County of Los Angeles
Chief Executive Office
Service Integration Branch

A Statistical Analysis and Outcomes Evaluation of Los Angeles County's Mandatory Substance Abuse Recovery Program for General Relief Recipients

Research and Evaluation Services

Halil Toros
Max Stevens
Manuel Moreno
Principal Investigator

Submitted to:
County of Los Angeles,
Department of Public Social Services
Department of Public Health
Project Officer: Michael Bono

May 2012

Acknowledgments

The research and writing that went into this report would not have been possible without the support and assistance of numerous people. First and foremost, Phil Ansell, Department of Public Social Services (DPSS) provided invaluable intellectual guidance and vision, and his hands-on knowledge and understanding of the General Relief (GR) Program, along with that of Judith Lillard and LaShonda Diggs, made our work much easier. Dr. Michael Bono at DPSS also deserves special recognition as a valued colleague, key facilitator, and important source of feedback. Linda Dyer, Department of Public Health (DPH) offered her expertise in helping us to understand how SAPC and MSARP work, and she provided useful feedback on an earlier draft of this report. Steven A. Reyes at DPH, as well as Pauline Lopez, wrote the report's technical appendix, provided feedback on the analyses offered in the main body of the study, and helped us navigate DPH's administrative records for the Mandatory Substance Abuse Recovery Program (MSARP) program. Additionally, John Viernes, Ben Lee, and Wayne Sugita at DPH reviewed the report and offered constructive suggestions. Duc Doan at Research and Evaluation Services (RES) unit collected and processed data, and Nancy Salem at RES helped develop the project's research plan. Trish Ploehn, Carrie Miller and Lesley Blacher at Service Integration Branch (SIB), Chief Executive Office (CEO) provided comments on earlier drafts of the report and provided a supportive environment in which to conduct our research. Adrineh Melkonian at SIB/CEO formatted and assembled the report. To all these people, we extend our heartfelt gratitude.

Table of Contents

Tables and Figures

Key Findings

- Of the close to 9,700 GR recipients observed in this study in relation to substance abuse treatment, the distribution is roughly even between those receiving treatment through MSARP, those getting referred to MSARP treatment but then failing to comply, and those receiving treatment directly from DPH, through the 'backdoor.'

- GR recipients receiving substance abuse treatment through the backdoor tend to be more vulnerable than those receiving treatment through DPSS' MSARP program. For example, while 55 percent of the recipients in the backdoor group studied in this report were disabled, 35 percent of the recipients in the MSARP group were disabled. Recipients in the backdoor group also tended to be older and less employable.

- A significantly larger proportion of the backdoor group cycled in and out of treatment multiple times by comparison with the MSARP group. While close to two-thirds of the MSARP group was engaged in substance abuse treatment for only one treatment spell, slightly more than half the backdoor group was engaged for only one spell.

- Recipients in the MSARP group were 33 percent more likely to complete their treatment than recipients in the backdoor group. This finding is especially important since completion of treatment is associated with several other positive outcomes, particularly in the areas of employment and earnings.

- Among GR recipients applying for SSI, the proportion of those applying for benefits after their substance abuse treatment was considerably higher in the MSARP group (69 percent) than the backdoor group (54 percent). Additionally, while the rate of disability among recipients in the no-treatment group – i.e. those who were referred to MSARP but failed to comply – was 42 percent, only 87 of the recipients in this group (seven percent) initiated an SSI application process after their MSARP referral date versus 43 percent of the disabled recipients in the MSARP and backdoor groups combined who applied for SSI over the study period.

- The approval rate for SSI applicants was considerably higher in the 2007 GR entry cohort as a whole (13 percent) than in the MSARP and backdoor groups combined (seven percent). Additionally, 46 percent of the disabled recipients in the MSARP and backdoor groups combined, versus 36 percent of the disabled recipients in the 2007 GR entry cohort as a whole, were referred to SSI advocacy but had not submitted an application by the end of the study period.

- Recipients in the MSARP group were 32 percent more likely to find employment after starting their treatment than recipients in the backdoor group. Additionally, the average time employed and average earnings were considerably higher for recipients in the MSARP group than for recipients in the backdoor group.

- Although there is no meaningful difference separating the MSARP and backdoor groups in homelessness prevention outcomes, recipients in both the MSARP and backdoor groups were significantly less likely to become homelessness after their treatments than those in the no-treatment group after their MSARP referral date. Overall, 86 percent of the MSARP group and 80 percent of the backdoor group was homeless at one point during substance abuse treatment.

- While 32 percent of the backdoor group completed their treatment, 47 percent of the MSARP group completed their treatment. Among these recipients, 14 percent in the MSARP group and 15 percent in the backdoor group were discharged with a status of 'incomplete but satisfactory.'

- Within the MSARP group, more than half the recipients who completed substance abuse treatment gained employment after discharge versus 45 percent of recipients who did not complete their treatment. Within the backdoor group, 44 percent of recipients who completed their treatment obtained employment after discharge versus 34 percent among those who did not complete their treatment.

- Among recipients in both the MSARP and backdoor groups, median quarterly earnings among those who completed their treatment more than doubled between the period from before to the period after treatment. Among recipients who did not complete their treatment, median quarterly earnings increased by only roughly 14 percent for both the MSARP and backdoor groups.

- Larger substance abuse treatment providers are associated with better completion rates. While the completion rate is 50 percent among recipients receiving treatment from providers who serve more than 100 clients, the completion rate is 35 percent among those who receive treatment from providers serving less than 100 clients.

Introduction

The Los Angeles County Department of Public Social Services (DPSS) and the Department of Health Services (DHS) developed and implemented the Mandatory Substance Abuse Recovery Program (MSARP) for General Relief (GR) recipients in 1997.[1] The program seeks to support GR recipients on the path to self-sufficiency by linking receipt of cash aid to treatment for substance abuse issues. However, DPSS currently lacks systematic information on the use of this program, both for the MSARP population and for GR recipients who seek substance abuse treatment from the Department of Public Health (DPH) independently of the GR program. For example, while DPSS has recently boosted efforts to qualify eligible GR recipients for Supplemental Security Insurance (SSI), little is known about disabled GR recipients who seek substance abuse treatment or about the SSI application status of these disabled recipients. Moreover, the Department does not currently have comprehensive information on the mental health status, criminal justice system involvement, previous treatment history, or treatment patterns of the population of recipients who receive substance abuse services.

The Purpose of this Report and its Limitations

The purpose of this report is to provide policymakers with statistical information on GR recipients who obtain substance abuse treatment services from DPH, both those receiving services through MSARP and those receiving them through the 'backdoor', independently of the GR program. In addition to providing analyses of the background and welfare characteristics of these recipients, this study looks at their involvement in the SSI application process, encounters with the criminal justice system, mental health co-morbidity, and patterns of substance abuse treatment. Moreover, employment and earnings outcomes are evaluated by virtue of a data match linking administrative records from DPSS and DPH to unemployment insurance records from the State of California Economic Development Department (EDD). Housing outcomes associated with engagement in substance abuse treatment are also evaluated.

In an effort to gauge the impact of MSARP, along with any differences distinguishing GR recipients who receive substance abuse services through MSARP from those who receive services through the backdoor, comparisons are made throughout this report between these two groups of recipients. Additionally, both groups are compared with a third group who have received positive substance abuse assessments from DPSS but then fail to show up for referrals or for treatment services. While this comparative method provides a general picture of the effectiveness of MSARP, one caveat is that the MSARP and backdoor groups evince important differences that have the potential to impinge on observed outcomes. Backdoor participants, for example, are somewhat older and more disabled, and the ethnic compositions of the two groups diverge to a certain degree. RES has attempted to neutralize these differences by making the

[1] MSARP is now jointly administered by DPSS and the Alcohol and Drug Program Administration (ADPA) within the Department of Public Health (DPH).

background and demographic characteristics of each group explicit at the front of the report. More importantly, RES deploys statistical models that control for the differences between the study groups. Nevertheless, real-world comparisons are not perfectly controllable in the manner of a laboratory experiment and the reader is therefore advised to be aware of the ways the study groups differ.

The MSARP Process

GR recipients are pre-screened at intake, and those who evince a reasonable suspicion of having drug and/or alcohol problems are referred to a DPH-contracted Community Assessment Services Center (CASC) for a professional assessment. GR applicants are referred for this assessment even if they are already receiving substance abuse treatment. GR recipients receiving positive CASC assessments for substance abuse are referred to the appropriate form of treatment and must participate in MSARP as a condition of GR eligibility. Recipients can receive treatment services for six months, plus an extension of three months of consecutive treatment.[2] DPH-contracted providers offer the services provided through MSARP. A positive CASC assessment and participation in MSARP do not change the employability status of an employable GR recipient unless the clinician providing services deems the recipient to be unemployable. Those who are employable and receiving services through MSARP must participate in the General Relief Opportunities for Work (GROW) welfare-to-work program. Cash aid is terminated when recipients refuse to comply with MSARP without good cause.

The GR Recipients Analyzed in this Study

This study examines three general groups of GR recipients facing substance abuse issues. (i) The first group is referred to as the 'MSARP group,' consisting of those who participated in the MSARP program after receiving a positive assessment at intake and then attended treatment within one month of a referral. This group includes recipients who received only partial treatment before dropping out of MSARP. (ii) The second group is the 'no-treatment group,' which consists of recipients who received a positive assessment at intake but then either did not cooperate and failed to show up for referral, failed to show up for treatment after one month of a referral, or contested a positive assessment. (iii) The third group is the 'backdoor group,' consisting of GR recipients who received substance abuse treatment directly from DPH as opposed to receiving it as the result of a positive intake assessment at DPSS. However, GR recipients who received a positive assessment through DPSS but then attended a treatment at some point after six months of the referral are also included in the backdoor group.[3] The bulk of the analysis in this report is structured around comparisons between the MSARP and backdoor groups.

---

[2] Recipients who relapse after nine months of consecutive treatment are allowed to re-enter treatment if they are re-assessed and there is clinical justification for continuing treatment services.

[3] The analysis leaves out recipients who attend treatment after one month but before six months of a referral, but those falling in this group comprise only about three percent of the possible study population.

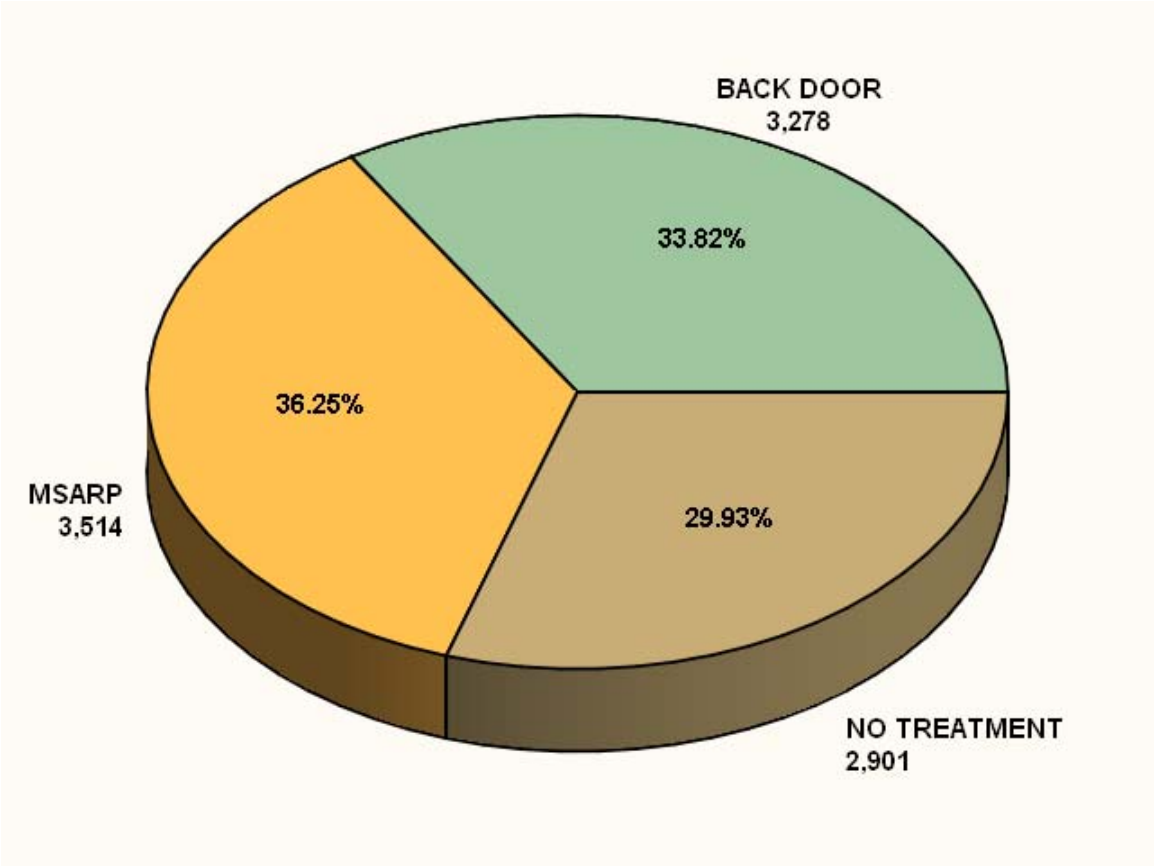
The analyses conducted for this study began with almost 89,000 recipients who were on GR for at least one month during 2007. The year 2007 affords a two-year pre-program tracking period, since DPH administrative records are available beginning from 2005, as well as a two-year post-program tracking period. While 23,000 of the recipients in the study population fall into a category referred to in this study as the 'New-GR group' because they entered GR during 2007, the remaining 66,000 fall into the 'old-GR group' because they were on GR prior to 2007 for various lengths of time.

Among the 23,000 recipients in the new-GR group, 17.4 percent were clinically assessed by a CASC worker at least once since 2002, whereas 24 percent of the recipients in the old-GR group were assessed at least once since 2002. However, recipients with referrals and treatments dating before 2007 are not included in the analysis unless they were referred again during 2007. Outcomes of assessments and treatments that took place before and after 2007 are included in the analysis as long as the recipients were assessed during 2007.

The 89,000 GR recipients comprising the cohort with which the study began can be broken down as follows in relation to the MSARP program: Out of the 20,000 who had any history of engagement with MSARP at all, 6,415 received assessments and referrals in 2007; 3,514 of these referred recipients were in the MSARP group, and 2,901 were in the no-treatment group.[4] Additionally, 3,278 of the 89,000 recipients comprising the total study cohort were in the backdoor group. Some of these backdoor recipients were referred to MSARP later, after they had already received treatment directly through DPH. Over 77 percent of the backdoor group (2,536 GR recipients) was in the old-GR group, while the 23 percent (742 GR recipients) was in the new-GR group. Figure 1 shows the breakdown of the three major sub-populations analyzed in this study.

[4] The availability of data for the no-treatment group is limited because RES did not have access to the data fields, which are located within DPH administrative records.

Figure 1. The Three Groups Analyzed in this Study



Background Characteristics of the Study Population

Table 1 presents the background characteristics of the GR recipients analyzed in this study by study group and, for comparative purposes, also includes the characteristics of the GR population as a whole as of December 2007. Since the primary language of almost all the studied recipients is English, and since the marital status of almost all of them is single, these two fields are not included in the table. The data presented in the table indicate that, relative to the MSARP group, the backdoor group is older by an average of four years. More than one-quarter (27.4 percent) of the MSARP group is in the 18-29 age group, compared to 16.9 percent of the backdoor group, while 25.1 percent of the backdoor are 50 years of age or older compared to 14.1 percent of the MSARP group. The median age of the no-treatment group is 41, which is exactly in between the median ages of the other two groups (39 and 43). The median age of the GR population as a whole is 43.

Table 1. Demographic Characteristics of the GR Recipients Analyzed in this Study*

	SUB-POPULATIONS			
	BACKDOOR	**NO TREATMENT**	**MSARP**	**All GR**
	(N=3,278)	**(N=2,901)**	**(N=3,514)**	**(N= 89,000 as of December 2007)**
Age (Median)	43	41	39	43
Age Group (%)				
18-29	16.9	21.6	27.4	19.8
30-39	18.9	24.1	25.4	16.2
40-49	39.1	36.7	33.1	30.4
50 & Over	25.1	17.6	14.1	33.2
Disabled (%)	55.0	41.7	34.8	51.1
Ethnicity (%)				
Black	39.8	38.9	26.4	47.8
Hispanic	31.8	31.5	37.9	27.0
White	23.7	23.6	30.3	18.8
Other	4.7	6.1	5.4	6.5
Gender (%)				
Females	34.2	26.5	34.1	36.8
Males	65.8	73.5	65.9	63.2

*Percentages in each category may not add up to 100 percent due to rounding.

Of the three groups observed in this report, as well as the GR population as a whole, the MSARP group holds the smallest proportion of African-Americans (26.4 percent), followed by the no-treatment group (38.9 percent), the backdoor group (39.8 percent), and the total GR population (47.8 percent). The total GR population features the smallest proportion of Hispanic recipients (27 percent), followed by the no-treatment group (31.5 percent), the backdoor group (31.8 percent), and the MSARP group (37.9 percent). In addition, the MSARP group features the largest proportion of white recipients (30.3 percent), followed by the backdoor group (23.7 percent), the no-treatment group (23.6 percent), and the total GR population (18.8 percent). The percentage of female recipients was smallest in the no-treatment group (26.5 percent), as compared to the MSARP group (34.1 percent), the backdoor group (34.2 percent), and the total GR population (36.8 percent).

Additionally, older and African-American recipients were more likely to seek treatment through the backdoor while Hispanics, Whites, and younger recipients were more likely to seek treatment through the MSARP program. Finally, 55 percent of the recipients in the backdoor group were disabled compared to 42 percent in the no-treatment group, and 35 percent in the MSARP group.

Welfare Characteristics

Table 2 summarizes the welfare tenures of the GR recipients analyzed in this study, by study group. The table also breaks the recipients down into those in the old-GR group and those in the new-GR group, and provides separate tabulations for the period from 2005 through 2006 (only for the old-GR group), and the period from 2007 to 2009, in order to summarize the pre-and post-treatment periods.

Table 2. GR Tenures and Employability Status of the Recipients

SUB-POPULATIONS			
	BACKDOOR	**MSARP**	**NO TREATMENT**
	(N=3,278)	**(N=3,514)**	**(N=2,901)**
GR Tenure (Average Total Months)			
New Group	N=742	N=1,554	N=1,007
During 2005-2006	NA	NA	NA
During 2007-2009	11.5	9	9.5
Old Group	N=2,536	N=1,960	N=1,857
During 2005-2006	10.9	7.5	8
During 2007-2009	17.8	14.6	14.5
Employability Status (%)			
Employable	26.9	38.1	37.7
Needs Special Assistance	27.7	13.4	16.8
Unemployable-Administrative	8.0	16.2	20.6
Unemployable-Permanent	10.4	3.7	4.1
Unemployable-Temporary	27.1	28.6	20.9

For recipients in both the new- and old-GR groups, GR tenures are substantively longer for those in the backdoor group by comparison with those in the MSARP group. The data therefore show that GR tenure and type of treatment – backdoor versus MSARP – are associated with one another. The data also show that, among recipients in the old-GR group, their tenure during the 2007 to 2009 period was significantly longer relative to those in the new-GR group for all treatment types.

Table 2 additionally shows that the backdoor group had the highest percentage of recipients placed in the 'needs special assistance' category (28 percent), which indicates a mental health problem or disability. Roughly 38 percent of the MSARP and no-treatment groups were employable as compared to 27 percent of the backdoor group. Recipients categorized as unemployable show treatment differences on the basis of the specific unemployable category into which they are placed. Permanently unemployable recipients seek backdoor treatment more often; temporarily unemployable recipients seek backdoor and MSARP treatment at roughly the same proportion, and while 4 percent of permanently unemployable recipients seek no treatment, almost 21 percent of temporarily unemployable recipients seek no treatment.

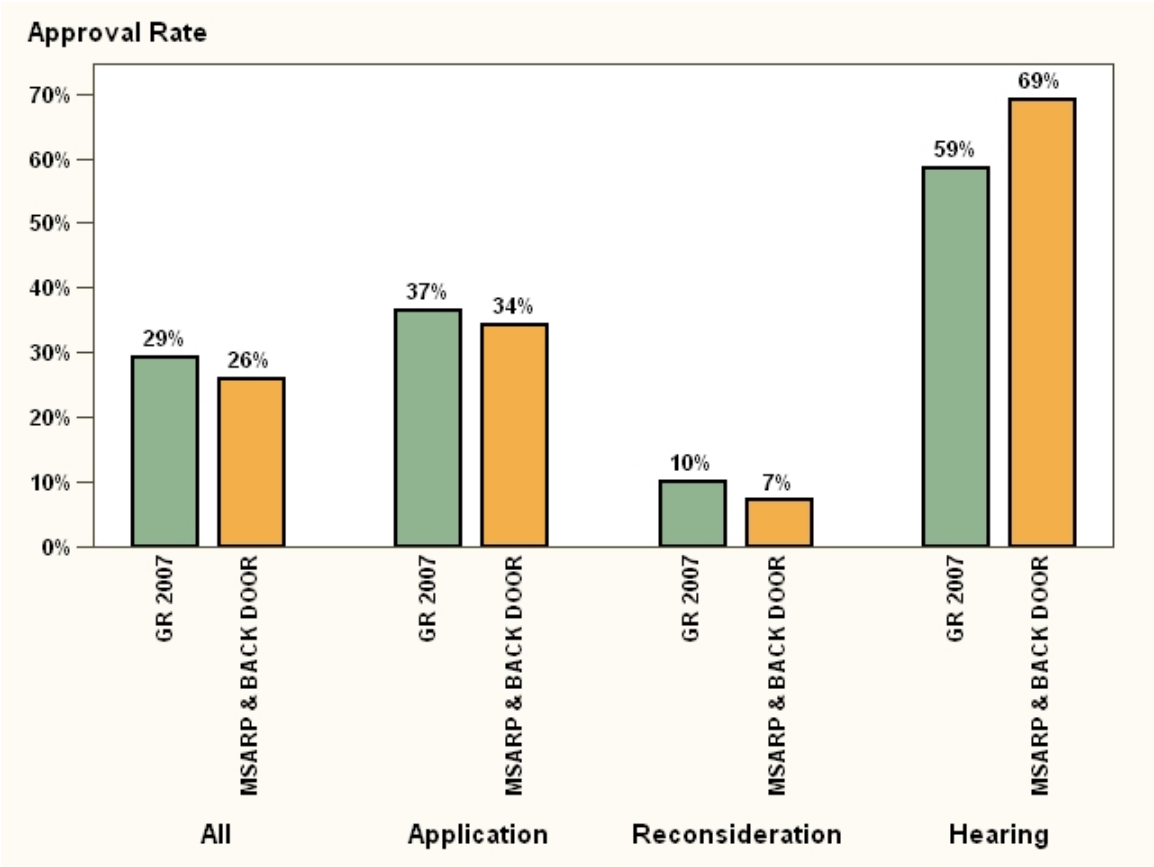
SSI Applications

GR benefits can be issued either when a SSI application is pending or while the individual is awaiting initial SSI benefits. The GR program also provides application assistance and advocacy to disabled recipients looking to become eligible for SSI. Over half the recipients on GR in 2007 – 46,000 of 89,000 – were disabled. Almost a quarter of the disabled recipients (N=12,000) were permanently disabled. Approximately 28 percent of the disabled recipients (13,000) and half of the permanently disabled recipients (6,000) had applied to SSI at one point since 2005. The proportion of disabled recipients in the MSARP and backdoor groups combined (28 percent) was about the same as the proportion in the GR population as a whole. Also similar to the 2007 GR population as a whole, over half (52 percent) of the permanently disabled recipients in the MSARP and backdoor groups combined applied to SSI. Approval rates for those recipients who initiated an SSI process and reached a decision through the end of 2009 was 29 percent for the 2007 GR population as a whole and 26 percent for the MSARP and backdoor groups combined.[5]

Figure 2 compares the approval rates of SSI applications of disabled recipients in the 2007 GR cohort overall with the approval rates of those in the MSARP and backdoor groups combined by the stage of SSI process-application (first), reconsideration (second) and hearing (third). Approximately two-thirds of all SSI applications were decided at the first level, while one-third were decided at the second level. Only 5 percent of all applications reached the hearing stage.

[5] Overall, 27 percent of the applications made by the 2007 GR population as a whole were pending by the end of 2009, and this proportion was slightly higher, at 30 percent, for the MSARP and backdoor groups combined. Pending cases are not included in the calculation of approval rates.

Figure 2. Approval Rates of SSI Applications, by Stage of Application Process, for Disabled Participants in the 2007 GR Cohort and the MSARP and Backdoor Groups Combined



As shown in Figure 2, the SSI approval rates for the 2007 GR cohort were 37 percent, 10 percent, and 59 percent for the three stages, respectively. The approval rates for the MSARP and backdoor groups showed fairly similar patterns at 34 percent, 7 percent and 69 percent. Since the numbers for the permanently disabled population were almost identical they are not shown separately.

Comparisons between disabled recipients in the MSARP and backdoor groups reveal some differences in multiple categories. As shown in Figure 3, 55 percent of the backdoor group was disabled compared to 35 percent of the MSARP group. Moreover, 31 percent of the disabled MSARP group and 24 percent of the disabled backdoor group recipients initiated an SSI process. More than half (54 percent) of the permanently disabled participants in the MSARP group started an SSI process compared to 46 percent for the backdoor group.

