Intensive Outpatient Treatment (IOP): Evaluation of a Prominent Level of Care within the Connecticut Medicaid Behavioral Health Service System.

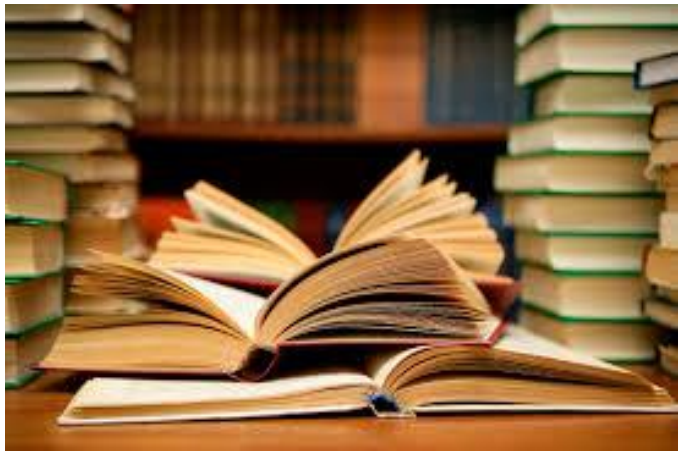
Overview

2015 Study of Intensive Outpatient Programs (IOPs)

- ***DSS, DCF, & DMHAS directed Beacon to conduct a study of IOPs during 2015.***
- ***The study was to include programs serving youth and adults as well as mental health, substance abuse, and co-occurring disorders.***
- ***This presentation concerns programs serving adults***

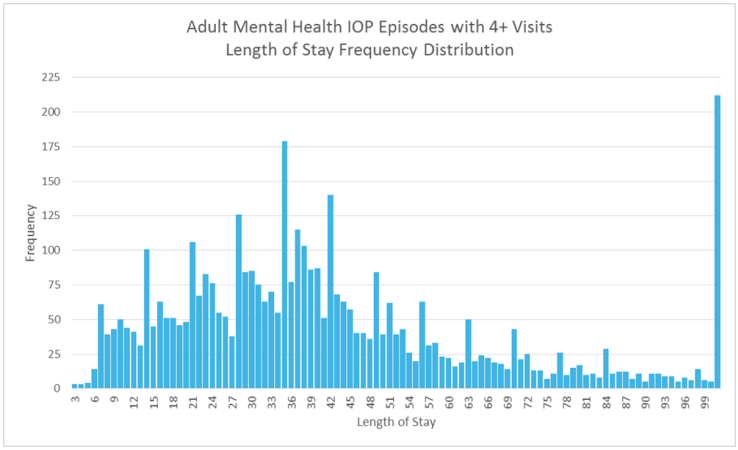
Study Components

1. Literature Review



2. IOP Population Profile

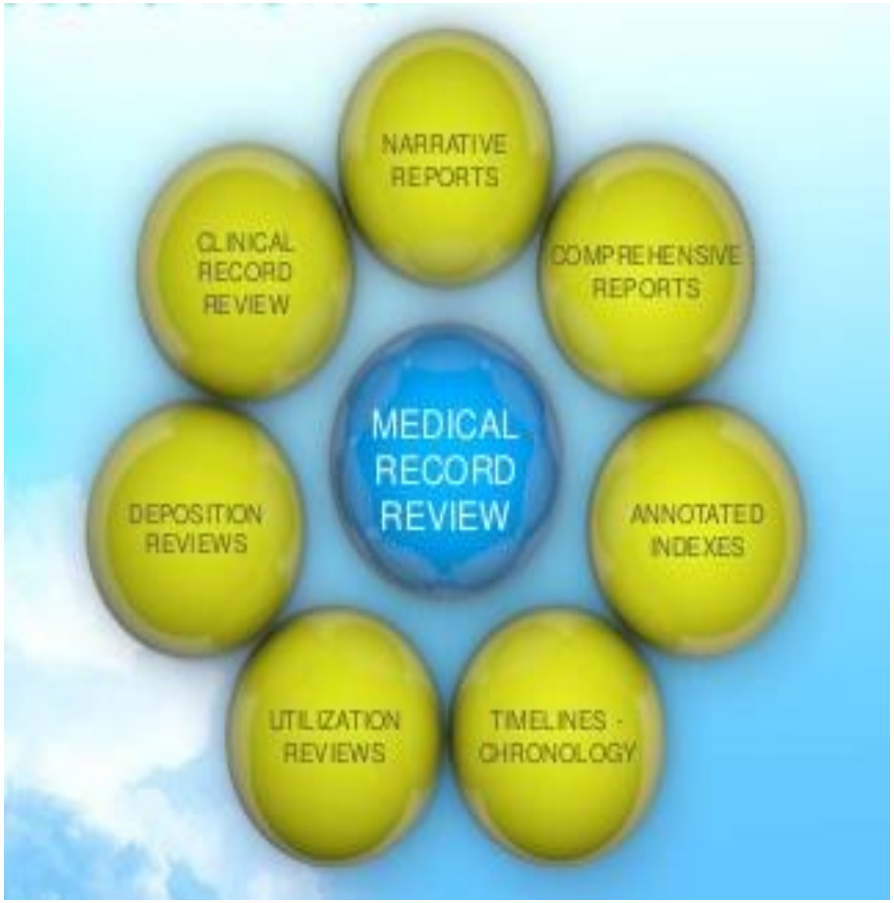
3. IOP Utilization Profile



4. IOP Outcomes

Study Components (Continued)

5. Site Visits



6. Recommendations

IOP Programs in Connecticut

- **In 2014 there were 124 IOP Programs serving Medicaid Recipients**
  - 97 Programs were identified as Adult Serving Programs
  - 27 Programs were identified as Youth Serving Programs

IOP Programs in Connecticut

- There are a variety of Adult IOP Program Types and Tracks in CT
  - **Substance Abuse**
  - **Mental Health**
  - **Co-Occurring**
  - **Specialty**
    - Geriatric
    - Eating Disorders
    - SMI

Adult IOP Literature Overview

- Research evaluating effectiveness of IOP in relation to other levels of care has been equivocal
- Most IOP research is for SA Population
- Consensus is that IOP is effective at;
  - **Easing transition from higher levels of care**
  - **Diverting adults from hospitalization**
  - **Reducing rates of readmission to residential and inpatient care**

SUMMARY OF FINDINGS

- **Findings from the literature review, site visits, and data analyses indicate that Adult IOP Programs are effective at reducing symptoms and problem behaviors as well as avoiding readmission and subsequent hospitalization.**
- A sizable portion of adults did not successfully engage in IOP services, and there was support indicating that a Minimally Adequate Dosage is desired and protective against certain negative outcomes.
- However, there was also a lack of evidence that extended stays beyond 16 sessions accrue much additional benefit, at least on the measures assessed (subsequent hospitalizations or readmissions to care).

