

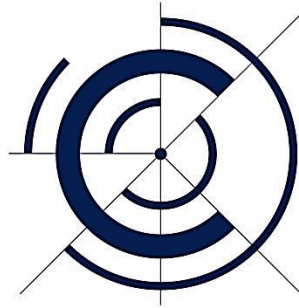


# State of Iowa Outcomes Monitoring System

***THE IOWA CONSORTIUM FOR SUBSTANCE ABUSE RESEARCH AND EVALUATION***

**Year 17  
Annual Outcome Evaluation Trend Report  
November 2015**

**With Funds Provided By:**  
Iowa Department of Public Health,  
Division of Behavioral Health,  
Bureau of Substance Abuse



**THE IOWA  
CONSORTIUM**  
FOR SUBSTANCE ABUSE RESEARCH AND EVALUATION

**State of Iowa  
Outcomes Monitoring System**

**Year 17 Annual Evaluation Trend Report  
November 2015**

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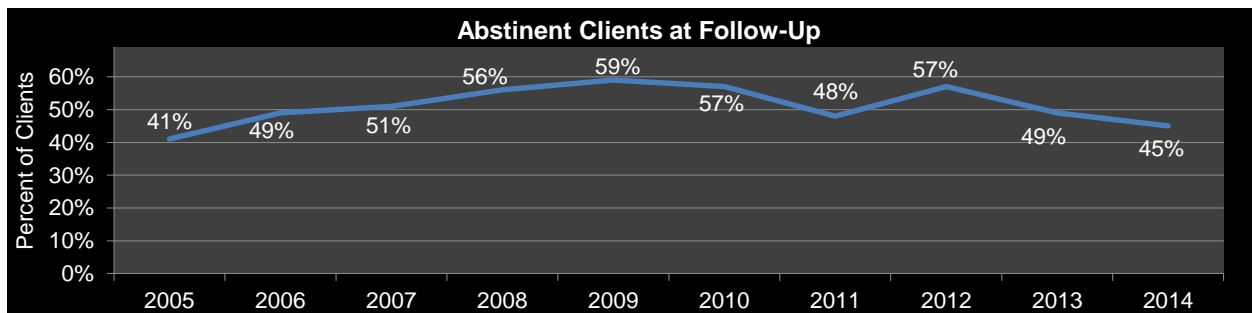
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## EXECUTIVE SUMMARY

The Iowa Consortium for Substance Abuse Research and Evaluation (Consortium) is under contract with the Iowa Department of Public Health (IDPH) for the Outcomes Monitoring System (OMS) project. The OMS project provides an independent evaluation regarding substance use disorder treatment outcomes in Iowa. The Consortium conducts follow-up interviews with randomly selected clients from IDPH-funded treatment agencies. The interviews occur approximately six months after discharge from the treatment program and provide follow-up data to determine outcomes as well as analyze changes between admission and follow-up. The Consortium has provided ongoing client sampling, recruitment, tracking, data collection, data analysis, and reporting since 1999. This Year 17 OMS trend report examines outcomes for clients admitted to substance use disorder treatment over a ten-year period between January 1, 2005 and December 31, 2014. Data for the most recent years, particularly 2014, have the potential to change as more follow-up interviews are completed.

### Abstinence

Abstinence at follow-up has ranged from 41% to 59% over the ten years and significantly increased from 2005 to 2014 (Wald Chi Square,  $p < 0.05$ ). From 2005, abstinence grew to the highest percentage in 2009 (59%). However, from 2009 to 2014 abstinence has significantly decreased (Wald Chi Square,  $p < 0.0001$ ).

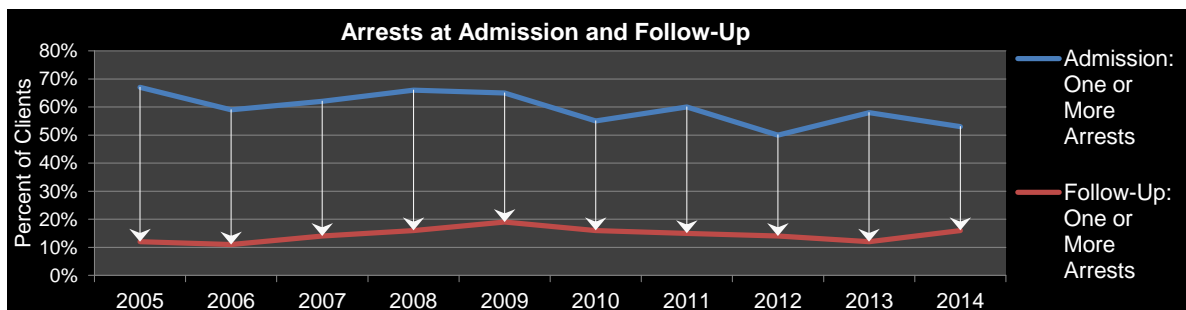


### Primary Substance

The most often reported primary substance at admission and follow-up in all ten years was alcohol. Marijuana is the second most common primary substance reported at follow-up through the years, except in 2012 and 2013 when a higher percentage of clients reported methamphetamine as the primary substance compared to marijuana.

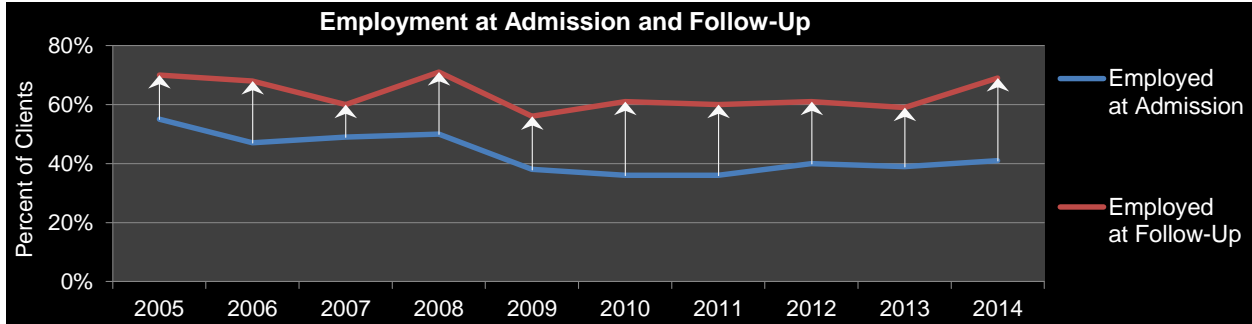
### Arrests

The majority of clients reported arrests at admission each year, ranging from 50% in 2012 to 67% in 2005. Over the ten-year period, fewer than 20% of clients reported arrests six months following treatment discharge.



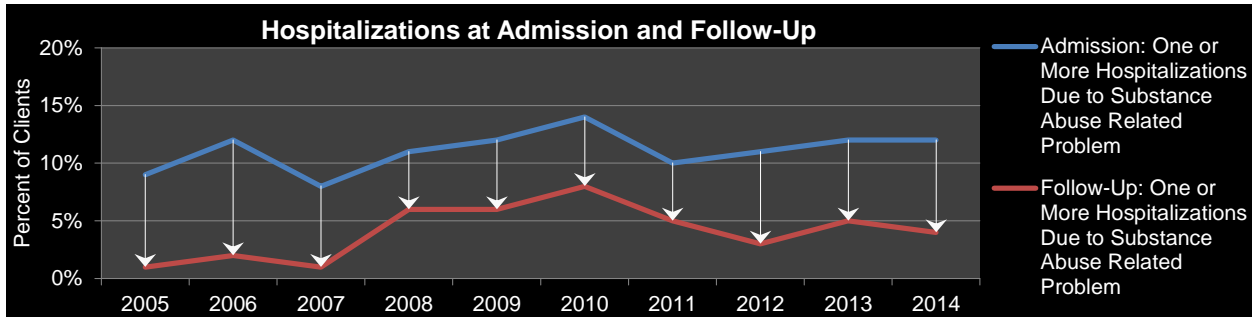
### Employment

Compared to admission, more clients were employed (full or part-time) six months following discharge from treatment. Over the ten years, an average of 64% of clients reported employment at follow-up compared to an average of 43% indicating employment at admission.



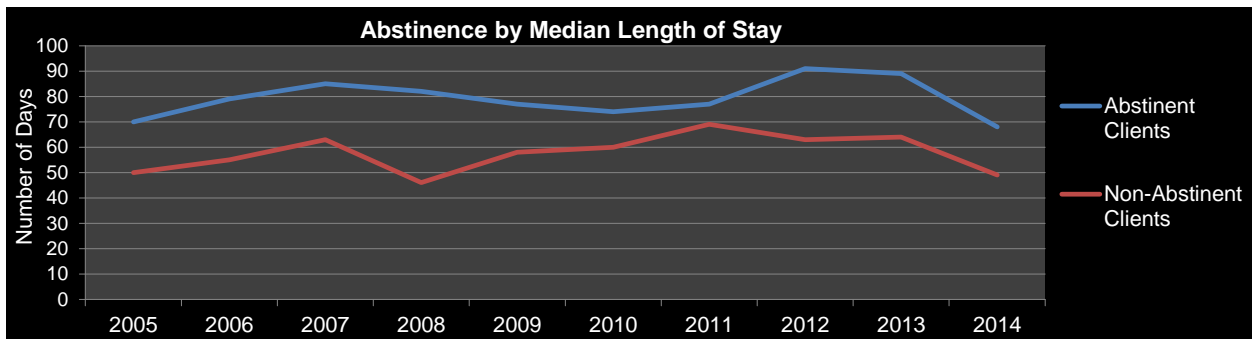
### Hospitalizations Due to Substance Use Related Problems

Hospitalizations after treatment due to substance use related problems were reduced to nearly one-third (4%) of the pre-treatment hospitalization rate (11%). However, the percentage of clients who reported hospitalizations at follow-up due to substance use related problems has increased significantly over the ten year period (Wald Chi Square,  $p < 0.01$ ).



### Length of Stay

In all years except 2010 and 2011, there were significant differences between length of stay and abstinence at follow-up (Jonckheere-Terpstra Tests,  $p < 0.05$ ).



### Discharge Status

Clients who were successfully discharged from treatment were more likely to be abstinent at follow-up (Wald Chi Square,  $p < 0.01$ ) and employed at follow-up (Wald Chi Square,  $p < 0.01$ ).



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## BACKGROUND

The Iowa Consortium for Substance Abuse Research and Evaluation (Consortium) is under contract with the Iowa Department of Public Health (IDPH) for the Outcomes Monitoring System (OMS) project. The OMS project provides an independent evaluation regarding substance use disorder treatment outcomes in Iowa. The Consortium conducts follow-up interviews with randomly selected clients from IDPH-funded treatment agencies. The interviews occur approximately six months after discharge from the treatment program and provide follow-up data to determine outcomes as well as analyze changes between admission and follow-up. The Consortium has provided ongoing client sampling, recruitment, tracking, data collection, data analysis, and reporting since January 1999.

OMS samples are drawn from the population of publicly funded clients admitted to substance use disorder treatment. When comparing changes between project years, it is important to note that in 2005, the sample size was approximately 8% of the population of clients who receive IDPH-funded drug or alcohol treatment in one of the following environments: medically monitored residential, clinically managed residential, intensive outpatient, or outpatient. In January 2013, the sample size was increased from approximately 8% to 10% of the available admission records for the adult and adolescent client population admitted to treatment in a month. Data collected prior to September 2013 were obtained through stratified random sampling procedures and are weighted to adjust for this process. In September 2013, the sample size was increased from 10% to 15% and the sampling process changed to a completely random sample (not stratified). Records that are pulled through a completely random sampling scheme are not weighted. Additionally, when comparing changes between project years, conservative analyses were performed and it was determined a change of 8 percentage points or greater for the weighted OMS data should be considered a significant change. Due to rounding, percentages may not add up to exactly 100%.