Figure 3. SSI Statuses of Backdoor and MSARP Groups

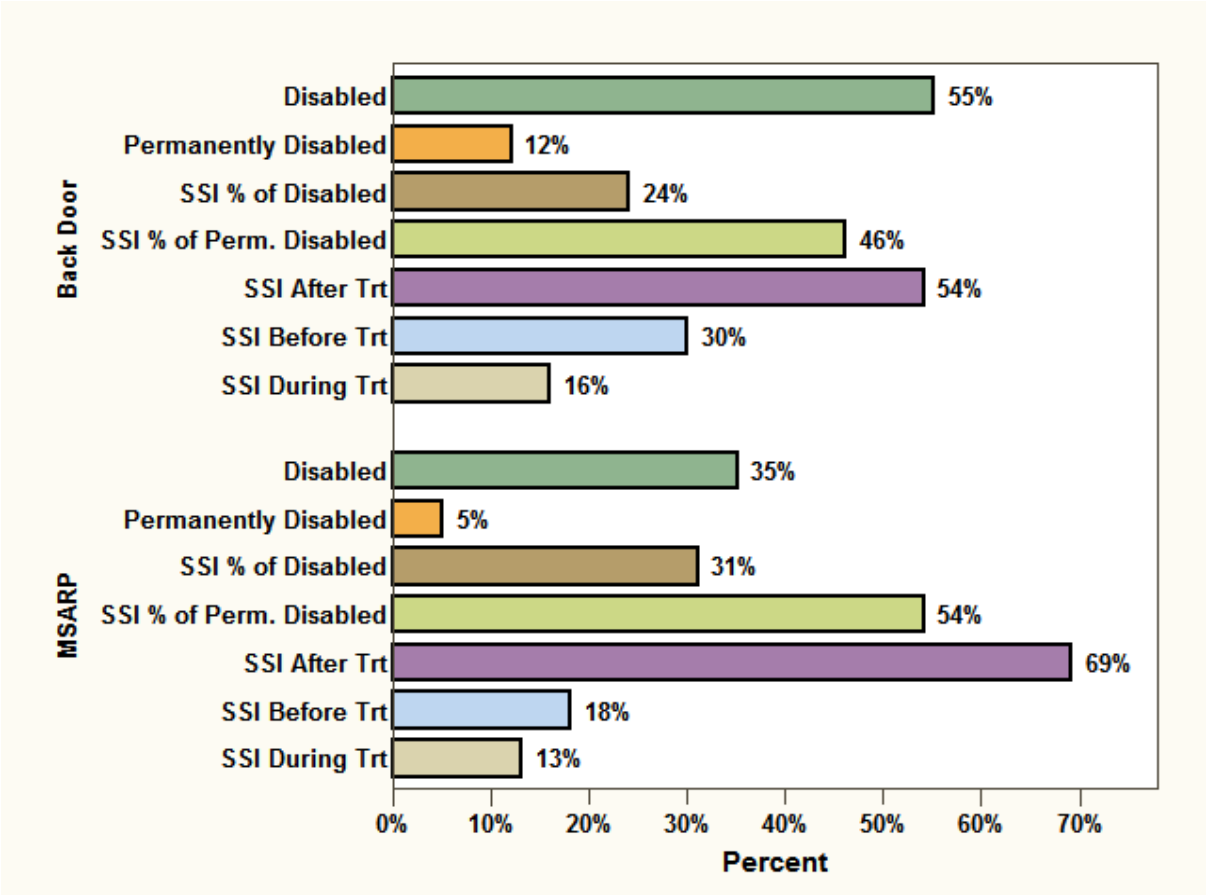


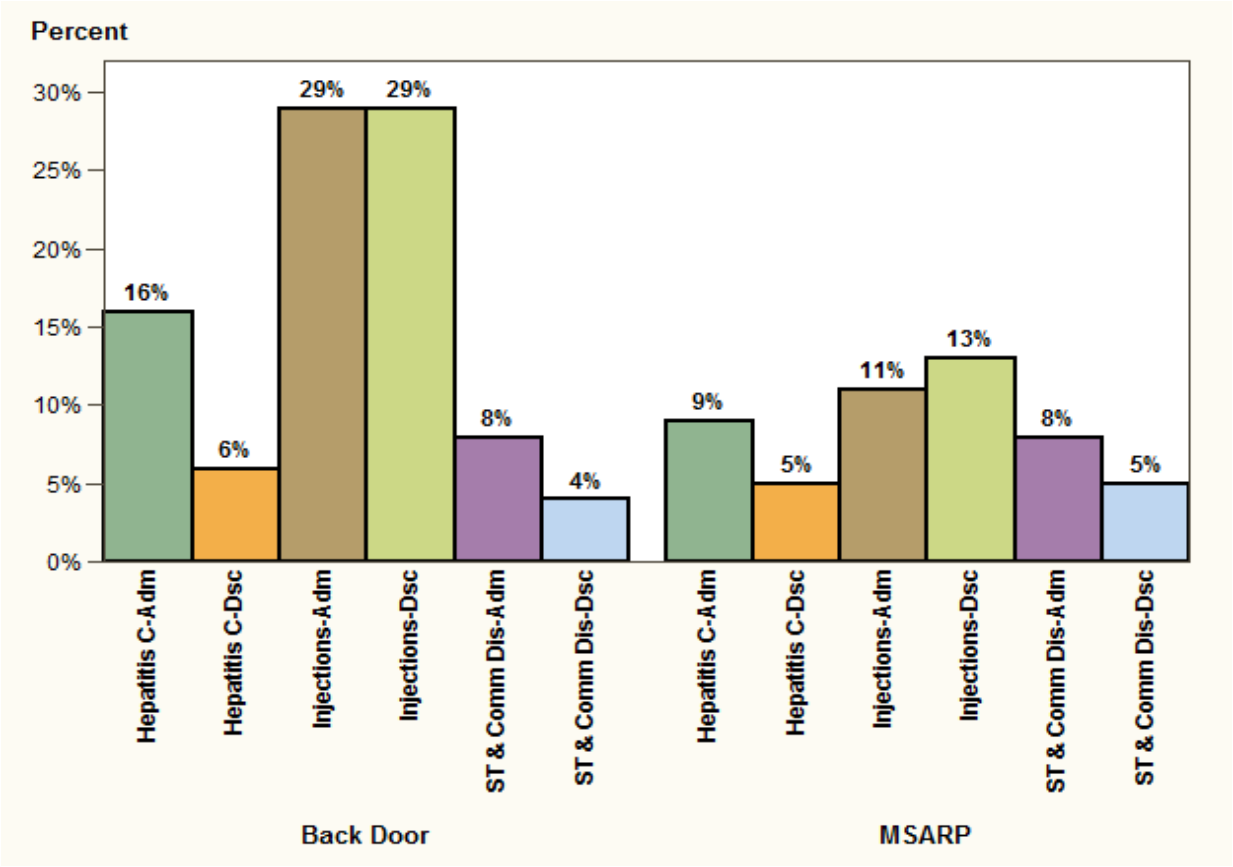
Figure 3 also shows when SSI applicants in the MSARP and backdoor groups submitted their applications. Almost one-third (30 percent) of the applicants in the backdoor group submitted their applications before treatment, as compared to 18 percent of the applicants in the MSARP group; 16 percent of the applicants in the backdoor group submitted their applications during treatment compared to 13 percent of the applicants in the MSARP group; and 54 percent of the applicants in the backdoor group submitted their applications after treatment compared to 69 percent of the applicants in the MSARP group. The rate of disability within the no-treatment group (not shown in Figure 2) is 42 percent, but only 87 of the recipients in this group (7 percent) initiated an SSI application process after their MSARP referral date.

Overall the data indicate that, similar to the GR population in general, both the backdoor (55 percent) and MSARP (35 percent) groups include a high number of disabled recipients. Substance abuse treatment appears to be an effective gateway for these disabled recipients to apply for SSI benefits. The jump in the proportion of recipients initiating an SSI application process after treatment is quite significant for both MSARP and backdoor groups, while a negligible number of GR recipients within the no-treatment group initiated an SSI process.

High Risk Behaviors and Sexually Transmitted Diseases

Although the DPH data are spotty in the areas of sexually transmitted diseases and high-risk behaviors, this brief section looks at a few indicators available in the administrative records. Figure 4 shows significantly higher rates of injection use within the backdoor group (29 percent at both admissions and discharge as compared with 11 percent of the MSARP group at admissions and 13 percent at discharge). A higher rate of Hepatitis C is also seen among the backdoor group at admissions as compared with the MSARP group (16 percent versus 9 percent), while the proportion with Hepatitis C at discharge is roughly equal among the two groups (6 percent within the backdoor group versus 5 percent within the MSARP group). The rates of recipients with sexually transmitted or communicable diseases are similar among the two groups (8 percent at admissions and roughly 5 percent at discharge).

Figure 4. High-Risk Behaviors, by Study Group

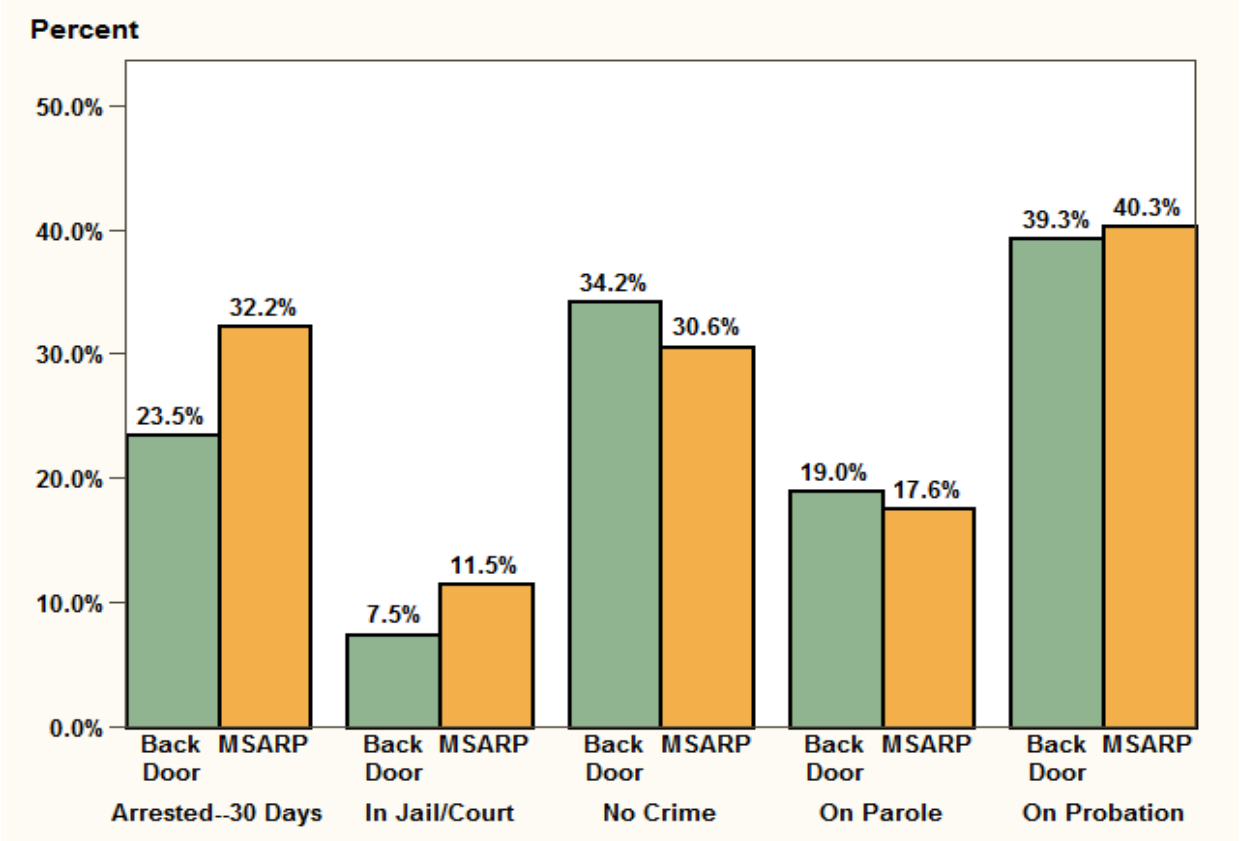


Overall, the data show that the backdoor group had a higher prevalence of high-risk behaviors. However, in both groups, and particularly among the recipients in the backdoor group, the rates of diagnoses of Hepatitis C and sexually transmitted or other communicable diseases decrease significantly between admission and discharge. The exception to this is rate of injection use, which is quite high, especially within the backdoor group, and does not drop after treatment.

Justice System Involvement

Figure 5 compares the backdoor and MSARP groups in terms of their criminal justice system involvement.[6] The first set of bars indicates that 32.2 percent of recipients in the MSARP group were arrested within the past 30 days of their admission to treatment, as compared to the 23.5 percent of backdoor group recipients who were arrested within 30 days of their admission to treatment. The remaining sets of bars show the criminal justice system involvement of recipients in the MSARP and backdoor groups at the time of admission to substance abuse treatment. The largest proportions of clients in both groups, approximately 40 percent of each, were on probation. While close to 20 percent of participants in each group were on parole, around one-third of each group had not been involved in the criminal justice system. The remaining 7.5 percent of recipients in the backdoor group and 11.5 percent in the MSARP group were incarcerated or in the court system and diverted or awaiting trial or sentencing. Among those arrested, almost 50 percent of the backdoor group and almost 60 percent of the MSARP group were in jail or the prison system for 30 days or more in 2007.[7]

Figure 5: Criminal Justice System Involvement, by Study Group



[6] All differences except the status of 'on probation' and 'on parole' are statistically significant at 1 percent level.

[7] The proportion of recipients arrested in the prison system is very small.

Overall, the data show that significant numbers of GR recipients with substance abuse problems are involved in the criminal justice system.[8] While this study does not link client records to jail data systems, self-declared answers to the criminal justice system questions reveal that only one-third of the study population for this report were not involved in the criminal justice system at the time of their admission for substance abuse treatment. While close to one quarter (23.5 percent) of the backdoor group and close to one third (32.2 percent) of the MSARP group were arrested at some point during the 30 days prior to their admission to treatment, nearly 60 percent of both groups were either on parole or on probation.

Homelessness

Recent research literature shows a high correlation between substance abuse and homelessness. In conducting the analysis for this study, the extent of homelessness among the study populations was gauged using two sources of data. The first source was DPSS' GR program data; the second source was DPH administrative data collected on recipients at admission into and discharge from substance abuse treatment.[9] Recipients are considered homeless if the last address in their administrative records is either a DPSS office or a homeless shelter.

Figure 6 compares the MSARP and backdoor groups in terms of homeless status. The proportions of the two groups that are homeless are shown separately for admission, discharge, and during the course of the entire substance abuse treatment. The proportions of both the MSARP and backdoor groups that were homeless dropped from 70 percent to 60 percent between admission and discharge. Overall, 86 percent of the MSARP group and 80 percent of the backdoor group was homeless at one point during the substance abuse treatment.[10]

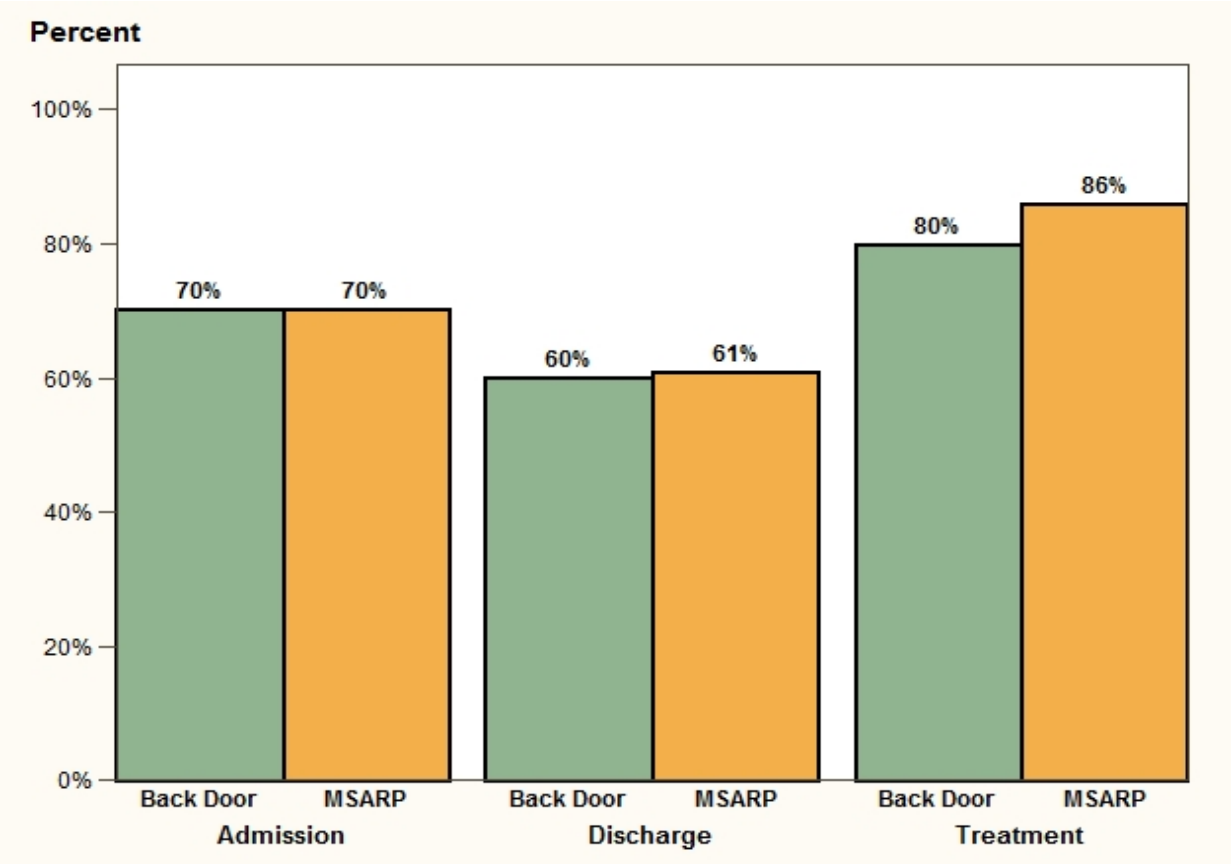
---

[8]Similar findings were presented in an earlier study of Los Angeles County, which showed that GR participants have frequent jail stays before, during and after their time on GR. (Culhane, Dennis P. and Stephen Metraux. *Using Adult Linkages Project Data for Determining Patterns and Costs of Services Use by General Relief Recipients in Los Angeles County*. Los Angeles County Chief Executive Office/Service Integration Branch/Research and Evaluation Services: July, 2009).

[9]Past research and data analysis has confirmed that recipients are likely homeless in a given month when the addresses listed in their monthly records are DPSS office addresses. A recipient is therefore considered to be homeless during a given month if the GR program data shows that their mailing address remains non-residential in the following month.

[10] The difference between the MSARP and backdoor groups for the overall treatment period is statistically significant at 1 percent.

Figure 6. The Proportion of Homelessness, by Study Group



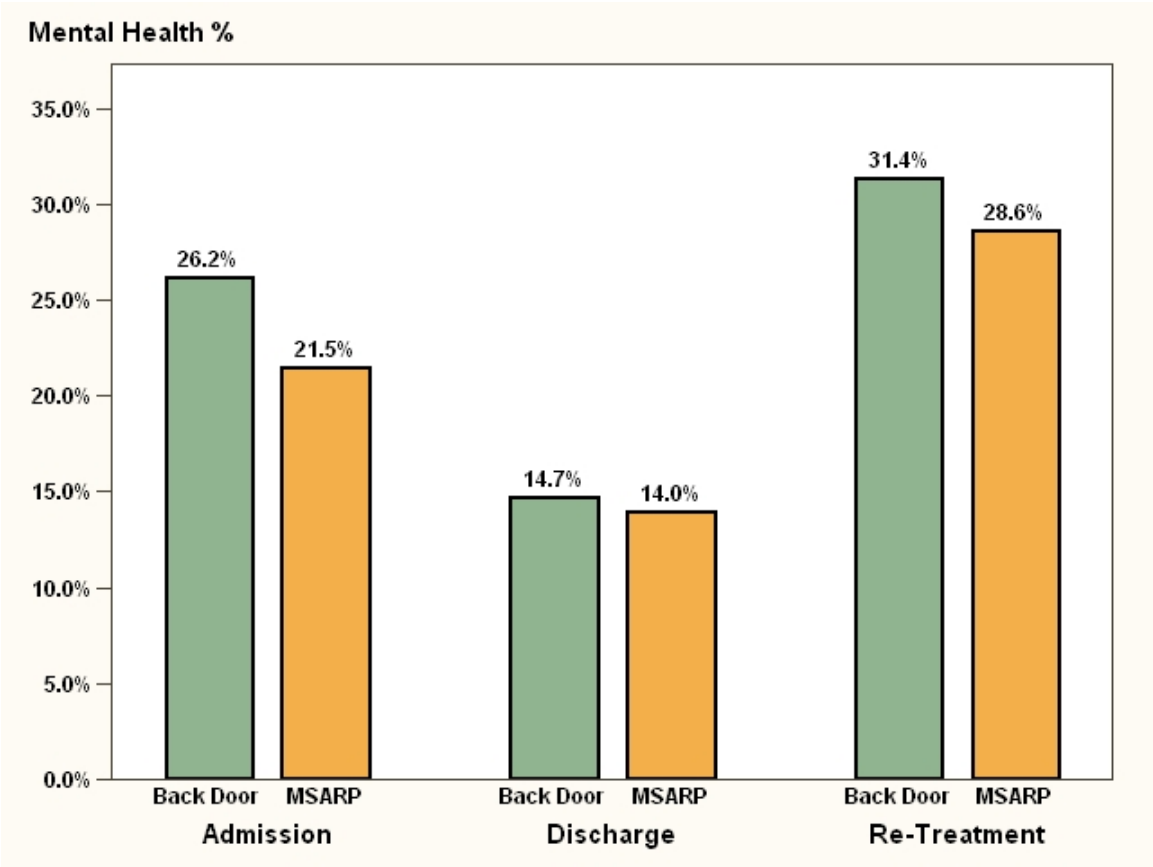
DPSS' data for the no-treatment group indicates that more than three-quarters of these recipients were homeless at the time they were referred to MSARP.[11] No significant differences are observed in the data between the new-GR and old-GR groups in terms of the proportions of homeless recipients.

[11] Data for the no-treatment group is only available from DPSS' administrative records for the GR program.

Mental Health

Figure 7 shows that 21.5 percent of the MSARP group and 26.2 percent of the backdoor group were known at their admission to substance abuse treatment in 2007 to have been diagnosed with mental health problems within 30 days prior to the start of their treatment.[12] These mental health problems drop significantly for both the MSARP (14 percent) and backdoor groups (14.7 percent) by the 30 days prior to their discharge. Figure 7 shows that, among those clients who had ever received a re-treatment for substance abuse issues, 28.6 percent of those in the MSARP group and 31.4 percent of those in the backdoor group were diagnosed with mental health issues within 30 days of either their admission to or discharge from re-treatment.[13]

Figure 7. GR Recipients Diagnosed with Mental Health Problems



[12] The data yielding these numbers are based on self declaration and do not indicate whether or not recipients received treatment for mental health issues.

[13] The difference in the proportions of recipients diagnosed with mental health between backdoor and MSARP groups is statistically significant at p=.01 level at admission, but only becomes significant at discharge and re-treatment at p=.05 level

Approximately 5 percent of both the MSARP and backdoor groups received outpatient emergency services for mental health within 30 days prior to their admission, and approximately 3 percent of both groups received outpatient emergency services for mental health within 30 days prior to discharge. The proportions are even smaller for hospital-inpatient services. The differences between the two groups are not statistically significant.

The findings suggest that a significant portion of GR recipients with substance abuse issues also face mental health problems. While the substance abuse treatment appears to help improve mental health problems for recipients who complete treatment, the mental health problems of those who re-enter treatment due to ongoing substance abuse issues appears to worsen over time. On the other hand, as shown in Los Angeles County's Adult Linkages Project (ALP) study, a small fraction of DPH clients diagnosed with mental health problems had actually received mental health services during the 30-day period prior to their discharge from substance abuse treatment. It therefore appears that there is a mental health service gap for clients with mental health co-morbidity. The accessibility and availability of mental health services to this population – and particularly to those with ongoing substance abuse problems – needs to be studied and evaluated more closely.

Treatment History

Figure 8 compares the average number of treatments received by the three study groups before and during 2007.[14] Recipients in the MSARP and backdoor groups both had an average of 1.7 treatments during 2007. Figure 9 compares the average duration of treatment for the three groups before and during 2007. The backdoor group's 7.7-month average duration of treatment during 2007 was longer than the 6.1-month average duration of treatment for the MSARP group. These average durations of treatment were approximately three months longer than the average durations of treatment for recipients in each group during the period before 2007. Almost half of each of these two groups received at least one treatment prior to 2007. Recipients in the group receiving no treatment during 2007 had a 1.7-month average duration of treatment during the period before 2007. On average, the no-treatment and MSARP groups had approximately one referral during 2007 and 0.5 referrals (one out of every two recipients) prior to 2007.

Figure 8 compares the average number of treatments received by the three study groups before and during 2007. Recipients in both the MSARP and backdoor groups had an average of 1.7 treatments during 2007. Almost half of each of these two groups received at least one treatment prior to 2007. On average, the no-treatment and MSARP groups had approximately one referral during 2007 and 0.5 referrals (one out of every two recipients) prior to 2007.

[14] By definition, the no-treatment group received no treatments in 2007 and the backdoor group received no referrals in 2007.

