2: \$4,348, Year 3: 2,526). However, this relative stability obscures a number of factors that are important to consider.

Figure 16. Adjusted annual emergency room cost



The first factor to consider is that the cost of an ER visit may vary greatly depending on the nature of the emergency, therefore stable costs may not mean stable usage rates. With the two sites combined, the number of ER visits per year per tenant dropped significantly ($p = 0.002$) from a mean of 8.2 (median 4.2) in the year before moving into HF to a mean of 4.3 (median 2.5) in the first year after moving in and then decreased slightly, but not significantly ($p = .271$), to a mean of 3.4 (median 3) in the second year.

Figure 17. Annual emergency room visits

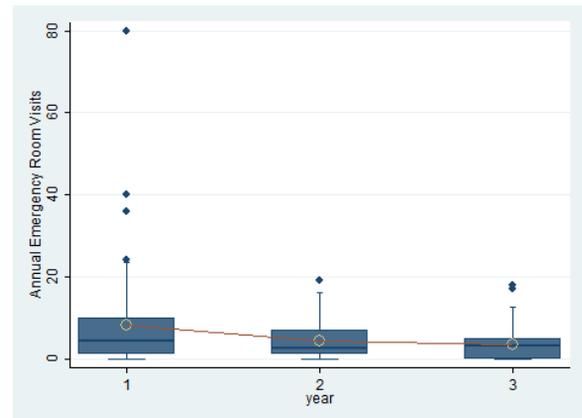


Figure 18. Per tenant emergency room visits

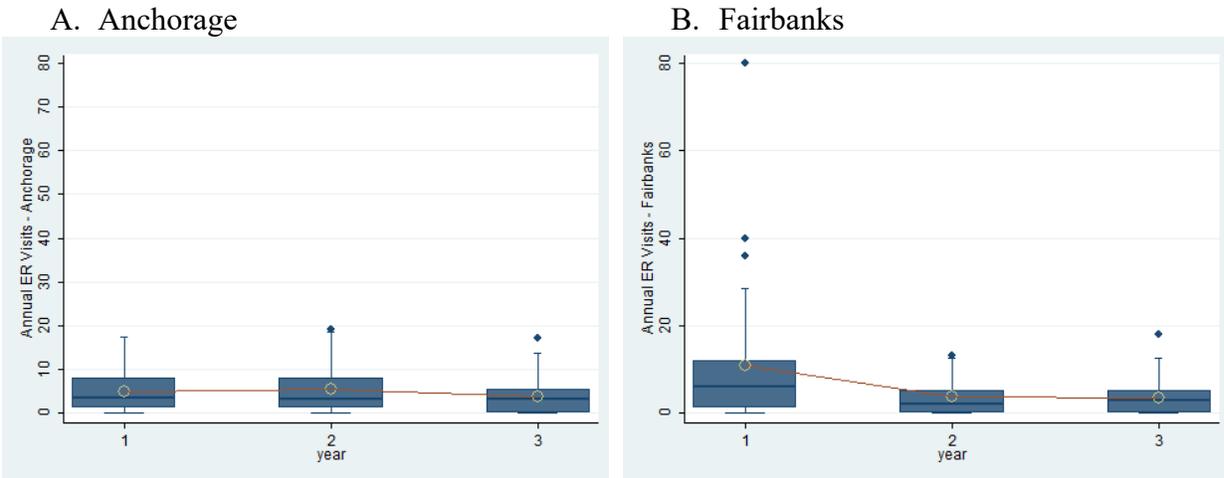
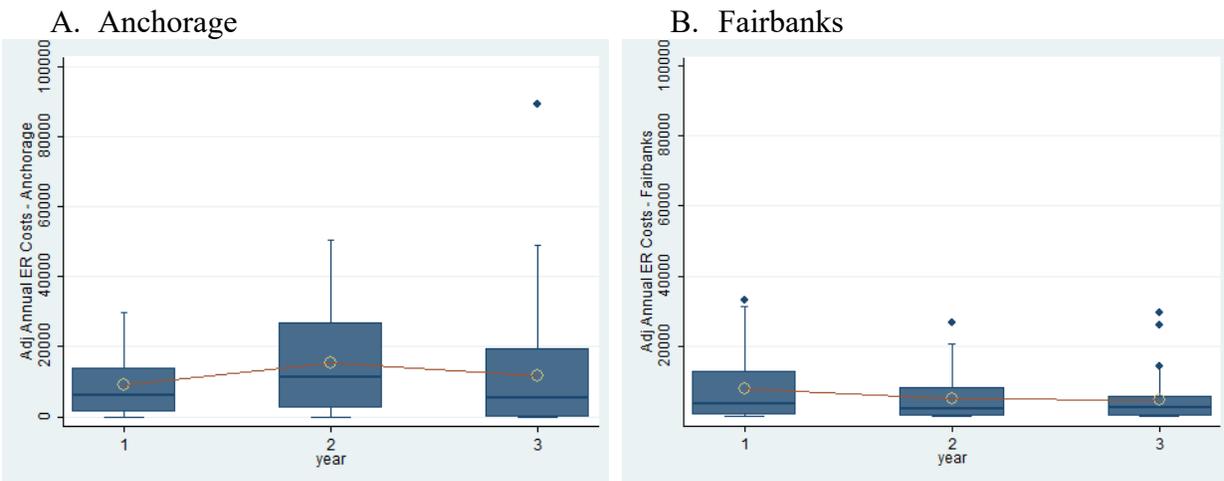


Figure 19. Adjusted annual emergency room costs



Combining the two sites, however, masks that fact that in Anchorage the number of ER visits was equivalent between the year before and the year after moving in to HF ($p = 0.531$), and then dropped significantly the next year ($p = 0.040$). In Fairbanks, the number of visits dropped significantly from the year before moving in to HF to the year

after ($p = 0.001$) and the remained stable thereafter ($p = 0.732$). Site specific visit counts are provided in **Tables 9 and 10**.

Combining the two sites, adjusted annual per tenant ER costs stayed stable ($p = 0.687$). However, in Fairbanks there is a suggestion that the adjusted annual per tenant ER costs in the year before moving in to HF were

higher than in the year after moving in ($p = 0.081$) and then remain stable the following year ($p = 0.914$), which is similar to the pattern change for ER visits in Fairbanks. However, in Anchorage there is a suggestion that the per tenant annual ER costs were lower in the year before moving into HF than in the year after moving in ($p = 0.067$) and then remained stable the second year after moving in ($p = 0.370$) which is different from the pattern we saw for the numbers of visits. Site specific costs are provided in **Tables 9 and 10**.

We adjusted costs for 4.3% health care inflation from year 1 to year 2 of the study and another 3.2% from year 2 to year 3; however, it is possible that the increase in Anchorage ER costs during this time period was higher than the overall rate of health care inflation in Anchorage. It is also possible that ER visits by Anchorage tenants in the year before moving into HF were less complicated but more frequent than in the years after moving into HF, resulting in higher ER costs in the years after moving into HF even though the number of ER visits was similar.

Within two years of moving into Housing First, ER use fell significantly but did not fall to zero. Even in the last year of the study, at least half of the tenants had 3 or more ER visits in the year and ER costs of more than \$2500. Median ER costs in the last year of the study were approximately one third of the median total health costs.

What is not clear is whether these ER visits were real emergencies that needed to be handled in the ER or whether they could have been better handled by a primary care physician. It is possible that tenants would

benefit from education and assistance in how to best use the health care system.

Total Health Care use and costs

In the 12 months before tenants moved into Housing First facilities in Anchorage and Fairbanks, a total of \$1,427,022 in health care costs were incurred for the 54 HF tenants participating in the cost analysis (\$628,343 for 23 tenants in Anchorage and \$789,678 for 31 tenants in Fairbanks). On average, tenants incurred \$26,426 in health care costs in the year before moving into HF (median \$9,925). These per tenant health care costs were higher in Anchorage (mean \$27,319, median \$10,439) than in Fairbanks (mean \$25,763, median \$9,622).

Per tenant mean adjusted total annual health care costs fell 44% to \$14,321.71 in Fairbanks in the year after moving into Housing First, with the median rising slightly by 5% to \$10,083. Mean adjusted total annual health care costs for tenants in Fairbanks rose slightly the following year to \$15,608 but remained 39% below the year before moving into Housing First. The median adjusted total annual health care costs for tenants in Fairbanks fell to \$7,587, which was 21% below the median for the year before moving into Housing First.

