Contra Costa County Assisted Outpatient Treatment (AOT) Evaluation

Cumulative Evaluation Report

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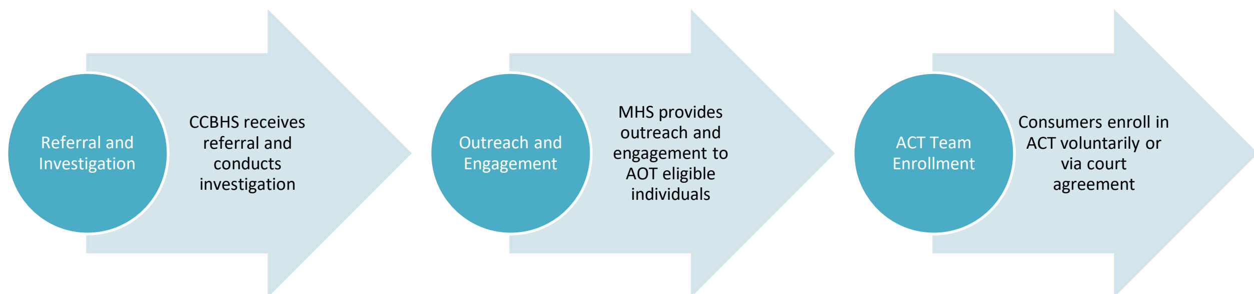
Executive Summary

In California, Assembly Bill (AB) 1421 (also known as "Laura's Law") authorizes the provision of Assisted Outpatient Treatment (AOT) in counties that adopt a resolution for its implementation. AOT is designed to interrupt the repetitive cycle of hospitalization, incarceration, and/or homelessness for people with serious mental illness who have been unable and/or unwilling to engage in voluntary services. AOT uses an expanded referral and outreach process that may include civil court involvement, whereby a judge may order participation in outpatient treatment. In February 2015, Contra Costa County began a 36-month AOT pilot project, including civil court intervention, to determine if it would effectively identify, engage, and treat individuals who were unable to engage in existing adult mental health services and interrupt the cycle of crisis and hospitalization, incarceration, and/or homelessness. The County also elected to implement Assertive Community Treatment (ACT), which is an evidence-based approach that provides the highest level of outpatient services available in the community for those who need it most. Contra Costa's AOT program represents a collaborative partnership between Contra Costa Behavioral Health Services (CCBHS), the Superior Court, County Counsel, the Public Defender, and Mental Health Systems (MHS).

The Contra Costa County AOT program includes a Care Team comprised of CCBHS Forensic Mental Health (FMH) and the MHS ACTiOn team (ACT providers). The two main components of the AOT program are Pre-Enrollment (Referral and Investigation; Outreach and Engagement) and AOT Enrollment (ACT outpatient treatment services).



Contra Costa County contracted with Resource Development Associates (RDA) to conduct an evaluation of its AOT pilot program. This report presents findings about the AOT program spanning the period of February 2016 through June 2018. Three key questions guided RDA's evaluation:

1. What are the outcomes for people who participate in ACT and AOT, including the DHCS required outcomes? How faithful are ACT services to the ACT model?
2. What are the differences in demographics, service patterns, and outcomes between those who agree to participate in ACT services voluntarily and those who participate with an AOT court order or voluntary settlement agreement?
3. What are the differences in demographics, service utilization, and outcomes between those who engage in existing Full Service Partnership (FSP) services and those who receive ACT services?

Key Process Findings

Implementation Challenges and Improvements: In the initial stages of AOT implementation, County agencies collaborated on the new processes and procedures required to support the referral and investigation process as well as the court component. As with any new program in its formative stages, there were unanticipated challenges along the way that the County and stakeholders worked together to address, including how to:

- Ensure that qualified requestors had the knowledge and resources to make appropriate referrals to the program for individuals most in need;
- Reduce the length of time from referral to enrollment, particularly for those individuals who were continuing to experience crisis, hospitalization, incarceration and/or homelessness during the investigation and outreach process;
- Determine the most efficient and effective ways for FMH and MHS to work together with referred individuals, engage them in care, and identify the need for a civil court petition where indicated; and
- Discern the appropriate use of the petition and benefit of the civil court component to encourage participation in ACT services.

While the County and partners worked diligently to identify and resolve these issues as they arose, the net impact early on in the process was that not all qualified requestors were equipped to do so, enrollment in the program took longer than expected for eligible individuals, and there was hesitation to implement the court component. This resulted in a lower census than originally estimated despite a continued perception of need for these high-end services. Along the way, the County and its partners sought to proactively identify and address issues as well as seek input from stakeholders, elected officials, and the evaluation team as to how they might continuously improve the program. Their investments in ongoing continuous quality improvement ultimately increased the diversity of qualified requestors, shortened the length of time from referral to enrollment, more swiftly implemented the court component for those who require that level of support, and increased the number of consumers who are enrolled in and benefitting from the program.

ACT Fidelity: ACT has one of the strongest evidence-bases of any mental health intervention for reducing crisis and hospitalization, incarceration, and homelessness for those with the most serious mental illness when performed to fidelity. While the ACT team did experience some challenges early on with recruitment and hiring and understanding that the use of AOT and the civil court component was in alignment with the ACT model, as well as the staff turnover experienced in early-2018, they continue to score in the high-fidelity range across all three annual fidelity assessments.

Key Outcomes Findings

Over the course of the nearly 2.5 years of implementation, the AOT program received 475 duplicated referrals, of which about one-third resulted in a subsequent referral to MHS for outreach and engagement into the AOT program. Seventy consumers enrolled in AOT during this evaluation period. These AOT consumers were primarily male in gender, White in race/ethnicity, and over age 26. MHS' ACT team provided a high amount of services (average of four hours of face-to-face contacts a week) on a very frequent basis (average of four contacts per week) to its consumers. Moreover, two-thirds of consumers

were adherent to their ACT treatment services, demonstrating the AOT population was really engaged in their treatment.

In order to assess how this AOT program impacted its consumers, RDA's evaluation examined how key outcomes of interest changed for the AOT population from prior to their AOT participation to during/after program enrollment. Key outcomes findings include:

- ❖ Consumers experienced significant decreases in both the amount and frequencies of crisis episodes and psychiatric hospitalizations during ACT enrollment.
- ❖ Significantly fewer consumers were arrested and booked in jail during ACT enrollment.
- ❖ The majority of consumers either obtained or maintained housing during while enrolled in ACT.
- ❖ Over one-third of consumers continued to experience crisis episodes and/or psychiatric hospitalizations after being discharged from ACT, signaling these consumers may have been prematurely discharged.
- ❖ The AOT program produces an estimated $371,069 of hard cost savings per year, including cost avoidance from reduced outpatient and residential mental health service as well as jail costs.

Given that AOT consumers join the program in one of two ways (voluntarily agreeing to services or being given a court order to participate), this evaluation examined potential differences in outcomes between these two types of AOT consumers and discovered the following:

- ❖ A larger proportion of court-involved consumers had lower service participation compared to voluntarily enrolled consumers.
- ❖ Consumers who enrolled voluntarily saw a substantial decrease in crisis episodes, inpatient hospitalizations, and justice involvement during ACT.
- ❖ A larger proportion of voluntarily enrolled consumers were stably housed compared to court-ordered consumers.

In Contra Costa County, there was an existing network of FSPs providing outpatient mental health services to the seriously mentally ill. RDA's evaluation discovered the following key findings comparing the outcomes of FSP versus ACT consumers in the County:

- ❖ The FSP and ACT populations were similar across age and gender, but differed in that the ACT population had a greater proportion of White and smaller proportion of Black and Latino consumers. ACT consumers were also more likely to be diagnosed with a disorder that included psychosis.
- ❖ Compared to FSP consumers, ACT consumers engaged in services more often and for longer durations, as well as received more direct services.
- ❖ Both the ACT and FSP consumer populations experienced decreases in numbers and frequencies of crisis episodes and psychiatric hospitalizations.

It is clear that individuals with serious mental illness who participate in AOT and ACT experience notable benefits, specifically in reducing experiences of crisis and hospitalization, incarceration, and homelessness. While this program took longer than originally anticipated to get started and there were challenges to address along the way, the County and its partners worked diligently over the pilot period to strengthen the program and ensure that those individuals most in need had access to services that were likely to help them.

Introduction

Background Information

In 2002, the California legislature passed Assembly Bill (AB) 1421 (also known as "Laura's Law"), which authorized the provision of Assisted Outpatient Treatment (AOT) in counties that adopt a resolution for its implementation. AOT is designed to interrupt the repetitive cycle of hospitalization, incarceration, and/or homelessness for people with serious mental illness who have been unable and/or unwilling to engage in voluntary services. AOT uses an expanded referral and outreach process that may include civil court involvement, whereby a judge may order participation in outpatient treatment. The California Welfare and Institutions Code[1] defines the target population, intended goals, and specific suite of services required to be available for AOT consumers in California (see Appendix I).

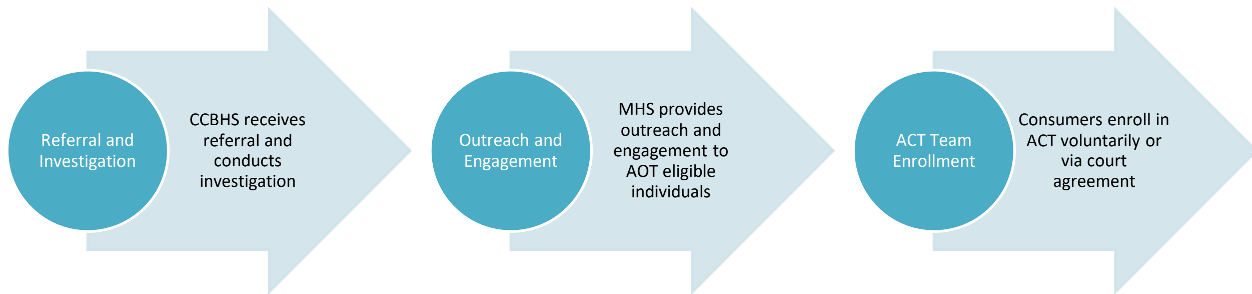
Contra Costa recognized that while they had Full Service Partnership (FSP) programs funded by the Mental Health Services Act (MHSA), there remained a group of individuals who were cycling in and out of crisis and hospitals, jails, and homelessness. In order to address this issue, the Contra Costa County Board of Supervisors adopted a resolution to authorize the implementation of AOT for a 36-month pilot project on February 3, 2015 and pilot AOT, including civil court intervention, to determine if it would effectively identify, engage, and treat individuals who were unable and/or unwilling to engage in existing adult mental health services and interrupt the cycle of crisis and hospitalization, incarceration, and/or homelessness. The County also elected to implement Assertive Community Treatment (ACT), which is an evidence-based approach that provides the highest level of outpatient services available in the community for those who need it most. Contra Costa's AOT program represents a collaborative partnership between Contra Costa Behavioral Health Services (CCBHS), the Superior Court, County Counsel, the Public Defender, and Mental Health Systems (MHS). Community mental health stakeholders and advocates have remained involved in providing feedback and supporting the program to meet its intended objectives. The County's AOT program became operational on February 1, 2016 and accepted its first consumer in March 2016.

Contra Costa County's AOT Program Model

Contra Costa County has designed an AOT program model that responds to the needs of its communities and exceeds the requirements set forth in the legislation. The Contra Costa County AOT program includes a Care Team comprised of CCBHS Forensic Mental Health (FMH) and the MHS ACTiOn team (ACT providers). Figure 1 below depicts the Pre-Enrollment (Referral and Investigation; Outreach and Engagement) and AOT Enrollment (ACT outpatient treatment services) components of the AOT program.

[1] Welfare and Institutions Code, Section 5346

Figure 1. Contra Costa County AOT Program Stages



AOT Process

The first stage of engagement with Contra Costa County's AOT program is through a telephone call referral whereby any "qualified requestor"[2] can make an AOT referral. Within five business days, a CCBHS mental health clinician from FMH connects with the requestor to gather additional information on the referral and reaches out to the referred individual to begin determining if they meet AOT eligibility criteria (see Appendix I).

If the individual initially appears to meet eligibility criteria, a CCBHS investigator from the FMH staff facilitates a face-to-face meeting with the individual and/or family to gather information, attempts to engage the individual, and develops an initial care plan. If the referred individual does not meet AOT eligibility criteria, FMH staff attempts to connect them to other mental health services to meet their needs or reconnect them to services that had previously been effective. If the individual continues to appear to meet AOT eligibility criteria, FMH investigators share their information with the MHS team. MHS then conducts a period of outreach and engagement activities with the individual to encourage their participation in ACT. If at any time the individual accepts voluntary services and continues to meet eligibility criteria, they are immediately connected to and enrolled in MHS' ACT services.

However, if after a period of outreach and engagement, the individual does not accept voluntary services and continues to meet AOT eligibility criteria, the County mental health director or designee may choose to complete a declaration and request that County Counsel file a petition with the court. Utilizing a collaborative court model that combines judicial supervision with community mental health treatment and other support services, Contra Costa County then holds one to two court hearings to determine if criteria for AOT are met. At this time, the individual has the option to enter into a voluntary settlement agreement with the court to participate in AOT. If the individual still chooses not to participate in AOT treatment services voluntarily, then he/she may be court-ordered into AOT for a period of no longer than six months. After six months, if the judge deems that the individual continues to meet AOT criteria, they may authorize an additional six-month period of mandated participation. At every stage of this process,

[2] Qualified requestors include: An adult who lives with the individual; Parent, spouse, adult sibling, or adult child of the individual; Director of an institution or facility where the individual resides; Director of the hospital where the person is hospitalized; Treating or supervising mental health provider; Probation, parole, or peace officer.

CCBHS' FMH and MHS staff continue to offer the individual opportunities to engage voluntarily in services and may recommend a 72-hour hold if they meet the existing criteria. It is important to note that both the voluntary settlement agreement and AOT court order are both agreements between the individual and the court and involve judicial supervision. It is also important to acknowledge that those individuals who agree to participate in ACT on a voluntary basis and without a petition filing or agreement with the court are not formally supervised by the court.

AOT and ACT in Contra Costa County

Assertive Community Treatment (ACT) is not synonymous with Assisted Outpatient Treatment (AOT); AOT is a mechanism by which a county can use a civil court process to compel eligible individuals into a community mental health treatment program who are otherwise unwilling and/or unable to accept mental health treatment. An AOT petition can be initiated at any stage of the process, including:

- During the pre-enrollment phases of referral and investigation, or outreach and engagement;
- Following voluntary service acceptance, if the consumer fails to participate in services; and
- After the consumer participates in treatment, if they request discharge prematurely.

When the County first chose to implement AOT, it also elected to implement a new level of outpatient mental health services through an ACT team, complementing the County's established FSP programs that were already serving individuals with serious mental illness. It is not a requirement of AOT programs to offer ACT services to their consumers. Mental Health Services (MHS) is the contracted agency hired by CCBHS to implement the ACT team for County residents referred to AOT.

It is also important to note that the use of a civil court order process is in alignment with the ACT model when the individual requires that level of support to participate. Fidelity to the ACT model includes the expectation that ACT programs apply assertive engagement mechanisms, including all available street outreach and available legal mechanisms to compel participation. Legal mechanisms typically used in ACT programs include representative payees, terms and conditions of probation, outpatient commitment, and AOT court agreements such as voluntary settlement agreements and court orders.

External Evaluation

Contra Costa County retained Resource Development Associates (RDA) to conduct an independent evaluation of its AOT program implementation and outcomes. The purposes of this evaluation are to: 1) satisfy California Department of Healthcare Services (DHCS) reporting requirements; 2) provide information to the Contra Costa County Board of Supervisors, AOT collaborative partners, and the community; and 3) inform the continuous quality improvement of the AOT program to support the County's intended objectives. Since the beginning of Contra Costa County's AOT program, RDA has produced four distinct evaluation reports, including two reports mandated by DHCS, and two additional reports written specifically for CCBHS to better understand the implementation of its AOT program. These reports have documented: 1) program services, 2) consumers served, 3) fidelity to the ACT model, and 4) potential areas of improvement for the County's consideration. The reports were each produced

approximately six months apart and document the implementation and continued progression of the AOT program since it began.

The purpose of this evaluation report is to assist Contra Costa County with identifying the program's accomplishments and opportunities for improvement. To accomplish this, RDA provides a comprehensive evaluation that assesses:

- AOT program outcomes, including the extent to which MHS is implementing ACT to fidelity, and DHCS required outcomes for people who participate in the County's AOT program;
- Differences in demographics, service patterns, and outcomes between those who agree to participate in ACT services without court involvement and those who participate with an AOT court order or voluntary settlement agreement; and,
- Differences in demographics, service utilization, and outcomes between those who engage in existing FSP services and those who receive ACT services.

Report Overview

This report is intended to address three key evaluation questions that will enable CCBHS to understand the outcomes of ACT programming, differences between the court-involved and voluntarily enrolled ACT consumers, and differences between ACT and FSP consumers. To address these questions, this report is organized in the following format:

- **Introduction**: This section summarizes the background of AOT legislation and provides a description of Contra Costa County's AOT program model and the overarching evaluation questions.
- **Methodology**: This section describes the data sources used to address the evaluation questions, the analytic steps taken to answer each question, and the limitations of the analyses.
- **Question 1 | ACT Consumer Findings**: This section provides a detailed discussion of ACT consumers' experiences from referral through enrollment and, when appropriate, discharge. Findings include pre-enrollment investigation and outreach and engagement; consumer profile; service participation; outcomes including crisis episodes, inpatient hospitalizations, housing, social functioning and independent living; and costs and cost savings.
- **Question 2 | ACT and AOT Comparison Findings:** This section looks at the same components as Question 1, but with a comparison of findings based on those ACT consumers who enrolled voluntarily and those AOT consumers who required civil court involvement to participate. Findings for individuals who enrolled in ACT voluntarily are compared to findings for those who enrolled with court involvement; both voluntary settlement agreement and AOT court order are included in the AOT consumer population.
- **Question 3 | ACT and FSP Comparison Findings:** This section also looks at the same components as Question 1, but with a comparison of findings for all ACT consumers and for consumers who enrolled in an FSP during the same time that ACT was implemented in the County.

- **Summary of Findings:** This final section summarizes and integrates findings from each research question to highlight key overarching findings that may be used to inform decision-making and next steps for AOT program implementation in Contra Costa County.

Methodology

Evaluation Approach and Overview

The following evaluation report was guided by a rigorous methodological approach that addresses real world constraints and documents the actions and outcomes resulting from the County's investments in ACT and AOT, with an emphasis on continuous quality improvement throughout implementation. The evaluation will also likely inform decision-making at the end of the 36-month pilot project. This report is a cumulative evaluation of CCBHS's AOT program since its implementation began in February 2016. As such, it reflects on recommendations made in previous reports and discusses findings in light of those recommendations with a recognition for the natural growth and change that occurs in the delivery of a new program within the behavioral health system.

This evaluation report spans from the AOT program start date, February 1, 2016 through June 30, 2018. Figure 2 presents the overarching research questions that guide this report.

Figure 2. Evaluation Research Questions

Question 1	Question 2	Question 3
• What are the outcomes for people who participate in ACT and AOT, including the DHCS required outcomes? How faithful are ACT services to the ACT model?	• What are the differences in demographics, service patterns, and outcomes between those who agree to participate in ACT services voluntarily and those who participate with an AOT court order or voluntary settlement agreement?	• What are the differences in demographics, service utilization, and outcomes between those who engage in existing FSP services and those who receive ACT services?

In order to answer these questions, RDA employed a mixed-methods evaluation approach to assess: 1) the implementation of the County's AOT program, 2) the extent to which individuals receiving AOT services have experienced decreases in homelessness, crisis, hospitalization, and incarceration, and 3) improvements in AOT consumers' psychosocial outcomes, such as social functioning and independent living skills.

The following sections describe the data measures, sources, and analytic techniques used to develop this report and evaluate Contra Costa County's AOT program.

Target Populations for Evaluation

This report examines three distinct consumer populations, all of whom have a serious mental illness and a history of crisis and hospitalization, incarceration, and/or homelessness.

1. **FSP consumers** are individuals who enrolled in and received services from an FSP program. FSP consumers are generally those who are experiencing crisis and hospitalization, incarceration, and/or homelessness and are willing and able to engage in voluntary services without additional support. Generally, these individuals are able to follow through with services enough so as not to require a separate referral or outreach and engagement from a third party or civil court involvement.
2. **ACT consumers** are individuals who enrolled in and received services from the MHS ACTiOn team voluntarily (i.e., they did not require civil court involvement to compel participation). ACT consumers are generally those experiencing crisis and hospitalization, incarceration, and/or homelessness and are willing and able to engage in voluntary services with strong encouragement from a third party. With this population, a qualified requestor has referred them to the program and FMH and/or MHS has proactively provided outreach and engagement to encourage participation. Unlike FSP, these consumers require additional support to connect to mental health services and have not been successful in accomplishing this independently. However, with this assertive outreach and engagement, they are able to participate in mental health services without court involvement.
3. **AOT consumers** are individuals who required civil court involvement to compel their participation in mental health services. This group of consumers has been referred by a third party, and despite FMH and/or MHS' proactive outreach and engagement, have been unable to consent to needed mental health services voluntarily. Unlike the FSP and ACT consumer populations, these consumers require civil court compulsion to participate in outpatient mental health services.

Data Sources

The evaluation includes data from CCBHS, MHS, and the Contra Costa County Sheriff's Office. Throughout the data collection and analysis process, RDA collaborated with CCBHS and MHS staff to vet analytic decisions and findings. Table 1 below outlines the data sources and elements used for this report.