SUMMARY OF FINDINGS

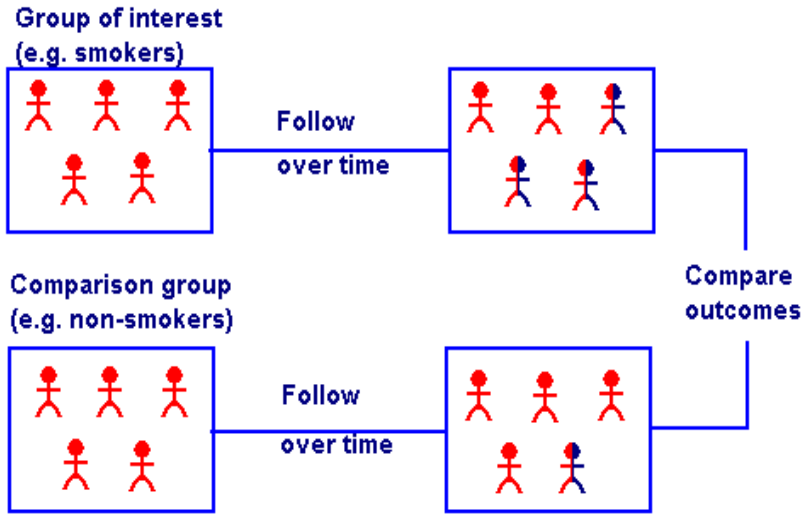
- These findings may have implications for adjusting authorization parameters in light of evidence regarding what constitutes a “typical” IOP Episode of Care and the relationships between care obtained and outcomes achieved.
- A further analysis of this data, evaluating treatment days as a continuous versus a categorical variable would provide a more fine-grained analysis and could be helpful, including to more accurately define the range of “treatment days” that would constitute a more “optimal engagement” considering costs and outcomes.

Connecticut Data Highlights

CT DATA HIGHLIGHTS - METHODS

- Two years of Data
  - July 2012 to June 2013
  - July 2013 to June 2014.

- IOP Cohorts
  - Mental Health
  - Substance Abuse
  - Co-Occurring



CT DATA HIGHLIGHTS – METHODS: Timeframe Of Study

- In order to examine the frequency and duration of use of Intensive Outpatient (IOP) services by the CT Medicaid population, a two year timeframe was selected:
  - July 1, 2012 to June 30, 2014

- The choice of that particular timeframe was based on the inclusion of measures that required availability of complete data on either end of the study timeframe.
- For example, readmissions to IOP within 180 days required that complete data be available up to 12/31/14 in order to assess IOP episodes with an end date in the last six (6) months of the study timeframe for readmission.

CT DATA HIGHLIGHTS – METHODS: Inclusion Criteria

- **Eligibility Requirements for Inclusion in the Study**
- Medicaid members ages three (3) and over were selected for the study. This presentation will focus on Adults.
- The following members were excluded from the study; "claims only" IOP episodes that were Dual Eligible, DO5, or Title 19 or Converted at the episode end date.
- Members with DMHAS Funded IOP episodes were not required to have Medicaid eligibility on the IOP episode's end date.
- Continuing Medicaid eligibility requirements for post-IOP measures were specific to the measure and are described below.

CT DATA HIGHLIGHTS – METHODS: Identify IOP Services

- **Identifying IOP Services in Medicaid claims and DMHAS data**
- Although IOP services were typically billed per day, there were instances of IOP billing over date spans of several days at a time.
- In those instances, when the span was between 1 and 3 days, each day in the span was counted as a day of service. When the span was 4 or more days, the service line was dropped.

CT DATA HIGHLIGHTS – METHODS: Defining Iop Episode

- **An IOP episode was defined as a series of IOP visits:**
  - **with the same provider, and**
  - **without breaks in the visits (i.e. gaps) of 30 days or more.**
- As found in the earlier IOP study, there was a high frequency of gaps in treatment by individual members with a single IOP provider ranging from days to weeks.
- In order to define an “IOP episode”, it was necessary to decide the maximum length of a gap in visits before the treatment became a new episode.
- Based on previous discussions with IOP providers, the decision was to define the maximum gap as ≥30 days. In any case, a change in provider would create the start of a new episode regardless of any gap.

CT DATA HIGHLIGHTS – METHODS: IOP Episode

- Each IOP episode was assigned to a diagnostic category based on the age of the individual at the episode end date and the diagnosis for the specific IOP episode.
- **Mental Health:** All episodes where the individual was ≥18 years old at the episode end date, and had only mental health diagnoses associated with the episode were included.
- **Substance Abuse:** All episodes where the individual was ≥18 years old at the episode end date, and had only substance abuse diagnoses associated with the episode were included.
- **Co-Occurring:** All episodes where the individual was ≥18 years old at the episode end date, and had both mental health and substance abuse diagnoses associated with the episode were included.

CT DATA HIGHLIGHTS – METHODS: IOP Engagement Group

- In an effort to evaluate the effect of the frequency and duration of IOP treatment on outcome, multiple levels of engagement in IOP services were established for youth and adults.

- The following engagement levels were created for **adults** based on the intended IOP frequency and duration of 4-6 weeks at 3 times a week (12-16 visits):
  - **Intent to Treat:** 1 to 3 days with a service
  - **Early Termination:** 4 to 8 days with a service
  - **Minimally Adequate Dose:** 9 to 16 days with a service
  - **Target Dose or More:** 17 plus days with a service

CT DATA HIGHLIGHTS – METHODS: Population Profile

- **Population Profile:** Member-level analyses were done using the CY 2013 Inpatient Population File, integrating Medicaid Claims and DMHAS data.
- Member-level analyses were based solely on members with IOP episodes during CY 2013, and all demographic information was based only on data across CY 2013.
- **Adult IOP utilizers** were defined as individuals who utilized IOP services during the study period who were 18 years or older on July 3, 2013.

