

The Turning Leaf Project

Process Evaluation Findings and Recommendations for Program Replication



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Executive Summary

Turning Leaf, a nonprofit organization in Charleston, SC, serves adult men recently released from incarceration who have a high probability of facing re-arrest. The program aims to change men's thinking and behavior so that they stay out of prison. The program is an intensive nonresidential program, and enrollment is voluntary. Men report to the center Monday through Friday from 9:00am until 5:00pm. Enrollment is usually four months. Men participate in three hours of daily group therapy classes and work in an on-site screen printing business.

The primary goal of this evaluation was to provide the evidence needed to both validate the fidelity of program model implementation and to set baselines for evaluating implementation at other program sites. To do this, the evaluation team worked closely with Turning Leaf staff to get clarity on details of the program model, to articulate a theory of change, and to further detail implementation of that theory of change in the form of a logic model.

Turning Leaf's staff regularly collects and records individual level data for program participants (referred to as "students") and individuals considered for participation. This data provided the primary source of evidence for evaluating the implementation of Turning Leaf's program model. The period for which data is examined begins in January of 2019 and ends in April of 2020. During that timeframe, initial personal and demographic data was collected on 299 individuals during Turning Leaf's Quick Eligibility Assessment. Of those 299 who were initially assessed, 114 were assessed for their risk to re-offend, 109 began day 1 of cognitive behavioral therapy group classes and 49 graduated the program.

The evaluation that follows addressed three categories of data to assess implementation and provide baseline statistics. The first results section focuses on intake and selection data to determine which individuals are being chosen to enroll in Turning Leaf and whether characteristics of program participants align with Turning Leaf's target population. The results here indicate that the processes for referrals and recruitment are identifying individuals that fall within the target population in terms of age, education levels, time of release, substance use disorders, and levels of risk to reoffend.

The second set of data examines program engagement to validate implementation in terms of length of enrollment and dosage amounts of group therapy classes. In both cases, evidence shows robust implementation of a tight and well-articulated program model. Finally, the evaluation concludes with analyses of program outcomes including student engagement, rates and benefits for community based employment, and re-arrests.

Data on retention indicates that once students make it past the initial two-week "trial period" they are very likely to graduate the program. Additionally if a student gets to week ten in the program, it is almost certain that they will go on to graduate and be placed in a community based job. When we look at retention in terms of an individual's risk to re-offend, initial trends in the data indicate an inverse relationship between risk level and retention. Those with the highest levels of risk are least likely to be retained after the two-week trial period, and are even less likely to graduate the program. None-the-less, because of the fidelity of the selection process, Turning Leaf still successfully graduates individuals with at least a med-high risk to re-offend. While this initial evaluation of

program outcomes does not provide enough evidence to validate the impact of the program model on long-term outcomes of employment and recidivism, initial findings provide support for the conclusion that the program model is achieving its primary goals of (1) placing graduates in high quality community-based jobs and (2) reducing the rates of re-arrest for program graduates.

Overall, the data here makes a compelling case for a well implemented program model. Selection procedures are identifying the right people and there are enough individuals who have been recruited and/or referred to be able to make controlled comparisons across groups. Future impact evaluations have the potential to validate program impacts by comparing outcomes across those that enroll and those that do not. The report concludes with recommendation and next steps. Most immediately, Turning Leaf staff is urged to focus on strengthening data collection procedures, to engage in a process evaluation of CBT curriculum to confirm the accuracy of internal fidelity checks, and to engage in a process evaluation to ensure the fidelity of program model implementation at the second site.

Introduction

Nearly two and a half million people in the United States are being held in prisons¹. The vast majority of these prisoners will at some point be released and will have to navigate their return to society. Upon their release, it is highly probable these individuals will face rearrest. The Bureau of Justice found that 83% of state prisoners were re-arrested at least once within nine years of their release². Given the challenge of high rates of recidivism, it is imperative that we identify intervention models that can effectively tackle the problem. If five out of six prisoners will be rearrested for a crime, strong incentive exists to identify re-entry programs that can reduce the likelihood of recidivism. Solving the systemic problem of recidivism entails replicating effective models and building a foundation of evidence to drive practice. The leadership at Turning Leaf recognizes this need, and as such is positioning the organization to offer an evidence based model that exemplifies “a new sector” of social services designed to meet the specialized needs of people returning home from prison which can be codified, replicated and evaluated.

Before Turning Leaf can serve as a model for reducing recidivism, it is important to assess the adequacy of program process implementation. In other words, before gathering evidence to validate impact, it is essential to confirm the model is being implemented as intended. The following evaluation examines the fidelity of implementation and the extent to which the provision of services align with Turning Leaf’s program theory and model. Drawing on internal documents, conversations with program staff and experts in the field of criminal justice, as well as administrative program data, this evaluation offers answers to the following questions: (1) Is Turning Leaf reaching the intended target population?; and (2) are the services being delivered consistent with the program model’s specifications?

This report begins by outlining Turning Leaf’s program model and the underlying theory of change. A logic model is included to illustrate the pathways by which key inputs, activities, and outputs produce immediate and long-term program outcomes. Next, we present evidence from internal records and administrative program data to assess the implementation of program processes including the process of participant selection and service provision. Where the evidence allows, values are identified that can serve as baselines to monitor and evaluate program performance across program sites.

Data gathered during the intake process from quick eligibility and formal risk assessment tools is used to present profiles of individuals (a) who apply to participate in

¹ Sawyer, W. and P. Wagner. (March 19, 2019). Mass Incarceration: The Whole Pie 2019. Prison Policy Initiative. <https://www.prisonpolicy.org/reports/pie2019.html>.

² Muhlhausen, D. (June 12, 2018). Research on Returning Offender Programs and Promising Practices. National Institute of Justice. <https://nij.ojp.gov/speech/research-returning-offender-programs-and-promising-practices>.

Turning Leaf’s program, (b) who enroll and begin day 1 at the center but do not remain in the program beyond the two week “trial” period, and (c) who remain in the program beyond the initial two week ‘trial’ period. The objective of creating participant profiles is to assess the degree to which criteria for eligibility match the characteristics of individuals enrolled in the program. By distinguishing between individuals who enroll day 1 from those that remain in the program more than two weeks we can identify factors that affect program retention as well as areas where the selection process could be strengthened. Additionally, by comparing data points across individuals that enroll and those that do not, we are able to suggest the degree to which these two groups are comparable. Identifying a comparison group is a necessary first step for designing a rigorous evaluation to validate the impact of Turning Leaf’s program model.

The second section of the analysis presents data on key program activities and outcomes. The objective of the analyses conducted here is to determine whether the services being delivered are consistent with the program model. The discussion in this section focuses on identifying services that are highly variable in their implementation, as well as areas where data collection procedures could be improved and/or augmented to enable a comprehensive assessment of the program’s logic model. In addition to analyzing data on program activities, this section presents results from the analysis of outcomes data, specifically recidivism and job placement.

The report concludes with recommendations for replication. Guidelines and criteria are offered for realizing a robust multi-site evaluation, including procedures for strengthening internal processes of data collection and possible research designs that could be employed to validate Turning Leaf’s program model and establish the organization as an evidence based program.

Theory of Change and Program Model

Program Background and Overview

Turning Leaf began in 2014 as a program offering an alternative to prison, but the program evolved in 2016 in response to challenges resulting from participant behavior, limitations to staff capacity, and questions around effectiveness of the program design³. Between 2016 and late 2018, additional adjustments were made to the program model, most importantly in regards to characteristics of the target population. Implementation of the current iteration of the program model began in January of 2019.

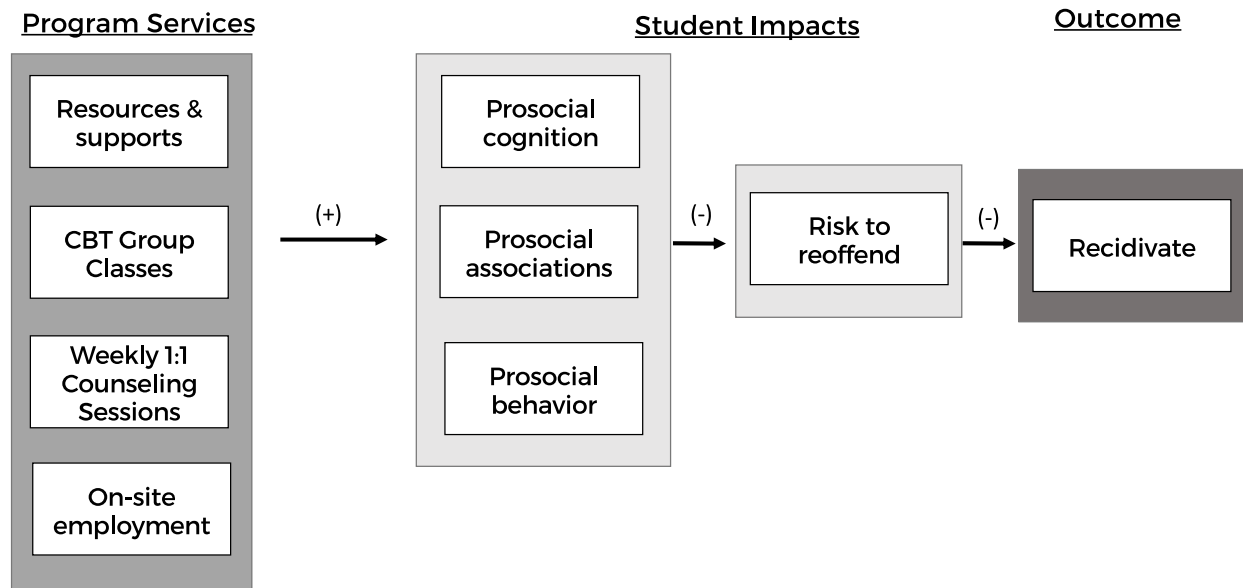
³ This and the remainder of information in this section is based on information gathered from internal documents provided by Turning Leaf staff, discussions with staff around the organization’s theory of change, and information on the organization’s intake and selection process.