Table 1. Data Sources and Elements

County Department/Agency	Data Source	Data Element
Contra Costa County Behavioral Health Care Services	CCBHS AOT Request Log	• Individuals referred • Qualified requestor information
	CCBHS AOT Investigation Tracking Log	• Investigation attempts
	Contra Costa County PSP Billing System	• Behavioral health service episodes and encounters,

County Department/Agency	Data Source	Data Element
		including hospitalizations and crisis episodes • Consumer diagnoses and demographics
	CCBHS Financial Data	• Costs associated with implementing the AOT program, including ACT
	Point-in-Time KET Forms (Key Event Tracking) collected from all ACT and FSP clients during July 1 - August 15, 2018	• Homelessness and employment measures
Mental Health Systems	MHS Outreach and Engagement Log	• Outreach and engagement encounters
	FSP Forms (Partner Assessment Form and KET)	• Residential status, including homelessness • Employment • Education • Financial support
	MHS Outcomes Spreadsheet (Self-Sufficiency Matrix, Brief Psychiatric Rating Scale – Expanded, MacArthur Tool)	• Social functioning • Independent living • Recovery • Violence and victimization
	ACT Fidelity Assessment (conducted by RDA in July 2018)	• Key informant interviews with ACT managers and providers • Focus groups with ACT consumers and family members
Contra Costa County Sheriff's Office	Sheriff's Office Jail Management System	• Booking and release dates • Booking offense

RDA matched consumers across the disparate data sources described above and used descriptive statistics (e.g., frequencies, mean, and median) for all analyses, as well as inferential analyses to evaluate the extent to which changes in consumer outcomes were likely a result of program participation versus chance, when appropriate.

The following section provides detail regarding the analytic approach for each evaluation question.

Analytic Approach

Evaluation Question 1: What are the outcomes for consumers who participate in ACT and AOT, including the DHCS required outcomes? How faithful are ACT services to the ACT model?

Pre-Enrollment: To understand how referral, investigation, and outreach and engagement processes are going, RDA employed descriptive statistics to highlight: the number of referrals to AOT; types of referral

sources; types, frequencies, and location of outreach and engagement activities; time period between referral and enrollment; and dispositions of each referral. RDA also examined the extent to which individuals who were referred to ACT services but did not enroll were connected to appropriate mental health services, and/or experienced crisis and hospitalization.

Consumer Profile and Service Outcomes: In order to describe Contra Costa County's ACT population, RDA calculated basic frequencies and percentages to examine the demographic attributes (e.g., age, race, and gender); clinical profiles (e.g., primary diagnosis, presence of co-occurring substance abuse disorder); and education, employment, and sources of financial support of all individuals enrolled in ACT since AOT was implemented in Contra Costa County. In addition, RDA examined the types, lengths, frequencies, and durations of services and programs that ACT program participants utilized, ultimately assessing the extent to which they maintained adherence to their treatment plans once enrolled in ACT (treatment adherence is defined as receiving at least one hour of face-to-face engagement with the ACT team at least two times a week).

ACT Consumer Outcomes: In order to assess changes in consumer outcomes such as homelessness, crisis, and hospitalization, RDA employed a pre/post-test design to measure consumer experiences prior to and during ACT enrollment. To measure changes in housing status, RDA assessed the proportion of ACT consumers who self-reported experiencing homelessness in the year prior to and during ACT enrollment. RDA also analyzed the proportion of ACT consumers who experienced crisis episodes, psychiatric hospitalizations, and criminal justice system involvement in the three years prior to and during ACT enrollment, as well as the rate (per 180 days) at which consumers experienced these outcomes, and the average length of each episode. RDA conducted statistical hypothesis tests to assess whether reductions in the proportion of ACT consumers who experienced crisis and hospitalization prior to and during ACT were likely the result of ACT participation, rather than chance.

Clinicians administer the Self-sufficiency Matrix, Brief Psychiatric Rating Scale-Expanded (BPRS-E), and the MacArthur Tool to assess outcomes such as social functioning and independent living; symptomology; and violence and victimization respectively. RDA measured changes in these assessment scores among all ACT consumers who received an assessment at intake (or as close to intake as possible), and at least one follow-up assessment six months after their initial assessment. In addition, the County required MHS (and all FSPs) to administer summary Key Event Tracking (KET) forms in July and August of 2018 to assess the extent to which consumers participated in significant meaningful activities, measured as changes in self-reported employment-related activities including job training, volunteering, part-time, and full-time work.

ACT Fidelity: To determine whether MHS' ACT services were provided to fidelity, RDA conducted a separate ACT fidelity analysis. The fidelity assessment process measures the extent to which MHS' ACT treatment services align with the ACT model and to identify opportunities to strengthen ACT services. For the assessment, RDA applied the ACT Fidelity Scale developed at Dartmouth University[3] and incorporated

[3] ACT Fidelity Scale retrieved on December 6, 2017 from: https://www.centerforebp.case.edu/resources/tools/act-dacts

it into a SAMHSA toolkit.[4] This established assessment includes a set of data collection activities and a scoring process in order to determine a fidelity rating as well as qualifications of assessors. MHS' ACT program was rated across 28 items within the three domains set forth in the ACT Fidelity Scale:

- Human Resources: Structure and Composition
- Organizational Boundaries
- Nature of Services

Each domain has specific criterion rated on a five-point Likert scale with clearly defined descriptions for each rating. In this report, RDA presents MHS' ACT fidelity scores for the assessments conducted annually in both 2017 and 2018.

Cost: To determine the financial impacts of implementing the ACT program, RDA analyzed data from three sources: 1) AOT operation costs; 2) billing data for treatment services provided by MHS, County mental health crisis units, and County inpatient psychiatric hospitalizations; and 3) Sheriff's Office data on jail bed days spent by ACT consumers. The treatment services billing data includes the specific dollar amounts that were billed for each service; the expected Medi-Cal reimbursement was then subtracted from the total charges to determine the total cost to the County. The Sheriff's Office data, when paired with the estimated cost for an average jail bed day in Contra Costa County, represents the costs incurred by the criminal justice system for incarceration.

Evaluation Question 2: What are the differences in demographics, service patterns, psychosocial outcomes, and cost between those who agree to participate in ACT services without court involvement and those who participate with an AOT court order or voluntary settlement agreement?

RDA replicated the analyses described above for all individuals who enrolled in ACT services voluntarily versus those who enrolled in ACT with court involvement in order to assess differences in consumer profiles, service utilization, and outcomes associated with each population. Because only 16 individuals enrolled in ACT with court involvement, RDA aggregated the data to maintain confidentiality when appropriate.

Evaluation Question 3: What are the differences in demographics, service utilization, psychosocial outcomes, and cost between those who engage in existing FSP services and those who receive ACT services?

In order to evaluate differences in demographics, service utilization, and outcomes between the County's FSP and ACT populations, RDA identified all individuals with beginning FSP services on or after February 1, 2016 (the AOT program start date) and replicated the analyses described in the analytic approach for Evaluation Question 1.

[4] Substance Abuse and Mental Health Services Administration. *Assertive Community Treatment: Evaluating Your Program.* DHHS Pub. No. SMA-08-4344, Rockville, MD: Center for Mental Health Services Administration, U.S Department of Health and Human Services, 2008.

RDA conducted statistical hypothesis tests (e.g., chi-squared tests, etc.) to measure the likelihood that observed differences in consumer demographics and diagnoses were a result of chance, or systematic differences between ACT and FSP consumer characteristics. RDA also conducted chi-squared tests to assess the likelihood that differences in the proportion of FSP and ACT consumers who experienced negative outcomes (e.g. crisis and hospitalization) in the three years prior to and during program enrollment were a result of chance versus real differences between the two groups' experiences. This allowed RDA to evaluate whether these populations had systematically different experiences with these outcomes prior to enrolling in FSP or ACT, and whether these differences remained for consumers during enrollment. RDA also conducted statistical hypothesis tests (i.e., McNemar's test) to assess the likelihood that reductions in the proportion of FSP and ACT consumers who experienced crisis and hospitalization prior to and during program enrollment were likely the result of program participation versus chance.

Limitations and Considerations

As is the case with all "real-world" evaluations, there are important limitations to consider. One limitation of this evaluation is that only 16 consumers participated in the AOT treatment with a court order or voluntary settlement agreement. Because relatively few individuals have enrolled in ACT with court involvement, the proportion of individuals who experienced crisis, hospitalization, and criminal justice involvement, as well as the average rates of occurrence, shift dramatically based on their experiences. As a result, RDA aggregated some consumer characteristics and outcomes to maintain consumer confidentiality.

It is also important to note that there is more data available for the longer pre-enrollment time periods compared to the shorter post-enrollment time periods. Therefore, AOT and FSP consumers had greater opportunities to experience negative outcomes prior to program enrollment. To account for these differences in the pre- and post-time periods, RDA standardized outcome measures to rates per 180 days. Nevertheless, because consumers have spent much less time enrolled than in the pre-enrollment period, there was less opportunity for them to experience outcomes such as crisis or hospitalization during the enrollment period. As a result, these outcomes may be underestimated if a large number of consumers experienced zero negative outcomes during shorter periods while they were enrolled in AOT. On the other hand, if consumers experienced a number of negative outcomes for lengthy periods during their AOT enrollment period, these outcomes may be overestimated.

Lastly, this evaluation only has access to the services paid for by Contra Costa County, which includes the MHS ACTiOn program, CCBHS, the AOT Court, County Counsel, and the Public Defender. The consumers served by this AOT program also receive services from entities not directly paid for by the County. In order to understand the totality of all costs incurred and saved by the consumers participating in AOT, it would be necessary to analyze data from the myriad of entities interfacing with this population. It is a limitation of this evaluation in that it is not possible to obtain this breadth of data.

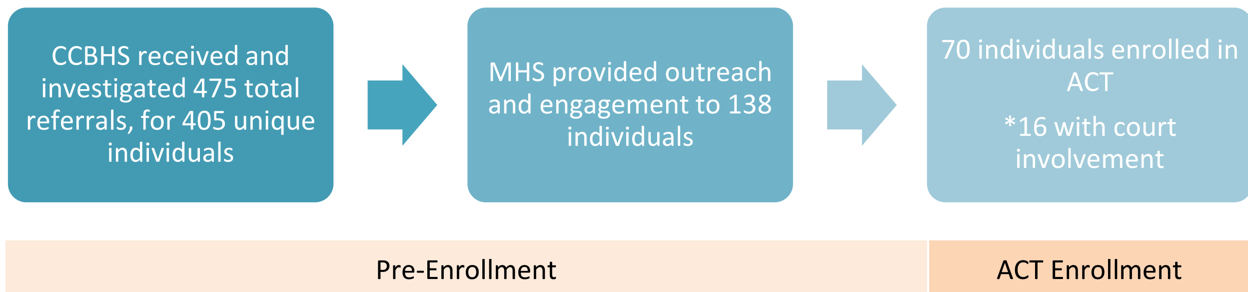
Despite these limitations, this evaluation will help Contra Costa County identify the successes and challenges of its AOT implementation, as well as highlight the outcomes of consumers who participated

in the County's AOT treatment program throughout its implementation. The evaluation findings provide recommendations for the County to consider as they strive to continuously improve implementation and outcomes for all individuals referred to the County's AOT program.

Question 1 | ACT Consumer Findings

This evaluation section reports findings for all individuals who were referred to AOT since the program began in February 2016. During this time, CCBHS received 475 total referrals for 405 unique individuals. Of the 405 individuals referred throughout implementation, 34% (n = 138) were referred to MHS for outreach and engagement, and 70 eventually enrolled in ACT.

Figure 3. Consumers Referred to AOT since February 2016



As previously documented, CCBHS's AOT program implementation evolved over time as processes were streamlined and partnerships were built. Specifically, the AOT program model changed within the first few months of implementation. As originally designed, the agencies who comprise the Care Team would work concurrently; however, the program model was adjusted so that CCBHS forensic mental health (FMH) clinicians conduct the referral investigation to determine eligibility first, and then they refer eligible individuals to MHS for outreach and engagement. Because the AOT program required multiple new elements to come together at once, it was natural for such programmatic modifications to occur in response to unexpected challenges. The model was also refined throughout implementation in order to 1) ensure that all qualified requestors have the knowledge and ability to refer eligible individuals, 2) decrease the length of time from referral to enrollment, and 3) strengthen the identification of those eligible individuals who may require a court petition to participate in services.

The following discussion of findings for all ACT consumers is divided into two sections: "Pre-Enrollment" and "ACT Enrollment." Throughout each section, findings are reported for three different types of groups:

- **Referrals**: These findings include information reported on (duplicated) individuals who were referred to either the AOT program, or from FMH clinicians to the MSH ACTiOn team more than once. Findings are reported at this level to illustrate the scope of the AOT program and how many total referrals the county received and connected to appropriate behavioral health services. In several instances, an individual was referred to the overall AOT program or to the MHS ACT program more than once.
- **Enrollments**: These findings include information reported on (duplicated) individuals who were enrolled in ACT services more than once. Findings are reported at this level to illustrate both the total number of individuals served by MHS, as well as how many were enrolled more than once.

- **Consumers**: These findings report only on the unique individuals enrolled in ACT. Findings are reported at this level to illustrate the specific outcomes of each consumer enrolled in ACT.

The Care Team provides investigation, outreach, and engagement services for all AOT referrals in order to connect eligible individuals to the ACT program. The Care Team also works to connect those who are not eligible for ACT to other appropriate behavioral health treatment services. The following section explores the outcomes of this process in the "Pre-Enrollment" section, including a discussion of the experiences of individuals who were referred to MHS ACTiOn team but not enrolled. The "AOT Enrollment" section reports on outcomes for individuals who met AOT eligibility requirements and enrolled in ACT.

Pre-Enrollment

CCBHS received referrals from a diversity of qualified requestors, including family members, mental health providers, and law enforcement officials.

Table 2 demonstrates that a qualified requestor made almost all AOT referrals. Family members made over half of referrals, while the individual's mental health provider made 20% of referrals. Law enforcement officials made 13% of referrals. It is important to acknowledge that CCBHS made concerted efforts throughout the program to ensure that qualified requestors were aware of the program and had the knowledge and resources to make appropriate referrals. These efforts included: 1) ongoing training and educational presentations to family members, law enforcement, and mental health provider groups; and 2) specific actions, such as linking law enforcement officers coming into contact with potentially eligible individuals with the CORE team (a County-provided homeless outreach team) so that they could work together to successfully refer those eligible individuals to the program.

Table 2. Summary of Qualified Requestors

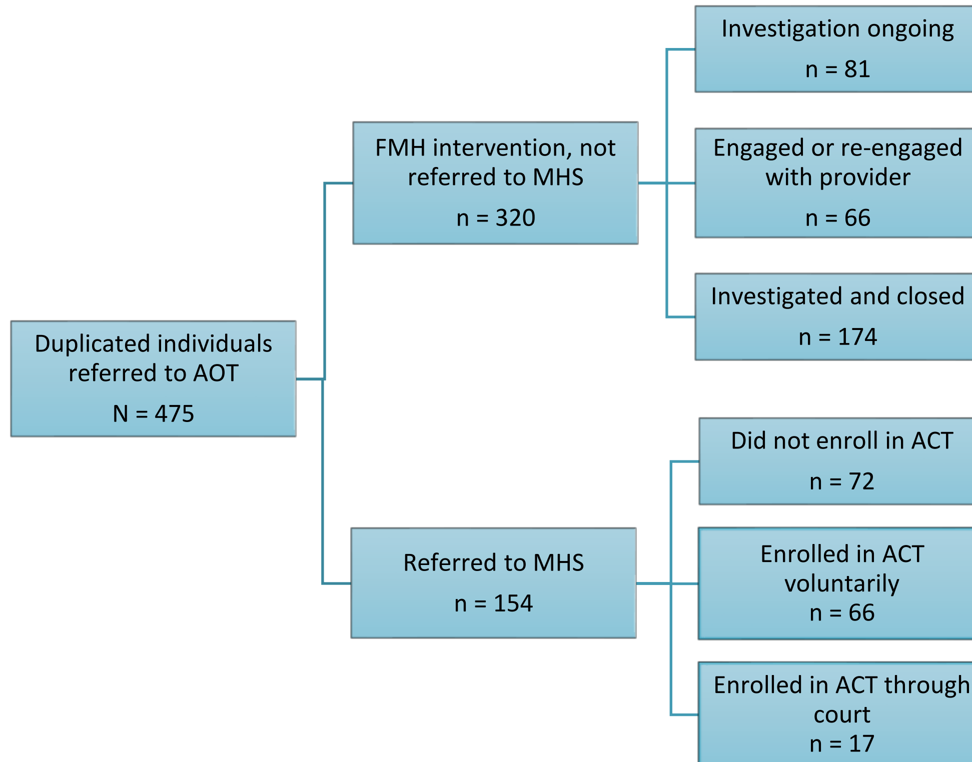
Requestor	Percent of Total Referrals (N = 475)
Parent, spouse, adult sibling, or adult child	60% (n = 286)
Treating or supervising mental health provider	20% (n = 95)
Probation, parole, or peace officer	13% (n = 63)
Not a qualified requestor or "other"	4% (n = 20)
Director of hospital where individual is hospitalized	<3%
Adult who lives with individual	<3%

Care Team

Contra Costa County's Care Team consists of CCBHS' FMH and MHS ACTiOn staff. CCBHS FMH receives all AOT referrals and conducts an investigation for each individual referred in order to determine AOT eligibility (see Appendix I for AOT eligibility requirements). CCBHS FMH refers AOT eligible consumers to MHS staff, who conduct outreach and engagement to enroll them in ACT services. Figure 4 summarizes the outcome of each referral CCBHS received since February 2016. The summary includes duplicated counts to capture the volume of referrals. The following sections discuss the CCBHS FMH investigations

and MHS outreach and engagement activities. Where appropriate, unique counts of individuals are reported as well.

Figure 4. Outcomes for Every Referral to AOT Referred Consumers



Investigation

After CCBHS receives an AOT referral, the FMH team conducts an investigation to determine if the referred individual meets the eligibility criteria for the AOT program. In addition to consulting prior hospitalization and mental health treatment records for the individual, and gathering information from the qualified requestor, the FMH investigation team also attempts to make contact with the referred individual in the field.

Nearly every referred individual who was eligible for AOT and/or was able to be located was connected to mental health services.

Since February 2016, FMH received and investigated a total of 475 referrals. Four hundred and five of those referrals were unique individuals (70 individuals had been referred more than once). As Table 3 illustrates, approximately one-third of all referrals (32%, n = 154) resulted in a subsequent referral to MHS for outreach and engagement, while just over another third (37%, n = 174) were investigated and closed. The FMH team connected 14% (n = 66) of referred individuals with another behavioral health service provider, such as an FSP, and another 17% were still under investigation to determine their AOT eligibility as of June 30, 2018.

Table 3. Outcome of CCBHS Investigations

Investigation Outcome	Percent of Referrals (N = 475)
Referred to MHS	32% (n = 154)
Engaged or Re-Engaged with a Provider	14% (n = 66)
Ongoing Investigation	17% (n = 81)
Investigated and Closed	37% (n = 174)

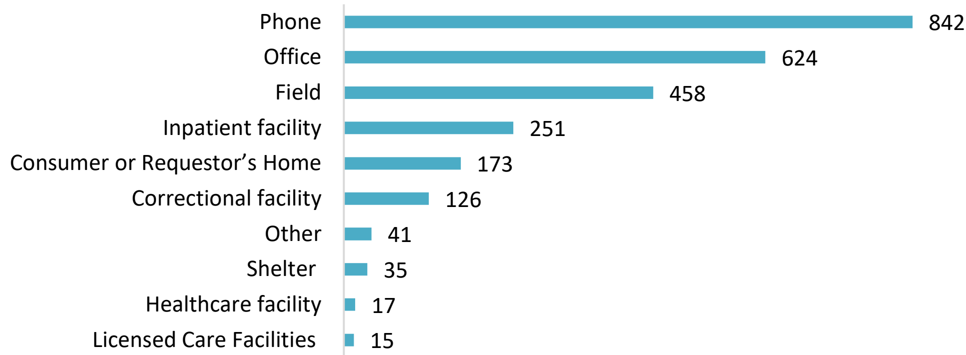
CCBHS FMH attempted to connect the 174 referred individuals who were ineligible for AOT to an appropriate level of mental health treatment, as well as provided resources and education for their family members. Importantly, program implementation modifications (including increased outreach by FMH clinicians to Unit 4C and law enforcement) alongside improved data collection allows for a more specific understanding of what happened to the referred individuals who were considered ineligible for AOT. These individuals were investigated and closed for a number of reasons:

- 56% (n = 98) were closed because the referred individuals did not meet AOT eligibility criteria.
- 16% (n = 27) were closed because the person making the referral was unqualified, could not be reached after the initial request, or rescinded the initial request.
- 12% (n = 21) were closed because the referred individual was unavailable, which includes individuals who were conserved, determined to be incompetent to stand trial, incarcerated, or placed in an Institute for Mental Disease (IMD).
- 9% (n = 16) were closed because the referred individual could not be located after a persistent search.
- 7% (n = 12) were closed because the referred individual either lived or moved out of the county during the investigation.

Contra County's CCBHS FMH investigation team made significant and persistent efforts to locate referred individuals to determine their AOT eligibility and connect them to MHS.

On average, CCBHS FMH's investigation team made five investigation contact attempts for each referral received. The investigation team worked to meet individuals "where they're at," as evidenced by the variety of locations where investigation contacts occurred. Figure 5 shows that 43% of investigation contacts occurred in person at a location other than a county office.

Figure 5. Location of FMH Investigation Contacts



Outreach and Engagement

MHS relies on a diverse multidisciplinary team to conduct outreach and engagement, the MHS ACTiOn team. If the CCBHS FMH team determines that a referred individual is eligible for AOT during the investigation period, the individual is connected with MHS. The MHS ACTiOn team then conducts outreach and engagement activities with those individuals and their families to engage them in ACT services. As per the County's program design, MHS is charged with providing opportunities for the individual to participate on a voluntary basis. If the individual remains unable and/or unwilling to voluntary enroll in ACT after a period of outreach and engagement, and continues to meet AOT eligibility criteria, MHS may refer the individual back to FMH to file a petition to compel court-ordered participation.

MHS has enrolled half of all AOT referred individuals to ACT through their ongoing outreach and engagement efforts.

Since the program began in February 2016, MHS provided outreach and engagement services for 138 consumers and their support networks. Fifty-one percent (n = 70) eventually enrolled in ACT at least once as of June 30, 2018. Notably, eight of those consumers enrolled more than once. Another 12% of referred individuals (n = 17) were still receiving outreach and engagement services as of June 30, 2018 (see Table 4). This trend of approximately half of the individuals whom MHS outreached to ultimately enrolling in ACT stayed about the same during the entire pilot implementation period.

