

Kentucky Access to Recovery: What we learned in eastern Kentucky

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Contents

About Fahe and KATR	3
Executive Summary.....	4
Foreword.....	7
Overview.....	8
Introduction.....	9
Methodology.....	11
Impact.....	15
Discussion and Implications.....	44
Recommendations.....	47
Conclusion	48
References.....	50
Appendix.....	52

About Fahe

Established in 1980, Fahe once known as Federation Appalachian Housing has developed a network of 50+ non-profit agencies across Appalachia to achieve their goal of eliminating persistent poverty. Focused on leadership, housing, health, social services, and economic opportunities, Fahe invests in people and communities throughout Appalachia providing them with resources and opportunities to establish a higher quality life. One such community Fahe has invested in is in rural eastern Kentucky. Letcher County is home to one of the Kentucky Access to Recovery (KATR) program sites.

About KATR

The KATR program, established in 2019 aids individuals in the recovery from opioid addiction. Low-income adult individuals recovering from opioid addiction are eligible for the KATR program. KATR provides vouchers for qualifying purchases within a one-time six-month timeframe. Qualifying services include housing, transportation, childcare, and necessities. Although there are two other program sites, the Letcher county site in Whitesburg, KY is the only site serving rural Kentuckians.

Executive Summary

In 2019, the Kentucky Access to Recovery program was developed by Fahe. The impetus for this program was to address the needs of individuals recovering from opioid use disorder in Kentucky. This is done by providing vouchers to individuals to obtain basic necessities or services to aid in one's recovery. With three dedicated sites, the KATR program serves individuals at two urban sites and one rural site. The rural site is located in Letcher county, Kentucky. Rural programs are faced with additional challenges that urban programs typically do not experience such as transportation issues, available resources, and quality internet services. The purpose of this evaluation was to 1) document the economic and social impacts of community level addiction investments in the community, and 2) deepen the understanding of how social relationships and organizations contribute to successful community development in rural communities. A mixed methodology was used to evaluate outcomes using a variety of sources.

Quantitative outcomes

Overall, 67.9% of the KATR service recipients in this sample completed a program whereas 32.1% dropped out for various reasons. Basic needs (80.5%), transportation (49.0%), and vocational needs (47.0%) were the most common types of assistance that funds were allocated for. Despite the very small sample of KATR service recipients with data at both enrollment and follow-up, several outcomes showed significant improvement. Service recipients were more likely to report being employed part- or full-time at follow-up, and quality of life satisfaction also showed improvement. Improvements were also observed for coping life functioning, physical health, psychological health, risk-taking, meaningful activities, social support, barriers,

and unmet service needs. No significant improvements were observed for recovery participation, recovery experience, or housing safety.

Qualitative outcomes

Interviews were conducted with KATR service users, program coordinators, and vendors from August to October 2020. The findings are organized into themes that address the main goals of the study. Overall, the interviews indicated that service users had a positive experience with KATR, and the program provided support in various aspects of their lives. Vendors and coordinators report that while the individual benefits are apparent, the community has also benefited from KATR programming through positive economic and social impacts.

Discussion and Recommendations

Kentucky has the 12th highest rate of opioid overdoses in the U.S., and Letcher county specifically has 60% more overdose related deaths compared to the national average; it is vital that recovery programs provide support that not only improves the lives of the individual but also enhances the community. Completion rates were high with over two-thirds in this sample completing the KATR program successfully, and there were clear improvements in several meaningful domains observed among those service recipients with follow-up data. Outcomes related to quality of life satisfaction, coping, risk-taking, meaningful activities, physical and psychological health, and social support showed the largest improvements for KATR service recipients. Not only does KATR meet the basic needs of participants, but the program addresses gaps in the community as well. Without the KATR program, participants agree that complex systematic problems would persistently worsen. The program is a prime example of how an agency can overcome community-level barriers to assist individuals on the path to recovery all

while meeting community needs and fostering change within the community. Recommendations for the program and community are provided in further detail in the full evaluation.

Foreword

Personal Statements about the impact of the KATR program from the research team:

“The Kentucky access to Recovery program offers a unique perspective to assisting individuals on their recovery journey. The holistic approach to meeting the basic needs of the clients is a strength of this program. The program has been successful in the coordinated effort to build relationships within the community that aid in referrals and the coordination of meeting the needs of clients. It is evident from the interviews our team has conducted that the KATR program has not only had an impact on the clients recovery journey but has given them a sense of hope and dignity once previously withheld from individuals with substance use disorders. There were multiple interviews in which I was speechless at the impact of this program on individuals and some recordings that left me with tears in my eyes.”

-Dr. Aubrey Jones, Principal Investigator

“Rural areas of the United State have been especially hard hit but the large increases in opioid misuse, addiction, and overdoses over the last two decades. While urban areas have long been fighting opioid addiction and access to treatment is high, rural areas such as Letcher county typically see less access to treatment and poor treatment utilization. Practical concerns like childcare, utilities, and transportation can be a major barrier to accessing treatment in rural areas. Programs like the Kentucky Access to Recovery program are a big step in the right direction to addressing these barriers so that people can easily access a menu of recovery options in their communities. Having analyzed data related to the program and interviewed service recipients, it is clear that this program made a positive and measurable impact on the lives of those who received its services.”

-Dr. Aaron Brown, Co-Investigator

“As a rural researcher, I have spent the past few years listening to people from persistently poor, rural communities in the South —like Letcher County— sorrowfully share the devastation of poverty, substance use disorders, and lack of basic necessities. Talking with KATR coordinators and vendors, they noted how much rural eastern Kentucky and its residents had lost as result of the opioid epidemic, among other reasons. After analyzing every interview from the clients, coordinators, and vendors, I can see the hope and renewal that KATR and Fahe are bringing to these rural areas. The program itself is well-structured and offers unique support that no other organization is providing. But what’s more is the people — the coordinators, vendors, partners, and clients. I was overwhelmed by their commitment, optimism, and care for each other and their communities. From this evaluation process, I confirmed what I already knew from growing up in the rural Midwest: Rural folks are a big part of our country, and they have so much to offer. They deserve not to be forgotten.”

-Dr. Jayme Walters, Co-Investigator

Overview

This is the evaluation report of the Kentucky Access to Recovery program implemented in Letcher County, Kentucky. A description of the program, the impetus for the project, and associated outcomes at the individual, programmatic, and community level are described. The report concludes with an implications and discussion section. The appendix includes an infographic highlighting the KATR program evaluation findings.

Introduction

The misuse of prescription opioids has become a nationwide epidemic. Since 1999, prescription opioid-related overdose deaths have quadrupled.¹⁶ Specifically, opioid related deaths have risen from 8,407 deaths in 2000 to 50,042 recorded opioid-related deaths in 2019.^{2,4,10} Current estimates indicate that 12.5 million Americans over the age of twelve have misused prescription opioids in 2018.¹⁶ Consequences of opioid misuse can be life-threatening, as opioid misuse coincides with significant rise in both morbidity and mortality, exacerbating a heavy toll on patients, physicians, and the efficiency of society.

Other societal costs that exist due to the opioid epidemic include declines in work productivity and attendance, as well as increases in use of emergency services, correctional facilities, and public insurance.^{3,12} Further, more children of parents with challenges related to opioid misuse are finding themselves in the child welfare system.¹³ As opioid misuse continues to rise, increasing numbers of children are at risk for developing behavioral disorders due to the exposure to prenatal substances and access of household substances. Mediation of the opioid epidemic is imperative to child welfare, stability of families, and societal order.

Eastern Kentucky and the Opioid Crisis

Appalachia is a rural area of the eastern United States that extends from southern New York to northeastern Mississippi and is filled with a plethora of natural resources.^{5,8} The Appalachian region has some of the highest rates of opioid prescribing rates and mortality rates due to drug overdoses 37% higher when compared to the United States. Kentucky, the primary state of interest in the present study, had the 12th highest rate for opioid overdoses in 2018. with 74% of all overdoses in the state being opioid related.⁹

Appalachia is highly rural (42% vs. U.S. at 20%) which presents unique challenges and factors that may contribute and/or covary with the opioid epidemic. These factors include the substantial economic decline of the economy in Appalachia (e.g., the closure of mines and manufacturers), extreme and persistent poverty, generational addiction, lack of access to healthcare services and preventative programs, and minimal recreation and entertainment opportunities.^{1,14}

Numerous eastern Kentucky counties have experienced substantial effects from the opioid crisis over the past decade. The age-adjusted rate of drug overdose deaths in Letcher County, Kentucky was 23.4 per 100,000 in 2018, approximately 60% more than the national average of 14.6.¹¹ As the economy has diminished, so has the health and opportunities for Letcher County citizens; Letcher now ranks #50 in the nation for risk of HIV or Hepatitis C outbreaks as a result of opioid misuse.¹⁶ Perry County, a neighboring county to Letcher, has experienced a dramatic increase in unemployment, which has subsequently instilled a “sense of hopelessness” amongst the citizens of Perry.⁶ The unemployment crisis has only made the opioid and drug problem worse.⁶ Perry County has also experienced a rise in Hepatitis C, a consequence of shared needles for drug use. Meth, cocaine, fentanyl, heroin, and other intravenous drugs have infiltrated the black drug market sky-rocketing both addiction and Hepatitis C cases in the area.⁶ Rural regions across Appalachia are in dire need of job creation and access to affordable healthcare.