Today, Turning Leaf operates as a community-based reentry program for men between twenty-five and fifty, who have been designated at a medium to high risk to re-offend and have been charged with committing crimes for financial gain, because of interpersonal conflict, and/or as a result of lifestyle choices. The intervention includes 150 hours of cognitive-behavioral group therapy classes, weekly one on one counseling sessions, and sixteen weeks of onsite employment, which entails working in the organization's t-shirt screen printing business. Once enrolled, program participants are referred to as "students". The current program model is characterized by a four month enrollment period, but historically it varied on occasion in response to the unique needs of the student. Approximately fifty students enroll in the program at the North Charleston site each year. Program graduates are placed in fair wage-earning jobs with businesses in the greater Charleston community.

The program model employed by Turning Leaf operates within a context that is intentionally created by Turning Leaf staff. Key characteristics of this context include, but are not limited to, the design and use of the building space, organizational culture, systems of rules and enforcement mechanisms, and highly structured time. These contextual factors are directly influenced by staff and are assumed to have significant impacts on students and program outcomes.

The primary method used to drive the decisions and actions of participants is cognitive-behavioral theory (CBT). Turning Leaf has used the Risk-Needs-Responsivity (RNR) model to develop a proprietary CBT curriculum and interventions tailored to the needs of participants and their level of risk to re-offend. Central to this approach is the provision of therapy combined with opportunities to apply therapeutic principles, receive feedback, and observe models of behavior to reinforce pro-social attitudes, beliefs, and behavior in a secure and stable environment. The presumption is that the program positively impacts an individual's sense of identity, accountability and self-efficacy which influences behavior change and recidivism reduction.

Theory of Change



As reflected in the organization’s mission statement, the goal of Turning Leaf’s work is to change the attitudes, thoughts, and behaviors of men with a medium to high risk to re-offend so that they successfully complete probation and remain out of prison. Foundational to this approach is the Risk-Need-Responsivity (RNR) framework. For Turning Leaf, the RNR framework serves to determine the who, what, and how of the program model. Empirically validated findings of the RNR framework have shaped the identification of Turning Leaf’s target population as well as tactical decisions about the provision of program services. Following this model, Turning Leaf has been intentional in the choice to target men at a medium to high risk of re-offending, to offer resources and supports that address criminogenic needs correlated with the probability of recidivism, and to utilize cognitive behavioral therapy appropriate to the learning styles, capabilities, and motivations of their target population. In practice this has led to the development of a CBT curriculum that is designed to speak to the needs, skills, and interests of Turning Leaf students.

The theory behind Turning Leaf’s program model is the following. Turning Leaf’s center provides a singular space that houses all re-entry services (CBT classes, counseling sessions, in-house transitional work, and supports for additional barriers to re-entry), an organizational culture of belonging, strong systems of rules and enforcement, highly structured time, and procedures for celebrating successes. These characteristics of the program setting ensure the program will change students’ attitudes, thoughts, and beliefs

through CBT classes, as well as opportunities to apply what it is taught and receive feedback on that application. In a collaborative setting, benefits of application and feedback are modeled by staff and students to one another. The consequence is a change in individuals' mindsets and behaviors leading to prosocial cognition, associations, and temperament. The core theoretical assumption is that by addressing criminogenic needs, through an intentionally designed program setting, Turning Leaf will foster prosocial attitudes, thoughts and beliefs, that lead to a decrease in rates of recidivism among program participants.

Program Model

Turning Leaf is a non-residential reentry program, meaning all services are provided in one location and participation is considered "immersive" with 40 hours of engagement per week. Students are in CBT group classes in the morning and work in the organization's screen-printing business in the afternoon. This scheduling is intentional. Work in the print shop gives an individual the opportunity to apply and practice the skills they learn in group classes in the morning. Thus, program components of group therapy and onsite job training are intended to work together to maximize treatment effects and produce long-term changes in behaviors and mindsets. The integration and comprehensiveness of the program is understood to be the key factor leading to success.

As mentioned previously, Turning Leaf has a theoretically motivated process for selecting eligible program participants. Most men voluntarily elect to enroll in Turning Leaf's program. However, on occasion, individuals will be referred to Turning Leaf by the courts as a condition of release. Experience has shown the most successful participants are those that voluntarily decide to enroll. The majority of students are recruited to enroll by Turning Leaf staff through prison in-reach prior to a person's release, outreach in the communities where participants live, or by word of mouth from other participants (current or former). Methods of recruitment are continuously evolving as lessons are learned and best practices identified to effectively motivate high risk individuals to seek out Turning Leaf's services. Turning Leaf enrolls about fifty men annually. While the program has capacity to serve more than fifty students per year, persistent challenges in recruitment, due to the relatively small target population in the Charleston metro region, have prohibited increasing the number of individuals served.

Turning Leaf utilizes an open enrollment model. This is a key characteristic of the program model because it ensures that potential students are engaged quickly to capitalize on their motivation to enroll, new students are able to learn from current students, and that current students are able to apply what they learn in the classroom to lead by example for others.

The following list of characteristics define Turning Leaf's target population:

- Men between the ages of 25 and 50
- Men released from incarceration within the past 12 months, or men who have been out of prison for more than 12 months but fail to meet probation requirements and/or admittedly engage in criminal activity⁴
- Men with no pending charges
- Men assessed at a medium to high risk to reoffend
- Men with a persistent history of criminal behavior
- Men who commit financially motivated, lifestyle, or violent crimes
- Men with educational and employment histories that create barriers to realizing employment
- Men without major substance abuse disorders
- Men with patterns of sexually motivated crimes
- Men who are homeless due to mental health issues or substance abuse

Participants are onsite Monday through Friday from 9 - 5. The full day requirement is intentional and strictly enforced. The structured schedule limits opportunity for engaging with antisocial peers or exhibiting antisocial behaviors outside of the program context and prepares the men for a traditional all-day work experience. Individuals are not considered "enrolled" from an administrative standpoint until they make it past the first two weeks in the program. It is only after this initial "pre-enrollment period" has passed, that Turning Leaf assumes responsibility for the effects of the program on the person. To determine progression through the program, Turning Leaf employs a strictly prescribed point system. This highly structured system for assessing performance serves two purposes; it removes an opportunity for staff subjectivity to dictate students' advancement or "success", and it ensures students have the responsibility and control needed to determine their own trajectory. This point system is tied directly to the daily stipend amount that students receive in exchange for participation in CBT classes and their overall progression through the levels and phases of the program. Students are paid \$11 per hour. The decision to pay at a rate substantially above minimum wage is to help with financial stability and to communicate to participants that they are respected and that their time and contribution is valued.

In the last year, Turning Leaf staff made the decision to move to a four month enrollment period for all students. In the past, enrollment periods were more fluid and dictated by student needs. The time from enrollment to graduation was typically four months, but sometimes longer or shorter, depending on the needs of the student. This

⁴ It is worth noting that staff experience suggests a lower probability of program success for individuals released more than a year before their enrollment in Turning Leaf.

was an intentional design decision. The staff at Turning Leaf believed that all of the individuals they work with have unique needs and that the timeline for the process of personal transformation would vary across individuals. However, with time, experience, and informed by research on dosage amounts, the decision was made to shift to a more static timeline for program model implementation. Currently the program model specifies that all students who enroll in Turning Leaf will receive 150 CBT classroom hours during a four month enrollment period. This evolution in the program model's enrollment period is evidenced by data below on length of enrollment and CBT dosage.