This trend report examines outcomes for clients admitted to substance use disorder treatment during a ten-year period between January 1, 2005 and December 31, 2014. Data are reported by year of treatment admission, rather than year sampled or date the follow-up interview was completed. Data in trend reports are updated yearly and may differ from previous annual and trend reports. Factors contributing to differences include the collection of additional follow-up data (particularly for recent years), weighting adjustments, and changes and updates to IDPH data collection systems. Additional information about the OMS project including an overview of sampling procedures, client participation data, recruitment, tracking, and follow-up information can be found in annual reports for each respective year.

## DESCRIPTION OF CLIENTS

Tables 1 through 4 on the following pages present demographic information for clients in the OMS sample by year of admission. Data represent clients who provided answers to the questions. The actual number of clients may vary from question to question because some clients may not have responded to the question, data are missing, or data are coded as not collected or unknown.



**Table 1. Age at Admission**

Over the past ten years, the median age of clients in the OMS sample has ranged from 27 to 33 years of age. Analyses suggest the median age of clients in the OMS sample is increasing (Spearman’s Correlation,  $p < 0.005$ ). The percent of adolescent clients in the OMS sample has ranged from 1% in 2013 and 2014 to 7% in 2005.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Median Age (years)	27	30	29	28	29	30	32	32	33	31
Adult	93%	94%	94%	94%	94%	97%	97%	98%	99%	99%
Adolescent	7%	6%	6%	6%	6%	3%	3%	2%	1%	1%

**Table 2. Sex**

Over the ten-year period, an average of 71% of clients in the OMS sample were male and 29% were female.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Male	69%	68%	70%	75%	73%	71%	73%	70%	70%	75%
Female	31%	32%	30%	25%	27%	29%	27%	30%	30%	25%

**Table 3. Race**

Table 3 presents race reported at admission for clients in the OMS sample. The “other race” category includes clients who report Alaskan Native, Asian, Hawaiian or Pacific Islander, or anyone who indicates they are multi-racial.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Caucasian/White	91%	91%	85%	89%	87%	88%	87%	88%	89%	85%
African American/Black	5%	6%	11%	9%	10%	8%	8%	9%	8%	9%
American Indian	2%	1%	1%	0%	1%	1%	2%	2%	1%	2%
Other Race	1%	2%	1%	1%	1%	0%	1%	1%	1%	1%

Note: Due to rounding and coding variations, percentages may not add up to exactly 100%.



**Table 4. Ethnicity**

Table 4 presents ethnicity reported at admission for clients in the OMS sample.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Not Hispanic or Latino	96%	94%	95%	96%	96%	95%	95%	96%	94%	93%
Puerto Rican	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mexican	3%	4%	3%	3%	3%	3%	4%	1%	4%	4%
Cuban	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other Hispanic or Latino	1%	2%	1%	1%	2%	2%	1%	3%	2%	3%

Note: Due to rounding and coding variations, percentages may not add up to exactly 100%.

## RECRUITMENT AND FOLLOW-UP

**Table 5. Recruitment**

The recruitment rate is calculated using a denominator consisting of those individuals who were recruited, those who declined, and non-recruited clients whom staff were unable to locate. Over the ten years, recruitment averages 69%. Clients declining participation in the OMS project averages 11% over the ten years.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Recruited Clients	76%	71%	75%	76%	77%	70%	74%	67%	57%	51%

**Table 6. Follow-Up**

The number of follow-up interviews completed with clients ranges from 286 to 645 during the ten-year period. The follow-up rate is based on recruited clients and consists of all clients who completed the follow-up interview, recruited clients who could not be located when their interview was due, and those who decided not to take part in the interview after initially agreeing to do so. The follow-up rate averages 79% over the ten years.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Follow-Up Interviews Completed	645	452	466	500	441	429	458	379	394	286
Follow-Up Rate	82%	82%	83%	87%	84%	84%	78%	76%	68%	68%

**Table 7. Incarceration**

The percentage of clients who are incarcerated at the time their follow-up interviews are due averages 7% over the ten years. Consortium staff do not interview incarcerated clients.

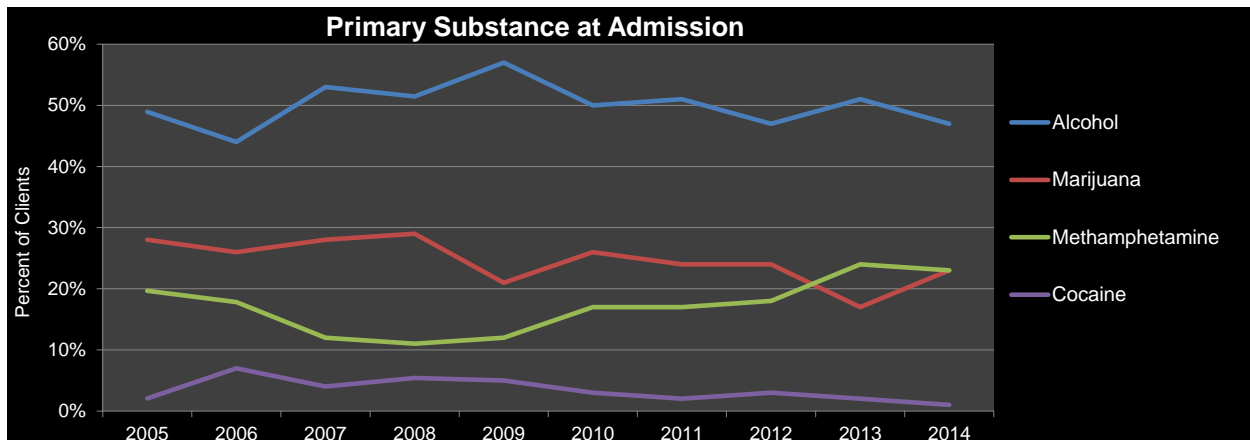
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Incarcerated Clients	6%	8%	8%	8%	6%	8%	6%	8%	6%	8%

## CHANGES FROM ADMISSION TO FOLLOW-UP

The figures in this section present admission and follow-up responses from clients who completed the follow-up interview. Admission and follow-up data are client self-reported. Variables at admission and follow-up are compared only for those clients who had a response at both admission and follow-up. The actual number of clients may vary from question to question because some clients may not have responded to the question or the question may not have been applicable to their situation.

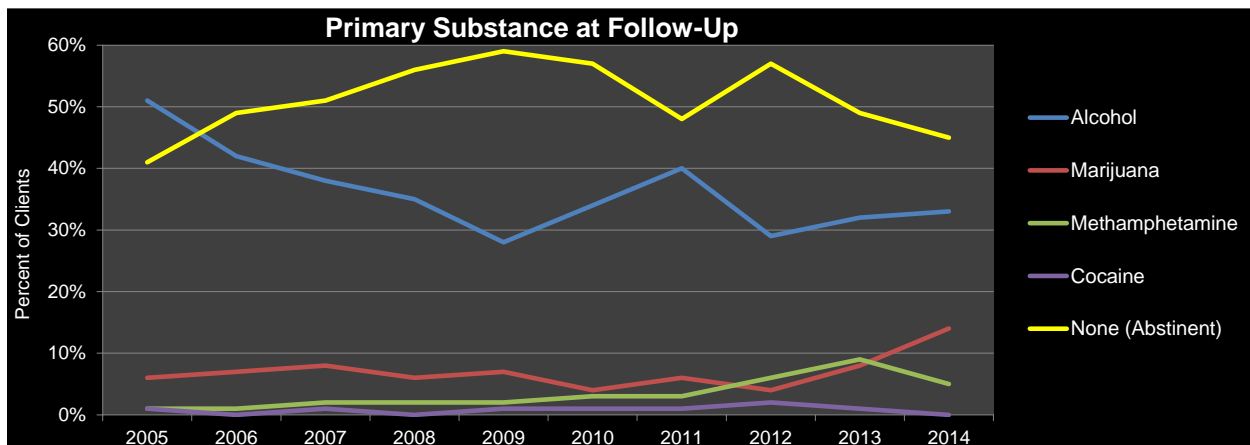
### Figure 1. Primary Substance at Admission

During the past ten years, alcohol has been the most commonly used primary substance at admission. Marijuana is the second most commonly reported primary substance at admission in all years except 2013, when a higher percentage of clients (24%) reported methamphetamine compared to marijuana (17%). The percentage of clients reporting alcohol as the primary substance at admission ranges from 44% in 2006 to 57% in 2009. The percentage of clients reporting marijuana as the primary substance ranges from a high of 29% in 2008 to a low of 17% in 2013. The percentage of clients reporting methamphetamine as the primary substance at admission has increased since 2008, ranging from a low of 11% in 2008 to highs of 23% and 24% of 2014 and 2013 respectively. Cocaine as the primary substance at admission ranges from a low of 1% recently in 2014 to 7% in 2006.



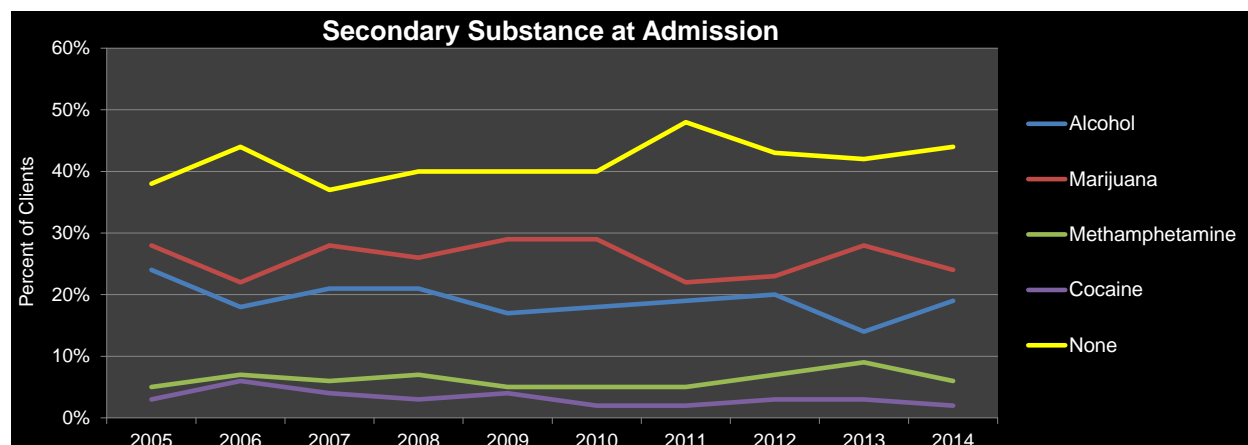
## Figure 2. Primary Substance at Follow-Up

Of clients reporting substance use at follow-up, alcohol is the most common primary substance reported in all years. In one of the ten years (2005), the percentage of clients reporting alcohol as the primary substance at follow-up (51%) was higher than the percentage of clients reporting abstinence (41%). In all of the remaining nine years, clients most often reported abstinence at follow-up. Marijuana is the second most common primary substance reported at follow-up in all years except 2012 and 2013, when a slightly higher percentage of clients reported methamphetamine as the primary substance compared to marijuana. From 2012 to 2014, there was a ten percentage point increase in clients reporting marijuana as their primary substance at follow-up (from 4% to 14%). From 2011 to 2013, there was a six percentage point increase in clients reporting methamphetamine as their primary substance at follow-up. In all years, fewer than 3% of clients reported cocaine. Over the ten-year period, the likelihood of marijuana and methamphetamine as the primary substance of use at follow-up significantly increased (Wald Chi Square,  $p < 0.05$  and  $p < 0.001$  respectively), while the likelihood of alcohol as the primary substance of use at follow-up significantly decreased (Wald Chi Square,  $p < 0.001$ ). Additionally, the likelihood that clients reported abstinence at follow-up significantly increased over the ten years (Wald Chi Square,  $p < 0.05$ ). However, in recent years (from 2009 to 2014) abstinence has significantly decreased (Wald Chi Square,  $p < 0.0001$ ).