In Anchorage, on the other hand, per tenant mean adjusted total annual health care costs increased by 3.5% from the year before moving in to HF to \$28,274 in the first year after moving in with the median increasing 52% to \$15,894. Per tenant mean adjusted total annual health care costs increased again to \$56,726 in the second year after moving into HF, which was slightly more than double

the mean adjusted total annual health care costs for the year before tenants moved in to HF. The median adjusted total annual cost also increased to \$19,563, slightly less than double the median for the year before the tenants moved in to HF.

Figure 20. Per Tenant Adjusted Health Care Costs, Both Facilities Combined

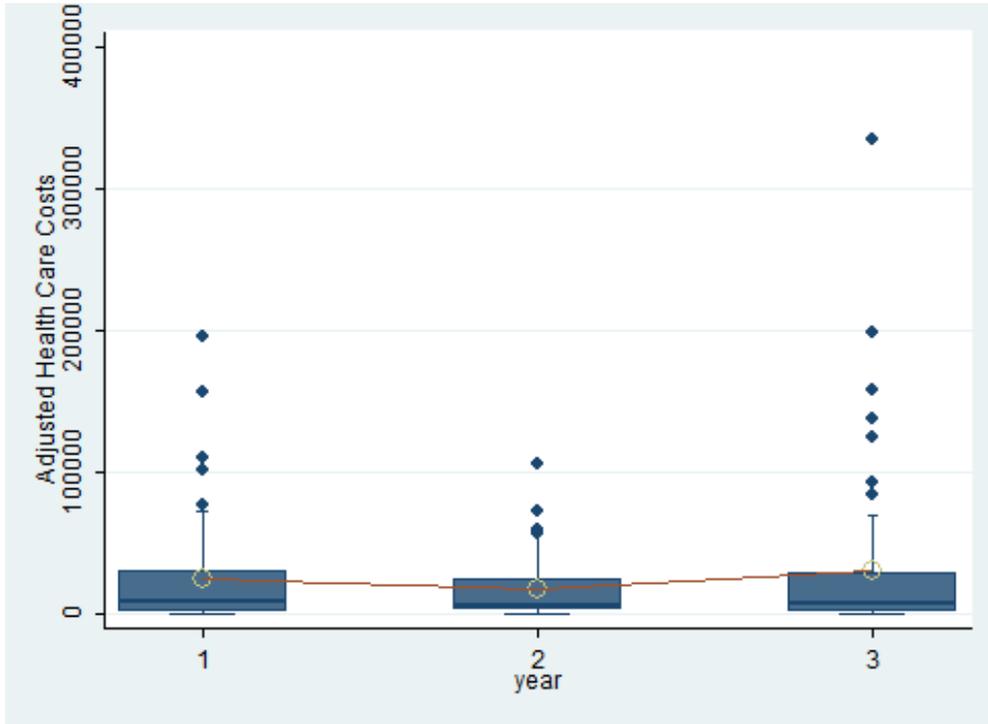


Figure 21. Per Tenant Adjusted Health Care Costs with outliers removed

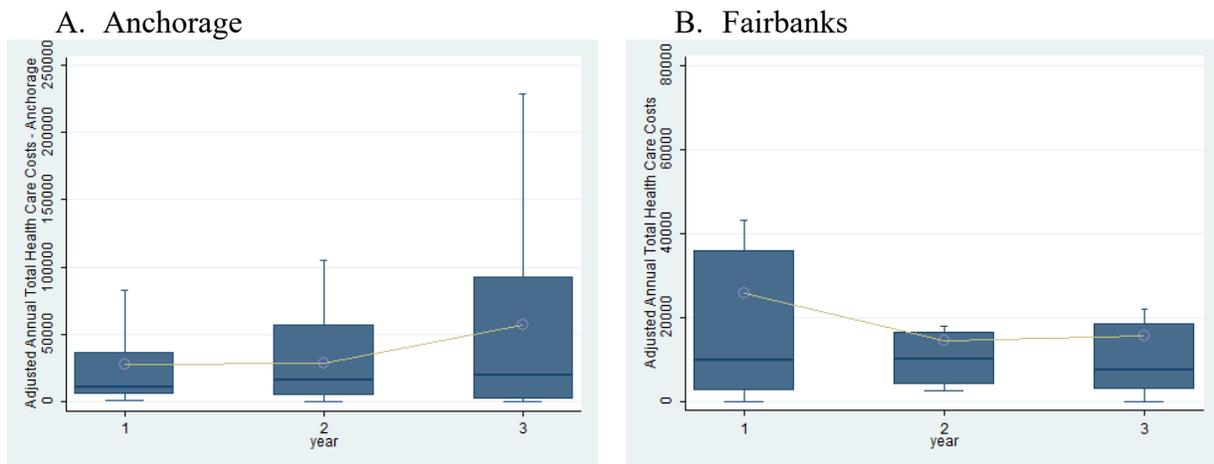


Table 8. Health Care (Emergency Room (ER), Inpatient, and Outpatient) Cost and Usage - Both Facilities Combined

	Adjusted Cost				Days			
	Mean	Median	Min	Max	Mean	Median	Min	Max
ER Year 1	8211.74	4387.65	0	33069.25	8.18	4.18	0	80
ER Year 2	9242.54	4347.80	0	50450.19	4.30	2.50	0	19
ER Year 3	7699.35	2515.50	0	89284.15	3.40	3	0	18
Inpatient Year 1	11355.93	0	0	120558.64	1.42	0	0	25.09
Inpatient Year 2	2482.02	0	0	37106.78	0.28	0	0	4
Inpatient Year 3	14794.02	0	0	183509.40	1.62	0	0	26.40
Outpatient Year 1	6858.66	2499.78	0	51763.61	10.37	5.45	0	67.00
Outpatient Year 2	8539.59	5915.60	0	51523.72	13.59	8	0	71.00
Outpatient Year 3	10633.48	4282.42	0	151599.66	13.51	9.41	0	54.00
Total Year 1	26426.33	9925.15	0	200575.97	19.97	12	0	104
Total Year 2	20264.14	11735.99	0	104816.39	18.17	15	0	80
Total Year 3	33121.67	12569.72	0	335044.95	18.54	14.59	0	62.40

Table 9. Health Care (Emergency Room (ER), Inpatient, and Outpatient) Cost and Usage - Anchorage

	Adjusted Cost				Days			
	Mean	Median	Min	Max	Mean	Median	Min	Max
ER Year 1	8946.65	6281.80	0	29731.25	4.68	3.27	0	17.45
ER Year 2	15213.16	11126.82	0	50450.19	5.22	3	0	19
ER Year 3	11775.41	5399.36	0	89284.15	3.56	3	0	17
Inpatient Year 1	13390.69	0	0	99963.23	2.99	0	0	25.09
Inpatient Year 2	2918.65	0	0	21742.71	0.48	0	0	4
Inpatient Year 3	29360.63	0	0	183509.40	3.63	0	0	26.4
Outpatient Year 1	4981.95	1672.53	0	36373.45	3.05	2.18	0	13
Outpatient Year 2	10141.70	4705.66	0	51523.72	5.39	2	0	36
Outpatient Year 3	15610.43	6513.94	0	151652.63	8.98	8.73	0	36
Total Year 1	27319.29	10439.08	766.91	156333.97	10.72	8.73	0	33.82
Total Year 2	28273.50	15894.16	0	104816.39	11.09	8	0	33
Total Year 3	56746.47	19570.17	0	335162.03	16.17	12	0	62.40

Table 10. Health Care (Emergency Room (ER), Inpatient, and Outpatient) Cost and Usage - Fairbanks

	Adjusted Cost				Days			
	Mean	Median	Min	Max	Mean	Median	Min	Max
ER Year 1	7666.49	3461.27	0	33069.25	10.77	6	0	80
ER Year 2	4812.72	2167.26	0	26487.68	3.61	2	0	13
ER Year 3	4679.86	2238.32	0	29464.04	3.28	2.67	0	18
Inpatient Year 1	9846.27	0	0	120558.64	0.26	0	0	3
Inpatient Year 2	2158.08	0	0	37106.78	0.13	0	0	2
Inpatient Year 3	3986.52	0	0	72105.03	0.14	0	0	2
Outpatient Year 1	8251.05	2770.17	0	51763.61	15.81	9	0	67
Outpatient Year 2	7350.92	6008.58	0	30881.05	19.68	19	0	71
Outpatient Year 3	6944.95	3531.58	0	46073.94	16.87	15	0	54
Total Year 1	25763.81	9622.10	0	200575.97	26.84	18	0	104
Total Year 2	14321.71	10083.98	0	60507.24	23.42	22	0	80
Total Year 3	15608.30	7587.02	0	99264.09	20.30	16.5	0	59

Behavioral Health and Detox

Behavioral Health

Outpatient behavioral health data was provided in Anchorage by Anchorage Community Mental Health Services (ACMHS) and in Fairbanks by the Tanana Chiefs Conference (TCC). Data was requested from Fairbanks Community Mental Services but data was not received in time to include in this report. The TCC cost data is based only on salaries while the ACMHS data includes facilities and administrative expenses also.