Adult Medicaid Intensive Outpatient Utlizer Cohorts	# Members in Cohort	Deffinition	% of Adult Medicaid Intensive Outpatient Utilizers
Adult Co-Occuring IOP Utilizers	4,598	Members who had at least one intensive outpatient episode ending in 2013 and who had both mental health and substance abuses diagnoses for those episode(s).	40%
Adult Substance Abuse IOP Utilizers	4,825	Members who had at least one intensive outpatient episode ending in 2013 and who had only substance abuse diagnoses for those episode(s).	42%
Adult Mental Health IOP Utilizers	2,050	Members who had at least one intensive outpatient episode ending in 2013 and who had only mental health diagnoses for those episode(s).	18%
Total Adult IOP Utilizers	11,473		100%

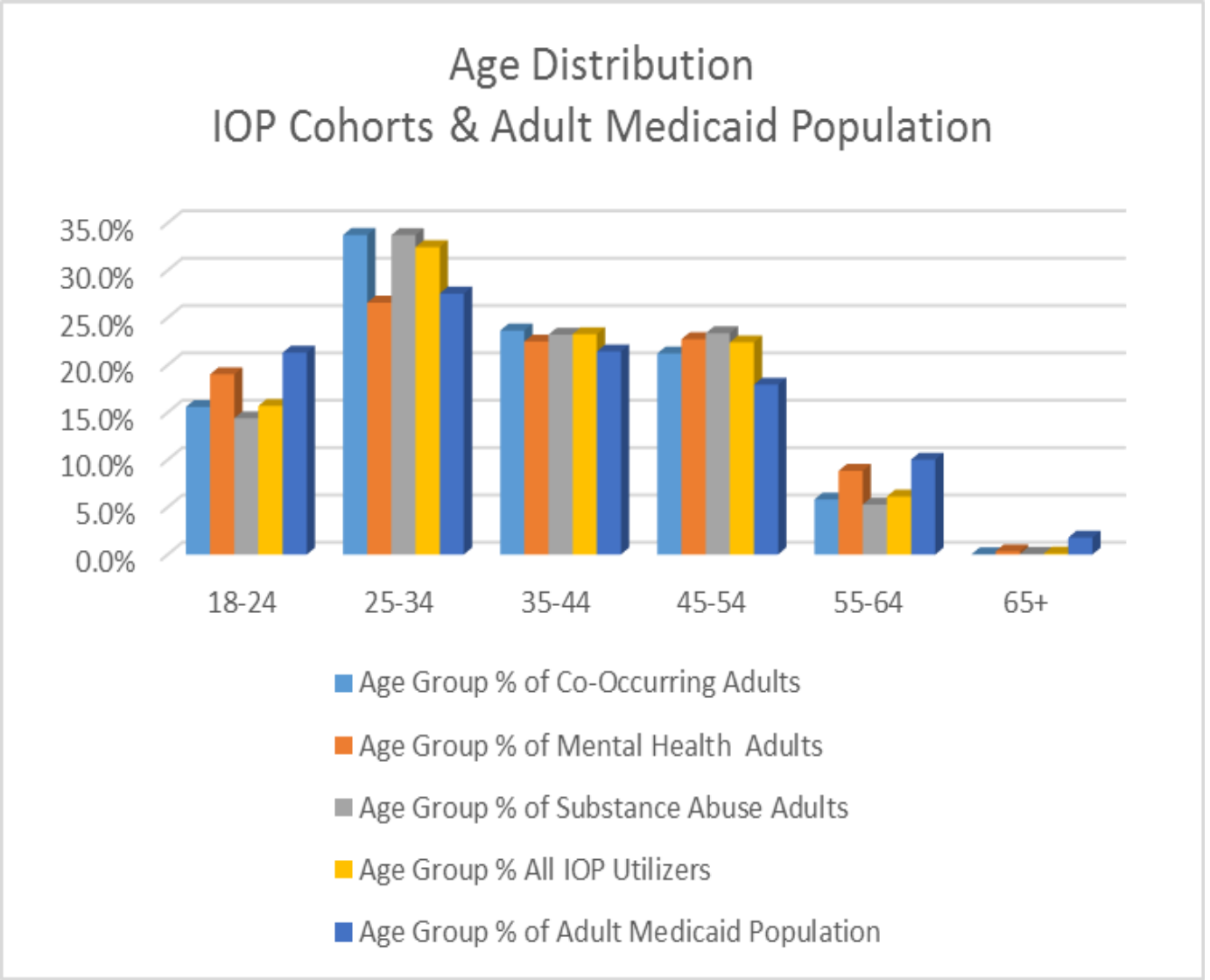
CT DATA HIGHLIGHTS – Gender

- The total sample of CT Adult IOP Utilizers was primarily male (59%), especially true in the Adult Substance Abuse Cohort.
- However, the Mental Health Cohort showed a reversal in the gender distribution with significantly more females (61%) than males (39%).

ADULTS	Co-Occurring IOP Utilizers n=4,598		Mental Health IOP Utilizers n=2,050		Substance Abuse IOP Utilizers n=4,825		All IOP Utilizers n=11,473		Medicaid Members
	#	%	#	%	#	%	#	%	%
Male	2,639	57.4%	795	38.8%	3,337	69.2%	6,771	59.0%	42.00%
Female	1,959	42.6%	1,255	61.2%	1,488	30.8%	4,702	41.0%	58.00%