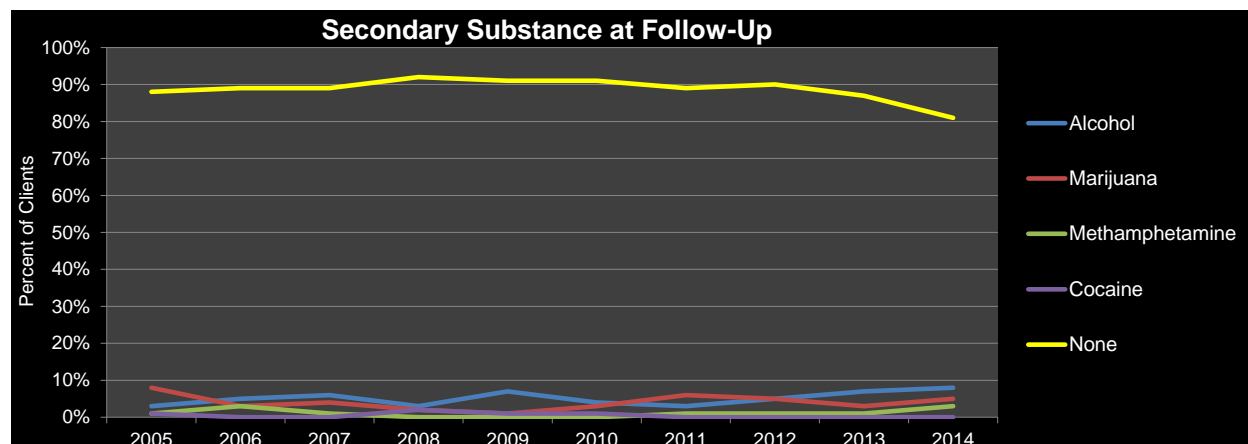
**Figure 3. Secondary Substance at Admission**

During the ten-year period, a secondary substance was reported at admission by more than half of clients (ranging from 52% in 2011 to 63% in 2007). Marijuana was the most commonly used secondary substance, with use at admission ranging between a low of 22% in 2006 and 2011 to a high of 29% in 2009 and 2010. This was closely followed by alcohol, which fluctuated between 14% in 2013 to 24% in 2005. The percentage of clients reporting methamphetamine and cocaine as secondary substances at admission remained under 10% each year.



**Figure 4. Secondary Substance at Follow-Up**

Clients reporting use of a secondary substance at follow-up ranged from a high of 19% recently in 2014 to a low of 8% in 2008. Of clients who indicated use of a secondary substance at follow-up, alcohol was most commonly reported in 2006, 2007, 2008, 2009, 2010, 2013 and 2014. However in 2005 and 2011, marijuana was the secondary substance most often indicated by clients. In 2012, the same percentage of clients reported alcohol and marijuana as their secondary substance at follow-up. The percentage of clients reporting methamphetamine and cocaine as a secondary substance at follow-up remained under 4% each year. Over the ten-year period, the likelihood of clients reporting alcohol as the secondary substance at follow-up significantly increased (Wald Chi Square,  $p < 0.01$ ), while the likelihood of cocaine reported as the secondary substance at follow-up significantly decreased (Wald Chi Square,  $p < 0.05$ ). There was no evidence that the use of marijuana and methamphetamine as the secondary substance at follow-up showed an increase or decrease over the ten-year period (Wald Chi Square,  $p > 0.05$ ).

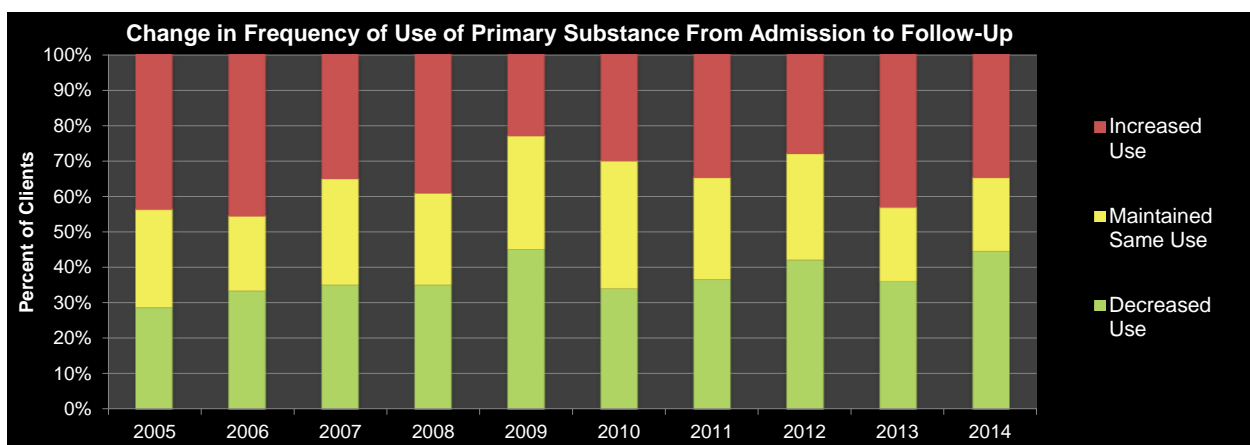


Changes in frequency of use provide additional information regarding client outcomes following treatment. Since a client's primary substance may change from admission to follow-up, a simple comparison of frequency may not be a good representation (e.g. having one drink three to six times per week versus smoking methamphetamine three to six times per week).

Therefore, Figure 5 presents data for a subset of the total group of clients who completed the follow-up interview who report using the same primary substance at both admission and follow-up. For example, a client may report using alcohol daily at admission and at follow-up report that they have used alcohol one to three times in the past month, representing a decrease in their frequency of use. The "Increased Use" category presents the percentage of clients who indicated using their primary substance with more frequency at follow-up than reported at admission. For example, a client may report using alcohol one to three times in the past month at admission and at follow-up report daily use, representing an increase in their frequency of use. "Maintained Same Use" represents clients reporting the same frequency of use of their primary substance at admission and follow-up. "Decreased Use" presents the percentage of clients who reported using their primary substance with less frequency at follow-up than indicated at admission.

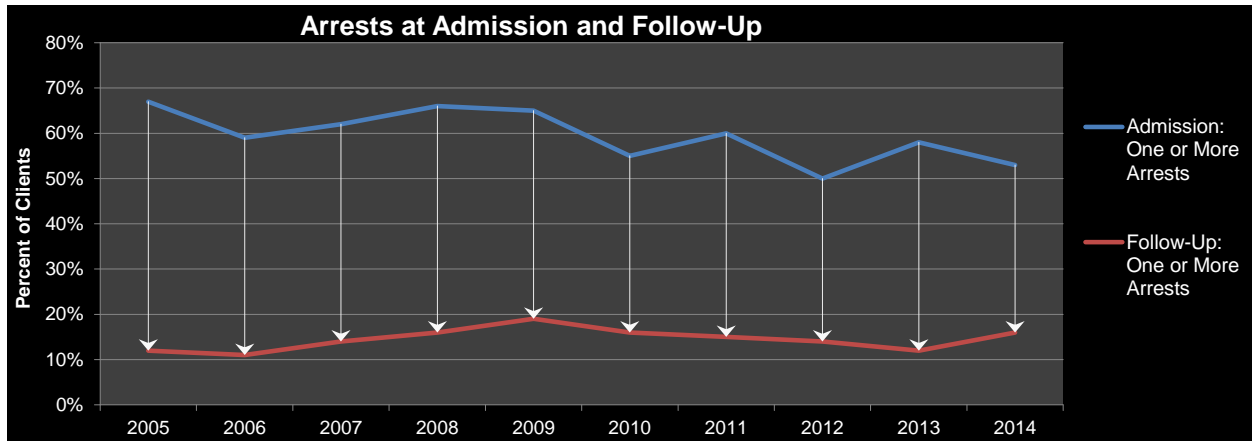
**Figure 5. Change in Frequency of Use of Primary Substance: Clients Indicating Use of Same Primary Substance at Both Admission and Follow-Up**

In 2005, 2006, 2008, and 2013, clients who reported use of the same primary substance at admission and follow-up most commonly indicated an increase in use of their primary substance at follow-up compared to admission. In 2009, 2011, 2012, and 2014 clients reported using their primary substance less frequently at follow-up compared to admission. In 2010, clients most commonly reported the same frequency of use of their primary substance at both admission and follow-up. In 2007, the percentage of clients reporting an increase in use of their primary substance was the same as the percentage of clients reporting decreased use. Over the ten-year period, there was a statistically significant increase in the percentage of clients who decreased the frequency of use of their primary substance from admission to follow-up compared to those who maintained the same use or increased their frequency of use (Wald Chi Square,  $p < 0.01$ ).



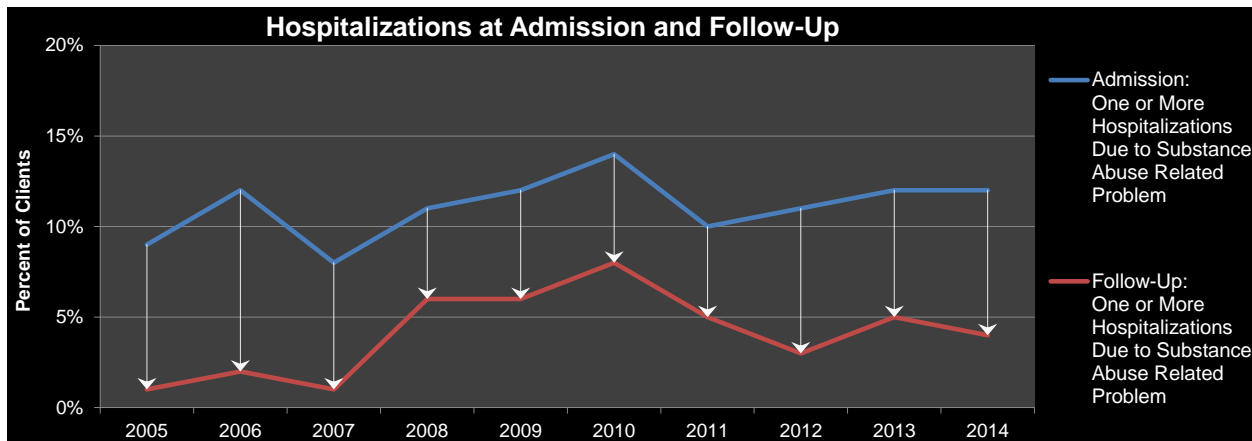
### Figure 6. Arrests at Admission and Follow-Up

For the question regarding arrests, the admission response refers to the 12 months prior to admission and the follow-up response refers to the six months following discharge. Each year, the majority of clients reported arrests at admission, ranging from 50% of clients in 2012 to 67% in 2005. Fewer than 20% of clients reported arrests at follow-up each year. There was no evidence that arrests at follow-up showed an increase or decrease over the ten-year period (Wald Chi Square,  $p > 0.05$ ).



