



# The Value of Engagement in Substance Use Disorder (SUD) Treatment

*A Report from Allegheny HealthChoices, Inc.*

*June 2016*

## **Introduction**

When considering substance use disorder (SUD) treatment, the length of time spent in treatment has been one of the most reliable predictors of post-treatment outcomes in national evaluations in the United States.<sup>1-2</sup> While the length of time it takes for people to progress through treatment can and will often vary,<sup>3</sup> research studies and evaluations have shown that recovery and better outcomes are more likely for people who remain engaged with SUD treatment services for 90 days or longer.<sup>1-5</sup> Studies have also shown that SUD treatment is cost-effective in reducing drug use and its associated health and social costs.<sup>3, 5-6</sup>

## **Purpose**

This report compares demographic information and behavioral health service utilization for people in Allegheny County who remained engaged<sup>i</sup> in SUD treatment for 90 days or longer to those who did not. The assumption, based on the literature, is that people who continue treatment for 90 days or longer will use fewer acute services in the future than those who did not remain in treatment for at least 90 days.

## **Methodology**

Individuals were included in this analysis based on having one index event between January 1, 2014 and December 31, 2014.<sup>ii</sup> An index event is defined as a person entering intensive SUD treatment (including inpatient and non-hospital detoxification or rehabilitation, partial hospitalization, or intensive outpatient) after not having intensive SUD treatment services in the previous 60 days.

The sample population was then separated based on whether an individual's episode of care (EOC) was 90 days or longer or less than 90 days. An EOC is defined as the number of days from the date of admission to treatment to the date of discharge from treatment. It includes the index event and any reimbursed SUD services paid by Allegheny County or HealthChoices funding received within 30 days of the index event, excluding service coordination. Service coordination was excluded from this analysis, as it is not a treatment service. People who used methadone maintenance were also excluded from this analysis because, according to the literature, a minimum of 12 months of methadone maintenance treatment is needed to be effective.<sup>1,3,5</sup> An EOC continues until the person has had a 30-day gap in services.

Service utilization data for twelve months following the EOC was analyzed.

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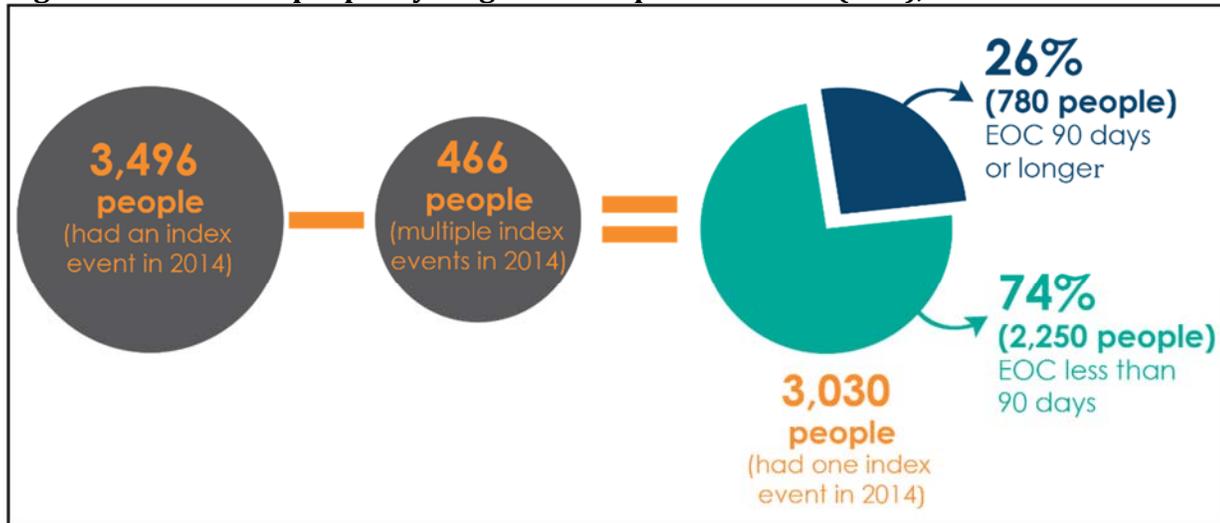
<sup>i</sup> Engagement is defined as initiation of intensive substance use disorder treatment within 14 days of receiving a diagnosis AND having two or more additional services with an SUD diagnosis within 30 days of the initiation visit.

<sup>ii</sup> People having one index event were selected to eliminate people who had both an episode of care that was 90 days or longer AND an episode of care that was less than 90 days. In this case, the person would have contributed data to both groups, therefore possibly skewing the comparison data. People with multiple index events within one year may have more acute or different needs than those with only one and possibly higher services use and costs. Again, including these individuals could have also skewed the comparison data.