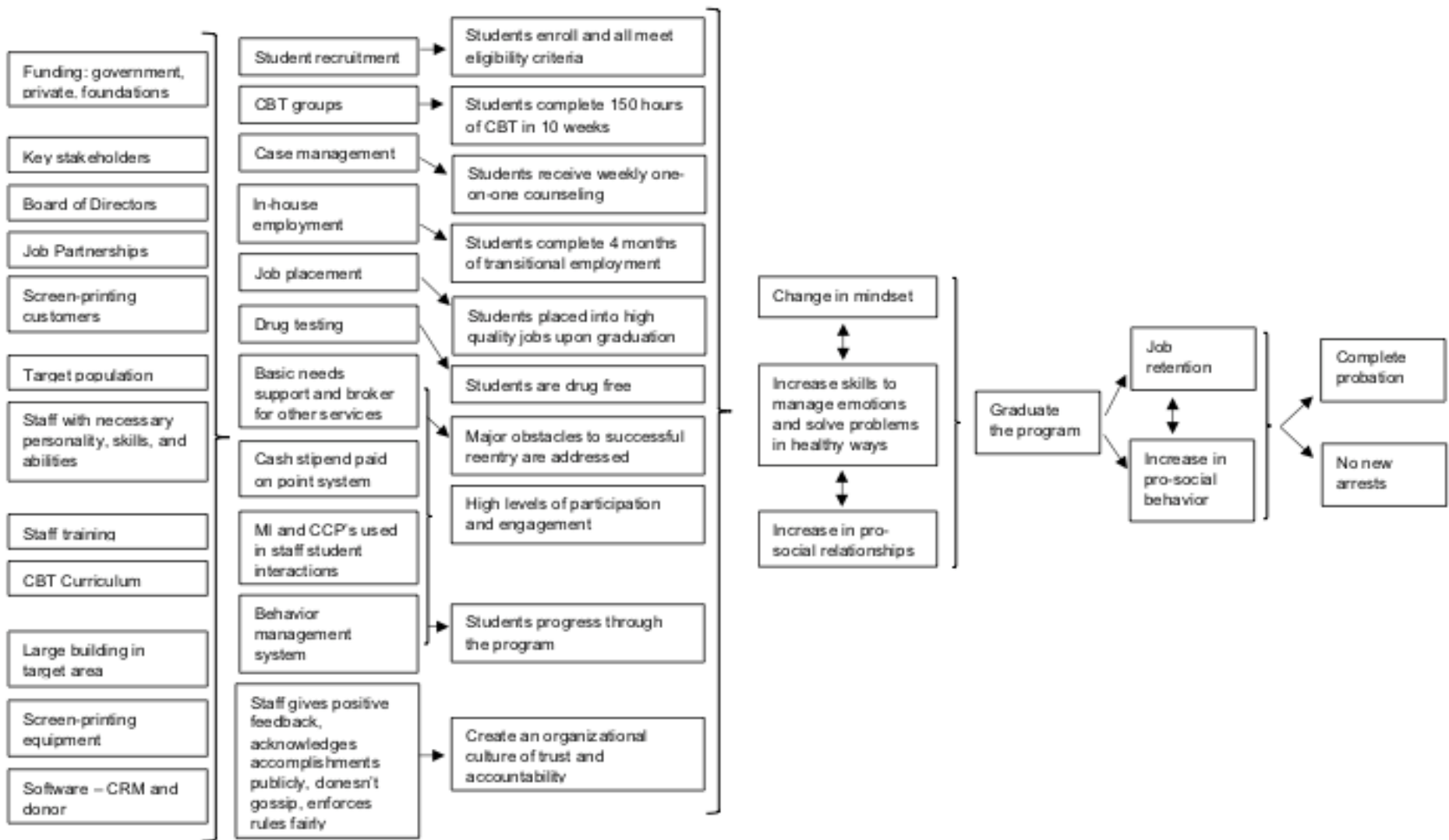
The four main activities that are offered in accordance with Turning Leaf's program model are cognitive behavioral therapy group classes, individual case management via weekly one on one sessions with the case manager, in house transitional employment in the onsite screen-printing business, and placement in high quality jobs in the community. Each of these are described in more detail below.

- CBT Classroom Training – Program participants engage in three hours of cognitive behavioral group classes a day. Over a ten week period, each individual will receive 150 hours of group therapy in a classroom setting. While the “correct dosage” for CBT classes has not been empirically validated, the goal of 150 hours is based in both recognized best practice and staff experience on what amount of group therapy has been seen to produce the desired change in attitudes, beliefs and behaviors. For each classroom hour, participants can earn up to \$11. However, the stipend amount is dependent upon student performance and adherence to the center's rules.
- On-site employment –Each student engages in 20 hours a week of work onsite for the first ten weeks and then 40 hours a week for their remaining time in the program. Pay is \$11 an hour. This experience provides program participants with the opportunity to apply the skills and knowledge gained in group classes and adapt to a full-time work schedule It also gives program staff the ability to gauge a student's readiness for job placement and identify an appropriate job placement site.
- Individual case management – Each week students attend one-on-one case management sessions with Turning Leaf staff. The case manager works with each student to design a case management plan and track their progress throughout their time in the program. In addition to working with students to ensure their success in the program, the case manager plays a vital role in identifying and addressing any other barriers to re-entry that may surface, such as needing to find stable housing or a reliable form of transportation.

- Community based employment – Finally, once an individual has successfully completed CBT group classes, has gained adequate employment experience through the onsite-print shop, and has demonstrated they can achieve all of the requirements stipulated in their case management plan, Turning Leaf staff identify one or more options for high quality community based employment. High quality jobs are those that pay at least \$14.00 an hour, offer benefits, and provide the opportunity for long-term employment. The job developer on staff communicates regularly with private and public sector employers to ensure job placements align with participants’ interests and capabilities.

Given the program model outlined above, what follows is a graphical representation of the specifics of the program in a logic model format. The logic model lays out the program inputs, activities, outputs and outcomes. Arrows are used to demonstrate the theoretical links between program components. The evaluation that is presented here uses existing program data on individual participants and potential participants to validate the links between program services, outputs, and outcomes.

INPUTS	ACTIVITIES	OUTPUTS	SHORT	MEDIUM	LONG
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Turning Leaf regularly monitors and reports out on key program indicators. These internal reports provide high level findings about program performance for 2019. Data from internal evaluations of program performance indicate that in 2019, 105 risk assessments were administered. Of those administered 86 were approved. Of the 86 individuals deemed eligible to enroll in Turning Leaf's program, 64 began the program and 44 made it through the two week "pre-enrollment period". Data on program outcomes for that time period shows that 52% of individuals enrolled completed the program. 89% of individuals placed in community-based employment remained employed for the first 30 days, 80% for the first 90 days, and 44% for the first 180 days after graduating from Turning Leaf. The overall re-arrest rate for program graduates in 2019 was 20%, while the re-arrest rate for program dropouts was 47%.

The information presented below builds on these findings to demonstrate the fidelity of program implementation, specifically, methods and criteria for selection, systems for managing and incentivizing performance, and levels of student engagement. Data included in this analysis begins with individuals that were enrolled in Turning Leaf as of January 1st, 2019 and includes individuals enrolled through April 4, 2020. The total number of participants included in the sample is 379, with 101 individuals deemed ineligible to participate and 192 eligible to participate. The analysis that follows is intended to provide baseline data for all program components. It includes information gathered during the intake process, specifically data on individual demographics, criminal history, substance use, family makeup, medical history, and employment eligibility. The analysis also includes results of individual risk assessments that serve to identify the students likelihood of re-arrest. To evaluate the robustness of program implementation we include information on program outputs (e.g. hours of group therapy and length of enrollment) and student engagement (e.g. performance indicators and rates of program completion). In order to establish a baseline for program impacts, this evaluation examines data on recidivism and employment.

Evaluating Selection and Intake Procedures

In this section data is presented to paint a picture of characteristics of individuals who participate in the Turning Leaf Project. Data is drawn primarily from the Quick Eligibility Assessment used to screen and identify potential clients prior to conducting the full length risk assessment. In this sample, the number of individuals that complete the Quick Eligibility assessment was 299. For each assessment question, data is disaggregated to present trends across the following categories of individuals: (1) all individuals who contacted Turning Leaf, (2) individuals dropped out or were terminated during the two week pre-enrollment period, and (3) those individuals who remained in the

program for more than two weeks. The objective of disaggregating data in this way is to assess the degree to which the program model and characteristics of the target population match the characteristics of individuals enrolled in the program. Additionally, by comparing individuals who enroll (whether on day 1 or past week two) to all individuals who contacted Turning Leaf we can determine the extent to which distributions of characteristics among the “treatment group” differ from the sample overall. Taken together these data breakdowns and comparisons provide the foundation for recommendations to inform tactics and strategies for participant selection moving forward.

Turning Leaf has an explicit and theoretically and experientially informed method for selecting program participants. Some of the key selection variables include participant age, medical history, history of substance abuse, criminal history, family situation, and employment status. Discussions of trends follow results presentations for each variable. The section concludes with general conclusions on the fidelity of the selection process.

Demographic and Personal Data

Overall, an examination of individual-level data from quick eligibility assessment results and risk assessment results, provides evidence to conclude that the methods for selection are effective at ensuring program participants match the target population. However, as discussed below, there are data points collected during the eligibility assessment that have very low collection rates. For future evaluations that seek to demonstrate the impact and effectiveness of the program model in reducing recidivism, it will be important to prioritize increasing collection rates for all individual level data gathered during the intake process.