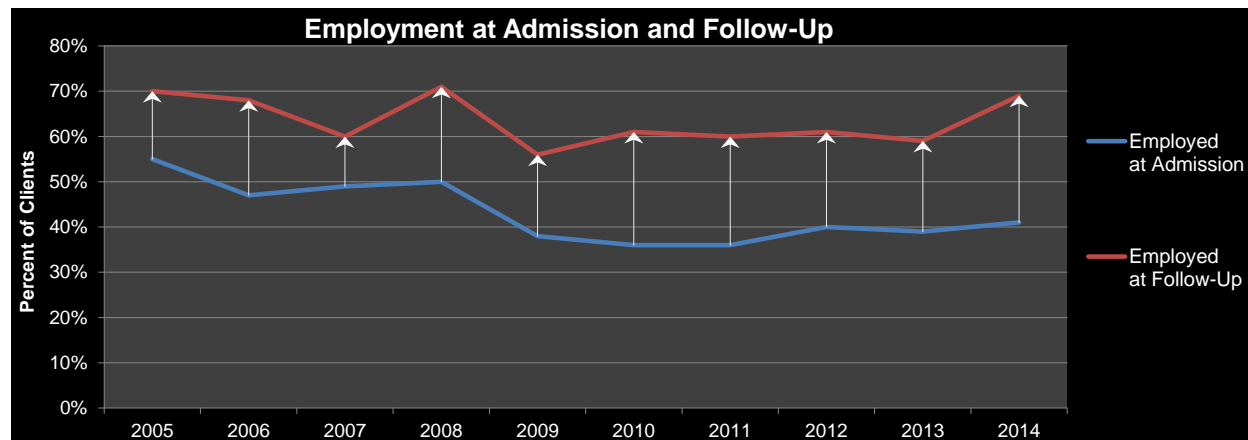
### Figure 7. Hospitalizations Due to a Substance Use Related Problem at Admission and Follow-Up

Approximately one-third fewer clients reported substance use related hospitalizations at follow-up compared to admission. The percentage of clients reporting substance use related hospitalizations at admission ranged from 8% in 2007 to 14% in 2010. The percentage of clients who indicated in follow-up interviews that they had been hospitalized for a substance use related problem during the six month period from discharge to follow-up ranged from 1% in 2005 and 2007 to 8% in 2010. From 2005 to 2014, the percentage of clients who reported hospitalizations at follow-up due to substance use related problems has increased significantly (Wald Chi Square,  $p < 0.01$ ).



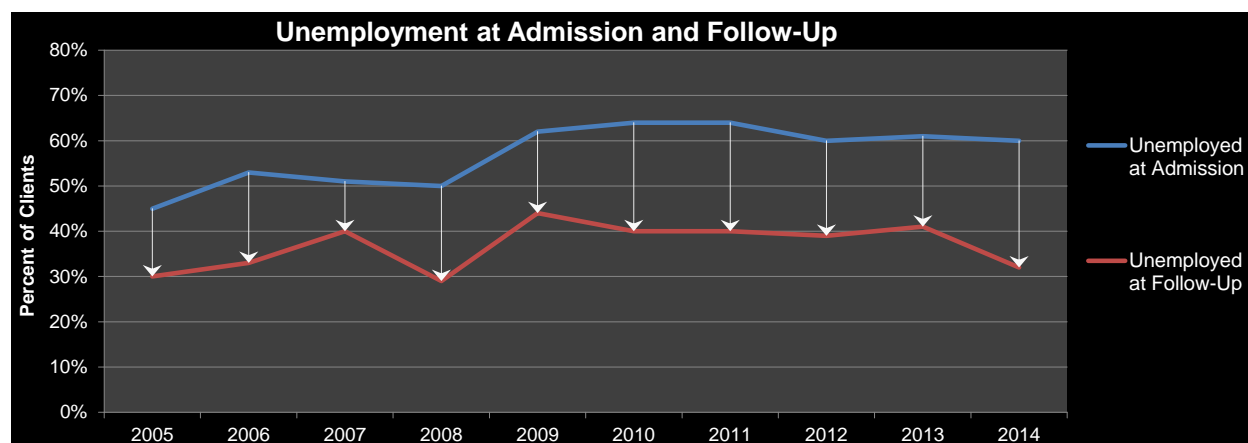
### Figure 8. Employment (Full or Part-Time) at Admission and Follow-Up

In all ten years, compared to admission, more clients were employed full or part-time six months following discharge from treatment. Fewer than 56% of clients reported employment at admission, ranging from 36% in 2010 and 2011 to 55% in 2005. Over all years, an average of 64% of clients indicated employment at follow-up compared to an average of 43% of clients reporting employment at admission. Although there was a statistically significant decrease in the percentage of clients employed at follow-up over the ten-year period (Wald Chi Square,  $p < 0.01$ ), most of this decline appears from 2008 to 2009 after which employment remained relatively stable until recently in 2014 when there was a ten percentage point increase in employment from 2013 (from 59% to 69%).



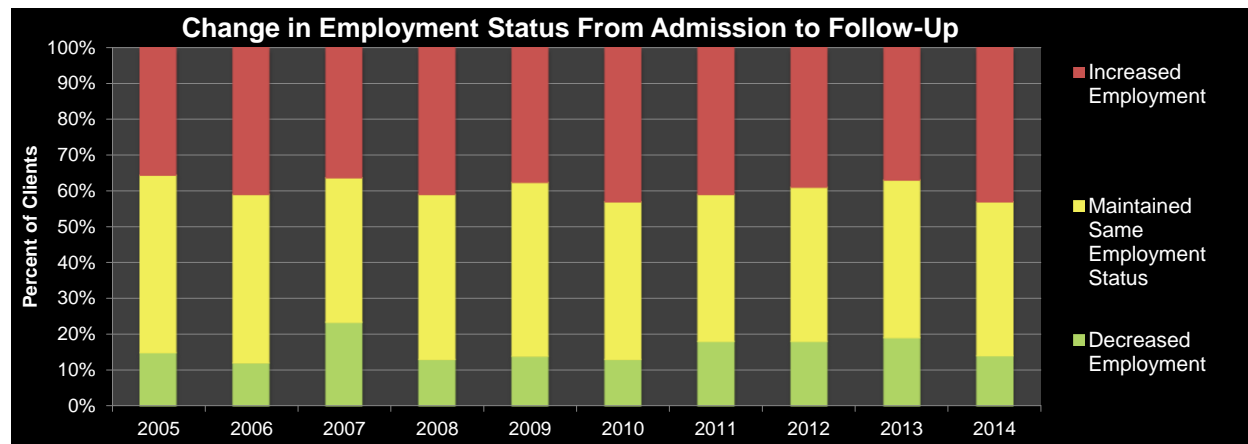
### Figure 9. Unemployment at Admission and Follow-Up

Figure 9 includes clients who report they were unemployed and looking for work, as well as clients reporting they were not in the labor force (which could include students, homemakers, disabled, or retired clients). The percentage of clients reporting they were unemployed at follow-up is lower compared to those who indicated they were unemployed at admission. The percentage of clients who indicated they were unemployed at follow-up remained steady from 2009 to 2013 (approximately 41%); however in 2014 clients reporting they were not employed at follow-up decreased to 32%.



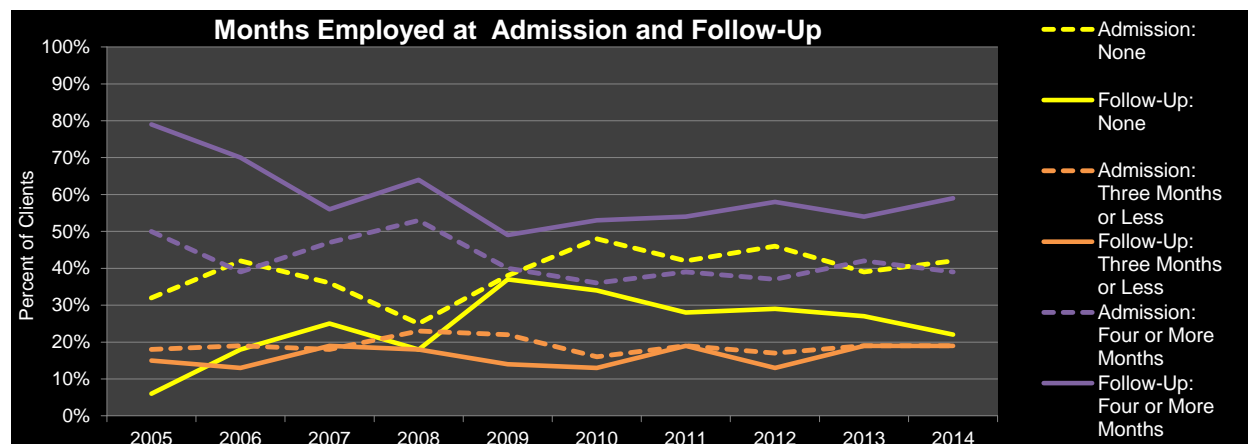
**Figure 10. Change in Employment Status from Admission to Follow-Up**

Figure 10 presents the change in employment status from admission to follow-up. Increased employment includes clients who changed from not being in the labor force or were unemployed at admission to having any employment at follow-up, or those who changed from being employed part-time at admission to full-time at follow-up. Decreased employment includes clients who changed from having any employment at admission to being unemployed or not in the labor force at follow-up, or those who changed from being employed full-time at admission to part-time at follow-up. Over the ten years, an average of 45% maintained the same employment status, an average of 16% decreased their employment status, and an average of 40% increased their employment status.



**Figure 11. Months Employed at Admission and Follow-Up**

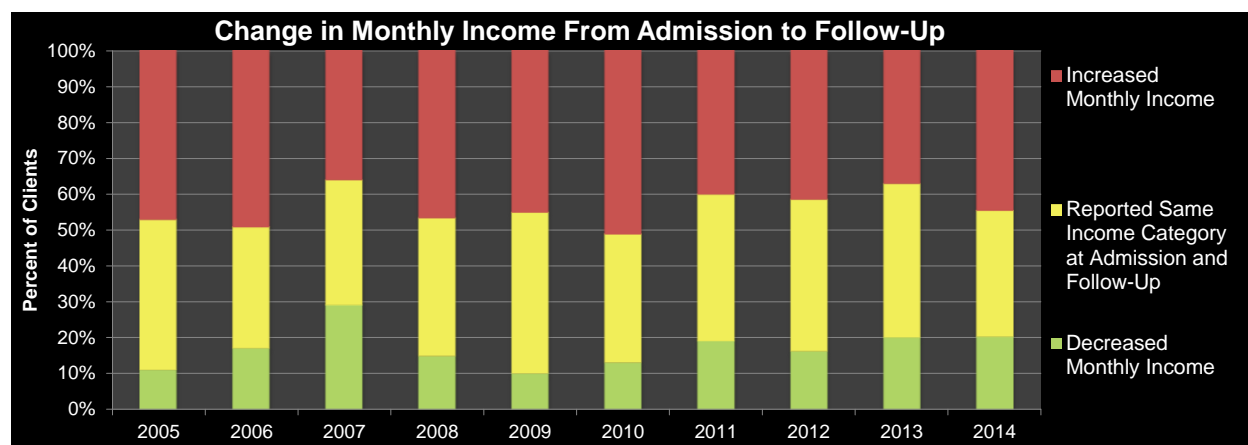
During the ten years, more clients indicated they were employed four months or more at follow-up compared to admission. From 2005 to 2014, an average of 60% of clients reported employment of four or more months at follow-up. An average of 39% of clients indicated they had not been employed in the six months prior to treatment admission over the ten years, with a high of 48% in 2010. At follow-up, approximately one-quarter of clients (24%) reported not being employed since treatment discharge over all ten years, with a high of 37% in 2009.