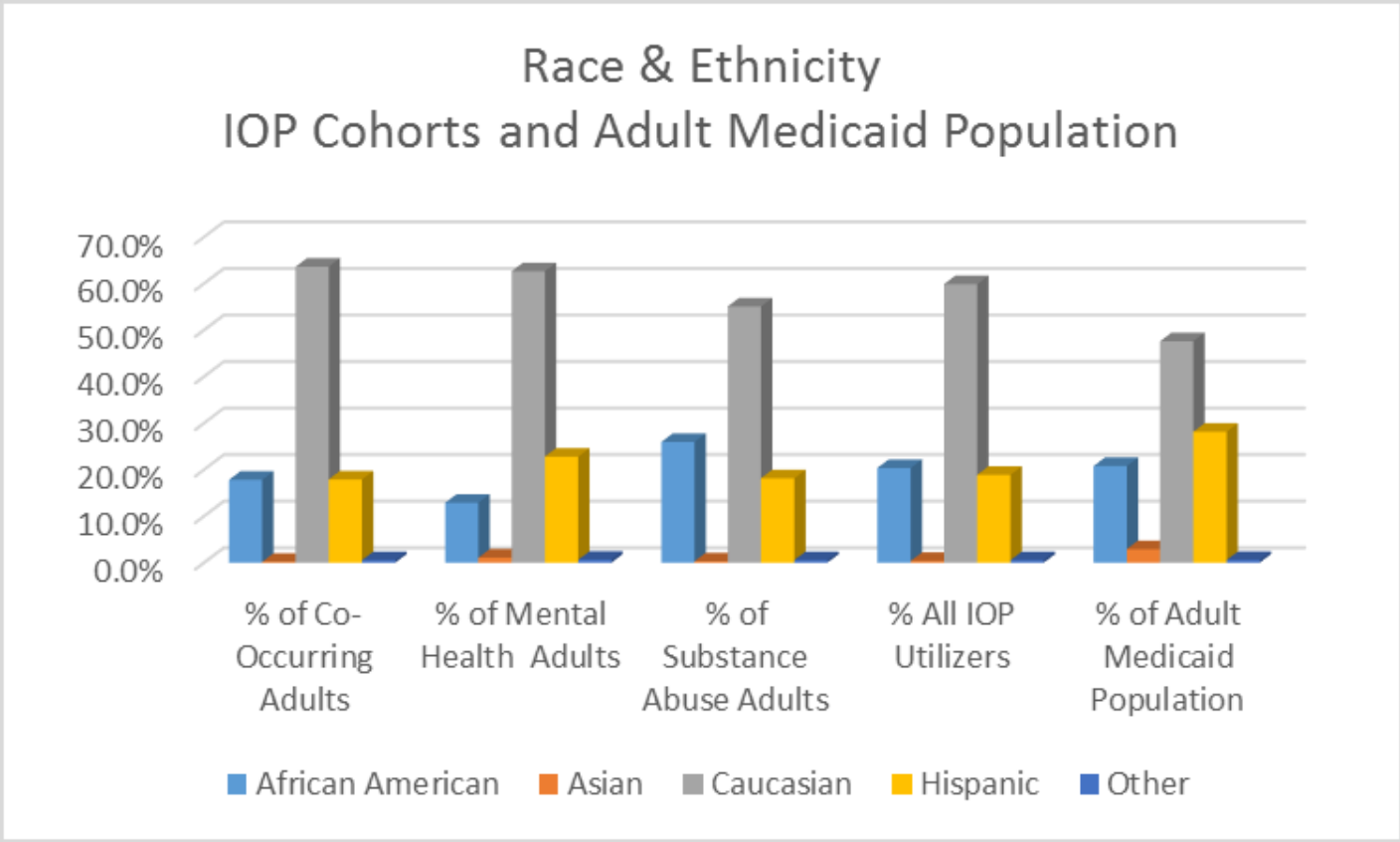
CT DATA HIGHLIGHTS – Age

- The highest represented age group within Adult IOP utilizers are individuals 25 to 34.



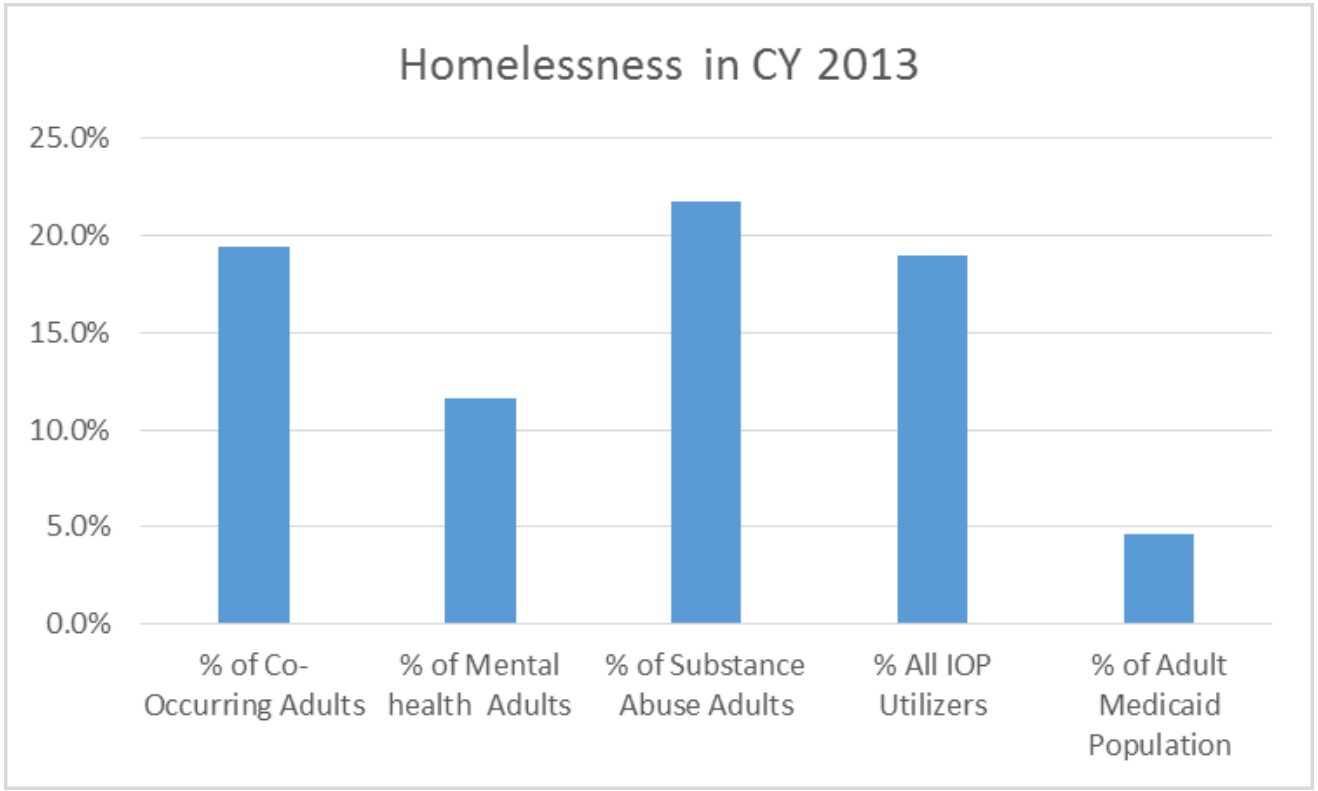
CT DATA HIGHLIGHTS: Ethnicity

- Caucasians were disproportionally over-represented across all Cohorts while African Americans are under-represented in the Mental Health and Co-Occurring Cohorts and over-represented in the Substance Abuse Cohort.
- Hispanics were under-represented in all IOP Cohorts but least so in the Mental Health Cohort. Both Asian and "Other" IOP Cohorts were under-represented.