The Kentucky Access to Recovery Program

The Kentucky Access to Recovery (KATR) program helps men and women recovering from opioid addiction. All services offered are free to low-income adult residents of Kentucky who are in treatment or early recovery (2 years or less). KATR has three (3) offices throughout

Eastern Kentucky; the locations include: Jefferson, Boone, and Letcher Counties. The offices offer funds for services including clothing, support locating housing, medical/dental care, transportation assistance, vocational/employment services, and childcare assistance. These services are offered to eligible participants from the county in which they reside in and to residents in adjacent counties to KATR offices. The resources and material support must be connected to the eligible participant's treatment and/or recovery management plan. KATR has been established as a supplement and not a replacement plan meaning other resources such as insurance, Medicaid, Medicare, state block grant dollars, etc. must be used first.

The Kentucky Access to Recovery Program has made substantial efforts to reduce longstanding health problems in rural counties across the state. The concentrated health disparities in this region elucidate the necessity for critical health, economic, and social intervention. Ultimately, KATR strives to eliminate health disparities surrounding the opioid epidemic and provide supplemental tools to assist participants on their lifelong journey to recovery. The opioid epidemic is widespread and complex; thus, multifaceted programs and interventions such as KATR are deserving of implementation to assist in the treatment of opioid misuse and addiction.

Method

The purpose of the current study is twofold: 1) document the economic and social impacts of community level addiction investments in the community, and 2) deepen the understanding of how social relationships and organizations contribute to successful community development in rural communities.

To achieve the study goals the authors conducted semi-structured interviews with three primary groups of individuals affected by the KATR program. The groups are as follows: 1)

service recipients- persons who received services from KATR. 2) Service Providers- This is both the KATR staff and, 3) the vendors which provided services to service recipients such as mechanical needs, housing assistance, dental work and, childcare. Semi-structured interviews were completed with all three populations via telephone or zoom and recorded via Zoom. The zoom recordings were saved as mp3 files without video. Recordings were transcribed primarily using REV, a third-party transcribing service. Research assistants also conducted three of the transcriptions.

Recruitment

Service Users

Service Users were randomly selected to participate in the study. Using a random number generator, fifty participants were identified to receive the initial recruitment postcard and a follow up phone call. Interviews were scheduled or conducted on the phone during the first initial phone contact which took place approximately three to five days after postcards were received. Each interview lasted on average, fifteen to twenty minutes. Service users received a \$15 gift card to Walmart for participating in the study. Three of the authors conducted the semi-structured interviews with the participants until data saturation was reached. The three authors discussed weekly the context of the interviews until all authors agreed that data saturation had been reached.

Service Coordinators

The KATR program has three employees (service coordinators) who provide care coordination services to the service users. Each of the three service coordinators were contacted individually to participate in a semi-structured interview. Interviews with the service coordinators were conducted by one of the authors and lasted approximately fifty minutes. All

interviews were analyzed by a different author, with the interviewing author providing consensus after codes and themes were identified.

Vendors

The KATR program offers vouchers for use on essential needs for service users. The vendors were contacted via email and through KATR to request participation in the interview. One of the authors conducted semi-structured interviews with four of the KATR participating vendors. Each interview lasted on average fifteen minutes and took place via telephone. All interviews were analyzed by a different author, with the interviewing author providing consensus after codes and themes were identified.

Data analysis

Quantitative Analysis

Questionnaires were completed by service recipients at enrollment and at one follow-up time point near the end of their participation in the program. Data collected from the questionnaires included demographic information (age, gender, ethnicity), whether they were part of a priority population for the program (veterans, recently incarcerated, primary female caregivers of children, pregnant, post-partum, medication-assisted treatment participants, etc.), recovery pathway (twelve-step, medication-assisted treatment, faith-based, etc.), funds allocated, funds utilized, category of financial assistance (basic needs, dental, housing, transportation, etc.), and employment status. The primary outcomes for pre-post comparisons were Quality of Life Satisfaction (QOLS) variables including overall, psychological, physical, accommodations, and support. Other outcomes included: recovery participation, outside support, coping life functioning, physical health, psychological health, recovery experience, risk-taking, housing safety, meaningful activities, social support, barriers to treatment, and unmet service needs.

Descriptive statistics were tabulated and examined for all data. Chi-square tests were used to determine whether program completion status varied by any demographic characteristic, priority population status, or treatment pathway. Changes in outcomes were examined using single (paired) group comparisons. Paired sample t-tests were conducted to examine whether there were significant changes in continuous or scale outcomes between enrollment and follow-up for those service recipients with follow-up data available. Wilcoxon signed-rank tests were used to generate tests of significance for ordinal outcomes. A McNemar test was used to generate a test of significance comparing employment status (employed part- or full-time or not) at enrollment and follow-up. Cohen's *d* values were generated for all continuous, scale, and ordinal outcomes to allow comparison of effect sizes across outcomes. Missing data were handled with pair-wise deletion.

Qualitative Analysis

Data analysis was conducted using a thematic analysis approach. Thematic analysis is a qualitative research method used to analyze data and provides a flexible approach that allows for modification based on the study needs while still providing a complex and detailed account of the data (Nowell et al., 2017; Braun & Clarke, 2006; King, 2004).

Arc GIS

Additionally, we used Arc GIS mapping to provide visual context of the overall impact of services for recipients in rural communities. Arc GIS, part of the Esri Geospatial Cloud is a tool used for working with maps and geographic data to create maps, analyze mapped information, share geographic information and more. Arc GIS mapping was used to determine the length of time it would take individuals in any Letcher County zip code to reach the Fahe office where the KATR program is housed. Furthermore, the authors used Arc GIS to visually represent the

location of all KATR vendors and population density, exhibiting the type of service they provide and where they are located.

Impact

Quantitative Findings

Demographics

A sample of 212 service recipients was used to provide estimates regarding those who enrolled in a KATR program in Letcher County. All 212 of these individuals participated in the KATR program between July 2019 and June 2020. The average age among this sample of service recipients was 40.05 years old ($SD = 9.00$; see Table 1). More than half of the sample of service recipients were female (59.9%). This sample of service recipients is majority white (97.2%); however, there was a small representation from other races including Black (0.9%), Asian (0.9%), and American Indian or Alaskan Native (0.9%) service recipients. There were no differences in age ($p = .776$), gender ($p = .325$), or ethnicity of service recipients ($p = .219$) by program completion status.

Table 1
Demographics by Program Completion Status

	Total Sample ($N = 212$)	Not Completed ($n = 68$)	Completed ($n = 144$)
Age	$M = 40.05; SD = 9.00$	$M = 39.78; SD = 9.26$	$M = 40.17; SD = 8.91$
20-30	14.2%	13.2%	14.7%
31-35	17.6%	20.6%	16.1%
36-40	23.7%	26.5%	22.3%
41-45	21.3%	19.1%	22.4%
46-66	23.2%	20.6%	24.5%
Gender			
Male	40.1%	35.3%	42.4%
Female	59.9%	64.7%	57.6%
Race			

White	97.2%	95.6%	97.9%
Black	0.9%	2.9%	0.0%
Asian or Pacific Islander	0.9%	1.5%	0.7%
American Indian or Alaskan Native	0.9%	0.0%	1.4%
Priority Population	82.5%	79.4%	84.0%
Veteran	1.9%	0.0%	2.8%
Recently Incarcerated	6.6%	8.8%	5.6%
Primary Female Caregiver	6.6%	5.9%	6.9%
Pregnant	1.4%	1.5%	1.4%
Post-Partum	0.4%	1.5%	0.0%
Medication-Assisted Treatment	46.7%	38.2%	50.7%
History of Felony Convictions	26.9%	32.4%	24.3%

Priority Populations

Most of the KATR service recipients in this sample were classified as part of a priority population (82.5%), with the most represented groups being those who were participants in medication-assisted treatment (46.7%), those who had felony convictions (26.9%), those who had recently been incarcerated (6.6%), and primary female caregivers of children under 18 years old (6.6%). Specific priority population classifications were not mutually exclusive categories, meaning service recipients could be classified into more than one class of priority population. There were no differences in overall priority population representation or for any specific priority population between those who completed a KATR program or not ($p = .441$).

Treatment Pathway

Only 78 of the 212 service recipients (36.8%) in the sample had data regarding a specific treatment pathway. Among those 78 service recipients, 88.5% participated in medication-assisted treatment and 11.5% participated in a 12-step program. Those who completed a KATR program were less likely to have participated in a 12-step treatment pathway compared to those who did

not complete a program (52.1% vs. 72.1%; $X^2 [1] = 36.18, p < .001$). Treatment pathway was not significantly related to program completion among these 78 participants ($p = .441$).

Completion Status

Overall, 67.9% of the KATR service recipients in this sample completed a program whereas 32.1% dropped out for various reasons. Of those who dropped out, 92.6% reportedly abandoned the program, 4.4% relapsed, and 3.0% discharged for other reasons. As reported above, completion of a KATR program was not associated with age, gender, race, priority population classification, or treatment pathway, meaning that no observed demographic or treatment characteristic predicted whether someone would be more likely to complete a KATR program instead of dropping out.

