

12 Month Return on Investment: Integral Care Terrace at Oak Springs

Background

Based on the Housing First model, Terrace at Oak Springs is a unique apartment community providing private apartments with onsite support services to adults who have a history of experiencing homelessness in Travis County. The complex is a four-story, 40,000 square-foot housing complex with 50 fully-furnished single occupancy efficiency apartments, an integrated health clinic offering behavioral health services, a community room, supportive employment, computer lab, and a serenity garden. Terrace at Oak Springs is owned and operated by Integral Care, and is partnered with Prak Properties for property management services. Terrace at Oak Springs is also supported through collaboration with a number of community partners including the Austin Police Department, Austin Public Library, Housing Authority of the City of Austin, City of Austin, Austin Public Health, Watershed Department, Mobile Loaves and Fishes, Veterans Administration, Keep Austin Fed, Central Texas Food Bank, and ECHO.

Integral Care is uniquely qualified to help individuals who have the most barriers to achieving housing stability. Through its housing programs, Integral Care currently provides access to housing and support services to nearly 500 individuals – in Integral Care-owned properties and in privately-owned apartments across the community. Integral Care uses the Housing First model to remove barriers, creating opportunities for individuals to move from homelessness to housing. Integral Care has been providing housing services in the Austin/Travis County community since the 1980s and adopted the Housing First model in the last decade.

Permanent Supportive Housing (PSH) is an evidence-based practice that utilizes housing first principles to address the needs of individuals experiencing chronic homelessness, who also live with mental illness, substance use disorder and/or other chronic health conditions. It is designed for individuals who would benefit from housing assistance and ongoing support to live healthy, stable, independent lives in the community. A Housing First approach is a proven solution to ending homelessness for people who have long histories of housing instability. In this evidence-based model, individuals move immediately, without

pre-condition, from the streets or shelters into housing. This removes barriers to housing that have contributed to people experiencing chronic homelessness in communities across the United States. Recent studies have demonstrated that utilizing a Housing First model successfully improves housing stability and health outcomes, and that participants experience fewer emergency department visits, fewer hospitalizations, and less time spent hospitalized than control groups¹.

Modeled on other successful Housing First programs across the country, Integral Care's Terrace at Oak Springs is the first of its kind in Travis County. Construction started in January 2018, with the official Ribbon Cutting taking place on September 23, 2019. On November 14, 2019, Terrace at Oak Springs welcomed its first residents. As of October 2021, 50 individuals who were previously experiencing chronic homelessness now reside in the apartment community, half of which are veterans.

Resident Eligibility

To be considered for a Terrace at Oak Springs apartment, a person must meet the definition of chronic homelessness. HUD defines a chronically homeless person as "either (1) an unaccompanied homeless individual with a disabling condition who has been continuously homeless for a year or more, OR (2) an unaccompanied individual with a disabling condition who has had at least four episodes of homelessness in the past three years." A disabling condition is defined as a diagnosable substance abuse disorder, a serious mental illness, developmental disability, or chronic physical illness or disability, including the co-occurrence of two or more of these conditions. In addition, a disabling condition limits an individual's ability to work or perform one or more activities of daily living.

Potential residents must also first complete a Coordinated Assessment through the Austin/Travis County Coordinated Entry System. The Coordinated Assessment is required by the U.S. Department of Housing and Urban Development (HUD), and helps determine the type of housing that best matches the needs of the person experiencing homelessness. Once this assessment is completed, the person is placed on a list of all people who need housing in Travis County. This list is prioritized based on a person's level of vulnerability and need. Providers across Travis County, including Integral Care, use this list to identify

¹ Baxter AJ, Tweed EJ, Katikireddi SV, et al. Effects of Housing First approaches on health and well-being of adults who are homeless or at risk of homelessness: systematic review and meta-analysis of randomised controlled trials *Journal of Epidemiology and Community Health* 2019; 73:379-387.

individuals who are next in line for available housing.