## Results and Discussion

As shown in Figure 1 below, 3,496 people had index events in 2014. Four hundred and sixty-six people were excluded because they had multiple index events. Of the 3,030 people remaining with a single index event in 2014, 26% (780) had episodes of care that were 90 days or longer and 74% (2,250) had episodes of care that were less than 90 days.

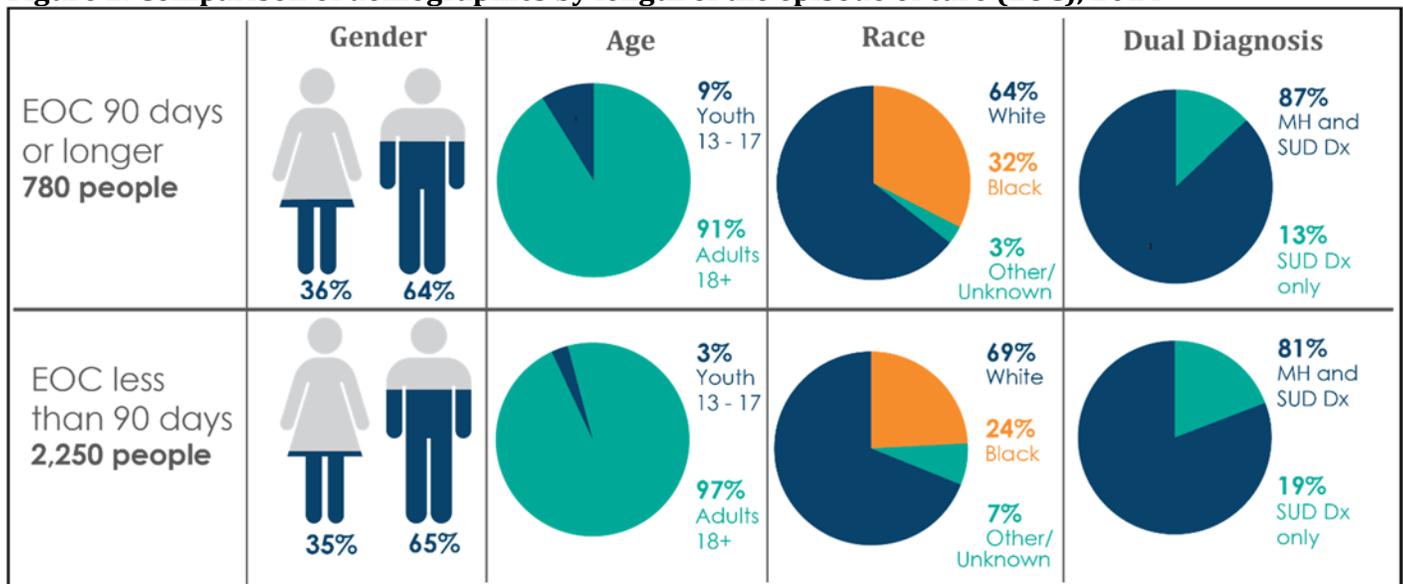
**Figure 1. Number of people by length of the episode of care (EOC), 2014**



## Demographics

Although more people were engaged in treatment for less than 90 days, both groups were similar in terms of gender and dual diagnosis status. The majority of people were 18 years of age or older (over 90%), male (over 60%) and had both a mental health and a substance use disorder diagnosis based on services received (over 80%). When comparing race, blacks were more likely to engage in treatment for 90 days or longer. See Figure 2 below.

**Figure 2. Comparison of demographics by length of the episode of care (EOC), 2014**



### Primary Diagnosis

Primary diagnosis was determined using the diagnosis listed on the claim for the index event. The top five diagnoses (opioid, multiple substances, alcohol, cannabis, cocaine) were the same for both groups. However, a higher proportion of people having an episode of care 90 days or greater were more likely to have a diagnosis related to cannabis use, whereas a higher proportion of people having an episode of care less than 90 days were more likely to have a diagnosis related to opioid use. See Table 1 below. Of note is that Group 1 and Group 2 MH diagnoses include anxiety disorder, bipolar disorder, and depressive disorder. Group 1 diagnoses also include adjustment disorder. Group 2 diagnoses also includes major depression and schizophrenia.