CT DATA HIGHLIGHTS: Homelessness

- **Homelessness:** Approximately 19% of the total IOP Cohort were homeless at some point during CY 2013, which was much higher than the Total Adult Medicaid population (approx. 5%).
- Rates of Homelessness were highest in the Substance Abuse and Co-Occurring Adult IOP Cohorts and least so in the Adult IOP Mental Health Cohort.



- The majority of the top diagnoses within the IOP population were substance use related.
- Opioid disorders were diagnosed in 44% of the Total Adult IOP Cohort.

TOP DIAGNOSES AMONG ADULT IOP UTILIZERS	
DIAGNOSIS	**IOP UTILIZERS %**
Other Unspecified Drug Disorders	**59.3%**
Alcohol Related Disorders	**49.1%**
Mood Depressive Disorders NOS	**48.9%**
Opioid Related Disorders	**44.3%**
Nicotine Related Disorders	**39.5%**
Anxiety Disorders	**37.2%**
Cocaine Related Disorders	**30.8%**
Cannabis Related Disorders	**30.7%**
Major Depressive Disorder	**28.3%**

CT DATA HIGHLIGHTS – Medical Diagnoses

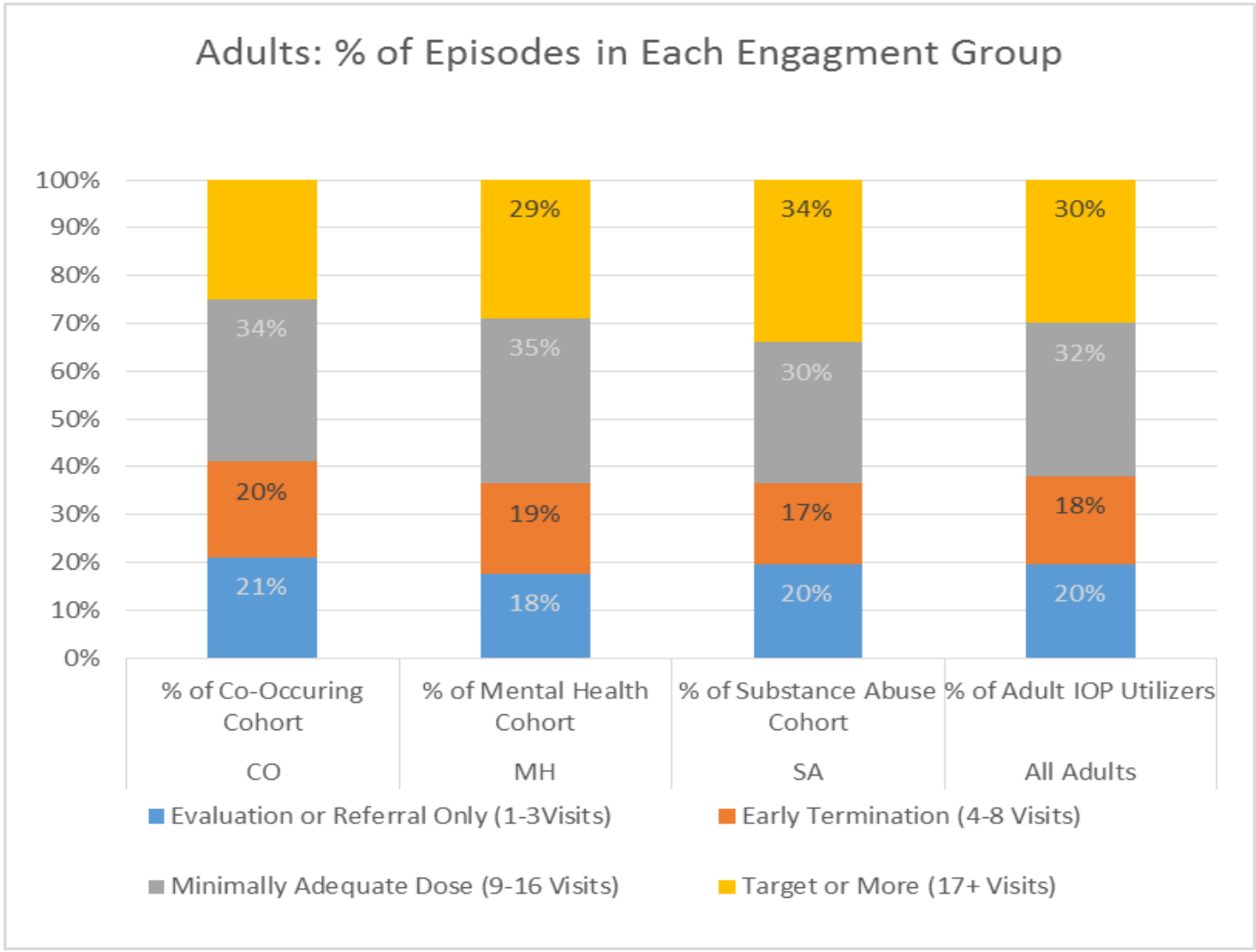
Top Medical Diagnoses

Adult IOP Utilizers carried a heavy burden of medical disease particularly Hypertension and Asthma, with higher rates of the most common medical diagnoses in comparison to the total Medicaid population.