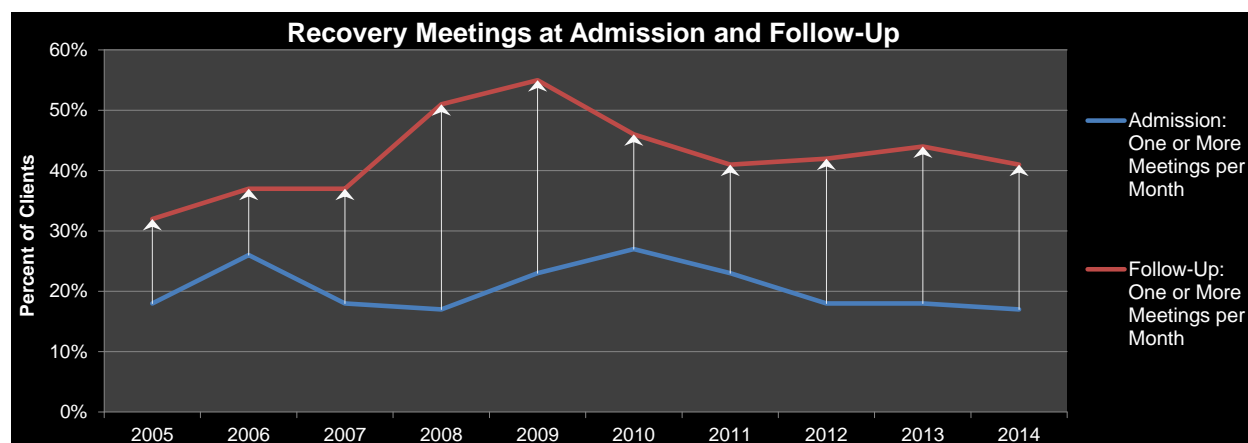
**Figure 12. Change in Income from Admission to Follow-Up**

Figure 12 presents the change in income from admission to follow-up. “Increased Monthly Income” indicates clients moved from a smaller income category at admission to a larger income category at follow-up. “Decreased Monthly Income” represents clients who moved from a larger income category at admission to a smaller income category at follow-up. In most years, nearly half of the clients (an average of 44%) who completed follow-up interviews increased their income from admission to six months post-treatment discharge, while an average of 17% decreased their monthly income.



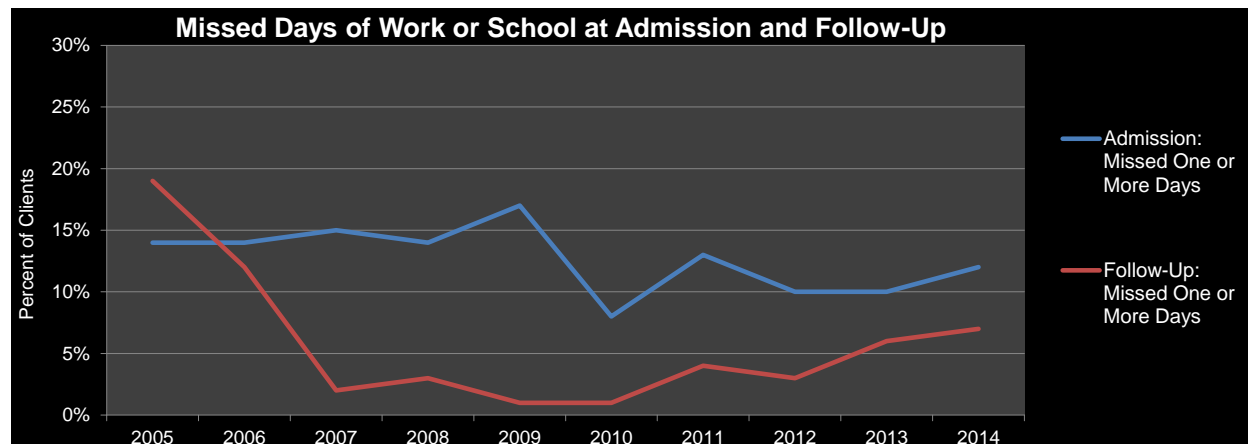
**Figure 13. Attendance at Voluntary Recovery Support Meetings at Admission and Follow-Up**

During the ten years, more clients reported attending voluntary recovery support meetings in the six months following treatment discharge compared to the six months prior to treatment admission. An average of 21% of clients over the ten-year period indicated they had attended at least one Alcoholics Anonymous (AA), Narcotics Anonymous (NA), or similar voluntary meeting per month in the six months prior to admission. At follow-up over all years, an average of 43% of clients reported attending meetings during the six months following discharge from treatment. Over the ten-year period, there was a statistically significant increase in the percentage of clients reporting attendance at voluntary recovery support meetings at follow-up (Wald Chi Square,  $p < 0.01$ ).



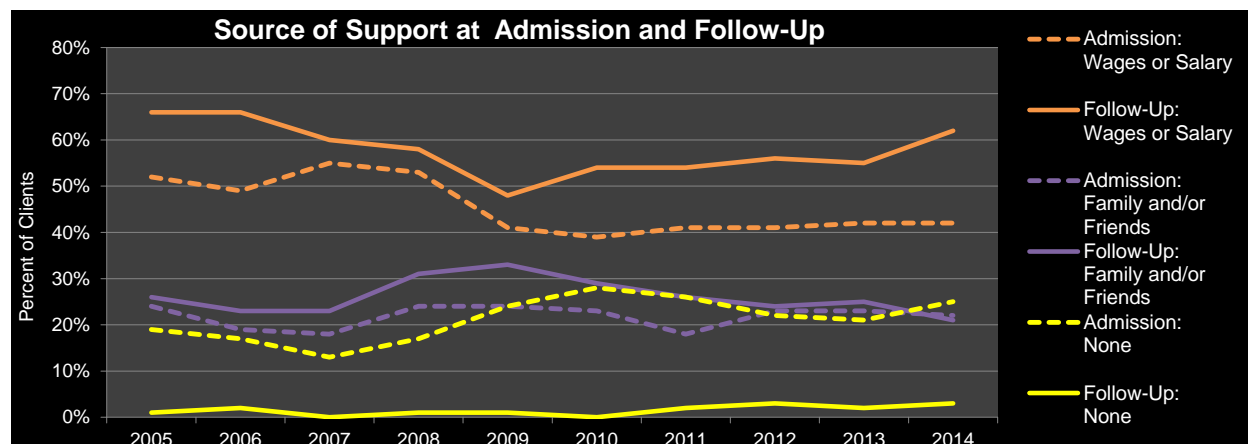
**Figure 14. Days of Work or School Missed Due to a Substance Use Problem at Admission and Follow-up**

Fewer clients reported missing days of work or school due to substance use issues at follow-up compared to admission in all years except 2005. The percentage of clients reporting they missed days of work or school for substance use related problems at admission ranged from 8% in 2010 to 17% in 2009; the range at follow-up was 1% in 2009 and 2010 to a high of 19% in 2005. The variability may be due to differences in employment rates through the years. There was a statistically significant decrease in the percentage of clients reporting days missed of work or school due to a substance use related problem at follow-up over the ten-year period (Wald Chi Square,  $p < 0.01$ ).



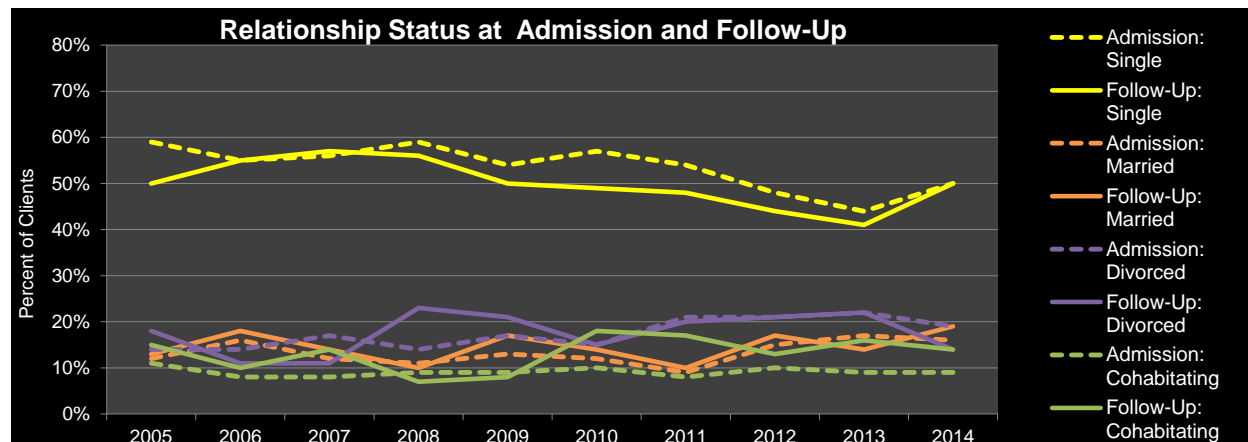
**Figure 15. Primary Source of Support at Admission and Follow-Up**

Figure 15 presents the three most commonly reported primary source of support categories indicated by clients at admission: none, wages or salary, and family and friends. At admission and follow-up, clients most often reported wages or salary as the primary source of support, indicated by an average of 46% of clients at admission and an average of 58% of clients at follow-up over the ten years. Over all ten years, an average of 22% of clients reported relying on family and friends at admission and an average of 26% report this at follow-up. There is a seven percentage point drop in clients reporting no income source at admission from 2010 to 2013 (from 28% to 21%), however 25% of clients admitted to treatment in 2014 indicated no income source at admission. The percentage of clients who indicated no income source at follow-up has remained at 3% or below.



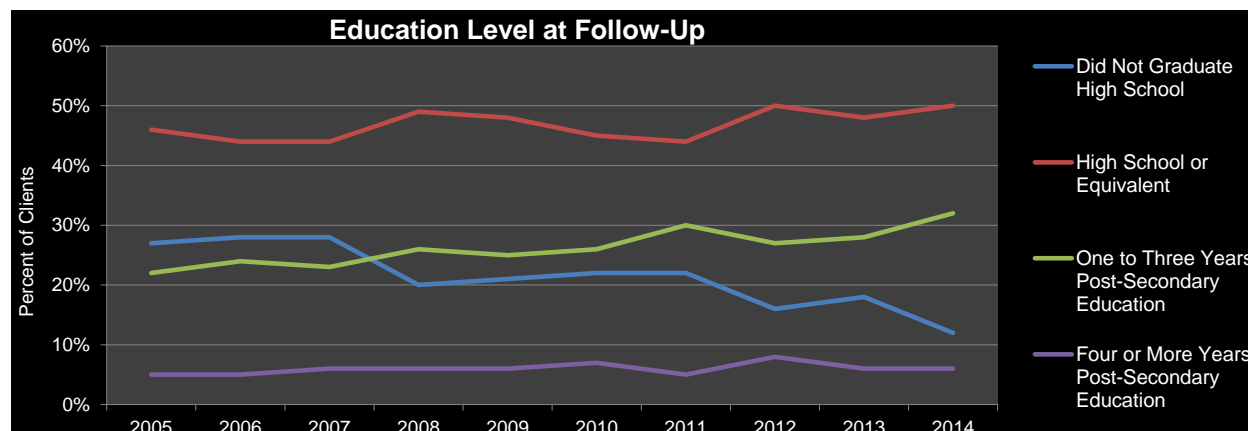
**Figure 16. Relationship Status at Admission and Follow-Up**

Figure 16 presents the four most common relationship statuses reported by clients at admission and follow-up: single, married, divorced, and cohabitating. Each year, single was the most common relationship status reported at admission and follow-up. During the ten years, clients indicating they were married at admission ranged from a low of 9% in 2011 to 17% in 2013; results for clients reporting marriage at follow-up were similar ranging from 10% in 2008 and 2011 to 19% in 2014. Clients reporting divorce at admission fluctuated between 14% in 2005, 2006, and 2008 to a high in 2013 of 22%; clients indicating divorce at follow-up ranged from 11% in 2006 and 2007 to a high of 23% in 2008. Over all years, the percentage of clients reporting cohabitation has averaged 9% at admission and 13% at follow-up.