**Table 1. Comparison of index event primary diagnoses by length of the episode of care (EOC), 2014 (statistically significant differences are shaded)**

Primary Diagnosis Based on Index Event Claim (Number of People)	Group 1 (EOC 90 days or longer)	Group 2 (EOC less than 90 days)
	# and % people	# and % people
Opioid	291 (37.3%)	1011 (44.9%)
Alcohol	147 (18.8%)	425 (18.9%)
Multiple Substances Disorder	134 (17.2%)	464 (20.6%)
Cannabis	107 (13.7%)	111 (4.9%)
Cocaine	54 (6.9%)	127 (5.6%)
PCP	14 (1.8%)	14 (0.6%)
Substance Induced Disorder	10 (1.3%)	68 (3.0%)
Hypnotic/Sedative	6 (0.8%)	10 (0.4%)
Hallucinogens	2 (0.3%)	0 (0.0%)
Inhalants	2 (0.3%)	4 (0.2%)
Amphetamines	1 (0.1%)	4 (0.2%)
Mental Health Diagnoses	12 (1.5%)	12 (0.5%)
<b>Total</b>	<b>780 (100.0%)</b>	<b>2,250 (100.0%)</b>

### Index event and ALOS

Looking at index events by service category, Table 2 shows that people in Group 1 were more likely to have an index event beginning with non-hospital rehabilitation, whereas people in Group 2 were more likely to have an index event beginning with non-hospital detoxification or inpatient detoxification.

**Table 2. Comparison of index event initial service by length of the episode of care (EOC), 2014 (statistically significant differences are shaded)**

Index Event Service Category (Number of People and Average Length of Stay - ALOS)	Group 1 (EOC 90 days or longer)		Group 2 (EOC less than 90 days)	
	# and % people	ALOS	# and % people	ALOS
Non-Hospital Rehabilitation	480 (61.5%)	162	725 (32.2%)	34
Non-Hospital Detoxification	127 (16.3%)	184	844 (37.5%)	20
Intensive Outpatient SUD	81 (10.4%)	159	315 (14.0%)	40
Partial Hospitalization SUD	41 (5.3%)	173	107 (4.8%)	44
Inpatient Detoxification	26 (3.3%)	195	244 (10.8%)	10
Halfway House*	25 (3.2%)	170	14 (0.6%)	52
Inpatient Rehabilitation	0 (0.0%)	0	1 (0.04%)	1
<b>Total</b>	<b>780 (100.0%)</b>		<b>2,250 (100%)</b>	