Funding

Overall, 94.3% of the KATR service recipients in this sample were allocated funds to assist in one or more of the following needs: basic needs, dental care, housing, transportation, vocational, utilities, or childcare (see Table 2). Among those who were allocated funds, most (82.0%) were allocated funding for more than one type of need with an average of 2.63 (SD = 1.10) types of assistance. Basic needs (80.5%), transportation (49.0%), and vocational needs (47.0%) were the most common types of assistance that funds were allocated for. All but three of the service recipients (98.5%) who were allocated funds utilized 100% of the funds that were allocated to them. Among the three that did not utilize 100%, two of them utilized more than 90%.

Table 2
Funding Allocation and Utilization (N = 212)

Receipt of Funding	
No	5.7%
Yes	94.3%

Number of Funding Types Received	($n = 200$; $M = 2.63$, $SD = 1.10$)
1	18.0%
2	27.5%
3	32.5%
4	18.0%
5	4.0%
Types of Funding Received	($n = 200$)
Basic Needs	80.5%
Dental	26.5%
Housing	33.0%
Transportation	49.0%
Vocational	47.0%
Utilities	26.5%

Missing Data at Follow-up

Unfortunately, only 10.4% (22 of 212) of the KATR service recipients in this sample completed outcome assessments both at intake and at follow-up. Pair-wise deletion was used to handle missing data for examining changes in outcomes between enrollment and follow-up. As one might expect, having follow-up data was significantly associated with having completed a KATR program versus dropping out (15.3% vs. 0.0%; $X^2 [1] = 11.59$, $p < .001$). Follow-up rates did not differ significantly according to gender ($p = .934$), ethnicity ($p = .870$), or age ($p = .397$).

Changes in Outcomes

Given that program completion was associated with likelihood to complete a follow-up assessment, changes in outcomes were analyzed as a single (paired) group comparison for only those who completed a KATR program and completed a follow-up assessment. Despite the very small sample of KATR service recipients with data at both enrollment and follow-up, several outcomes showed significant improvement with large or medium standardized effect sizes. Service recipients were more likely to report being employed part- or full-time at follow-up (18.2% vs. 50.0%, $d = 0.667$, $p = .016$). Quality of life satisfaction (QOLS) also showed

improvement ($d = 1.220, p < .001$) as did its components: psychological QOLS ($d = 0.555, p = .017$), physical QOLS ($d = 1.019, p < .001$), accommodation QOLS ($d = 1.124, p < .001$), and support QOLS ($d = 0.451, p = .046$). Improvements were also observed for coping life functioning ($d = 1.005, p < .001$), physical health ($d = 0.798, p = .004$), psychological health ($d = 0.739, p = .007$), risk-taking ($d = 1.263, p < .001$), meaningful activities ($d = 0.876, p = .002$), social support ($d = 0.705, p = .008$), barriers ($d = -0.432, p < .001$), and unmet service needs ($d = -0.557, p < .001$). No significant improvements were observed for recovery participation ($p = .438$), recovery experience ($p = .345$), or housing safety ($p = .054$).

Table 3
Baseline to Follow-up Outcome Comparisons ($n = 22$)

	Observed Min	Observed Max	Baseline		Follow-up		Cohen's d	p
			Mean	SD	Mean	SD		
Quality of Life Satisfaction (QOLS) ^{***}	44	100	69.86	13.79	83.55	10.60	1.22	<.001 ^a
Psychological QOLS [*]	4	20	14.18	4.33	16.86	3.09	0.555	0.017 ^a
Physical QOLS ^{***}	7	20	13.00	3.42	15.32	2.93	1.019	<.001 ^a
Overall QOLS ^{**}	2	20	14.23	4.36	16.77	3.12	0.745	0.002 ^a
Accommodation QOLS ^{***}	5	20	13.55	4.68	17.05	3.05	1.124	<.001 ^a
Support QOLS [*]	1	20	14.91	5.86	17.55	4.76	0.451	0.046 ^a
Recovery Participation	2	14	10.32	3.66	10.86	4.32	0.169	0.438 ^a
Outside Support ^{**}	4	28	22.77	6.97	25.96	4.91	0.796	0.001 ^a
Coping Life Functioning ^{***}	1	5	4.12	0.95	4.69	0.73	1.005	<.001 ^b
Physical Health ^{**}	1	5	3.83	1.14	4.54	0.86	0.798	0.004 ^b
Psychological Health ^{**}	1	5	4.27	1.04	4.71	0.71	0.739	0.007 ^b
Recovery Experience	1	5	4.80	0.57	4.96	0.27	0.248	0.345 ^b
Risk-taking ^{***}	1	5	3.85	0.71	4.35	0.63	1.263	<.001 ^b
Housing Safety	2	5	4.57	0.86	4.92	0.29	0.461	0.054 ^b
Meaningful Activities ^{**}	2	5	4.32	0.88	4.72	0.53	0.876	0.002 ^b
Social Support ^{**}	0	5	4.18	1.22	4.75	0.78	0.705	0.008 ^b
Barriers ^{***}	0	2	0.92	0.70	0.51	0.54	-0.432	<.001 ^b
Unmet Service Needs ^{***}	0	2	0.92	1.26	0.19	0.47	-0.557	<.001 ^b
Employed Part- or Full-Time [*]	0.00%	100.00%	18.18%	0.39	50.00%	0.51	0.667	0.016 ^c

* $p < .05$, ** $p < .01$, *** $p < .001$

^aEstimated using paired sample t -test

^bEstimated using Wilcoxon Rank-Sign Test

^cEstimated using McNemar Test

Figure 1

Quality of Life Satisfaction at Enrollment and Follow-up (n = 22)

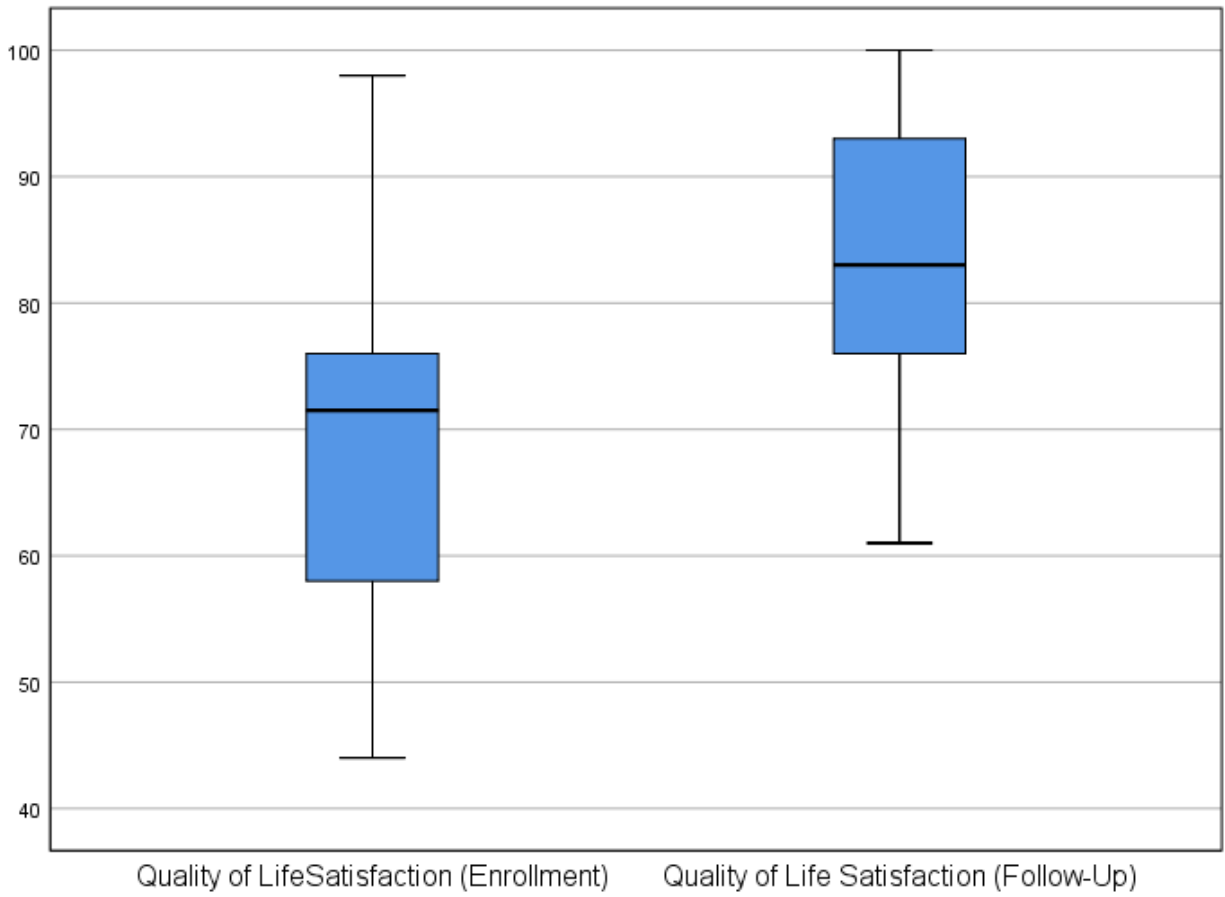
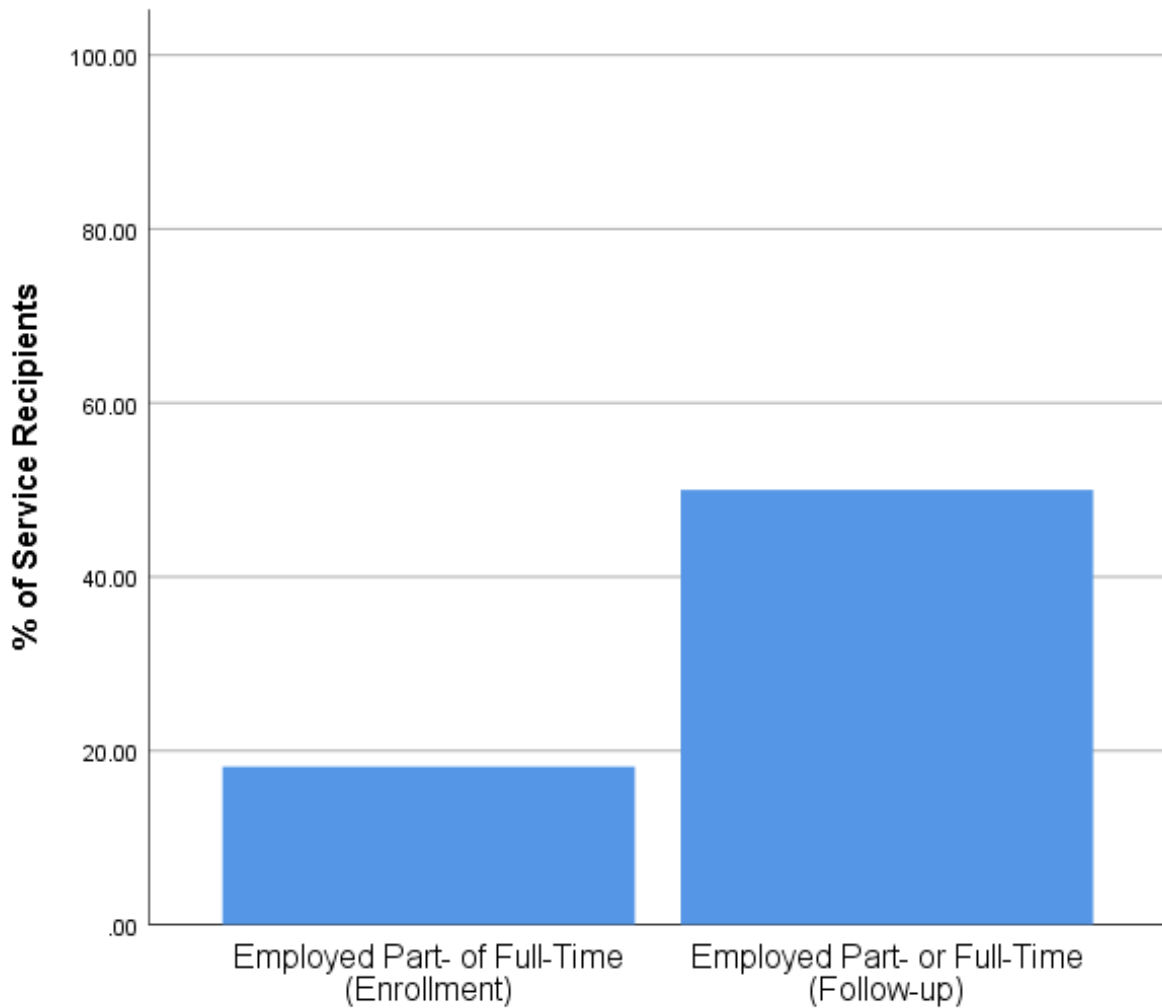