For a variety of reasons, the behavioral health data for Anchorage and Fairbanks do not seem to be comparable. Therefore, we will present the results separately.

Anchorage

Obtaining complete behavioral health cost and use data has been a challenge. We expected that tenants would receive outpatient behavioral health services through ACMHS both before and after moving into Housing First. However, according to the data provided by ACMHS, there is no record of any tenant receiving services during the 12 months before moving into Housing First and in the first year after moving in the data from the ACMHS billing system indicates that only one tenant received any services. We do not know if this data accurately reflects all the services provided to HF tenants or if there were other services provided that were not included in the report from the billing system.

ACMHS provided data from the current billing system. Changes can be made to the system after the initial entries are made. It is

possible that services provided in previous years had been deleted from the active billing system, particularly if ACMHS was never reimbursed for the services. Many more visits are reported for the third and most recent year of the study, which is the second year after tenants moved into Housing First. For that year, ACMHS reported a total of 274 days of care with a mean of 11.9 days per tenant and a median of 1.0 day. The total adjusted cost for care provided that year was \$12,719 with a mean of \$553 per tenant and a median of \$79.

It is possible that tenants received behavioral health care through the acute care hospitals in Anchorage (ANMC, Providence, or Alaska Regional) or through the Anchorage Neighborhood Health Clinic. However, the data provided by these facilities was only categorized as inpatient, outpatient, or ER and we are not able to disaggregate behavioral health services from other health care services.

During the study period, the Rural Alaska Community Action Program (RurAL CAP) received a grant from Substance Abuse and Mental Health Services Administration (SAMHSA) which allowed them to provide some medically necessary recipient support services to HF tenants through a subcontract with ACMHS. This grant funding was received during the course of this study and may have affected the level of care they were able to provide. The cost and usage data provided by ACMHS from the current billing system may not include all of the care provided through that grant which may have used a different mechanism for payment. However, tenants served by this grant were

also evaluated for Medicaid eligibility and were enrolled in Medicaid they were found to be eligible. Medicaid enrollment may be associated with increased use of health care services, including mental health services.

We also requested data from Alaska Psychiatric Institute for services provided to HF tenants during the study period. API reported that one tenant had been hospitalized for a little over a week in the year before moving into Housing First at a cost of approximately \$10,000. None of the tenants participating in the study received services from API after moving into Housing First. It is possible that some of the tenants who did not participate in the study received services from API during the study period. There was one tenant whom we did not approach for participation into the study due to Serious Mental Illness.

Fairbanks

TCC is an Alaska Native non-profit corporation whose mission is to promote physical and mental wellness, education, socioeconomic development, and culture of the Interior Alaska Native people. TCC provides both physical and behavioral health services in addition to operating the Housing First facility in Fairbanks. Many HF tenants in Fairbanks were receiving behavioral health services through TCC before moving into Housing First and continued to receive services after moving in. TCC case managers are available on-site for HF tenants in Fairbanks. Participation in case management and other services is completely voluntary, but they are readily available if tenants choose to participate.

TCC provided 168 days of outpatient behavioral health care to HF tenants in the year before they moved into the HF facility, with a mean of 5.4 days of care per HF tenant and median of 0. This increased to 297 (mean 9.6, median 4.0) days of care in the year after moving into HF and 211 days (mean 6.8, median 1) in the second year. The total adjusted costs for the salaries for providing these services in the year before moving into Housing First were \$1,535 (mean \$50, median \$0) compared to \$6,802 (mean \$219, median \$100) in the first year after moving in and \$2,143 (mean \$69, median \$5) in the second year. We do not know if tenants were also receiving behavioral health care services from providers other than TCC.

Detox

Despite the high levels of self-reported substance use treatment among HF tenants during interviews, the per tenant number of detox days per year was relatively low. While it is possible that we are missing data from detox facilities that were not included in the study, it seems more likely that while HF tenants may have sought detox treatment many years ago, at the time of the study many were not seeking detox services or were not able to get into detox when they wanted the services.

During the year before moving into Housing First, the number of detox days per tenant was higher in Fairbanks than in Anchorage (Fairbanks Year 1: mean 6.3, median 1.0; Anchorage Year 1: mean 3.0, median 0; $p = 0.059$). The annual number of detox days dropped significantly for tenants at both HF facilities from the year before moving into HF to the first year after (Fairbanks Year 2:

mean 1.1, median 0; Anchorage Year 2: mean 1.1, median 0; $p = <0.001$ for the first year after moving in compared to the year before) and remained low (Fairbanks Year 3: mean 1.0, median 0; Anchorage Year 3: 0.3, median 0; $p=0.226$ for the first year after moving in compared to the second year after

moving in) during the second year after moving into HF. The cost for each detox day is estimated to be \$300 per day in Anchorage and \$536 per day in Fairbanks. Per tenant costs are presented by facility and by year in **Table 11** below.

Table 11. Detox costs and usage

	Adjusted Cost				Days			
	Mean	Median	Min	Max	Mean	Median	Min	Max
Both Facilities Combined								
Detox Year 1	2633.08	0	0	26,800.00	4.9	0	0	50.0
Detox Year 2	595.56	0	0	6,432.00	1.1	0	0	12.0
Detox Year 3	388.77	0	0	5,002.67	0.7	0	0	9.3
Anchorage								
Detox Year 1	903.55	0	0	9,163.60	3.0	0	0	30.5
Detox Year 2	326.09	0	0	2,400.00	1.1	0	0	8.0
Detox Year 3	104.34	0	0	2,400.00	0.3	0	0	8.0
Fairbanks								
Detox Year 1	3388.90	536	0	26,800.00	6.3	1.0	0	50.0
Detox Year 2	605.16	0	0	6,432.00	1.1	0	0	12.0
Detox Year 3	538.88	0	0	5,002.67	1.0	0	0	9.3

Health Care Use and Cost Discussion

Costs for hospital care—including emergency room, inpatient, and outpatient care—for tenants at the two facilities combined decreased from the year before moving in to Housing First to the first year after moving in and then increased the following year. This pattern was driven mainly by inpatient costs. This is consistent with the Seattle findings where they found a decrease in charges from Harborview Medical Center for tenants from the year prior to housing to the first year after moving into housing². However, the published Seattle findings do not extend to the second year after moving into housing.

The Housing First population is extremely vulnerable as can be seen by the high prevalence of chronic conditions reported when tenants moved in. At the time of this report, the Alaska Housing First facilities are only able to house approximately 90 tenants,

Social Connectedness

Between baseline and follow-up data collection periods, Housing First tenants described changes in the kinds of social connections they experienced. Tenants reported feeling more able to choose how and when they interacted with certain individuals and social groups. Key variables such as having a door to close, constant availability of staff, and having basic necessities such as shelter, food, and warmth were identified in staff and tenant interviews as influencing a change in the degree of tenant social

with half in Anchorage and half in Fairbanks, and individuals are offered housing based on vulnerability. Therefore, it is not surprising that this population requires ongoing health care services, including both inpatient and outpatient care.

Similarly it is not surprising that Housing First tenants are in need of mental health services. To date, Alaska's Housing First facilities have been developed to serve people with severe alcohol dependence and long term homelessness, a population that is known to experience co-occurring mental health conditions. The increase in the frequency and cost of mental health services for Housing First tenants after moving in to Housing First most likely reflects, at least in part, the lack of access to medically necessary mental health services in the years before moving in to Housing First.

connectivity. These changes resulted in the emergence of sober activities, reconnection with estranged friends and family, and the selective engagement with friends and family. Selective engagement led to the ability to keep oneself safe by not socializing with perpetrators of violence, or heavy drinkers when tenants desired a sober or private space. The increase in tenant safety was linked to both facility rules regarding a strict guest policy, staff contact with tenants, and on-camera and in-person surveillance of

² Larimer ME, Malone DK, Garner MD, Atkins DC, Burlingham B, Lonczak HS, Tanzer K, Ginzler J, Clifasefi SL, Hobson WG, Marlatt GA. Health care and public service use and costs before and after

provision of housing for chronically homeless persons with severe alcohol problems. *JAMA*. 2009;301(13):1349-1357.

tenants while on site. While overall, tenants were glad for the increase in safety, some tenants expressed concern at the level of surveillance at Housing First.