Figure 8. Average Number of Episodes of Substance Abuse Treatment Before and During 2007, by Study Group

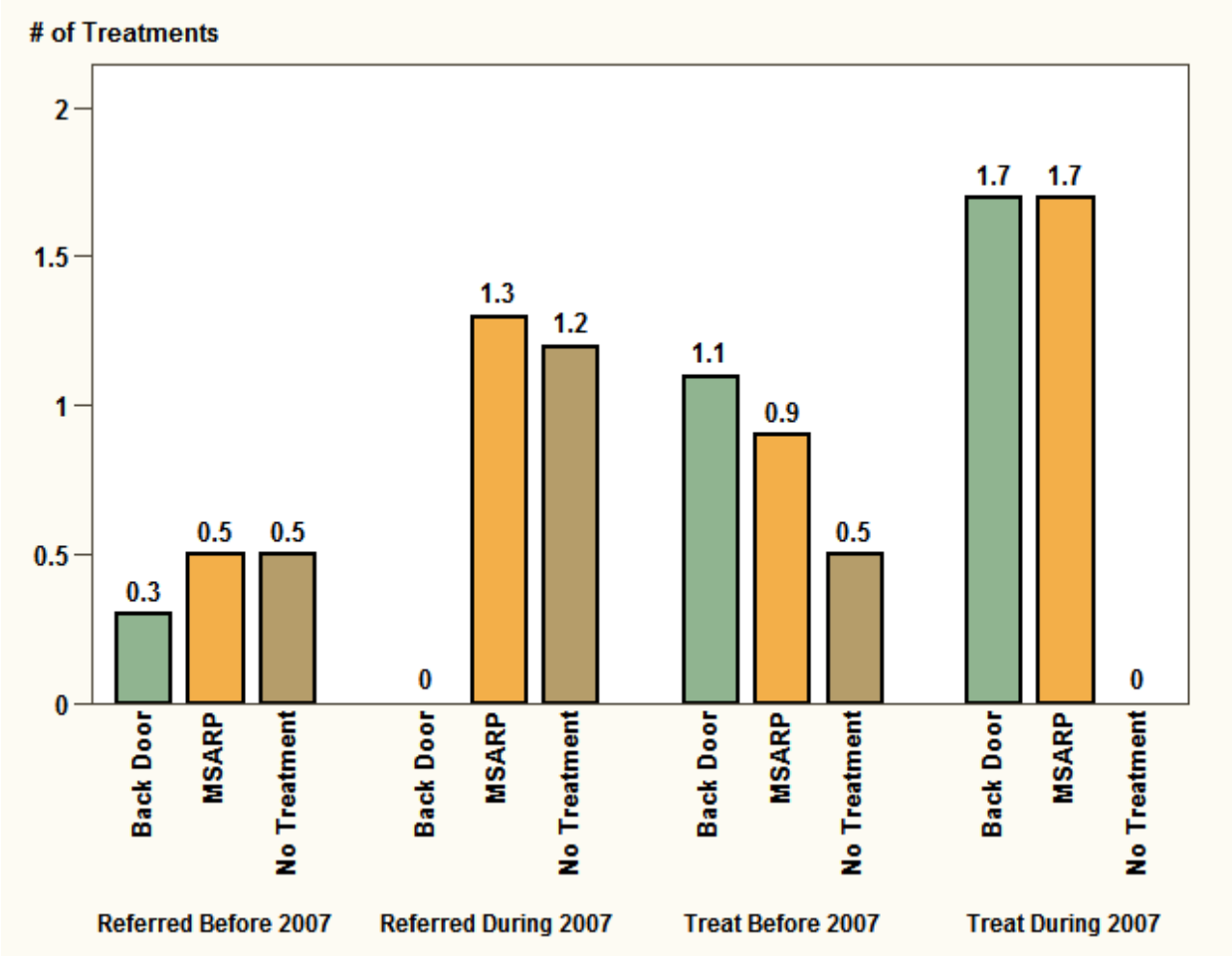
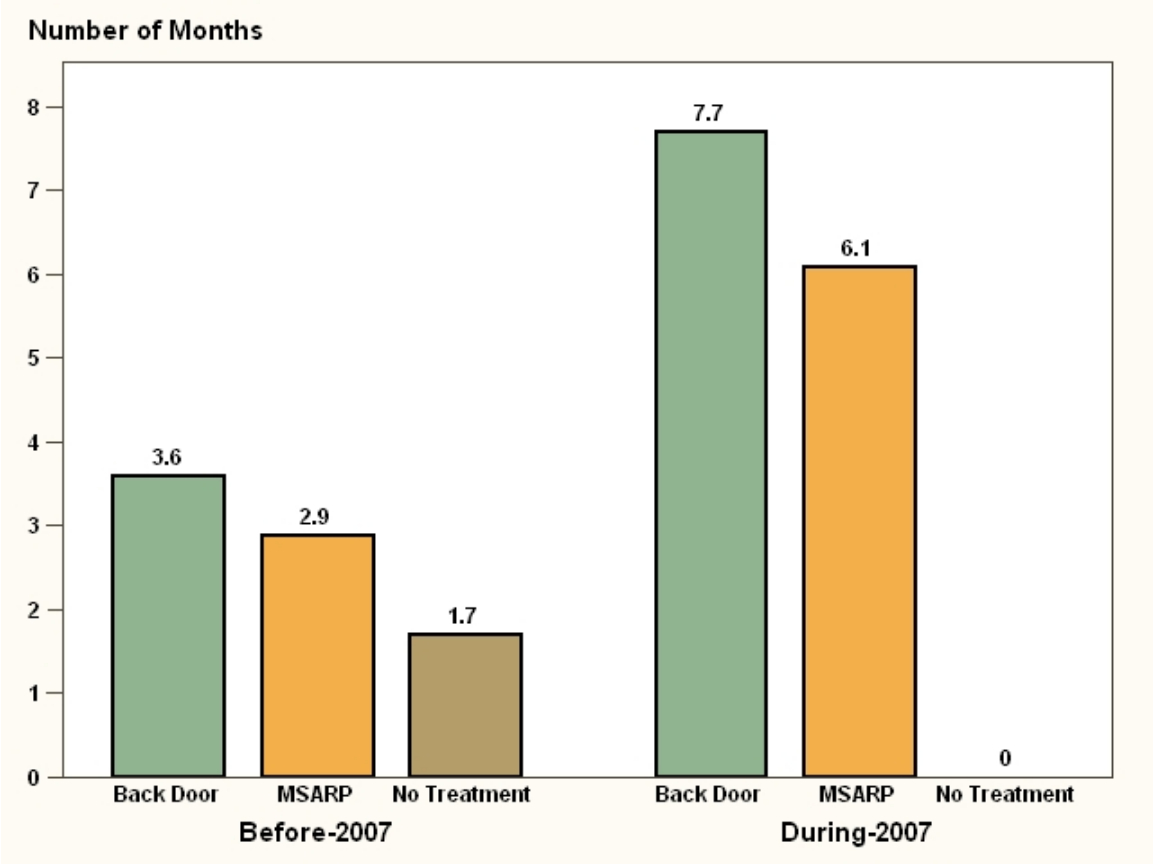


Figure 9 compares the average duration of treatment for the three groups before and during 2007. The backdoor group's 7.7-month average duration of treatment during 2007 was longer than the 6.1-month average duration of treatment for the MSARP group. These average durations of treatment were approximately three months longer than the average durations of treatment for recipients in each group prior to 2007. Recipients in the group receiving no treatment during 2007 had a 1.7-month average duration of treatment during the period before 2007

Figure 9. Average Duration of Substance Abuse Treatment Before and During 2007, by Study Group

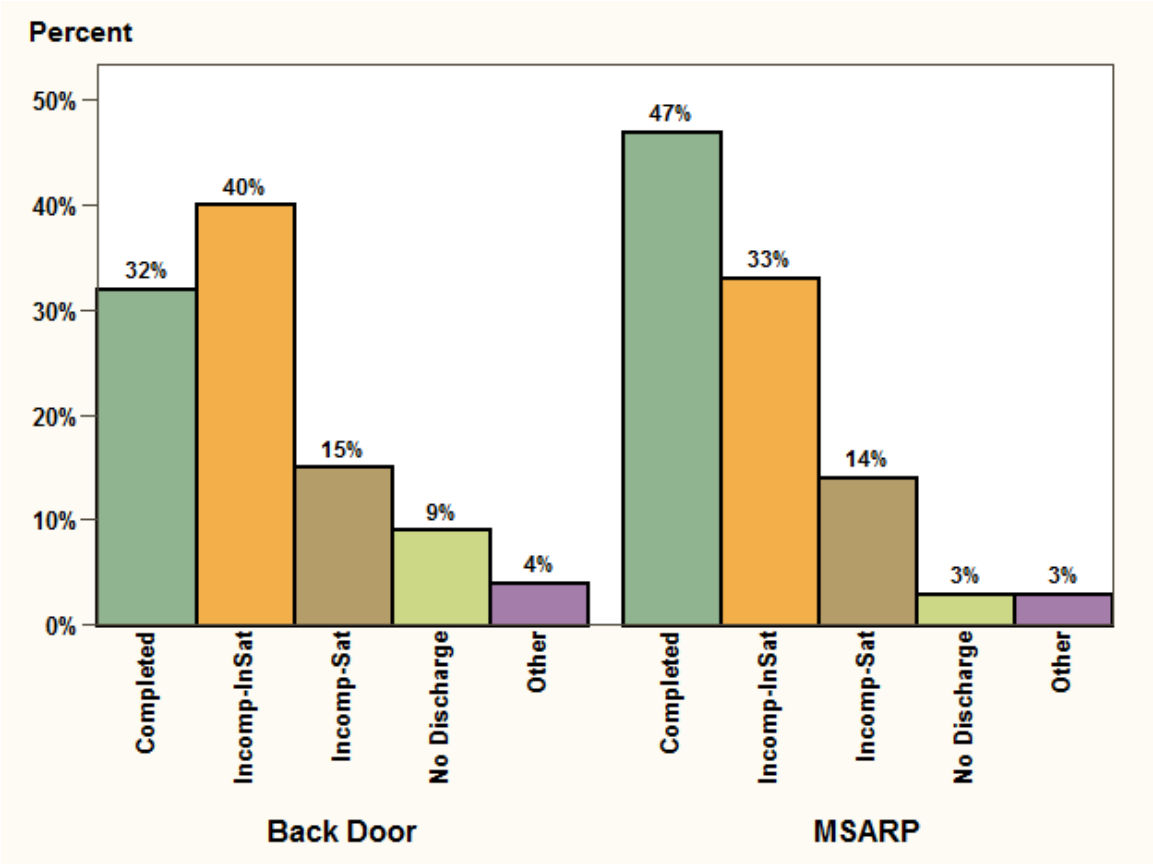


Engagement and Treatment Durations and Completion Rates

The treatment durations given in Figure 9 are in cumulative months over time, and they therefore do not show the length of substance abuse treatment in consecutive months, which is critical to a complete assessment of the substance abuse treatment GR recipients receive. In this section, the proportion of GR recipients engaged in substance abuse treatment for six consecutive months is measured against both the proportions engaged for between seven and nine months, and the proportions that completed their treatment. This requires studying discharge statuses in connection with treatment durations so that incomplete treatments can be separated from completed treatments. The data are presented for the first episode of treatment in 2007 to capture the number of consecutive months recipients remained in treatment.

Figure 10 summarizes discharge statuses by study group. In addition to completion of treatment, the discharge statuses given are incomplete but satisfactory treatment ('Incomplete-Sat'); incomplete and unsatisfactory treatment ('Incomplete-Unsat'); or no discharge due to an ongoing need for treatment ('No Discharge'). 'Other' is a residual category covering issues such as death, incarceration, or missing discharge information.

Figure 10. Treatment Discharge Statuses of Study Groups



The data indicate that 47 percent of the MSARP group completed their treatment compared to 32 percent of the backdoor group. In addition, 40 percent of the backdoor group and 33 percent of MSARP group left treatment with unsatisfactory progress. Overall, approximately half of the GR recipients in both groups did not complete their treatment.

Among the MSARP group, 33 percent completed their treatment in less than six months, 19 percent in six months, 26 percent in seven to nine months, and 21 percent in more than nine months. Among the backdoor group, 40 percent completed their treatment in less than six months, 13 percent in six months, 20 percent in seven to nine months, and 27 percent in more than nine months.

Figure 11 shows treatment durations by study group. In both groups, the highest proportions of recipients – 35 percent of the backdoor group and 41 percent of the MSARP group – remained in their treatment for between two and five months. While 11 percent of the backdoor group versus 17 percent of the MSARP group remained in treatment for six months, 12 percent of the backdoor group versus 18 percent of the MSARP group remained in treatment for between seven and nine months. Overall, more than half the participants in both groups remained in treatment for less than six months.

Figure 11. Treatment Durations of Study Groups[15]

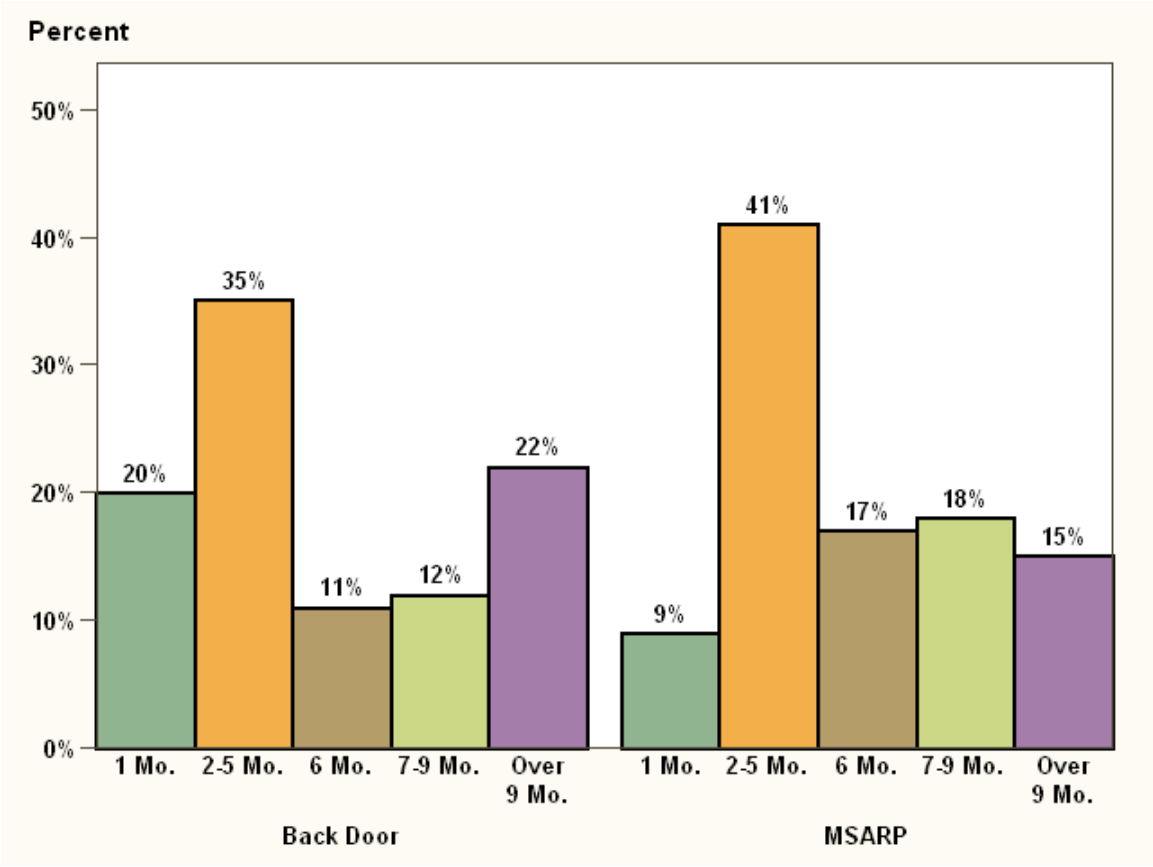


Figure 12 narrows the focus of the analysis somewhat, looking simply at GR recipients in each study group who completed their treatment by the length of time (in consecutive months) they were in treatment. Among the MSARP group, 33 percent completed their treatment in less than six months, 19 percent in six months, 26 percent in seven to nine months, and 21 percent in more than nine months. Among the backdoor group, 40 percent completed their treatment in less than six months, 13 percent in six months, 20 percent in seven to nine months, and 27 percent in more than nine months

[15] Durations in this figure are in consecutive months.

Figure 12. Recipients Who Completed Their Treatment, by the Duration of the Treatment

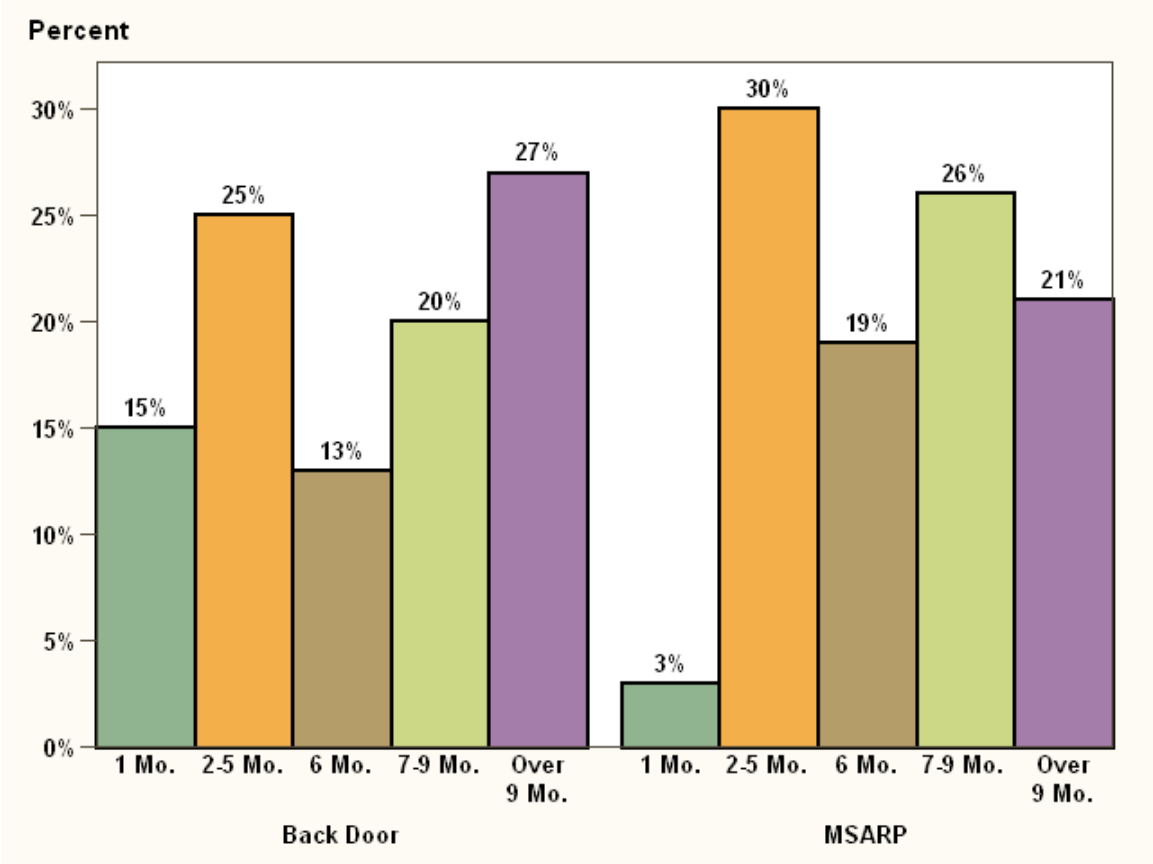
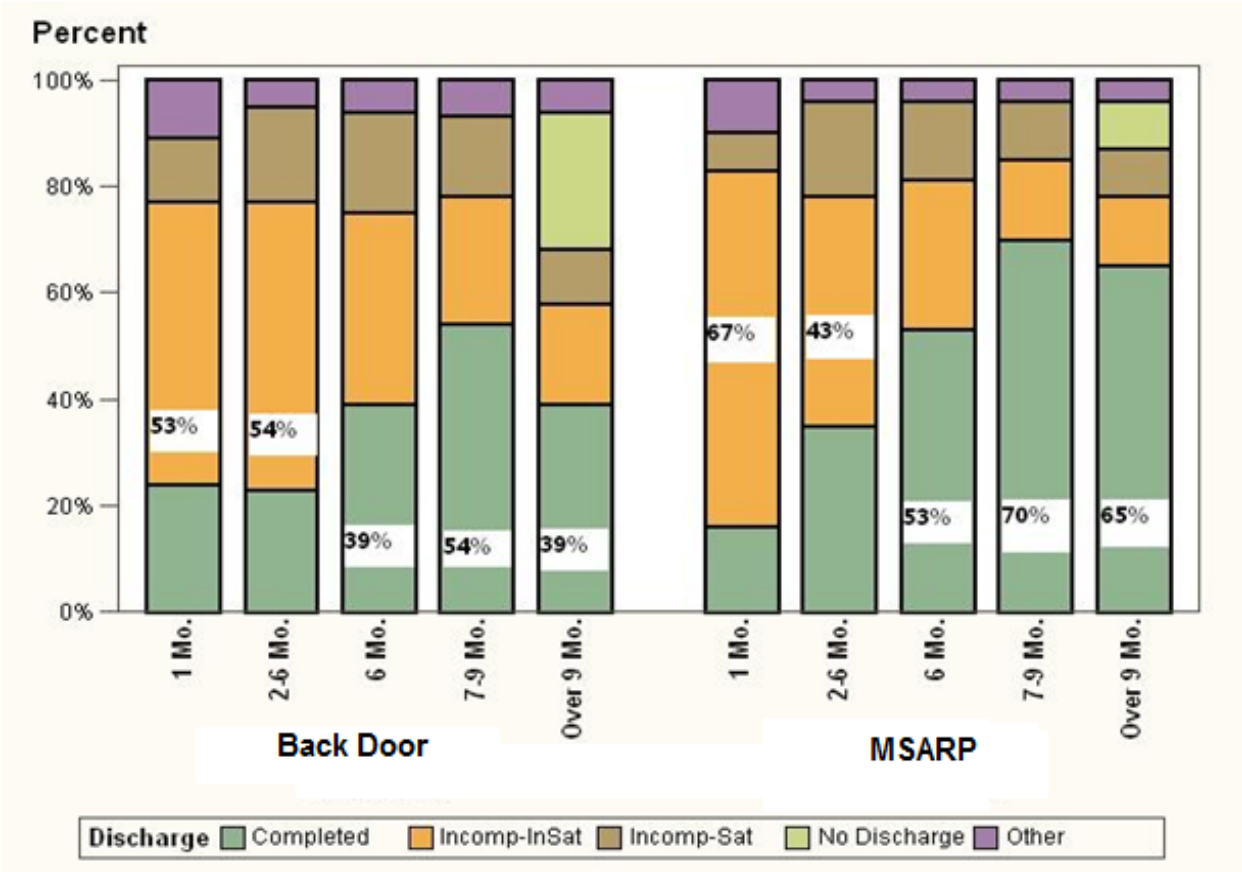


Figure 13 shows the distribution of discharge statuses by treatment duration. The data indicate that, for both the MSARP and backdoor groups, more than half the recipients with treatment durations of less than six months left treatment with unsatisfactory progress. At the same time, a majority of recipients in both study groups with treatment durations of more than six months completed their treatment. These results point to the question of why recipients leave their treatment early and before satisfactory progress has been achieved.

Figure 13. Discharge Statuses, by Treatment Duration for Study Groups



Treatment Durations and Spells

This section examines the extent to which GR recipients undergo multiple spells of treatment after their initial engagement with substance abuse treatment. Additionally, the duration of each spell of treatment is addressed. The average duration of the first treatment recipients started in 2007 was approximately six months for the MSARP group and seven months for the backdoor group.

Since significant numbers of GR recipients engage in multiple spells of treatment, it is helpful to look at the duration of each individual treatment spell as well as the total duration of all their treatment spells combined.[16] Over the course of the period from 2007 to 2009, more than half of the backdoor group, and close to two-thirds of the MSARP group, were engaged in substance abuse treatment for only one treatment spell. However, it should also be noted that approximately one-third of the recipients in both groups who had engaged in only one spell also had treatment spells prior to 2007. Only 36 percent of the backdoor group and 44 percent of the MSARP group were engaged in only one episode of treatment between 2005 and 2009.

[16] A treatment spell is defined as a treatment received in consecutive months.

Figure 14 shows that recipients in both the MSARP and backdoor groups had an average of approximately 1.5 treatment spells during the period from 2007 through 2009. As noted earlier, the average MSARP duration for the first spell in 2007 was seven months for the backdoor group and six months for the MSARP group. The average length of the second spell was roughly five months for both groups, and the average length of the third spell for both groups was four months.[17] A higher proportion of recipients in the old GR group (66 percent) had multiple treatment spells in comparison with the new GR group (56 percent), which is to be expected.

Figure 14. Duration of Treatment Spells, by Study Group

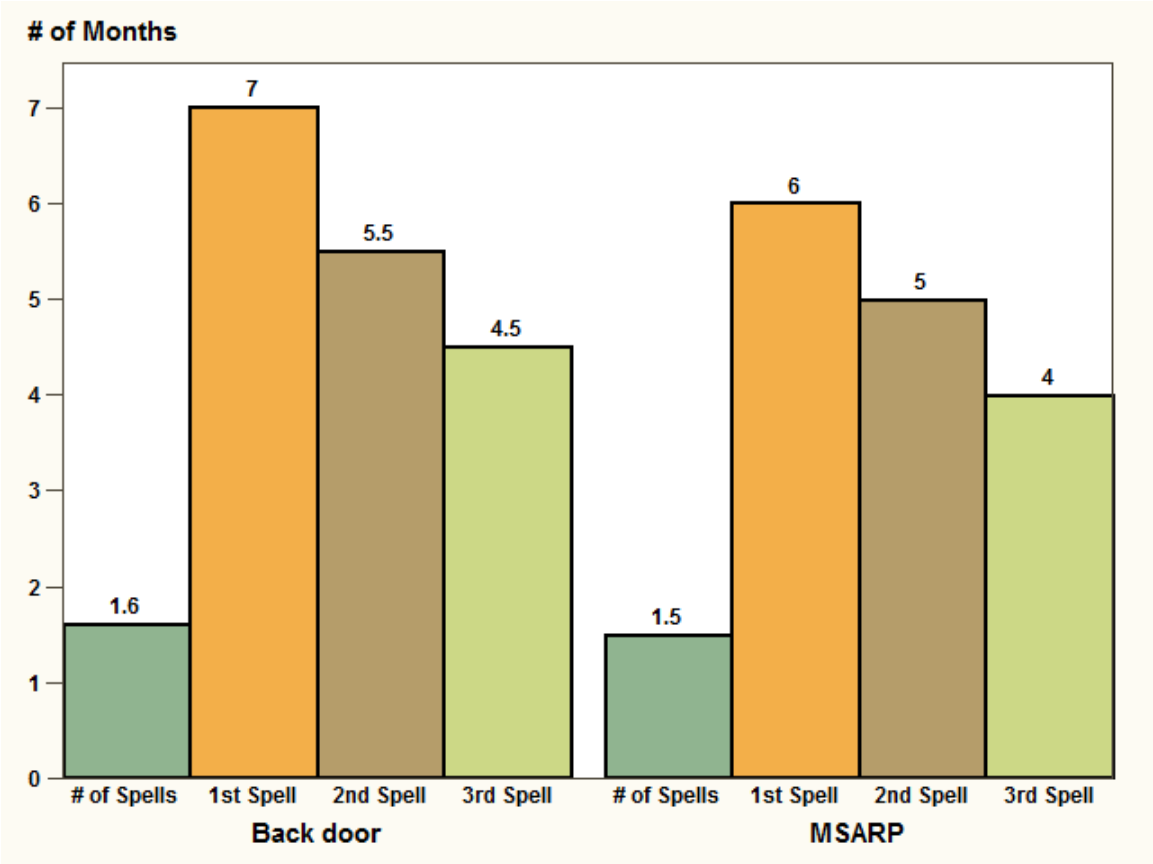
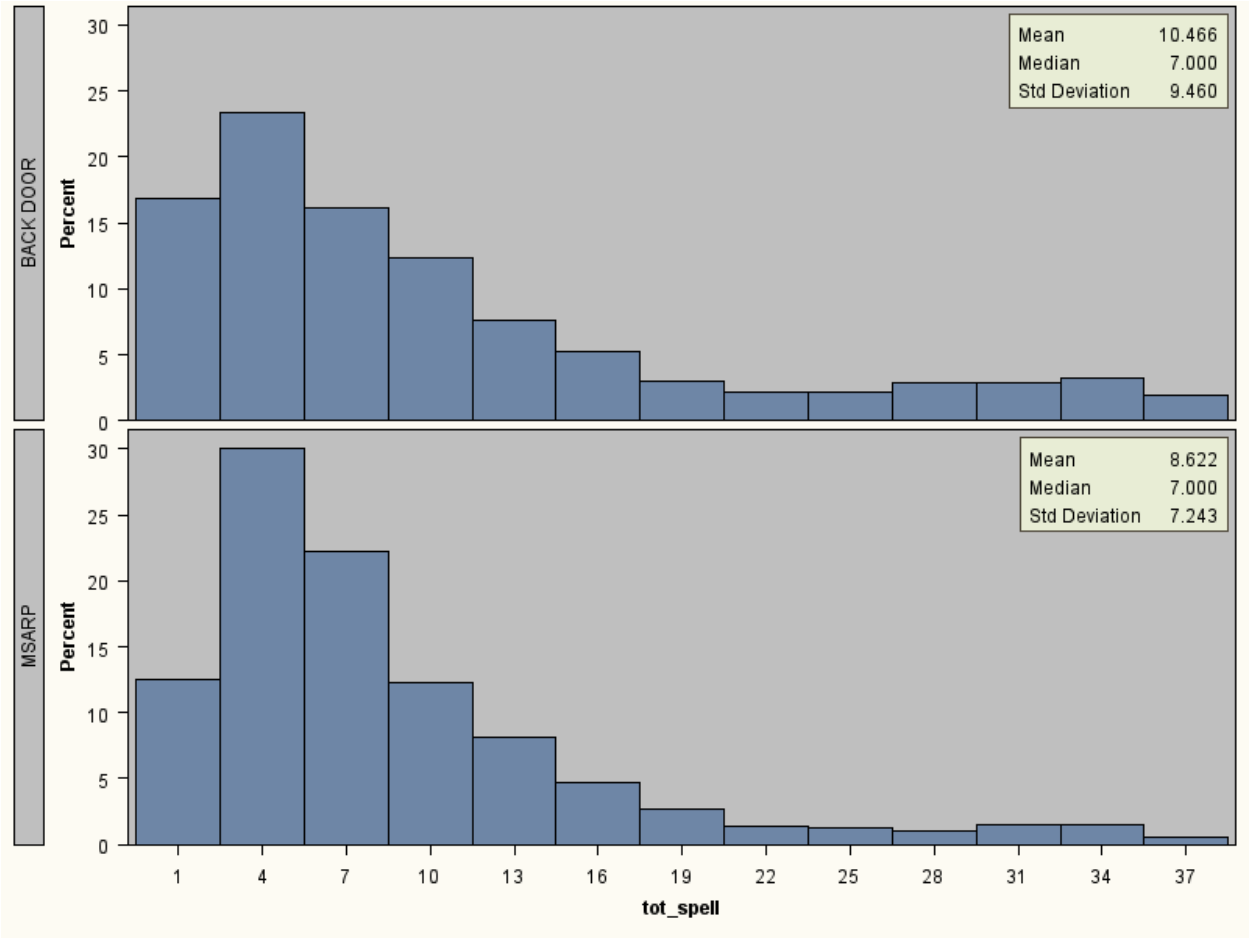


Figure 15 shows the distribution of the total treatment durations for the MSARP and backdoor groups in cumulative (as opposed to consecutive) months. The average length of total treatment is higher for the backdoor group (approximately 10.5 months) relative to the MSARP group (8.6 months). A higher proportion of the recipients in the MSARP group had a treatment length in the range of between six and nine months.