Figure 2

Percent of Service Recipients with Employment at Enrollment and Follow-up (n = 22)



Qualitative Findings

Interviews were conducted with KATR service users, program coordinators, and vendors from August to October 2020. The findings are organized into themes that address the main goals of the study – 1) understanding the impact of KATR on service users and the barriers they encounter in their recovery journey; 2) understanding the impact of KATR on the community at-large and what the community would look like without KATR; 3) identifying organizational-level strengths and challenges of the KATR program.

Study Participant Profiles

Service Users. Table 3 provides case details of the 12 KATR service users who participated in the phone interviews. The average age of participants was about 42 years old, with an even mix of self-identified males and females. Regarding race, the sample was mostly homogenous with only participant identifying as black and the remainder as white. The referral sources for these participants included counselors at their suboxone clinics, the court system, other social services, and friends. The participants, on average, traveled 28 miles to access KATR services; however, during the COVID-19 pandemic, most services were conducted via phone and internet. Ten out of the 12 participants noted that they had access to internet.

Program Coordinators. Three program coordinators of KATR also provided their insights. Each of the coordinators had lived in the local community their entire lives and had previously worked in public service position prior to employment with Fahe.

Vendors. Four vendors were interviewed as part of the study. All four businesses had been in existence for several years (i.e., 10+ years). Two vendors were automotive repair garages and two were clothing stores. The business representatives noted that they were well-known in the community.

Table 3
Case Details for Participating KATR Service Users

Identifier	County	Age	Gender	Race	Marital Status	Children	Education	Distance to KATR	Employed
Client 1	Perry	23	Female	White	Married		Some college	45 miles	No
Client 2	Letcher	54	Male	White	Married	Yes	7 th grade	20 miles	No
Client 3	Perry	40	Female	White	Married	Yes	Bachelor's	30 miles	Yes
Client 4	Perry	37	Female	White	Single	Yes	10 th grade	10 miles	Yes
Client 5	Perry	47	Male	White	Single	Yes	GED	60 miles	Yes

Client 6	Perry	39	Female	White	Single	Yes	Some college	25 miles	No
Client 7	Letcher	41	Female	White	Married	Yes	Some college	20 miles	No
Client 8	Perry	42	Male	White	Married	Yes	11 th grade	10 miles	Yes
Client 9	Hazard	24	Male	White	Single	No	Some college	45 miles	Yes
Client 10	Knott	50	Male	Black	Single	Yes	HS Diploma	30 miles	Yes
Client 11	Perry	41	Female	White	Partnered	Yes	Some college	45 miles	Yes
Client 12	Perry	65	Male	White	Widowed	Yes	HS Diploma	3 miles	No

Service User Impact

Participants were overwhelmingly positive about the effect that KATR has had on the lives of service users. Several themes emerged related to individual-level impact of the recovery support service including behavior change, physical and mental health improvements, relationship repair, regaining custody of children, provision of clothing, transportation, childcare, recovery support, and ability to gain employment and improve finances. One vendor effectively summarized the overall impact of KATR on service users:

“...You have an agency that is helping to meet the basic needs of these folks...they are removing barriers that may otherwise stand in the way of their success. They have jobs and they need professional attire...it sounds simple to us if you have never had to want for those things, then you don’t consider them...when you see other people who are trying to do well, trying to get their lives on track, having clothing, being warm, having their basic needs met, having shoes that don’t have holes in them or are worn out makes a huge difference...what I see is that it is another avenue in terms of helping...not just the counseling and all of that that these folks need, but it helps to meet basic needs. And we

know that basic needs have to be met in order for you to move to higher levels of functioning..." (Vendor 4)

Behavior change. More than half of the service users shared that being part of KATR led to dramatic behavior changes and has helped them sustain the new habits learned as part of recovery from opioid addiction. For these individuals, being part of the program has provided a "fresh start," hope for a new life ahead, and motivation to keep pushing through hardships. Service User 1 stated, "They give addicts like myself hope, and they gave us something to work towards...they push us to do better." Similarly, Service User 10 shared, "I think they show a lot of people that I did run with, look at me now and they know, and they realize that it's possible for a person to change. It's possible to beat an addiction. You know, although it's a lifelong disease, this is going to help you." The optimistic attitude is not only beneficial for the client. As noted by Coordinator 3: "They're on the climb up, and they are determined, and they're excited, and they feel hopeful...they're working towards a better future for them and their families...in turn, if they do well, they actually benefit our community."

Some service users also disclosed very grave personal situations prior to beginning their recovery journey and encountering KATR: "...I couldn't stay out of jail. I was in trouble all the time with pills...I'd be dead. Or in jail....it saved my life and got my family back..." (Service User 12). Each of the coordinators noted perseverance as strengths of their clients:

"...getting up every day choosing being sober over addiction. And I think that's pretty much the biggest strength is that they have picked themselves up in such a poverty-stricken area that we live in and have chosen...to do this. And have taken the initiative to do so. " (Coordinator 2)

Health improvements. People with substance use disorders often experience negative physical and mental health impacts. One female client (Service User 7) revealed that before entering recovery she was “on death row” and had “given up on life.” Becoming pregnant was instrumental in her recovery and KATR helped her stay the course. Additionally, several KATR clients shared that loss of teeth is common, and KATR was able to help them with the cost of proper dentures. Not only does replacing their teeth assist with improving their physical health but also their mental health:

“They're teeth are gone...and they will visit the dentists...dentist vendors...will tell you that...they'll [clients] sit there and cry because they can smile again... if you don't have self-esteem, it's hard to move on and do a lot of things. And it's positive self-esteem that they get from that.” (Coordinator 1)

“My absolute favorite thing is the dental. It has given them so much self-confidence...I can't even tell you how many clients that I have had that have not even had teeth in so long, years and years. And I mean I see a picture of them smiling... 'thank you so much. I feel great about myself.’ And... anyone knows once you feel good about yourself, and your self-confidence goes up, that's when you're able to do a lot more.... I have a lot of people that they didn't have jobs...they got their dental, and they felt so much better. I actually had one lady told me she did so well in an interview because she felt like she could smile and she feels more confident talking, but that's going to hinder you lot ...having that stigma of not having teeth.” (Coordinator 3)

Regarding mental health, service users indicated that their self-esteem, confidence, and image were at all-time low once they entered recovery – and coordinators concurred. KATR has helped service users gain back their lost self-worth: “I think that it is a beneficial thing...it makes

you feel better about yourself and, in that program, especially in a place like Southeast Kentucky, it means a lot and it's helpful" (Client 3).