The emergent codes of “Daily Activities,” “Relationship with Staff” and social connections “Outside Housing First” were used to identify and analyze the ways in which tenants are socially integrated into the interlacing communities they inhabit. In baseline interviews, tenants spoke primarily about passing time drinking with friends, for the mutual endeavors of companionship, intoxication and safety. A frequently described routine was to rise early from camp, walk to the soup kitchen for breakfast, socialize and drink with friends, seek alcohol, and find a place to safely sleep that night. Some tenants additionally described attempting to obtain day labor employment, primarily through soup kitchens. Descriptions of these activities were brief, and largely homogenous amongst the interviews.

At follow-up, there was a notable change in how tenants talked about their social connections. Tenant descriptions became more complicated, nuanced and contained a greater diversity of activities than at baseline. At follow-up, tenants’ descriptions of their daily activities still included drinking in isolation or with friends, but also included recreational activities that take place at Housing First, such as reading, doing puzzles, watching TV, and using the internet, as well as sober activities including occasional field trips and appointments with mental and physical health professionals. At baseline and at follow-up, tenants discussed

valuing private artistic pursuits including carving and beading. Tenants also described drinking in the privacy of their rooms, either alone or with select, close friends. Notably lacking is the need to pursue means of survival.

Staff elaborated on the emergence of these sober activities in tenant’s routine. Five staff members described engaging tenants in sober activities with the intention of disrupting substance use habits. These interventions included going grocery shopping, reminding tenants of appointments that day, and prompting a tenant not to drink until a specific chore or task was completed. Small scale interventions by the staff also included activities like talking circles and community outings. Part of staff involvement was providing an opportunity to normalize life living in an apartment.

“So, one of the things they’re (staff) gonna be doing is they’re gonna be setting up activities, just trying to help people where they are, lots of social skills, social interaction like that, if they need to do something, maybe get them to see a lot of the – a normal perspective of what other people do who are not in addiction.” (4007)

Staff involvement, in addition to encouraging social or health involvement, also incorporates occupational pursuits. In Fairbanks, there is much more connection to “General Assistance”, which requires work searches and job support. In both Anchorage and Fairbanks, tenants reported support from staff in seeking employment and job training, ranging from computer classes, to filling out applications. Case management by staff

facilitates workforce development, often starting with employment at Housing First facilities, with a requirement for sobriety while working.

Staff did not use the language of “intervention” in their interactions with tenants, but described a consistent effort to build trust with tenants in an organic, personal way. As one staff member described the job:

“What was explained to me in the beginning is part of the job is just interacting with people. And I was right on board with that and I really like that part of the position. So, we talked to people. If somebody’s overly intoxicated, you know, we just give ‘em a minute or two and then, we, you know, shoot ‘em off to their room because they’re not supposed to be in the common area. But, if somebody’s sober and they come down and sit, you know, they could sit down here for hours with us, you know?” (4009)

Tenants recognize the value of relationships with staff and understand the commitment staff members have to supporting tenants in whatever way is best. Staff commitment to tenants is strongly felt by tenants and adds to the feeling of safety and social connection within Housing First. This tenant expressed gratitude that staff members are readily available when needed, especially when the after-effects of alcohol may present a health risk to the tenant:

“Here, you got staff, you got other clients, you got, you know, people you could count on but out there it’s like, pssh, nothing. And I

love it here...Oh man, they’re (staff) awesome. They come in, check up on us, everything. They make sure that we make it to our house, they make sure we’re good and especially when I’m hung over, I call and I say, can you come check on me even if I’m sleeping? If I’m home, can you please come and check on me like every hour, they would make sure it’s on the dot.” (1034)

Living in an apartment building with 24-hour staffing introduces a key component of safety to the social lives of tenants. Staff members interact with tenants daily and keep a record of visual contact with each tenant at least once in every 24-hour period. If a tenant is not seen during that time, staff reaches out to them by phone or attempts to “hunt them down” (4005). If contact is not established, staff members reported contacting known friends and family, local hospitals, and even searching for tenants at known camp locations.

This in-person contact is paired with cameras that record activity in common areas and hallways. These cameras are used to verify the source of theft or altercations that occur in areas of the building where staff are not present. There are no cameras within individual apartments. The tenant perception of this close surveillance is mixed. Seven tenants described the cameras as a seemingly negative aspect of living at Housing First, others were more ambivalent:

“Everything’s under surveillance. And I understand why they do that, cuz these people come from the street, and they’ll try just about anything to get their way. Sneaking people in, shit like that, anything else. That’s why they

have the cameras and all that. These people are from the streets, in camps, Bean's Cafe, and Brother Francis. We all know one another from the street, and I think that freaks the staff out too. They don't know that we know each other so well cuz we've all lived out there together.” (1005)

Several tenants commented on the structural constraints and institutional aspects of these two Housing First projects, including provided meals, regulated visiting hours and 24-hour camera surveillance, and others referred to the tenant body as “institutional people.” While most of these communications were made during unstructured observation, in a minority of interviews, tenants referred to conversational comparisons of Housing First to jail.

The camera surveillance played a roll negotiating the complicated, occasionally violent, relationships among tenants. Several tenants at both locations were in long-term partnerships, some of which had a repeated pattern of conflict. Staff reported needing the cameras to spot and intervene in tenant conflicts before such conflicts escalated to a physical altercation. Each partner has their own room, which was described as an advantage when disputes between partners—generally reported to be influenced by alcohol—resulted in fights. While staff reported being generally successful in deescalating conflicts, violent behavior resulted in evictions at both locations. Staff reported that relationships which devolved into violent fighting often continued after the perpetrating partner was evicted. While staff members described feeling regretful that the eviction was necessary for one party, they

noted the importance of Housing First to the remaining partner’s safety.

Selective Reconnection

Having a place of one’s own is highly valued by tenants, who commonly positioned their housing as a necessary pretext to family reconnection and a visible symbol of improved life circumstances. Tenants expressed desire for contact with family but, in many cases, had not seen or connected with them in quite some time. At baseline, most tenants described their family as being far away, estranged, or deceased. Grief over the death of family members was often cited as a reason for family disconnection, relocation, and strained relationships. In many cases, family discontinuity was exacerbated by the experience of homelessness. This was due in part to not having a permanent physical address or a phone capable of making long distance calls. Several tenants described the circumstances under which they lost contact with family and linked that to their experiences growing up, leaving home to try life in a new place, moving in search of employment or other opportunities, and alcohol or drug use.

One tenant, describing her renewed relationship with her daughter since moving into Housing First and reducing her alcohol consumption, commented, “After I sobered up, you know, we get along. She’s happy (laughs) I am happy too... When I sobered up, all my family started talking with me... Makes me so happy. Makes me want to be sober”. (1036)

Tenants expressed that having a door to close between them and the outside world was very

important to their sense of safety and independence. The value of being able to shut the door was articulated by over half of tenants. While still recognizing a value to their social relationships, having this privacy increased the ability to control whether, and to what extent, tenants socialized and, by extension, drank within and outside of Housing First.

Many tenants were self-described “loners” and enjoyed spending time in their rooms either alone or with select friends. Those tenants reported that being housed, or having a place of their own, offered the opportunity for solitude that was not readily available when they were homeless. Having the ability to break from everyday social activity was valued by several tenants and positioned as one of the primary benefits of Housing First.

Despite some tenants’ expressed desire for solitude, all of them described connections to friends and family, whether inside or outside of Housing First, as important to them. For some tenants, caring for others trumped caring for themselves. Several tenants at both sites, including two who walked with crutches, described checking on homeless friends by passing along gear no longer needed once in Housing First, food and sharing information about available services.