People who live in Integral Care properties can use housing vouchers to cover the cost of rent. Two types of vouchers are used at Terrace at Oak Springs: HUD Project-Based Housing Choice Vouchers, and HUD-Veterans Affairs Supporting Housing Vouchers. HUD Project-Based Housing Choice Vouchers is a federally-funded housing subsidy managed by the Housing Authority of the City of Austin (HACA) that helps people who have a low income pay rent. Twenty-five residents pay rent using these vouchers, and must meet HACA's screening criteria. Meanwhile, the other twenty-five apartments are reserved for veterans and supported through HUD-Veterans Affairs Supporting Housing Vouchers, which is another federally funded housing subsidy that helps veterans experiencing homelessness pay for housing. Pairing these subsidies with ongoing supportive services allows the project to be a Permanent Supportive Housing program. Residents will not be required to pay more than 30% of their income towards rent. PSH uses housing first principles by reducing barriers such as zero income that would normally limit access to housing. That is, those with zero income are able to access housing through the PSH program due to the subsidy covering their entire rental portion and will not increase until their income increases.

Methodology

This analysis utilized existing health information data exchange from the Integrated Care Collaboration (ICC), county-level justice data obtained through the Texas Mental and Behavioral Health Outpatient Warehouse (MBOW) database, and internal Utilization Management data related to all hospital district (HD) funded hospital admissions, in order to provide a robust picture of utilization across health, justice systems, and emergency systems.

As of October 2021, 63 unique individuals have resided at the Terrace at Oak Springs as a result of (low) turnover within the complex. However, in order to establish an initial cohort and to conduct a full one year pre and post analysis, individuals were only identified for inclusion in the analysis if they had remained housed at the Terrace of Oak Springs for a minimum of one year. As such, this comprised 41 residents in total, with cohort move in dates falling between 11/14/19 (first resident move-in) and 3/9/2020 (last resident move-in). Baseline utilization was defined as the 12 months prior to their move-in date at Terrace at Oak Springs, and intervention utilization defined as the 12 months following move-in.

Demographic Snapshot, Terrace at Oak Springs Residents

	2019-2021
Total Number of Residents since November 2019	63

AGE	COUNT	%
0-17	0	0%
18 – 30	1	2%
31 - 40	1	2%
41 - 50	10	16%
51 +	51	81%

SEX	COUNT	%
Male	51	81%
Female	12	19%

LANGUAGE	COUNT	%
English	63	100%

AVERAGE AGE
58 years old

EMPLOYMENT	COUNT	%
Unemployed, Not seeking work	45	71%
Unemployed, Seeking work	7	11%
Retired	2	3%
Unknown/Other	9	14%

RACE/ETHNICITY	COUNT	%
Asian	0	0%
Black	17	27%
Hispanic	11	17%
Native American	0	0%
More Than One Race	0	0%
White, Non-Hispanic	35	56%

VETERAN STATUS	COUNT	%
Veteran	32	51%
Non-Veteran	29	46%
Unknown	2	3%

Outcomes

Justice Involvement

In order to analyze outcomes related to justice involvement, the Texas Mental and Behavioral Health Outpatient Warehouse (MBOW) database was utilized to track instances of clients presenting to Travis County Central Booking as the result of an arrest. Using an MBOW report of individuals arrested between November 2018 and April 2021, data was cross-matched against both cohorts to identify justice involvement that occurred during baseline and intervention periods. Data pertaining to the length of jail stay was unavailable at time of analysis and therefore not identified below.

Housed Cohort (N= 41 individuals housed for one year at Terrace at Oak Springs)				
Total	Baseline	Intervention Period	Change	%
Arrests	25	10	↓ 15	↓ 60%

Analysis

Among the 41 residents who remained housed for one year, there was a 60% reduction in overall arrests among between baseline and intervention periods. Among clients who had an arrest history in the 12 months prior to being housed at Terrace at Oak Springs (14 individuals), their average number of arrests were reduced from 1.79 arrests per person during the baseline period, to an average of 1.25 arrests during the intervention period, representing a reduction in total arrests by 30% for clients with prior justice involvement. Furthermore, the number of unique individuals with one or more arrests decreased by 50%, with 14 unique individuals arrested during the baseline period, compared to 7 unique individuals with an arrest during the intervention period.