Relationship repair and regaining custody of children. Service users and program coordinators indicated that behaviors and decisions associated with addiction often had detrimental impacts on the relationships between people with substance use disorders and the family and friends in their lives. In some of the cases, service users had lost custody of or relationships with their children due to their use of opioids and the associated outcomes (e.g., incarceration, homelessness). As a result, grandparents were raising their grandchildren. Working with KATR and other service providers (e.g., counselors), some of the service users indicated that they had repaired relationships with their children and/or regained custody.

Coordinator 3 shared an account with a positive ending:

“...one of my clients, and at the beginning, she didn't have her children when we first started. And...just a few days before her close out, she had regained custody of her children. And, you know, a lot of it was I helped her with car repairs. She needed that car in order to get her children back and forth to school and to appointments and stuff that they had. I had helped her with employment clothing. She needed those in order to stay employed, to get her children back...”

Service users also felt that their parenting skills and knowledge had improved. Service User 10 affirmed:

“Well, I'm a better father. I know that much. I'm more reliable...also learn to take responsibility and take life more seriously. It's taught me that...anybody can make a mistake and it helps you. It helps you learn how to manage and control your life...it's just

a big, big difference compared to what I was doing you know? I'm not waking up in the morning chasing a drug anymore..."

A few of the service users discussed their repaired relationships and the guilt they carried with it, such as Service User 5 who noted that KATR and addressing their substance use issues "give me new direction, give me my relationships back that... I really don't even deserve to have...my kids and stuff that I walked out on...they give me another chance.... it's unbelievable how people forgive you."

Provision of Transportation Assistance. The transportation assistance provided by KATR was one of the most cited services as making a major impact in lives of service users. The participants of this study are from rural eastern Kentucky where two-lane roads, hills, mountains, and many miles in between small towns are common. The service users were traveling anywhere from 3 to 60 miles to access KATR – and likely other providers and basic needs. Thus, with minimal public transportation options, personal transportation is a necessity for most people. However, in the case of many service users, their cars are older and/or in need of costly repairs, and without disposable income, they cannot fix them, resulting in negative consequences:

"...I had a lot of clients whose cars, they're broke down...They have no way of fixing them, so they have no way of getting to the counseling meetings so they, in turn, end up missing those meetings. And then...they could relapse...So we are able to help with repairs to the vehicles. Help them get back on the road, so they can attend those meetings." (Coordinator 3)

The service users recognize the importance of a vehicle to their recovery and are grateful to KATR and the vendors providing repair services:

“I’m a single mother. So, it couldn’t have come at a better time because at that time I was having trouble with my car...They picked the shop I took it to, they fixed the car. I had enough money to get the tires that I would’ve normally not been able to do if it had not been for that...” (Client 6)

“I have had more than one client cry on me and they are just so appreciative of the voucher...The opportunity to better themselves.” (Vendor 2)

“...Anyone that has come in with the vouchers to have work, it was really neat...it’s not like someone’s just taking advantage...they really were in need of repairs when they came. So, it’s been really good place to them...” (Vendor 3)

Provision of Clothing. Despite being a basic need, several KATR clients were unable afford clothing: “I have three kids...I gotta do without clothes, you know, because my kids come first...” (Client 7). For some, without proper clothing, service users’ recovery processes may have been halted as noted by coordinators and vendors alike:

“We follow up with these clients quite a bit. And they’ll tell us how what we’ve done has helped them. And we do employment clothing for people that have jobs or that just recently get a job. I recently issued boots. That was quite expensive. The gentleman could not get the boots and he’s like, ‘That helped me keep my job. I was able to start that job, and I was able to keep it...’” (Coordinator 3)

“.... a lot of them [clients] that we have, they have jobs. They need clothing or shoes to wear...most of the folks that come in do not have a whole lot...So it helps them to have appropriate dress for whatever jobs that they are doing...the impact is just to help them be successful in the recovery process.” (Vendor 4)

Having decent and proper clothing is part of maintaining one's dignity and worth in society, and the experiences of some service users obtaining the clothing vouchers signifies how much they have lost to addiction and the gratitude to regain self-pride:

“...He was like, 'All I wanted was to have a job and I want it to see my son.'... I mean he was so appreciative of everything ...I sent it to Goodwill for clothing. Most people would be like, 'Really? Goodwill?', but he was like, 'Thank you so much. I'm so excited to go and get me some pants.’” (Coordinator 2)

Provision of Childcare. A host of community barriers impact individuals recovering from a substance use disorder in rural areas, but for parents, particularly those who are single, struggle significantly with childcare options. There are a limited number of childcare providers, and even when one is located, the cost can be overwhelming to a single person not making a living wage:

“If you have a mom who got custody back of her child, she's trying to get back up on her feet, she's working, she's not going to make enough money to pay for day care. I mean, it's very difficult in this area, and then, too, if these women are trying to move past their family lives, they don't want to go back to that life again with their family. They're trying to move forward.... [KATR] gives them the option as well because they're working. They're able to pay their rent. We're providing childcare...” (Coordinator 3)

Provision of Recovery Support. The recovery journey is difficult and requires an immense amount of support. Service users noted that they are dealing with stressors of all kinds, triggers and cravings, self-guilt, and past traumas as they strive to stay sober. While some of KATR clients noted that their family and friends provide emotional and physical care, others are not able to utilize those relationships. Service users have lost some loved ones to overdoses,

while other people in the lives of service users continue to use substances. Removing negative influences is critical to recovery:

“Staying away from those old people, places and things...because you know where it leads and what it's going to do to you at work, you know what they're about. They're not your friends...You come to understand that...you think they're your friends, but ...in the long run you find out they're not, definitely not, and...anybody that would encourage you to do wrong ain't your friend, no damn way.” (Client 10)

For some families in rural eastern Kentucky, substance use is generational and leaving behind one's family is distressing:

“Fifty-percent of my clients, they're in touch with their families...they have that extra support from their family. And the other 50%, I'm going to say that their family has also had an addiction problem so they can't actually turn to them. They've had a kind of turn away from them and try to live without their family. Just to be able to stay clean...we can help so much but ...it's generational...they can go to rehab. But then when they go back home, they're going back to the same circumstances, the same friends, the same families, same environment. It's really hard for people to overcome their area because they have no place to go.” (Coordinator 2)

KATR coordinators fill that void of a support system — and give extra support to others who still have family and friends: “...it has helped folks and kind of sent them on a new path.

Gave them encouragement to go forward into a beautiful place...” (Vendor 3).

Ability to Gain Employment and Improve Finances. The rural KATR site is located in a persistently poor county, and thus, financial vulnerability is a major challenge in the area. Stresses of a financial nature can create havoc in the lives of vulnerable populations, especially

those with a substance use disorder. For many KATR clients, they are starting over in most aspects of their lives because opioid addiction cost them in many ways – including the loss of employment and any assets they might have had. As discussed, KATR provides vouchers for clothing, childcare, health costs, and transportation, among other needs. Several participants (service users, coordinators, and vendors alike) shared that buying a new tire, required work shoes, or dentures could be severely detrimental to individuals living in persistent poverty and also on the road to recovery. Many people have options to deal with life’s inevitable problems, but people in poverty often do not: “I've had them sit in front of us and cry...because we've helped them ...I guess we take a lot of things for granted ... I've got a credit card...But they don't...they don't have the cash or they gotta pay for something else and do without...”

(Coordinator 1). The support through vouchers has created some financial stability for the service users: “...gave me a little extra start, gave me that extra income...that I would have had to either take a loan or I would have had to borrow...kinda gave me that foot forward” (Service User 9).

Further, the support from KATR – financial and emotional – has provided numerous service users the ability and confidence to obtain employment:

“I think it works great. I think it's helped me get back on track. It really has... I landed this job. I've been with it for the last year and a half ... in the past I never did care. I never did really worry about to get promoted and things I probably I shouldn't be here, but, you know, it's just really taught me to take care of business and how to manage my life better.” (Service User 10)

Community Impact

The present study also examined the opinions of service users, program coordinators, and vendors about the community impact of KATR. The themes uncovered to community impact of KATR can be organized into three parts: 1) positive impact; 2) the community without KATR; and 3) community-level barriers impacting the recovery of individuals with substance use disorders.