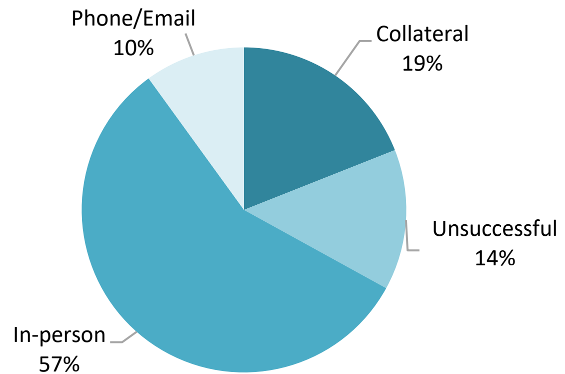
Table 4. MHS Outreach and Engagement Outcomes (N = 138)

Outreach and Engagement Outcome	Percent of Consumers	Number of Consumers
Enrolled in ACT services	51%	70 total *54 voluntarily* *16 with court involvement*
Still receiving outreach and engagement services	12%	17
Not enrolled in ACT	37%	51

The MHS ACTiOn team provided intensive and persistent outreach and engagement to individuals referred to AOT in a variety of settings.

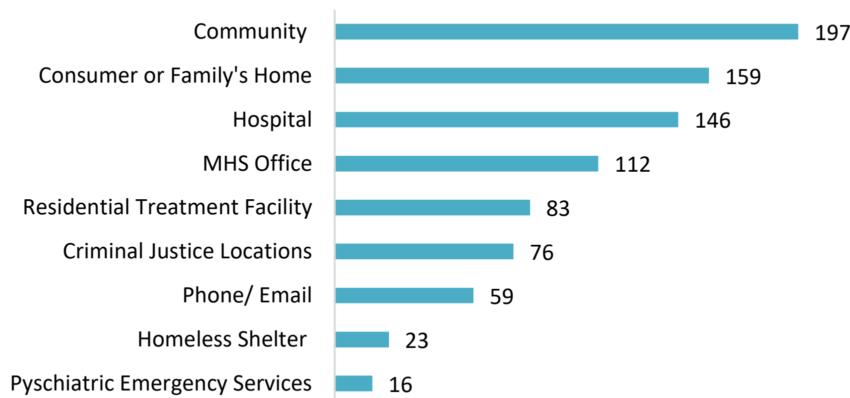
MHS provided outreach and engagement services to individuals as well as their support networks. Approximately 57% of outreach and engagement attempts were successful contacts with individuals, while approximately one in five contact attempts were with the individuals' support networks (collateral), including family members and other providers (see Figure 6).

Figure 6. Type of Outreach and Engagement Contacts



The majority of the MHS ACTiOn team's outreach attempts were either by a peer partner (47%) or the clinical team leader (21%). As with the County's investigation team, MHS was persistent in their efforts to meet consumers "where they're at." As shown in Figure 7, most contacts occurred in the community or the consumer/family home.

Figure 7. Location of MHS Outreach and Engagement Attempts



Many of the individuals who received outreach and engagement services but did not enroll in ACT continued to cycle through crisis, hospital, and jail.

Among the 51 individuals who were referred to MHS and received outreach and engagement but did not enroll in ACT, 73% (n = 37) experienced at least one crisis episode after referral and 13 also had an inpatient hospitalization. Additionally, 41% (n = 21) of those who were referred to MHS but not enrolled in ACT had at least one mental health service while in jail. Approximately 25% (n = 13) engaged in some form of outpatient treatment; however, almost half of those who engaged in outpatient treatment also had an inpatient hospitalization. These findings suggest that a subset of individuals was difficult to engage and may have benefitted from an AOT petition.

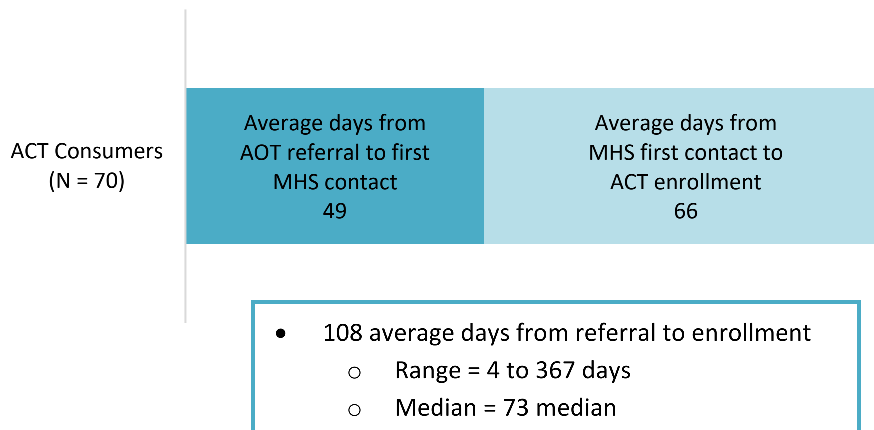
Referral to Enrollment Outcomes

This section explores the time period between consumers' initial AOT referral and their ACT enrollment. This includes referral and investigation efforts by CCBHS FMH as well as outreach and engagement efforts by MHS.

The average length of time from referral to ACT enrollment is 108 days.

Contra Costa County designed an AOT program model that sought to engage and enroll referred individuals in ACT within 120 days of referral. On average, it took the Care Team approximately 108 days to collectively conduct investigation, outreach and engagement, and enroll the referred individuals in ACT. Specifically, it took an average of 49 days from the point of AOT referral to MHS' first contact, and then 66 days from the date of MHS' first contact to enrollment in ACT (see Figure 8). This trend of the average length of time between referral and enrollment for ACT consumers being right under 16 weeks remained consistent during the entire pilot implementation period.

Figure 8. Average Length of Time from AOT Referral to ACT Enrollment[5]

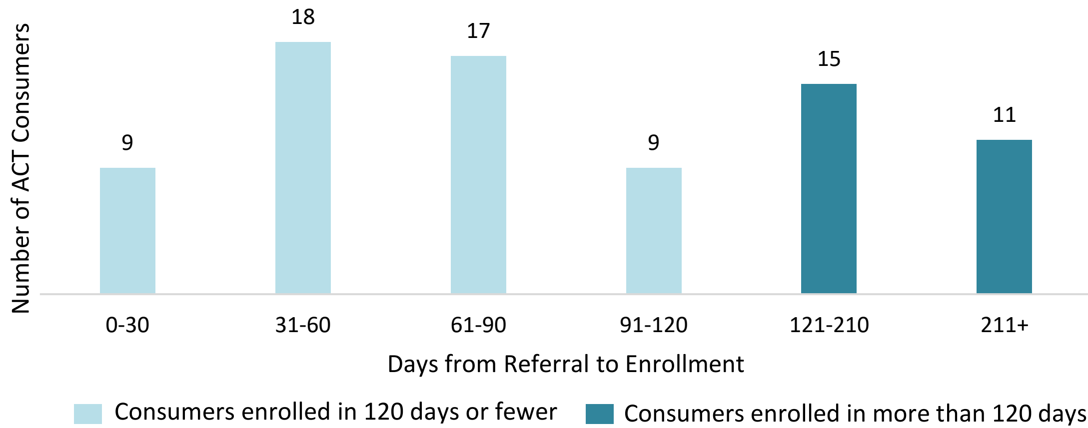


Approximately one out of every three ACT consumers experienced referral to enrollment periods longer than 120 days.

Contra Costa County's AOT program model has an expected maximum period of 120 days from the point of referral to enrollment in AOT treatment services. Although the average length of time from referral to enrollment aligned with the County's program design, 26 consumers (33%) experienced investigation and outreach periods lasting longer than 120 days (see Figure 9). Data suggests that these individuals were difficult to locate, and that the Care Team invested additional time to attempt to locate them.

[5] For consumers with multiple ACT enrollments, each period from referral to enrollment is counted separately.

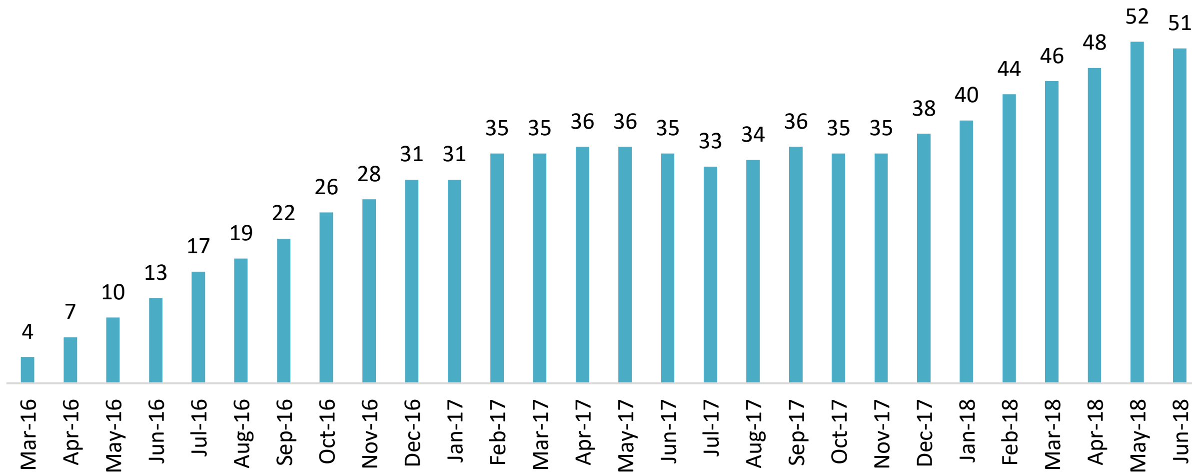
Figure 9. Length of Time from AOT Referral to ACT Enrollment



The ACT program has seen a steady increase in the number of consumers enrolled during its pilot period.

As shown in Figure 10, with few exceptions, the number of consumers enrolled in ACT during any given month has increased since the program began in February 2016. At the conclusion of this evaluation period, MHS was serving 51 enrolled consumers, with 18 individuals either still receiving outreach and engagement services or pending ACT enrollment.

Figure 10. Number of Individuals Enrolled in ACT by Month

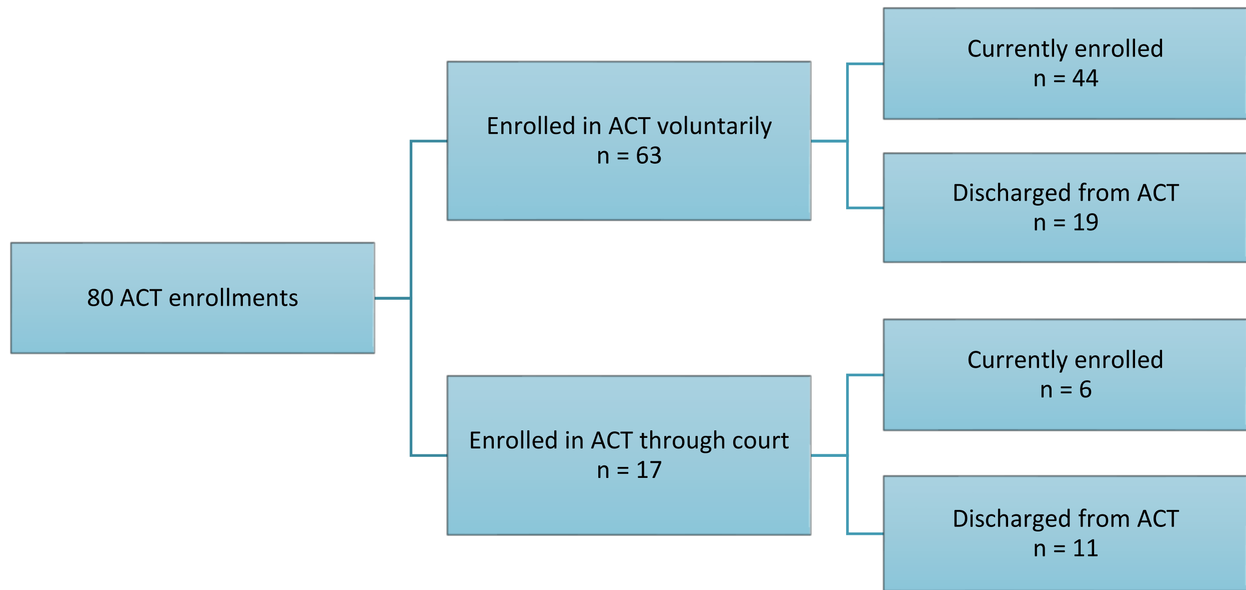


As of October 23, 2018, there were 64 consumers enrolled in treatment services with the MHS ACTiOn team.

AOT Enrollment

As shown in Figure 11 below, MHS had a total of 79 enrollments for 70 individuals since February 2016. Seven individuals were enrolled in ACT more than once, and two of those seven re-enrolled twice. The majority of enrollments (78%, n = 62) were voluntary.

Figure 11. AOT Treatment Program Participants



This section includes the following components:

- A review of the ACT consumer profile, including demographic characteristics, diagnoses and baseline employment, education, and financial status;
- A discussion of consumer outcomes, including the change in their experiences of crisis episodes, inpatient hospitalizations, and homelessness; and
- A discussion of program costs and cost savings associated with reduced numbers of hospitalizations, as well as revenue generated through federal reimbursement.

ACT Consumer Profile

The following section describes consumers' demographic characteristics, as well as their diagnoses, employment status, educational attainment, and sources of financial support when they enrolled in ACT.

Demographics

The majority of ACT consumers are male and White and have both primary psychotic disorders and co-occurring substance use issues.

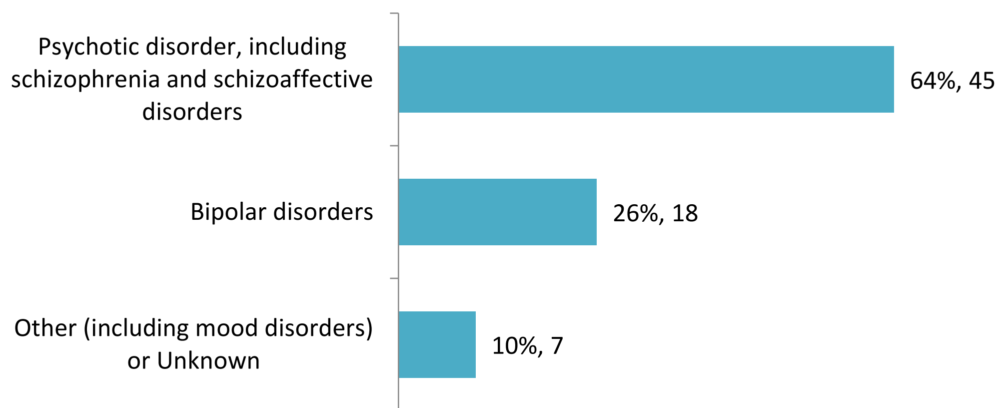
As shown in Table 5, ACT consumers were primarily male (56%, n = 39) and White (56%, n = 39). A subset of 21% (n = 15) were transitional age youth (TAY) between the ages of 18 and 25.

Table 5. ACT Consumer Demographics (N = 70)

Category	ACT Consumers
Gender	
Male	56% (n = 39)
Female	44% (n = 31)
Race and Ethnicity	
Black or African American	19% (n = 13)
Hispanic	16% (n = 11)
White	56% (n = 39)
Other or Unknown	9% (n = 7)
Age at Enrollment	
18 – 25	21% (n = 15)
26+	79% (n = 55)

The majority of ACT consumers (64%, n = 45) have a primary diagnosis of a psychotic disorder (see Figure 12), and 71% (n = 50) had a co-occurring substance use disorder at the time of enrollment.

Figure 12. Primary Diagnosis at Referral (N = 70)



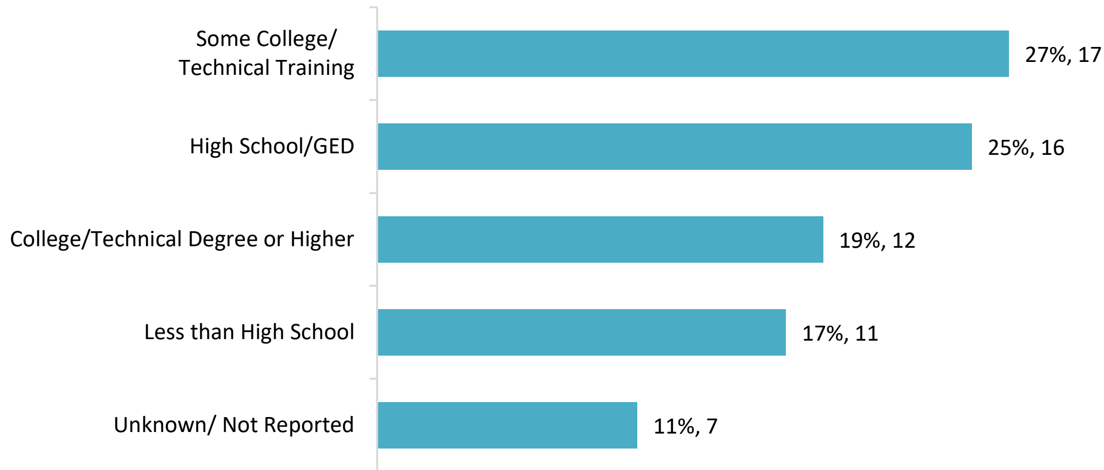
Education, Employment, and Financial Support[6]

Most ACT consumers are unemployed, have minimal post-high school education, and receive financial support from supplemental security income.

At the time of enrollment, no ACT consumers were enrolled in school. Over half of ACT consumers had a GED or higher education level at the time of enrollment (see Figure 13). Slightly more than one-third (38%, n = 24) of consumers specified continuing education as a recovery goal for their time in ACT.

[6] Baseline housing, education, employment, and financial support data were available for 63 of the 70 consumers.

Figure 13. Educational Attainment at Enrollment (N = 63)



Over half of ACT consumers were unemployed during the 12 months prior to their enrollment in ACT (59%, n = 37). Prior employment status was not provided by 33% of consumers (n = 21) (see Figure 14). Obtaining employment was a recovery goal for almost half (46%) of ACT consumers.

Figure 14. Employment 12 months before ACT (N = 63)

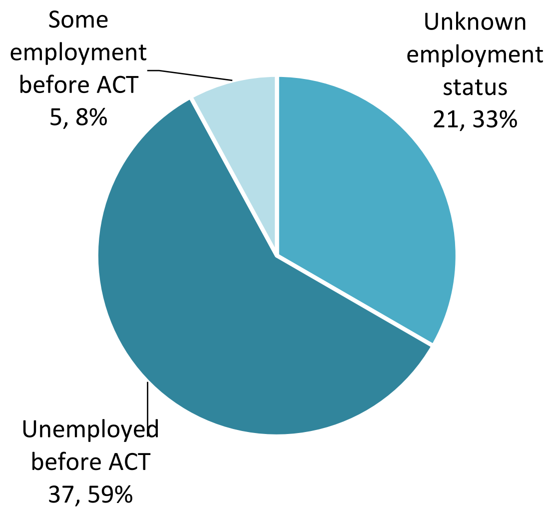


Table 6 illustrates the sources of financial support and income for ACT consumers in the 12 months prior to enrollment, as well as at the time of enrollment. The "Other" category includes a variety of financial support sources: support from family or friends, retirement/Social Security, tribal benefits, wages or savings, food stamps and housing subsidies. The majority of consumers both prior to and at enrollment received financial support from supplemental security income.

Table 6. Sources of Financial Support at and before ACT Enrollment (N = 43)

Financial Support	Support Received in the Year Prior to ACT Enrollment	Support Being Received at ACT Enrollment
Supplemental Security Income	49% (n = 31)	45% (n =29)
Other	36% (n = 23)	30% (n = 19)
No Financial Support or Unknown/Not Reported	14% (n = 9)	24% (n = 15)

Service Participation

The following sections describe the type, intensity, and frequency of ACT service participation, as well as adherence to treatment.

Fidelity to the ACT Model

To determine whether MHS' ACT services were provided to fidelity, RDA conducted a separate ACT fidelity analysis (see Appendix II). The fidelity assessment process measures the extent to which MHS' ACT treatment services align with the ACT model and to identify opportunities to strengthen ACT services. For the assessment, RDA applied the ACT Fidelity Scale developed at Dartmouth University[7] and incorporated it into a SAMHSA toolkit.[8] This established assessment includes a set of data collection activities and a scoring process in order to determine a fidelity rating as well as qualifications of assessors. MHS' ACT program was rated across 28 items within the three domains set forth in the ACT Fidelity Scale:

- Human Resources: Structure and Composition
- Organizational Boundaries
- Nature of Services

Each domain has specific criterion rated on a five-point Likert scale with clearly defined descriptions for each rating. The following chart provides an overview of the domains, criterion, and the MHS ACTiOn team's 2017 and 2018 program ratings. As shown in Table 7 below, the MHS ACTiOn team received an overall fidelity score of 4.50 indicating a high level of fidelity to the ACT model.

Table 7. MHS ACTiOn Team's ACT Fidelity Assessment Scores (2017 & 2018)

Domain	Criterion	2017 Rating	2018 Rating
Human Resources: Structure and Composition	Small caseload	5	5
	Team approach	4	5
	Program meeting	5	5
	Practicing ACT leader	4	5
	Continuity of staffing	3	4

[7] ACT Fidelity Scale retrieved on December 6, 2017 from: https://www.centerforebp.case.edu/resources/tools/act-dacts
[8] Substance Abuse and Mental Health Services Administration. *Assertive Community Treatment: Evaluating Your Program.* DHHS Pub. No. SMA-08-4344, Rockville, MD: Center for Mental Health Services Administration, U.S Department of Health and Human Services, 2008.