[17] The majority of the recipients undergoing three spells also had more than three spells, but higher numbers of spells are not included in the analysis for the sake of simplicity. The differences are statistically significant at 1 percent.

Figure 15. Total Treatment Duration, by Study Group



Episodic versus Single Treatment Cases

GR recipients receiving substance abuse treatment are either first-time users of treatment services or episodic users who relapse and re-enter treatment multiple times. The data reveal four patterns of treatment spells. The largest portion of the MSARP and backdoor groups – 40 percent of both combined – is comprised of GR recipients with a single spell of treatment in 2007, and no additional spells of treatment before or after 2007. Another 20 percent of the combined groups had no episodes of treatment prior to 2007, but multiple treatments during the period from 2007 to 2009. A third group of GR recipients, comprising 20 percent of the groups combined, consists of those who received treatments prior to and during 2007, but no treatments after 2007. A fourth group of recipients, comprising 20 percent of the combined groups, had multiple episodes of treatment spread over the periods before, during and after 2007. These utilization patterns raise the question of whether there are significant differences between the recipients falling into each pattern. For the purpose of clarity, the comparison can be simplified to the question of whether there is a difference between recipients with multiple episodes of treatment, including their treatment in 2007, and recipients who had only the one treatment in 2007. It is also instructive to look at the MSARP and backdoor groups separately in connection with single versus episodic treatments.

Table 3 shows that there are significant differences between recipients with a single treatment and those with multiple episodes of treatment. Within both the backdoor and MSARP groups, recipients with multiple episodes of treatment were more likely to have treatments prior to 2007. Additionally, recipients in both groups with multiple episodes of treatment include lower proportions of recipients from the new GR group. Recipients with multiple treatments in both study groups also have lower proportions of African Americans and higher proportions of Hispanics. Moreover, recipients with multiple episodes of treatment in both groups used their primary drug at higher rates within 30 days prior to admission for treatment, had much higher rates of heroin addiction, and larger incidences of homelessness. While the portion of the MSARP group with multiple episodes of treatment had a higher proportion of disabled recipients, the portion of the backdoor group with multiple episodes of treatment had a lower proportion of employable and younger age recipients, as well as a higher proportion of recipients in the NSA category. There are no significant differences between recipients with single and multiple episodes of treatment in terms of children at home and arrests within 30 days prior to admission, but there are significant differences between the MSARP and backdoor groups in these two areas.

Table 3. Comparison of Participants with Episodic and Single-Time Treatment Patterns, by Study Group[18]

GROUPS/FACTORS	BACKDOOR		MSARP	
	Episodic	Single	Episodic	Single
Treatment Prior to 2007	50%	35%	48%	30%
New GR Group	20%	25%	30%	39%
African Americans	35%	44%	23%	29%
Hispanics	36%	29%	44%	34%
Disabled	57%	53%	40%	32%
Employable	23%	30%	37%	39%
NSA	31%	25%	14%	13%
Age: 18-29	15%	19%	26%	28%
If Used Primary Drug within 30 days prior to admission	38%	22%	17%	12%
If Not used Primary Drug in past 30 Days	31%	43%	36%	46%
Primary Drug—Alcohol	9%	14%	16%	21%
Primary Drug—Heroin	42%	21%	19%	7%
Homeless at one Point during the Treatment	80%	71%	85%	73%
Participant has children living at home	33%	32%	41%	42%
Arrested during the past 30 Days	19%	20%	26%	28%

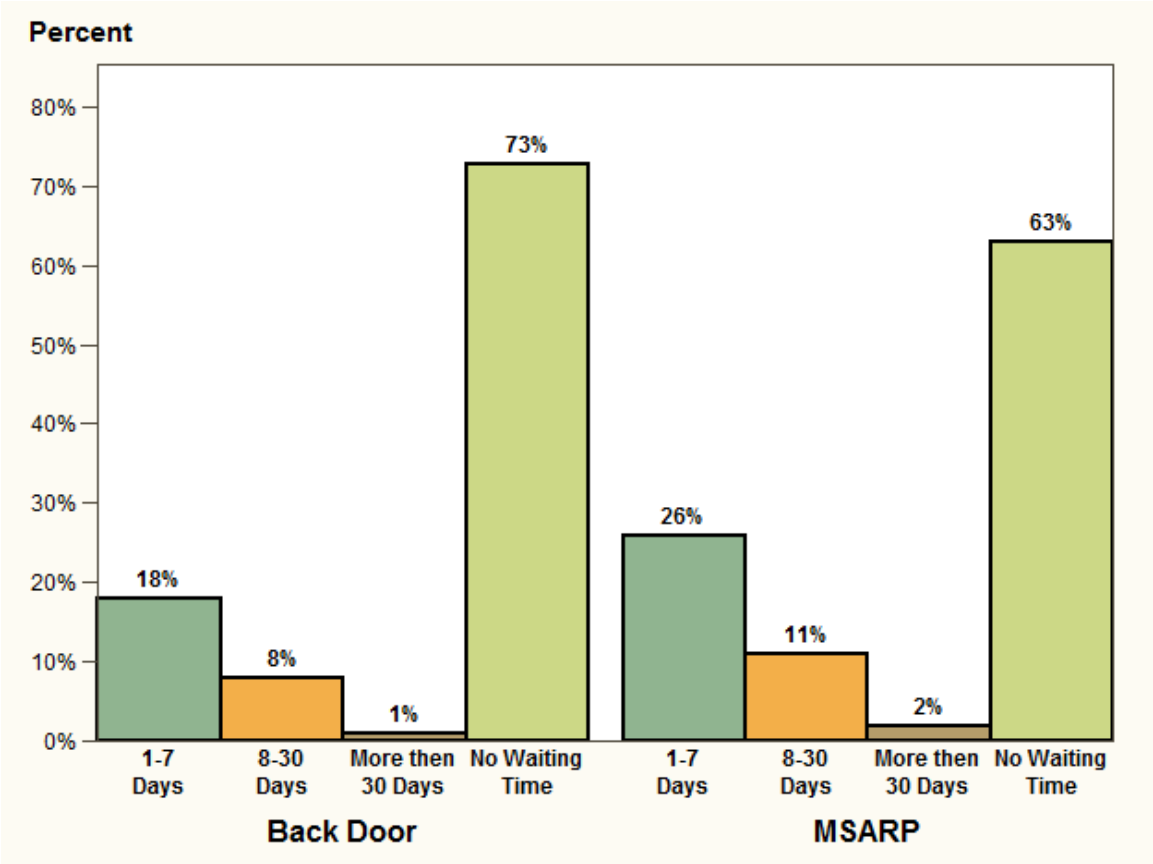
The Average Length of Time between Referral and Treatment

Minimizing the wait time between referral and treatment is likely something that encourages more GR recipients with substance abuse issues to engage with the MSARP program after a referral. It is therefore useful to examine the average length of time between a referral and the start of treatment. The analysis in this section looks at the MSARP referral dates from the GR administrative data and treatment admission dates from the DPH data in order to calculate the time between referrals and start dates for the MSARP group.

As illustrated in Figure 16, almost two-thirds (63 percent) of the MSARP group had no waiting time between referral and the start of treatment; another quarter (26 percent) had a one-week wait time, and only 2 percent had a wait time of more than 30 days. An assessment of wait times was also done for recipients in the backdoor group using information available in DPH administrative records and showed that almost 3 quarters (73 percent) of the backdoor recipients had no waiting time, while 18 percent had a wait time of one week, and only 1 percent had a wait time of more than 30 days.

[18]The table only shows statistically significant differences. Differences are statistically significant at 1 percent. Additionally, the table shows the column percentages so that the episodic and single treatment cells do not add up to 100%. The table does not show other factors that were tested but appeared to be insignificant such as gender, marital status, language, education, mental health status, or emergency hospital visits. Some variables are significantly different for one study group but not for the other. For example, the difference between the disabled recipients in the episodic and single-time groups is significant for the treatment but not for the backdoor group. The non-significant group is shown as shaded cells in the table.

Figure 16. Waiting Time for Treatments, by Study Group

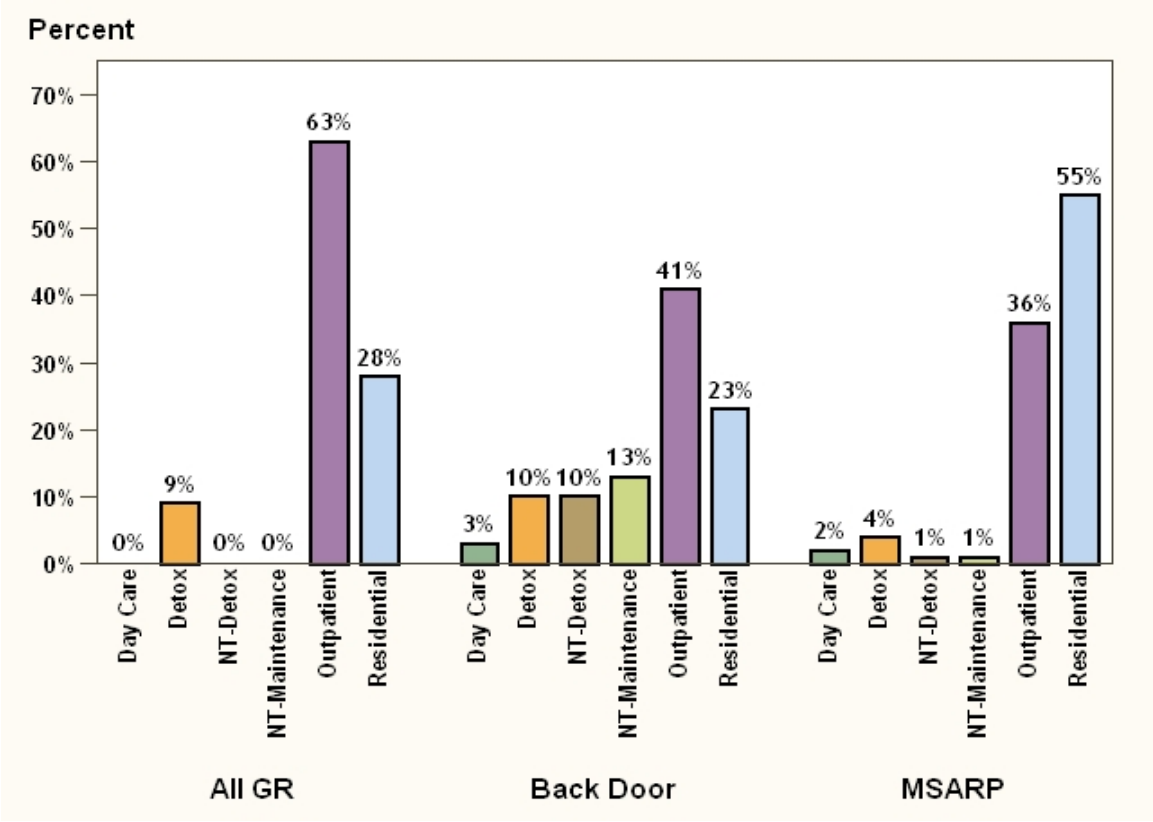


Completion Rates by Type of Treatment

This section looks at the extent to which GR recipients complete particular modalities of substance abuse treatment. Recipients have six modalities available to them: (1) Day Care programs that provide counseling and recovery services in a social setting, such as individual and group counseling sessions, alcohol and drug education classes, health and fitness activities, and social/recreational activities; (2) Narcotic Treatment Detoxification Programs that administer or furnish methadone and/or alphaacetylmethadol (LAAM) in decreasing doses for a period not to exceed 21 days; (3) Narcotic Treatment Maintenance programs that administer methadone/LAAM at relatively stable dosage levels for a period in excess of 21 days; (4) Outpatient Counseling Programs that provide crisis intervention, counseling, referral services, mutual self-help groups, and coordination of services with other agencies; (5) Residential Detoxification Services that provide care and treatment in a non-medical setting, including physical examinations, medication as needed, recidivism counseling, and referrals to other resources; (6) Residential Services that provide 24-hour live-in, drug-free treatment environments under the supervision of trained staff providing intakes and assessments, room and meals, crisis intervention sessions, and social/recreational activities.

Figure 17 shows the proportion of GR recipients in the MSARP and backdoor groups that participated in each of the six modalities of substance abuse treatment. The figure also gives the participation levels for all GR recipients included in an official 2006-2007 report furnished by DPH, which includes all persons known by DPH to be on GR. It should be noted that three of the treatment modalities – Day Care, Narcotic Treatment Detoxification, and Narcotic Treatment Maintenance – were not available to the recipients included in the official DPH report. This third group is included in the analysis alongside the MSARP and backdoor groups in order to highlight some of the distinctions between the recipients DPH knows and does not know to be on GR. For example, more than three fifths (63 percent) of the recipients DPH knew to be on GR were in outpatient counseling, as compared to 40 percent of the backdoor group and 36 percent of the MSARP group.[19] At the same time, 55 percent of the MSARP group received residential treatment as compared to 23 percent of the backdoor group and 28 percent of all the GR recipients DPH knew to be on GR.

Figure 17. Participation in Substance Abuse Modalities, by Study Group[20]

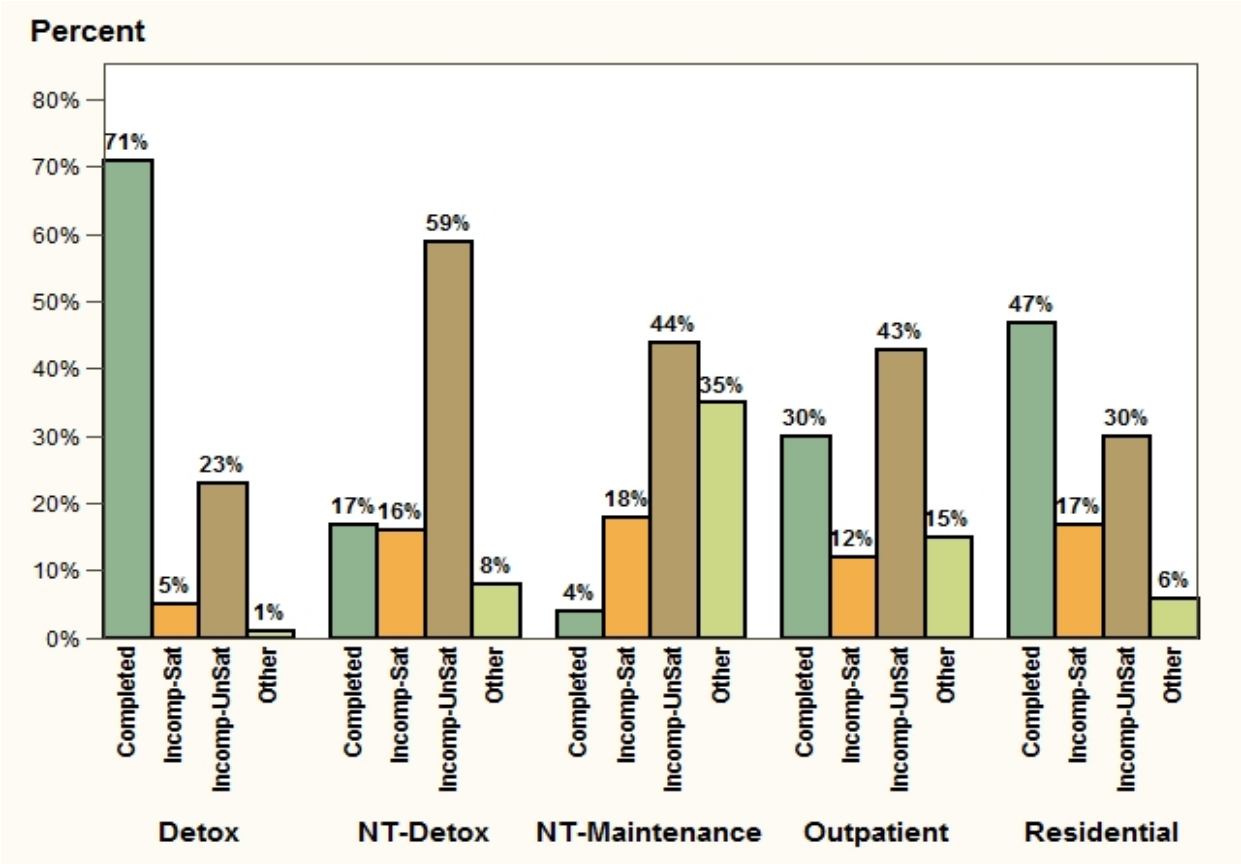


[19] Most of the participants DPH knows to be on GR are likely in MSARP, though there is no micro-level data to confirm this.

[20] It should be noted that the 'All GR' category overlaps with the Backdoor and MSARP categories, but the backdoor and MSARP categories are mutually exclusive.

Figures 18 and 19 illustrate the treatment discharge statuses for the MSARP and backdoor groups separately.[21] The statuses given in the figure are Completed, Incomplete but Satisfactory, Incomplete and Unsatisfactory, and Other, which includes non-discharges. The percentages given in the figure are calculated out of the treatments provided to each group in 2007. Figure 18 shows that, for the backdoor group, the completion rate is highest among those receiving Residential Detoxification Services (71 percent), followed by Residential Services (47 percent), Outpatient Counseling (30 percent), Narcotic Treatment Detoxification (17 percent), and Narcotic Treatment Maintenance (4 percent). The proportion of recipients leaving treatment with unsatisfactory progress was highest among those receiving Narcotic Treatment Detoxification (59 percent), Narcotic Treatment Maintenance (44 percent) and Outpatient Counseling (43 percent).

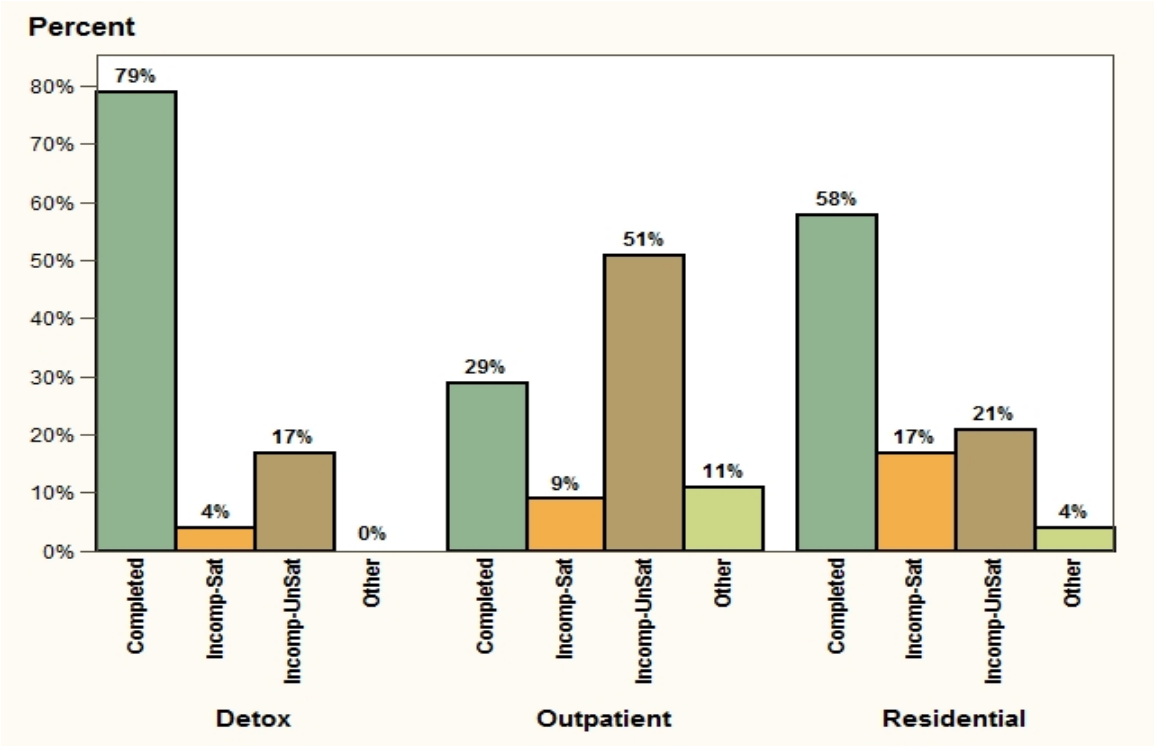
Figure 18. Discharge Statuses, by Treatment Modalities, Backdoor Group



[21] Discharge figures for the day care modality are not shown for either the MSARP or backdoor group due to the small numbers of recipients who received this type of treatment. Additionally, discharge figures for the narcotic treatment detoxification and narcotic treatment maintenance modalities are not shown for the MSARP group due to the small numbers of recipients who received treatment through this modality.

Figure 19 shows the discharge statuses by treatment modality for the MSARP group. Only three treatment modalities are shown in the figure because the numbers of observations for Narcotic Treatment Detoxification and Narcotic Treatment Maintenance are quite small. Similar to the backdoor group, the highest rate of completion is for Residential Detoxification Services (79 percent), followed by Residential Services (58 percent). Just over half the MSARP group recipients engaged in outpatient counseling did not complete their treatment.

Figure 19. Discharge Statuses, by Treatment Modalities, MSARP Group

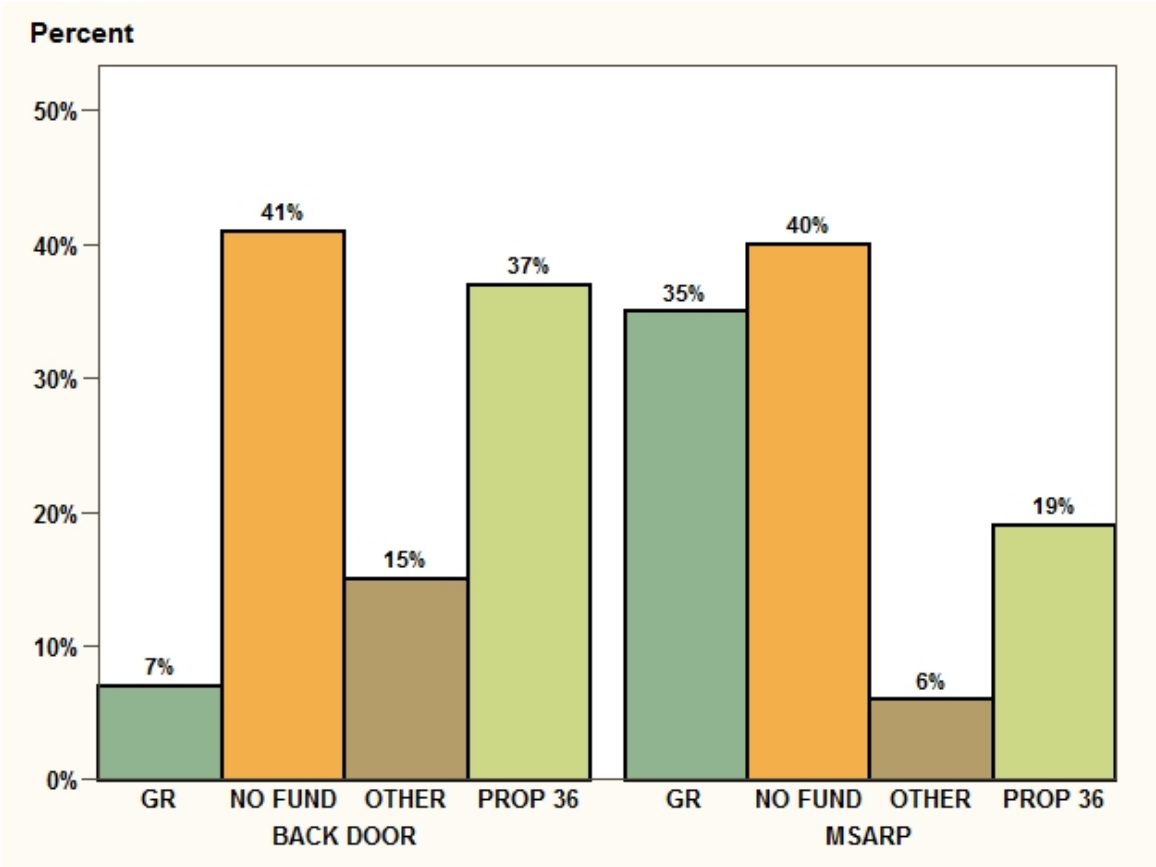


The Size of GR Population in the AOD Program

DPH's Alcohol and Drug Program Administration (ADPA) served more than 45,000 clients in Fiscal Year (FY) 2006-07. ADPA data show that 2,945 of the 45,000 clients served in FY 2006-07 were on GR. However, the data examined for this study indicates that, during the 2007 calendar year, 6,792 GR participants were treated for alcohol and drug problems. As noted earlier, 3,514 of these participants were in the MSARP group, meaning that they were referred and treated through MSARP. The remaining 3,278 participants were in the backdoor group, meaning that they were not referred to treatment through MSARP and were not known by DPH to be on GR before or during their treatment. The number of GR recipients receiving substance abuse treatment through DPH is therefore considerably larger than what is reflected in DPH's data.