Positive Impact – Attitudes. Stigmas surrounds addiction of all kinds – and in rural Kentucky, communities struggle to understand substance use disorders and those who suffer from it despite the problem being prevalent in the area. Coordinator 1 explains,

“They'll call them druggies. There goes another crack head that, looking for a handout. And like I said, these people are being tested every week...some of them being tested two, three times a week. They have been clean for a year and a half, two years...They're trying their best ...they don't need that negativity... I don't need that. I need nothing but positive thinking...and encouragement.”

Through the existence and efforts of KATR, coordinators, clients, and partners are working to shift attitudes about substance use disorder, the needs of service users and their families, and how the community can help. KATR is providing opportunities to see people with addictions as “people” and “in different light” who have experienced hardships and traumas (Coordinator 2). Though more work is necessary to change community dynamics, all four vendors in varying degrees indicated that there had been some positive shift in their beliefs based on their experiences with KATR service users. One vendor discussed the connections she had made with a few of the service users:

“We have met some really nice clients...Two of the KATR clients that came in here initially with vouchers, they still come in. They are working jobs, and when they get their

pay day and their day off, they come back and see us. We have made a connection with them and can see beyond just the addiction. Sometimes when you have these issues...they are associated with a lot of negatives...what I think that this does for us all is we do see beyond just seeing somebody that is an addict ...we can kinda see their successes and their struggles too. But we see that we have made connections with a lot of them...that is a really good sign of normalization of where you are involved and coming back. Seeing that type of interaction in the community, I think it is a good sign.” (Vendor 4)

Positive Impact – Community Economic Support. All participating coordinators and vendors expounded upon the major economic impact that KATR has had in rural eastern Kentucky. To accommodate the needs of service users, coordinators have formed relationships with small, locally owned businesses (vendors) who provide services related to transportation, health, clothing, utilities, childcare, and other basic needs. Vouchers are provided for specific services at these vendors’ shops, and thus, the funds are being infused into the local economy. The four vendors interviewed noted that taking the vouchers has been beneficial for their businesses financially, particularly during the COVID pandemic when customers waned, and sincerely appreciated the dedication to the community by KATR. Another economic benefit of the KATR program is the employment support for service users: “We want them back in the workforce. We want them to stay in recovery, and then they are contributing back to the community...Once they're back in the workforce...they're living here, they're paying rent, they're spending their money here” (Coordinator 3). Providing transportation, clothing, and childcare allow people to properly prepare, secure, and maintain jobs. Additionally, the guidance on employment from coordinators has proven beneficial to service users and their employers alike:

“...as an employer, I struggle to find people that I want to hire...that I can train and will be able to retain them for lengthy periods of time. Because every time that someone quits or doesn't work out, or goes back to using drugs or whatever, that is someone else that I have to bring on board, and in any organization training and getting people...well that is half the battle. And the other half is finding people that are reliable and trustworthy. So, I think that it helps to increase our workforce and as employers we need that too...”

(Vendor 4)

Positive Impact – Sense of Community & Collaboration. The opioid epidemic and persistent poverty, along with other social problems, create challenges in rural eastern Kentucky that have been proven difficult to overcome. However, KATR, other social service providers, government officials, and businesses are beginning to work together to begin important conversations, address key issues, and start problem-solving effectively:

“You've got your government officials. They are helping people sending them to rehab. KATR helping them get back on their feet and get back into society as a normal person. And then you have the small businesses who are also thriving from having KATR in my area who are also being helped by the whole process...So I feel like it's kind of a circle...I feel like our community has become unified with trying to help these people, you know it has changed a lot.” (Coordinator 2)

Without KATR. Participants were asked what their community would look like if KATR did not exist, and their responses created a disastrous picture, indicating their support for programs like KATR. Service users, vendors, and coordinators noted increases in crime to meet basic needs, relapses, overdoses, homelessness, and unemployment. KATR provides resources that other programs do not, and without it, as Vendor 4 attests, there would be

“...one more barrier that these folks have to overcome that these folks would have to overcome. And there is hardly anyone that doesn't have [someone] -- if not in their immediate family, in their extended family -- that has had issues at some point with drugs...we live in a very highly impacted area. And I think that everybody who has to deal with this recognizes the importance of every single item to contribute to the success, and it is still tough. I know a lot of families that have had these issues, and they have relapsed...And I think it [KATR] helps to remove a barrier. And every time you can remove a barrier for these folks and help them succeed in some way, I think that is what is key to the long-term success of recovery...”

Community Barriers – Persistent Poverty & Economic Issues. Even prior to the COVID-19 pandemic, rural eastern Kentucky was struggling economically due to the loss. Key industries – particularly coal mining – had left the area and created massive unemployment with few alternatives for higher-paying positions like they had. Some people resorted to other means to survive: “They were all on narcotics, a lot of them had to go to dealing or doing stuff a little illegal to feed their families because of the job loss” (Service User 9). Being a rural and somewhat remote area, minimal training programs exist to seek out other career options, and with few public transportation options, accessing education in the city is an unlikely option.

Community Barriers – Access to Social Services & Vendors. As a rural resident, accessing social service providers and even business services can be a major challenge due to convenience. Though many have cars, driving hours to and from nearby cities is not always feasible because of finances, work responsibilities, or caretaking. Coordinator 3 shares her hardship in finding additional recovery support for her clients despite that she has lived in the community all of her life:

“I think more support services -- not just with your regular counseling centers... And I think they need more meetings like NA...AA...more accessible meetings, more frequent amounts of meetings...I wasn't even an addict and I couldn't find them...There is no advertisement, I have seen one ad in our local paper. And that was for an NAA meeting and it was on the other end of our county. And that is the only advertisement...I ended up calling someone -- it was basically word of mouth -- someone had told me to call the local library. Then they connected me to the local guy that does tattoos. Then they connected me to where the next meeting was... needs to be readily available for people...That could be someone's first step...”

Other services that service users and coordinators noted difficulty in accessing due to lack of availability included healthcare providers (e.g., dentists) and childcare providers.

Community Barriers – Infrastructure. Rural areas notably contend with problems related to infrastructure. Coordinators particularly noted some of the infrastructure challenges that made service provision difficult. Due to living in a mountainous and hilly region, spotty (although expensive) cell phone and internet services made connection with clients hard, especially in the time of the COVID-19 pandemic when in-person service provision was suspended. Housing options are also severely limited in the area, and with some people trying to escape their old lives, many need new places to live to clean up and recover:

“...I feel like when they're coming out of the recovery process, KATR is the only option that they really have to help to help pay for housing. Otherwise, they're homeless just having to work out, or they have to go back to the environment that they just came out of They relapse ... I had one young man. He had actually gotten out of rehab, actually doing really well. He was 22 years old. He had went back home to live with his family.

He became one of my clients, and constantly through assessment, he talked about how he just needed to get away from the home. So, I feel like a client's going to relapse if they go back to that same environment if I do not have those options available to them. Or, they'll be homeless because I've also had a gentleman that had to get away from his family...He was homeless for three years before he came to KATR. It's harsh, but that's just the reality of it..." (Coordinator 2)

Organizational-level Strengths and Challenges of KATR

Participants were also encouraged to consider the strengths and challenges of KATR as a program. The feedback provided from service users, coordinators, and vendors affirmed that the KATR program was not only an asset to the community but was also running effectively. Themes related to strengths included employees, program structure, collaboration and partnerships, and client and community satisfaction. Some themes regarding challenges were also identified such as program limitations, lack of community offerings, minimal marketing and education, and contact with clients.

Strengths – Employees. Several service users noted that one of the main reasons that working with KATR was a positive experience was because of the employees. The program coordinators were described by service users as kind, caring, and encouraging. Service users shared that the program coordinators made them feel like more than a person with an addiction:

“They always there for you...some places that make you feel like... low class... we always get treated like people...we tell everybody we in recovery, they treat us differently...

When you're an addict... They think we're the worst people in the world, you know? But I ain't..." (Service User 12)

With each coordinator interview, their empathy for and connection to clients and their situations were apparent. Coordinator 1 remarked, "...You have to have a heart for this type of work...you can't judge these people. You have to be able to work with them ...and encourage and move on."

As Coordinator 2 shared a poignant story, they began to cry:

"A younger guy...He was so inspirational to me that he wanted to try so hard and so he wanted a new pair of shoes, and he was going into doing peer support and he was like, 'you know, I don't want to look like a drug addict. I don't want to dress like a drug addict. I don't want someone to think I am like that anymore.' ...so I helped to get a pair of shoes...I had another guy that was in the same...recovery housing...called me and was like, 'so I think I'm going to start peer support too and I want to help people. And I don't want to look like...a drug addict either so can you help me?' and then after, talking to them how good they're doing. They're both done really well. One has his own apartment. The other one gets to see his child, now gets visitation..."

Coordinator 3 described the goals for their work and the motivation to keep working through challenges with clients:

"We want to keep these people in recovery...just giving someone self-confidence...they can go and do well in an interview and get a job and become a functioning member of society. Yes, that's what we want in our community. I want people to have jobs, and I want them to function well in the society. I want them to be able to raise their children, instead of having a grandparent raise their children, and I want my neighbors to be that way..."

Beyond their dedication, service users and vendors indicated that the coordinators communicate well, are effective at meeting needs and problem solving, and work together as a cohesive team. In sum, they are good at their jobs.