Domain	Criterion	2017 Rating	2018 Rating
	Staff capacity	4	4
	Psychiatrist on team	5	5
	Nurse on team	5	5
	Substance abuse specialist on team	5	5
	Vocational specialist on team	5	5
	Program size	5	5
Organizational Boundaries	Explicit admission criteria	2	5
	Intake rate	5	5
	Full responsibility for treatment services	5	5
	Responsibility for crisis services	5	5
	Responsibility for hospital admissions	5	1
	Responsibility for hospital discharge planning	5	5
	Time-unlimited services	5	5
Nature of Services	In vivo services	3	4
	No drop-out policy	3	5
	Assertive engagement mechanisms	2	5
	Intensity of services	5	4
	Frequency of contact	4	3
	Work with support system	5	5
	Individualized substance abuse treatment	5	3
	Co-occurring disorder treatment groups	5	3
	Co-occurring disorders model	5	5
	Role of consumers on treatment team	5	5
ACT Fidelity Score		**4.42**	**4.50**

There were notable changes in scores for three domains between the 2017 and 2018 ACT fidelity assessment processes conducted with MHS. There was a large decline in the domain regarding the MHS ACTiOn team having some involvement in the decision-making around their consumers' hospital admissions. And, there were large increases in two domains: 1) the MHS ACTiOn team having explicit criteria for whom it admits into ACT services, and 2) the MHS ACTiOn team having and utilizing assertive engagement mechanisms with its consumers.

Intensity and Frequency of ACT Services

As discussed in the methodology section, the following discussion of ACT service participation treats each enrollment individually for intensity and frequency analysis, even if an individual was enrolled more than once, in order to avoid misrepresenting service engagement. Since the program began in February 2016, eight individuals had more than one discrete enrollment. Additionally, any enrollments that were less than one month in duration were removed from the following analysis. Finally, five individuals enrolled in

ACT did not have any available service data and were not included in the analysis. As a result, the following analysis includes 71 total enrollments for 62 unique individuals.

The ACT team is providing a high amount of services on a very frequent basis to its consumers.

Among the 71 total enrollments included in this analysis, consumers were enrolled and receiving ACT services for an average of 354 days. On average, they received four face-to-face service encounters per week for a total average of four hours of face-to-face services per week (see Table 8).

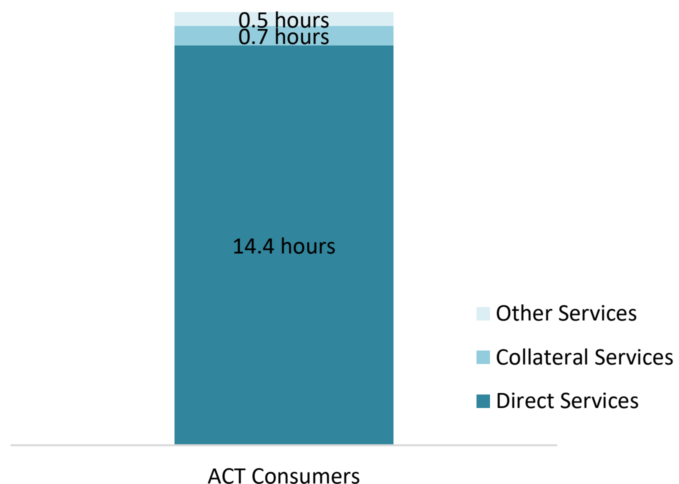
Table 8. ACT Service Engagement (N = 71)

	ACT Consumers	
	Average	*Range*
Length of Enrollment	354 days	33-830 days
Frequency of Service Encounters	4 face-to-face contacts per week	<1 – 13 face-to-face contacts per week
Intensity of Services	4 hours of face-to-face contact per week	<1 – 12 hours of face-to-face contact per week

The ACT team is actively providing direct services to its consumers.

The majority of services provided by the ACT team are direct services to consumers. On average, 92% of service hours logged by ACT providers were direct services to ACT consumers, such as assessment or crisis intervention. A smaller proportion of services were with consumers' support networks or other administrative duties (see Figure 15).

Figure 15. ACT Service Hours per Month



ACT Treatment Adherence and Retention

Two-thirds of ACT consumers (66%) were adherent to ACT treatment during program implementation.

Treatment adherence is defined as consumers agreeing to meet with the treatment team and operationalized as receiving at least one hour of face-to-face engagement with the ACT team a minimum of two times per week. According to this definition, 33% (n = 24) of consumers did not meet this standard of adherence. This may be related to their unwillingness to engage, as well as service unavailability, which may have been impacted by staffing changes in FY 17-18 (see Figure 16 and Figure 17).

Figure 16. Intensity of ACT Contacts per Week

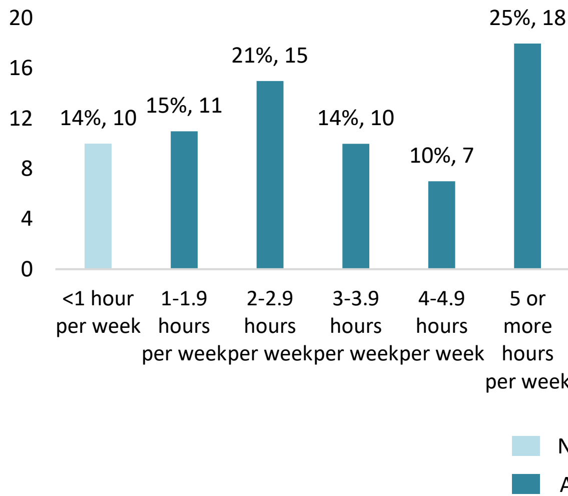
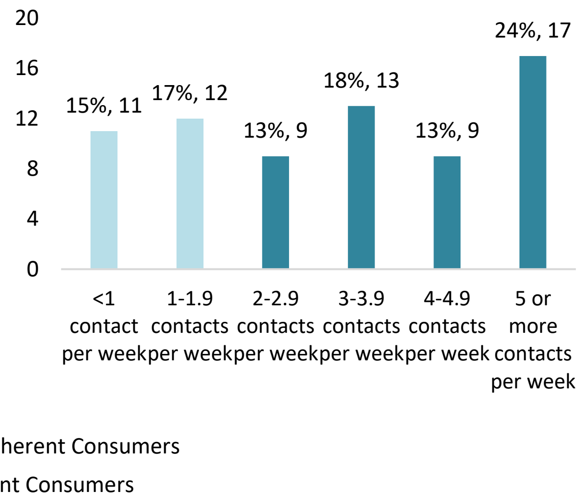


Figure 17. Frequency of ACT Contacts per Week



In order to account for early implementation challenges, which are common when a new program goes through its start-up phase, this treatment adherence definition was also applied only to consumers who enrolled after the first six months of implementation. With individuals from the first six months of implementation removed, the proportion of individuals who were not adherent increased from 33% to 45%. Further, when consumers who enrolled in FY 17-18 were removed from the analysis, the proportion of individuals who were not adherent decreased from 33% to 20%. These differences suggest that the staffing changes that occurred in FY 17-18 may have influenced consumers' ability to meaningfully engage in treatment, resulting in lower adherence rates as specified by this definition.

During this evaluation period, 30 individuals were discharged from the MHS ACTiOn program. Of these 30 individuals, 10 subsequently re-enrolled in the program. Moreover, during this evaluation period, seven consumers (23%) either successfully completed the program or were discharged into a more appropriate level of care, such as conservatorship or a residential treatment program.

ACT Consumer Outcomes

The following sections provide a summary of consumers' experiences with psychiatric hospitalizations, crisis episodes, and homelessness before and during ACT enrollment.

Crisis and Psychiatric Hospitalization

This section describes consumers' crisis stabilization episodes and psychiatric hospitalizations before, during, and after ACT enrollment. The County's PSP Billing System was used to identify consumers' hospital and crisis episodes in the 36 months prior to and during AOT enrollment.

ACT consumers experienced a significant decrease in both the amount and frequency of crisis episodes and psychiatric hospitalizations during ACT enrollment.

Almost all consumers (91%, n = 61) had at least one crisis episode in the three years before ACT, averaging approximately 3.1 episodes for every six months, with episodes lasting an average of 1.4 days. Fewer

consumers had a crisis episode during their ACT enrollment (52%, n = 35) with an average of 2.2 episodes each six months (see Table 9). Reductions in the proportion of consumers who experienced at least one crisis episode in the three years prior to ACT enrollment and during ACT enrollment are significant[9], suggesting that ACT participants were less likely to experience crisis episodes during AOT enrollment as a result of program participation.

Table 9. Consumers' Crisis Episodes Before and During ACT (N = 67)[10]

	Before ACT Enrollment	During ACT Enrollment
Number of Consumers	91%, n = 61	52%, n = 35
Average Number of Crisis Episodes	3.1 episodes per 180 days	2.2 episodes per 180 days
Average Length of Stay	1.4 days	1.2 days

Similarly, the number of consumers who experienced a psychiatric hospitalization decreased during ACT. Over half of ACT consumers (55%, n = 37) had at least one hospitalization in the three years before ACT, compared to 31% of consumers who experienced a hospitalization during ACT. Those with at least one hospitalization before ACT averaged approximately one hospitalization every six months, lasting approximately seven days each. Although consumers had fewer hospitalizations (0.7 per 180 days) while enrolled in ACT, the average length of stay increased slightly from 7.3 to 10.0 days (see Table 10). Reductions in the proportion of consumers who experienced a psychiatric hospitalization in the three years prior to ACT enrollment and during ACT enrollment are also significant[11], suggesting that ACT participants were also less likely to experience psychiatric hospitalizations during AOT enrollment than prior.

Table 10. Consumers' Inpatient Hospitalizations Before and During ACT (N = 67)

	Before ACT Enrollment	During ACT Enrollment
Number of Consumers	55%, n = 37	31%, n = 21
Average Number of Hospitalizations	1.0 episodes per 180 days	0.7 episodes per 180 days
Average Length of Stay	7.3 days*	10.0 days**
**Average is 12 days if two long-term hospitalizations of over 100 days are retained; ** Average is 24 days if two long-term hospitalizations of over 100 days are retained*		

Over one-third of consumers (n = 13) continued to experience crisis episodes and/or psychiatric hospitalizations after being discharged from ACT.

Among the 30 individuals discharged from ACT, 10 subsequently re-enrolled in the program. Seven consumers (23%) either successfully completed the program or were discharged into a more appropriate level of care, such as conservatorship or a residential treatment program. Findings suggest that the remaining consumers, who often returned to jail, PES, and inpatient hospitalization, may have been

[9] A p-value is used to determine the probability of observed findings being the result of chance. The above finding was statistically significant at a p-value threshold of .01. This indicates that there is less than a 1% likelihood that the observed outcomes are a result of chance.
[10] Three consumers were removed from the analysis because they were enrolled for less than one month.
[11] A p-value is used to determine the probability of observed findings being the result of chance. The above finding was statistically significant at a p-value threshold of .01. This indicates that there is less than a 1% likelihood that the observed outcomes are a result of chance.

discharged prematurely from ACT. In some instances, these individuals completely disengaged from treatment and could not be located. In other instances, the consumers had originally voluntarily enrolled in ACT, and there may have been opportunities to utilize the AOT petition to further compel their participation in the program.

Criminal Justice System Involvement

This section describes consumers' criminal justice system involvement by exploring Sheriff's Office bookings, charges, and jail stay data, which were available for the 36 months prior to ACT implementation through June 30, 2018. Following an arrest, individuals are typically booked into local county jail and remain in jail until released through bail payment or on their own recognizance. The District Attorney's Office determines whether to file charges once a criminal complaint is sought. Charges are a formal allegation of an offense for which an individual is arrested and booked. Conviction data were not available for this report.

Significantly fewer ACT consumers were arrested and booked during ACT enrollment.

The proportion of ACT consumers who were arrested and booked decreased during ACT from 67% (n = 45) before enrollment to 31% (n = 21) during ACT (see Table 11).[12] While the average number of bookings stayed consistent for ACT consumers, their average length of jail stays decreased from 29 days to approximately 18.5 days.

Table 11. Consumers' Bookings and Incarcerations before and during ACT (N = 67)

	Before ACT enrollment	During ACT enrollment
Number of Consumers	67%, n = 45	31%, n = 21
Average Number of Bookings	2.3 bookings per 180 days	2.4 bookings per 180 days
Average Length of Incarceration	29.0 days	18.5 days

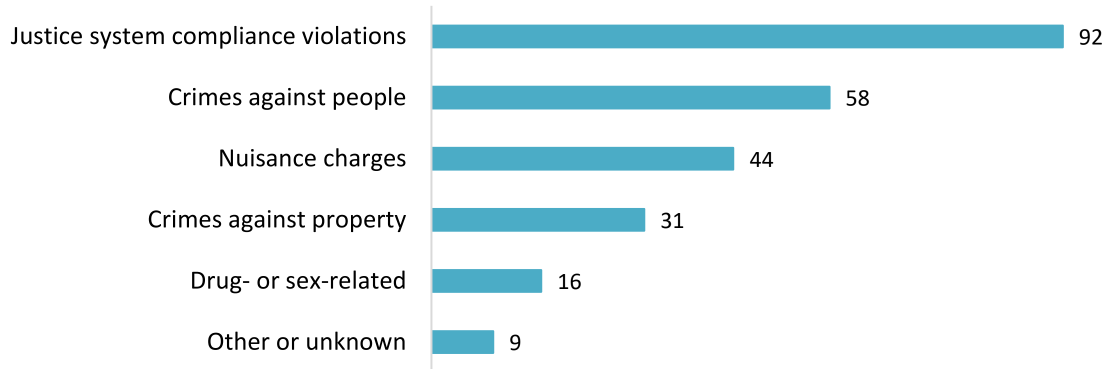
Consumers were often charged with multiple offenses during one booking. Figure 18 categorizes these charges into the following groups:

- **Justice System Compliance Violations**: Charges involving violating probation or other court orders, or obstruction.
- **Crimes against People**: Charges involving assault, battery, robbery, weapons possession, driving under the influence, false imprisonment, or violation of protective orders.
- **Nuisance**: Charges involving trespassing or disorderly conduct.
- **Crimes against Property**: Charges involving arson, theft, burglary, shoplifting, and vandalism.
- **Drug or Sex-Related Crimes**: Charges involving possession of controlled substances, indecent exposure, sexual battery, or soliciting a lewd act.
- **Other or Unknown**: Charges involving driving without a license or a suspended license, fraud, or unknown charge.

[12] A p-value is used to determine the probability of observed findings being the result of chance. The above finding was statistically significant at a p-value threshold of .01. This indicates that there is less than a 1% likelihood that the observed outcomes are a result of chance.

The majority of charges against ACT consumers were for system compliance violations, which were primarily probation violations. The majority of ACT consumers' crimes against people were either assault or battery.

Figure 18. Types of Charges During ACT Enrollment



Housing

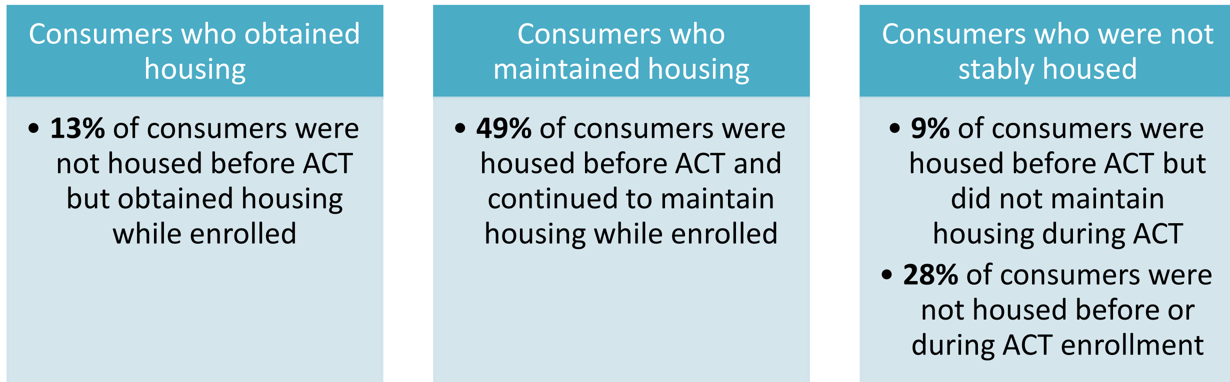
In addition to improving consumers' mental health outcomes, ACT services are also designed to support consumers in attaining suitable housing situations that support their community mental health treatment.

The majority of consumers either obtained or maintained housing while in ACT.

Self-reported housing data were available for 75% (n = 53) of all ACT consumers. Among th3 53 ACT consumers with available housing data, 62% (n = 33) were in stable housing at the conclusion of the evaluation period.[13] RDA compared consumers' baseline housing status to their last known residence as of June 30, 2018 to explore changes in consumers' housing status during ACT enrollment. As shown in Figure 19, 13% (n = 7) of consumers obtained housing while enrolled in ACT, while approximately half (49%, n = 26) maintained the stable housing they had before ACT enrollment. The remaining 37% of consumers either lost their housing while in ACT, or never had nor gained stable housing.

[13] RDA used the Department of Housing and Urban Development (HUD) definition of stable housing to determine which categories from the FSP PAF and KET forms should be considered "housed."

Figure 19. Consumers' Housing Status before and during ACT[14]



Severity of Mental Illness, Self-Sufficiency, and Violent Behaviors

Consumers' abilities to function independently and participate in meaningful activities that are a part of daily living are also of key importance in ACT programs. In order to understand how ACT participation may influence these abilities, this section examines changes in consumers' severity of mental illness (assessed with the BPRS-E instrument), as well as changes in their self-sufficiency across a number of domains (assessed with the Self-Sufficiency Matrix).

ACT consumers experience a significant variety of severe psychiatric symptoms.

To assess the severity of consumers' symptoms, the MHS ACTiOn team administered the BPRS-E instrument with each consumer at the point of intake. The BPRS-E is a rating scale for clinicians to measure psychiatric symptoms and assess treatment changes across a comprehensive set of common symptom characteristics; it rates the severity of consumers' experience of symptoms from one ("not present") to seven ("extremely severe"). Overall, MHS assessed 47 of its 70 consumers at intake with the BPRS-E instrument. The average scores for ACT consumers ranged between 2.9 ("very mild" to "mild") for Activation-related symptoms to 3.6 ("mild") for Positive Symptoms (see Table 12). Some individual consumers scored up to 7 ("extremely severe") on certain domains. On average, ACT consumers demonstrated mild to moderate scores in their psychiatric symptomology at the point of AOT enrollment; but there was a high degree of variation between the minimum and maximum scores for each domain. The domain which the highest proportion of ACT consumers (23%) scoring worse than Moderately Severe was having Positive Symptoms (hallucinations, unusual thought content, suspiciousness, grandiosity).

[14] Due to rounding, percentages do not add up to 100.

Table 12. Baseline BPRS-E Scores (N=47)[15]

Symptom Domains	Subscale Items	Average Score	Minimum Score	Maximum Score	% of Consumers Scoring above Moderately Severe
Affect	Anxiety, guilt, depression, suicidality	3.2	0.5	5.8	9%
Positive Symptoms	Hallucinations, unusual thought content, suspiciousness, grandiosity	3.5	0.3	7.0	23%
Disorganizations	Conceptual disorganization, disorientation, self-neglect, mannerisms-posturing	3.0	0.5	6.0	6%
Negative Symptoms	Blunted affect, emotional withdrawal, motor retardation	3.3	1.0	7.0	13%
Activation	Excitement, motor hyperactivity, elevated mood, distractibility	2.9	0.3	7.0	11%

Legend:	1 = Not Present	2 = Very Mild	3 = Mild	4 = Moderate	5 = Moderately Severe	6 = Severe	7 = Extremely Severe

Overall, the severity of psychiatric symptoms for ACT consumers decreased across most symptom domains during ACT program enrollment.

MHS staff conducted the BPRS-E assessment with 26 ACT consumers at both their AOT intake and six months later (interim). The average scores for all ACT consumers ranged between 2.7 ("very mild") for Activation-related symptoms up to 3.6 for Positive Symptoms (see Table 13). The overall average severity score decreased for all psychiatric symptom domains during ACT program participation. Moreover, the Positive Symptoms domain saw the greatest decrease between intake and six months later in the proportion of ACT consumers who scored worse than moderately severe (decrease from 31% to 15% of ACT consumers).

[15] Data Source: Brief Psychiatric Rating Scale Expanded (BPRS-E)

Table 13. Comparing Changes in BPRS-E Average Scores (N=26)[16]

Symptom Domains	Subscale Items	Intake	Interim	% of Consumers Scoring above Moderately Severe @ Intake	% of Consumers Scoring above Moderately Severe @ Interim
Affect	Anxiety, guilt, depression, suicidality	3.0	2.8	8%	4%
Positive Symptoms	Hallucinations, unusual thought content, suspiciousness, grandiosity	3.6	3.3	31%	15%
Disorganizations	Conceptual disorganization, disorientation, self-neglect, mannerisms-posturing	3.1	3.0	12%	23%
Negative Symptoms	Blunted affect, emotional withdrawal, motor retardation	3.1	2.9	8%	8%
Activation	Excitement, motor hyperactivity, elevated mood, distractibility	2.7	2.4	8%	8%

Legend:	1 = Not Present	2 = Very Mild	3 = Mild	4 = Moderate	5 = Moderately Severe	6 = Severe	7 = Extremely Severe

Across most domains, ACT clients are vulnerable in their abilities to be self-sufficient.

Consumers' ability to be self-sufficient in their daily lives is also of key importance in AOT programs. The Self-Sufficiency Matrix, administered to the ACT clients by MHS, provides information about consumers' social functioning and independent living at intake on a scale from 1 ("in crisis") to 5 ("empowered/thriving"). Intake data was collected for 57 consumers; Table 14 reports the average scores for consumers at their first assessment. On average, consumers scored higher than 3 ("stable") in domains related to health care coverage, life skills, adult education, legal, and safety. The higher scores for these domains may be attributed to consumers achieving sufficient stability and accessing supportive services when discharged from psychiatric hospitals or other mental health facilities prior to enrolling in AOT. Consumers scored lower than 3 ("stable") in domains related to housing, employment, income, food and nutrition, relationships, transportation, community involvement, mental health, substance abuse, and disabilities. The lower scores for these domains indicate the domains in which ACT consumers may need additional support – from the ACT program or elsewhere – in order to increase their own abilities to be more sufficient in those domains.