Age

The program model’s target population is men between the ages of 25 and 50. Turning Leaf has targeted this age group because they make up the majority of incarcerated individuals; 68% of the prison population is between 25–50 years old, and many of these individuals are at a higher risk to re-offend⁵. Data on the age of program participants indicates that the majority of individuals who began on day one with Turning Leaf were in the target population, between the 25 and 50. 87% of all individuals who started day 1 on CBT classes were between the ages of 25 and 50. Evidence below indicates age is positively related to student retention. For students who are retained beyond the first two weeks, the percentage of graduates between 25 and 35 is lower than the percentage who make it past the two week period. For individuals 36 and above, the

⁵ U.S. Department of Justice Special Report (2016). Aging of the State Prison Population, 1993–2013

reverse is true. Students in this age group make up a larger percentage of graduates. Together these results indicate that older students are more likely to complete the program. Specifically, students younger than 36 are more likely to drop out or be terminated, even after the ten day trial period. Examining the mean age across groups at different points in the program further supports the relationship between age and retention. The mean age of students in the first two weeks is about 36, after the first two weeks that number increases to 44 and at the time of graduation, the number increases to 49. Given that other studies find age to be a powerful and significant predictor of recidivism, where the older one gets the less likely they are to recidivate, future evaluations must be able to control for age in order to isolate the impact of Turning Leaf’s program model.

What is the individual’s age ?								
Age	Of all QEA Results		Enrolled < 10 Days		Enrolled 10+ Days		Graduated	
	#	%	#	%	#	%	#	%
< 25	9	4.40%	3	13.33%	2	2.80%	0	0.00%
25-30	51	24.90%	9	26.67%	16	22.50%	6	13.00%
31-35	37	18.05%	7	23.33%	13	18.30%	8	17.40%
36-40	43	20.98%	5	16.67%	18	25.40%	12	26.10%
41-45	30	14.63%	4	13.33%	8	11.30%	8	17.40%
46-50	19	9.27%	2	6.67%	7	9.90%	5	10.90%
> 50	16	7.80%	0	0.00%	7	9.90%	7	15.20%
N	205		30		71		46	
Mean	42.2		35.5		43.8		48.9	
Std. Deviation	18		7.35		19.8		22.6	

Education Level

Data on individuals’ education level indicates that Turning Leaf is selecting program participants that match the target population. Additionally, the evidence below suggests education level is a predictor of which students are retained past the first ten days, but not necessarily which “enrolled” students will graduate. If we Low levels of educational attainment are correlated to higher rates of recidivism. Turning Leaf aims to work with individuals for whom educational attainment presents a barrier to employment and re-entry. 94% of all students have a high school level of education or below. In general, education levels are higher for individuals retained beyond the two week pre-enrollment

period. For example, 61% of those retained have a high school degree or equivalent, while on 40% of those not retained have the same. Additionally, a higher percentage of program graduates have a high school degree or equivalent as compared to all students who make it past day 10. However, if we look at other categories of education data, “some college” for example, graduates of Turning Leaf have a slightly lower percentage of individuals with some college. It is important to note that education data was only collected for 58 individuals during the first days that a student is in the program. Given the importance of this information for evaluating the program model implementation, priority should be given to increasing collection rates for educational data.

Individuals’ Education Level								
Education Level	Full Sample		Enrolled < 10 Days		Enrolled > 10 Days		Graduated	
	#	%	#	%	#	%	#	%
< 8th grade (1)	2	3.45%	0	0.00%	2	4.55%	2	8.00%
< 12th grade (2)	19	32.76%	6	60.00%	12	27.27%	5	20.00%
HS Diploma/GED (3)	34	58.62%	4	40.00%	27	61.36%	17	68.00%
Some college (4)	3	5.17%	0	0.00%	3	6.82%	1	4.00%
N	58		10		44		25	
Mean	2.65		2.4		2.7		2.7	
Std. Deviation	0.65		0.52		0.67		0.67	

Family Dynamics

According to Turning Leaf staff, the average program participant “has multiple children”. Data from initial intake meetings with students confirms that 74% of program participants have children. However, like the information on education levels, this data point exists for only 58 students. While this is not a selection criteria used to define the program’s target population, it is worth considering increasing collection rates on this variable to ensure comparability across treatment and control groups in any controlled comparison. Mean values for each group indicate a negative relationship between having children and program retention. Graduates have the lowest percentage of students with children, while individuals who do not complete the first two weeks have the highest. While the correlation coefficients between having children and completing the program is not statistically significant, evidence suggests the effect could be more significant with a larger sample. Thus, as Turning Leaf expands its program model to other sites, robust findings from future evaluations require collecting comprehensive and accurate data on family dynamics both for individuals who begin the program and those who do not. It would

be worth considering including this question in the quick eligibility assessment to ensure that any future comparisons between treatment and control groups account for the impact of this variable on program outcomes.

Does the client have children?								
Pending charge?	Full Sample		Enrolled < 10 Days		Enrolled 10+ Days		Graduated	
	#	%	#	%	#	%	#	%
No (0)	15	25.86%	2	20.00%	12	27.27%	8	32.00%
Yes (1)	43	74.14%	8	80.00%	32	72.73%	17	68.00%
N	58		10		44		25	
Mean	0.74		0.8		0.73		0.68	
Std. Deviation	0.44		0.42		0.45		0.48	

Housing Situation

Housing instability can be a major barrier to effectively participating in treatment programs shown to reduce recidivism. Having a place to live is a program requirement. Turning Leaf actively screens out potential candidates who are homeless, recognizing that they are not stable enough to participate in daily classes and work. Homelessness is also an indicator to staff that the person may have a history of major substance abuse. For those who struggle with addiction, stable housing is often hard to realize. Turning Leaf students have lower rates of homelessness than the full sample of assessed individuals. Additionally rates of homelessness are non-existent for individuals retained beyond the two week trial period. Having a place to live is positively and significantly correlated with program retention. Students who report having a place to live during the quick eligibility assessment are more likely to remain in the program beyond the first ten days.

Does the individual have a place to live?						
Place to live?	Of all QEA Results		Enrolled < 10 Days		Enrolled 10+ Days	
	#	%	#	%	#	%
No (0)	31	11.03%	1	6.67%	0	0.00%
Yes (1)	250	88.97%	14	93.33%	45	100.00%
N	281		15		45	
Mean	0.89		0.93		1	
Std. Deviation	0.31		0.26		0	

Medical History

Information is gathered on individual medical histories during the first meeting with Turning Leaf’s case manager. This data indicates that a small percentage of all individuals assessed confirm that they have an existing medical condition. All five of the individuals who have a medical condition ended up becoming participants of Turning Leaf and were retained beyond the two week pre-enrollment period. This suggests that a medical condition may be a motivating factor for individuals to participate and remain in Turning Leaf’s program. However, given low levels of data collection on this question, additional data is needed to support confirm or refute this relationship.

Does the individual have a medical condition?						
Medical condition	Full sample		Enrolled < 10 Days		Enrolled 10+ Days	
	#	%	#	%	#	%
No (0)	53	91.38%	10	100.00%	39	88.64%
Yes (1)	5	8.62%	0	0.00%	5	11.36%
N	58		10		44	
Mean	0.09		0		0.11	
Std. Deviation	0.28		0		0.32	

Release Date

Turning Leaf targets men who are within twelve months of their release from prison. In 2020 Turning Leaf began a letter writing campaign to recruit participants while they are still in prison from lists provided by the South Carolina Department of Corrections. Given this recent shift in recruitment strategy, future evaluations should examine the relationship between an individual’s release date and program outcomes including graduation and re-arrest. While the strength of conclusions based on the release data below is limited by a small sample size, we can see some evidence of a relationship between release date and program graduation. Graduates are more likely than non-graduates to have been released in the last twelve months, but this relationship (given available data) is not statistically significant.

Data gathered on individuals’ release data indicates that more than 85% of all program participants had been released from prison within the last 12 months. While data indicates that nearly 15% of participants were not released within the last year, this is not in contradiction to the program model. The target population includes not only individuals released within the last year, but also individuals “who have been out of prison for more than 12 months but fail to meet probation requirements and/or admittedly engage in criminal activity”. Given this stipulation, it is expected that some participants would fall

outside of the target range. However, compared to the full sample, most Turning Leaf students were released from prison within 12 months. An examination of the means across groups indicates that on average, graduates are slightly more likely to have been released within the last year.

Was the individual released within the last 12 months?								
Release date?	Of all QEA Results		Enrolled < 10 Days		Enrolled 10+ Days		Graduated	
	#	%	#	%	#	%	#	%
No (0)	79	28.01%	2	14.29%	6	13.64%	3	11.11%
Yes (1)	203	71.99%	12	85.71%	38	86.36%	24	88.89%
N	282		14		44		27	
Mean	0.72		0.86		0.86		0.88	
Std. Deviation	0.45		0.36		0.35		0.32	

Criminal History

Turning Leaf aims to work with individuals who have a persistent history of criminal activity and no pending charges. 7% of all program participants have pending charges. While this percentage is low, and significantly lower than the rate of pending charges for the full sample (18%), it raises questions about why some individuals with pending charges are allowed to participate in the program. Criminal history data gathered during the initial screening process indicates that 75% of all program participants have a criminal history that began before they reached the age of 18. Thus, program participants have a higher occurrence of juvenile crime than the full sample of assessed individuals. This suggests that selection methods are effectively identifying those men who have a persistent and long-standing history of criminal behavior.