This issue can be examined in further detail by looking at the proportion of GR recipients whose substance abuse treatment is funded through the GR program. Figure 20 shows that only 7 percent of the backdoor group and 35 percent of the MSARP group had treatment funded through the GR program, while around 40 percent of the recipients in both groups were funded by general funds ('demarcated as 'No Fund' in Figure 20).

Figure 20. Funding of AOD Clients, by Study Group



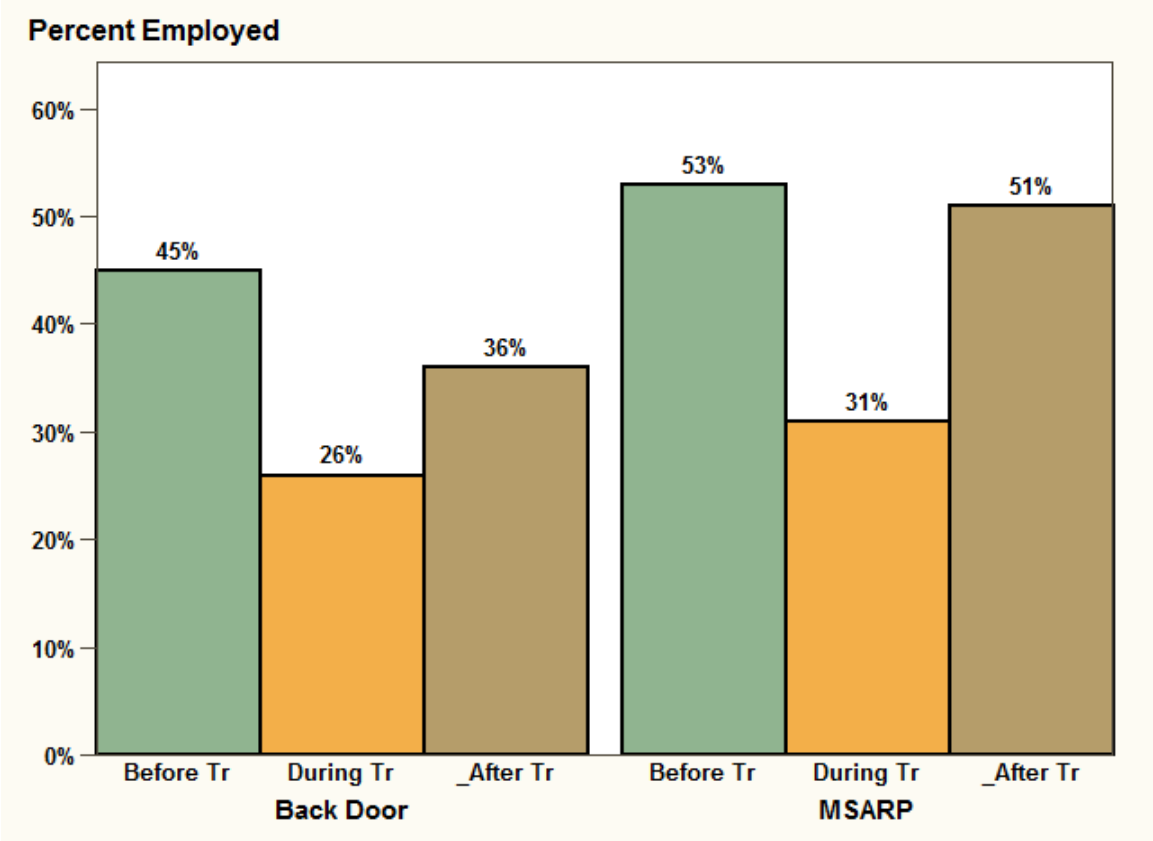
Employment Outcomes

A critical step in gauging the beneficial impact of MSARP is to compare employment outcomes for recipients in the MSARP group with outcomes for recipients in the backdoor group. The extent to which participation in MSARP promotes increasing self-sufficiency can be addressed in connection with the results of this comparison.[22] Figure 21 shows the employment records for the two groups before, during, and after

[22] While it would also be useful to compare participants who need substance abuse treatment but do not receive it with the MSARP and backdoor groups, the data to conduct this comparison is not available to our knowledge.

treatment.[23] While 31 percent of the recipients in the MSARP group were employed during treatment, the proportion was over 50 percent both before and after treatment. By comparison, 45 percent of the recipients in the backdoor group were employed before their substance abuse treatment, versus 26 percent during treatment and 36 percent after treatment.[24]

Figure 21. Proportion of Employment Before, During and After the Treatment, by Study Group



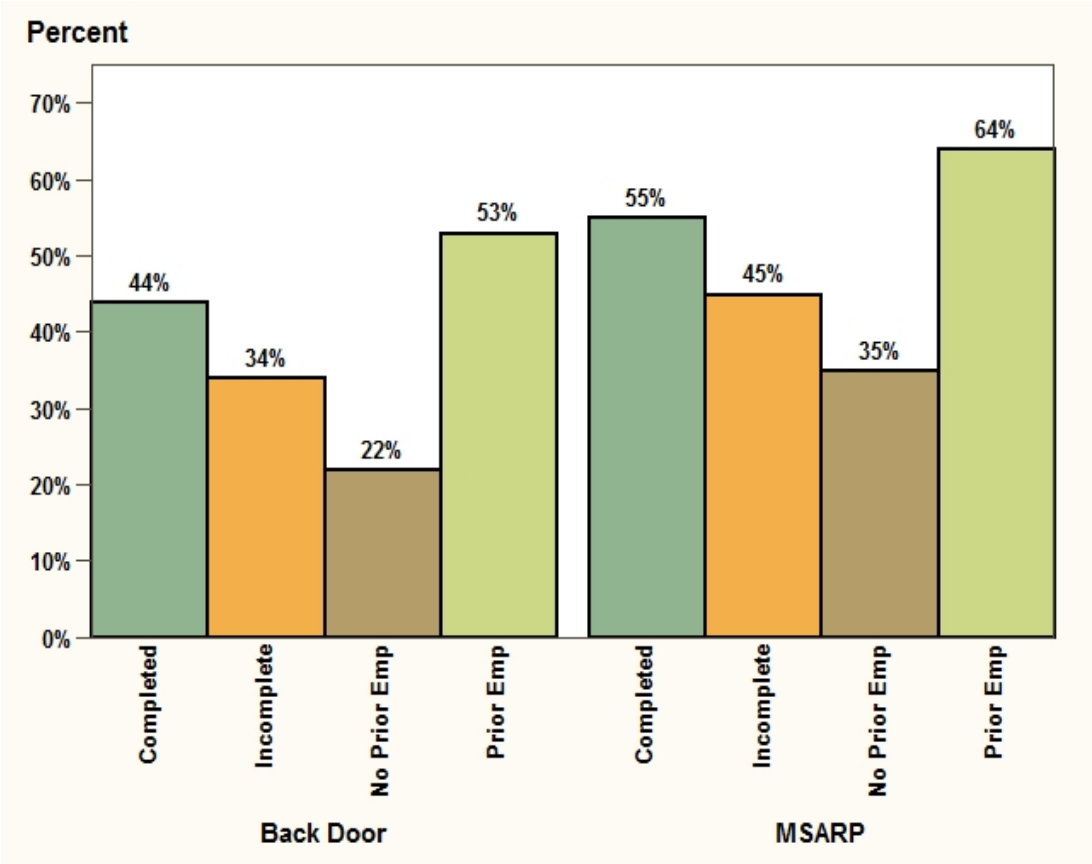
These numbers suggest that the issues compelling recipients to obtain substance abuse treatment through the backdoor as opposed to through MSARP may also be issues that affect the likelihood that they will become employed. The proportion of backdoor recipients employed after treatment does not climb back to the pre-treatment level. At the same time, while the MSARP program does not by itself appear be a net contributor to the employment rate for recipients participating in the program, it can be inferred that the program ultimately has the effect of stabilizing the employment status of recipients.

[23] The 'before' period is defined as the eight quarters prior to substance treatment. The 'after' period is defined as the number of quarters between the end of substance abuse treatment and 2010. The average 'after' period for both groups is eight months.

[24] The differences between the MSARP and backdoor groups in all three phases – before, during, and after treatment – are significant at one percent.

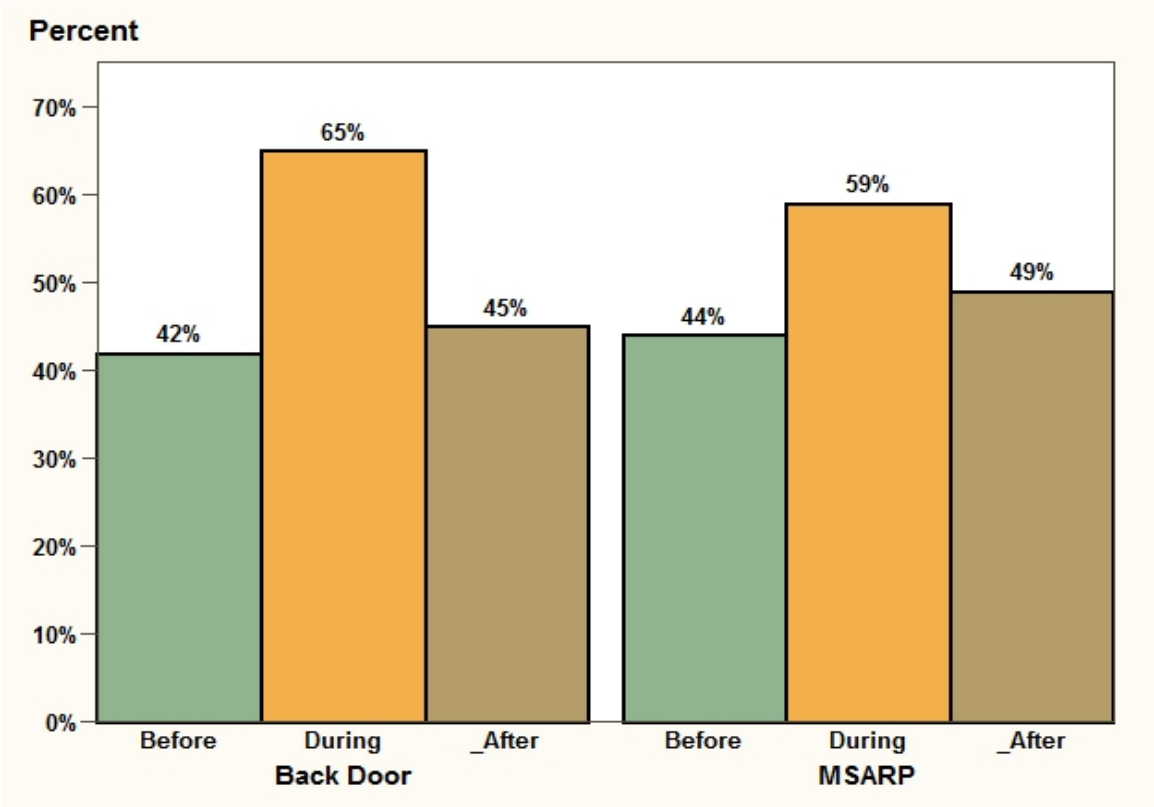
Prior employment and discharge status appear to be particularly important variables affecting employment outcomes. Figure 22 shows the proportion of GR recipients who found employment after completion of substance abuse treatment by their prior and recent employment history and treatment discharge status. More than three-fifths (64 percent) of the recipients in the MSARP group with prior employment (within two years) found jobs upon completion of their substance abuse treatment, versus 35 percent among those with no prior work history. By comparison, more than half (53 percent) of the recipients in the backdoor group with prior employment found jobs as compared to 22 percent of those without recent employment history. Moreover, employment rates are higher by 10 percentage points in both groups among recipients who complete their substance abuse treatment by comparison with those who do not complete treatment. Within the MSARP group, 55 percent of the recipients who completed their treatment gained employment after discharge versus 45 percent of those who did not complete treatment, and within the backdoor group 44 percent of those who completed treatment obtained work upon discharge versus the 34 percent who obtained employment among those who did not complete treatment. Not surprisingly, the recipients with the greatest likelihood of obtaining jobs are those who complete their treatment and have recent work experience.

Figure 22. After Treatment Employment Rates, by Prior Job History and Treatment Discharge Status



Employment stability can be assessed by measuring the percentage of quarters recipients are employed before, during and after substance abuse treatment.[25] The results of these calculations are shown in Figure 23. Recipients in the MSARP group with jobs were employed for 44 percent of the time before treatment and 49 percent of the time after treatment. Those in the backdoor group with jobs were employed 42 percent of the time before and 45 percent afterwards. However, during the treatment, while a small portion of the participants were employed for both groups (see Figure 21), recipients with jobs in the MSARP group were employed for 59 percent of the time and recipients with jobs in the backdoor group were employed for 65 percent of the time. Substance abuse treatment – whether obtained through MSARP or through the backdoor – therefore appears to help GR recipients retain their employment.[26]

Figure 23. Percent Time Employed Before, During and After the Treatment among those with Jobs



[25] For the 'before' period, this percentage is calculated by dividing the number of quarters employed by 8; for the 'during' period, the percentage is calculated by dividing the number of quarters employed by the number of quarters in treatment; and for the 'after' period, the percentage is calculated by dividing the number of quarters employed by the number of quarters after treatment through to the end of 2009.

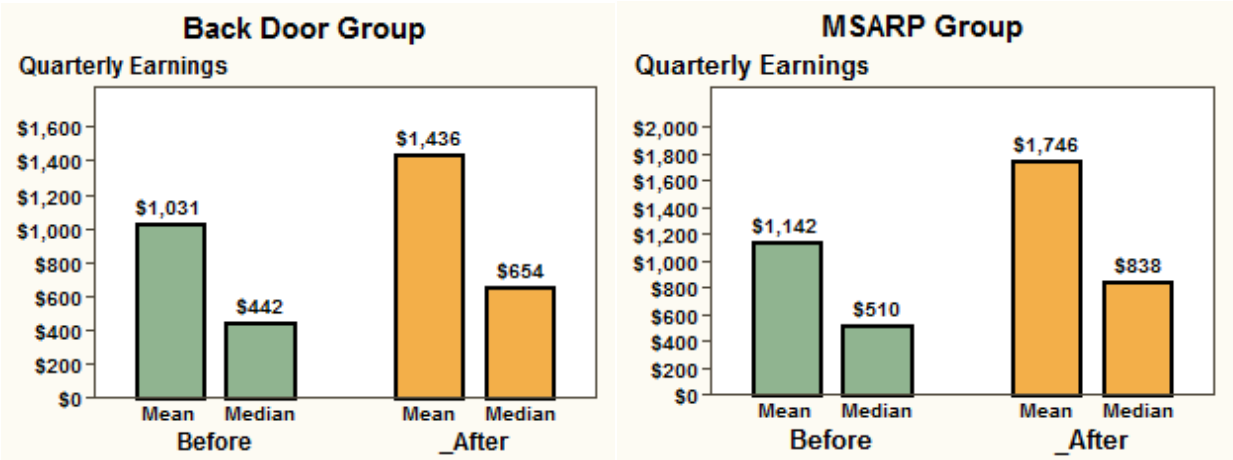
[26] Differences between the study groups are statistically significant at 10 percent for the 'before' period and at 1 percent for the 'during' and 'after' periods.

Earnings

Figure 24 compares the average quarterly earnings of the backdoor and MSARP groups before and after substance abuse treatment. The quarterly earnings are only calculated for those with employment (see Figure 19) and by dividing total quarterly earnings by the total number of quarters in the period - eight for the 'before' period and the total number of quarters between the end of treatment and 2009 for the 'after' period. Both mean and median incomes are shown to illustrate that the distribution is quite skewed.[27]

The data show that average quarterly incomes increased significantly for both groups over the period from before to the period after substance abuse treatment. The MSARP group's quarterly mean earnings rose from $1,142 to $1,746, an increase of 53 percent, and the group's median quarterly earnings increased from $510 to $838, an increase of 64 percent. The backdoor group's quarterly mean earnings increased from $1,031 during the period before treatment to $1,436 after, an increase of 39 percent, and the group's quarterly median earnings increased from $442 to $654, an increase of 48 percent. These results indicate that, while employment remains flat over the period from before until after treatment, recipients find better paying jobs, or jobs with more hours, after completing their treatment.

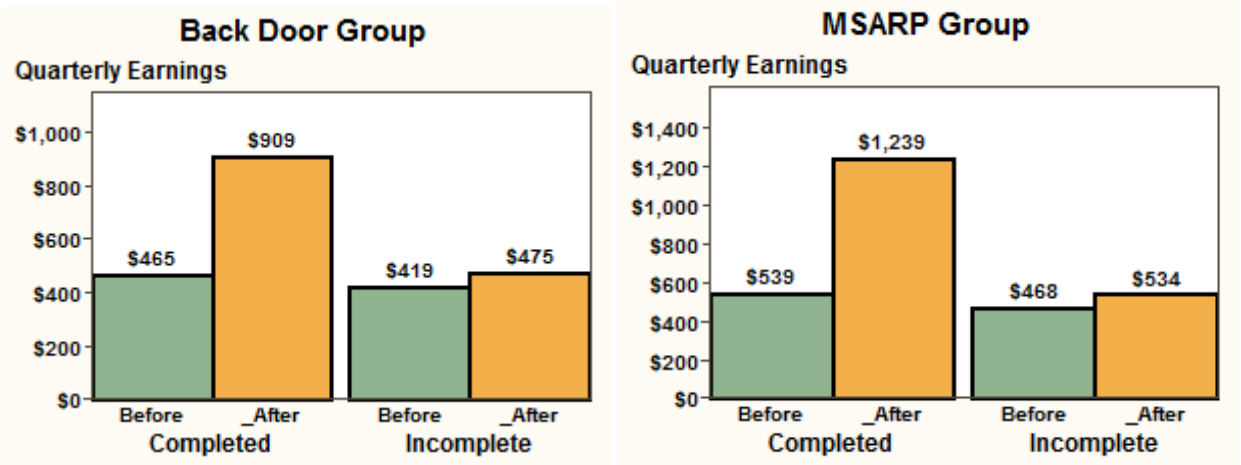
Figure 24. Average Quarterly Earnings, by Study Group



[27] Differences between groups are statistically significant at 1 percent.

The results are even more pronounced when average income levels are compared by treatment discharge status. Figure 25 shows that the median quarterly earnings of participants who completed their treatment more than doubled within the MSARP group, from $539 before treatment to $1,239 after treatment, and median quarterly earnings almost doubled among recipients in the backdoor group who completed their treatment, from $465 before treatment to $909 after treatment. Among recipients who did not complete their treatment, median quarterly earnings increased by approximately 14 percent for both the MSARP and backdoor groups.[28] These outcomes indicate that, while participating in substance abuse treatment tends to increase earnings, the most significant effect for both groups comes from completion of treatment.

Figure 25. Median Quarterly Earnings, by Treatment Discharge Status and by Study Group



A second important step in assessing the effect of MSARP participation on employment outcomes is to compare outcomes for the MSARP group with outcomes for the no-treatment group. Analysis of employment data shows that the proportion of employed recipients in the no-treatment group remained unchanged at approximately 50 percent between the time before and after referral to MSARP. The data also show that two-thirds of those in the no-treatment group who had prior employment (within two years) found jobs after their MSARP referral date, but only one-third without recent employment history found jobs. While these proportions closely resemble the proportions for the MSARP group, the average time employed is five percent lower for the no-treatment group (44 percent). A more significant difference is observed in the earnings outcomes where the no-treatment group more closely resembles the backdoor group than the MSARP group. By contrast with the MSARP group, for which the median income increased by 64 percent over the period from before to after substance abuse treatment, the median quarterly income for the no-treatment group increased by only 27 percent between the period from before to after the MSARP referral date.

[28] All differences between the two study groups are statistically significant at 1 percent.

This suggests that while the participation in MSARP is associated with better paying jobs, the association with higher employment is only observed in contrast to the back door group. The similarity of employment outcomes for the MSARP and no-treatment groups is an important finding that needs to be elaborated. In this study, treatment refers to participation in the MSARP program not to receiving alcohol and substance abuse treatment more generally. Therefore, the comparison of the MSARP and backdoor groups shows that, through participating in the MSARP program, GR recipients are more likely to find employment. Both groups are in need and actively seek and receive alcohol and substance abuse treatment. In other words, if the alcohol and substance treatment is provided by the MSARP program rather than through back door, the employment effect is significant as verified in the next section.

GR participants in the no-treatment group are referred to the MSARP program, but their need for treatment cannot be substantiated. Many of these GR recipients may not need alcohol and substance treatment or they may have fewer barriers and find employment on their own in ways that are similar to the ways MSARP participants would find work in the absence of the program. The data suggest that participation in MSARP has a beneficial impact on the capacity participants have to find jobs among those with a verified need for alcohol and substance abuse treatment but not for those who do not seek this treatment. Another critical difference between the MSARP and no-treatment groups is the time between the 'before' and 'after' periods. Since the MSARP program involves a treatment process, there may be a significant period of time over which the alcohol and drug abuse treatment takes place. However, for the no-treatment group, the 'before' and 'after' period is virtually continuous, separated only by a referral date, which partially explains why there no change in the employment rates for these participants.

In connection with these findings, it should be noted that the same factors that lead GR recipients to obtain substance abuse treatment through the backdoor may also act as barriers to employment. These barriers appear to be absent for the no-treatment group. The association between employment outcomes and other factors are assessed in the next section using multivariate analysis to control for these effects.

Predictive Analysis: Employment

Regression analysis provides a more rigorous method by which to evaluate the impact of substance abuse treatment in the area of employment. Regression methods are especially useful because they enable factors outside of the MSARP program participation to be held constant so that the independent effect of this participation can be gauged.

MSARP versus Backdoor

In comparing the MSARP and backdoor groups, 52 percent of the 6,264 recipients included in the analysis were in the MSARP group, and more than 44 percent of these MSARP participants found employment after the start date of their treatment.[29] The results of the regression analysis comparing the MSARP and backdoor groups are shown in detail in the Technical Appendix. The results indicate that, in holding a number of other relevant factors constant, the MSARP group was 32 percent more likely to find employment after starting their treatment than the backdoor group.[30]

MSARP versus No Treatment

Regression analysis was also used to compare employment outcomes for MSARP participants with outcomes for the no-treatment group. More than half (53 percent) of the 6,144 observed recipients in the comparison were in the MSARP group, and roughly half (3,062) of the observed recipients from the two groups together obtained employment following their start date.[31] Similarly to what is observed in the earlier descriptive analysis, the regression results (shown in the Technical Appendix) do not indicate that participation in MSARP has a significant impact on obtaining employment relative to the no-treatment group.[32] As noted earlier, the absence of employment impact is most likely to be related to the specific characteristics of the no-treatment group, particularly the absence of alcohol and substance addiction and treatment. This finding requires further studying of the no-treatment group and their program needs.

---

[29] Since the employment data is quarterly, it is not possible to align treatment and employment dates perfectly. For this reason, jobs obtained after treatment include both previously held and new jobs.

[30] When the same model is used to control for substance abuse treatment by relaxing the distinction between the MSARP and backdoor groups so as to measure the independent effects of other variables, the following results are yielded: Recipients with no mental health problems were 26 percent more likely to find employment than those with mental health problems; those without disabilities were 72 percent more likely to find employment than those with disabilities; those without recent incarceration histories were 12 percent more likely to find employment than those with recent incarceration histories; those with at least a high school degree were 25 percent more likely to find employment than those without a high school degree. Moreover, each additional month of homelessness prior to the treatment decreased the likelihood that recipients would find employment by 2 percent. Moreover, recipients who were employed within two years prior to the start of their treatment were 3.3 times more likely to find jobs than those without a recent history of employment.

[31] Since the no-treatment group by definition does not participate in treatment, their MSARP referral dates are used.

[32] When the same model is used to control for the distinction between the recipients participating in MSARP and those receiving no-treatment so as to measure the independent effects of other variables, the results are similar to those yielded with the earlier model that looked at the MSARP and backdoor groups together: Recipients who were employed within two years of either the start of their treatment or their MSARP referral date in their records were 3.4 times more likely to find employment. Those with no disabilities were 58 percent more likely to find employment, and each additional month of homelessness prior to the start of treatment or the MSARP referral date decreased the likelihood that a recipient would find employment by 1.5 percent.

Predictive Analysis: Homelessness

Regression analysis was also deployed to evaluate the impact of substance abuse treatment on homelessness. As described earlier, homelessness is widely observed among GR recipients with alcohol and substance abuse problems. In the analysis here, the measure of homelessness is determined as a binary outcome variable (homeless or not homeless). The housing records of participants were tracked after either the treatment end date (for the MSARP and backdoor groups) or the MSARP referral date (for the no-treatment group). Similarly to the descriptive analysis earlier in this report, recipients are considered homeless if the last address in their administrative records is either a DPSS office or a homeless shelter.[33]

MSARP versus Backdoor

In comparing the MSARP and backdoor groups, 52 percent of the 5,735 recipients included in the analysis were in the MSARP group, and 60 percent of these MSARP participants were homeless during their last month on GR through the study period (529 recipients are not included since they left GR during their treatment). The results of the regression analysis comparing the MSARP and backdoor groups are shown in detail in the Technical Appendix. While the proportion of homeless recipients in the backdoor group was 5 percentage points higher (65 percent) than the proportion of homeless recipients in the MSARP group, the results indicate that there is no statistically significant difference between the two groups in terms of the likelihood that recipients will become homeless following their treatments. This finding is generally consistent with the descriptive analysis comparing the MSARP and backdoor groups provided earlier in this report.[34]

[33] If a recipient remained on GR beyond the study period, the address given for December 2010 is used, otherwise the address used is the last month during which the recipient was on GR.

[34] When the model relaxes the distinction between MSARP and backdoor treatment in order to hold treatment constant and measure the effects of other variables, the most impactful factor in connection with homelessness is whether or not recipients are homeless at the time they start the treatment. Those who were homeless at the time they began treatment were 2.3 times more likely to be homeless after completing the treatment. Moreover, each additional month of homelessness prior to the start of treatment increases the likelihood that recipients will be homeless after treatment by 4 percent. Additionally, recipients who completed their treatment were 16 percent less likely to be homeless relative to those who failed to complete their treatment. Recipients who stayed in the GR program after their treatment were 58 percent more likely to be homeless than those who exited GR, but each additional month on GR after treatment decreased the likelihood of homelessness by 4 percent. These seemingly contradictory findings suggest that while recipients with fewer barriers and better means manage to exit the GR program while they are housed, those who remain in the GR program take some time to get stabilized and find housing. Related to this, the data shows that new GR recipients with substance abuse problems are inclined to be homeless after their treatment, but they tend to find housing if they stay in the GR program.