Table 14. Baseline Self-Sufficiency Matrix Scores (N=57)[17]

Domain	Average Score	Score Description
Housing	2.6	• 2= In transitional, temporary or substandard housing; and/or current rent/mortgage payment is unaffordable (over 30% of income)

[16] Data Source: Brief Psychiatric Rating Scale Expanded (BPRS-E)
[17] Data Source: Self-Sufficiency Matrix (SSM)

Domain	Average Score	Score Description
		• 3= In stable housing that is safe but only marginally adequate
Employment	1.1	• 1= No job
Income	2.0	• 2= Inadequate income and/or spontaneous or inappropriate spending
Food and Nutrition	2.6	• 2= Household is on food stamps • 3= Can meet basic food needs but requires occasional assistance
Adult Education	3.5	• 3= Has high school diploma/GED • 4= Needs additional education/training to improve employment situation and/or to resolve literacy problems to where they are able to function effectively in society
Health Care Coverage	3.9	• 3= Some members (e.g. children) have medical coverage • 4= All members can get medical care when needed but may strain budget
Life Skills	3.0	• 3= Can meet most but not all daily living needs without assistance
Family/Social Relations	2.5	• 2= Family/friends may be supportive but lack ability or resources to help; family members do not relate well with one another; potential for abuse or neglect • 3= Some support from family/friends; family members acknowledge and seek to change negative behaviors; are learning to communicate and support
Mobility/ Transportation	2.5	• 2= Transportation is available, but unreliable, unpredictable, unaffordable; may have vehicle but no insurance, license, etc. • 3= Transportation is available and reliable but limited and/or inconvenient; drivers are licensed and minimally insured
Community Involvement	2.4	• 2= Socially isolated and/or no social skills and/or lacks motivation to become involved
Legal	3.5	• 3= Fully compliant with probation/parole terms • 4= Has successfully completed probation/parole within past 12 months; no new charges filed
Mental Health	2.2	• 2= Recurrent mental health symptoms that may affect behavior but not a danger to self/others; persistent problems with functioning due to mental health symptoms
Substance Abuse	2.9	• 2= Meets criteria for dependence; preoccupation with use and/or obtaining drugs/alcohol; withdrawal or withdrawal avoidance behaviors evident; use results in avoidance or neglect of essential life activities. • 3= Use within last 6 months; evidence of persistent or recurrent social, occupational, emotional or physical problems related to use (such as disruptive behavior or housing problems); problems have persisted for at least one month
Safety	3.4	• 3= Current level of safety is minimally adequate; ongoing safety planning is essential
Disabilities	2.3	• 2= Vulnerable - sometimes or periodically has acute or chronic symptoms affecting housing, employment, social interactions, etc.

Legend:	1 = In Crisis	2 = Vulnerable	3 = Safe	4 = Building Capacity	5 = Empowered

ACT consumers experienced very little change in their self-sufficiency scores during program enrollment.

MHS staff conducted the Self-Sufficiency Matrix (SSM) assessment at AOT enrollment and then six months later with 35 ACT consumers. Table 15 reports the average scores for those consumers at their first assessment and again six months later. On average, ***consumers' scores improved to higher (higher than 3 "stable") in domains related to housing and food and nutrition***. All the other scores remained relatively the same between these two assessment timepoints.

Table 15. Comparing Changes in Self-Sufficiency Matrix Average Scores (N=35)[18]

Domain	Intake Average Score	Interim Average Score	Score Description
Housing	2.9	3.2	• 2= In transitional, temporary or substandard housing; and/or current rent/mortgage payment is unaffordable (over 30% of income) • 3= In stable housing that is safe but only marginally adequate
Employment	1.2	1.3	• 1= No job
Income	2.3	2.4	• 2= Inadequate income and/or spontaneous or inappropriate spending
Food and Nutrition	2.9	3.2	• 2= Household is on food stamps • 3= Can meet basic food needs but requires occasional assistance
Adult Education	3.6	3.5	• 3= Has high school diploma/GED 4= Needs additional education/training to improve employment situation and/or to resolve literacy problems to where they are able to function effectively in society
Health Care Coverage	4.2	4.3	• 4= All members can get medical care when needed but may strain budget
Life Skills	3.2	3.5	• 3= Can meet most but not all daily living needs without assistance
Family/Social Relations	2.6	2.8	• 2= Family/friends may be supportive but lack ability or resources to help; family members do not relate well with one another; potential for abuse or neglect • 3= Some support from family/friends; family members acknowledge and seek to change negative behaviors; are learning to communicate and support
Mobility/ Transportation	2.5	2.8	• 2= Transportation is available, but unreliable, unpredictable, unaffordable; may have vehicle but no insurance, license, etc. 3= Transportation is available and reliable but limited and/or inconvenient; drivers are licensed and minimally insured
Community Involvement	2.6	2.8	• 2= Socially isolated and/or no social skills and/or lacks motivation to become involved • 3= Lacks knowledge of ways to become involved
Legal	3.5	3.6	• 3= Fully compliant with probation/parole terms • 4= Has successfully completed probation/parole within past 12 months; no new charges filed
Mental Health	2.4	2.4	• 2= Recurrent mental health symptoms that may affect behavior but not a danger to self/others; persistent problems with functioning due to mental health symptoms
Substance Abuse	3.1	3.3	• 3= Use within last 6 months; evidence of persistent or recurrent social, occupational, emotional or physical problems related to use (such as disruptive behavior or housing problems); problems have persisted for at least one month
Safety	3.6	3.9	• 3= Current level of safety is minimally adequate; ongoing safety planning is essential • 4= Environment is safe, yet future of such is uncertain; safety planning is important
Disabilities	2.5	2.4	• 2= Vulnerable - sometimes or periodically has acute or chronic symptoms affecting housing, employment, social interactions, etc.

Legend:	1 = In Crisis	2 = Vulnerable	3 = Safe	4 = Building Capacity	5 = Empowered

Few ACT consumers perpetuate violence towards others and/or experience victimization.

MHS implemented the Abbreviated MacArthur Community Violence Tool (MacArthur Tool) to assess changes in violence and victimization of consumers during ACT program enrollment. The MacArthur tool

[18] Data Source: Self-Sufficiency Matrix (SSM)

includes 17 questions that assess the frequency of violence, victimization or perpetration of assaultive behavior by consumers during the last month. Victimization and violent behaviors include behaviors that causes physical or emotional harm to themselves or others. It can range from verbal abuse to physical harm to self, others, or property.

MHS administered the MacArthur Tool with 33 ACT clients. The majority of ACT clients at baseline reported that they had not been victimized nor perpetrated violence towards someone in the month prior to enrollment. However, given the sensitive nature of these questions and that very few individuals reporting experiencing either activity during both timepoints, these results are likely an underrepresentation of these outcomes and should be interpreted with caution.

AOT Costs and Cost Savings

AOT Sources and Expenses

The County's AOT program is funded through a variety of sources. Mental health services provided by CCBHS and MHS are funded by MHSA Community Services and Supports (CSS) and Medi-Cal Federal Financial Participation. Legal costs associated with the program from County Counsel, the Public Defender, and the Superior Court[19] are funded through the County general fund. In FY 17-18, the entirety of the AOT program was budgeted at $2,782,500. However, the actual cost for FY 17-18 was $1,904,132.83. All partners' actual expenses were less than budgeted in FY 17-18, as demonstrated in Table 16. Of the actual expenses, $1,812,919 was funded by MHSA CSS and Medi-Cal FFP funds, and $91,214 came from the County general fund.

Table 16. FY 17-18 AOT Budget and Actual Expenses

Partner	FY 17-18 Budget	FY 17-18 Actual Costs
MHS	$2,014,000	$1,560,080
CCBHS	$350,000	$252,839
County Counsel	$157,000	$32,379
Public Defender	$133,500	$56,250
Superior Court	$128,000	$2,585
Total	**$2,782,500**	**$1,904,133**

For services associated with ACT, it was anticipated that 70% of all services provided would be billable and 35% of the revenue would therefore come from Medi-Cal FFP. According to CCBHS Medi-Cal billing reports, the total billing for FY 17-18 was $383,163 (25% of actual expenses), which is below what was anticipated. There are a number of factors that influence Med-Cal billing and all of the sources of funds

[19] Actual court costs for FY 17-18 were 2% of the budgeted amount, and the court agreed to participate in the program with no funds from the county beginning in FY 18-19.

for the MHS contract are MHSA and FFP, so this difference changes the amount of funding being drawn from the County's MHSA CSS allocation but does not impact the actual cost to the County.

Cost Savings and Avoidance

Mental health and jail costs were calculated for all ACT consumers enrolled in the program (n = 70) to determine the actual cost savings and cost avoidance produced by the AOT program. Pre-enrollment costs were calculated using actual charges from PSP and jail booking data using a projected cost of $106 per consumer per day[20] for the 36 months preceding each individual's enrollment. Post-enrollment data included all PSP and jail data for the entirety of the project period following each individual's enrollment in the AOT program. Given the differences in pre- and post-enrollment timeframes, pre-enrollment costs were standardized to 29 months to allow for direct comparison. Table 17 compares the pre- and post-AOT enrollment cost differences by type of charge.

Table 17. Pre- and Post-Enrollment Cost Comparison

	Pre-Enrollment	Post-Enrollment	Total Difference	Annual Estimate
Outpatient and Residential Mental Health Services	$5,280,971	$3,868,976	$1,411,995	$584,274
Psychiatric Hospitalization	$2,167,051	$1,049,866	$1,117,185	$462,283
Jail Bed Days	$507,722	$194,192	$313,530	$129,737
Total Mental Health Services	$7,448,022	$4,918,842	$2,529,180	$1,046,557
Total Mental Health and Jail	$7,955,744	$5,113,034	$2,842,710	$1,176,294

Overall, the program reduced the total cost of care for the 70 enrolled consumers by $2,842,710 from February 2016 through June 2018 (approximately $1,176,294 per year). However, not all cost reductions resulted in actual cost savings to the County. Of this amount, the AOT program produced a hard cost savings of $1,117,185 over the first 29 months of implementation, which is approximately $462,283 per year. Given that the actual County expenditures for the program in FY 17-18 were $91,214, the program produces an estimated $371,069 of hard cost savings per year. Additionally, the program resulted in cost avoidance from reduced outpatient and residential mental health service costs as well as from a reduction in jail bed days. While these do not reflect actual cost savings to the County, they are representative of an overall reduction in the cost of services for the 70 enrolled consumers.

[20] Grattet, R. and Martin, B. (2015). *Probation in California*. Retrieved on August 24, 2017 from http://www.ppic.org/publication/probation-in-california/.

Discussion

In February 2015, the Contra Costa County Board of Supervisors adopted a resolution to authorize the implementation of AOT for a 36-month pilot project to determine if it would effectively identify, engage, and treat a group of individuals who were previously unable to engage in mental health services and cycling in and out of crisis, hospitals, jails, and homelessness. The County also elected to implement Assertive Community Treatment (ACT), an evidence-based outpatient treatment approach that provides the highest level of outpatient services available in the community for those who need it most. This required contracting with a new service provider, MHS, to deliver ACT services in Contra Cost County. The County's AOT program became operational on February 1, 2016 and accepted its first consumer in March 2016.

One of the important components of the County's AOT program is the investigation, outreach, and engagement process used to connect individuals referred to AOT to the appropriate level of care. At the start of program implementation, fewer individuals than anticipated were enrolled in ACT, and the investigation, outreach, and engagement process was taking longer than expected (on average over three months). While this is a long period of time for individuals suffering from serious mental illness not to be connected to services, it is not too surprising that the process was taking that long given that AOT implementation required not only the development of new cross-system partnerships, but also integration of a new contracted service provider in Contra Costa County. Additionally, at program onset, both CCBHS FMH and MHS staff sought to enroll individuals in ACT on a voluntary basis if possible, and staff were very diligent in their implementation of the court process. However, after acknowledging that individuals referred to AOT continued to suffer during the investigation, outreach and engagement process, the County put steps in place to speed up the pre-enrollment process (for example, CCBHS FMH staff institutionalized processes to review whether individuals referred to AOT should receive an AOT petition on a weekly basis). While the County has implemented many changes to support the investigation, outreach and engagement process, the time from referral to ACT enrollment for all individuals referred to AOT in FY 17-18 remained on average longer than three months.

Although it has taken longer than anticipated to enroll AOT-eligible consumers into ACT, the program is reaching its target population and achieving positive outcomes. Since implementing ACT as the service component of the AOT program, MHS has scored high fidelity to the ACT model each year. MHS has maintained a commitment to supporting ACT consumers despite experiencing staffing issues that resulted in sudden turnover. As a result, fewer ACT consumers have experienced crisis episodes and psychiatric inpatient hospitalizations while enrolled in ACT because of their support commitment.

While ACT participants as a whole are experiencing positive outcomes, some continue to have trouble while enrolled in the program, with a subset of consumers continuing to experience inpatient hospitalizations and justice involvement. In addition, it appears that a number of consumers are discharged from ACT prematurely. Over one-third of consumers that have been discharged from ACT continued to experience crisis episodes and/or psychiatric inpatient hospitalizations, and many were never connected to other services upon discharge. The County should consider what the appropriate criteria for discharge is. The County can then ensure that all consumers who are discharged meet this

criterion, and that concrete steps are in place to connect discharged consumers to an appropriate level of care. This criterion should include determining for which consumers it is appropriate to file a petition through the court to compel a longer tenure of AOT participation.

Question 2 | ACT and AOT Comparison Findings

In 2015, the County elected to implement two complementary but discrete programs, ACT and AOT. ACT is an evidence-based behavioral health program for people with serious mental illness who are at-risk of or would otherwise be served in institutional settings (e.g. hospitals, jails/prisons) or experience homelessness. ACT has the strongest evidence base of any mental health practice for people with serious mental illness, which dates back to the 1970s. When done to fidelity, ACT produces reliable results that decrease consumers' negative outcomes such as hospitalization, incarceration, and homelessness and improve psychosocial outcomes, described above. AOT has a more limited evidence base; while it has been available in some states for longer than in California, its implementation is relatively new (although becoming much more widespread). AOT refers specifically to the legal mechanism by which a judge may mandate or compel a person with serious mental illness to comply with a treatment plan on an outpatient basis. In Contra Costa County, the majority of ACT consumers (77%, n = 54) enrolled voluntarily, without the use of the AOT legal mechanism. A smaller subset of consumers (23%, n = 16) required court involvement, either through an AOT settlement agreement or a court petition, to compel participation in ACT services.

The following section explores what differences may exist between individuals who participate voluntarily and those who participate through AOT court involvement. Specifically, it examines the potential differences in the consumer profile, service patterns, and psychosocial outcomes of these individuals.[21]

Consumer Profile

There are few differences in the demographics and diagnoses between consumers enrolled in ACT voluntarily and those enrolled through the court.

Overall, the voluntary and court-ordered ACT consumer populations are similar. Both groups are mostly male and mostly White. Non-White consumers make up a slightly higher proportion of voluntary consumers (43%) compared to court-involved consumers (38%). Additionally, there is a larger proportion of transition age youth (TAY) in the court-involved population (25%) than the voluntary population (17%). In both groups, the largest proportion of consumers were diagnosed with a psychotic disorder, including schizophrenia and schizoaffective disorders.

While consumers in both groups received comparable amounts of outreach and engagement from MHS, it took more time for the Care Team to enroll court-involved individuals.

[21] Given that the court-involved population is less than 20, this section reports descriptive statistic findings and does not include any inference analysis.

Overall, court-involved and voluntarily enrolled consumers received similar amounts of outreach and engagement services for both themselves and their support networks. As shown in Table 18 below, court-involved consumers received slightly more contact attempts for themselves, while voluntarily enrolled consumers received slightly more collateral contact attempts (i.e., outreach attempts with their families and other providers).

Table 18. Outreach and Engagement Attempts by Consumer Enrollment Type

	All ACT Consumers	Voluntarily Enrolled ACT Consumers	Court-Involved ACT Consumers
Number of Consumers who Received Outreach and Engagement	67	53	15
Average Contact Attempts per Consumer	8.7	8.4	9.3
Average Collateral Contact Attempts per Consumer	2.3	2.5	1.6

Notably, though consumers in both groups received comparable amounts of outreach to get enrolled in ACT services, it took on average almost two more months for court-involved consumers to enroll. From referral to AOT enrollment, voluntary consumers took an average of 96 days to enroll, while court-involved consumers took approximately 151 days.

Service Participation

A larger proportion of court-involved consumers have lower service participation compared to voluntarily enrolled consumers.

As discussed earlier, this evaluation operationalizes treatment adherence as at least one hour of face-to-face engagement with the ACT team at least two times a week. Using this definition, over half (53%) of court-involved consumers included in the analysis were not adherent, while just over a quarter (28%) of those who enrolled voluntarily were not adherent. Figure 20 and Figure 21 below illustrate this difference.

Figure 20. Intensity of ACT Contacts per Week

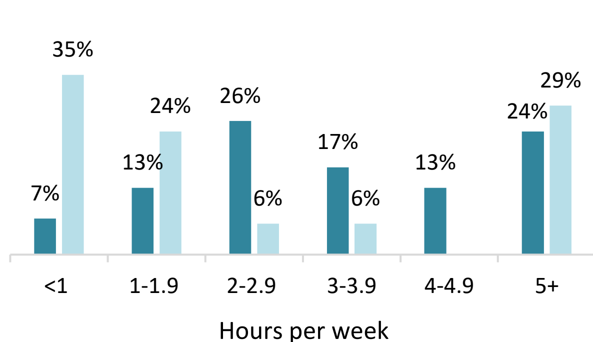
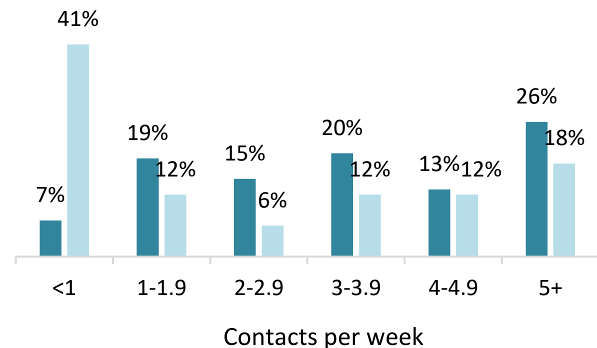


Figure 21. Frequency of ACT Contacts per Week



Voluntary Court-Involved

Consumer Outcomes

The following sections provide a summary of voluntarily enrolled and court-involved consumers' experiences with psychiatric hospitalizations, crisis episodes, and housing instability before and during ACT enrollment. It also provides a high-level description of outcomes for a subset of consumers each group who were discharged from ACT.

Consumers who enrolled voluntarily saw a substantial decrease in crisis episodes, inpatient hospitalizations, and criminal justice involvement during ACT.

Among the ACT consumers who enrolled voluntarily, nearly half of the consumers who had at least one crisis experience before enrollment had another crisis experience during enrollment. On average, they experienced one less episode per 180 days during ACT compared to before, and their average length of stay in a crisis facility remained about the same (see Table 19).

A similar trend exists in consumers' inpatient hospitalization experiences. First, the proportion of individuals with a hospitalization before ACT enrollment is similar between the court-involved and voluntarily enrolled consumers. However, a significantly larger proportion of court-involved consumers had a hospitalization during ACT enrollment. As with crisis episodes, the proportion of voluntarily enrolled consumers with at least one hospitalization prior to ACT decreased during their ACT enrollment, from 53% to 24%.

Table 19. Crisis Episodes and Inpatient Hospitalizations Before and During ACT by Enrollment Type

		Before ACT Enrollment		*During ACT Enrollment*	
		Crisis	***Hospitalization***	***Crisis***	***Hospitalization***
Voluntarily Enrolled ACT Consumers (n = 51)	Number of Consumers	90%, n = 46	53%, n = 27	47%, n = 24	24%, n = 12
	Average Number of Episodes	3.2 episodes per 180 days	1.1 episodes per 180 days	2.1 episodes per 180 days	0.8 episodes per 180 days
	Average Length of Stay	1.5 days	13.3 days	1.2 days	25.8 days
Court-Involved ACT Consumers (n = 16)	Number of Consumers	94%, n = 15	63%, n = 10	69%, n = 11	56%, n = 9
	Average Number of Episodes	2.9 episodes per 180 days	0.9 episodes per 180 days	2.7 episodes per 180 days	0.8 episodes per 180 days
	Average Length of Stay	1.3 days	8.1 days	1.2 days	21.3 days

As shown in Table 20, a larger proportion of court-involved consumers were arrested and booked both prior to and during ACT enrollment, compared to voluntarily enrolled consumers.

Table 20. Consumers' Bookings and Incarcerations Before and During ACT by Enrollment Type

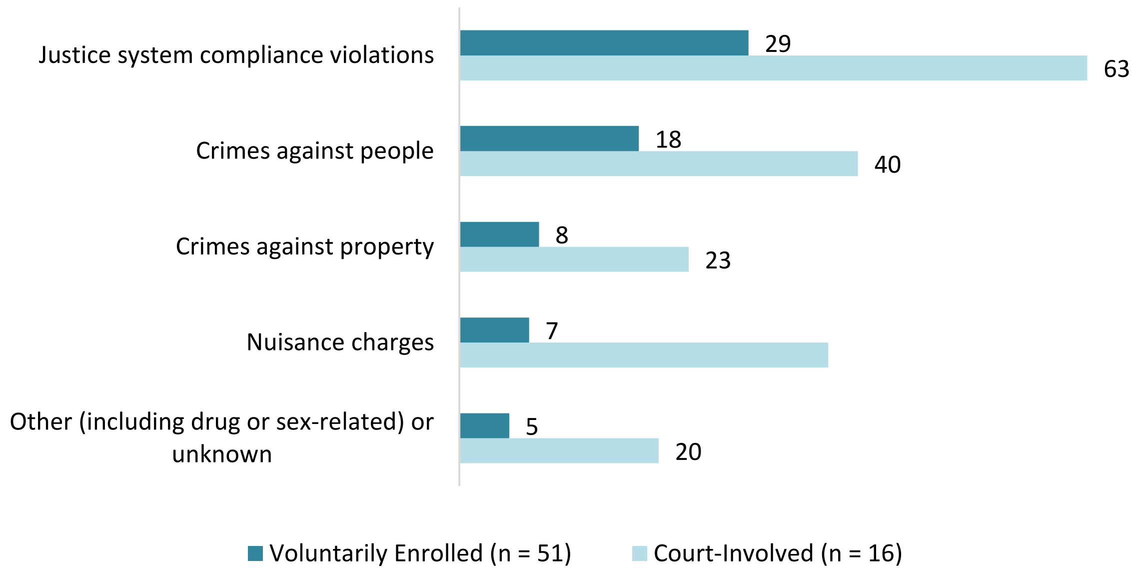
		Before ACT Enrollment	During ACT Enrollment
Voluntarily Enrolled ACT Consumers (n = 51)	Number of Consumers	61%, n = 31	20%, n = 10
	Average Number of Bookings	1.7 bookings per 180 days	0.7 bookings per 180 days
	Average Length of Incarceration	33.7 days	14.4 days
Court-InvolvedACT Consumers (n = 16)	Number of Consumers	88%, n = 14	69%, n = 11
	Average Number of Bookings	3.6 bookings per 180 days	3.9 bookings per 180 days
	Average Length of Incarceration	18.5 days	22.3 days

The disparity in criminal justice outcomes between court-involved and voluntarily enrolled consumers is also apparent in the number and type of charges they received for each booking. Charges were categorized in the following way:

- **Justice System Compliance Violations**: Charges involving violating probation or other court orders, or obstruction.
- **Crimes against People**: Charges involving assault, battery, robbery, weapons possession, driving under the influence, false imprisonment, or violation of protective orders.
- **Nuisance**: Charges involving trespassing or disorderly conduct.
- **Crimes against Property**: Charges involving arson, theft, burglary, shoplifting, and vandalism.
- **Drug or Sex-Related Crimes**: Charges involving possession of controlled substances, indecent exposure, sexual battery, or soliciting a lewd act.
- **Other or Unknown**: Charges involving driving without a license or a suspended license, fraud, or unknown charge.