Additionally, the data on juvenile criminal behavior indicates a significant difference in rates of juvenile arrests for individuals who are retained more than two weeks and those who were not. Individuals who are retained beyond the two week enrollment period are much more likely than those who were not to have been arrested under the age of 18. While we see a significant difference in juvenile arrests early in the program, this difference diminishes when comparing graduates to all individuals enrolled more than ten days. In fact, rates of juvenile arrest are slightly lower for graduates. When comparing all program participants, program graduates are on average more likely than non-completers to have been arrested under the age of 18. Taken together these results provide evidence that Turning Leaf's program model is effectively retaining individuals that are more high risk, given their juvenile criminal history. In addition to a significant correlation between juvenile crimes, statistical results show a positive and significant

relationship between the number of adult felony convictions and individual has and whether a student is retained beyond the first ten days.

While we see a clear relationship between juvenile crime and adult felony convictions and program retention, risk assessment results presented below do not show such a clear relationship. Additionally, the data in this section does not show a clear relationship between specific indicators of criminal history and program graduation. Future evaluations would contribute much to the selection strategy by teasing out the impact of individual indicators for risk level and criminal history. Also to better understand the relationship between specific criminal risk factors and program completion more analysis is needed.

Does the individual have a pending charge?								
Pending Charge	Of all QEA Results		Enrolled < 10 Days		Enrolled 10+ Days		Graduated	
	#	%	#	%	#	%	#	%
No (0)	236	81.94%	14	93.33%	42	93.33%	24	88.89%
Yes (1)	52	18.06%	1	6.67%	3	6.67%	3	11.11%
N	288		15		45		27	
Mean	0.18		0.07		0.07		0.11	
Std. Deviation	0.39		0.26		0.25		0.32	

Was individual arrested under the age of 18?⁶								
Arrest history	Of all QEA Results		Enrolled < 10 Days		Enrolled 10+ Days*		Graduated	
	#	%	#	%	#	%	#	%
No (0)	99	35.48%	7	46.67%	8	17.40%	5	18.50%
Yes (1)	180	64.52%	8	53.33%	38	82.61%	22	81.50%
N	279		15		46		27	
Mean	0.65		0.53		0.83		0.81	
Std. Deviation	0.48		0.52		0.38		0.4	

⁶ An asterisk is used to denote when there is a significant relationship between an individual's response to the question and a given retention category. In this case, data showed a positive and significant relationship between juvenile arrest and whether the student remained enrolled beyond the ten day trial period. Here the correlation was significant at p=.02.

How many adult felony convictions? ⁷								
Felony convictions	Of all QEA Results		Enrolled < 10 Days		Enrolled 10+ Days*		Graduated	
	#	%	#	%	#	%	#	%
None (0)	12	4.32%	0	0.00%	0	0.00%	0	0.00%
1 or 2 (1)	113	40.65%	10	66.67%	15	33.33%	11	42.31%
3 or more (2)	153	55.04%	5	33.33%	30	66.67%	15	57.69%
N	278		15		45		26	
Mean	1.51		1.33		1.67		1.58	
Std. Deviation	0.58		0.49		0.48		0.5	

Substance Abuse History

Turning Leaf has very intentionally made the choice to omit individuals with substance abuse problems from their target population. While forty-two percent of people in prison have a history of drug or alcohol dependency⁸, and research shows substance abuse to be a significant predictor of recidivism as well as a major barrier to maintaining stable employment, a program can only effectively reduce recidivism for these individuals if it is combined with a therapeutic drug and addiction component. Additionally, programs that include individuals with substance dependence and those without will compromise outcomes for both groups. Turning Leaf’s strategy to screen for substance abuse is in-line with a program model that is designed to specifically address the needs of high-risk individuals without substance use disorders. Evidence presented here indicates that Turning Leaf is implementing the method of selection for the program model with fidelity.

Initial screening for substance abuse disorders happens during the quick eligibility assessment. Data from this assessment demonstrates that individuals enrolled in the program have lower rates of substance abuse than the full sample of assessed individuals. Only 26% of all individuals who begin on day one have a history of substance abuse, while 35% of all individuals assessed have a history of abuse. These findings are supported by the risk assessment data presented below.

⁷ Data showed a positive and significant relationship between the number of adult felony convictions and whether the student remained enrolled beyond the ten day trial period. Here the correlation was significant at p=.02.

⁸ U.S. Department of Justice Special Report (2017). Drug Use, Dependence, and Abuse Among State Prisoners and Jail Inmates, 2007-2009

Does the individual have a history of substance abuse?								
Substance abuse history	All		Enrolled < 10 Days		Enrolled 10+ Days		Graduated	
	#	%	#	%	#	%	#	%
No (0)	111	64.91%	23	79.31%	50	71.43%	29	67.44%
Yes (1)	60	35.09%	6	20.69%	20	28.57%	14	32.56%
N	171		29		70		43	
Mean	0.35		0.21		0.29		0.33	
Std. Deviation	0.47		0.41		0.46		0.47	

Assessment of Risk to Reoffend

Overall Risk to Reoffend

114 individuals completed the one of three types of test assessing their risk to reoffend. 38% of individuals who completed the Quick Eligibility Assessment went on to complete the full risk assessment. Individuals included in this dataset completed one of three types of risk assessment tools. The dataset includes all questions which were equivalent across assessments. Factors that appeared on all three risk assessments were (a) individual's overall risk to reoffend, (b) effects of criminal history, (c) effects of employment and education, (d) effects of substance abuse, and (e) effects of criminal attitudes on one's risk to reoffend.

Breakdown of Risk Assessment Administration by Assessment Type		
Assessment Type	# Assessed	% Assessed
CST	59	52%
LSCMI	30	26%
SRT	25	22%
Total	114	100%

In this sample the type of risk assessment completed by the majority of participants was the Community Supervision Tool (CST). At different points in time Turning Leaf has used different risk assessments tools to evaluate individuals' risk to reoffend. In January of 2020, Turning Leaf made the shift to administer only the Level of Service/Case Management Inventory (LSCMI) to individuals being considered for participation in the program. Of all individuals assessed, a significant proportion were considered to have a medium to very high risk of recidivating. 95% of all individuals who

were evaluated were at or above a medium-high risk to reoffend. This suggests that screening mechanisms used during the initial stage of the intake process, i.e. the Quick Eligibility Assessment, effectively identifies individuals who match characteristics of Turning Leaf's target population. This is true not only in regards to overall levels of risk to reoffend, but also when we consider the relationship between substance abuse and overall levels of risk to reoffend. That percentage holds when the data is broken down by those who were approved to enroll and those individuals that were denied. Results below indicate Turning Leaf's criteria for selecting program participants is being implemented with fidelity. Of those individuals who were assessed, 70 (62%) began day 1 of the program. Of those who began the program, 81% were at a high to very high risk to reoffend. 100% of individuals who initiated the program were rated at a medium-high or above risk to re-offend.

While data on students' overall risk to reoffend indicates that Turning Leaf is targeting the right individuals, initial evidence on the relationship between risk level and program retention is inconclusive. While graduation is significantly related to a students' overall risk level, the nature of this relationship is not clear from the data. While most graduates were assessed at a high risk to reoffend, the relationship between risk level and graduation is not linear. This suggests that Turning Leaf may succeed at a graduating students with a particular level of risk, but not necessarily the highest level of risk to reoffend. Additionally a comparison of means across groups, shows the mean risk level to be lowest for program graduates, second lowest for individuals enrolled more than ten days, and highest for individuals who exit within the first two weeks. For individuals who did not remain past the two week "pre-enrollment period", 93% were at least a medium-high risk of re-offending. For individuals who were retained beyond the first two weeks, this number increases to 98%. To better understand program impacts as they pertain to individuals' risk to reoffend, future evaluations should focus on specifying the relationship between risk, program completion, and recidivism.

What is the individual's overall risk to reoffend?⁹

Risk Level	Of all Results		Enrolled < 10 Days		Enrolled 10+ Days		Graduated*	
	#	%	#	%	#	%	#	%
Medium	4	3.51%	0	0.00%	0	0.00%	1	4.55%
Medium-High	20	17.54%	2	7.69%	11	25.00%	4	18.18%
High	34	29.82%	8	30.77%	14	31.82%	11	50.00%
Very high	54	47.37%	16	61.54%	19	43.18%	6	27.27%
N	112		26		44		22	
Mean	3.23		3.54		3.18		3	
Std. Deviation	0.87		0.65		0.81		0.82	

For the most part, the trends observed for the assessment of overall risk apply to risk levels associated with specific criminogenic needs and barriers to re-entry. The largest proportion of low risk participants was observed in the evaluation of criminal attitudes and the risk to reoffend. Only 27% of all participants were rated at a medium level or higher for the level of risk associated with criminal attitudes. Only for the effect of substance abuse history is it the case that participants are primarily at a low risk to reoffend. The data on substance use and risk to re-offend provides further evidence that the method of selection and initial screening process is being implemented with fidelity. Turning leaf is effectively identifying medium to high risk individuals without major substance use disorders to participate in the program.