Forensic Hospital Admission (State Mental Health Facility)

Forensic admissions were compiled using a variety of sources, including an aggregate hospital discharge list disseminated by Integral Care program specialists on a daily basis, Integral Care Utilization Management data for hospital district (HD) funded hospital admissions, and discharge notifications from participating health plans.

Housed Cohort (N= 41 individuals housed for one year at Terrace at Oak Springs)				
Total	Baseline	Intervention Period	Change	%
Forensic Inpatient Admissions	0	0	- 0	- 0%
Forensic Inpatient Bed Days	0	0	- 0	- 0%

Analysis

Among the 41 individuals in the housed cohort, there were no admissions to a state hospital during the data analysis period. Given the lack of state hospital admissions, this represented a 0% reduction in forensic bed days for both cohorts during the intervention period. However, the low volume of state hospital admissions among enrollees mirrors overall admissions trends across the Integral Care client population as state hospital stays account for only 7% of all annual psychiatric hospital admissions within the overall Integral Care client population².

Psychiatric Inpatient Admission (Non-State Mental Health Facility)

Using the same data sources analyzed for forensic hospital admissions, private psychiatric hospital admissions and bed day length of stay were measured for individuals during the 12-month baseline period and during the 12 months following the index date. Private inpatient psychiatric stays were assessed carefully to verify both admission and discharge dates in order to ascertain length of stay.

² Based on Integral Care FY19 psychiatric hospital discharge data.

Housed Cohort (N= 41 individuals housed for one year at Terrace at Oak Springs)				
Total	Baseline	Intervention Period	Change	%
Private Psychiatric Inpatient Admissions	2	0	↓ 2	↓ 100%
Private Psychiatric Inpatient Bed Days	12	0	↓ 12	↓ 100%

Analysis

Among the 41 individuals housed for one year, only 2 unique clients had an admission to a private psychiatric inpatient hospital during the data analysis period; both individuals had a single admission during the baseline period with a length of stay of 7 days and 5 days respectively. There were no admissions during the intervention period for any of the 41 residents. Together this represented a 100% reduction in both admissions and bed days during the intervention period.

Emergency Service Utilization

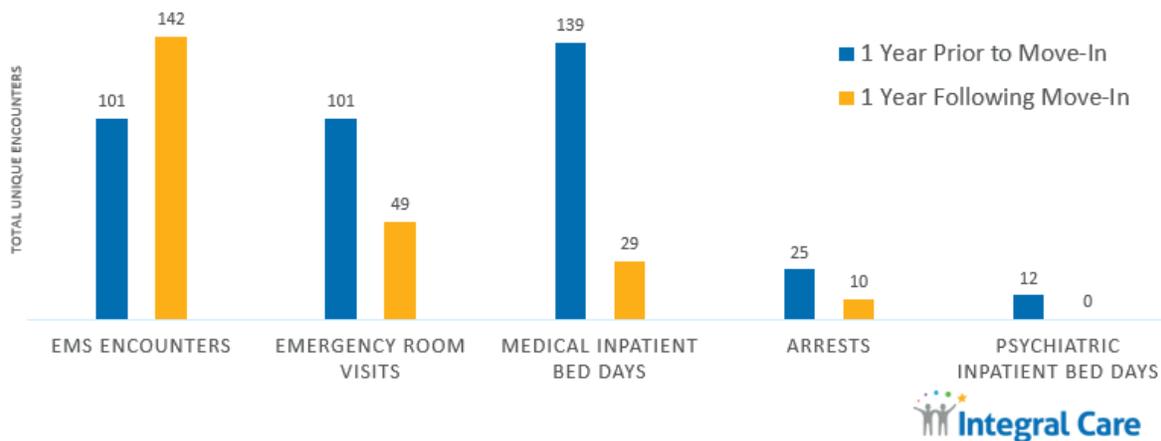
Utilization rates for emergency services were obtained using the iCare portal, which is the Health Information Exchange (HIE) technology used to obtain all data related to emergency department visits, EMS encounters, and medical inpatient stays. Encounter data is available for individuals who opt-in to data sharing with the Integrated Care Collaboration (ICC). Participating data-sharing organizations include Austin Travis County EMS, Central Texas Medical Center, Dell Medical School Clinic, Lone Star Circle of Care, Seton Healthcare Family, St. David's HealthCare, and other local community service providers.