As shown in Figure 22, while the number of people who were booked and charged during ACT was similar (10 voluntary consumers and 11 court-involved consumers), court-involved consumers were booked more and charged with more offenses.

Figure 22. Types of Charges During ACT by Enrollment Type



A subset of discharged consumers in both consumer groups were likely discharged prematurely.

As of June 30, 2018, eight of the voluntarily enrolled ACT consumers were discharged without re-enrolling in the program. About half of these individuals were likely discharged prematurely, as they could not be found and/or experienced additional inpatient, crisis, and justice episodes following discharge. Among court-involved consumers, a similar trend was observed. Moreover, in both groups, an even smaller portion of discharged consumers either successfully graduated from AOT or were discharged to a more appropriate level of care, such as conservatorship or residential treatment.

A larger proportion of voluntarily enrolled consumers were stably housed compared to court-involved consumers.

The majority of voluntarily enrolled ACT consumers either maintained or obtained stable housing from the time of enrollment to their most recent KET before June 30, 2018. Approximately half of court-involved consumers were able to maintain or obtain stable housing during this period.

Discussion

In 2016, Contra Costa County implemented two complementary but discrete programs, ACT and AOT. ACT has a robust evidence base dating back to the 1970s, and is a service model widely implemented across the nation and internationally. AOT has a more limited evidence base and provides a mechanism to compel treatment for individuals who are unable to engage in mental health services and who are a danger to themselves or others.

All individuals enrolled in Contra Costa County's ACT program were referred to AOT through the County's AOT referral line, however only one-quarter of ACT consumers (23%, n=16) were compelled to treatment through court involvement. There were negligible differences in the demographic characteristics of consumers who enrolled in ACT voluntarily versus those who enrolled with court involvement: both groups were mostly male and mostly White, and the largest proportion of consumers in both groups were diagnosed with a psychotic disorder, including schizophrenia and schizoaffective disorders. The average age of consumers was also similar; however, there is a larger proportion of transition age youth (TAY) in the court-involved population (25%) than the voluntary-enrolled population (17%).

While ACT consumers are mostly similar across demographic characteristics, a greater proportion of court-involved consumers participated in services fewer than two times per week (53%) for less than two hours per week (59%) compared to voluntarily enrolled consumers (26% and 20% respectively). Additionally, the proportion of court-involved AOT consumers who experienced crisis episodes or psychiatric inpatient hospitalizations while enrolled in ACT compared to prior did not significantly decrease, while among consumers who enrolled in ACT voluntarily, the proportion who experienced crisis episodes and psychiatric inpatient hospitalizations significantly decreased while enrolled in ACT because of program participation.

When taken together, these findings indicate that people who enroll in ACT with court involvement have lower levels of participation in the program than those who enroll on a voluntary basis and subsequently experience smaller decreases in crisis and hospitalization than their voluntary counterparts. However, they are more likely to be TAY and have shorter tenures in the program. Given that the County made substantive changes to increase the use of the petition and civil court component of this program in its final year, these analyses should be interpreted cautiously as the lower age of the court-involved group and their shorter tenure in the program may be influencing these results. Regardless, Contra Costa County and MHS should continue to work together to develop strategies to support court-involved ACT consumers so that they are more likely to become adherent to their treatment plans and experience positive outcomes while enrolled in AOT. The County may also wish to consider what role AOT plays in the TAY system of care and how to best leverage this resource to intervene as early on as is possible in the development of serious mental illness.

Question 3 | ACT and FSP Comparison Findings

In this section of the report, RDA compares ACT and AOT consumers with Full Service Partnership consumers (i.e., individuals participating in FSP services) in order to examine the addition of AOT and ACT to the existing system of mental health services, and better understand differences in consumer profiles, service utilization, and outcomes between the County's FSP and ACT/AOT populations. Descriptions of these populations are provided below:

- **FSP consumers** are those individuals who enrolled in and received services from an FSP program. FSP consumers are generally those who are experiencing crisis and hospitalization, incarceration, and/or homelessness and are willing and able to engage in voluntary services without additional support. Generally, these individuals are able to follow through with services enough so as not to require a separate referral or outreach and engagement from a third party or civil court involvement.
- **ACT and AOT consumers** are those individuals who enrolled in and received services from MHS' ACTiOn team voluntarily and those who required civil court involvement to compel participation in MHS' services. For these consumers, a qualified requestor has referred them to the program and FMH and/or MHS has proactively provided outreach and engagement to encourage participation. Unlike FSP, these individuals required additional support to connect to mental health services and had not been successful in accomplishing this independently. However, with assertive outreach and engagement, ACT consumers were able to participate in mental health services voluntarily. Only after civil court compulsion were AOT consumers able to participate in mental health services. Throughout this section of the report, RDA refers to all individuals receiving ACT services through MHS' ACTiOn team (including AOT consumers who only agreed to participate after being compelled through the AOT court mechanism) as ACT consumers, or the ACT population, in order to compare these individuals with the County's FSP population.

The research questions answered in this section include the following:

- <u>What, if any differences exist between those who are able to participate in FSP services versus those who are unable to participate without the additional supports and provisions included within AOT?</u> In other words, are there characteristics that can be identified which explain who may be able more likely to engage in FSP services versus those who are unlikely to engage without AOT?
- <u>What are the differences in services provided by FSP versus ACT?</u> Given that both models are intended to serve similar populations with a flexible, interdisciplinary team, this question will explore the differences in service frequency and intensity of FSP services as compared to ACT.
- <u>What are the differences in outcomes for those who are able to participate in FSP services versus those who are unable to participate without the additional supports and provisions included</u>

within AOT? Given the potential differences in persons served and actual services provided, there may also be differences in outcomes between the two groups that may inform future service designs and/or modifications as well as treatment assignments.

Unless otherwise specified, all ACT consumers (including those enrolled after court involvement) were included in the following analysis. FSP consumers were included if they enrolled in an FSP program on or after the AOT program start date (February 1, 2016).

Consumer Profile

This section provides a summary of the demographic characteristics and diagnoses among the ACT and FSP populations, highlighting key differences across each group.

The FSP and ACT populations are similar across age and gender; however, compared to the FSP population, there is a greater proportion of White consumers and a smaller proportion of Black and Latino consumers enrolled in ACT.

As shown in Table 21, the gender breakdown of ACT and FSP consumers is similar, as is the age breakdown. There are significant differences in the racial and ethnic make-up of each consumer group. Specifically, Black or African American consumers made up a greater proportion of FSP programs (35%, n = 57) than in the ACT program (19%, n = 13).[22] Additionally, White consumers made up a greater proportion of ACT (56%, n = 39) than in the FSP programs (31%, n = 51).

Table 21. Demographic Characteristics of ACT and FSP Consumers

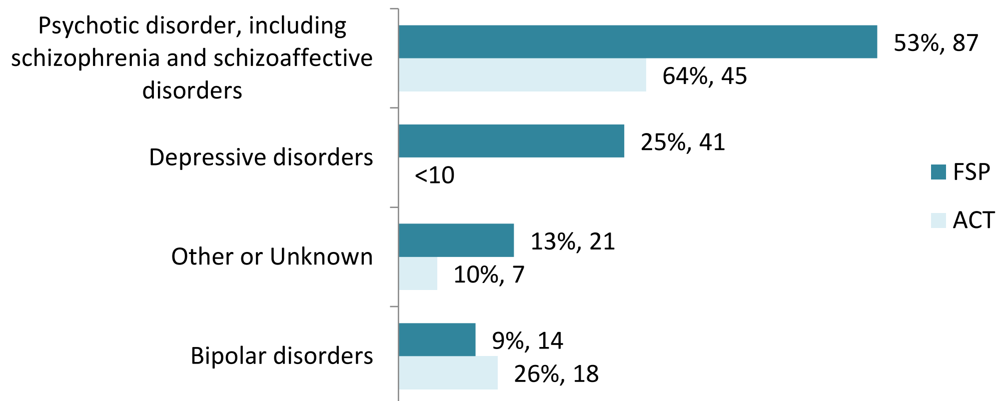
	ACT Consumers (N =70)	FSP Consumers (N = 163)
Gender		
Male	56% (n = 39)	57% (n = 93)
Female	44% (n = 31)	43% (n = 70)
Race and Ethnicity		
Black or African American	19% (n = 13)	35% (n = 57)
Hispanic	16% (n = 11)	19% (n = 31)
White	56% (n = 39)	31% (n = 51)
Other or Unknown	9% (n = 7)	15% (n = 24)
Age at Enrollment		
18 – 25	21% (n = 15)	31% (n = 51)
26 +	79% (n = 55)	69% (n = 112)

ACT consumers were more likely to be diagnosed with a disorder that included psychosis (i.e. psychotic and bipolar disorders) and less likely to be diagnosed with unipolar depression.

[22] This finding was statistically significant at a p-value threshold of .05. This indicates that there is a less than 5% likelihood that the observed outcomes are a result of chance.

Consumers in the FSP programs and ACT program differed in their behavioral health diagnoses. As shown in Figure 23, a significantly larger proportion of ACT consumers were diagnosed with bipolar disorders (25%, n = 18) compared to FSP consumers (9%, n = 14).[23] Additionally, a significantly larger proportion of FSP consumers were diagnosed with depressive disorders (25%, n = 41) than ACT consumers (n < 10).[24]

Figure 23. Mental Health Diagnoses of ACT and FSP Consumers



Overall, almost all ACT (92%) consumers were diagnosed with psychotic or bipolar disorders, compared to 62% of FSP consumers who were diagnosed with psychotic or bipolar disorders at the time of enrollment. These findings suggest that ACT consumers may have had more acute or severe symptoms than FSP consumers at the time of enrollment.

Service Participation

The following section provides a summary of service utilization experiences across the ACT and FSP populations, highlighting key differences in service dosage between each group.

ACT consumers engaged in services more often and for longer durations than FSP consumers.

ACT and FSP consumers were enrolled for similar lengths of time over the course of the evaluation period. As would be expected based on the different service delivery models, consumers enrolled in ACT received, on average, a greater service dosage than consumers enrolled in FSP programs. Over half of all ACT consumers (68%, n = 48) engaged in treatment at least two times per week, for one hour per week, compared to only 38% of FSP consumers (n = 63).[25] On average, ACT consumers received significantly

[23] This finding was statistically significant at a p-value threshold of .05. This indicates that there is a less than 5% likelihood that the observed outcomes are a result of chance.
[24] This finding was statistically significant at a p-value threshold of .001. This indicates that there is a less than 1% likelihood that the observed outcomes are a result of chance.
[25] This finding was statistically significant at a p-value threshold of .001. This indicates that there is a less than 1% likelihood that the observed outcomes are a result of chance.

more face-to-face service contacts (3.8 versus 1.8) for greater durations (3.6 hours versus 2.8 hours) each week.[26] Table 22 provides a summary of these differences.

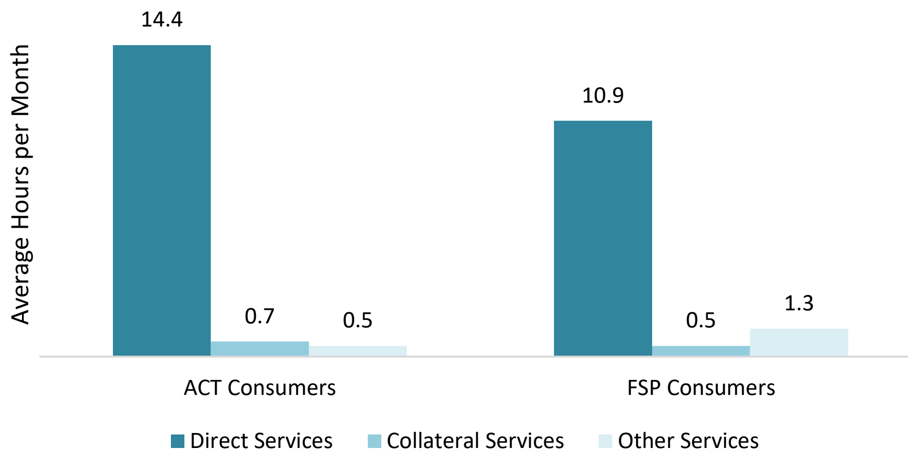
Table 22. ACT and FSP Consumer Service Engagement

	ACT Consumers (N = 71[27])		FSP Consumers (N = 167[28])	
	Average	*Range*	*Average*	*Range*
Length of Enrollment	354 days	33-830 days	400 days	38 – 880 days
Frequency of Service Encounters	3.8 face to face contacts per week	<1 – 13 face-to-face contacts per week	1.8 face-to-face contacts per week	<1 – 8 face-to-face contacts per week
Intensity of Services	3.6 hours of face-to-face contact per week	<1 – 12 hours of face-to-face contact per week	2.8 hours of face-to-face contact per week	<1 – 13 hours of face-to-face contact per week

ACT consumers also received more direct services than FSP consumers.

On average, ACT consumers received significantly more hours of direct service contact per month than FSP consumers. However, FSP consumers received significantly more hours of other types of services, including linkage and advocacy, plan development, or placement services.[29] Figure 24 shows the distribution of the types of services received by ACT and FSP consumers.

Figure 24. Service Hours per Month for ACT and FSP Consumers



[26] This finding was statistically significant at a p-value threshold of .001 for service frequency and .05 for intensity. This indicates that there are a less than 1% and 5% likelihood that the observed outcomes are a result of chance, respectively.
[27] Eight individuals were enrolled in ACT at least once. Their enrollments are counted separately in this analysis. One individual enrolled for less than 30 days was dropped from the analysis. Five individuals enrolled in ACT did not have data available and were not included in the analysis.
[28] Four individuals were enrolled in an FSP twice. Their enrollments are counted separately in this analysis.
[29] These findings were statistically significant at a p-value threshold of .05 and .001. This indicates that there are a less than 5% and 1% likelihood that the observed outcomes are a result of chance, respectively.

Both FSP and ACT providers also deliver services in a variety of settings. ACT and FSP consumers received services in many settings at similar rates, including in-home-based settings (family homes or the unlocked facilities), the field, and clinics. However, ACT consumers received a greater proportion of their services (about 3%) in an institutional setting (i.e., jail or inpatient) than FSP consumers (less than 1%). Additionally, FSP consumers received, on average, a greater proportion of services over the phone (about 22%) compared to ACT consumers (about 17%).

Consumer Outcomes

The following sections provide a summary of ACT and FSP consumers' experiences with psychiatric inpatient hospitalizations, crisis episodes, housing instability, and employment before and during enrollment.[30] These sections also explore the crisis and hospitalization outcomes for ACT and FSP consumers who were discharged from their respective program at least 30 days prior to the end of the evaluation period (June 30, 2018).

Crisis Episodes and Psychiatric Inpatient Hospitalizations

This section describes ACT and FSP consumers' crisis stabilization episodes and psychiatric hospitalizations before, during, and after enrollment. The County's PSP Billing System was used to identify consumers' hospitalizations and crisis episodes in their 36 months prior to enrollment, as well as during and after enrollment.

A greater proportion of ACT consumers experienced adverse outcomes prior to program enrollment compared to FSP consumers.

Almost all ACT consumers (91%, n = 61) experienced at least one crisis episode in the three years before ACT, compared to 75% of FSP consumers (n = 122) who experienced a crisis episode prior to their most recent FSP enrollment. Additionally, over half of ACT consumers (55%, n = 37) experienced a psychiatric hospitalization, compared to 42% (n = 68) of FSP consumers who did in the three years prior to program enrollment (see Table 23). These differences are significant and demonstrate that, compared to FSP consumers, a greater proportion of ACT consumers experienced these outcomes prior to enrollment.[31] Furthermore, ACT consumers who had a crisis episode and/or hospitalization experienced them more often than FSP consumers.

[30] Housing stability and employment were key measures that CCBHS wanted to explore with this AOT evaluation.
[31] This finding was statistically significant at a p-value threshold of .05. This indicates that there is a less than 5% likelihood that the observed outcomes are a result of chance.

Table 23. ACT and FSP Consumers' Crisis Episodes and Psychiatric Hospitalizations Before and During Program Enrollment[32]

	ACT Consumers (N = 67)			
	Before ACT Enrollment		***During ACT Enrollment***	
	Crisis	*Hospitalization*	*Crisis*	*Hospitalization*
Number of Consumers	91%, n = 61	55%, n = 37	52%, n = 35	31%, n = 21
Average Number of Episodes	3.1 episodes per 180 days	1.0 episodes per 180 days	2.2 episodes per 180 days	0.7 episodes per 180 days
Average Length of Stay	1.4 days	7.6 days	1.2 days	10.0 days**
	FSP Consumers (N = 163)			
	Before FSP Enrollment		***During FSP Enrollment***	
	Crisis	*Hospitalization*	*Crisis*	*Hospitalization*
Number of Consumers	75%, n = 122	42%, n = 68	43%, n = 70	19%, n = 31
Average Number of Episodes	1.5 episodes per 180 days	0.6 episodes per 180 days	2.3 episodes per 180 days	0.9 episodes per 180 days
Average Length of Stay	1.2 days	8.5 days*	1.2 days	8.1 days**
**Average is 12 days if two long-term hospitalizations of over 100 days are retained; ** Average is 24 days if two long-term hospitalizations of over 100 days are retained*				

The proportion of both ACT and FSP consumers experiencing crisis episodes and psychiatric hospitalization, as well as the frequency of those experiences, decreased during enrollment.

As noted previously, a smaller proportion of ACT consumers experienced a crisis episode (52%) or psychiatric hospitalization (31%) while enrolled in ACT compared to their three years prior to ACT enrollment. The same is true for FSP programs, which also saw reductions in the proportion of consumers experiencing crisis episodes (43%) and psychiatric hospitalizations (19%) while enrolled in FSP compared to prior. These reductions in the proportions of consumers who experienced at least one crisis episode or hospitalizations are significant, suggesting that ACT and FSP participants were less likely to experience these outcomes while enrolled because of program participation and not by chance.

During enrollment, ACT consumers had comparable crisis experiences to FSP consumers, suggesting that the intensive services ACT consumers receive are effective and have the potential to support ACT consumers in reaching a level of stability similar to FSP consumers.

While a slightly higher percentage of ACT consumers (52%) than FSP consumers (43%) experienced crisis episodes while enrolled in ACT or FSP, these differences were not statistically significant. This indicates that the differences may be a result of chance. Thus, we cannot conclude that ACT consumers are more likely than FSP consumers to experience crisis while enrolled in outpatient mental health services. This could suggest that ACT participation is supporting consumers to reach a level of stability similar to FSP

[32] Three consumers were removed from the analysis because they were enrolled for less than one month.

consumers during program enrollment. However, it is worth noting that a significantly greater proportion of ACT consumers continued to experience psychiatric hospitalizations during enrollment in comparison to FSP consumers.

A group of ACT and FSP consumers appear to have been discharged prematurely without being connected to an appropriate level of care.

As of June 30, 2018, among the 30 ACT consumers and 43 FSP consumers who were discharged prior to the end of the evaluation period, only 10 ACT consumers and 11 FSP consumers had new episode openings. This is of concern because anyone discharged from ACT or FSP programs may continue to need professional support and should be connected to an appropriate level of care within 30 days. Among the 10 ACT consumers with at least one episode opening after discharge, seven (70%) continued to experience crises and/or psychiatric hospitalizations after discharge before getting connected with other services. Discharged FSP consumers experienced better outcomes, as only three (27%) cycled in and out of crisis episodes without being connected to services.

Housing Status

In order to reliably compare housing outcomes for individuals enrolled in ACT and an FSP program, all providers submitted a point-in-time Key Event Tracking (KET) form that documented consumers' housing status at the time of enrollment and again during the period of July 1 – August 15, 2018.

For the AOT population, at the point of AOT enrollment, 35% (n=19 of 55)[33] of consumers reported experiencing homelessness in the prior 12 months. These AOT consumers reported being homeless for an average of 8.0 months out of the prior 12 months. Between consumers' AOT enrollment and July 1 – August 15, 2018, there was an 18% reduction in AOT consumers experiencing homelessness.

For the FSP population, at the point of FSP enrollment, 45% (n=115 of 257) of consumers reported experiencing homelessness in the prior 12 months. These FSP consumers reported being homeless for an average of 7.5 months out of the prior 12 months. Between consumers' FSP enrollment and July 1 – August 15, 2018, there was a 23% reduction in FSP consumers experiencing homelessness.

Compared to the AOT consumers served by the MHS ACT program, FSP consumers appear to exhibit the following homelessness patterns (see Table 24):

- Similar homelessness patterns (35% of AOT consumers, 45% of FSP consumers); and
- Similar lengths of homelessness in the year prior to program enrollment (8.0 months for AOT clients, 7.5 months for FSP clients).