Strengths – Program Structure. Participants were complimentary of the program design and structure. According to service users, the program easy to access and receive services. The service users, as well as the vendors, noted that they appreciated the voucher concept rather than cash assistance: “So that's what I liked about that program...they didn't hand you the money...it was go to these certain places. That's what I was afraid of...if they're just handing out these \$400, they're not going to use their money for that” (Service User 6). Additionally, participants in all categories agreed that programs like KATR are sorely needed as many people in the area are impacted by substance use disorders, directly or indirectly. Noted in several interviews, KATR focuses on basic needs of people in recovery that were not being met by any other program in the area. Vendor 4 shared this related perspective:

“This is the first program that we have known of...that does this...this program is kind of unique in that it is very personal to the client and ...it really deals with meeting one of the basic needs...I really don't think that there is another agency that they could turn to.”

Strengths – Collaboration & Partnerships. The work of KATR would not be possible without the support of partners in the local communities including clinical services (e.g., rehabilitation centers, counselors), businesses (i.e., vendors), and government officials. The program coordinators were characterized as skilled at developing and maintaining relationships with these key entities. The partnerships and collaboration between KATR and other agencies and businesses are mutually beneficial:

“We work well with our referring agencies...They are extremely helpful with anything that we need...they send us who they think would be ...a good fit for our program. And we work well with the clients, we try every way. Anything we can do to help them help them, help them get their documents in, to find out what they need, to set them up in the right direction.” (Coordinator 3)

Another important aspect of KATR is that it is acting as a part of diversion plans for individuals with substance use disorders. Some of the judges in the area are working with KATR, clinical service providers, and the service users themselves to develop a plan for the service user to avoid jail and/or prison. Service users recognize the importance of this alternative:

“I think it does so much, it's just so much better...You get to grow, you don't have to be locked up, you're out in your community and you make decisions and choices and... you start to live with...consequences and things of your decisions and... it makes you want to be responsible and give back.” (Service User 10)

Strengths – Client & Community Satisfaction. The community support around KATR has been strong as the program is viewed as a solution to a problem wreaking havoc on the area. From a service user perspective, they spoke with enthusiasm about the program (as noted in the *Service User Impact* section), and they share their positive outcomes with peers who are experiencing the same hardships and need support. The government officials and referral sites are also happy to have the resource in their service areas to provide support to clients:

“The courts order people to do these rehabs now and if they have KATR to help these people even further when they get out of rehab...they're thankful. We're here, we're thankful that KATR came in our community...just been a lot of positive outpouring from

people -- not only our clients but vendors as well and just people in general to know that this is in our area ... I feel like it's made a positive impact.” (Coordinator 2)

Challenges – Program Limitations. Overall, the remarks about the KATR were positive, but there are elements of the program that could be improved. One of the main issues for service users and vendors were the rigidity of the voucher policies. Vendor 4 explains:

“And the only thing I think in the whole process that could be improved is that vouchers might say they get four tops and four bottoms...But they may not be able to find four bottoms. Or four tops. They might find five bottoms and four tops. And I know how business works and you have to have structure. But the client will ask us, 'can we get five tops and one less bottom?' And we are like we really can't do that because we have to adhere to the rules. So, in some ways, I wish it was just more generalized...”

Another problem is the amount of funds available per service per client does not always fully address the need – particularly related to automotive:

“The only thing is that I have struggled with a little... You know you just want to help everybody that comes in and the \$500 that we're allowed to send in on a voucher. A lot of times, it's just not hardly enough to really get people's cars in the shape that you would want them to be. And that's one thing that I really struggled with is trying to do as much as we can with what we have to work with.” (Vendor 2)

Conversely, there are needs that clients have that cannot be met due to policies: “I wish there was more money to spend on in different areas...we've had clients ask if we could help with hearing aids and we can't...or eyeglasses. Sometimes it's something for the home...we make a lot of referrals to places that can and hopefully do help...” (Coordinator 1). Further, available funds are not enough to meet the demand in the region. Related, the program can only serve people who

are recovering from an addiction to opioids, but as Coordinator 2 shared, there are people who have addictions to other substances that would benefit from support.

Challenges – Lack of Community Offerings. As discussed in *Community Barriers*, the limited number of vendors and providers puts a strain on service users and coordinators to find partners willing to accept vouchers. A few service users noted that they were unable to utilize the vouchers because they had to drive more than an hour and did not have proper transportation or time from work to do so.

Challenges – Minimal Marketing & Education. Some of the service users indicated that KATR does not market their program enough through formal channels. In terms of referral sources, about half had heard about the program from a friend, while others had been referred by partner agencies. This may be an intentional decision on behalf of KATR to not market as their funds are limited. Nonetheless, education to vendors, other partners, and the community at-large may be still be necessary. The vendors, particularly, struggled to articulate the mission of KATR – most only knowing that the program existed to help those recovering from opioid addiction. . For coordinators, one of the main challenges was connecting and communicating with service users. Though they may desperately need the assistance, service users may not follow through with communication and meeting requirements to become established in the program. Coordinators indicated that this challenge could be due to lack of motivation, homelessness, no means to connect (e.g., no phone, internet), and/or other family challenges.

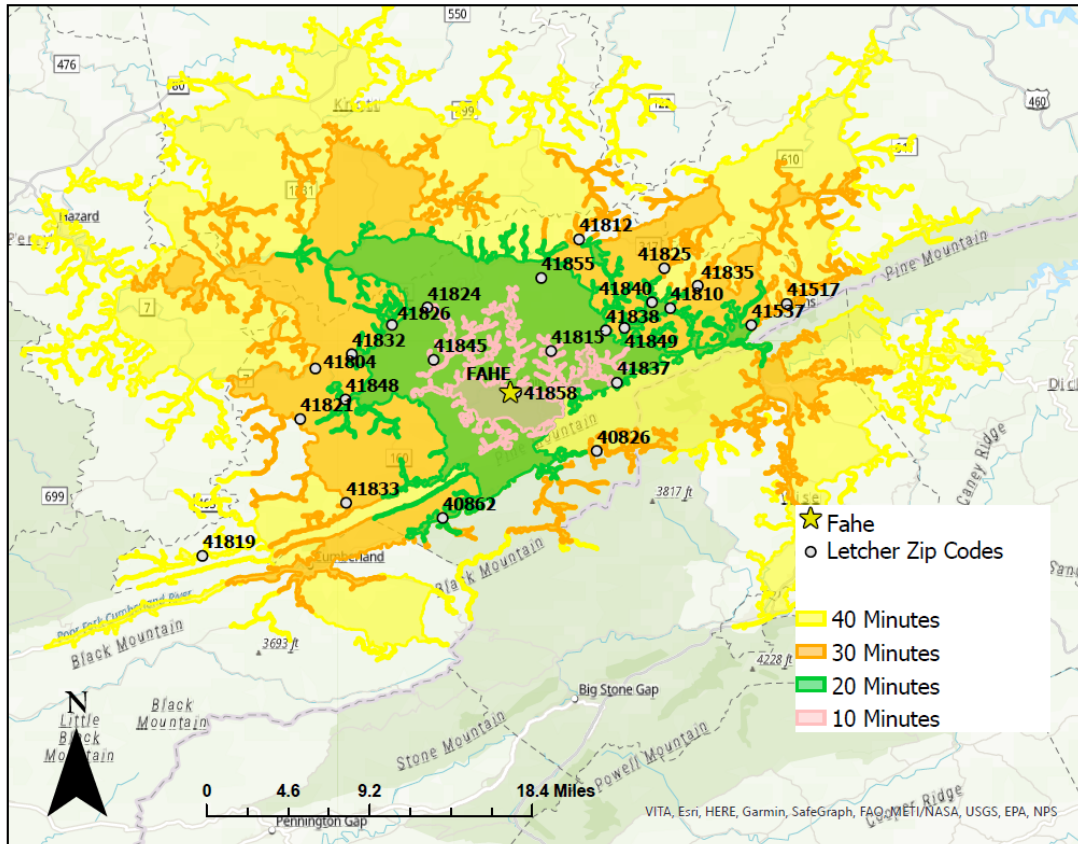
Arc GIS

Figure 3 represents the first map created using ArcGIS. All zip codes from Letcher Country were used as markers for where potential clients live. Using zip codes, we created a map to show the length of time an individual living in Letcher county could spend driving to reach the

KATR office in Whitesburg. The map provides visual context to what the interviewees indicated when asked about their travel time to the KATR offices.