Housed Cohort (N= 41 individuals housed for one year at Terrace at Oak Springs)				
Total	Baseline	Intervention Period	Change	%
EMS Encounters	101	142	↑ 41	↑ 41%
Emergency Room Visits	101	49	↓ 52	↓ 51%

Medical Inpatient Admissions	20	8	↓ 12	↓ 60%
Medical Inpatient Bed Days	139	29	↓ 110	↓ 79%

Hospital and Emergency Service Utilization: Pre and Post

UTILIZATION BEFORE AND AFTER HOUSING, INTEGRAL CARE TERRACE AT OAK SPRINGS



Analysis

Utilization of emergency services decreased among emergency department visits, medical inpatient admissions, and medical inpatient bed days for individuals housed at the Terrace at Oak Springs, with the largest decrease (79%) occurring among medical inpatient hospitalization bed days. Meanwhile, medical inpatient admissions and emergency room visits decreased by over half. During the baseline period, 5 individuals accounted for 52% of all emergency department visits, EMS encounters, and medical inpatient admissions. However, within this group of high utilizers, some significant gains were made. The individual with the highest number of emergency encounters prior to being housed experienced a 91% decrease in emergency encounters upon being housed, (34 emergency encounters during baseline compared to 3 encounters during the intervention period). Additionally, the individual with the second highest rate of emergency encounters also experienced a 68% drop in emergency contacts (25 emergency encounters during baseline compared to 8 encounters during the intervention period). EMS visits experienced an increase in the number of encounters as a result of 3 high utilizers that experienced an increase in EMS usage and ultimately accounted for 49% of all EMS visits during the intervention period.

Return on Investment

Program Impact (Terrace at Oak Springs, Housed) - 12 Months

Housed Cohort (N= 41 individuals housed for one year at Terrace at Oak Springs)			
Encounter Type	Total Reduction	Cost per Unit	Cost Savings in Intervention Period
Arrests/Bookings	15	\$ 217.00	\$ 3,255.00
Forensic Inpatient Bed Days	0	\$ 567.28	\$ -
Private Inpatient Psychiatric Bed Days	12	\$ 2,149.25	\$ 25,791.00
EMS Encounters	(41)	\$ 876.00	\$ (35,916.00)
ER Visits	52	\$ 1,400.00	\$ 72,800.00
Inpatient Medical Bed Days	110	\$ 4,800.00	\$ 528,000.00
Total Cost Savings			\$ 593,930.00
Average Cost Savings per Participant			\$ 14,486.10

Costs - Housed Cohort (41 individuals)	12 Month Baseline Period	12 Month Intervention Period	Estimated Cost Savings
Total Utilization Costs (Pre/Post)	\$ 928,292.00	\$ 334,362.00	\$ 593,930.00
Average Utilization Costs per Person	\$ 22,641.27	\$ 8,155.17	\$ 14,486.10

Estimated Program Impact (Terrace at Oak Springs, Housed) – All 50 Residents

Costs - Housed Cohort (50 individuals)	12 Month Baseline Cost	12 Month Intervention Cost	Estimated Cost Savings
Total Utilization Costs (Pre/Post)	\$ 1,132,063.50	\$ 407,758.50	\$ 724,305.00
Average Utilization Costs per Person	\$ 22,641.27	\$ 8,155.17	\$ 14,486.10