Tenants articulated how selective participation in social networks comes with its own complications. Some tenants employed strategies to counter impressions from others that they now consider themselves “better” because they are now housed. When asked whether or not his friends became upset when he chose not to

drink, another tenant described the impression of a status change by saying “Yeah, that’s actually an issue we talked about in AA last night. People that think that they’re better than you because they don’t drink, that was funny” (1015). This quote illustrates the challenges associated with transitioning from being homeless to being housed, including disruption and reconfiguration of social networks, and of the ongoing challenges associated with reducing alcohol consumption.

Guest Policy

Both Karluk Manor and South Cushman permit visitors during intermittent hours of the day, however overnight guests are not permitted. Visiting hours exclude meal times, which are three times a day at South Cushman and twice a day at Karluk Manor. The guest policy at Karluk Manor began as unrestricted but became more restrictive after the first few months due to difficulties in keeping track of large numbers of visitors as well as incidents involving alcohol. South Cushman visiting hours were more restrictive from the start. Children are not allowed at South Cushman, unlike at Karluk Manor, where children are allowed to visit provided that the tenant is sober. At both sites, guests sign in and out at the front desk before they enter the main residential complex.

Many tenants reported that they would like to see changes made to the visitor policy, as the restrictions make it more difficult to stay connected to their social networks, including friends and family. For example, one tenant stated that he leaves every day, in an effort to circumvent the visitor policy. When asked why he chooses to leave so frequently he

responded, “It’s because they got rules I couldn't have visitors” (1037). He described a feeling of loneliness when sleeping in his room and when asked what he thought the hardest part about living in Housing First was he explained, “Just couldn't have visitors spend the night. That's why I want to get my apartment back, so I can have visitors spend the night, help me cook and clean up” (1037). He chooses not to eat the food served at Housing First and instead either buys his own or eats with friends.

Certain individuals are not permitted on the premises due to previous violent behavior. Examples of banned guests include perpetrators of domestic violence, and family members with whom violent disagreements erupt when visitation occurs. Theft of property was also grounds for eviction and banning from the site in one instance. A list of banned visitors is posted at the front desk at South Cushman.

Community

Tenants were asked a set of questions about community values and personal behaviors that had been crafted with community input. Prior to baseline data collection, community members submitted free-lists of their community values and their ideal of a good neighbor. From this data, researchers crafted metrics in order to measure whether tenants’ behaviors more closely adhered to neighborly ideals after being housed at Housing First for the duration of the study period.

At follow-up, tenants reported more frequent participation in the community, and an increase in valuing neighborhood improvements, tolerance, education, having a

good neighborhood location and agreeing that “People make the difference.”

“Some people, they deal with it [Housing First] okay, some people, they tend to be obnoxious, rude, stuck up, like before this place was even opened, there was a bunch of people saying ‘no red nose inn’. Signs all over the place, people driving around with signs in their cars, on their properties. Everything like that, and I'm like, thinking to myself, how would you like it if you was in my shoes and I was in yours? I mean, look at it from a different perspective, buddy.” (1002)

Tenants reported an increase in the frequency of greeting neighbors, helping someone who appears to need it, and maintaining appointments. Tenants reported decreased frequency of public intoxication, littering, yelling in public street areas, as well as engaging in sexual activity or defecating in public; all domains identified as priorities by community members. In response to the survey question about littering, several tenants reported with pride that they participate in cleaning up litter. In addition, while negative community perceptions about Karluk Manor were quite prevalent initially, tenants reported that some of these perceptions seem to have abated.

At South Cushman, staff reported a great deal more community acceptance. Staff members reported that members of the Fairbanks faith community volunteered to host activities at South Cushman, from bible readings to talking circles.

In follow-up interviews at both sites, six tenants described experiencing danger from adolescents while living in camp, something that was repeatedly reported to researchers during unstructured observation. Some tenants reported vandalism and destruction of the tent and its contents, while one tenant reported being shot at with a BB gun by adolescent assailants.

“During the summer I don’t like it when the kids get out of school because some of them will wander around in gangs of 4 or 5 and if

you are alone, or even 1 or 2 when drinking, they can jump you.” (1031)

“I think it goes half and half, like there's people that will treat them decently and there's, like any other kids or something like that, they'll beat on them, take them, know that they have something to drink or something like that so they'll beat them up for their stuff. Sometimes they don't even have anything or any money, so many people beat up.” (1018)

Social Connectedness Discussion

Tenants described interlocking factors related to their patterns of social connectedness. These factors were Housing First guest policies, having a private room, and available staff, which resulted in an increase in sober activities, a social safety net and the ability to engage in selective reconnection or avoidance with friends and family.

Having a place of their own allowed tenants to have a base of operations from which to selectively engage with long-time social connections, while minimizing the risks of engaging with those social connections. Tenants reported that their Housing First apartment provided them with enough stability to reconnect with estranged family members, as well as valued autonomous privacy. This outcome was not without tension as tenants experience loss of close relationships as they reconfigure their social networks.

Housing First tenants were also sheltered from the dangers of street life, including assaults on their camp and person. In spite of previous negative experiences, tenants reported increased adherence to desirable social norms, as described by Fairview community members.

Many tenants described themselves as “loners” and valued their time in their rooms either alone or with a few select friends. Tenants also reported enjoying creative pursuits like carving, beading, cooking, reading, and doing puzzles, which are facilitated by being housed. Even those who preferred more social activity reported the value of closing their door, often to avoid pressure to drink from other tenants.

The guest policies at each Housing First facility are limit visit time, number of guests, and access to alcohol. Some members of the community are banned from site, due to a previous violent encounter, and this meets with mixed reviews from tenants. While

overall, tenants reported understanding the justification for restrictive guest policies, it also taxed some relationships with those outside Housing First and motivated some tenants to leave Housing First.

Another notable change between baseline and follow-up is the increased complexity of tenant descriptions of how they spend their time. From simple and similar descriptions of “drinking and hanging out,” tenants at follow-up still reported drinking, but with the addition of sober activities. Sometimes activities were appointments with

professionals, like doctors, case managers and counsellors, and other times they were going grocery shopping or a field trip. In most cases, staff provided transportation, reminded the tenant and encouraged sobriety.

Staff also provided an important aspect of change by providing a safety net to follow-up with tenants if they are unwell, or off site for a prolonged period. These changes impacted tenants’ quality of life through improved safety and increased choice in social interactions, and the emergence of sober activities.

IV. Conclusions and Recommendations

This study evaluated the costs and quality of life among tenants in Housing First facilities in Anchorage and Fairbanks, Alaska. Survey and interview data provided insights into life experiences prior to entering the Housing First facilities, and how daily life changed as a result of moving into those facilities. Tenants responded to questions about physical and mental health, alcohol use, community and social connections, and specific aspects of Housing First.

Our findings shed insights into both attributes of, and outcomes from, the Housing First model in Alaska. We found that in addition to the provision of a private apartment, tenants described how the Housing First model also provided them with enhanced feelings of security, access to health care services, supportive staff, and social connections.

Tenants of the two Housing First facilities in Alaska reported decreases in quantity and frequency of alcohol use following exposure to the Housing First model. These findings are consistent with previous studies.³ Some tenants cited the decrease in alcohol use as directly attributable to feelings of safety associated with having permanent housing. Tenants also cited warnings from doctors and concern for their own health as reasons for reducing alcohol consumption. Some residents in other studies cited a fear of morbidity and mortality associated with

excessive drinking as a determinant of reduced alcohol consumption.⁴

Cost and service use data collected in Anchorage and Fairbanks reveal a decrease in the use of emergency and correctional services among Housing First tenants. Despite a decline in expenses related to the use of safety and correctional services, we do not see a total elimination of the need for these services.

Declines in alcohol consumption, particularly public drinking, may be associated with our associated finding of reduced APD and ASP calls among Housing First facility residents. Having a private apartment is associated, by residents, with our finding of fewer shelter nights, APD calls, and ASP calls. Most tenants do continue to consume alcohol, which accounts for continued interaction with safety and correctional services.

The emergency and safety services in this category, which includes police, fire, safety center, homeless shelters, and jail, serve the entire population of the municipalities of Anchorage and Fairbanks. Reduction in need for service for this relatively small group of frequent service users will not eliminate the more general need for these services. However, reductions such as those found here can allow for existing services to be made available to a larger group of people, and reduce the need for future increases in

³ Collins, S. E., et al., Exploring Transitions Within a Project-based Housing First Setting: Qualitative Evaluation and Practice Implications. *Journal of Health Care for the Poor and Underserved*. 2012. 23(4):1678-1697.