\*\*Not statistically significant because n < 30

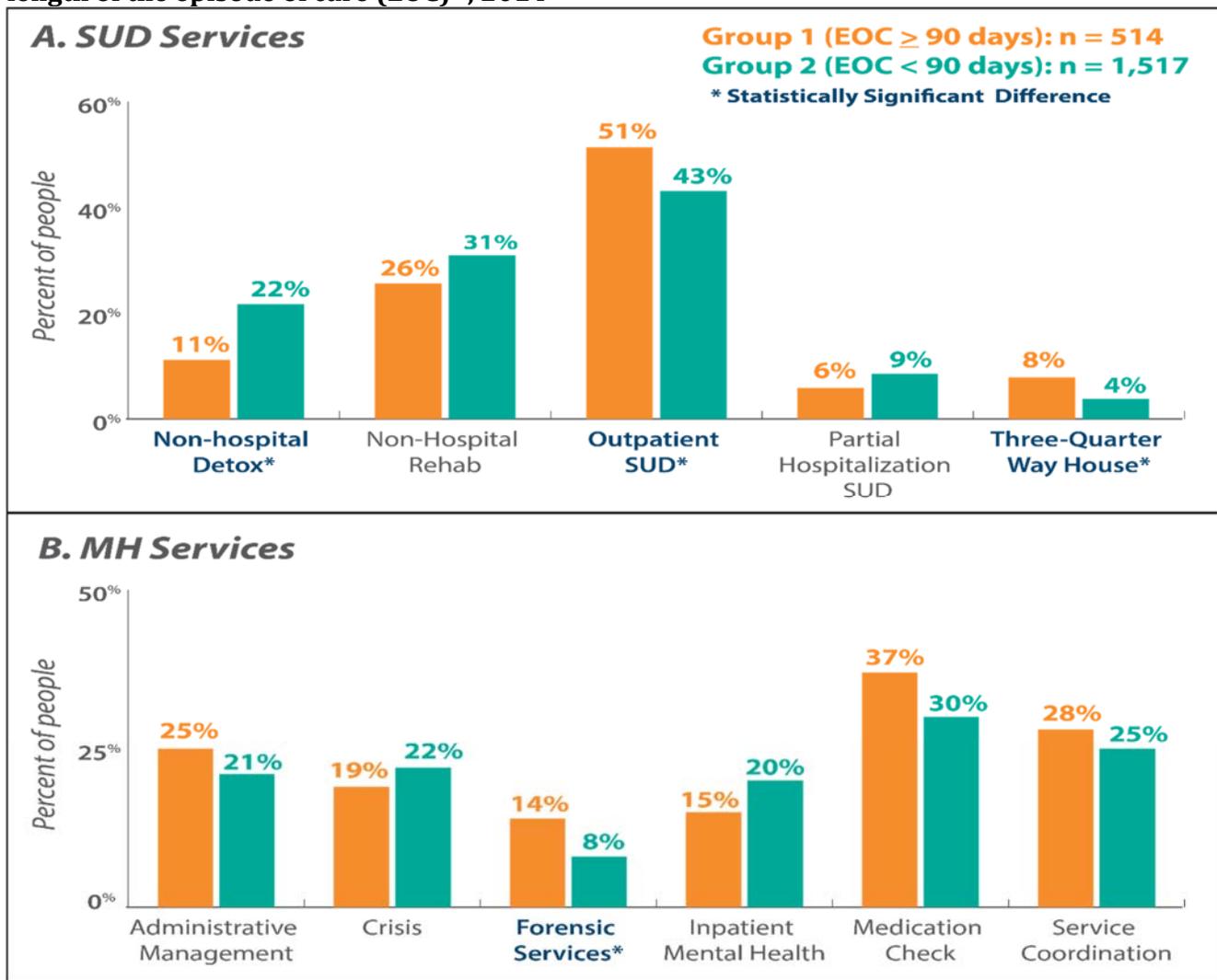
### Service Utilization

During the twelve months following the index event, 66% of people (514) in Group 1 and 67% of people (1,517) in Group 2 used services.

When looking further at SUD service use, statistically significant differences observed are that a higher percentage of people in Group 1 used three-quarter way house and outpatient SUD, whereas a higher percentage of people in Group 2 used non-hospital detoxification.<sup>iii</sup> Though not statistically significant, more people in Group 2 also used non-hospital rehabilitation and partial hospitalization SUD compared to people in Group 1. See Figure 3.A below.

When looking further at MH service use, a higher percentage of people in Group 1 used administrative management, forensic services, medication check, and service coordination, whereas a higher percentage of people in Group 2 used crisis and inpatient mental health. Of these, the only statistically significant difference was for forensic services. See Figure 3.B below.

**Figure 3. Comparison of substance use disorder (SUD) and mental health (MH) service use by length of the episode of care (EOC)<sup>iii</sup>, 2014**



<sup>iii</sup> Service use was compared when at least 30 people in each group used the service. For services mentioned, there was at least a 3% difference between the groups in the number of people that used the service. Services in which there was a statistically significant difference in use are highlighted.

## Data Limitations

When reviewing this data, there are some limitations to consider. First, since comparisons are based on administrative (claims) data, clinical and social information (i.e. treatment related factors, personal motivation, or even severity of illness) that are likely to contribute to duration of treatment were not available. Second, physical health data, including emergency room (ER) data, was also not available for the 12 months following the episode of care. Since people also seek treatment in ERs for SUD related issues, this fact sheet does not provide information related to how many people sought or received care after the index event at a physical health facility. Third, people often acknowledge the role and importance of self-help groups (i.e. Alcoholics Anonymous and Narcotics Anonymous) in their SUD recovery journey, however, data is not available to measure or report the utilization and impact of these services. Fourth, by excluding people with multiple index events, the service use patterns and needs of frequent service users/potential high utilizers are not captured in this data. Finally, since the service utilization was only observed for a 12-month period following the EOC, a longer period might yield different results.

Despite these limitations, the information presented in this report provides some evidence that supports what has been stated in the literature: the length of time spent in treatment has been one of the most reliable predictors of post-treatment outcomes. Additionally, there are ongoing initiatives within Allegheny County to address engagement and improve retention in SUD treatment.

## Summary

Of the people that had an intensive SUD index event in 2014, more people had episodes of care that were less than 90 days (Group 2) compared to people with episodes of care that were 90 days or longer (Group 1). When comparing the two groups, this report highlights the following:

- A higher proportion of blacks were more likely to engage in treatment for 90 days or longer (Group 1) but gender, age, and the percent of people that had both mental health and substance use disorder diagnoses were similar between the two groups.
- People in Group 1 were more likely to have a diagnosis related to cannabis use, while people in Group 2 were more likely to have a diagnosis related to opioid use.
- People in Group 1 were more likely to enter treatment through non-hospital rehabilitation compared to people in Group 2. People in Group 2 were more likely to enter treatment through detoxification, both inpatient and non-hospital, compared to people in Group 1.
- In the 12 months following the initial episode of care, a higher percentage of people in Group 1 used three-quarter way house, outpatient SUD, administrative management, forensic services, medication check, and service coordination. A higher percentage of people in Group 2 used non-hospital detoxification, non-hospital rehabilitation, partial hospitalization SUD, crisis services, and inpatient mental health.