**Figure 17. Education Level at Follow-Up**

Admission data are not included in Figure 17 since not all admission datasets provide a response category for a General Education Degree (GED). Therefore, admission and follow-up comparisons cannot be made because the GED question is specifically asked at follow-up. At follow-up each year, between 44% and 50% of clients reported a high school or equivalent level of education. The percentage of clients who indicated they had not graduated from high school ranged from a high of 28% in 2006 and 2007 to a low of 12% recently in 2014. Over the ten-year period, there was a statistically significant decrease in the percentage of clients reporting they had not graduated from high school (Wald Chi Square,  $p < 0.01$ ). Clients reporting an education level beyond high school at follow-up has steadily increased from 27% in 2005 to 38% in 2014.

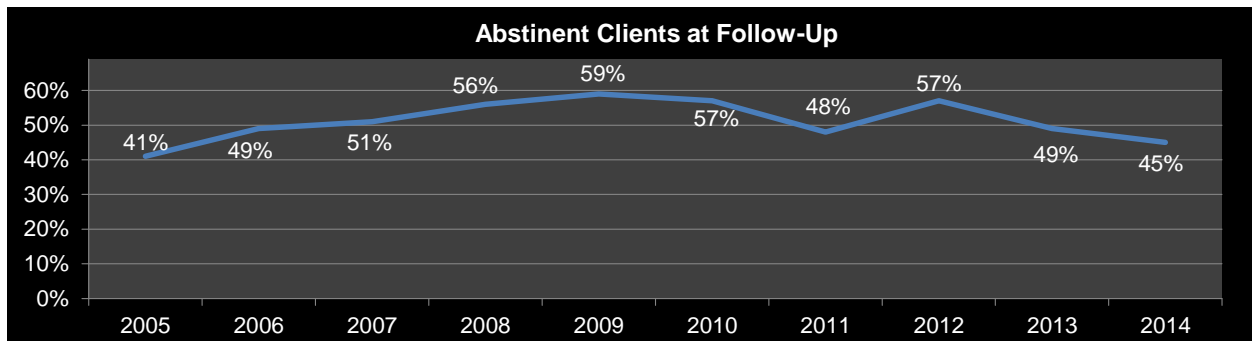


## OUTCOMES: ABSTINENCE

The follow-up interviews occur approximately six months after the client is discharged from treatment; therefore, the follow-up period refers to the six months between the client's discharge from treatment and the follow-up interview. Abstinence refers to abstinence from all substances in the previous six months (follow-up period).

### Figure 18. Abstinence at Follow-Up

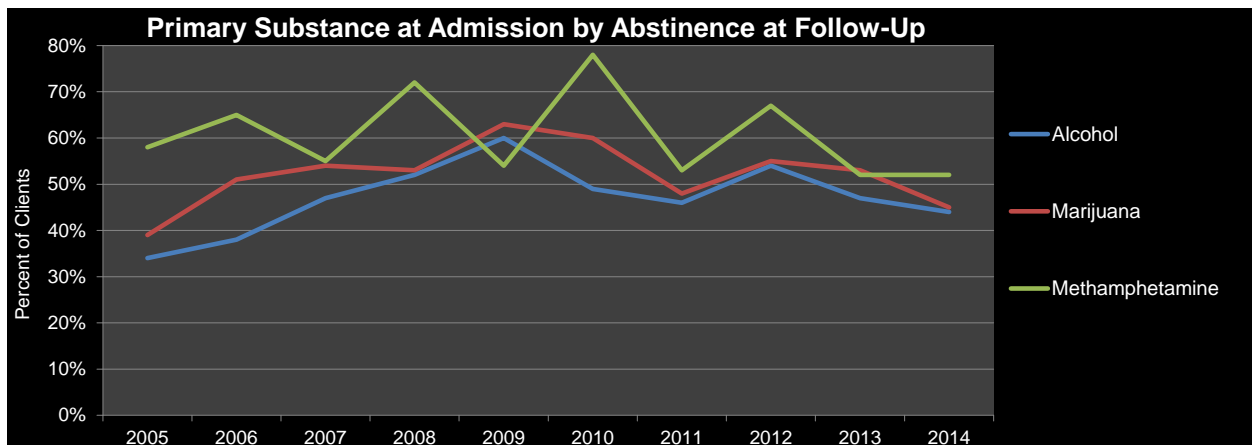
Abstinence at follow-up ranged from 41% to 59% and significantly increased from 2005 to 2014 (Wald Chi Square,  $p < 0.05$ ). However, from 2009 to 2014 abstinence has significantly decreased (Wald Chi Square,  $p < 0.0001$ ).



Figures 19 through 22 on the following pages examine abstinence at follow-up in relation to other variables at admission and follow-up.

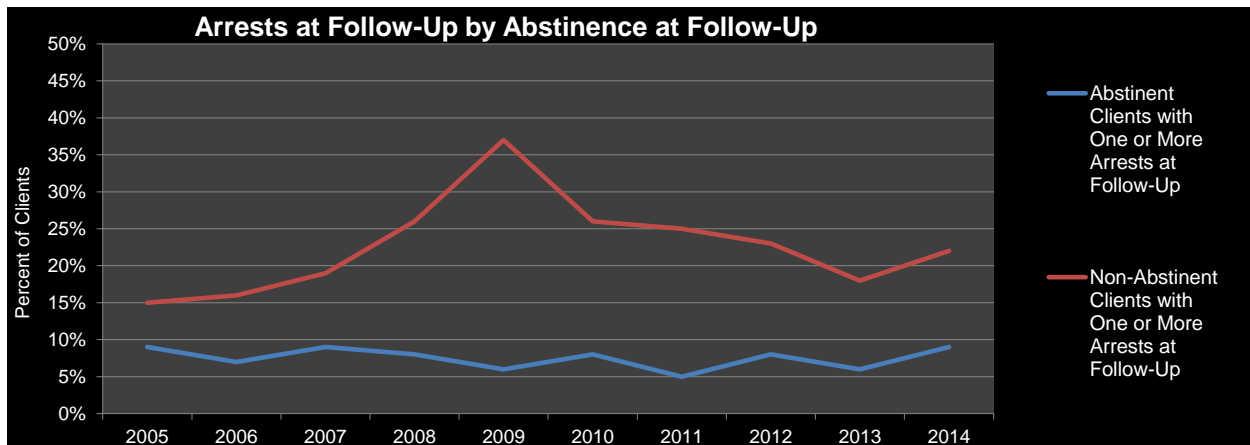
### Figure 19. Primary Substance at Admission by Abstinence at Follow-Up

Figure 19 focuses on the three most commonly reported primary substances reported at admission (alcohol, marijuana, and methamphetamine) and abstinence at follow-up. In Figure 19, the percentages represent the number of abstinent clients at follow-up out of the number of total clients who indicated that primary substance at admission. There were statistically significant differences in the trends over time (Wald Chi Square,  $p < 0.01$ ). Over the ten-year period, the likelihood that clients indicating alcohol as the primary substance at admission reported abstinence at follow-up increased (Wald Chi Square,  $p < 0.01$ ); there was no evidence to suggest either an increasing or decreasing trend in abstinence at follow-up for clients reporting marijuana or methamphetamine as their primary substance at admission (Wald Chi Square,  $p > 0.05$ ). Cocaine is excluded from this figure due to the low numbers of clients with completed interviews that reported cocaine as the primary substance at admission during the ten-year period.



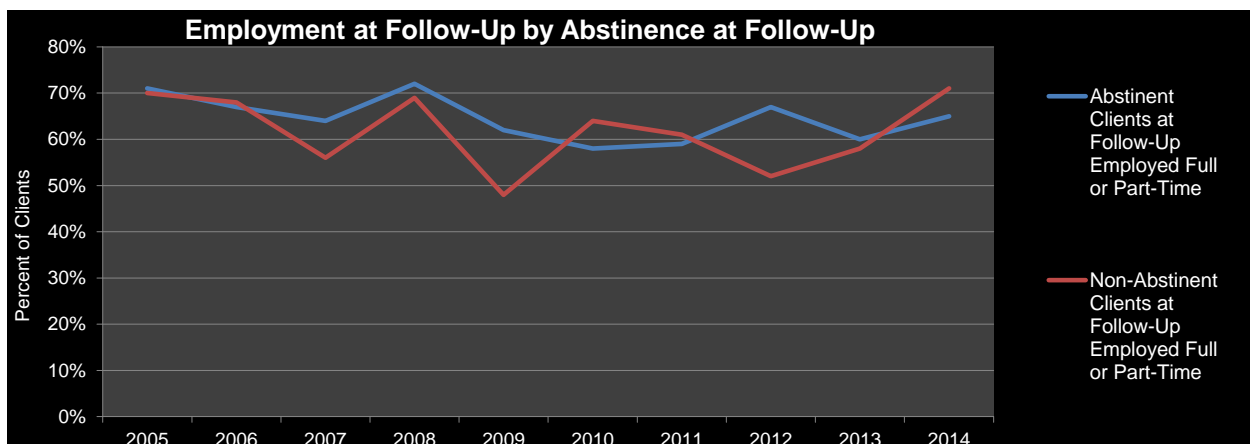
**Figure 20. Arrests at Follow-Up by Abstinence at Follow-Up**

In Figure 20, the percentages represent abstinent clients at follow-up who indicated they had been arrested since treatment discharge out of the total number of abstinent clients; and non-abstinent clients who reported arrests at follow-up out of the total number of non-abstinent clients. There was no evidence to suggest either an increasing or decreasing trend over the ten-year period for arrests at follow-up (Wald Chi Square,  $p > 0.05$ ), however clients who were abstinent at follow-up were less likely to be arrested during the follow-up period (Wald Chi Square,  $p < 0.0001$ ).