[33] The point-in-time KET forms were completed between July 1 – August 15, 2018, which is after this report's evaluation period (February 1, 2016 – June 30, 2018). Because of this discrepancy, data was received and included for two additional AOT clients for whom data were not available during the evaluation window.

Table 24. Homelessness Measures for AOT and FSP Clients

Homelessness Measures	AOT Consumers	FSP Consumers
Homeless at some point in 12 months prior to program enrollment (% Y/N)	35%	45%
Length of homelessness in 12 months prior to program enrollment (# of months)	8.0 months	7.5 months
Homeless at some point in 30 days prior to program enrollment (% Y/N)	41%	45%
Homeless at some point during July 1 – August 15, 2018 (% Y/N)	23%	22%

Employment

For the AOT population, at the point of enrollment, less than 10% of AOT consumers reported having employment at some point in the prior 12 months. These AOT consumers reported being employed for an average of 26.0 weeks out of the prior 12 months, for an average of 24.3 hours per week. Between consumers' AOT enrollment and July 1 – August 15, 2018, there is a 16% increase in consumers having employment, with a corresponding average increase of 8.5 hours per week of employment.

For the FSP population, at the point of enrollment, 18% (n=46 of 258) of FSP consumers reported having employment at some point in the prior 12 months. These FSP consumers reported being employed for an average of 18.7 weeks out of the prior 12 months, for an average of 22.4 hours per week. Between consumers' FSP enrollment and July 1 – August 15, 2018, there is a 14% decrease in consumers having employment, with a corresponding average decrease of 2.8 hours per week of employment.

Compared to the AOT consumers served by the MHS ACT program, FSP consumers appear to exhibit the following employment patterns (see Table 25):

- Increased employment prior to program enrollment (<10% of AOT clients, 18% of FSP clients);
- Shorter lengths of employment prior to program enrollment (26.0 weeks for AOT clients, 18.7 weeks for FSP clients); and
- Decreases in employment during program enrollment (16% increase for AOT clients, 11% decrease for FSP clients).

Table 25. Employment Measures for AOT and FSP Consumers

Employment Measures	AOT Consumers	FSP Consumers
Employed at some point in 12 months prior to program enrollment (% Y/N)	<10%	18%
Length of employment in 12 months prior to program enrollment (# of weeks)	26.0 weeks	18.7 weeks

Employment Measures	AOT Consumers	FSP Consumers
Average amount of employment in 12 months prior to program enrollment (hours/week)	24.3 hours/week	22.4 hours/week
Employed at some point in 30 days prior to program enrollment (% Y/N)	<10%	18%
Employed at some point during July 1 – August 15, 2018 (% Y/N)	21%	7%
Average amount of employment in 30 days prior to program enrollment (hours/week)	16.5 hours/week	20.0 hours/week
Average amount of employment in July 1 – August 15, 2018 (hours/week)	25.0 hours/week	17.2 hours/week

Discussion

RDA sought to better understand Contra Costa County's ACT implementation as related to the effectiveness of the County's FSP programs by comparing outcomes of ACT and FSP consumers, respectively. First, RDA assessed whether there were significant differences between each population at the time of enrollment. Next, they assessed whether there were differences in patterns of service receipt. Lastly, differences in consumer outcomes were assessed.

As expected, findings demonstrated that at the time of program enrollment, ACT consumers exhibited more severe psychiatric symptoms than FSP consumers. A significantly greater percentage of ACT consumers (92%) than FSP consumers (62%) were diagnosed with psychotic or bipolar disorders at enrollment, and significantly greater proportions of ACT consumers experienced crisis episodes (91%) and psychiatric inpatient hospitalizations (55%) than FSP consumers (75% and 42%, respectively) in the three years prior to program enrollment.

As would be expected based on the two different service delivery models, individuals enrolled in ACT received more intense services than individuals enrolled in an FSP program. On average, ACT consumers received significantly more service contacts for greater durations than FSP consumers each week, of which a greater proportion were also for direct services (as opposed to collateral or some other type of services). For both populations, services had the intended effects, as ACT and FSP consumers both experienced significant reductions in crisis and hospitalization episodes during program enrollment. The intensive services that ACT consumers received appear to be more effective than FSP services, since ACT consumers generally experienced greater improvements in their psychiatric symptoms. This was evidenced by ACT consumers achieving a level of stability similar to FSP consumers, despite starting out significantly less stable prior to enrollment.

As is the case with ACT consumers, there appears to be a group of FSP consumers who are discharged prematurely, and not immediately connected with appropriate services. As a result, some of these consumers continue to experience crisis and hospitalization without receiving regular outpatient treatment for their mental health condition. The County should consider what potentially more appropriate discharge criteria would be for both FSP and ACT consumers. The County could then explore ways to ensure that all consumers who are discharged from either program type meet these criteria, and that concrete steps are in place to connect discharged consumers to an appropriate level of care. This criterion should include determining for which consumers it is appropriate to file an AOT petition through the court to compel participation in outpatient mental health services.

Summary of Findings

Program Development and Continuous Quality Improvement

Prior to the decision to implement AOT, the County and stakeholders worked together to consider and design a program that would meet the needs of people with the most serious mental illness who were "falling through the cracks." As a result of these efforts, the Board of Supervisors directed County departments to implement ACT and AOT, which combined a new service model and a civil court process. In the initial stages of implementation, County agencies collaborated on the new processes and procedures required to support the referral and investigation process as well as the court component. As with any new program in its formative stages, there were unanticipated challenges along the way that the County and stakeholders worked together to address, including how to:

- Ensure that qualified requestors had the knowledge and resources to make appropriate referrals to the program for individuals most in need;
- Reduce the length of time from referral to enrollment, particularly for those individuals who were continuing to experience crisis, hospitalization, and incarceration and/or homelessness during the investigation and outreach process;
- Determine the most efficient and effective ways for FMH and MHS to work together on referred individuals, engage them in care, and identify the need for a petition, where indicated; and
- Discern the appropriate use of the petition and benefit of the civil court component to encourage participation in ACT services.

While the County and partners worked diligently to identify and resolve these issues as they arose, the net impact early on in the process was that not all qualified requestors were equipped to do so, enrollment in the program took longer than expected for eligible individuals, and there was hesitation to implement the court component. This resulted in a lower census than originally estimated despite a continued perception of need for these high-end services. Along the way, the County and partners sought to proactively identify and address issues as well as seek input from stakeholders, elected officials, and the evaluation team as to how they might continuously improve the program. Their efforts included:

- A renewed effort to provide educational presentations and training to the entirety of qualified requestors, with a particular focus on law enforcement, linking police with the CORE teams to ensure that any beat police officer could connect with a provider from CORE to refer eligible individuals;
- Attendance at weekly case rounds at Contra Costa Regional Medical Center for PES and Unit 4C to identify potential AOT candidates, as well as partner on discharge planning for referred and enrolled consumers;
- A change from a concurrent to a consecutive pre-enrollment phase whereby FMH conducted the referral and investigation process to determine eligibility prior to engaging MHS; and

- A new set of monitoring and communication practices for FMH to continuously review referred and enrolled individuals throughout the referral and investigation, outreach and engagement, and voluntary ACT service enrollment phases and ensure that those individuals who require or would benefit from the civil court component have a petition filed.

These investments in ongoing continuous quality improvement have increased the diversity of qualified requestors, shortened the length of time from referral to enrollment, more swiftly implemented the court component for those who require that level of support, and ultimately increased the number of consumers who are enrolled in and benefitting from the program. While each of these issues has been cause for concern at different times, the commitment of the County, partners, and stakeholders to openly and honestly raise these issues and implement process improvements is what has supported this program to grow to its present capacity. As has been seen across California, AOT programs take time to launch and mature despite the high level of need for these services. In almost every County across California who implemented AOT, the time to launch the program took longer than expected and initial enrollment numbers were lower than expected. Contra Costa County's commitment to this program and the investment in continuous quality improvement is something that should be recognized, appreciated, and preserved.

Service Delivery

ACT Fidelity

ACT has one of the strongest evidence-bases of any mental health intervention for reducing crisis and hospitalization, incarceration, and homelessness for those with the most serious mental illness when performed to fidelity. One component of this program evaluation was to engage in ACT fidelity monitoring in order to support ACT implementation in the County as well as ensure that outcomes observed in the program were not influenced by fidelity issues. In other words, regular fidelity monitoring ensured that evaluation findings could be attributed to AOT and AOT implementation rather than ACT fidelity issues. While the ACT team did experience some challenges early on with recruitment and hiring and understanding that the use of AOT and the civil court component was in alignment with the ACT model, as well as the staff turnover in early-2018, they continued to score in the high-fidelity range across all three annual fidelity assessments. Additionally, they implemented all recommended programmatic improvements suggested in the fidelity assessments to further align the program with the evidence-based model. In comparison to other counties, not all counties are implementing ACT as the service component of AOT, and many counties who have ACT programs do not engage in fidelity monitoring to ensure that their ACT programs are delivered in alignment with the model and producing the expected outcomes. Contra Costa County's commitment to implementing this level of service to fidelity ensures that consumers with the highest level of need who enroll in the program, either voluntarily or through civil court involvement, have access to evidence-based interventions with the highest likelihood of being effective. As seen through the outcomes in preceding sections, this investment has clearly made a difference for the consumers who had access to these services, their families, and their communities.

Length of Tenure

The ACT model is designed to be time-unlimited and allows for consumers to participate in the program for as long as is needed, and the California Welfare and Institutions Code allows for a judge to enter into a settlement agreement or issue a court order for AOT in six-month increments. Research suggests people participating in AOT generally experience reductions in crisis and hospitalization, incarceration, and homelessness during the program and that these benefits are more likely to continue after discharge from AOT if the consumer participates in AOT for at least 12 months, regardless of whether or not they continue to participate in mental health services on an outpatient basis. In Contra Costa County, the average length of enrollment in ACT and AOT is approximately one year, although there is a proportion of consumers who participated for less than 12 months. If the County continues to provide ACT and AOT, it may be useful to consider how to best keep individuals engaged and enrolled for at least 12 months, if not longer, in order to preserve the benefits arising from service participation. To this end, the County may need to determine if there are any barriers to service authorization or court processes that would preclude consumers from receiving the maximum benefit from their time in the program.

Symptoms versus Negative Outcomes

One of the primary reasons that the County implemented AOT was to address the needs of those with the most serious mental illness who were unable and/or unwilling to participate in mental health services and were continuing to experience crisis and hospitalization, incarceration, and/or homelessness. This included a desire to reduce symptoms, improve quality of life, and address issues related to public safety. It is interesting to note that while the program did succeed in reducing crisis and hospitalization, incarceration, and homelessness, the level of symptoms experienced by individuals remained relatively static as did measures of self-sufficiency and violence and victimization. This means that the combination of ACT and AOT was able to successfully support individuals with the most serious mental illness in the community and reduce experiences of crisis and hospitalization, incarceration, and homelessness without reducing symptoms or other mental health indicators. To this end, the County has demonstrated that it has the capacity to successfully support the target population within the community using ACT and AOT and reduce experiences of confinement.

Level of Care Impressions

Full Service Partnership and Assertive Community Treatment

When the County elected to implement ACT, in addition to AOT, a new level of service became available that was more intensive than FSP programs and could be easily combined with the AOT civil court component. Early on, there were questions about how FSP differed from ACT and if both types of programs could be expected to serve the same types of consumers with similar rates of success. Based on the County's experience over the past three years, it has become clear that:

1. FSP and the ACT programs are serving different consumer groups. While both FSP and ACT consumers have a serious mental illness, ACT consumers are more likely to have a psychotic disorder. Additionally, while FSP and ACT consumers have experiences of crisis and hospitalization, ACT consumers experience higher rates of crisis and hospitalization prior to enrollment.
2. FSP and ACT provide different levels of service. The amount of service provided is higher for the ACT team than FSP programs. The ACT team also receives a higher level of funding to provide this additional service.
3. FSP and ACT teams produce similar outcomes when consumers are in the correct level of care. FSP and ACT consumers alike experience reductions in crisis and hospitalization, incarceration, and homelessness as a result of participating in the programs. However, there are a number of ACT consumers who were originally enrolled in FSP and were referred to the ACT team as a result of needing a more intensive program and/or the civil court component.

Given the data resulting from this evaluation and the entirety of the County's experience over the past three years of implementation, it may be useful for the County to develop data-informed benchmarks to support level of care decisions regarding FSP and ACT. While the consequences are minimal for referring someone to ACT who could otherwise improve or maintain with FSP, the consequences of referring someone to FSP who really actually requires ACT to remain in the community are impactful. Specifically, the County may wish to consider developing guidance based on individuals' level of crisis and hospitalization to better inform whether they should be referred to FSP or ACT services.

AOT and the Use of Petition

Across the state and nation, there has been a renewed discussion about how to best: 1) support individuals with the most serious mental illnesses; 2) interrupt the repetitive cycle of crisis and hospitalization, incarceration, and/or homelessness; and 3) compel participation in outpatient mental health services for those who are unable and/or unwilling to participate on a voluntary basis but do not meet criteria for involuntary services. In order to address this issue, the County elected to implement both ACT and AOT.

At the beginning of program implementation, there appeared to be agreement that voluntary service participation was preferred when possible, and that the use of the court petition should be reserved for those who would not consent to services on a voluntary basis despite the program's best efforts to do so. This led to an investment of time and resources with referred individuals to obtain their voluntary participation in ACT services and prolonged the amount of time from referral to enrollment. Specifically, the data showed that:

- ❖ Referred individuals were continuing to experience crisis and hospitalization, incarceration, and/or homelessness post-referral and that it may be useful to file a petition sooner in order to interrupt these experiences; and
- ❖ Some portion of consumers who enrolled on a voluntary basis were not benefiting from the program as expected, and a petition may be useful to compel more consistent participation,

prevent premature discharge, and reduce the experiences of crisis and hospitalization, incarceration, and/or homelessness.

As a result of these learnings, the County and partners worked together to establish mechanisms to review whether or not a petition would be useful on a monthly basis during the investigation and outreach periods as well as implementing a review of consumers who enrolled on a voluntary basis and continued to struggle with crisis and hospitalization, incarceration, and/or homelessness. Across the state, some counties have also struggled with the tension between voluntary service participation for those who were able to do accept and participate in outpatient mental health services and those who require a petition and civil court involvement to do so. Contra Costa County's ability to swiftly engage in process improvements based on evaluation findings and stakeholder feedback has resulted in an increased use of the petition for those who require that level of support and has ultimately helped more individuals engage in medically necessary mental health services more quickly.

Conclusion

Overall, this evaluation documents Contra Costa County's efforts to serve individuals with the most serious mental illnesses in the community using evidence-based practices and interventions. Across all of the interim evaluation reports and continuing through this evaluation period, it is clear that people who participate in ACT and AOT experience benefits, specifically in reducing experiences of crisis and hospitalization, incarceration, and homelessness. While the program took longer than originally anticipated to get started and there were challenges to address along the way, the County and its partners worked diligently over the pilot period to strengthen the program and ensure that those individuals most in need had access to services that were likely to help them. If the County extends the approval of these investments in ACT and AOT, it will be important to continue to monitor the program and make adjustments informed by the data gathered and lessons learned to ensure that the program and investments continue to produce the expected results for consumers, their families, and the community.

Appendices

Appendix I. AOT Eligibility Requirements[34]

In order to be eligible, the person must be referred by a qualified requestor and meet the defined criteria:

- The person is 18 years of age or older.
- The person is suffering from a mental illness.
- There has been a clinical determination that the person is unlikely to survive safely in the community without supervision.
- The person has a history of lack of compliance with treatment for his or her mental illness, in that at least one of the following is true:
    a. At least 2 hospitalizations within the last 36 months, including mental health services in a forensic environment.
    b. One or more acts of serious and violent behavior toward himself or herself or another, or threats, or attempts to cause serious physical harm to himself or herself or another within the last 48 months.
- The person has been offered an opportunity to participate in a treatment plan by the director of the local mental health department, or his or her designee, provided the treatment plan includes all of the services described in Section 5348, and the person continues to fail to engage in treatment.
- The person's condition is substantially deteriorating.
- Participation in the assisted outpatient treatment program would be the least restrictive placement necessary to ensure the person's recovery and stability.
- In view of the person's treatment history and current behavior, the person is in need of assisted outpatient treatment in order to prevent a relapse or deterioration that would be likely to result in grave disability or serious harm to himself or herself, or to others, as defined in Section 5150.
- It is likely that the person will benefit from assisted outpatient treatment.

[34] Welfare and Institutions Code, Section 5346

Appendix II. MHS' ACTiOn Team 2018 Fidelity Assessment Report

Introduction

As an evidence-based psychiatric rehabilitation practice, Assertive Community Treatment (ACT) provides a comprehensive approach to service delivery to consumers with serious mental illness (SMI). ACT uses a multidisciplinary team, which typically includes a psychiatrist, a nurse, substance abuse and vocational specialists, and a peer counselor. ACT is characterized by 1) low client to staff ratios; 2) providing services in the community rather than in the office; 3) shared caseloads among team members; 4) 24-hour staff availability, 5) direct provision of all services by the team (rather than referring consumers to other agencies); and 6) time-unlimited services. When done to fidelity, the ACT model consistently shows positive outcomes for individuals with psychiatric disabilities. This flexible, client-driven comprehensive treatment has been shown to reduce risk and improve mental health outcomes.

The ACT service-delivery model relies on a multidisciplinary team of professionals who work closely together to serve consumers with the most challenging and persistent mental health needs. The ACT team works as a unit rather than having individual caseloads in order to ensure that consumers receive the services and support necessary to live successfully in the community. The ACT team provides direct services to consumers *in vivo,* which means the ACT team must have a flexible service delivery model, providing consumers the services they need in the places and contexts they need them, as opposed to primarily in an office setting.

ACT is a nationally recognized evidence-based practice with evidence dating back to the 1970s. According to outcomes from 25 randomized controlled trials, compared to usual community care, ACT more successfully engages clients into treatment, substantially reduces psychiatric hospital use, increases housing stability, and moderately improves symptoms and subjective quality of life.[35] Perhaps more importantly, research also suggests there are no negative outcomes associated with the ACT service delivery model. Recent research seeking to identify which client populations ACT is most effective for demonstrates that ACT is strongly effective and cost-effective for clients with a high frequency of psychiatric hospitalizations and less effective and not cost-effective for clients with a low frequency of psychiatric hospitalizations.

In Contra Costa County, Mental Health Systems (MHS) administers ACT. It is funded by the Mental Health Services Act (MHSA) Community Services and Supports as a Full Service Partnership program, and serves as the service component of Contra Costa's Assisted Outpatient Treatment (AOT) program. ACT offers adults with serious mental illness a full service partnership program that addresses mental health, housing needs, and community reintegration. Clients in the program have access to any team member, small caseloads for more individualized attention, nursing services and psychiatry, housing supports, and 24-hour availability.

[35] Bond, G.R., Drake, R.E., Mueser, K.T., and Latimer, E. (2001). Assertive Community Treatment for people with severe mental illness. *Disease Management and Health Outcomes, 9*(3), 141-159.

Fidelity Assessment Process

Contra Costa County, as part of a larger evaluation of the AOT program, was interested in learning about ACT implementation. The intention of the fidelity assessment process is to measure the extent to which MHS' ACT team is in alignment with the ACT model and to identify opportunities to strengthen ACT/AOT services. For this component of the evaluation, RDA applied the ACT Fidelity Scale, developed at Dartmouth University[36] and codified in a SAMHSA toolkit.[37] This established assessment process sets forth a set of data collection activities and scoring process in order to determine a fidelity rating as well as the requisite qualifications for assessors.

Roberta Chambers, PsyD, and Jamie Dorsey, MSPH, conducted the ACT Fidelity Assessment. Both raters have extensive experience in community mental health programs as well as quality improvement and evaluation.

The fidelity assessment began with a series of project launch activities. This included:

1. Project launch call with MHS to introduce the fidelity assessment and desired outcomes, describe the assessment process, and confirm logistics for the assessment site visit.
2. Data request to CCBHS and MHS in advance of the site visit to obtain descriptive data about consumers enrolled in ACT since program inception.

The assessors conducted a full-day site visit at MHS' ACT team office in Concord, CA on June 20, 2018. During the site visit, the assessors engaged in the following activities:

- ACT team meeting observation
- Interviews with eight (8) ACT team members
- Review of available documentation
- Consumer focus group
- Family member focus group
- Debrief with the ACT team

Concurrently, RDA obtained data from CCBHS and MHS and conducted descriptive analyses of the demographics and service utilization patterns of consumers enrolled in ACT.

Following the site visit and data analysis, the assessors each completed the fidelity rating scale independently and then met to seek consensus on each rating and to identify recommendations to strengthen MHS' ACT program fidelity rating. The results of that discussion and the fidelity assessment are presented in the proceeding Results and Discussion sections.

[36] http://www.dartmouth.edu/~implementation/page15/page4/files/dacts_protocol_1-16-03.pdf

[37] Substance Abuse and Mental Health Services Administration. *Assertive Community Treatment: Evaluating Your Program.* DHHS Pub. No. SMA-08-4344, Rockville, MD: Center for Mental Health Services Administration, U.S Department of Health and Human Services, 2008.

Fidelity Assessment Results

The ACT program was rated on the following three domains set forth in the ACT Fidelity Scale:

- Human Resources: Structure and Composition
- Organizational Boundaries
- Nature of Services

Each domain has specific criterion rated on a 5-point Likert scale with clearly defined descriptions for each rating. The following chart provides an overview of the domains, criterion, and the MHS ACTiOn team's 2017 and 2018 program ratings. As shown in the table below, **the MHS ACTiOn team received an overall fidelity score of 4.50 indicating a high level of fidelity to the ACT model.** The following section provides descriptions, justifications, and data sources for each criterion and rating.