Criminal History and Risk to Reoffend

What is the relationship between criminal history and participant retention?

Data on the relationship between criminal history and risk to reoffend indicates a pattern similar to that observed for an individual's overall-level of risk. Of all individuals assessed, 90% were rated as a medium to high risk to reoffend given their criminal history. While initial data does not provide evidence of a significant relationship between criminal history and retention, trends in means across the groups below suggest an inverse relationship between risk level and program retention. Students who graduate, have on average a lower level of risk, given criminal history, than those who leave before the first two weeks. This finding reinforces the recommendation above to focus future evaluation efforts on clarifying the relationship between risk level and program completion.

⁹ Data showed a significant relationship between overall risk to reoffend and whether the student graduated. Here the correlation was significant at p=.05.

What is the individual's risk to reoffend, given their criminal history?								
Risk Level	Of all Results		Enrolled < 10 Days		Enrolled 10+ Days		Graduated	
	#	%	#	%	#	%	#	%
Low	11	9.82%	2	7.69%	1	2.27%	1	4.55%
Medium	44	39.29%	10	38.46%	22	50.00%	12	54.55%
High	57	50.89%	14	53.85%	21	47.73%	9	40.91%
N	112		26		44		22	
Mean	1.41		1.46		1.45		1.36	
Std. Deviation	0.67		0.65		0.55		0.58	

Education and Employment History and Risk to Reoffend

What is the relationship between employment and education history and participant retention?

80% of individuals who were assessed and approved to enroll were determined to have a medium to high risk for re-offending given their education level and employment history. Of all individuals assessed approximately 12% were rated at a low risk level based on their education and employment history. Examining the breakdown of this data across individuals retained more than two weeks and those that were not, we see higher levels of risk for those individuals who did not remain in the program beyond the pre-enrollment period. Approximately 89% of individuals who were administratively “enrolled” had a medium or high risk to reoffend, while 96% of those who left before “enrollment” were at that same risk level. Additionally only 86% of graduates had a medium to high risk to reoffend based on their employment and education history. An examination of trends in means across these groups is further evidence of the negative relationship between risk level and retention. Highest levels of risk are observed for students who exit during the first two weeks, while the lowest levels are seen in program graduates.

What is the individual's risk to reoffend, given their education and employment history?								
Risk Level	Of all Results		Enrolled < 10 Days		Enrolled 10+ Days		Graduated	
	#	%	#	%	#	%	#	%
Low	13	11.61%	1	3.85%	5	11.36%	3	13.64%
Medium	22	19.64%	5	19.23%	8	18.18%	6	27.27%
High	77	68.75%	20	76.92%	31	70.45%	13	59.09%
N	112		26		44		22	
Mean	1.57		1.73		1.59		1.45	
Std. Deviation	0.69		0.53		0.69		0.74	

Substance Use History and Risk to Reoffend

What is the relationship between substance use history and participant retention?

When risk to reoffend accounts for the clients' patterns of substance use, the majority of individuals approved to enroll (66%) had a low risk to re-offend based on their substance use. This suggests that the criteria for selection, specifically the decision to not work with individuals with substance abuse disorders, is being implemented effectively. Additionally, for all students who begin day 1 at Turning Leaf, 54% had a low risk to reoffend given their substance abuse history. Evidence also indicates that risk levels associated with substance use are positively related to program retention. Risk levels for individuals who do not remain beyond the initial two weeks are lower than for those individuals retained past the pre-enrollment period. Graduates also have a lower risk to reoffend given substance abuse histories than all individuals who are retained beyond the first ten days.

What is the individual's risk to reoffend, given their history of substance abuse?								
Risk Level	Of all Results		Enrolled < 10 Days		Enrolled 10+ Days		Graduated	
	#	%	#	%	#	%	#	%
Low	60	53.57%	13	50.00%	25	56.82%	13	59.09%
Medium	43	38.39%	12	46.15%	17	38.64%	8	36.36%
High	9	8.04%	1	3.85%	2	4.55%	1	4.55%
N	112		26		44		22	
Mean	0.54		0.54		0.47		0.45	
Std. Deviation	0.64		0.58		0.59		0.6	

Criminal Attitudes and Risk to Reoffend

What is the relationship between criminal attitudes and participant retention?

Risk assessment data on the impact of criminal attitudes on risk to reoffend shows that for those individuals approved to participate in Turning Leaf, 73% were determined to have a medium to high risk of re-offending, given their criminal attitudes. Among all predictors of risk to re-offend considered (except for substance use), this is the lowest distribution of medium to high risk individuals. Additionally, a comparison of risk levels on this predictor for participants retained beyond two weeks and those who were not illustrates that criminal attitudes and risks to reoffend were ten percentage points higher for individuals not retained past the first two weeks. Data on mean risk levels across the groups considered here also suggests an inverse relationship between risk level and program graduation. On average risk levels, based on criminal attitudes, are lowest for students who graduate the program. Taken together these results suggest criminal attitudes could be a predictor of program success and participant retention.

What is the individual's risk to reoffend, given their criminal attitudes?								
Risk Level	Of all Results		Enrolled < 10 Days		Enrolled 10+ Days		Graduated	
	#	%	#	%	#	%	#	%
Low	22	19.64%	5	19.23%	11	25.00%	8	36.36%
Medium	61	54.46%	17	65.38%	23	52.27%	11	50.00%
High	29	25.89%	4	15.38%	10	22.73%	13	13.64%
N	112		26		44		22	
Mean	1.06		0.96		0.98		0.77	
Std. Deviation	0.67		0.6		0.7		0.68	

Evaluating Service Implementation

Student Retention

To establish baseline data on program retention, this analysis calculates retention numbers beginning with the Quick Eligibility Assessment and ending with program completion, i.e. graduation from Turning Leaf. 299 individuals were given the Quick Eligibility Assessment. Of those 299 who completed the initial screening process, only 114 (38%) took the assessments to determine their risk to reoffend. Data indicates that for the time period being examined 109 individuals began the first day of CBT classes with Turning Leaf. 96% of individuals who completed the risk assessments began the first day of CBT classes. However, of these 109, only 75 (69%) made it past the first ten days. Of those who made it past the first ten days, only 49 graduated the program. From day 1 to graduation

the rate of retention is 45%. From the time when a student is considered “enrolled”, after the first ten days, to graduation the rate of retention is 65%.

Was the student enrolled for more than two weeks?		
Length of enrollment	#	%
Not enrolled > 2 weeks (0)	34	31.19%
Enrolled > 2 weeks (1)	75	68.81%
N	109	
Mean	0.69	

Retention Data		
Program Phase	# of Individuals	% Retained
Quick Eligibility Assessment	299	--
Intake: Quick Eligibility >> Risk Assessment	114	38%
Risk Assessment >>1st Day of CBT Classes	109	96%
1st Day of CBT Classes>>2nd week of CBT Classes/"Enrolled"	75	69%
2nd week of CBT Classes/"Enrolled">> Graduation	49	65%

Did the student complete the program?				
Completion status	All enrolled student		Students enrolled more than two weeks	
	#	%	#	%
Terminated or dropped out	86	64%	31	44%
Graduated	49	36%	40	56%
Total	135	100%	71	100%

Students who did not make it past the ten day period are not considered enrolled from an administrative standpoint. Of the 34 clients that did not continue past the first ten days 19 dropped out and 10 were terminated. The breakdown of the reason for termination for those individuals who did not remain in the program indicates that for the majority of clients (74%) no reason was recorded. For the reasons that were recorded, repeated failed drug tests was the most common reason for termination. The breakdown of the termination data for this group of students is the following:

Reason student was terminated in the first ten days		
Reason	#	%
No reason given	25	74%
No call, no show to class	3	9%
Other behavioral or attitudinal issues	1	3%
Repeated failed drug test	4	12%
Falling asleep in class	1	3%
Total	34	100%

Service Implementation and Participant Engagement

CBT Fidelity and Dosage

What procedures are in place to ensure the fidelity of CBT programming?

Turning Leaf has been very intentional in the design and implementation of their CBT programming. The content and design of Turning Leaf's CBT curriculum is one of the elements of the program that is regularly credited as a key driver of program outcomes by both supporters, staff, and participants. Consequently, as the program scales to other locations, it is necessary that procedures be codified to ensure that the curriculum is being delivered in the way it was designed and intended by Turning Leaf's leadership. Additionally, future process and impact evaluations should focus specifically on validating the implementation and impact of Turning Leaf's CBT program.

Procedures currently exist to evaluate implementation in the existing site. These procedures are the following. Two staff members are charged with facilitating the CBT group classes. For quality control classes are recorded. The curriculum designer and Executive Director, Amy Barch reviews the video and provides feedback to the most senior facilitator. While the most senior facilitator reviews the video and provides feedback for the less senior facilitator. Reviews with feedback happen on a weekly basis. In addition, rubrics are used intermittently to "score" the facilitators and these scores are discussed in combination with the video reviews. In preparation for expansion to another site, Turning Leaf staff have created an online training program for classroom facilitators at other sites.