Figure 3

Drive Time Analysis

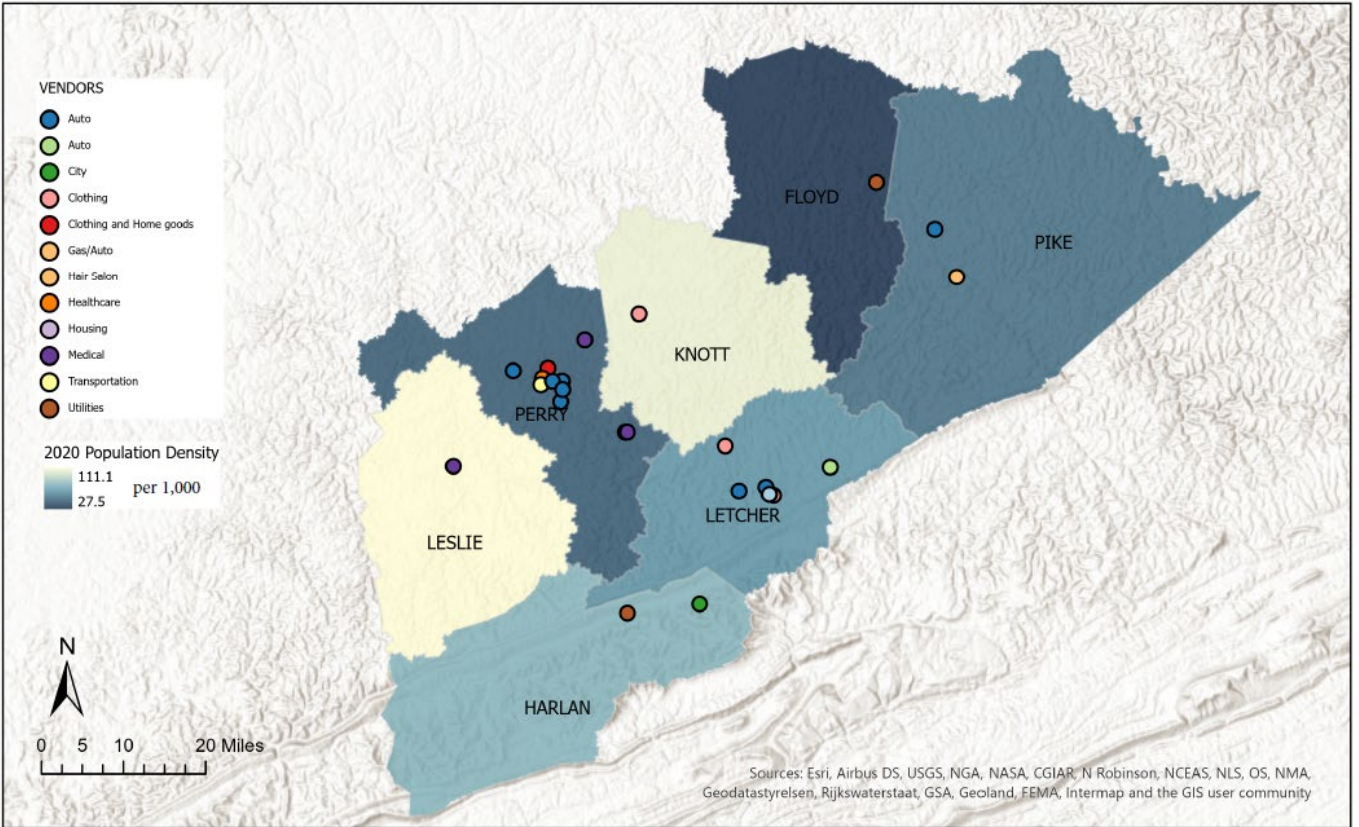


This map depicts the length of time it would take to drive from any zip code in Letcher County to Fahe.

Figure 4 below provides a visual context for the population density per 1000 people in relation to where the service providers for KATR are located.

Figure 4

Kentucky Access to Recovery Vendor Map



This map represents the locations of KATR vendors in each county and the relative population per 1,000.

Discussion

Appalachian areas are faced with economic decline, persistent and extreme poverty, and lack of access to health care and prevention, all of which can contribute to hardship for those living with an opioid use disorder and seeking recovery. Kentucky has the 12th highest rate of opioid overdoses in the U.S., and Letcher county specifically has 60% more overdose related deaths compared to the national average; it is vital that recovery programs provide support that not only improves the lives of the individual but also enhances the community.

Based on this sample of KATR service recipients, the program effectively engaged priority populations (e.g. recently incarcerated, primary female caregivers of children under 18) who participated in a mix of medication-assisted treatment and 12-step treatment pathways.

Completion rates were high with over two-thirds in this sample completing the KATR program successfully. Data did not indicate demographic differences for treatment completion. Nearly all KATR service recipients in this sample utilized all of the funds that were allocated to them for various types of assistance including basic needs, transportation, and other vocational needs.

Though follow-up data were not available for most service recipients, there were clear improvements in several meaningful domains observed among those service recipients with follow-up data based on single-group pre-test/post-test comparisons. Outcomes related to quality of life satisfaction, coping, risk-taking, meaningful activities, physical and psychological health, and social support showed the largest improvements for KATR service recipient, and unmet service needs showed moderate improvements.

KATR meets the basic needs of their participants and the surrounding community, and ultimately goes beyond the basic needs. KATR fills gaps in the community, and these gaps are felt by not only those receiving services but by those providing services as well. Many participants remarked that without KATR they would not have received access to needed health and mental health care needs, such as dental service. With these services provided to them, it not only improves their health, but also their self-esteem and feelings of self-worth. Similarly, providing participants with access to clothing can help boost their self-esteem, especially when engaging in job interviews. The changes to self-esteem are felt not only by participants but also by the coordinators and vendors who work with them.

KATR empowers participants to meet their needs and reach their identified goals. Many participants report that the services provided by KATR helped them regain custody and improve their parenting skills. Alongside this, KATR provides childcare so parents can seek regular employment and pay their rent without having to worry about the added exponential cost of

childcare. Participants enrolled in KATR report seeing their own strength, and ultimately that strength is noticed by both the staff members of KATR and the vendors who provide services.

The community feels the impact of KATR. With this program available in an area that has ravaged by the opioid epidemic, it is essential that a program helps change the community attitude towards those living with a substance use disorder. Vendors and service providers alike note that the community has shifted to a more compassionate attitude towards those living with opioid use disorder. The vouchers have been beneficial for the small businesses in the community and ultimately help overcome systemic problems in this Appalachian area (e.g., poverty, lack of transportation, etc). During the COVID-19 pandemic, many vendors noted that they would have had less income without the use of KATR vouchers.

Without KATR, these systemic problems in this area would persist. KATR works to overcome community barriers to help individuals who are changing their way of life continue to meet their recovery goals, all while meeting community needs and fostering change within the community. In taking a holistic approach and seeing participants as both impacting and being impacted by their communities, KATR works to bridge gaps that exist when a person desires recovery and wants to meet essential recovery goals.

While the KATR program has overall shown to be helpful and impactful, it is not without challenges such as programmatic limitations, community limitations and a need for increased marketing. Based on the challenges described in the qualitative findings section above, we offer recommendations for the organization and larger community in the discussion section below.

Limitations

The quantitative results should be interpreted cautiously with the understanding that no conclusions about causality were possible due to the lack of randomization and the lack of a true

comparison group. That being said, when these results are considered along with results from interviews with service recipients, together they support the conclusion that KATR was successful in contributing to significant increases in access to treatment and overall improvements in service recipients' quality of life. Furthermore, the research was conducted with a small sample of individuals and thus cannot be used to infer causation.

Recommendations

Based on our findings and qualitative interviews, we have several recommendations for the Kentucky Access to Recovery program.

Organizational Recommendations

Regarding the quantitative results, we recommend the program increase their efforts to collect follow-up data for participants. These data would allow for a more robust interpretation of findings and understanding of the effectiveness of the program. We recommend conversing with hard-to-reach clients about the barriers they faced in completing follow-up contact and other means of communication. Our second recommendation is to expand the number of vendors in all service areas. One challenge for rural individuals in obtaining services is often associated with the distance to service location. Additionally, some of the vendors interviewed noted they knew who KATR was and generally what they did however, the vendors expressed a desire to know more about the KATR program. We recommend increased communication with the vendors to enhance their understanding of the KATR program. Similarly, we recommend developing stronger relationships with government officials and involving them as champions of this program. Our final recommendation for the organization is advocacy related, we recommend advocacy for policy changes related to 1) continuing the program, 2) changes in allowable expenses and, 3) higher spending limits.

Community Recommendations

One of the highlights in conducting this evaluation was learning about the larger community and how the KATR program interacts with community members and aids in increasing the quality of life in eastern Kentucky. To this end, we have identified areas where the community can continue to grow and increase quality of life with the assistance of other agencies. There is a stark need in the area for increased social support services such as affordable housing, employment training, and mutual aid (e.g., AA, NA groups). Alternative housing options for individuals leaving rehabilitation is needed to further increase the potential for successful recovery for individuals whose only housing option is to return home to an environment not suitable for someone seeking recovery. Furthermore, there is a need for government and business to rally around increasing phone and internet quality which will contribute to economic development and overall access to necessary services. And finally, advocacy for public transportation options and other modes of transportation is critical for individuals who lack access to personal transportation means.

Conclusion

KATR provides vital benefits to those in an area that has seen detrimental effects from the opioid epidemic. It offers people in recovery support to meet their needs so they can continue to progress in their recovery and meet their goals. Many participants report that without KATR, they would not be where they are today. Clothes for job interviews, support with childcare, and medical and dental care are things that not only benefit the participant financially, but they also improve participants feelings of self-esteem and self-worth. As such, the impacts of this program are felt throughout the community, both financially as well as socially. KATR has helped shift the community mindset around what individuals in recovery look like. The community

partnerships that have formed have helped rally individuals and companies in the community around those in recovery. While there is continued need for additional recovery supports throughout this area, without KATR, many individuals report there would have not been any other place to have their needs met, potentially perpetuating the continued cycle of addiction.

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Appendix