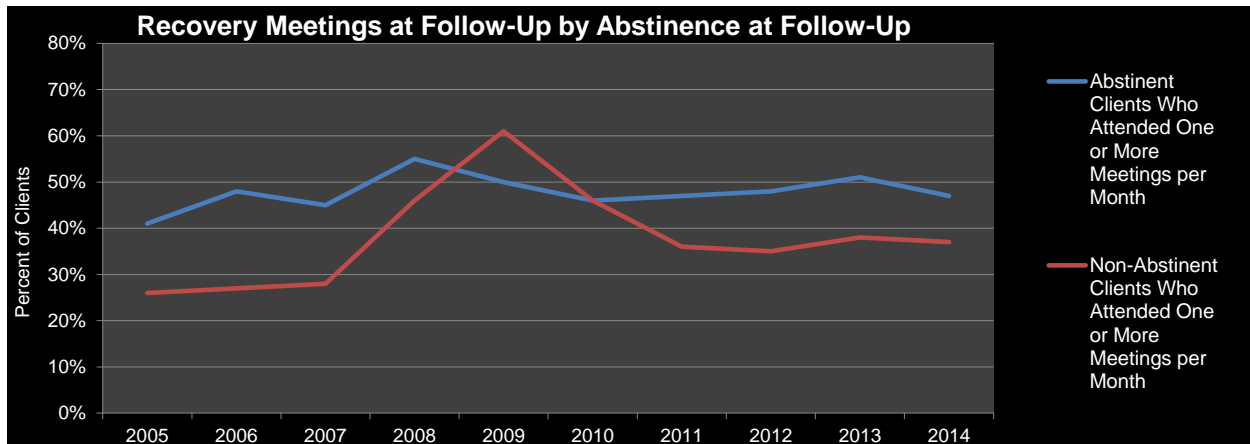
**Figure 21. Employment at Follow-Up by Abstinence at Follow-Up**

In Figure 21, the percentages represent abstinent clients reporting employment (full or part-time) at follow-up out of the total number of abstinent clients at follow-up; and non-abstinent clients reporting employment out of the total number of non-abstinent clients. Over the ten-year period, there was a statistically significant downward trend in employment at follow-up (Wald Chi Square,  $p < 0.01$ ), however this overall trend was not associated with clients' abstinence (Wald Chi Square,  $p > 0.05$ ).



### Figure 22. AA, NA, or Similar Meetings Attended at Follow-Up by Abstinence at Follow-Up

In Figure 22, the percentages represent abstinent clients at follow-up who indicated they had attended at least one voluntary recovery support meeting per month since discharge out of the total number of abstinent clients. Also represented are non-abstinent clients at follow-up who indicated they had attended at least one recovery support meeting since discharge out of the total number of non-abstinent clients. There was a statistically significant upward trend over the ten-year period for clients reporting attendance at voluntary recovery support meetings at follow-up (Wald Chi Square,  $p < 0.01$ ). Clients who were abstinent at follow-up were more likely to have attended voluntary recovery support meetings (Wald Chi Square,  $p < 0.0001$ ).



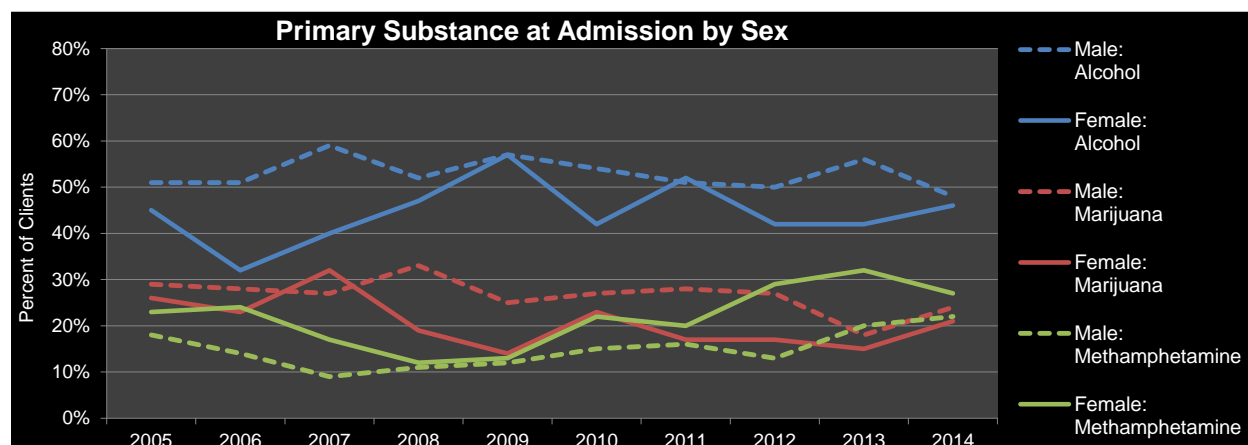
## OUTCOMES: SEX

Figures 23 and 24 on the following page present the primary substance reported at admission and abstinence at follow-up by sex.



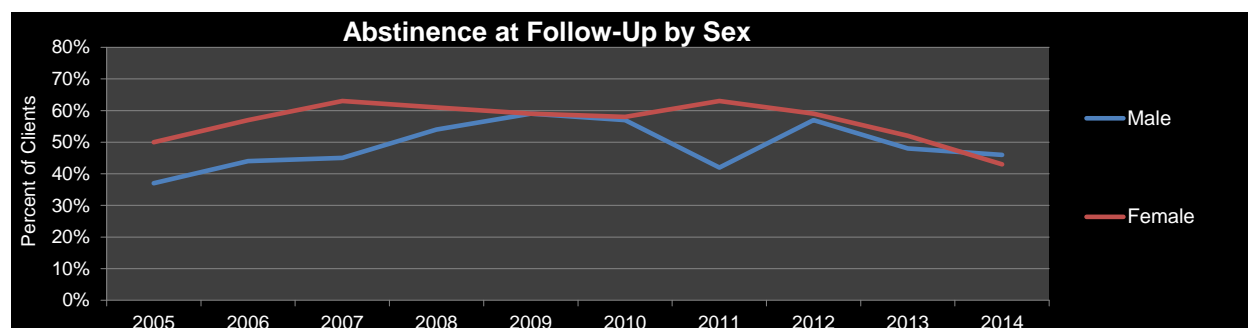
**Figure 23. Primary Substance at Admission by Sex**

The three primary substances clients reported most often were alcohol, marijuana, and methamphetamine. Figure 23 shows the percentage of males and females reporting these three substances at admission each year. Over all ten years, males reported alcohol as the primary substance at admission more often than any other substance, ranging from 48% in 2014 to 59% in 2007. Females indicating alcohol as the primary substance at admission fluctuated between 32% in 2006 to 57% in 2009. Marijuana as the primary substance at admission ranged from 18% to 33% for males and 14% to 32% for females. There has been an increase in the percentage of males reporting methamphetamine as their primary substance at admission in recent years, with 13% of males reporting this in 2012 and 22% of males indicating this in 2014. Although there was an increase in females reporting methamphetamine as their primary substance from 2010 to 2013, in 2014 there was a decrease of five percentage points (from 32% to 27%).



**Figure 24. Abstinence at Follow-Up by Sex**

In all years except 2009 and recently in 2014, more females reported abstinence at follow-up than males. Abstinence for males at follow-up ranged from 37% in 2005 to 59% in 2009. Females reporting abstinence at follow-up fluctuated between 43% recently in 2014 to 63% in 2007 and 2011. The largest disparity between males and females occurred in 2011 when there is a 21 percentage point difference with 42% of males and 63% of females reporting abstinence at follow-up. There were statistically significant differences between males and females reporting abstinence at follow-up (Wald Chi Square,  $p < 0.0001$ ) and the trends over time differed (Wald Chi Square,  $p < 0.05$ ). Over the ten-year period, the likelihood that males reported abstinence at follow-up increased (Wald Chi Square,  $p < 0.01$ ), however, that trend was not significant for females (Wald Chi Square,  $p > 0.05$ ).



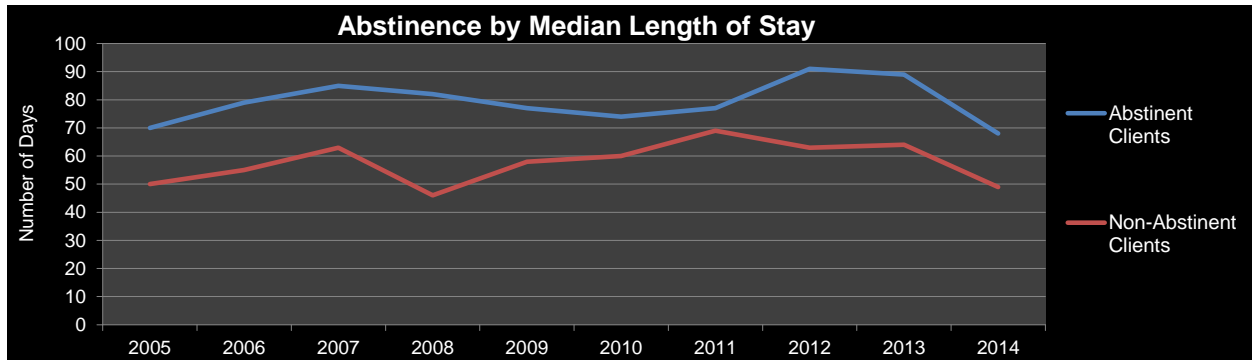


## OUTCOMES: LENGTH OF STAY AND DISCHARGE STATUS

Length of stay is defined as the number of days from admission to treatment through discharge. Figure 25 examines length of stay related to abstinence at follow-up.

**Figure 25. Abstinence at Follow-Up by Median Length of Stay**

In all years except 2010 and 2011 there were significant differences between length of stay and abstinence at follow-up (Jonckheere-Terpstra Tests,  $p < 0.05$ ).



Unlike the previous figure in this section that includes data only from clients who completed follow-up interviews, data in Table 8 and Figures 26 through 29 on the following pages are drawn from all discharged clients who were in the OMS sample for whom discharge data have been received.

**Table 8. Primary Substance at Admission by Median Length of Stay**

Table 8 presents the median length of stay (in days) for all discharged clients in the OMS sample, as well as for the most often reported primary substances at admission by year. Results for recent years, particularly 2014, may change as more clients are discharged from treatment.

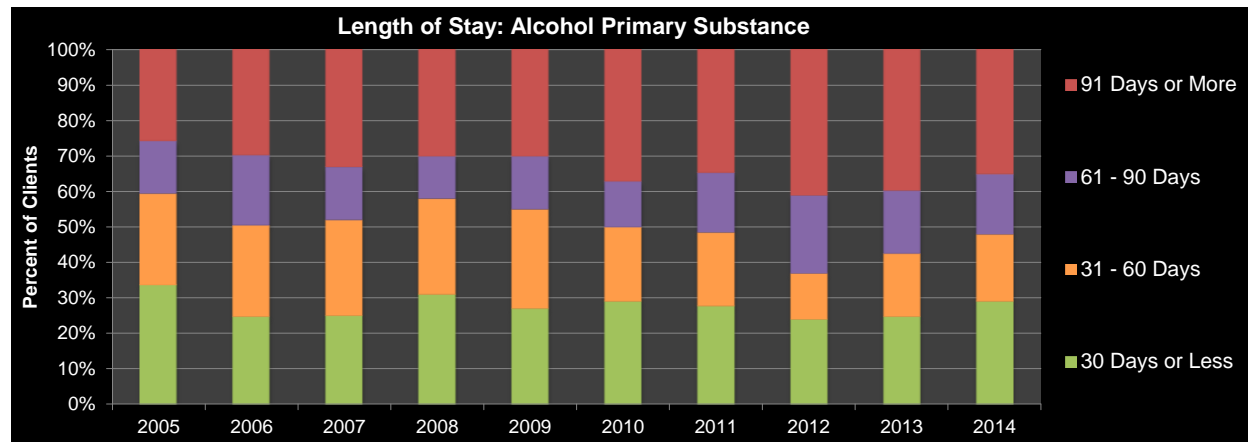
Median Length of Stay (Number of Days)										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
All Clients in OMS Sample	56	62	60	53	63	64	69	77	68	63
Alcohol	56	50	57	59	61	50	59	56	49	51
Marijuana/Hashish	59	59	56	63	62	60	65	59	58	76
Methamphetamine	43	57	64	56	84	70	69	79	57	77
Cocaine/Crack	33	29	46	56	60	28	64	45	57	70

Figures 26 through 29 on the following pages present the percentage of clients in each length of stay category for the four most frequently reported substances at admission. It is important to note as more clients who were admitted in 2014 are discharged from treatment, the length of stay results for 2014 may change.