Does the dosage of CBT match the dosage specified in the program model?

Program data indicates that there is significant variation across participants in terms of the numbers of hours they spend in CBT classes. For all program participants, including individuals enrolled less than two weeks, hours in CBT classes are between 2 and 276, with an average of 96 classroom hours. For all individuals enrolled more than two weeks, the average dosage of CBT hours is 127 total hours. For individuals that do not complete the program, they will receive on average only 64 hours of CBT in a classroom setting. For graduates this number is much closer to the dosage of CBT outlined in the program model; on average graduates receive 148 hours of CBT classes. Again, what is important to note is that across categories of Turning Leaf clients the dosage of CBT varies significantly, with the upper bound of the distribution (276 hours) being well above the dosage specified by the program model.

CBT Dosage (classroom hours for all students to date)				
Student Categories	#	Median	Mean	Standard Deviation
All students that begin Day 1	103	110	96	69
Students enrolled more than two weeks	74	135	127	54
Students that drop out or are terminated	54	43	64	58
Students that graduate	40	144	148	44

Length of Program Enrollment

What is the length of time it takes for participants to complete the program? When do the majority of non-graduates leave the program?

According to Turning Leaf’s program model, participants are enrolled in the program for 3 – 4 months. Again, as mentioned above the length of enrollment portion of the program model has evolved over time. For all individuals included in this analysis length of enrollment varied between 12 and 16 weeks. Initially risk scores were used to “track” students, where lower risk individuals were enrolled for shorter periods and higher risk for longer. However, with the movement towards the use of the LSCMI as the primary tool for assessing risk, clients tended to assess at a higher overall level of risk to reoffend. Since the full adoption of the LSCMI in January of 2020, the vast majority of students have been tracked towards the 16 week enrollment model.

The evidence below indicates this component of the program design is being implemented in accordance with the model. Data shows more than 60% of program graduates completed the program within three months, while 27% graduated in four months. 87% of program participants graduate between three and four months. Suggesting that for the vast majority of students who graduate, the length of their participation aligns with the program model’s design of 3 to 4 months.

While the data available demonstrates that the program model is being implemented with fidelity for the majority of program graduates, the small sample size and missing data on start and end dates for program participants, raises questions about how representative these findings about program enrollment may be. While 49 individuals in this sample graduated the program, length of enrollment data is only available for 37 of

those students. This equates to data for only about 75% of all graduates in the sample. This is one area where a future data audit would increase the representativeness and validity of results from any future impact evaluations.

For individuals who do not graduate the program, a very different trend is observed. 45% of non-completers leave the program within the first two weeks. 62% leave within the first five weeks. And 75% leave the program within the first two months. Two time periods stand out. During the first two weeks, we see the highest rates of student losses, but there is also a high rate of dropouts/terminations during the 10th week of enrollment. Rates of student exits from the program during week ten at 12% are nearly twice the rate at any other point, other than weeks one and two. Staff in existing and new sites would do well to keep an eye to these two time periods as critical moments where retention decreases. Teasing out reasons for exit at each time period would enable staff to employ tactics and strategies to diminish the impact of factors contributing to termination or drop out at these points.

Length of Enrollment for Program Graduates¹⁰		
Weeks	#	%
3	2	5.41%
10	8	21.62%
11	16	43.24%
12	3	8.11%
13	3	8.11%
14	3	8.11%
16	1	2.70%
21	1	2.70%
N	37	
Mean	11.2	
Median	11	

¹⁰ For purposes of strategic decision making, graduates who fall outside of the enrollment period specified in the program model are identified here. Two individuals, Anthony Green and Dewayne Robinson graduated the program in three weeks. Eight individuals graduated the program in 10 weeks: Robert Brown, Shatario Copeland, Antonio Simmons, Christopher Hastings, Elton Weeters, Jonathan Barr, Kevin Washington, and Norris Steplight.

Length of Enrollment for Students Who Do Not Graduate		
Weeks	#	%
1	10	17.24%
2	16	27.59%
3	4	6.90%
4	2	3.45%
5	4	6.90%
6	2	3.45%
7	1	1.72%
8	4	6.90%
9	1	1.72%
10	7	12.07%
11	4	6.90%
12	1	1.72%
14	2	3.45%
9	58	
Mean	5	
Median	3	

Participant Engagement

How do participants perform while in the program? What is the difference in performance between graduates and non-completers?

To evaluate both the implementation of the system of rewards and enforcement used by Turning Leaf, as well as program participants level of engagement and performance, data is presented on the average points earned per week and average stipend amount paid. As mentioned above, the points system is integral to moving clients forward through the program, and implementing the system with fidelity ensures that progress is not subjectively determined by program staff. Additionally, because stipend payment amounts are tied directly to the number of points students earn, stipends provide a mechanism to incentivize prosocial behaviors and attitudes among program participants. As expected, the data shows that program performance is positively related to graduation. Program graduates are likely to earn almost twice as much per week as those who do not complete the program, and they will receive approximately 15 points per week more than non-completers.

Average Weekly Stipend					
Student Categories	N	Min	Max	Median	Mean
All students	102	\$0.00	\$256.66	\$124.30	\$106.79
Students enrolled 2+ weeks	70	\$9.64	\$256.66	\$139.41	\$134.30
Students who drop out or are terminated	57	\$0.00	\$231	\$74.00	\$79.92
Students who graduate	37	\$14.18	\$256.66	\$146.18	\$149.08

Average Weekly Points					
Student Categories	N	Min	Max	Median	Mean
All Students	101	0.00	252.00	41.82	40.03
Students enrolled 2+ weeks	69	20.67	252.00	44.55	46.50
Students who drop out or are terminated	57	2.50	65.00	34.10	32.56
Students who graduate	37	34.00	252.00	51.51	45.45

Program Outcomes

The following section examines data on program outcomes, specifically recidivism and community based employment to assess the implementation of Turning Leaf’s program model. Preliminary evidence collected by Turning Leaf staff and drawn from internal records indicates that the program model goals of reducing recidivism and placing graduates in high quality jobs are being achieved. Data on each outcome is presented and discussed below.

Community Based Employment

What does current data tell us about impacts of the program model on community based employment?

The majority of program graduates have been placed in private sector jobs. Only 10 graduates were employed in the public sector, while 38 graduates were employed in the private sector. As far as rates of employment, rates for program graduates are much

higher than non-graduates. While only 53% of non-completers are currently employed, 87% of graduates are. While challenges in the collection of this data raise questions about the representativeness of these results, what is clear is that for program graduates rates of employment after the program are high, suggesting that this outcome of the program model is being realized. Additionally, an examination of hourly wage for graduates indicates that program graduates earn higher hourly wages than those who do not complete the program. While the average wage for graduates placed in community based employment is slightly lower than the goal of \$14.00 per hour, graduates earn significantly more than the federal minimum wage of \$7.25 and hour. Again, the small number of observations for non-completers raises questions about the representativeness of data, but nonetheless we see that the objective of placing graduates in “good” jobs that pay well above the minimum wage is being met.

While the data below shows some initial evidence to suggest that the program model is producing the intended outcomes in terms of community based employment opportunities, challenges in data collection point to a need to strengthen the representativeness and reliability of data on post program employment for graduates and students who drop-out or are terminated. While collection rates for employment data for program graduates is high (92%), rates for non-graduates are very low (30%). In order to do any sort of quasi experimental design or randomized controlled trial to validate the impact of the program on community based employment, collection challenges need to be identified and solved for non-completers. Future evaluations and immediate data audits, should reach out to other programs, such as the Center for Employment Opportunities, to identify effective methods for gathering employment data for non-completers and/or non-participants.

Is the former student currently employed?						
Employed?	Of all individuals		Did not graduate		Graduated the program	
	#	%	#	%	#	%
No (0)	14	20.90%	8	47.06%	6	13.33%
Yes (1)	53	79.10%	9	52.94%	39	86.67%
N	67		17		45	
Mean	0.79		0.53		0.87	

Average Hourly Wage					
	#	Min	Max	Median	Mean
Students who graduate	33	\$11.00	\$16.82	\$13.00	\$13.43

Recidivism¹¹

What is the relationship between recidivism and program participation? Are program participants less likely to recidivate? Do graduates have lower rates of recidivism than non-completers?

The evidence below reflects historical data on program impacts on recidivism which shows graduates having only a 20% recidivism rate. Results for rates of recidivism among program graduates indicate that graduating from Turning Leaf’s program decreases rates of recidivism. When we compare those who graduate with non-completers, the difference in recidivism rates is significant, 43%. Only two program participants recidivated while enrolled, suggesting that the intention of the program model to deter re-arrests through program participation, is having the anticipated effect. For individuals who did not complete the program, approximately 63% recidivated within one year of program completion. For program graduates, re-arrests were likely to happen between one and two years after program completion. The highest rates of re-arrest for program graduates occurred between six and twelve months and between eighteen months and two years after graduation.