⁴ Collins, S.E., et al., Project-Based Housing First for Chronically Homeless Individuals With Alcohol Problems: Within-Subjects Analyses of 2-Year Alcohol Trajectories. *American Journal of Public Health*, 2012. 102(3): p. 511-519.

staff or equipment. In order to better understand the financial implications of the change in service need for chronic homeless individuals with severe substance issues, actual costs including infrastructure costs and decision criteria for making changes in staffing and equipment levels must also be considered.

Changes in health care utilization and costs were more variable and harder to track than the changes in emergency services. We had the most complete data for emergency room services. Emergency room use decreased at both facilities, but the decrease was seen more quickly in Fairbanks and in Anchorage. ER costs decreased in Fairbanks but not in Anchorage. Total costs for inpatient, outpatient, and ER visits decreased the first year after moving in to Housing First but then increased during the second year. This pattern was driven mostly by costs for inpatient services.

Data on behavioral health use and costs were limited but showed an increase from the year before moving in to Housing First to the two years after. On the other hand, detox use decreased over time.

The analysis of changes in costs related to health care as individuals move into permanent supported housing must take into consideration the available services and the payment structures associated with those services. The Housing First tenants in this study have spent many years living on the street. In some cases they have experienced childhood and/or adult trauma. These tenants are likely to be in need of physical and mental/behavioral health care services, but

whether they seek out and receive those services depends to a great extent on what other supports they have. In the year before moving into permanent housing tenants were likely to receive crisis services but had a harder time receiving ongoing, planned care.

In general, health care costs increase as people move into their later years. People who live on the street and who have chronic substance abuse problems are less resilient as they age and may be start to incur these higher costs at a younger chronological age than their housed counterparts. Interview and survey data suggest that despite living in Housing First, there is a continued need for medical care to address chronic and acute conditions.

Average health care costs in a given year in this study tend to be driven by the high costs of services for a very small number of individuals, although the specific individuals incurring extremely high costs vary from year to year. We may need to look in more detail at the diagnoses and services provided and the detailed medical history that preceded the current need for expensive services to understand the true drivers of high health care costs for Housing First tenants. In that way we may be better able to determine whether it is possible to reduce the current need for high cost medical services.

Again, given the relative age of tenants at Alaska's Housing First facilities, and tenants' long history of substance use, high need for and use of medical service needs is not surprising. Self-reported health care use and hospital data from Anchorage show similar trends with decreasing emergency room use

in the second year after moving into permanent housing and increases in outpatient services and costs. Exact comparisons between the self-reported data and the hospital data are difficult to make because the baseline and follow-up time-points for the self-reported data cross different years of the cost evaluation data. Having medical staff available on-site may be one possible option for reducing trips to the hospital.

Many tenants found it difficult to distinguish between mental and physical ailments in interviews. Increased counselling and continued case management services may help in addressing grief, substance use, and achieving personal goals. However, a large portion of tenants reported negative views toward standard treatment. This emphasizes a need for comprehensive and adaptive care for this population.

As tenants age and self-identify as reaching retirement age, there is a need for meaningful activity that offers social connection and sober opportunities. A large portion of tenants described themselves as “loners,” who prefer quiet, creative activities including carving, cooking, beading, reading and doing puzzles. While there are occasional classes available for beading and cooking, consistency has been lacking as staff and volunteers have other duties. Efforts have been made at both locations to increase on-site activities for tenants, which may be more consistently maintained if available resources are designated specifically to this task.

Staff and tenant interviews revealed tenant life histories with a very high level of

traumatic events. This study did not include evaluated metrics for trauma, such as the Adverse Childhood Experiences (ACEs) scale, which limits our ability to quantize findings involving trauma. However, in follow-up interviews with staff and tenants, it was clear that tenants still suffered from the events of their past, but had developed coping skills during their tenure at Housing First.

Tenants reported feeling an increased ability to choose how and when they interacted with certain social groups. This enabled tenants to disengage with social situations that may present risks related to substance use or physical danger, while still maintaining important and long-standing relationships. Staff availability and good relationships with staff were identified as key factors in empowering tenant choice to disengage or engage safely with volatile relationships outside of the Housing First facilities. This selective engagement with prior social connections is not without tension however, as limited visiting hours and other regulations sometimes clash with tenant desires for reconnection with family and friends. Sober networks of family and selective friends may encourage sobriety. The social environment of HF may result in strengthening friendships and support, as cited in previous studies.²

No longer needing to struggle to provide for their own basic needs, some tenants provide care and resources to their friends and family, some of whom may be homeless. Tenants reported sharing blankets, cold weather gear, and information about available social services they had learned about at Housing First. This suggests a web of formal and informal social networks extending outward

from the project-based Housing First facility into less-served populations of the community.

Recommendations

A key component in the success of Housing First programs is the participation of residents in program development and implementation. We recommend continuously integrating tenant feedback into everyday program operations, perhaps through regular, planned meetings designed to encourage tenant participation, ownership and personal investment in life at Housing First facilities.

The HF model allows for establishing life skills routines which, while present at baseline, were mostly concerned with basic needs and matters of survival. Continued housing stability allowed for awareness beyond these basic needs. We believe this directly contributed to tenant increases in medication adherence, sober activity, and exploration of goals. Staff encouragement and logistic support were identified as instrumental to the development of additional life skills development, and we recommend that such support be a consistent element of Housing First facilities in Alaska.

Tenants in Housing First facilities in Anchorage and Fairbanks have significantly

reduced alcohol consumption, moderately improved physical and mental health, and increased social connectedness among their residents. Housing First tenants still face many challenges, but they are often better able to meet those challenges when they have a room with a door and supportive staff available.

As a group tenants incurred high costs for health care both before and after moving into Housing First. Education about how to navigate the health care system, and more importantly, staff assistance in deciding when and how to access health care could help tenants improve their health and reduce their health care costs.

Tracking use and costs for health care, particularly behavioral health care, was more difficult than expected. Clearly this population has ongoing physical and behavioral health care needs. A prospective study with more targeted study questions focused on diagnoses, antecedents of care, and payment mechanisms could help determine Housing First tenant health care needs and approaches for controlling costs.

Appendix 1: Cost Evaluation Data Sources

Emergency and Correctional services

We strove to collect comprehensive data regarding costs for emergency and legal (jail) services and health care provided to tenants of Housing First facilities in Alaska in order to more fully understand the financial implications of the transition from homelessness to permanent housing for chronically homeless individuals with severe alcohol problems.

Costs for emergency services were provided under a Memorandum of Understanding (MOU) between the Municipality of Anchorage and the University of Alaska Anchorage, Institute for Circumpolar Health Studies. The MOU covered data from the Anchorage Department of Health and Human Services (DHHS) which includes the Anchorage Safety Patrol Center and the Alaska Homeless Management Information System (AKHMIS), the Anchorage Police Department (APD), and the Anchorage Fire Department (AFD).

Costs for emergency services were provided to the UAA ICHS by the Tanana Chiefs Conference. In Fairbanks, data was received from the Fairbanks Police Department, the Fairbanks Fire Department, the Fairbanks Rescue Mission, and the Fairbanks Community Service Patrol.

APD categorized all contacts with Housing First tenants as Incidents, Calls for Service, or Field Interviews. Costs were estimated based on the number of officers and time involved. AFD categorized calls as Basic

Life Support, Advanced Life Support, and No Transport. Costs were estimated based on staff time involved plus a charge of \$424 for each Basic Life Support call and \$574 for each Advanced Life Support call. The Anchorage Safety Center provided monthly counts for the number of van pickups and associated stays at the Safety Center. The cost for each pickup and stay was \$61.29 in 2011, \$67.68 in 2012, and \$64.78 in 2013.

AKHMIS, funded by grants from the United States Department of Housing and Urban Development (HUD) and the Alaska Housing Finance Corporation (AHFC) and operated by the Anchorage DHHS, is a web-based tool for collecting, tracking and disseminating information about the needs of persons who are homeless, imminently at-risk of homelessness, or precariously housed. The AKHMIS Project Coordinate extracted monthly counts of shelter nights for each of the Housing First tenants. The majority of shelter nights reported were spent at the Brother Francis Shelter, although a handful of shelter nights were also reported for the Anchorage Gospel Rescue Mission on Tudor and for FRM. We calculated costs based on a nightly shelter charge of \$20.