MSARP versus No Treatment

A regression model was also used to compare homelessness outcomes for MSARP participants with outcomes for recipients in the no-treatment group. More than half (53 percent) of the 6,144 observed recipients in the comparison were in the MSARP group, and roughly 60 percent of the MSARP group and 74 percent of the no-treatment group were homeless following their treatment end date.[35] The results are shown in the Technical Appendix to this report. After controlling for other relevant factors, the results indicate that participation in MSARP decreases the likelihood that a recipient will become homeless by almost 40 percent relative to the no-treatment group. Therefore, while there is no significant difference between the homelessness outcomes of the MSARP and backdoor groups, recipients with substance abuse issues have a considerably better chance of avoiding homelessness if they receive treatment.[36]

Predictive Analysis: Completion of Treatment

A regression model was also used to compare the likelihood that recipients in each of the MSARP and backdoor groups would complete their substance abuse treatments.

MSARP versus Backdoor

The results of the regression analysis indicate that the MSARP group was 33 percent more likely to complete their treatment relative to the backdoor group. In comparing the MSARP and backdoor groups, 52 percent of the 5,404 recipients included in the analysis were in the MSARP group, and almost 48 percent of these MSARP participants completed their treatment (741 GR recipients were not included in the calculations since they either left GR during their treatment or had disposition information missing in their records). Among the backdoor participants, the rate of completion was much lower at 33 percent.[37]

---

[35] Since the no-treatment group by definition does not participate in treatment, their MSARP referral dates are used.

[36] When the analysis controls for the distinction between the MSARP and no-treatment groups, the most significant results are as follows: Recipients who were homeless at the time of their treatment/treatment start date were almost twice as likely to remain homeless after completing their treatment. Moreover, every month of homelessness prior to the treatment increased the likelihood that recipients would be homeless after their treatment by an additional four percent.

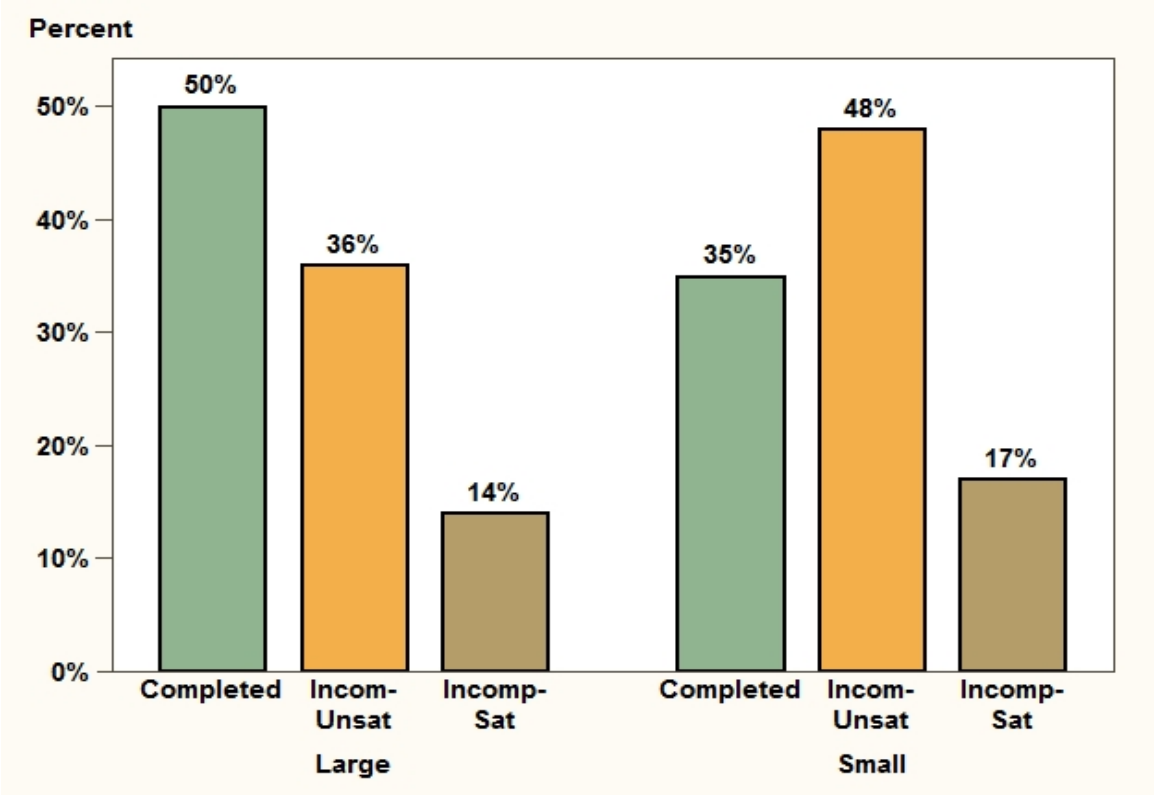
[37] When the distinction between MSARP and backdoor treatment is relaxed so as to measure the effects of other variables on completion of treatment, one of the most influential factors is the size of alcohol and drug providers serving recipients. Regression results show that recipients served by large providers are almost twice as likely to complete their treatment relative to those served by small providers. Additionally, and as expected, recipients with episodic treatment histories are less likely to complete treatment, and those with multiple treatments are almost 85 percent less likely to complete their treatment. Another strong impact comes from the type of services recipients use as those engaged in residential services are 62 percent more likely to complete their treatments relative to the other service types.

Providers

This section looks at the relationship between the size of substance abuse providers and recipients' completion of treatment and discharge status. Large agencies are defined here as those serving more than 100 GR recipients during 2007 (out of a study group of 6,162).

Figure 26 compares the discharge statuses of GR recipients receiving treatment from large and small agencies. Almost two-thirds (62 percent) of the population received treatment from large agencies. Figure 26 shows that the completion rate is significantly higher among recipients receiving treatment from large agencies (50 percent as compared to the 35 percent completion rate among those receiving treatment from small agencies). Recipients failing to complete treatment with satisfactory progress comprise almost half the sub-population receiving treatment from small agencies.

Figure 26. Discharge Status for Agencies, by Agency Size



These differences are even more dramatic when discharge statuses are observed by study group, MSARP versus backdoor. The contrasts are shown in Figures 27 and 28. The completion rates for the MSARP group are higher than those for the backdoor group by significant margins among both recipients receiving treatment from large agencies (54 percent versus 44 percent) and small agencies (41 percent versus 29 percent). The more significant contrast is the difference between the proportions of GR recipients who completed a treatment and those who failed to complete with

satisfactory progress. The margin among recipients receiving treatment from large agencies was +22 percent for the MSARP group and only +3 percent for the backdoor group, while the margin among those receiving treatment from small agencies was 0 percent for the MSARP group but -24 percent for the backdoor group.

Figure 27. Discharge Status for Agencies, by Agency Size for the MSARP Group

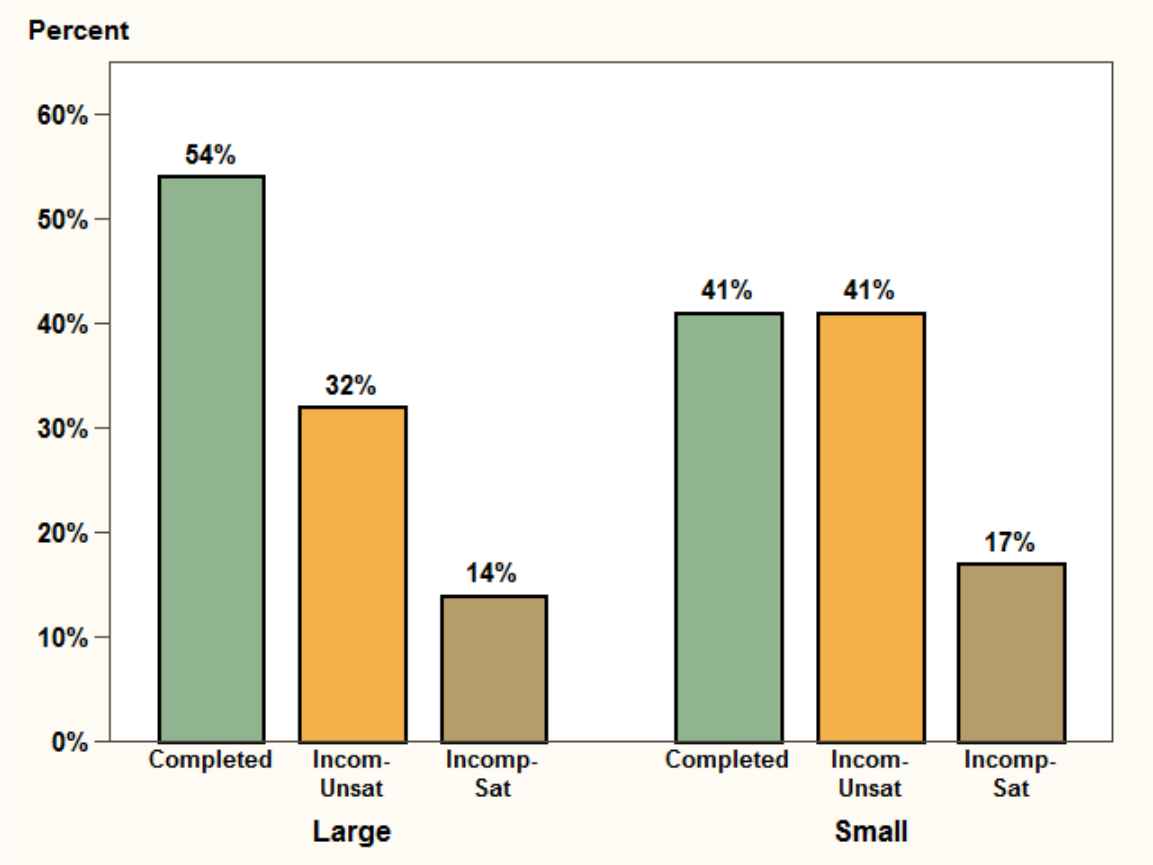


Figure 28. Discharge Status for Agencies, by Agency Size for the Backdoor Group

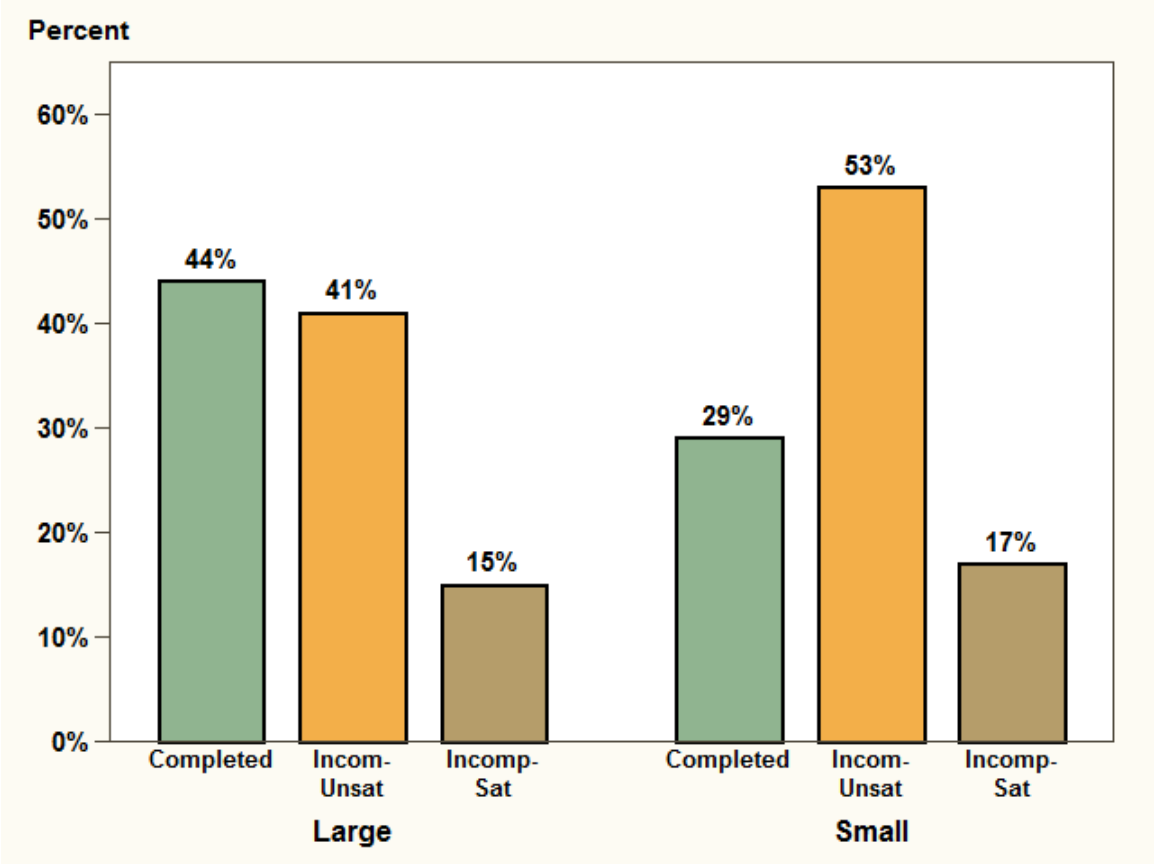
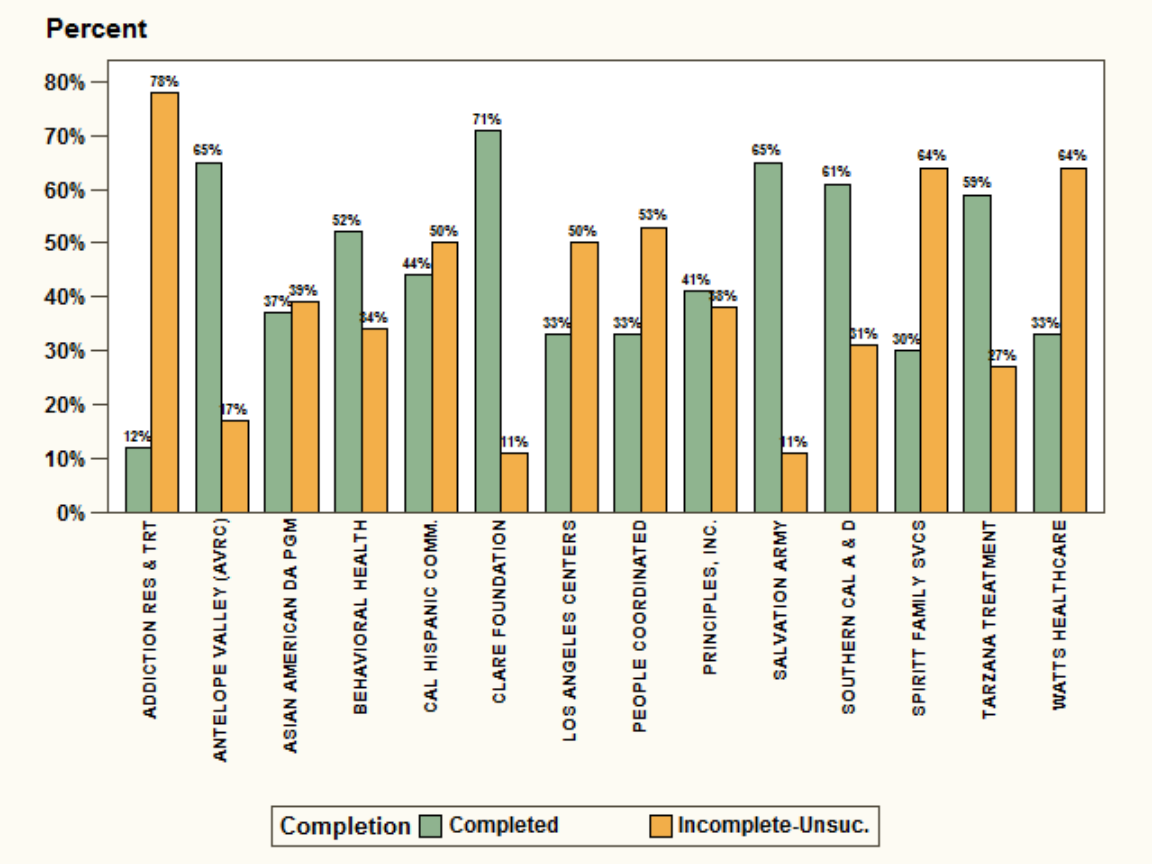


Figure 29 illustrates the discharge status of the top 14 agencies that served more than 100 GR recipients during 2007.[38] The data show that among larger agencies there are significant differences in terms of discharge statuses. While there are some agencies where more than two-thirds of recipients receiving services complete their treatments, there are other agencies where almost two-thirds of the recipients receiving services fail to complete their treatments and show unsatisfactory progress. These differences require a more elaborate study on alcohol and drug providers to explain their variation.

[38] To simplify the picture, the discharge status of incomplete but satisfactory is not shown in the figure.

Figure 29. Discharge Status for Agencies, by Agency Size for the Backdoor Group



Conclusion

The Importance of Seeking Treatment

The bulk of this report is based on comparisons between GR recipients receiving substance abuse treatment through DPSS' MSARP program and GR recipients receiving treatment directly from DPH, through the 'backdoor.' The analyses are structured in this way for the purpose of revealing the extent to which receiving treatment through MSARP yields significantly different outcomes in areas such as employment, earnings, homelessness prevention, and completion of treatment. However, the report also looks at a no-treatment group consisting of recipients who were referred to MSARP after a CASC assessment but then failed to comply. While important differences are observed in comparing MSARP and backdoor outcomes, participation in substance abuse treatment of either kind, whether through the GR program or through the backdoor, is associated with several important outcomes that are favorable by comparison to outcomes associated with receiving no treatment. For example, disabled recipients in the MSARP and backdoor groups were significantly more likely to submit applications for SSI than those in the no-treatment group. Moreover, although recipients in the MSARP group did not have a significantly better

chance of obtaining jobs by comparison with recipients in the no-treatment group, the average time employed was 5 percent higher for the MSARP group after completion of their treatment, and median quarterly earnings for the MSARP group increased by 64 percent after completion of treatment, versus an increase of only 27 percent for the no-treatment group after their MSARP referral date. Additionally, while there is no significant difference between the MSARP and backdoor groups in terms of the likelihood that recipients will become homeless after treatment, recipients in both the MSARP and backdoor groups were significantly less likely to become homeless after their treatments than those in the no-treatment group after their MSARP referral date. It can therefore be concluded that, among GR recipients with substance abuse problems, seeking treatment is an important step on the road to self-sufficiency.

Screening and Compliance Issues

DPSS is currently undertaking a large-scale effort to restructure the County's GR program. In considering steps that can be taken to make MSARP more effective and efficient, one critical question to address will be why some GR recipients with substance abuse issues are not identified as such either at intake or at the CASC level. Of the close to 9,700 GR recipients observed in this study in connection with substance abuse treatment, the distribution is roughly even between those receiving treatment through MSARP, those receiving treatment through the backdoor, and those getting referred to MSARP treatment but then failing to comply. It may be the case that the higher rate of disability among participants in the backdoor group has the effect of masking substance abuse issues. The difference between the two groups in this area – 55 percent of the backdoor group versus 35 percent of the MSARP group was disabled – is quite significant. Therefore, one hypothesis to be tested is that, because physical disabilities may be more immediately visible and apparent, they divert attention from substance abuse issues. Additionally, some mental disabilities could also be more readily detectable, and/or substance abuse issues are misdiagnosed as mental health disabilities.

Recommendation: Conduct a review of the substance abuse screening process given the sizable number of participants in the backdoor group. One way to address the issue of why recipients with substance abuse problems are not identified at the front end of the GR process would be through a qualitative evaluation study that would capture the micro-level challenges and barriers Eligibility Workers, Case Managers and CASC workers face in meeting their responsibilities. This type of evaluation would also be able to address why such a large proportion of GR recipients fail to comply once they are referred to MSARP. The information yielded through such a study could then be used to make enhancements and improvements to the substance abuse screening process.

Recommendation: DPSS might additionally consider implementing a system of follow-up assessments for all GR recipients as part of an effort to capture those who are not initially identified as individuals with substance abuse problems but who are nevertheless in need of treatment. Since the backdoor recipients analyzed in this study

were more vulnerable – e.g. older, more disabled, less employable – than the recipients in the MSARP group, a system of follow-up assessments would also enable the department to identify an increasing number of potentially SSI-eligible individuals.

Recommendation: DPSS might consider conducting a more extensive evaluation of GR recipients who are referred to treatment through MSARP but then fail to complete treatment. What happens to these noncompliant recipients after they are sanctioned? To what extent do they leave GR or cycle off and then back onto the program? Moreover, what are the most common reasons for their failure to comply? Answering these questions would help guide efforts to increase compliance, which is critical given the positive outcomes associated with seeking treatment in general and treatment through MSARP in particular.

Key Comparative Outcomes for the MSARP and Backdoor Groups

Discovering why such a significant number of GR recipients are not identified for participation in MSARP, and making programmatic changes that would improve the screening process, are important objectives to pursue because outcomes were comparatively favorable for the MSARP group in several key areas. Some of these positive outcomes may be the result of selection bias as recipients whose lives are stable enough to participate in MSARP would presumably also be stable enough to take other actions beneficial to themselves. However, the regression analyses conducted for this report are designed to control for exogenous factors that might impinge on observed outcomes.

Among recipients who applied for SSI, the proportion applying for the benefits after their substance abuse treatment was considerably higher in the MSARP group (69 percent) than the backdoor group (54 percent). Regression analysis shows that recipients in the MSARP group were also 32 percent more likely to find employment after starting their treatment than the backdoor group. While a separate regression model indicates that participation in MSARP did not make a difference in the likelihood that recipients would get jobs by comparison with recipients in the no-treatment group, the average time employed and average earnings were substantially higher for recipients in the MSARP group than for recipients in either the backdoor or no-treatment groups. Additionally, evidence shows that a significantly larger proportion of the backdoor group cycles in and out of treatment multiple times by comparison with the MSARP group. While close to two-thirds of the MSARP group was engaged in substance abuse treatment for only one treatment spell, slightly more than half of the backdoor group was engaged for only one spell. Moreover, recipients in the MSARP group were 33 percent more likely to complete their treatment than recipients in the backdoor group. This finding is especially important since completion of treatment is associated with several other positive outcomes, particularly in the areas of employment and earnings.

Substance Abuse Treatment and Applying for SSI

Although the proportion of disabled recipients applying for SSI was the same in the MSARP and backdoor groups combined as in the 2007 GR population more generally (43 percent), the approval rate in the larger GR cohort was almost twice as high (13 percent versus 7 percent). Additionally, 46 percent of the disabled recipients in the MSARP and backdoor groups combined, versus 36 percent of the disabled recipients in the 2007 GR population as a whole, were referred to SSI advocacy but had not made an application by the end of the study period.

Recommendation: DPSS might consider directing its SSI advocacy staff to work more closely with substance abuse treatment providers in order to boost the number of disabled recipients in treatment who apply for SSI benefits. Moreover, the advocates might work with providers to increase the rate of recipients who gain SSI eligibility among those who apply for benefits.

Involvement in the Criminal Justice System

Analysis conducted for this study indicates that significant numbers of GR recipients with substance abuse problems are involved in the criminal justice system. Although these results are based on self-declaration and are therefore of limited reliability, the results generally replicate what was demonstrated in the analytical report for ALP, showing that only one-third of the recipients in the MSARP and backdoor groups combined were not either arrested within 30 days of the start of their treatment, incarcerated/in the court system, on parole, or on probation.

Recommendation: DPSS might consider working with the Probation and Sheriff's departments to provide targeted substance abuse services that would be designed to prevent GR recipients from cycling in and out of the criminal justice system and receiving duplicative services. DPSS and the CEO are currently working to expand the ALP into the area of GR case management. This expansion will facilitate the process of identifying at intake recipients who have been in jail, are on parole, and/or are on probation. This expansion will make it possible to target appropriate recipients with more cost-effective services.

Substance Abuse and Homelessness

While there is no statistically significant difference between the MSARP and backdoor groups in homelessness prevention outcomes, recipients in both the MSARP and backdoor groups were significantly more likely to avoid homelessness after their treatments than those in the no-treatment group after their MSARP referral date. More generally, it is critical to highlight the strong correlation between substance abuse and homelessness. Overall, 86 percent of the MSARP group and 80 percent of the backdoor group was homeless at one point during substance abuse treatment.

Recommendation: Target MSARP participants for GR Housing subsidies. A 2009 evaluation of the GR Housing Subsidy and Case Management Pilot Project demonstrated excellent homelessness prevention and cost avoidance outcomes for GR recipients receiving housing subsidies. As DPSS expands the subsidy program – and given the large proportion of MSARP participants who experience homelessness at some point over the course of their treatment – DPSS should consider targeting recipients in MSARP for GR Housing subsidies. Doing so is likely to be a cost-effective investment of scarce resources and would be consistent with a growing consensus in research literature, arguing that housing is a critical foundational step in stabilizing the lives of homeless individuals struggling with substance abuse issues.[39]

A Mental Health Services Gap for GR Recipients with Substance Abuse Issues

A substantial portion of GR recipients with substance abuse issues also have mental health problems. Participation in substance abuse treatment, whether via MSARP or through the backdoor, appears to improve mental health problems for recipients who complete treatment. However, in both the MSARP and backdoor groups, the rate of recipients diagnosed with mental health co-morbidity upon either admission or discharge from *re-treatment* is considerably higher than the rate of recipients diagnosed with co-morbidity among those who complete treatment and have no further record of receiving substance abuse treatment. Moreover, only approximately 5 percent of both the MSARP and backdoor groups received outpatient emergency services for mental health problems 30 days prior to their admission into substance abuse treatment, and

[39] Barrow et al. Mortality Among Homeless Shelter Residents in New York City," in *American Journal of Public Health* 89(4): pp. 503-521, 1999; Culhane, Dennis, et al. "Accountability, Cost-Effectiveness, and Program Performance: Progress Since 1998." Paper Presented at the National Symposium on Homelessness Research. Phoenix. (June 11-14, 2008). Available at http://works.bepress.com/dennis_culhane/22; Histories of Homelessness," in *American Journal of Community Psychology* 36(3/4): pp.223-238, 2005; Hopper et al. "Homelessness, Severe Mental Illness, and the Institutional Circuit," in *Psychiatric Services* 48(5): pp. 659-665,1997; Larimer et al. "Health Care and Public Service Use and Costs Before and After Provision of Housing for Chronically Homeless Persons with Severe Alcohol Problems," in *Journal of American Medical Association* 301(13): pp. 1349-1357, 2009; Mares, Alvin S., and Robert Rosencheck. 2007. "National Performance Outcomes Assessment: Preliminary Client Outcomes Report" Collaborative Initiative to Help End Chronic Homelessness. Washington: U.S. Department of Health and Human Services, Assistant Secretary for Planning and Evaluation 2007. Available at: http://aspe.hhs.gov/hsp/homelessness/CICH07/outcomes07/index.htm; Padgett, Gulcur and Tsemberis. "Housing First Services for People Who Are Homeless with Co-occurring Serious Mental Illness and Substance Abuse," in *Research on Social Work Practice* 16(1): pp. 74-83, 2006; Stefancic, Ana and Sam Tsemberis, "Housing First for Long-Term Shelter Dwellers with Psychiatric Disabilities in a Suburban County: A Four-Year Outcome Study of Housing Access and Retention." *Journal of Primary Prevention* 28: 265-279, 2007; Tsemberis, Sam and Rhonda F. Eisenberg. "Pathways to Housing: Supported Housing for Street Dwelling Homeless Individuals with Psychiatric Disabilities," in *Psychiatric Services* 51 (4): pp. 487-493, 2000; Tsemberis, Gulcur and Nakae. "Housing First, Consumer Choice and Harm Reduction for Homeless Individuals with a Dual Diagnosis," in *American Journal of Public Health* 94(4): 651-656, 2004; Pearson, Carol, Ann Elizabeth Montgomery, and Gretchen Locke. "Housing Stability Among Homeless Individuals with Serious Mental Illness Participating in Housing First Programs," in *Journal of Community Psychology* 37(3): 407-17, 2009; 2005.

approximately 3 percent of both groups received outpatient emergency mental health services 30 days prior to discharge. The proportions are even smaller for hospital inpatient services at admission and discharge. This finding should be considered in connection with the ALP's finding that only a small fraction of GR recipients who both received substance abuse services from DPH and had mental health problems actually received mental health services during the 30 days prior to the start of their substance abuse treatment.