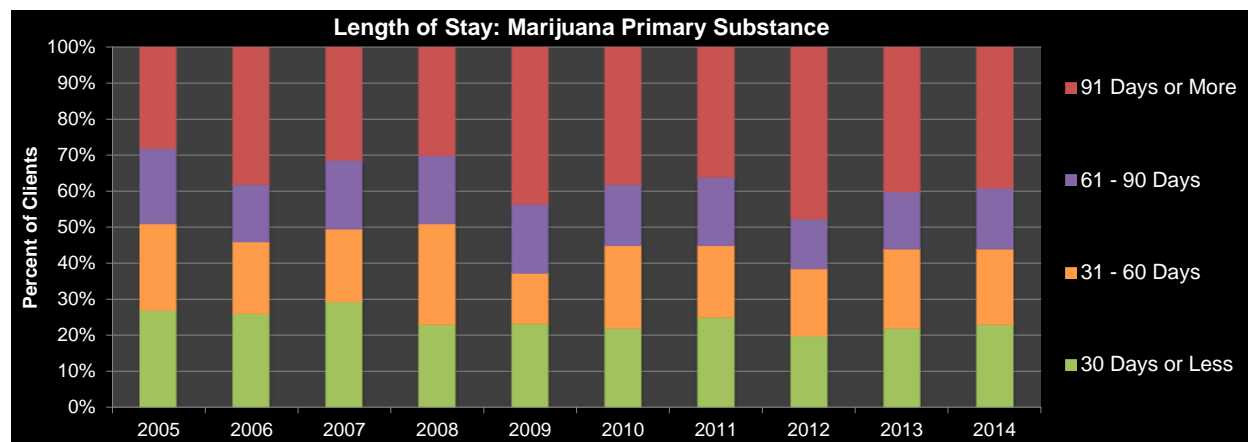
**Figure 26. Length of Stay: Alcohol as Primary Substance at Admission**

There are statistically significant differences between length of stay for clients who reported alcohol as the primary substance at admission compared to clients who reported other primary substances at admission in two of the ten years: 2005 and 2009 (Jonckheere-Terpstra Tests,  $p < 0.05$ ).



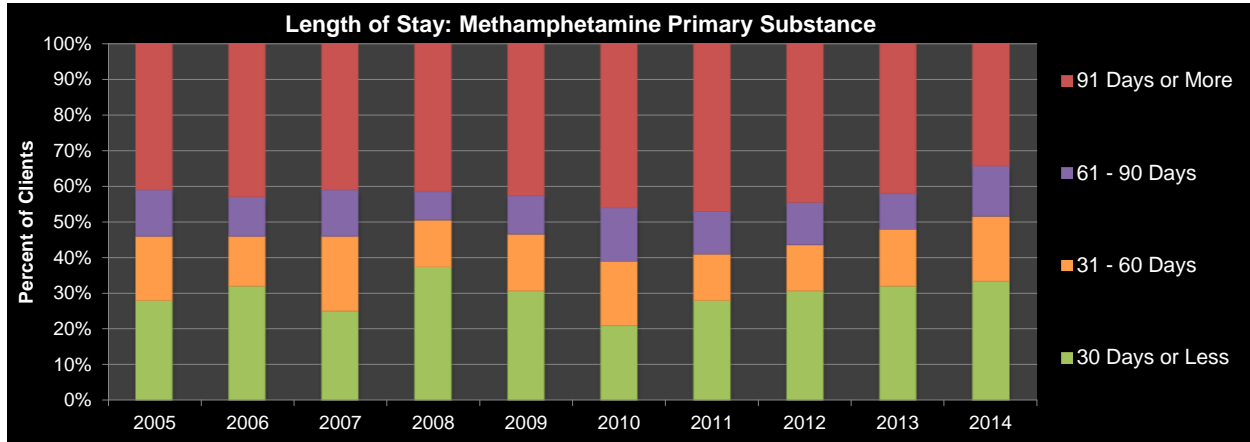
**Figure 27. Length of Stay: Marijuana as Primary Substance at Admission**

There are statistically significant differences between length of stay for clients who reported marijuana as the primary substance at admission compared to clients who reported other primary substances at admission in one of the ten years: 2009 (Jonckheere-Terpstra Tests,  $p < 0.05$ ).



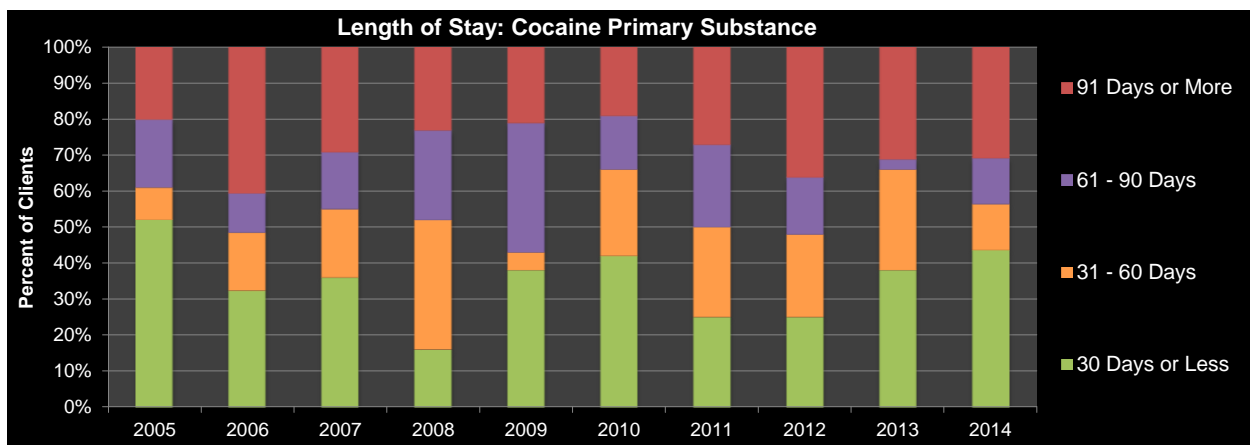
**Figure 28. Length of Stay: Methamphetamine as Primary Substance at Admission**

There are statistically significant differences between length of stay for clients who reported methamphetamine as the primary substance at admission compared to clients who reported other primary substances at admission in one of the ten years: 2005 (Jonckheere-Terpstra Tests,  $p < 0.05$ ).



**Figure 29. Length of Stay: Cocaine as Primary Substance at Admission**

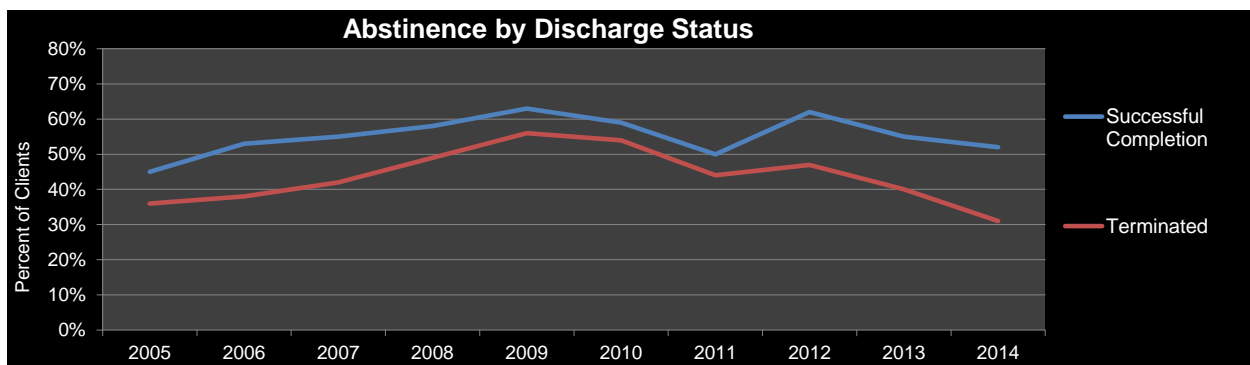
There are statistically significant differences between length of stay for clients who reported cocaine as the primary substance at admission compared to clients who reported other primary substances at admission in two of the ten years: 2005 and 2010 (Jonckheere-Terpstra Tests,  $p < 0.05$ ). The variability in length of stay for clients reporting cocaine as the primary substance at admission may be due to the lower number of clients in the OMS sample reporting cocaine as the primary substance at admission; numbers range from a high of 71 in 2006 to a low of 16 in 2014. Caution is advised when interpreting these results.



Figures 30 through 32 show three outcome variables for the follow-up interview (abstinence, no arrests, and employment) by treatment discharge status. There are three discharge categories: successful completion; terminated (clients discharged from the program due to noncompliance, lack of treatment progress, or client leaving); and neutral (this category includes, but is not limited to, referral to another program, incarceration, or death). Data for neutral discharges are not included in the figures due to the low number of clients (fewer than 9% of clients each year) in the neutral discharge category with completed interviews. It is important to note clients who were successfully discharged comprise the majority of the clients interviewed in all ten years. Results for recent years, particularly 2014, may change as more follow-up interviews are completed with clients.

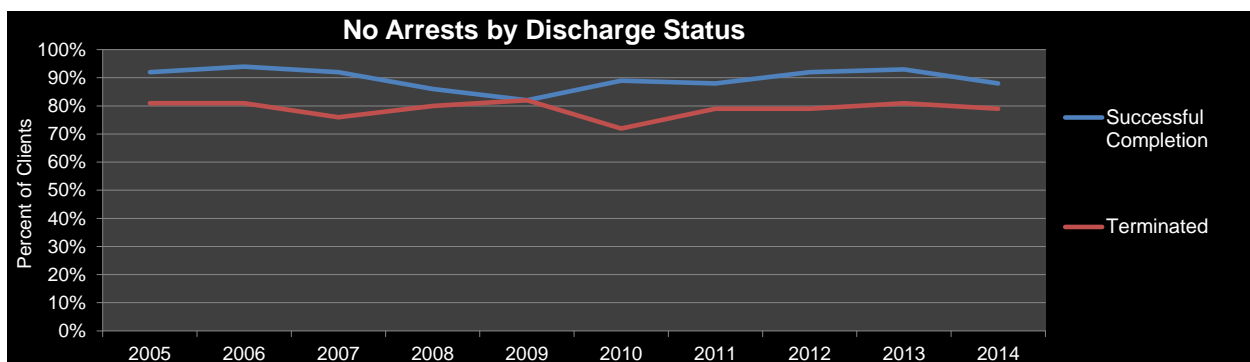
**Figure 30. Abstinence at Follow-Up by Discharge Status**

Clients who were successfully discharged were more likely to be abstinent at follow-up (Wald Chi Square,  $p < 0.01$ ). There were no other significant trends involving discharge status over the ten-year period.



**Figure 31. No Arrests at Follow-Up by Discharge Status**

Over the ten-year period, clients who were successfully discharged were more likely to not have been arrested in the follow-up period (Wald Chi Square,  $p < .0001$ ). There was no evidence to suggest either an increasing or decreasing trend in arrests at follow-up for successfully discharged clients and clients who were terminated over the ten-year period (Wald Chi Square,  $p > 0.05$ ).



### Figure 32. Employment at Follow-Up by Discharge Status

Regardless of discharge status at follow-up, there were significant trends for employment status over the ten-year period (Wald Chi Square,  $p < 0.05$ ). Clients who were successfully discharged were more likely to be employed at follow-up (Wald Chi Square,  $p < 0.01$ ).