Projection scaled to a full 50 residents

Summary

When you live on the streets, it's extremely difficult to seek recovery from a mental illness or a substance use disorder. Terrace is a unique type of Permanent Supportive Housing. In this evidence-based model, individuals are able to move immediately, without pre-condition, from the streets or shelters into housing. Once housed, they are offered rehabilitation services and recovery supports to help them regain their health and stability. With a safe place to live and appropriate support services, the cycle of shelter, jail, and emergency room ends and recovery begins. Housing First not only offers the opportunity to change lives, but can also generate positive health outcomes and considerable cost savings for local communities. The cost savings identified in this analysis are evidence of the impact that can be expected by moving towards a Housing First model of supportive housing.

Based on existing utilization cost estimates, the 41 individuals that moved into Terrace at Oak Springs between 11/1/19 and 3/31/20, and who remained for one year, experienced a cost savings of \$14,486.10 per person in the 12 months following move-in, totaling \$593,930.00 in annual savings for all 41 individuals. When the total cost reduction is scaled to the full 50 residents, this equates to a total cost savings of \$724,305.00 per year. The cost estimates as noted above also do not include full information on all possible encounter types, including other justice involvement costs such as jail bed days, and thus may also underrepresent the potential cost savings that could occur.

Limitations

This study has several limitations due to the nature of the opt-in data sharing arrangement among community providers, as well as limited or incomplete data for those who access community resources through private insurance. Utilization rates among emergency services may also be underrepresented due to data limitations within the ICare portal, which is the Health Information Exchange technology used to obtain all data related to emergency department visits, EMS encounters, and medical inpatient stays. Among clients with high rates of utilization, the large volume of emergency department encounters resulted in more frequent instances of duplicate charts within the ICare data portal. Duplicate ICare charts were observed in several client cases, many of which were inaccessible for viewing as they were not correctly linked to the active client consent on file.

Second, ICare data was wholly inaccessible for clients who did not opt-in to data sharing with the Integrated Care Collaboration (ICC) during the baseline or intervention period. The presence of duplicate charts and the nature of the opt-in data sharing arrangement means that emergency department encounters stored in those charts may not be represented in the final utilization totals for each client. However, with each analysis presented, a careful review of a variety of data sources was conducted to ensure that the utilization totals represented in the analysis were as comprehensive and accurate as possible.

Cost Data Sources

Average cost per bed day at a private psychiatric hospital: \$2,149.25

- Internal data. Based on the average bed cost for all Integral Care clients known to be discharged from a private psychiatric hospital, utilizing hospital charge data documented by Integral Care Utilization Management department

Average cost per bed day at a state hospital: \$567.28

- Source, HHSC “State-Owned Psychiatric Hospitals” for Austin State Hospital
- [FY2018](#) - \$567.28
- [FY2019](#) - \$567.28
- [FY2020](#) - \$567.28

Average cost of emergency room visit: \$1,400

- Source: Andy Hofmeister, Assistant Chief, Austin-Travis County EMS
- Source: [Social Innovation Fund Pay for Success Feasibility Report: ECHO Austin/Travis County \(2016\)](#)

Average cost of inpatient medical bed day: \$4,800

- Source: [Social Innovation Fund Pay for Success Feasibility Report: ECHO Austin/Travis County \(2016\)](#)

Average cost of an arrest/booking: \$217.00

- Source: Karen Maxwell, Planner, Travis County
- Source: [Interlocal Agreement between Travis County and City of Austin for Booking Related Services](#)
- FY 2018 - \$208
- FY 2019 - \$211
- FY 2020 - \$214
- FY 2021 - \$217
- FY 2022 - \$220

Average cost of an EMS encounter: \$876.00

- Source: Andy Hofmeister, Assistant Chief, Austin-Travis County EMS
- Source: [Social Innovation Fund Pay for Success Feasibility Report: ECHO Austin/Travis County \(2016\)](#)