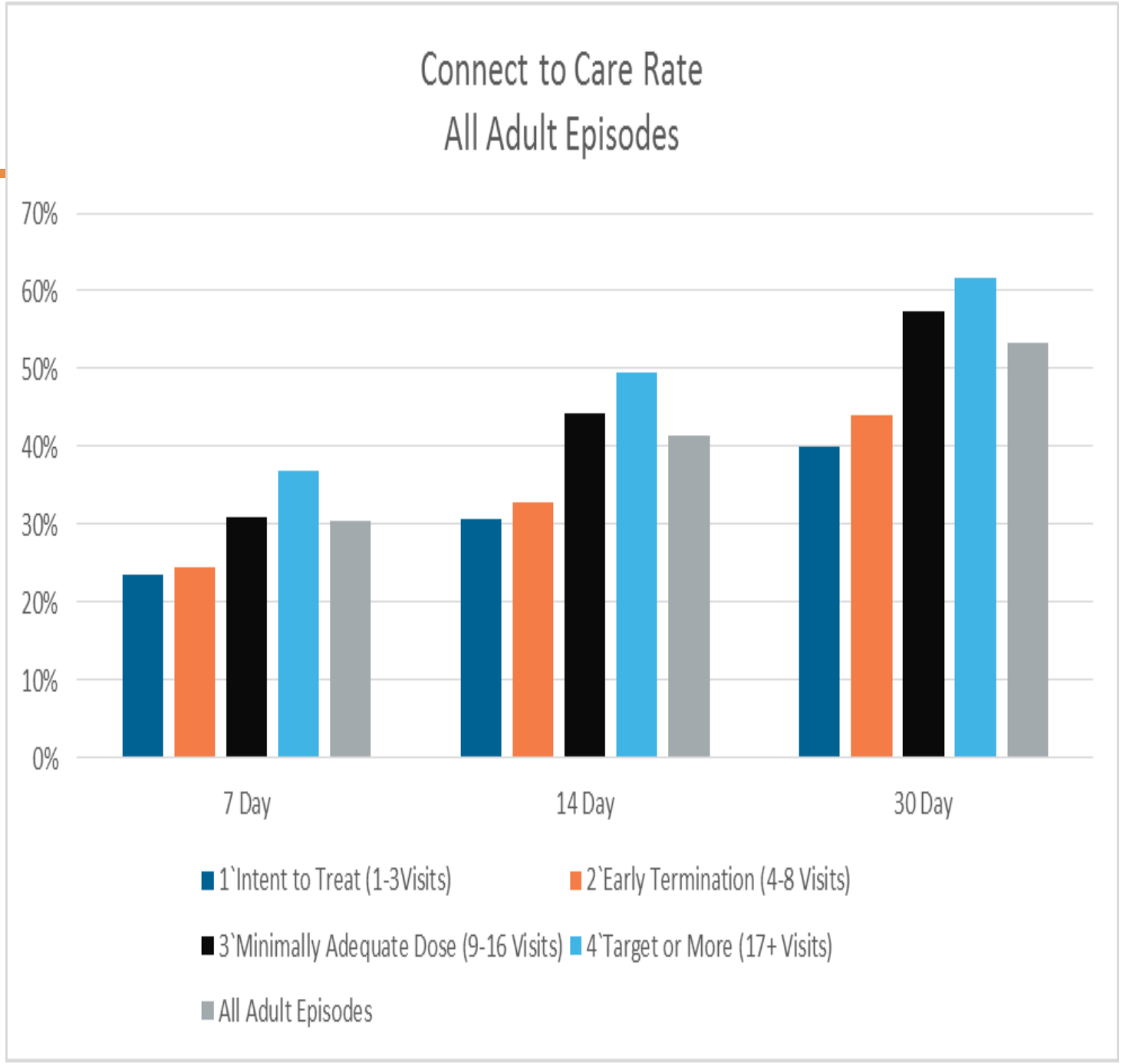
Medical Diagnosis	% of Total IOP Cohort	% of Adult Medicaid Population
Hypertension	21.7%	17.3%
Asthma	15.4%	**9.6%**
Hyperlipidemia	12.7%	13.0%
Diabetes	10.6%	11.0%
COPD	9.0%	4.9%
Liver Disease	8.0%	4.0%
Epilepsy	5.6%	2.0%
Migraine	4.5%	3.3%
CAD	2.7%	2.5%
HIV	2.3%	2.5%

CT DATA HIGHLIGHTS: IOP ALOS & ENGAGEMENT

The ALOS for all IOP Utilizers was 42 days with an average of 2.5 days attended per week and 15 treatment days per episode. Across Adult IOP Cohorts, most episodes provided at least a Minimally Adequate Dosage of Treatment (62%).



Roughly half (53%) of Adult IOP participants connected to care following an IOP episode, with the highest rates within the Mental Health Cohort (58%).