Recommendation: Work with DMH and DPH to address barriers preventing GR recipients with substance abuse and mental health co-morbidity from receiving the mental health services they need. These findings suggest that there is a mental health services gap for GR clients who receive substance abuse treatment and have mental health co-morbidity.

Reconciling Funding Streams and Different Data Systems

The number of GR recipients receiving substance abuse treatment through DPH is considerably larger than what is recorded in DPH's official data. This is reflected not only in discrepancies in the raw numbers of recipients shown to be receiving substance abuse treatment in DPSS and DPH administrative records, but also in the proportion of GR recipients whose substance abuse treatment is funded through the GR program. During FY 2006-07, only 7 percent of the backdoor group had treatment funded through the GR program, which is to be expected. However, in the same year only 35 percent of the MSARP group had treatment funded through the GR program. Part of the reason for this is that the funding for MSARP is not enough to pay for all GR recipients participating in the program. Additionally, DPH is not always aware when its clients are GR recipients and their treatments are not paid for with GR program funds as a result. Resolution of funding discrepancies is especially critical given the shrinkage of Federal block grants for substance abuse treatment and the imminent discontinuation of funding received from the State via Proposition 32 at the conclusion of FY 2010-11. Without replacement of these lost sources of funding, DPH would likely exhaust its resources for the provision of treatment before the conclusion of a given FY, which would create waiting lists for treatment until the new budget cycle begins. The absence of necessary funding from DPSS to treat GR recipients will exacerbate this problem.

Recommendation: DPSS and DPH have been made aware of these discrepancies and should work to align their administrative records and funding streams.

Completion of Treatment is Key to Better Outcomes

More than half of the GR recipients in both the MSARP and backdoor groups combined did not complete their treatment. Among these recipients, only 14 percent in the MSARP group and 15 percent in the backdoor group were discharged with a status of 'incomplete but satisfactory.' Additionally, for both the MSARP and backdoor groups, more than half the recipients with treatment durations of less than six months left treatment with unsatisfactory progress. At the same time, a majority of recipients in

both groups with treatment durations of more than six months completed their treatment.

Completion of treatment is associated with several positive outcomes. For example, within the MSARP group, 55 percent of the recipients who completed their treatment gained employment after discharge versus 45 percent of those who did not complete their treatment, and within the backdoor group, 44 percent of those who completed their treatment obtained employment after discharge versus 34 percent among those who did not complete treatment. Related to these findings, the median quarterly earnings among recipients who completed their treatment more than doubled between the period before and after treatment among recipients in both the MSARP and backdoor groups. By comparison, among recipients who did not complete their treatment, median quarterly earnings increased by approximately 14 percent for both the MSARP and backdoor groups.

Closely related to the issue of completing treatment is keeping recipients engaged in the program for sufficient durations of time. Analysis of the relationship between treatment durations and completion of treatment shows that, for both the MSARP and backdoor groups, more than half the recipients with treatment durations of less than six months left treatment with unsatisfactory progress. At the same time, a majority of recipients in both study groups with treatment durations of more than six months completed their treatment.

Recommendation: Given the positive outcomes associated with completion of treatment, DPSS may wish to examine in more depth the barriers preventing more than half the GR recipients in MSARP from completing their treatment. This issue may be addressed most effectively through a qualitative evaluation based on interviews with GR recipients, case managers and clinicians affiliated with DPH. The evaluation could also examine barriers preventing recipients from staying in treatment for at least six months since there is a positive relationship between longer treatment durations and completion of treatment. The recommended evaluation could potentially be linked to the qualitative analysis suggested above, which would examine the substance abuse screening process used by Eligibility Workers and CASC workers.

Larger Providers are Associated with Better Completion Rates

The evidence indicates that recipients obtaining substance abuse treatment from providers serving more than 100 clients have a significantly better chance of completing their treatment. While this is true for the study population as a whole, the results further indicate that recipients obtaining services through MSARP and from larger providers have the best chance of completing treatment. These findings suggest that larger providers may currently be more equipped to provide services to the County's GR population.

Recommendation: DPSS might consider working collaboratively with DPH to evaluate why smaller providers are associated with lower completion rates. Since recipients tend to fare better when they complete their treatment, an important step in boosting future outcomes could involve either enhancing the treatment process at smaller providers or, where possible, referring an increased proportion of recipients to large providers. The evaluation process might additionally include the development of performance measures to be used to boost performance among providers with comparatively low completion rates and might also be deployed to incentivize contracts with providers by pegging payment to performance.

Next Steps

This report shows that participation in MSARP yields a number of comparatively favorable outcomes for GR recipients in need of treatment for substance abuse issues. This is important to consider in connection with data showing that more than 1 in 10 recipients who were on GR for at least one month during 2007 either obtained substance abuse treatment through MSARP, obtained treatment directly through DPH, or were referred to MSARP but failed to comply. Additionally, more than 1 in 5 of the recipients in the 2007 cohort had involvement with MSARP at some point during the multiple years over which their records were tracked for this report. Given the statistical significance of the portion of the County's GR population in need of substance abuse services, enhancing the MSARP program to provide increasingly effective and cost-efficient services will be a critical component in DPSS' larger efforts to restructure the GR program. DPSS should consider working jointly with DPH to convene a work group dedicated to integrating the results and recommendations provided in this report, as well as additional input from countywide stakeholders, into the larger GR restructuring process. DPSS has had good success in convening evidence-based work groups in the recent past, particularly in its work to lower the CalWORKs sanctions rate, improve child care services provided to CalWORKs families, and implement the GR Housing Subsidy program on an expanded scale. Therefore, there is good reason to assume that convening an MSARP work group can similarly help guide DPSS, both in its efforts to make fiscally prudent program enhancements and in its ongoing efforts to provide humane and increasingly effective care to some of the County's most vulnerable inhabitants.

Technical Appendix

REVISED MANDATORY SUBSTANCE ABUSE RECOVERY PROGRAM EVALUATON COMPONENTS

Prepared by Department of Public Health

The Los Angeles County (LAC) Department of Public Health (DPH), Substance Abuse Prevention and Control (SAPC) and the Department of Public Social Services (DPSS) have collaborated to assist General Relief (GR) applicants/recipients who have substance use problems recover from their chemical dependency. These two departments jointly developed the GR Mandatory Substance Abuse Recovery Program (MSARP) in LAC. The program encourages personal responsibility by offering services that indigent adults can utilize to help themselves reach self-sufficiency. The following are key elements of the GR MSARP program.

OVERVIEW AND HISTORY

On June 3, 1997, the LAC Board of Supervisors (BOS) adopted an ordinance requiring GR applicants and recipients (18 years and older indigent adults) to undergo screening for substance abuse if there is reasonable suspicion that the individual may be chemically dependent. The BOS further required that applicants and recipients, screened and professionally evaluated to be in need of treatment, must participate in a treatment program as a condition of receiving GR benefits. The GR MSARP program was implemented on November 1, 1997. Due to the short timeframe required to respond to the BOS mandate, SAPC used the existing network of contracted assessment and treatment agencies to serve GR participants. A competitive bid for countywide assessment, referral, and tracking services was conducted in 2001. The bid included GR Assessment Services and established the current network of Community Assessment Services Centers (CASCs).

THE PROGRAM

Under the current system, DPSS staff administers a questionnaire to all GR applicants to pre-screen and identify individuals with possible alcohol and other drug (AOD) use disorders. The pre-screening tool, the CAGE Aid Questionnaire, includes four self-declaration questions and screens for alcohol and drug problems conjointly. The responses to these questions, in conjunction with the interviewer's observations about the individual's behaviors and appearance, are used to determine if there is reasonable suspicion of alcohol and/or drug use/dependency.

ELIGIBLITY

All GR applicants/recipients (employable or unemployable) who have been pre-screened and assessed as positive for a substance use disorder (SUD) must participate in MSARP as a condition of GR eligibility. Participants may be identified through various means, including self-declaration, as a result of the DPSS screening where the eligibility worker has a reasonable suspicion that the person has a substance use problem. Those who meet the reasonable suspicion criteria will be referred to the

CASC for assessment and possible referral to treatment. Participants needing alcohol or drug treatment and recovery services may also access these treatment services directly by walking into the program and requesting services, by notifying a GR eligibility worker, General Relief Opportunity For Work (GROW) case manager, the CASC staff, or by calling the SAPC Hotline at (800) 564-6600.

DPSS provides additional supportive recovery services, which include transportation, Supplemental Security Income (SSI) advocacy, medical/mental health (MH) evaluations, job development, and vocational/educational training available through the GROW program. Work related expenses; such as books, supplies, uniforms, tools, shoes, etc., are normally covered by GROW. MSARP participants may access GROW services when they complete treatment.

HOW DOES IT WORK

DPSS pre-screens all GR applicants/recipients to identify persons needing treatment. Participants who appear to have a substance abuse problem are referred to the CASC for assessment. Once the GR applicant/recipient has been identified and referred to the CASC for assessment, the CASC utilizes the Addiction Severity Index, an automated evidence based tool, to determine the level and intensity of services required. CASC also uses motivational interviewing techniques to provide pre-counseling encouragement and motivate participants to comply with treatment services requirements following the assessment. Based on the assessment results, the CASC refers the participant to the most appropriate modality of treatment, which may include inpatient medical detoxification, residential, or outpatient AOD services. Individual participation is tracked by the CASC and updated on the DPSS Los Angeles Eligibility Automated Determination Evaluation Reporting tracking system. Over the past two years, the CASCs report assessing and placing between 13,700 and 14,000 GR participants annually.

Participants are referred to treatment providers using the following process:

The CASC will refer participants to a DPH – SAPC GR contracted provider. The referral is based on the assessment results, the level and intensity of treatment needed, and the appropriate modality of treatment indicated. If an outpatient program is indicated, the CASCs refer participants to an outpatient programs nearest their home or to a program within their DPSS District area for those who are homeless. Additionally, the outpatient program should not require the participant to travel more than one hour by bus to their treatment site. A transportation stipend is provided for persons receiving outpatient treatment. Participants requiring residential treatment may be referred to any site within the County service delivery network.

CO-OCCURRENCE OF SUBSTANCE USE AND AXIS I AND AXIS II PSYCHIATRIC DISORDERS

The co-occurrence of substance use and other psychiatric disorders has become an area of active investigation in recent years. Two epidemiologic surveys have examined the prevalence of psychiatric and SUDs; the surveys were conducted by the National Institute of Mental Health (NIMH) and the Epidemiologic Catchment Area (ECA).

Complexity of Axis I and Axis II

SUD is an Axis I disorder that refers to a habitual pattern of alcohol or illicit drug use that results in significant problems related to aspects of life, such as work, relationships, physical health, financial well-being, etc. There are two mutually exclusive sub-categories - substance abuse and substance dependence. In some cases, substance use (as distinct from abuse or dependence) can also negatively impact people with mental health problems.

Based on Diagnostic Statistical Manual (DSM) IV classification, concurrent disorders refer to a substance use disorder in combination with an Axis I or Axis II mental health disorder. The co-occurrence of a SUD and MH Disorder is extremely complex and may easily be tangled with Axis I and II mental disorders.

- Axis I: The presenting clinical disorders or conditions that are the primary focus of clinical attention.

- Axis II: Personality disorders (PDs) or mental retardation. These include the co-occurrence of anxiety/mood and PDs in substance abusers.

The study examined the co-occurrence of anxiety/mood and PDs in substance abusers, the impact of anxiety/mood disorders on the symptom profiles of PDs, and the impact of anxiety/mood disorders and PDs on pre-treatment status. Current anxiety/mood disorders and PDs and pre-treatment status were assessed using semi-structured interviews with 370 treated substance abusers. The study's results were the following: (1) Anxiety/mood disorders and PDs frequently co-occurred, with the overall pattern of associations being non-specific; (2) the strongest associations were of social phobia with avoidant and schizotypal PD, and of major depression with borderline PD; (3) symptom profiles of PDs were not associated with anxiety/mood disorders; and (4) anxiety/mood disorders and PDs were both independently and differentially associated with poor pre-treatment characteristics. The study findings suggest the clinical importance of obtaining both Axis I and Axis II diagnoses in treated substance abusers, and highlight the distinctiveness of the Axis I and Axis II disorders.

Both MH and addiction counselors need to have the skills to screen for possible MH and SUD to make appropriate referrals. Without treatment, individuals with personality disorders have a poor potential for AOD recovery and continued sobriety. Currently, LAC operates under a dual treatment system. LAC Department of Mental Health provides funding to MH providers and SAPC provides funding to substance abuse

treatment providers. Ideally, in the future, SAPC would be able to fund Co-occurring treatment services where individuals can receive integrated substance abuse and MH Co-occurring Disorders (COD) treatment services at one site.

Evidence-Based Practices in Addiction Treatment

DPH employs evidence-based practices, which are interventions that demonstrate a correlation between consistent scientific evidence and preferred participant outcomes. The following are some principles of effective treatment and some scientifically-based approaches to addiction treatment used by GR contracted programs. Under the MSARP system, when treatment agencies identify or suspect that an individual needs substance use treatment services, the GR service providers engages in the following procedures:

1. Admit GR participants to detox, residential, or outpatient treatment program, as needed and appropriate.
2. Complete all required registration forms and information on LAC Participant Reporting System.
3. Provide treatment services as contracted:

    A. Residential detox – up to fourteen (14) days of residential detoxification services. Step the participant down to the next level of services where possible.
    B. Residential/outpatient services:
        - Orientation and overview of the program
        - Initial treatment plan development
        - Individual and group counseling (for non-residential services, having contact with the participant at least two times per week)
        - Urine testing, as needed
        - HIV/AIDS Education
        - Crisis Intervention
        - 12-step/self-help support group attendance (two groups per week, self help groups are not billable to the contract)
        - Emphasis on vocational and educational counseling and referral
        - Social and recreational activities
        - Aftercare planning

4. Provide services in accordance with State licensing requirements.

Principles of Effective Treatment

1. No single treatment methodology is appropriate for all.
2. Treatment needs to be readily available and easily accessible.
3. Effective treatment attends to the multiple needs of the individual, not just his or her drug use. Treatment must address the individual's drug use and associated medical, psychological, social, vocational, and legal problems.

4. Treatment plans must be assessed and modified continually to meet participant's changing needs. GR Treatment plans are updated at least quarterly.
5. Remaining in treatment for an adequate period of time is critical for treatment effectiveness.
6. Counseling and other behavioral therapies are critical components of effective treatment.
7. Medications are an important element of treatment for many patients, including persons with CODs and other SUDs.
8. Co-existing disorders should be treated in an integrated way.
9. Medical detox is only the first stage of treatment.
10. Treatment does not need to be voluntary to be effective.

Scientifically-Based Approaches to Addiction Treatment

SAPC encourages the use of evidence-based practices by our contracted treatment agencies, including, but not limited to the following practices:

- **Cognitive-behavioral intervention approaches** to drug addiction exist. Cognitive Behavioral therapy (CBT) skills training can be used to help manage symptoms, recover from substance use, improve interpersonal relationships, and improve quality of life. CBT can help foster a range of skills, including drink and drug refusal skills, problem solving, assertiveness skills, and communication skills.

- **Community Reinforcement Approach** is a behavioral program for people with a SUD. It is based on the belief that environmental contingencies can play a powerful role in encouraging or discouraging drinking or drug use. Consequently, it focuses on social, recreational, familial, and vocational domains to assist consumers in the recovery process. Its goal is to make a sober lifestyle more rewarding than the use of substances.

- **Motivational enhancement therapy** is a therapeutic approach to help the consumer resolve his or her ambivalence about change and enhance the consumer's motivation and commitment to change. This approach is based on the idea that the consumer holds the responsibility and capability for change. The relationship between the consumer and therapist is collaborative and emphasizes consumer choice, self-efficacy, and the responsibility of the consumer to determine his or her life goals.

- **Twelve-step facilitation** or other mutual-help involvement as an addition to the treatment approaches are utilized. Overlapping support group attendance with other treatment approaches helps familiarize the individual with mutual-help groups and aids in the transition to continuing care. Counselors can help introduce 12-Step or mutual-help meeting philosophies and structures, as well as help integrate concepts from treatment with mutual-help material.

- **Contingency management** techniques, sometimes referred to as motivational incentives, are an effective way to enhance behavioral change. Contingency management is based on the premise that if behavior is reinforced or rewarded it is more likely to occur again. This technique can be used to reward behavior inconsistent with substance use thereby encouraging new behaviors and promoting a drug-free lifestyle. Using rewards instead of punishment fosters the development of new behaviors that can be generalized to different settings and situations. Additionally, rewards encourage positive expectations and focus on accomplishments.

MEDICATION: ASSISTS WITH WITHDRAWAL AND USED TO DIMINISH RELAPSE

Note: Current MSARP Program funding does not cover medication assisted treatment.

Methadone - Medication-Assisted Treatment

During the past 30 years, many opiate addiction recovery programs have had great success with a medication called methadone, which has helped tens of thousands of addicted men and women overcome the addiction to opiates such as heroin, OxyContin, Vicodin, and morphine. Overcoming opiate abuse and/or dependence can be a difficult experience due to severe withdrawal symptoms and strong cravings, but advances in medication-assisted treatment in recent decades have made this process much safer, less painful, and more successful.

Treatment Facts

Methadone has been described by the United States (U.S.) Office of National Drug Control Policy as "rigorously well-tested" and "safe and efficacious" for individuals who are being treated for opiate addiction. Methadone is a synthetic opiate that mimics the effect that heroin, morphine, and other opiates have on certain receptors in the brain. It essentially works by blocking the sedating and euphoric effects of opiates. It also helps to eliminate the cravings that are so strongly associated with opiate addiction and plays a huge role in determining whether a patient will make it through opiate withdrawal or suffer a relapse.

Benefits of Continuous Methadone Maintenance Treatment

Evidence shows that continuous Methadone Maintenance Treatment (MMT) is associated with several other benefits:

- MMT costs about $13 per day and is considered a cost-effective alternative to incarceration.
- MMT has a benefit-cost ration of 4:1, meaning $4 in economic benefit accrues for every $1 spent on MMT.
- MMT has a significant effect on the spread of HIV/AIDS infection, hepatitis B and C, tuberculosis, and sexually transmitted diseases. Heroin users are known to

share needles and participate in at-risk sexual activity and prostitution, which are significant factors in the spread of many diseases. Research suggests that MMT significantly decreases the rate of HIV infection for those patients participating in MMT programs.

- MMT allows patients to be free of heroin addiction. The National Institute on Drug Abuse found that, among outpatients receiving MMT, weekly heroin use decreased by 69 percent. This decrease in use allows for the individual's health and productivity to improve. Patients were no longer committing crimes to support their habit, and criminal activity decreased by 52 percent. In a 1994 study of drug treatment in California, researchers found that rates of illegal drug use, criminal activity, and hospitalization were lower for MMT patients than for addicts in any other type of drug treatment program.

MMT is one of the most monitored and regulated medical treatments in the U.S. Despite the longstanding efficacy of MMT, only 20 percent of heroin addicts in the U.S. are currently in MMT.

Methadone has been proven safe and effective, but it should be supplemented with individual counseling, group therapy, transitional living arrangements, and support groups like Narcotics Anonymous. Many methadone clinics offer individual counseling and group therapy to help ensure a full and lasting recovery. Because underlying emotional and psychological issues are often causes of substance abuse, individual and/or group counseling aid in long-term sobriety.

Although GR funding does not cover MMT services, LAC would benefit from providing services to opiate addicted individuals. As previously described, MMT improves stability and ability to gain and retain employment. SAPC would be open to testing this concept on a pilot basis.

Vivitrol Treatment

Vivitrol is an extended-release injectable formulation of naltrexone, manufactured by Alkermes. In April 2006, Vivitrol was approved by the Federal Food and Drug Administration for the treatment of alcohol dependence and approved for the treatment of opiates in October 2010. In conjunction with concurrent conventional outpatient or residential treatment, Vivitrol has been shown to reduce alcohol craving, alcohol dependence, and relapse. It is administered by injection once every 30 days until an individual no longer feels craving or dependence that would heighten risk for relapse.

Previously approved for use in the treatment of alcoholism and alcohol dependence, Vivitrol now joins methadone and buprenorphine (Suboxone) as an approved medication for individuals who are struggling with alcohol dependency.

SAPC has made arrangements with three of its contracted treatment providers to provide up to three monthly Vivitrol doses at no cost to a limited number of participants from SAPC-contracted outpatient and residential treatment programs for the treatment

of alcohol abuse/dependence. Vivitrol can only be administered in conjunction with concurrent participation in outpatient or residential treatment services. A pilot project involving these three providers last year found significant success in retaining participants through successful treatment program completion and in maintaining sobriety.

Who is eligible to participate in SAPC's Vivitrol project?

Persons who are active participants of SAPC-contracted outpatient and residential programs and have a primary or secondary diagnosis of Alcohol Dependence are eligible to receive up to three monthly Vivitrol injections at no cost. Additional injections may be available on a case-by-case basis while supplies last.

Persons with the following conditions are not eligible to receive Vivitrol:

- Individuals who are pregnant;
- Individuals who are taking opiate-based medications, e.g., pain medications such as Vicodin, or illicit opiates, e.g., heroin; and/or individuals with severe liver disease.

Before receiving the initial dose, persons may be asked to obtain medical clearance. Also, persons receiving the doses and their referring programs are asked to participate in an evaluation of the project conducted by the University of California, Los Angeles Integrated Substance Abuse Programs (UCLA-ISAP). All participant information will be handled in compliance with confidentiality regulations and requirements. Alkermes, SAPC, and UCLA-ISAP also provide ongoing training and technical assistance for interested providers**.** Some GR participants may have the opportunity to volunteer for this program.

Buprenorphine Treatment

On October 8, 2002, the Schedule III narcotic medications Subutex (buprenorphine hydrochloride) and Suboxone tablets (buprenorphine hydrochloride and naloxone hydrochloride) received Food and Drug Administration (FDA) approval for the treatment of opioid addiction. This drug can be used for both short and long-term substance use management. Buprenorphine services can be used to manage opioid dependence and is generally viewed to have a lower dependence-liability than methadone.

Antabuse

A variety of medications may be prescribed as part of treatment for alcoholism. Medications currently in use include the following: Antabuse (disulfiram) prevents the elimination of acetaldehyde, a chemical the body produces when breaking down ethanol. Ethanol is the intoxicating agent used in alcoholic beverages, fermented, and distilled liquors; used pure or denatured as a solvent or in medicines and colognes. The overall effect is severe discomfort when alcohol is ingested; an extremely fast-acting

and long-lasting uncomfortable hangover. This discourages an alcoholic from drinking in significant amounts while they take the medicine. A recent nine-year study found that incorporation of supervised disulfiram and a related compound carbamide into a comprehensive treatment program resulted in an abstinence rate of over 50 percent.

*Few, if any, of SAPC's contracted agencies serve participants with buprenorphine or antabuse.

TREATMENT SERVICES OVERVIEW

The SAPC contracted treatment programs provide individual and group counseling sessions in accordance with State licensing/certification requirements. At a minimum, each GR participant will be assigned a primary counselor who will act as their case manager and work with them during their time in treatment. Within 30 days of admission, each participant will work with their counselor to develop a treatment plan for their long and short-term goals. These goals will generally include reducing substance use, obtaining and maintaining sobriety, and obtaining employment or long-term financial stability. The program has been operating for over 13 years and serves 3,000 to 3,600 persons annually through SAPC contracted alcohol and drug treatment programs. This evaluation will be based on participants who received a CASC appointment. The description of treatment services are based on a six month standard and where clinically indicated, three additional months extension duration of service. GR participants admitted to treatment programs are eligible to receive up to nine months of treatment services. Treatment extensions must be requested by the fifth month of treatment, by following the established SAPC and DPSS approved treatment extension policy and procedure.

Specific services to be provided under SAPC contracts

- Orientation and overview of the treatment and recovery program for the participant.
- Intake and participant assessment/evaluation, including documentation of admission requirements and medical and psychosocial histories.
- Initial treatment plan based upon the information obtained during the assessment/evaluation process.
- Crisis intervention, involving person-to-person contact between a qualified staff person and an identified participant in crisis, to alleviate problems, which present an imminent threat to the health of the participant.
- Individual and group counseling, in accordance with the participant's needs, to identify problems and needs, set goals and interventions, and practice new behaviors.
- Education on HIV/AIDS transmission and access to voluntary HIV testing.
- Host or connect participants to mutual 12-step/self-help discussion groups for participants.
- Social and recreational activities for participants.

- Coordination of the provision of services with other agencies related to participant's drug use, including criminal justice agencies.
- Referrals for any service deemed appropriate for contributing to participant's rehabilitation.
- Referral and/or access to educational and vocational counseling and training resources.
- Referral to appropriate residential detoxification and residential recovery programs for homeless participants, to mental health and other social service programs, as needed.
- Aftercare planning to ensure participants has support in recovery, including transition to community services and sober housing.
- Follow-up on former participants in accordance with Contractor's written policies and procedures, approved by SAPC's Director prior to commencement of their Agreement. Contractor shall attempt to contact any participant who has received a minimum of four (4) visits of nonresidential alcohol and drug services and who is no longer deemed to be in active treatment. The purpose of such follow-up shall be to determine the participant's current health status and treatment needs, and to advise the participant relative thereto. All attempts to contact the former participant, and the result of such attempts, shall be documented in the participant's records and shall include as appropriate: 1) participant's willingness to respond to contractor's follow-up efforts, 2) status of participant's drug and alcohol use, 3) status of his/her current employment, and 4) history of arrest subsequent to termination of treatment program. Contractor shall obtain participant's consent for follow-up contact at time of participant's admission to the nonresidential alcohol and drug services program.

Differences amongst services provided under SAPC contracts are based on modality of treatment. Some programs provide outpatient treatment services where the individual comes to the program site, once or twice weekly, for individual and group counseling. Additionally, the participant has contact with their assigned counselor a minimum of two times per week, depending on the severity of his/her addiction.