The Fairbanks Police Department gave a time breakdown of all police contacts with tenants and an hourly cost of \$68.52 for all police encounters. The Fairbanks Fire Department provided monthly calls and a cost estimate of \$1000.00 per call. The Community Service Patrol in Fairbanks provided monthly calls or van pickups. The cost per pickup was \$81 per pickup. The number of shelter nights at the

Rescue Mission was multiplied by \$12 per night.

The Alaska Department of Corrections similarly provided monthly counts of nights spent in a state prison for each of the tenants. The Fairbanks Correctional Center and the Anchorage Correctional Complex provided nights spent in prison. We calculated costs based on a per day charge of \$136.

Health Care

Hospitals

The three main acute care hospitals in Anchorage – Alaska Native Medical Center, Providence Alaska Medical Center, and Alaska Regional Hospital – provided cost and usage data. Fairbanks Memorial Hospital was the sole medical provider in Fairbanks from which data was obtained. Hospital service use was summarized as the number of days per month with emergency room visit, and inpatient stay, or an outpatient visit. Each hospital provided a list of charges associated with each visit and these charges were summed for each patient for each month.

Health Clinics

We also requested data from the Alaska Neighborhood Health Clinic (ANHC) because it was Alaska’s first community health center and remains the largest. ANHC has a program called Healthcare for the Homeless which provides outreach to Anchorage’s homeless population. ANHC provided monthly cost data for office visits, lab work, behavioral health visits, and dental visits.

Outpatient Mental Health and Substance Abuse Treatment

Anchorage Community Mental Health Services (ACMHS) is the largest community mental health provider in Alaska. ACMHS provides community based services for adults with serious mental illness and/or substance use disorders. ACMHS has also been working to increase affordable housing options for individuals experiencing severe mental illness. Services provided to Karluk Manor tenants by ACMHS included case management, coping skills, individual therapy, assessments, and medication management.

Akeela provides substance use disorder treatment including both residential treatment and services provided to individuals living in the community. The only services provided by Akeela to Karluk Manor residents between 2011 and 2013 were individual or group preventive counseling sessions; therefore, we grouped all of the Akeela visits and costs under outpatient mental health and substance abuse treatment.

The Fairbanks Community Behavioral Health provided data, which was based on an hourly cost that varied by provider within the behavioral health program.

Residential Detox and Substance Abuse Treatment

The Clitheroe Center operated by the Salvation Army provides comprehensive substance abuse and dual diagnosis treatment programs. Clitheroe provides both outpatient and residential treatment; however, the only

services provided by Clitheroe to Karluk Manor residents between 2011 and 2013 were residential.

The Ernie Turner Center operated by Cook Inlet Tribal Council provides medical and social detoxification through a residential treatment program. Costs were calculated at

the Medicaid detoxification rate of \$300 per day.

Gateway to Recovery Detox in Fairbanks provided data about detox services for tenants. Detoxification rates were provided with an estimated cost of \$536 per day.

Appendix 2: RurAL CAP Vulnerability Index

RurAL CAP

Karluk Manor Tenant Application Ranking

Years Homeless:

1 point for every year homeless

20 points for 16+ years homeless

Anchorage Service Patrol pick-ups:

1-10 pickups 5 points

11-20 pickups 10 points

21-30 pickups 15 points

31+ pickups 20 points

Court view/Criminal History:

1-10 counts 5 points

11-20 counts 10 points

21+ counts 20 points

Emergency Room Visits:

1-10 visits 5 points

11-20 visits 10 points

21-30 visits 15 points

Military Service:

5 points

Social Service Providers' Assessment of Tri-Morbidity Vulnerability:

20 points

Maximum Total: 100 points

Qualifying requirements for residency

Residents of Karluk Manor must be identified as a beneficiary of the Alaska Mental Health Trust Authority, known to be affected by chronic alcoholism, are currently homeless, and must have income below 30% of the area median income for a single person.

People eligible to reside at Karluk Manor include Trust beneficiaries who are severely mentally ill and have a history of homelessness and who, because of their illness, have been unable to maintain housing.

Tenants include currently homeless or formerly homeless Trust beneficiaries whose disability has made retaining housing a challenge.

The term "homeless" or "homeless individual or homeless person" includes:

1. an individual who lack a fixed, regular and adequate nighttime residence; and
2. an individual who has a primary nighttime residence that is –

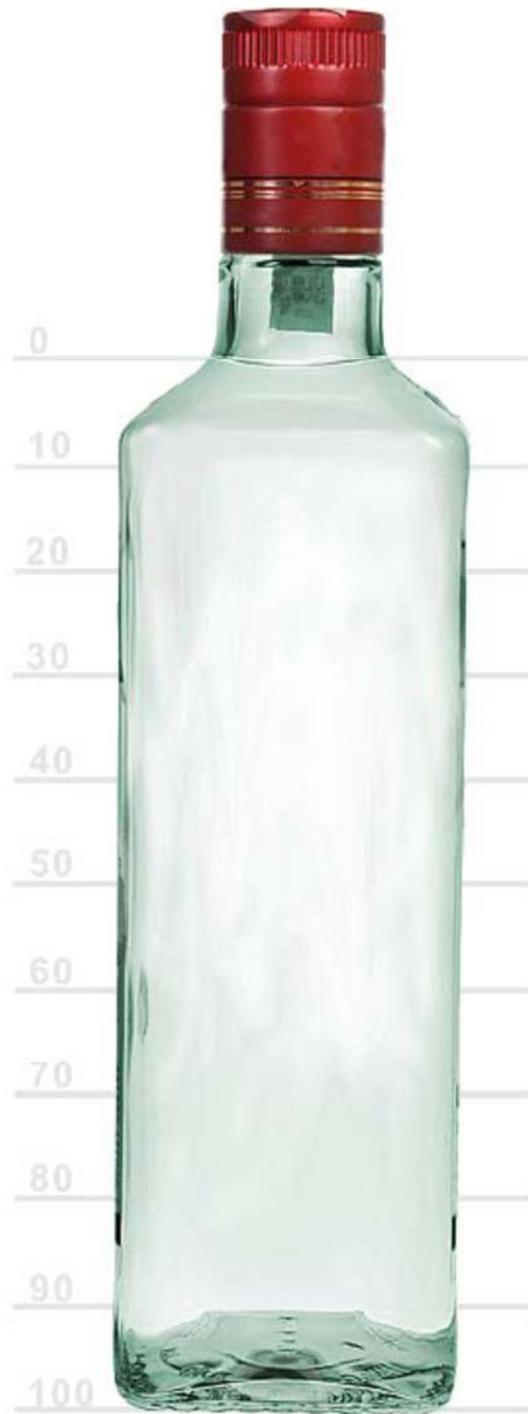
a) a supervised publicly or privately operated shelter designed to provide temporary living accommodations (including welfare hotels, congregate shelters, and transitional housing for the mentally ill);

b) an institution that provides a temporary residence for individuals intended to be institutionalized; or

c) a public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings.

*Individuals listed on the National Sex Offender Registry are not eligible to apply for tenancy at Karluk Manor, nor are individuals with a felony record of violent crimes.

Appendix 3: Drinking Assessment Tool



Appendix 4: Release of Information Form for Fairbanks

Name: _____

Alaska License Number or Alaska Identification Number: _____

SSN: _____ Date of Birth: _____

Other Names/Aliases under which records might be filed

By signing below, I authorize the organizations listed on page 3 to release records related to
1) my health care use and associated costs or 2) my safety services usage and the associated costs to:

Tanana Chiefs Conference (TCC)
Attn: Jacoline Bergstrom, TCC Health Deputy Director
122 First Avenue, Suite 600
Fairbanks, AK 99701

I understand that TCC will request the following information about each health care or service visit:

- The date of service
- Type of contact (inpatient/outpatient/emergency)
- Service(s) provided
- The charge(s) accrued for each service provided

I understand that TCC will remove my name from the records and share the de-identified data with the Institute for Circumpolar Health Studies - University of Alaska Anchorage (ICHS).

I understand that TCC and ICHS will use my information to learn about my use of health care and safety services during 2011, 2012, 2013, and 2014 and the associated costs of these services.

I understand TCC is collecting this information to determine the cost of services provided to me. TCC does not need, and will not be requesting, all of my medical records or treatment details. TCC will only request a complete list of the services provided and the associated charges.

I understand I do not have to sign this Authorization. My relationship with TCC Housing First Program and the organizations listed on page 3 will not be affected by my refusal to sign this form. These organizations will continue to provide me with services for which I am eligible, whether or not I sign this form.