The service use trends noted in this report support the original assumption that people who continue treatment for 90 days or longer tend to use less intensive services in the future than those who did not remain in treatment for at least 90 days. The findings also highlight the belief that people in Group 2 may not be staying in treatment long enough to be effective, leaving them susceptible to relapsing. According to Stein, Kogan, and Sorbero,<sup>5</sup> following detoxification, there can be a decrease in tolerance that may place some individuals at increased risk for overdose in a subsequent relapse. Additionally, the fact that people in Group 2 are also more likely to use crisis and inpatient mental health can indicate that for some people, there may be unmet behavioral health needs. According to Broome, Flynn, and Simpson,<sup>4</sup> some people with mental

health needs tended to drop out of substance use disorder treatment earlier, contributing to shorter episodes of care. As noted in the demographics section, over 80% of people in both groups had a mental health diagnosis in addition to a substance use disorder diagnosis; therefore, being able to meet mental health needs during SUD treatment may help keep people in treatment longer.

Other factors that contribute to whether people stay in SUD treatment longer relate to the facility in which they receive treatment and personal motivations. Studies have found that the quality and breadth of services were all significantly correlated with 90-day retention<sup>1-2,4</sup> Examples include good relationships with their counselor, satisfaction with treatment, availability of resources to meet special needs (including mental health needs), types of services offered, attending education classes while in treatment, and engaging in continuing care and other support groups during follow-up. Additionally, personal motivation and readiness for treatment are also important to the success of retaining people in treatment and improving outcomes.<sup>2</sup>

### **Allegheny County Initiatives to Address Engagement in Treatment**

Allegheny County has introduced a recovery-oriented system of care (ROSC) framework to mental health and substance use disorder treatment and services. This framework promotes recovery by recognizing behavioral health disorders as chronic illnesses, and delivering person-centered, culturally competent and strength-based care.

It is within this framework that efforts to improve engagement in treatment are addressed. Some of these efforts are included below:

- Co-occurring disorders (COD) services needs assessment – The County and system stakeholders are working to evaluate the service system’s capability of providing co-occurring (MH/SUD) services using evidence-based indexes. The assessment results will guide the County’s work in moving the service system towards more comprehensive and effective co-occurring treatment.
- Integrated dual disorder team (IDDT) services – IDDT services strive to integrate both mental health and substance use disorder treatment to more effectively serve people with both disorders. Part of the goal of treating both types of disorders at the same time is to better engage individuals in their treatment and more effectively serve them.
- Coordinating care for individuals with substance use disorders – Working with the state, Allegheny County physical health and behavioral health managed care organizations, and hospitals are implementing an initiative to better coordinate care for people who present to local hospitals and are screened positive for SUDs. These individuals are linked to social workers and/or peers who work to engage them and link them to services in the community.
- SUD case management – This service works with adults with SUD and those with SUD and co-occurring mental illness who have a history of readmissions to intensive SUD treatment. Case managers use the evidence-based practice of brief critical time intervention (BCTI) to engage and assist people with their transition to community services and supports.
- Certified recovery specialist development – Working with someone with similar experiences can help build a supportive relationship. That is part of the goal for the expansion of certified recovery specialists (CRSs). People with experience with SUDs and treatment work with people who are beginning their recovery to educate them about services, encourage them in service participation, and support them on their recovery journey.

- Care management interventions with people readmitting to intensive SUD services – Care managers have been conducting interviews with people who readmit to intensive SUD services. During these interviews, the care managers work with people to identify barriers to care and work on problem solving so that people are ready to participate in follow-up services in the community.

## Next Steps

Next steps to explore and support engagement in SUD treatment include the following:

- AHCI intends to continue working with its partners to improve care for this target population as noted by the initiatives listed in the previous section.
- Share findings of this report with the Department of Human Services' (DHS) Office of Behavioral Health (OBH), Community Care, and Drug and Alcohol Providers within Allegheny County.
- Continue monitoring engagement in treatment for people with an SUD diagnosis on an ad-hoc basis.

## References

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2. Simpson, D. Dwayne. "A Conceptual Framework for Drug Treatment Process and Outcomes." *Journal of Substance Abuse Treatment* 27 (2004): 99 – 121.
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*AHCI's mission is to assure equitable access to quality, cost-effective behavioral health care that promotes positive clinical outcomes, recovery, and resiliency.*

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