BEHAVIORAL TREATMENT

Behavioral treatment is a strategy used for treating SUDs, which integrates Cognitive Behavior Treatment (CBT), Motivational Interviewing, and Contingency Management, and the Lifestyle Risk Reduction Model. The National Institute on Drug Abuse (NIDA) has learned that behavioral approaches can be very effective in treating drug addiction. This brief overview explains that CBT is a short-term, focused approach that usually occurs in outpatient settings to help persons recognize situations in which they are most likely to use drugs, avoid these situations when appropriate, and cope more effectively with a range of problems and problem behaviors associated with drug abuse.

CBT is based on a few simple principles:

1. The individual is responsible for his/her own emotions and actions,

2. The individual's harmful emotions and dysfunctional behaviors are the product of his/her irrational thinking,
3. The individual can learn more realistic views and, with practice, make them a part of his/her life,
4. The individual will experience a deeper acceptance of oneself and greater satisfactions in life by developing a reality-based perspective.

A difficult part of the recovery process is learning how to be happy without the use of alcohol or drugs. To assist individuals in this, many tools of Cognitive Behavioral Therapy are used to address the psychological and social components of alcohol dependence.

The following tools are designed to assist individuals in their recovery process. They include, but are not limited to the following:

- Enhancing motivation to quit drinking and to remain abstinent.
- Risk/Reward Analysis (costs/benefits of drinking/quitting).
- Setting sensible, measurable, achievable, reasonable, and timed goals and working towards achieving them.
- Learning how to refuse to act on urges when they arise.
- Understanding triggers and where they come from.
- Understanding "slippery" social situations and how to deal with them.
- Learning how to manage life's problems in a sensible and effective way.
- Using CBT to identify irrational beliefs.
- Learn self-acceptance and other-acceptance.
- Developing a positive, balanced, and healthy lifestyle.
- Recognizing the importance of exercise and nutrition in the recovery process.
- Replacing destructive habits with constructive habits.
- Avoiding replacing one bad habit with another bad habit.

The spouse (or significant other) may attend and participate in treatment with the participant. Spousal participation in treatment (at no extra cost), is one of the many factors that result in dramatically improved outcomes for participants of this program. This is true because SUD occurs within the context of the individual's life and spouses are a major part of that context. Including them will result in a happier, more supportive spouse, as well as more satisfactory outcomes for both of them. Behavioral Treatment can also be applied in out-patient treatment. Treatment success depends upon changing alcohol and/or SUD based behaviors while maintaining and enhancing one's life. Tools learned through Behavioral Treatment assist individuals maintain change when they return to the usual routines of daily life.

RESIDENTIAL TREATMENT

Residential treatment is a twenty-four (24) hour residential program where recovery services and/or specialized recovery services are made available to persons (including, but not limited to, homeless persons) who have drug and/or alcohol related problems. "Homeless" persons are defined as those individuals with drug and/or alcohol related problems who lack shelter and the financial resources to acquire shelter, and whose regular nighttime dwelling is in the streets, parks, subways, bus terminals, railroad stations, airports, and other similar locations. Participants are to be involved in no less than six (6) hours of planned treatment activities per day under the supervision of trained staff. Residential Services Include:

- Room and meals
- Mutual 12-step/self-help group discussions with participants
- Social and recreational activities
- Transition to community services and sober housing

Some programs target underserved populations, such as women, and culturally specific populations, such as American-Indians. An example of such a program is American-Indian Changing Spirits Recovery Program. Changing Spirits is a social model, community-based

180-day Residential Recovery Program targeting American-Indian men who suffer from alcohol and/or drug addiction. Services include the following:

- Alcohol and Drug Education
- One-on-One Counseling
- Relapse Prevention Groups
- 12-Step Groups
- Resident Council
- Recreation and Social Activities
- Anger Management
- Cultural Activities

Residential Short-Term Treatment (30 days or less)

Residential short-term treatment provides individuals with drug addiction problems help in recovering. Participants live at the short-term residential facility. They stay at the facility for a short period of time, often 30 days or less. While attending residential short-term treatment they will receive valuable information and tools to help them on the road to SUD recovery, in addition to a full array of treatment and recovery services to promote **long-term** sobriety.

Long-Term Treatment and Therapeutic Communities (three to 12 months)

Long-term treatment generally lasts anywhere from three to 12 months and is focused on the "resocialization" of the individual. Long-term treatment uses the program's entire "community," including other residents, staff, and the social context, as active

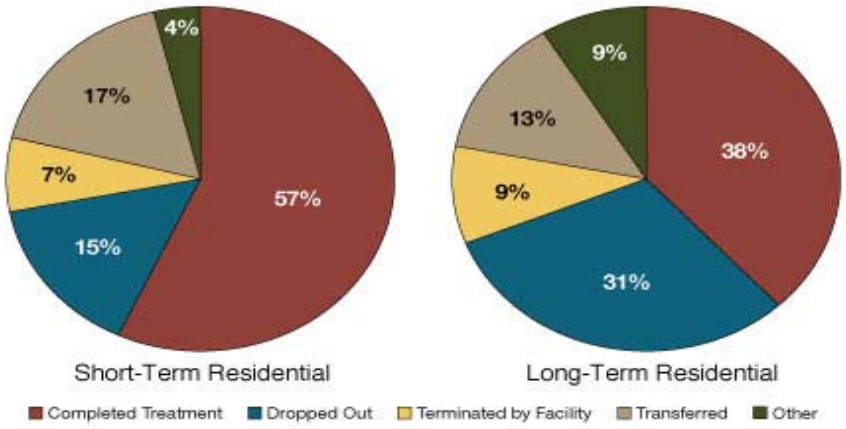
components of treatment. Long term treatment focuses on developing personal accountability and responsibility and socially productive lives. Long term treatment is highly structured with activities designed to help residents examine damaging beliefs, self-concepts, and patterns of behavior and to adopt new, more harmonious and constructive ways to interact with others. Through long-term treatment, patients are able to maintain sobriety for a substantial amount of time. With shorter treatment programs the drug addict does not experience a significant amount of time off drugs. They have just enough time to withdrawal, detox, and receive little therapy before they are back in society dealing with the same social pressures that drove them to treatment in the first place. Participants of short-term residential treatment facilities who reported primary alcohol abuse (66 percent) had the highest completion rate, as compared to those who reported primary stimulant abuse (46 percent), which had the lowest completion rate.

For individuals discharged from long-term residential treatment, people reporting primary alcohol abuse also had the highest completion rate (46 percent). The lowest completion rate for long-term care was among participants reporting primary cocaine abuse (33 percent) or primary opiate abuse (35 percent).

30 days versus 180 days

It can be a challenge to determine what works best in substance abuse treatment. To help, Substance Abuse and Mental Health Services Administration recently issued a short report, Treatment Episode Data Set (TEDS) 2005: Treatment Outcomes among Participants Discharged from Residential Substance Abuse Treatment. The report looks at the characteristics of participants who have received treatment at in-patient facilities. The report compares individuals in short-term treatment (30 days or fewer) and long-term treatment (more than 30 days); those reporting primary alcohol abuse and other primary drug abuse; and people with varying education levels. In the case of short-term versus long-term residential treatment, data from 2005 show that participants discharged from short-term treatment were more likely to complete treatment than participants discharged from long-term treatment.

Figure A1. Percentage of Discharges from Short-Term and Long-Term Residential Substance Abuse Treatment, by Reason for Discharge: 2005



Source: SAMHSA Office of Applied Studies. 2005 TEDS. Treatment Outcomes among Participants Discharged from Residential Substance Abuse Treatment. Figure 1. Percentage of Discharges from Short-Term and Long-Term Residential Substance Abuse Treatment, by Reason for Discharge: 2005. February 12, 2009.

Los Angeles County Long-Term & Short Term data

- In 2008, there were approximately 49,000 total substance abuse treatment admissions in LAC: 66 percent were male admissions, and 34 percent were female admissions. Of the 172 residential facilities in Los Angeles, 97 percent offered long-term residential treatment (more than 30 days) and 39 percent offered short-term.

OUTPATIENT BEHAVIORAL TREATMENT

Out-Patient services are integrated into the participant's usual life and become a detour away from drinking patterns while maintaining the other aspects of life. Treatment is a change process that occurs and accommodates to the realities of your life. When the participant stops drinking or using substances, other areas of his/her life will be affected and out-patient allows for the necessary micro-adjustments success will require. Additionally, when the participant stops drinking or using substances, other areas of their life can be positively affected.

Out-patient services include the following:

- 12- step facilitation
- Cognitive behavioral treatment
- Simulation-based Planning Model for Mental Health Services
- Behavioral Positive Support (BPS)
- Motivational Interviewing
- Wellness Self-Management (WSM)
- Self-help programs
- Counseling in correctional settings

- Referral and/or access to educational and vocational counseling and training resources.
- Aftercare planning to ensure that participant has support in recovery.

PERFORMANCE BASED CONTRACTING PROCESS

LAC has been engaged in a form of performance management for the last several years with the development and implementation of individual site reports. These reports include information on areas that were studied in two performance-based pilot projects, including engagement and retention.

Performance measures include 30-day length of stay (LOS), 90-day LOS; and exit interviews, and are aligned with accepted practices in the field of substance use disorder. SAPC worked with the ISAP at UCLA to ensure that there is annotative evidence and data to support the benchmarks associated with each performance measure (beginning in Spring 2010), SAPC also worked with a group of providers to review, discuss, and developed performance benchmarks.

The three performance benchmarks for adult outpatient counseling programs became effective October 1, 2010.

PROGRAM MONITORING AND COMPLIANCE

SAPC and DPSS GR operate under a memorandum of understanding that outlines each department's programmatic and fiscal responsibilities. DPSS GR Program Staff and Contract Monitoring Division review all participant billings for eligibility and conduct periodic site visits to treatment agencies and SAPC, to review program compliance.

SAPC's contracted treatment agencies and CASCs are monitored annually for service quality and fidelity. SAPC's monitoring division assigns a Contract Program Auditor (CPA) to each agency to assure contract compliance. The CPA schedules periodic site visits to monitor and ensure that the provider is abiding by the contract and quality assurance requirements.

This also includes State licensing and certification requirements.

[1] Cited in: Swan N. Research demonstrates long-term benefits of methadone treatment. NIDA Notes. 1994. Institute of Medicine.

[2] Greenhouse, Cheryl M., "Study Finds Methadone Treatment Practices Vary Widely in Effectiveness," NIDA Notes, NOTES, Washington, DC: National.

[3] NIMH – ECA study conducted in the early 1980s, and the National Co-morbidity (NCS) conducted in 1991.

[4] Data from the ECA study estimates that 45% of individuals with an alcohol use disorder and 72% of individuals with a drug use disorder had at least 1 co-occurring disorder (COD).

[5] In the NCS, approximately 78% of alcohol-dependent men and 86% of alcohol-dependent women met lifetime criteria for another psychiatric disorder.

DATA and MULTIVARIATE REGRESSION RESULTS

Data

The data used in this study come from administrative databases maintained by two separate County agencies and a State agency. These databases are collected in computerized management information systems and track service utilization over time. As such, they provide comprehensive and systematic information on the characteristics and service utilization histories of program participants. The data covered information on GR participants between 2005 and 2009—over five years.

Databases used for this study come from the following sources:

1. DPSS' Los Angeles Eligibility, Automated Determination, Evaluation and Reporting (LEADER) system was one of two primary data sources. LEADER provided all the detailed information on MSARP transactions and drug abuse history.

2. The LEADER system was also used to collect data on several other data elements such as demographic information, GR tenures and terminations, SSI applications, employability of participants, physical disabilities and participant address information that determines the homelessness status.

3. DPH Alcohol and Drug Program Administration client data base provided records of outpatient counseling, day care, detoxification and residential services in contracted facilities. The AOD database of DPH was the second primary data source. DPH data provided all the detailed information on treatments including treatment history (treatment types, times, durations, and waiting times), discharge status, sexually transmitted diseases and high-risk behaviors, criminal justice system involvement, mental health problems, homelessness status and funding source.

4. Employment data for GR participants was provided by the California Department of Social Services using the Unemployment Insurance Program database of the State EDD. Employment data provided quarterly employment and earnings for GR participants.

LEADER records were linked to DPH AOD records via fuzzy matching techniques using different combinations of first and last names, sex, dates of birth, Social Security number, and address. Social Security numbers were used to link participants to the employment database.

Samples

The analyses conducted for this study began with almost 89,000 recipients who were on GR for at least one month during 2007. The 89,000 GR recipients comprising the cohort with which the study began can be broken down as follows in relation to the MSARP program based on the information available from the DPSS LEADER database:

6,414 received assessments and referrals in 2007; 3,514 of these referred recipients were in the 'MSARP' group, and 2,901 were in the 'NO TREATMENT' group. Additionally, 3,278 of the 89,000 recipients comprising the total study cohort were in the 'BACKDOOR' group. This group was identified by matching GR data against the DPH data. Some of these backdoor recipients were referred to MSARP later, after they had already received treatment directly through DPH.

Multivariate Models and Outcomes

In general, differences in outcomes – as embodied, for example, in the question of whether or not a GR recipient finds employment over a given period of time – are likely to reflect the simultaneous effect of multiple factors. For this reason, the differences may change when we control for other factors that influence outcomes. The precision of estimation increases when other factors that help explain variations in outcome measures can be held constant. This requires using more complex multivariate methods. The regression models used in this study specify that the outcome variables are (linear) functions of a set of explanatory variables. The coefficient of each explanatory variable represents the effect of a change in the explanatory variable on the outcome, holding all other factors constant.

The study developed three multivariate regression models. The first model estimated the effect of the substance abuse treatment on the likelihood of finding employment for employable GR recipients by controlling for several covariates. The second model assesses the effect of substance abuse treatment on homelessness by estimating the likelihood that a recipient will become homeless while controlling for several covariates. These models compared the MSARP group against Backdoor and no treatment groups. The third model used to compare the likelihood that recipients in each of the MSARP and backdoor groups would complete their substance abuse treatments. The regression results are tabulated in the next section in Tables A-1 thru A-5.

Since outcome variables estimated in this study are categorical, logistic regression models are used. In the logistic regression models used in the study, the effects of explanatory variables are measured using odds-ratios. An odds ratio is a way of comparing whether the probability of a certain event is the same for two groups. An odds ratio of one implies that the event is equally likely in both groups; an odds ratio greater than one implies that the event is more likely in the first group; an odds ratio less than one implies that the event is less likely in the first group. Throughout the study, the odds-ratios are interpreted as the relative likelihood of an outcome for simplicity.

The significance of explanatory variables are determined by looking at the "*Pr* > X^2 " columns in the regression tables. These columns show the p-values that are compared to the selected significance levels to determine whether a factor is statistically significant. This comparison verifies that a specific factor may be accepted as a good predictor in explaining the outcome variables in question. In statistical terms, a p-value is the probability of obtaining a finding at least as "impressive" as that obtained with the assumption that the null hypothesis is true, so that the finding was the result of chance alone.

Employment Models

Table A-1 shows the results of the logistic regression model used to evaluate employment outcome comparing MSARP and backdoor groups. The table includes only those explanatory variables that are statistically significant. The dependent variable is finding employment. The overall model evaluation shows that the model fits the data quite well with the significant likelihood ratio confirming that the model improves over an intercept-only model significantly. In addition, the Hosmer–Lemeshow goodness-of-fit test is insignificant at the five percent level further suggesting that the model fits the data well. The resultant predicted probabilities of the model can be revalidated with the actual outcome to determine if high probabilities are indeed associated with events and low probabilities with nonevents. This test also revealed that the model correctly assigned a higher probability to those who found a job with a "*c* statistic" value of 0.845.

Table A-1 shows the following results: MSARP group was 32 percent more likely to find employment after starting their treatment than the backdoor group. Several other factors, mostly barriers to employment also contribute to the likelihood of employment. As expected, the strongest impact comes from prior employment. Recipients who were employed within two years prior to the start of their treatment were 3.3 times more likely to find jobs than those without a recent history of employment. Recipients with no mental health problems were 26 percent more likely to find employment than those with mental health problems; those without disabilities were 72 percent more likely to find employment than those with disabilities; those without recent incarceration histories were 12 percent more likely to find employment than those with recent incarceration histories; those with at least a high school degree were 25 percent more likely to find employment than those without a high school degree. Moreover, each additional month of homelessness prior to the treatment decreased the likelihood that recipients would find employment by 2 percent. Moreover, recipients who entered the GR program prior to 2007 have 17 percent more likelihood to find a job after their treatment and the length of GR tenure does not contribute to the likelihood of finding employment.

The effects of general demographic characteristics of recipients are not significant with the exception of age. Younger clients are more likely to find employment—those younger than 30 are 62 percent and those in their 30s are 40 percent more likely to find employment after their treatment relative to those clients in their 40s and 50s.

Finally, many treatment characteristics, such as whether treatments are episodic or not, the duration, number and type of treatments as well as the type of primary drugs do not have an impact on the likelihood of finding a job after the treatment. The only factor that affects this probability is whether the treatment is completed or not completed (including incomplete treatments with progress). Those clients who completed their treatments are 53 percent more likely to find employment after their treatment relative to other incomplete discharge statuses.

Table A-1. Regression Results for Probability of Finding Employment—MSARP vs. Backdoor Group

Explanatory Variables	Odds Ratio	P > X^2	More Likely to Find an Employment
Group—MSARP vs. Backdoor	1.31	<.0001*	1.32 times more
Prior Employment—Employed within 2 years prior	3.30	<.0001*	3.3 times more
Mental Health Problem—No vs. Yes	1.26	.0005*	1.26 times more
Physical Disability—No vs. Yes	1.72	<.0001*	1.72 times more
Recent incarceration history—No vs. Yes	1.12	.0822***	1.12 times more
High School Diploma—Yes vs. No	1.25	<.0001*	1.25 times more
Prior homelessness in months	.98	<.0001*	2 % less by every month
GR Cohort—Pre 2007(old) vs. Post-2007(new)	1.17	.235**	1.17 times more
Age—Less than 30 vs. Older than 40	1.62	<.0001*	1.62 times more
Age—30-40 vs. Older than 40	1.40	.1556	1.40 times more
Discharge Status—Complete vs. Incomplete	1.58	<.0001*	1.58 times more
Model Fit Statistics		**P > X^2**	
Likelihood Ratio		<.0001*	
Hosmer–Lemeshow Test		.12	
C statistic	.74	.	

* Significant at 1 % level
** Significant at 5 % level
*** Significant at 10 % level

Table A-2 shows the results of the logistic regression model used to evaluate employment outcome comparing MSARP and no treatment groups. The table includes only those explanatory variables that are statistically significant. The dependent variable is finding employment. The overall model evaluation shows that the model fits the data quite well with the significant likelihood ratio confirming that the model improves over an intercept-only model significantly. In addition, the Hosmer–Lemeshow goodness-of-fit test is insignificant the "*c* statistic" value is 0.72.

Table A-2 shows the following results: participation in MSARP does not have a significant impact on obtaining employment relative to the no-treatment group. Several other factors showed effects similar to those yielded with the earlier model that looked at the MSARP and backdoor groups again; the strongest impact was from prior employment. Recipients with who were employed within two years of either the start of their treatment or their MSARP referral date in their records were 3.4 times more likely

to find employment. Those with no disabilities were 58 percent more likely to find employment, and each additional month of homelessness prior to the start of treatment or the MSARP referral date decreased the likelihood that a recipient would find employment by 1.5 percent. Moreover, each additional month of staying in the GR program after the start of treatment or the MSARP referral date decreased the likelihood that a recipient would find employment by 2 percent.

As in the earlier model, the effects of general demographic characteristics of recipients were not significant with the exception of age. Younger clients are more likely to find employment—those younger than 30 are 26 percent and those in their 30s are 33 percent more likely to find employment after their treatment relative to those clients in their 40s and 50s.

Since the no treatment group is not covered by the AOD data, various variables related to employment barriers such as mental health problems, earlier incarceration or education could not be included in this analysis.

Table A-2. Regression Results for Probability of Finding Employment—MSARP vs. No Treatment Group

Explanatory Variables	Odds Ratio	P > X^2	More Likely to Find an Employment
Group—MSARP vs. No Treatment	7	.28	Not Significant
Prior Employment—Employed within 2 years prior	3.35	<.0001*	3.35 times more
Physical Disability—No vs. Yes	1.55	<.0001*	1.55 times more
Prior homelessness in months	.985	<.002*	1.5 % less by every month
In GR after Treatment (months)	.980	.235**	2 % less by every month
Age—Less than 30 vs. Older than 40	1.26	.192	1.26 times more
Age—30-40 vs. Older than 40	1.33	.0075	1.33 times more
Model Fit Statistics		**P > X^2**	
Likelihood Ratio		<.0001*	
Hosmer–Lemeshow Test		.608	
C statistic	.72	.	

* Significant at 1 % level

** Significant at 5 % level

*** Significant at 10 % level

Homelessness Models

Table A-3 shows the results of the logistic regression model used to evaluate homelessness outcome comparing MSARP and back door groups. The table includes only those explanatory variables that are statistically significant. The dependent variable is becoming homeless after treatment. The overall model evaluation shows that the model fits the data quite well with the significant likelihood ratio confirming that the model improves over an intercept-only model significantly. In addition, the Hosmer-Lemeshow goodness-of-fit test is insignificant the "*c* statistic" value is 0.69.

Table A-3 shows the following results: there is no statistically significant difference between the two groups in terms of the likelihood that recipients will become homeless following their treatments. Several other factors, mostly barriers to employment also contribute to the likelihood of becoming homeless. The most impactful factor in connection with homelessness is whether or not recipients are homeless at the time they start the treatment. Those who were homeless at the time they began treatment were 2.3 times more likely to be homeless after completing the treatment. Moreover, each additional month of homelessness prior to the start of treatment increases the likelihood that recipients will be homeless after treatment by 4 percent. Additionally, recipients who completed their treatment were 16 percent less likely to be homeless relative to those who failed to complete their treatment. Recipients who stayed in the GR program after their treatment were 58 percent more likely to be homeless than those who exited GR, but each additional month on GR after treatment decreased the likelihood of homelessness by 4 percent. Moreover, new GR participants (those entered the program after 2007) are 34 percent more likely to become homeless. Finally male GR recipients are 35 percent more likely to become homeless after completion their treatment relative to female participants.

Table A-3 Regression Results for Probability of Becoming Homeless after Completing the Treatment—MSARP vs. Backdoor Group

Explanatory Variables	Odds Ratio	P > X^2	More Likely to Become Homeless
Group—MSARP vs. Backdoor	1.025	.68	Not Significant
Homeless at the Time of Treatment—Yes vs. No	2.31	<.0001*	2.31 times more
Prior homelessness in months	1.04	<.0001*	4 % more by every month
GR Cohort—Post 2007(new) vs. Pre-2007(old)	1.34	<.0001*	1.37 times more
Additional Month Staying in GR after Treatment	.96	<.0001*	4 % less by every month
Exit GR after Treatment—No vs. Yes	1.58	<.0001*	1.58 times more
Gender—Male vs. Female	1.35	<.0001*	1.35 times more
Discharge Status—Incomplete vs. Complete	.84	<.003*	1.16 times more
Model Fit Statistics		**P > X^2**	
Likelihood Ratio		<.0001*	
Hosmer–Lemeshow Test		.29	
C statistic	.69	.	

* Significant at 1 % level

** Significant at 5 % level

*** Significant at 10 % level

Table A-4 shows the results of the logistic regression model used to evaluate homelessness outcome comparing MSARP and no treatment groups. The table includes only those explanatory variables that are statistically significant. The dependent variable is becoming homeless after treatment. Since the no-treatment group by definition does not participate in treatment, their MSARP referral dates are used. The overall model evaluation shows that the model fits the data quite well with the significant likelihood ratio confirming that the model improves over an intercept-only

model significantly. In addition, the Hosmer–Lemeshow goodness-of-fit test is insignificant the "*c* statistic" value is 0.70.

Table A-4 Regression Results for Probability of Becoming Homeless after Completing the Treatment—MSARP vs. No Treatment Group

Explanatory Variables	Odds Ratio	P > X^2	More Likely to Become Homeless
Group—No Treatment vs. MSARP	1.389	<.0001*	1.39 times more
Homeless at the Time of Treatment—Yes vs. No	1.99	<.0001*	2 times more
Prior homelessness in months	1.04	<.0001*	4 % more by every month
Gender—Male vs. Female	1.32	<.0001*	1.32 times more
Model Fit Statistics		**P > X^2**	
Likelihood Ratio		<.0001*	
Hosmer–Lemeshow Test		.11	
C statistic	.70	.	

* Significant at 1 % level
** Significant at 5 % level
*** Significant at 10 % level

Table A-4 shows that, after controlling for other relevant factors, the results indicate that participation in MSARP decreases the likelihood that a recipient will become homeless by almost 40 percent relative to the no-treatment group. The table also reveals that recipients who were homeless at the time of their treatment/treatment start date were almost twice as likely to remain homeless after completing their treatment. Moreover, every month of homelessness prior to the treatment increased the likelihood that recipients would be homeless after their treatment by an additional four percent. Finally male GR recipients are 32 percent more likely to become homeless relative to female participants.

Completion of Treatment Model

A regression model was also used to compare the likelihood that recipients in each of the MSARP and backdoor groups would complete their substance abuse treatments. Table A-5 shows the results of the logistic regression model used to evaluate completion of treatment outcome comparing MSARP and back door groups. The table includes only those explanatory variables that are statistically significant. The dependent variable is completion of treatment. The overall model evaluation shows that the model fits the data quite well with the significant likelihood ratio confirming that the model improves over an intercept-only model significantly. In addition, the Hosmer-Lemeshow goodness-of-fit test is insignificant the "*c* statistic" value is 0.69.

Table A-5 Regression Results for Probability of Completing the Treatment—MSARP vs. Backdoor Group

Explanatory Variables	Odds Ratio	P > X^2	More Likely to Become Homeless
Group—MSARP vs. Backdoor	1.327	<.0001*	1.33 times more
Homeless at the Time of Treatment—No vs. Yes	1.417	<.0001*	1.42 times more
Type of Service—Residential vs. Other	1.617	<.0001*	1.62 times more
Treatment History—Single vs. Multiple	1.85	<.0001*	1.85 times more
Provider Type—Large vs. Small	1.977	<.0001*	1.98 times more
Model Fit Statistics		**P > X^2**	
Likelihood Ratio		<.0001*	
Hosmer–Lemeshow Test		.29	
C statistic	.507	.	

* Significant at 1 % level

** Significant at 5 % level

*** Significant at 10 % level

Table A-5 shows that, holding many other relevant factors constant, the MSARP group was 33 percent more likely to complete their treatment relative to the back door group. Regression results also show that recipients served by large providers are almost twice as likely to complete their treatment relative to those served by small providers. Additionally, and as expected, recipients with episodic treatment histories are less likely to complete treatment, and those with multiple treatments are almost 85 percent less likely to complete their treatment. Another strong impact comes from the type of services recipients use as those engaged in residential services are 62 percent more likely to complete their treatments relative to the other service types. Finally, those who are homeless at the time of treatment are 42 percent less likely to complete their treatment.