Domain	Criterion	2017 Rating	2018 Rating
Human Resources: Structure and Composition	Small caseload	5	5
	Team approach	4	5
	Program meeting	5	5
	Practicing ACT leader	4	5
	Continuity of staffing	3	4
	Staff capacity	4	4
	Psychiatrist on team	5	5
	Nurse on team	5	5
	Substance abuse specialist on team	5	5
	Vocational specialist on team	5	5
	Program size	5	5
Organizational Boundaries	Explicit admission criteria	2	5
	Intake rate	5	5
	Full responsibility for treatment services	5	5
	Responsibility for crisis services	5	5
	Responsibility for hospital admissions	5	1
	Responsibility for hospital discharge planning	5	5
	Time-unlimited services	5	5
Nature of Services	In vivo services	3	4
	No drop-out policy	3	5
	Assertive engagement mechanisms	2	5
	Intensity of services	5	4
	Frequency of contact	4	3
	Work with support system	5	5
	Individualized substance abuse treatment	5	3
	Co-occurring disorder treatment groups	5	3
	Co-occurring disorders model	5	5

Domain	Criterion	2017 Rating	2018 Rating
	Role of consumers on treatment team	5	5
ACT Fidelity Score		**4.42**	**4.50**

Human Resources: Structure and Composition

Small caseload: 5

Small caseload refers to the consumer-to-provider ratio, which is 10:1 for ACT programs. MHS' ACTiOn team received a rating of 5 for this criterion as at they have 9.5 FTEs who provide direct services, as well as two administrative staff, for 49 active consumers, which exceeds the 10:1 consumer-to-provider ratio. This was assessed through personnel records and staff interviews.

Team Approach: 5

Team approach refers to the provider group functioning as a team rather than as individual team members with all ACT team members knowing and working with all consumers. MHS' ACTiOn team received a rating of 5 for this criterion as more than 90% of consumers had face-to-face interactions with more than one team member in a two-week period. This was assessed through consumer records and further supported through the team meeting observation, staff interviews, and consumer and family focus groups. *This is an increase from the 2017 rating of 4 when 70% of consumers had face-to-face interactions with more than one team member in a two-week period.*

Program Meeting: 5

The program meeting item measures the frequency with which the ACTiOn team meets to plan and review services for each consumer. MHS' ACTiOn team received a rating of 5 for this criterion as the team meets at least four times per week and reviews every consumer in each meeting. Assessors observed the program meeting during the site visit and observed the team discussion for every consumer as well as confirmed the frequency of the program meeting through available documentation and staff interviews.

Practicing ACT Leader: 5

Practicing ACT leader refers to the supervisor of frontline staff providing direct service to consumers. MHS' ACTiOn team received a rating of 5 as the Team Leader spends at least 50% of their time providing direct services to consumers. The rating was assessed through staff interviews and was supported through the team meeting observation, review of consumer records, and consumer and family focus groups. *This rating is an increase from the 2017 rating of 4 when the Team Leader spent approximately 30% of their time providing direct services. It is important to note that the MHS ACTiOn team had significant changes in leadership during the past year, including a new Team Leader.*

Continuity of Staffing: 4

Continuity of staffing measures the program's level of staff retention. Full fidelity requires less than 20% turnover within a two-year period. During the evaluation period, 10 staff discontinued employment with MHS' ACTiOn team, resulting in a 36% turnover rate. As the turnover rate falls within the range of 20-39%, the rating for this measure is 4. The turnover rate was assessed through a review of personnel records and staff interviews. *This rating is an increase from the 2017 rating of 3, when there was a 47% turnover rate.*

Staff Capacity: 4

Staff capacity refers to the ACT program operating at full staff capacity. Full fidelity requires the program to operate at 95% or more of full staff capacity over the last 12 months. According to personnel records, MHS' ACTiOn team operated at 82% of full staff capacity over the previous year, resulting in a rating of 4 as it falls within the range of 80-90%. Although the ACTiOn team also received a rating of 4 in 2017, there was a slight decrease in staff capacity from 2017 where the team operated at 94% staff capacity during the evaluation period. The reduced staff capacity reflects staff transitions and turnover in the past year due to changes in MHS ACTiOn team leadership.

Psychiatrist on Team: 5

Fidelity to the ACT model requires 1.0 FTE psychiatrist per 100 consumers. Currently, MHS' ACTiOn team provides 0.5 FTE psychiatrist for 49 active consumers, as reported by staff and personnel records. This results in a rating of 5. Once the program is at full capacity of 75 enrolled consumers, the team will require a 0.75 FTE psychiatrist to meet full fidelity to the ACT model.

Nurse on Team: 5

The ACT model requires a 1.0 FTE nurse per 100 consumers. Currently, MHS' ACTiOn team employs one full-time licensed vocational nurse (LVN) for the 49 active consumers, as observed by personnel records and staff interviews. This exceeds the required ratio and results in a rating of 5. The ACT model does not specify the level of nursing required in terms of Registered Nurse (RN) versus LVN or Licensed Psychiatric Technician (LPT); however, there are differences in scope of practice between an RN and LVN or LPT in California. In previous years, the ACTiOn team has included an RN as a part of the team, although the position is currently vacant. While additional nursing is not required for up to 50 consumers, the ACTiOn team may wish to consider hiring an RN as the second nursing position as the program increases enrollment.

Substance Abuse Specialist on Team: 5

The ACT model includes two staff with at least one year of training or clinical experience in substance abuse for 100 consumers. Currently, MHS' ACTiOn team employs 1.0 FTE substance abuse specialist for the 49 active consumers, as observed by personnel records and staff interviews. This meets the required ratio, given there are 49 active consumers and results in a rating of 5. Once the program is at full capacity of 75 enrolled consumers, the team will require at least 1.5 FTE with the requisite experience in substance abuse to meet full fidelity to the ACT model.

Vocational Specialist on Team: 5

The ACT model includes two staff with at least one year of training or experience in vocational rehabilitation and support for 100 consumers. MHS' ACTiOn team includes 1.0 FTE who meet criteria for a vocational rehabilitation specialist, as observed by personnel records and staff interviews. This meets the required ratio for 49 enrolled consumers and results in a rating of 5. Once the program is at full capacity of 75 enrolled consumers, the team will require at least 1.5 FTE with the requisite experience in training or experience in vocational rehabilitation and support to meet full fidelity to the ACT model.

Program Size: 5

Program size refers to the size of the staffing to provide necessary staffing diversity and coverage. MHS' ACTiOn team meets the staffing ratio, as observed by personnel records and staff interview. This results in a rating of 5.

Organizational Boundaries

Explicit Admission Criteria: 5

Explicit admission criteria refers to 1) measureable and operationally defined criteria to determine referral eligibility, and 2) ability to make independent admission decisions based on explicitly defined criteria. MHS' ACTiOn team, in partnership with CCBHS, has explicit admission criteria for enrollment into ACT. Although the responsibility for identifying and engaging potential ACT consumers lies primarily with CCBHS as part of the larger AOT program, MHS also independently outreaches to and assesses referred individuals for ACT criteria and works closely with CCBHS to reach consensus around who should be enrolled in the program. This results in a rating of 5, which was assessed through staff interviews and program documentation. *The rating demonstrates significantly improved collaboration between CCBHS and the MHS ACTiOn Team during the admission process, represented by a substantial increase from the 2017 rating of 2, when MHS accepted referred consumers they did not believe met criteria.*

Intake Rate: 5

Intake rate refers to the rate at which consumers are accepted into the program to maintain a stable service environment. In order to implement ACT with fidelity, a provider should have a monthly intake rate of six or lower. In the past six months, there have been no more than six consumers admitted in any given month, resulting in a rating of 5. This was assessed through consumer records and staff interviews.

Full Responsibility for Treatment Services: 5

Fidelity to the ACT model requires that ACT programs not only provide case management services but also provide psychiatric services, counseling/psychotherapy, housing support, substance abuse treatment, and employment and rehabilitative services. Currently, MHS' ACTiOn team provides the full range of services, including psychiatric services, counseling/psychotherapy, housing support, substance abuse treatment, and employment and rehabilitative services, resulting in a rating of 5. This was observed through team meeting observation, staff interviews, a review of consumer records, and input from consumer and family focus groups.

Responsibility for Crisis Services: 5

The ACT model includes a 24-hour responsibility for covering psychiatric crises. MHS' ACTiOn team provides 24-hour coverage through a rotating on-call system shared by all program staff, with the exception of administrative staff. The Team Leader provides back-up coverage and support. This results in a rating of 5, which was assessed through staff interviews, team meeting observation, and input from the consumer focus group.

Responsibility for Hospital Admissions: 1

The ACT model includes the ACT team participating in decision-making for psychiatric hospitalization. The MHS ACTiOn team is willing and available to participate in all decisions to hospitalize consumers. However, this requires that hospitals and emergency departments are 1) aware that a consumer is enrolled in ACT, and 2) willing to involve the ACT team in the decision-making process. ACTiOn team members shared that when possible, they share their opinion of whether a consumer should be hospitalized when arriving with a consumer at PES. However, the ACTiOn team noted that PES does not meaningfully involve the MHS ACTiOn team in the decision-making process and typically only notifies the ACTiOn team when the consumer has already been hospitalized or is being discharged from PES. This removes a key function of the ACT program to intervene with consumers and reduce associated hospitalizations and results in a rating of 1. *This rating represents a marked decrease from the 2017 rating of 5. As noted previously, the MHS ACTiOn team experienced significant staff turnover and changes in leadership during the past year, and it is unclear if the lower rating reflects changes in hospital admission processes or differences in how ACTiOn team leadership describes the hospital admission process. Nevertheless, MHS shared that they are*

currently working with CCBHS to strengthen collaboration with PES to improve communication and shared decision-making for PES discharge and hospital admission planning for enrolled consumers.

Responsibility for Hospital Discharge Planning: 5

The ACT model includes the ACT team participating in hospital discharge planning. Although MHS' ACTiOn team is infrequently involved in the decision to hospitalize consumers, the ACTiOn team works closely with Unit 4C and other inpatient units once a consumer is hospitalized and collaborates with inpatient units on all hospital discharge plans. This results in a rating of 5 and was assessed through staff interviews and consumer records.

Time-unlimited Services: 5

The ACT model is designed to be time-unlimited with the expectation that less than 5% of consumers graduate annually. MHS' ACTiOn team graduated two consumers during the evaluation period, resulting in a rating of 5. This was determined through consumer records and staff interview.

Nature of Services

In Vivo Services: 4

ACT services are designed to be provided in the community, rather than in an office environment. The community-based services item measures the number of MHS' ACTiOn team contacts in a client's natural settings (i.e., in vivo), which refers to location where clients live, work, and interact with other people. According to ACT service records, 66% of MHS ACTiOn team encounters with consumers during the evaluation period occurred in community-based settings. As this percentage falls within the range of 60-79%, the rating for this measure is 4. *This represents an increase from 2017's rating of 3, when 59% of MHS ACTiOn team encounters with consumers occurred in the community.*

No Drop Out Policy: 5

This criterion refers to the retention rate of consumers in the ACT program over a 12-month period. According to consumer records and staff report, three consumers dropped out of the program during the evaluation period, resulting in a 6% drop out rate and a rating of 5. Any consumers who moved out of the area or required and enrolled in a higher level of care (e.g., conserved) were removed from analysis for this criterion. *This represents an increase from the 2017 rating of 3, when there was a 22% dropout rate.*

Assertive Engagement Mechanisms: 5

As part of ensuring engagement, the ACT model includes using street outreach and legal mechanisms as indicated and available to the ACT team. During the evaluation period, MHS' ACTiOn team demonstrated well thought-out and consistent use of street outreach and legal mechanisms to engage consumers, including working closely with CCBHS to implement the AOT civil court process for consumers who meet AOT criteria and refuse to accept or participate in ACT voluntarily. It is important to note that the decision to use or commence a civil court process is a collaborative effort between MHS and CCHBS, and the actual implementation of a legal mechanism, (i.e. AOT voluntary settlement agreement or court order) is shared between all AOT partners. The assertive engagement mechanism rating was based upon staff interviews, team meeting observation, and consumer records. *The increased use of the civil court petition for AOT, when appropriate, demonstrates significant improvement in the use of all available legal mechanisms to engage consumers in treatment and is reflected in an increased rating from 2 in 2017 to 5.*

Intensity of Services: 4

Intensity of services is defined by the face-to-face service time MHS' ACTiOn team staff spend with clients. Full fidelity to the ACT model requires that consumers receive an average of two hours per week of face-to-face contact. According to ACT service records, ACT consumers received an average of 1.91 hours of ACT services per week, resulting in a rating of 4. *This represents a decrease from the 2017 rating of 5, when consumers received 2.67 hours of ACT services per week. The decrease in service intensity may reflect reduced staff capacity due to the increased number of active consumers and/or the staff turnover experienced during the last year.*

Frequency of Contact: 3

Fidelity to the ACT model requires that ACT consumers have an average of at least four face-to-face contacts per week. According to ACT service records, ACT consumers received an average of 2.65 face-to-face contacts per week during the evaluation period, resulting in a rating of 3 as it falls within the range of 2-3 face-to-face contacts per week. *This represents a decrease from the 2017 rating of 4, when consumers received an average 3.15 face-to-face contacts per week. The decrease in service frequency may reflect reduced staff capacity due to the increased number of active consumers and/or the staff turnover experienced during the last year.*

Work with Informal Support Systems: 5

The ACT model includes support and skill-building for the consumer's support network, including family, landlords, and employers. This criterion measures the extent to which MHS' ACTiOn team provides support and skill-building for the client's informal support network as a way to further enhance the client's community integration and functioning. According to staff, consumer, and family member discussions as

well as ACT service records, MHS' ACTiOn team exceeds the expectation of four contacts per month with informal support systems, resulting in a rating of 5.

Individualized Substance Abuse Services: 3

The ACT model is based on an interdisciplinary team that provides all of the services a consumer may need to support their recovery and address their psychosocial needs, including individualized substance abuse treatment. Full fidelity to the ACT model requires that consumers with substance use disorders receive an average of at least 24 minutes of formal, individualized substance abuse services per week. MHS' ACTiOn team incorporates principles of dual disorder recovery into treatment and provides informal substance use services through their encounters with ACT consumers. However, based upon interviews with staff, it does not appear that the ACTiOn team is currently providing formal, individualized substance use services, resulting in a rating of 3. *The rating represents a decrease from the 2017 rating of 5. The difference in the level of substance use treatment from may reflect staff changes in the previous year—including the departure of a full-time staff member who provided substance use services—as well the increased number of ACT consumers, approximately two-thirds of whom have co-occurring disorders. Moving forward, the ACTiOn team should explore ways to expand formal, individualized substance use treatment to meet the treatment needs of a growing number of ACT consumers with co-occurring disorders.*

Co-Occurring Treatment Groups: 3

The ACT model is based on an interdisciplinary team that provides all of the services a consumer may need to support their recovery and address their psychosocial needs, including co-occurring disorder treatment groups. Full fidelity to the ACT model requires that 50% or more of consumers with substance use disorders attend at least one substance abuse treatment group per month. The MHS' ACTiOn team provides a weekly co-occurring disorder group led by the dual recovery specialist, family partner, and other clinical staff. Of the 49 active ACT consumers, 34 had documented co-occurring substance use disorders. However, according to ACTiOn team staff, typically only 20% of these consumers participate in the co-occurring disorder group each month, resulting in a rating of 3. *This rating represents a decrease from the 2017 rating of 5. As described previously, the lower rating may reflect the increased number of consumers with co-occurring disorders and/or reduced staff capacity associated with staff turnover. Moving forward, the ACTiOn team should explore ways to engage more consumers in co-occurring treatment groups.*

Dual Disorders Model: 5

The ACT model is based on a non-confrontational, stage-wise treatment model that considers the interactions between mental illness and substance use and has gradual expectations of abstinence. The assessors were impressed with the implementation of motivational interviewing and stages of change

principles throughout the program meeting and staff interviews and found that MHS' ACTiOn team clearly meets and exceeds the treatment philosophy set forth in the ACT model. This results in a rating of 5.

Role of Consumers on Team: 5

The ACT model includes the integration of consumers as full-fledged ACT team members, usually in the provision of peer support and/or peer counseling. MHS' ACTiOn team does include consumer membership as a part of the ACT team staffing, resulting in a rating of 5. This was observed through a review of personnel records, team meeting observation, and staff interviews.

Other Feedback

ACT consumers and family members were generally appreciative of the ACT program and believed that participating in ACT had been beneficial. In addition to the strengths noted in previous years of **professional and caring staff**, **partnership and responsiveness of the staff to consumer and family needs**, **the outreach process**, and an **inclusive approach to services**, program strengths noted are:

- **Trust:** Consumers and family members discussed their trust in the ACTiOn Team, noting that they can talk to staff about anything without judgement. Some consumers shared that although they were initially distrustful of the ACTiOn team and the program, the staff developed consumers' trust by always meeting consumers where they are in their recovery and consistently demonstrating their interest and investment in consumers' lives and recovery.
- **Meaningful Activities:** In response to consumer and family feedback during previous years, the ACTiOn team began implementing a recreation group, which includes weekly bowling trips, hiking, swimming, and other outings. Consumers highlighted these activities as one of their favorite aspects of the program and mentioned that it gives them something to look forward to. Some consumers also shared that the activities and groups help them in their recovery by filling their free time and maintaining a routine schedule, particularly after returning from the hospital or jail.
- **Consumer Outcomes:** As with last year, it is notable that many consumers made significant progress while in the program. Every consumer and family member interviewed was easily able to acknowledge an accomplishment as a result of participating. The assessors were impressed by consumers who obtained and maintained housing, reduced crisis and hospitalization, decreased or stopped substance use, improved and repaired family relationships, are either working or volunteering, and enrolled in or graduated school since enrolling in the program.

The following areas for program improvement also emerged through discussions with consumers and family members:

- **Family Groups:** Through the assessor's observation of participant focus groups, it became apparent that consumers are all in different stages of recovery and that families need meaningful opportunities to interact with other families and/or their loved ones to share their experiences,

share knowledge and resources, and provide support to maintain hope in their loved ones recovery. MHS' ACTiOn team should consider re-introducing family support and psychoeducation groups as well as multi-family groups with loved ones to provide these opportunities.

- **Reliability:** Although consumers and family members generally shared a high level of satisfaction with MHS' ACTiOn team and services, focus group participants noted some changes in the frequency and/or reliability of scheduled encounters associated with staff changes and turnover. Specifically, focus group participants mentioned a few instances when staff missed or re-scheduled appointments or when their medications were late or running low before being refilled. While no consumer went without medications, they did discuss the anxiety they experienced when their medication supply ran low and they were unsure when the refill would be delivered. Consumers also discussed the departure of the dedicated vocational specialist and missed having more formal vocational support. It is important to note that at the time of the fidelity assessment, MHS had recently hired a staff member with vocational rehabilitation training and has also since filled a number of vacant positions to stabilize staffing.

Discussion

Strengths

The assessors were impressed with a variety of elements of MHS' ACTiOn team and observed that many of the program elements were present and met or exceeded fidelity measures. The program was adequately staffed with team members with diverse skill sets and who are committed to the success of the program and consumers. Staff demonstrated their familiarity with motivational interviewing and the recovery model in conversations with assessors and are working as a cohesive team. The program is structured to do "whatever it takes" to support consumers and meet them "wherever they're at," literally and figuratively. Team members appeared to work together throughout the day to ensure that all consumers receive individualized support to achieve their goals. Both consumers and family members expressed gratitude to MHS' ACTiOn team and staff for the accomplishments that ACT consumers have achieved during program participation. Throughout the focus groups, consumers and family members shared accounts of increasing stability, as well as a number of tangible successes and accomplishments.

The program also substantially improved fidelity to the ACT model on a number of measures, including explicit admission criteria, use of assertive engagement mechanisms, and a no drop out policy. Over the course of the last year, it appears that MHS' ACTiOn team considerably strengthened communication and collaboration with CCBHS contributing to 1) improved shared decision-making about consumers accepted into the ACT program, and 2) consistent and appropriate use of the civil court petition for AOT to compel service engagement among consumers who meet AOT criteria and refuse to accept or engage in treatment voluntarily. The program enrolled and retained a higher number of consumers than in previous years. At the time of the 2018 assessment, the program had 49 active consumers, compared to 32 in 2017. Moreover, only two consumers were discharged from the program in the 12 months prior to the 2018 fidelity assessment, compared to nine consumers in year prior to the 2017 assessment.

Opportunities

While the fidelity assessment revealed a high degree of alignment with the ACT model, there are opportunities for improvement. During the year prior to the assessment, MHS' ACTiOn team experienced significant staff turnover and transitions, particularly among program leadership. The staff changes along with the increased number of active consumers likely contributed to reduced staff capacity and decreases in the intensity and frequency of services during the evaluation period. While MHS is taking steps to stabilize staffing and has already filled several vacant positions, MHS may wish to explore the following areas to identify how to best scale the program to continue and strengthen fidelity to the ACT model:

- **Staffing and Program Capacity:** MHS' ACTiOn Team is adequately staffed for the current caseload of 49. However, at the time of the fidelity assessment, there were a number of consumers who were active in the outreach and engagement phase or the AOT petition process. As the program approaches the contracted number of 75 consumers, there would be gaps in a number of ACT team positions with the current staffing. Specifically, there would be a need to increase psychiatry, nursing, substance use treatment, and vocational rehabilitation to ensure alignment with the ACT model. Additionally, as mentioned, there was a higher rate of turnover than expected. MHS may wish to explore how to increase staff retention and ensure staff capacity meets growing needs.
- **Substance Abuse Services.** Some of the lowest scores from this assessment include individualized substance use services and co-occurring treatment groups. Although the ratings may be attributable in part to staff changes and the increased numbers of consumers with co-occurring disorders, MHS should explore ways to formalize and expand substance use treatment. One approach may be to implement a weekly co-occurring treatment group in each of the three regions in Contra Costa County, rather than just one group at the ACTiOn team's main office. This will allow more opportunities for a greater number consumers to participate in treatment.

Additionally, MHS may wish to consider re-introducing structured opportunities for family participation, as discussed above, such as a family support or psychoeducation group as well as a multi-family group.

Conclusion

MHS' ACTiOn Team received an average fidelity rating of 4.50 and scored in the "high fidelity" range. The assessors were impressed with the staff; program implementation improvements over the past year; and the success stories shared by staff, consumers, and their families. The assessors also recognized the opportunity to continue to improve the program, specifically around issues related to staff turnover and capacity, expanded substance use treatment, and family support. Additionally, the assessors recommend that CCBHS and MHS' ACTiOn Team explore what steps would be needed to enroll and serve 75 consumers while continuing the high degree of fidelity to the ACT model.