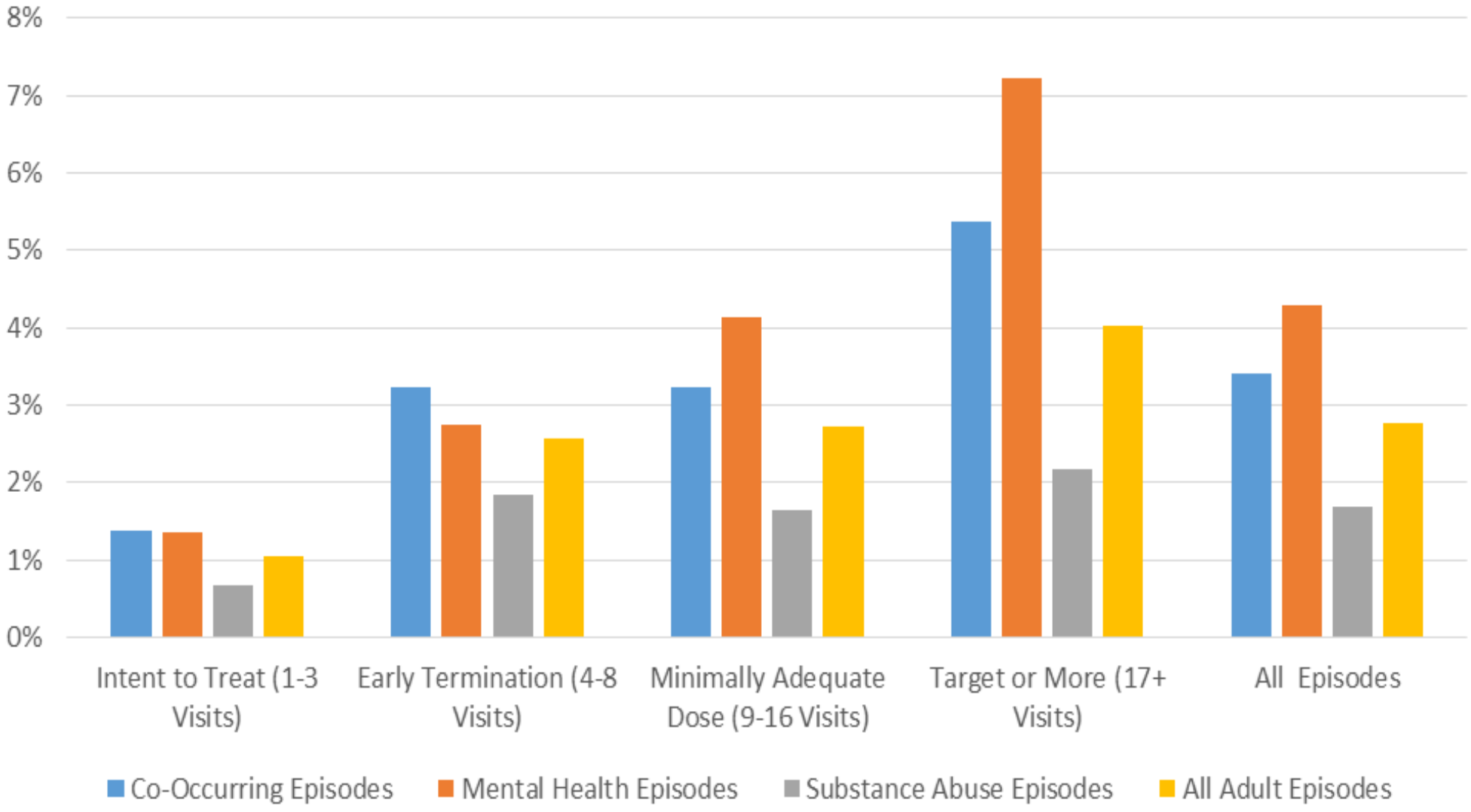
CT DATA HIGHLIGHTS – Utilization

- The service type most often connected to was Outpatient Care (67%).
- Women were generally more likely to connect to care (C2C) than men, particularly in the Substance Abuse Cohort.
- There were racial and ethnic disparities in connecting to care that mirrored the finding regarding initial involvement in Adult IOP; Caucasians had higher rates of C2C than African Americans and Hispanics.
- More engagement in IOP was related to a greater tendency to C2C, perhaps reflecting a general tendency towards service utilization.

CT DATA HIGHLIGHTS – Utilization

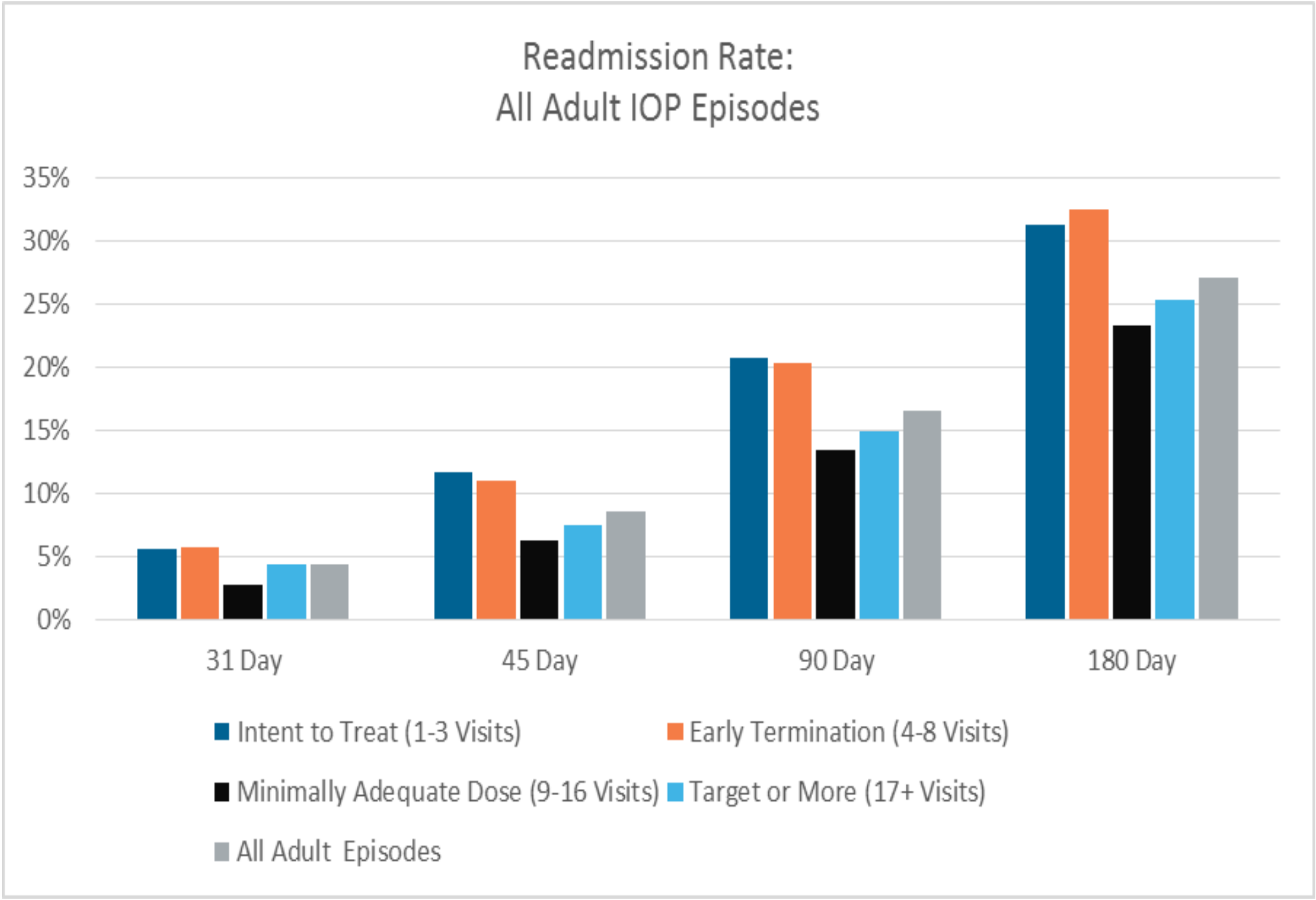
- Individuals that received at least a Minimally Adequate Dosage had a significantly lower risk of readmitting to IOP.
- Importantly, individuals that received more than a Minimally Adequate Dosage did not show any further reduction of risk of either readmission or admission to a HLOC post discharge.
- Gender was generally not a risk factor for readmission, with the exception that females in the Substance Abuse Cohort are at elevated readmission risk.
- There was little evidence of a racial or ethnic disparity in readmission to Adult IOP, although Hispanics have a significantly lower risk for readmission compared to other groups.