I understand that if I do sign this Authorization, I may change my mind and revoke (take back) this Authorization at any time. To revoke this Authorization, I must either:

- Sign the Revocation Section on page 4 of this form and return the signed form to Jacoline Bergstrom at the address listed above, or
- Provide written notice to the organizations listed on page 3 revoking (taking back) my Authorization

I understand that if I revoke this Authorization, the organizations listed on page 3 will release no additional information after receiving my written notice. Information released before I revoke the Authorization may continue to be included in the evaluation project.

I understand that researchers at ICHS are not a health plan or a health care provider. Information released to them may not be protected by federal privacy regulations.

I understand that researchers at TCC and ICHS can only use the information released to them for the purposes approved by the Institutional Review Board at the University of Alaska Anchorage or as required by federal or state law or regulations. Researchers at TCC and ICHS will protect my information as described in the attached Informed Consent Form.

I understand what this document says and I authorize the release of my personal health information as stated above. I understand that I may request a copy of this signed authorization.

This authorization expires at the end of the evaluation project or on December 31, 2015, whichever comes first.

Signature

Printed Name

Date

Check here if you are signing this Release Authorization Form as a ***Personal Representative***:

Explain below the reason you are signing for the person whose information is to be released, and your authority to do so. You may be required to provide legal documentation or other information demonstrating your relationship with the patient and your authority to sign on their behalf.

Signature of Witness

Printed Name

Date

NOTE: This authorization was revoked on _____ (see attached revocation)

Date: _____

RECIPIENT INFORMATION: If the information released pertains to alcohol or drug abuse, the confidentiality of the information is protected by federal law (CFR 42 Part 2) prohibiting you from

making any further disclosure of this information without the specific written authorization of the person to whom it pertains or as otherwise permitted by CFR 42 Part 2. A general authorization for the release of medical or other information if held by another party is NOT sufficient for this purpose. The federal rules restrict any use of the information to criminally investigate or prosecute any alcohol or drug abuse patient.

Organizations Authorized to Release Information

Safety Services

Alaska Department of Corrections
Fairbanks Community Behavioral Health
Fairbanks Fire and Ambulance Service
Fairbanks Police
Fairbanks NorthStar Borough Fire and
Emergency
Community Service Patrol

Hospitals

Alaska Native Medical Center
Alaska Regional Medical Center
Bassett Army Community Hospital
Providence Alaska Medical Center
Fairbanks Memorial Hospital and Denali
Center

Other Healthcare Providers

Alaska Native Primary Care Center
Alaska Psychiatric Institute
South Central Foundation
U.S. Department of Veterans Affairs

Detox and Treatment

Akeela, Inc.
Cook Inlet Tribal Council - Ernie Turner
Center
Fairbanks Native Association Detox Center
Salvation Army Clitheroe Center
Rainforest - Juneau

Housing Support and Information Systems

Alaska Homeless Management Information
System (AKHMIS)
Tanana Chiefs Conference
Fairbanks Rescue Mission

Revocation of Authorization

I hereby revoke my authorization, dated _____, which authorized the organizations listed on Page 3 to release information to the Tanana Chiefs Conference. I understand that as of the date each organization receives this revocation, the organization will no longer disclose information to TCC.

Signature Printed Name Date

Check here if you are signing as a Personal Representative: _____ Description of Personal Representative's Authority to sign: _____ _____
--

Signature of Witness Printed Name Date

Appendix 5: Release of Information Form for Anchorage

Name: _____

Alaska License Number or Alaska Identification Number: _____

SSN: _____ Date of Birth: _____

Other Names/Aliases Which Records Might Be Filed:

By signing below, I authorize the organizations listed on page 3 to release records related to my health care and safety services usage and the associated costs to:

Institute for Circumpolar Health Studies - University of Alaska Anchorage.
Attn: Dr. Janet Johnston, Principal Investigator.
3211 Providence Dr. DPL 404.
Anchorage, AK 99508.

I understand that the Institute for Circumpolar Health Studies (ICHS) will use my information to learn about my use of health and safety services during 2011, 2012, and 2013 and the associated costs. I understand that ICHS will request the following information about each service or medical visit:

- The date of service
- Type of contact (inpatient/outpatient/emergency)
- Service(s) provided
- The charge(s) accrued for each service provided

I understand ICHS is collecting this information to determine the cost of services provided to me. ICHS does not need, and will not be requesting, all of my medical records or treatment details. ICHS will only request a complete list of the services provided and the associated charges.

I understand I do not have to sign this Authorization. My relationship with the organizations listed on page 3 will not be affected by my refusal to sign this form. These organizations will continue to provide me with services for which I am eligible, whether or not I sign this form.

I understand that if I do sign this Authorization, I may change my mind and revoke (take back) this Authorization at any time. To revoke this Authorization, I must either:

- Sign the Revocation Section on page 4 of this form and return the signed form to Dr. Janet Johnston at the address listed above, or

- Provide written notice to the organizations listed on page 3 revoking (taking back) my Authorization

I understand that if I revoke this Authorization, the organizations listed on page 3 will release no additional information after receiving my written notice. Information released before I revoke the Authorization may continue to be included in the evaluation project.

I understand that Dr. Johnston and the Institute for Circumpolar Health Studies (ICHS) are not a health plan or a health care provider. Information released to them may not be protected by federal privacy regulations. I understand that Dr. Johnston and other researchers at ICHS can only use the information released to them for the purposes approved by the Institutional Review Board at the University of Alaska Anchorage or as required by federal or state law or regulations. Dr. Johnston and other researchers at ICHS will protect my information as described in the attached Informed Consent Form.

I understand what this document says and I authorize the release of my personal health information as stated above. I understand that I may request a copy of this signed authorization.

This authorization expires at the end of the evaluation project or on December 31, 2014, whichever comes first.

Signature

Printed Name

Date

Check here if you are signing this Release Authorization Form as a ***Personal Representative***:

Explain below the reason you are signing for the person whose information is to be released, and your authority to do so. You may be required to provide legal documentation or other information demonstrating your relationship with the patient and your authority to sign on their behalf.

Signature of Witness

Printed Name

Date

NOTE: This authorization was revoked on _____ (see attached revocation)

Date: _____

RECIPIENT INFORMATION: If the information released pertains to alcohol or drug abuse, the confidentiality of the information is protected by federal law (CFR 42 Part 2) prohibiting you from making any further disclosure of this information without the specific written authorization of the person to whom it pertains or as otherwise permitted by CFR 42 Part 2. A general authorization for the release of medical or other information if held by another party is NOT

sufficient for this purpose. The federal rules restrict any use of the information to criminally investigate or prosecute any alcohol or drug abuse patient.

Organizations Authorized to Release Information

Safety Services

Alaska Department of Corrections
Anchorage Police Department
Anchorage Fire Department
City of Fairbanks
Fairbanks Community Behavioral Health
Fairbanks Fire and Ambulance Service
Fairbanks Police
Municipality Of Anchorage
North Star Borough
North-Star Borough Fire and Emergency
State of Alaska

Hospitals

Alaska Native Medical Center
Alaska Regional Medical Center
Bassett Army Community Hospital
Providence Alaska Medical Center
Fairbanks Memorial Hospital and Denali Center

Other Healthcare Providers

Alaska Native Primary Care Center

Alaska Psychiatric Institute
Anchorage Community Mental Health Services
Anchorage Neighborhood Health Center
Good Samaritan Counseling Center
Interior Regional Medical Center
Providence Family Practice
South Central Foundation
U.S. Department of Veterans Affairs

Detox and Treatment

Akeela, Inc.
Cook Inlet Tribal Council - Ernie Turner Center
Fairbanks Native Association
Salvation Army Clitheroe Center

Housing Support and Information Systems

Alaska Homeless Management Information System (AKHMIS)
Rural Alaska Community Action Program (RurAL CAP)
Tanana Chiefs Conference

Revocation of Authorization

I hereby revoke my authorization, dated _____, which authorized the organizations listed on Page 3 to release information to the Institute for Circumpolar Health Studies at the University of Alaska Anchorage. I understand that as of the date each organization receives this revocation, the organization will no longer disclose information to ICHS.

Signature Printed Name Date

Check here if you are signing as a Personal Representative: _____ Description of Personal Representative's Authority to sign: _____
--

Signature of Witness Printed Name Date