Did the individual recidivate?										
Recidivated?	Of all individuals		Enrolled less than two weeks		Enrolled 10+ Days		Enrolled 10+ days, but didn't graduate		Graduated the program	
	#	%	#	%	#	%	#	%	#	%
No (0)	130	64%	22	71%	60	80%	20	64.5%	39	79.6%
Yes (1)	72	36%	9	29%	15	20%	11	35.5%	10	20.4%
N	202		31		75		31		49	
Mean	0.35		0.29		0.2		--		0.2	

¹¹ Within the research on recidivism exist multiple methods for measuring the concept. A broad conceptualization of the term defines recidivism as any offense that results in a court legal action. Turning Leaf adopts a more narrow definition of the term. Here recidivism is defined as a return to prison.

Did the individual recidivate while enrolled?						
Recidivated while enrolled?	All individuals		Did not graduate		Graduated	
	#	%	#	%	#	%
No (0)	39	95.12%	31	93.94%	8	100.00%
Yes (1)	2	4.88%	2	6.06%	0	0.00%
N	41		33		8	

When was the individuals first re-arrest, relative to their last date participating in the program?						
Timeline of re-arrest	All individuals		Did not complete		Graduated	
	#	%	#	%	#	%
During program	1	2.44%	1	3.03%	0	0.00%
Within 3 mo	8	19.51%	8	24.24%	0	0.00%
Within 6 mo	5	12.20%	4	12.12%	1	12.50%
Within 1 yr	11	26.83%	8	24.24%	3	37.50%
Within 18 mo	8	19.51%	7	21.21%	1	12.50%
Within 2 yr	5	12.20%	3	9.09%	2	25.00%
Within 3 yr	3	7.32%	2	6.06%	1	12.50%
N	41		33		8	

When we look at the type of charge associated with recidivism, rates of felony charges for program graduates are slightly higher than those of non-completers, but given the limited sample size it is difficult to draw broad conclusions on this data point. Looking at data on whether the charge was new charge or a probation violation, available data indicates program graduates have lower rates of probation violations than non-completers. Again, like the information on felony charges limits of data availability prevent drawing broad conclusions about the relationship between charge type and program effects. To strengthen evidence of program impacts on the type of charge associated with a recidivism event, efforts need to be made to strengthen the collection of data on charge type.

Was the recidivism event a felony charge?						
Felony charge?	All individuals		Did not complete		Graduated	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
No (0)	12	36.36%	10	38.46%	2	28.57%
Yes (1)	21	63.64%	16	61.54%	5	71.43%
N	33		26		7	

Was the crime a new charge or probation violation?						
New charge?	All individuals		Did not complete		Graduated	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
New charge	33	80.49%	26	78.79%	7	87.50%
Probation violation	8	19.51%	7	21.21%	1	12.50%
N	41		33		8	

Future Questions to Evidence Program Model Impact

While this evaluation has provided evidence to assess the fidelity of program model implementation, data limitations precluded answering questions about program impacts. One of the key recommendations emerging from this process evaluation is to prioritize strengthening internal data collection systems to ensure sufficient evidence is available to evaluate the impact of Turning Leaf’s program model. With this in mind, data collection methods should focus specifically on increasing collection rates for outcomes data to provide answers to the following questions:

- Is there a positive relationship between CBT hours and program outcomes (i.e. points, mindset changes, graduation, recidivism)? What is the number of CBT classroom hours produces the desired effects on recidivism and job placement?
- Is there a significant difference in recidivism rates for program participants and non-participants? Can differences be attributed to the program?
- Is there evidence to suggest program participation reduces individuals’ risk to reoffend?
- What is the relationship between participant engagement in the program and program outcomes of recidivism and job placement? Does program performance (e.g. average points per week and average weekly stipend amounts) predict whether individuals recidivate or not? Are higher performing participants more likely to remain in their placement job?

Possible Approaches to Evaluate Program Impacts

As mentioned above the next step in validating Turning Leaf’s program model is to conduct an impact evaluation. Impact evaluations ask whether programs are effective and gather evidence to demonstrate whether the intended changes are reflected in program outcomes. The power of a well-designed impact evaluation is dependent upon whether or

not the research design adequately shows that the observed changes in social conditions can be directly attributed to the program model. Because most reentry programs are unable to provide scientifically robust evaluations that demonstrate the program had a causal effect on the outcome, significant attention and resources have been dedicated towards encouraging programs to utilize rigorous research designs, including, but not limited to randomized controlled trials. While randomized controlled trials represent the “gold standard” of evaluation methods for validating program impacts, other rigorous research designs exist. A range of research designs are identified and discussed below.

Well implemented randomized controlled trials assign subjects to treatment and control groups. Control groups do not participate in the program, while treatment groups do. To evaluate the quality of random assignment individuals in each group must be compared on pre-existing characteristics. A lesser quality randomized study uses a lottery approach to determine from a waitlist of potential program participants. This method is only possible when a program has a sufficient oversubscription rate. The challenge this method of assignment produces for validating impact comes from the possibility that there could be crossovers between treatment and control groups or differences in attrition rates between groups.

Another methods for evaluating program impact includes natural experiments or statistical methods that control for omitted variables or reverse causality. Some of these designs include regression discontinuity designs or Heckman selection models. Quasi-experimental designs that utilize well matched treatment and control groups, where matching procedures are based on pre-existing differences in key program model variables. For this evaluation approach, data on treatment and comparison groups must show that there are few, if any, observed differences on pre-existing variables. Multivariate statistical methods (i.e. logistical regression or propensity score matching) can also be used to control for pre-existing differences. Evaluations that do not utilize one of the designs described here are unable to confidently estimate a program’s causal treatment effect.

Next Steps for Evaluating Program Impacts

In order to be able to implement any of the evaluation approaches outlined above, there must be very robust and comprehensive systems for data collection in place at all program sites. As Turning Leaf expands to a second location in 2021, significant time must be dedicated towards auditing current procedures for collecting data to confirm that all of the necessary data points are being collected and that the information being collected is accurate. It is important to begin this process by performing an audit of data processes at Turning Leaf’s current site in North Charleston. Priority should be given to filling in gaps in

data, with attention to areas where missing data produces a selection effect or biases the sample. Lessons from this audit should be recorded and translated into training manuals to guide the work of program staff in the second site location. In addition to auditing current data collection procedures, immediate next steps should include an a more formal assessment of CBT fidelity. This assessment is needed in order to ensure that the CBT curriculum is being replicated and administered with fidelity at the second site. During this evaluation classroom facilitators and locations should be observed and coded independently, then comparisons should be made across groups to check for equivalence in implementation.

Once it is confirmed that both sites are collecting comprehensive and valid data on all aspects of the program model, an initial process evaluation should be conducted to confirm that the program model is being implemented with fidelity at both sites upon replication. This process evaluation should focus on identifying and specifying areas where program implementation could be improved or strengthened, as well as implementation processes that differ across sites. It is possible at the same time to conduct a preliminary impact evaluation comparing program outcomes and impacts across sites.

At the same time that Turning Leaf is preparing to expand to a second location in South Carolina, it is recommended that steps be taken to negotiate data sharing agreements with SCDS and/or DPPPS. If Turning Leaf can get access to information in addition to recidivism rates, including data on offense type, length of sentence, release dates, etc., comparison groups can be created to evaluate effects using statistical methods such as propensity score matching. In addition to instituting data sharing agreements with key government agencies, it would be valuable for Turning Leaf to formalize partnerships with representatives at research institutions. Because conducting robust randomized controlled trials is time and resource intensive, and requires a high level of expertise to ensure the research produces valid evidence of the program's causal effect, it is worth dedicating time towards creating a partnership with an academic at a research institutions who would be willing to serve as the primary investigator (PI) or co-PI on a randomized controlled trial.

Conclusions

The primary objective of this evaluation was to validate the implementation of Turning Leaf's program model as it has been specified in the most current iteration. Additionally, this report aimed to provide baseline data on indicators of key program components to be used to guide the management and monitor performance of program, staff as Turning Leaf expands operations to a second location in South Carolina.

This report began by introducing the problem of inquiry and providing a comprehensive description of the program model, including reasoning for the design decisions made by program staff. To assess the fidelity of program implementation, this study utilized administrative program data gathered during the intake process and service delivery.

The first portion of the analysis presented here served to determine the degree to which the program was effectively enrolling individuals that matched characteristics of the target population. Evidence presented here indicates that the guidelines for selection are in fact being implemented in ways that ensure the correct individuals are being targeted to participate in Turning Leaf's program. The second results section provides evidence to demonstrate the efficacy of service delivery and program outcomes. Here too, the data suggests that Turning Leaf's program model is implemented as intended with the intended effects on recidivism and employment. While the results presented here do not provide sufficient evidence to demonstrate that the outcomes observed can be attributed solely to the effects of the program, data does suggest that Turning Leaf's program model does present a promising model for reducing recidivism and creating high quality jobs for program participants. These results support the decision of Turning Leaf's leadership to codify existing program practices, so that the program model can be implemented with equivalent fidelity in other locations. Scaling the program and increasing the absolute number of program participants is a necessary step for establish Turning Leaf as evidence based program.