Admission to Higher Level of Care During IOP Episode: Adults (18+)



CT DATA HIGHLIGHTS – Utilization

- Across all episodes, only 3% of IOP utilizers were admitted to a HLOC during an IOP Episode.
- Following an IOP Episode, the rate of hospitalization at 180 days was 23% across all Adult IOP Episodes.
- The impact of Engagement Category was similar to the results reported for readmissions. In general, those who completed fewer than 9 days of IOP treatment were significantly more likely (between 60% to 100% more likely) to have an inpatient admission within 180 days of discharge.
- Only the Co-Occurring Cohort demonstrated an increase in protection against hospital admission if more than a Minimally Adequate Dosage of treatment was obtained. Rates of post-discharge hospitalization were lowest among the Mental Health Cohort.


Readmission Rate:
All Adult IOP Episodes
35%
30%
25%
20%
15%
10%
5%
0%
31 Day
45 Day
90 Day
180 Day
Intent to Treat (1-3 Visits)
Early Termination (4-8 Visits)
Minimally Adequate Dose (9-16 Visits)
Target or More (17+ Visits)
All Adult Episodes

CT DATA HIGHLIGHTS – Utilization

- Within the Adult IOP Co-Occurring Cohort, women were 25% less likely to be admitted to a HLOC post discharge but there was no effect for gender within the other Adult IOP Cohorts.
- In general, African American and Hispanic Adult IOP participants were 30% to 50% less likely to admit to a HLOC than Caucasians.
- This may be the result of a general tendency of racial and ethnic minorities to utilize behavioral health services less often or it could be related to a recently noted decline in health behaviors and mortality among middle aged white males.

CT DATA HIGHLIGHTS – Utilization

- **Overall, the likelihood of admission to a HLOC increases as time transpired following discharge.**
- Initially, rates of admission were low (3%) but increased to 23% at 180 days.
- The pattern across engagement category and time periods suggested that as engagement in treatment increases, the likelihood of an admission to a HLOC decreases and that this relationship holds up across time periods (7, 14, 30, & 180 days).
- Those receiving a Minimally Adequate Dosage of IOP care were only slightly more likely to admit to a HLOC than those who receive a Target Dosage or More (1 percentage point at each of the 7, 14, 30, & 180 day time periods).

CT DATA HIGHLIGHTS – Utilization

- **This further supports that there may be a point of diminishing returns with regards to length of stay in IOP.**
- Both the Target Dosage or More, and the Minimally Adequate Dosage groups had a significantly lower rate of admission to a HLOC post discharge than those in the Intent to Treat or the Early Termination Groups.
- The survival analysis regarding engagement categories was conducted for each IOP Cohort (Co-Occurring, Mental Health, and Substance Abuse) and substantially confirmed the analysis reported above with one exception.

CT DATA HIGHLIGHTS – Utilization

- Across all three Adult IOP Cohorts, categorization in the Intent to Treat and the early Termination groups was significantly associated with a higher risk of admission to a HLOC (all P-values < .0001) confirming that **inadequate dosage of treatment results in higher risk of hospitalization.**
- The IOP Co-Occurring Cohort was the only group where there was a significant difference between the Minimally Adequate Dosage Category and the Target or More Category. This indicates that within this cohort, obtaining a target or more dosage was more protective than simply obtaining a minimally adequate dosage.

CT DATA HIGHLIGHTS – Utilization

- There were no significant differences between these two groups within either the Mental Health or the Substance Abuse Cohort. **Obtaining a Target Dose or More may be more protective in the Adult IOP Co-Occurring Cohort than in the other two.**
- However, given the variability in diagnosis across providers, it may not be reasonable to assume that diagnosis is a useful criterion in determining what dosage of care is optimal.

Recommendations

RECOMMENDATIONS

- The following draft recommendations for consideration are provided in order of suggested priority based on those that may have the best benefit-to-cost ratio:

1. Consider modifying Adult IOP authorization parameters to align with the findings regarding a typical treatment episode and optimal dosages of care.

2. Consider supporting fidelity to EBPs in IOP Programs through an IOP learning collaborative focusing on the application of Implementation Science in achieving fidelity to EBPs applied in IOP settings.

3. Consider utilizing the new measures developed under this study (connect-to-care, readmission, and admission to a HLOC) as the basis for a PAR program for IOP.

RECOMMENDATIONS

4. Consider promoting the use of and fidelity to the Matrix Model and/or DBT. Features of the Matrix Model that make it particularly attractive are the focus on family and community supports and inclusion of MAT.
5. Consider focusing on outreach and engagement as preferred strategies for enhancing the cultural and linguistic competence of IOP programs given evidence that racial and ethnic disparities appear to be most present with regards to access to IOP and connecting to care after IOP.
6. Consider developing a set of practice standards for IOP that could be utilized in subsequent reviews of this LOC.

RECOMMENDATIONS

7. Consider re-evaluating the current implementation of Seeking Safety and TREM (or M-TREM) within IOP with the possibility of providing booster sessions or additional supports to re-establish these models where practice may be less rigorous than during initial implementation.

8. Consider embedding health screening and referral for hypertension and asthma given the high prevalence of these medical disorders within IOP. Also consider providing psycho-education regarding the particular health risks associated with asthmatics and drug abuse.

RECOMMENDATIONS

9. Consider applying Measurement Based Care to IOP Programs and potentially including a daily mental status or other frequent risk assessment tool.

10. Work with IOP provider in a practice improvement program to move more clients from the Early Termination to the Minimally Adequate Dosage Category as a means of reducing readmission and post episode admissions to a HLOC.

Thank You

Presented by Laurie Van Der Heide, PhD & Bonni Hopkins, PhD on behalf of Bert Plant, PhD