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The San Francisco Centralized Intake Unit: A Description of Participants and Service Episodes[†]

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Abstract—Using client data from the publicly-funded drug abuse treatment system in San Francisco, California, this study compared demographic characteristics of clients of a central intake unit (CIU) to those of clients who did not access the CIU, and examined characteristics of CIU episodes. The San Francisco CIU was intended to make appropriate referrals of CIU clients to treatment programs, and 47.9% of these episodes were followed by a subsequent treatment episode within 90-days of admission to the CIU. Of all individuals in the treatment system, a quarter had been to the CIU and as many as 9% of all treatment episodes were at the CIU. The majority of CIU episodes were short, consistent with the nature of assessment and referral services. These data suggest that incorporating strategies to enhance admissions to post-CIU services could increase CIU impacts. The post-CIU admission patterns were consistent with greater availability of outpatient and day treatment slots in the system. The pre-CIU admission patterns suggested that treatment agencies in the system used the CIU as a means to transition their clients into additional or longer-term treatment.

Keywords—central intake, drug treatment, Target Cities, treatment admission

The use of centralized intake as a strategy to improve drug abuse treatment was applied as early as 1970 (Massing 1998). The concept of centralized intake, assessment and referral was supported by the federal Special Action Office for Drug Abuse Prevention, which developed a manual describing the model (Dupont 1974) and issued

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contracts to cities to implement central intake units (Massing 1998). Although uncommon, some cities have operated centralized intake units (CIUs) from the 1970s to the present (Zold, Tucker & Berry 1999). In 1990 the Center for Substance Abuse Treatment (CSAT) initiated the Target Cities Demonstration Program, which sought to improve the effectiveness of substance abuse treatment by supporting system infrastructure and coordination. The rationale of the Target Cities program was that more efficient treatment systems would make better use of existing treatment capacity, thereby increasing access. Further, more coordinated systems would direct clients quickly to the most appropriate services, thereby improving treatment outcomes. In the national Target Cities program a total of 19 cities, including San Francisco, were funded to develop CIUs that would

assess clients using standard procedures, match clients to treatment, and refer clients to treatment in the community.

There is now a growing literature about the use of CIU strategies in substance abuse treatment systems, and how CIUs may relate to treatment access and outcomes. Some authors have discussed expectations that CIUs may increase access for hard to reach populations (Stephens, Kaye & Chen 1999), or decrease length of time to treatment admission (Zold-Kilbourn, Tucker & Berry 1999). Along these lines, Scott and Foss (1999) reported that CIU participants were more likely to appear for their initial assessment, and more likely to initiate treatment compared to pre-CIU participants. Other studies have described characteristics of the CIU population in different systems (e.g. Claus & Dailey In press; Claus, Barron & Pascual In press; Guerin et al. 1999), client satisfaction with CIUs (e.g. Scott, Foss & Sherman In press a; Schwartz et al. 1999), and treatment outcomes that may be associated with CIUs (e.g. Guydish et al. 2001; Scott, Foss & Sherman In press b; Rohrer et al. 1996; Wickizer et al. 1994).

Yet few studies examine basic questions about how a CIU may function when placed in a preexisting treatment system. The San Francisco CIU serves as an example of such a case. It was introduced as a complementary system, such that service delivery units (SDUs) could continue long-established outreach and admissions procedures, with the CIU serving as an alternative entry to the system. The CIU was housed primarily in a central location, just south of the civic center, and developed an extensive mobile and outreach service of its own. Due to waiting lists at many SDUs, the CIU offered limited pretreatment services, though it otherwise referred its clients to existing treatment programs.

The San Francisco health department tracks treatment admissions, services and discharges for fiscal purposes. Therefore, its drug abuse treatment database includes admissions data for the CIU as well as for treatment admissions for almost 80 SDUs. Using this system-wide database, the authors investigated what proportion of all admissions system wide occurred in the CIU, whether CIU participants were different than nonparticipants, how long CIU episodes remained open, and whether CIU participants were also seen elsewhere in the system either before or after their CIU episode. This information gives a window into how a CIU intervention worked in a publicly-funded drug abuse treatment system, and suggests what planners or administrators might expect were they to implement CIUs in treatment systems elsewhere.

METHODS

Much of the substance abuse treatment in San Francisco is supported by contract, from the San Francisco Department of Public Health (DPH) Office of Substance Abuse Services, to community-based agencies. This treatment system provides over 12,000 unduplicated admissions

each year, through contracts with an array of 30 community-based treatment agencies. Many of these agencies support multiple programs, usually defined in terms of treatment modality and/or target population. Consequently, the 30 agencies represent more than 80 specific subprograms. As part of the federally-funded Target Cities Project, the system implemented a centralized intake unit that was fully functioning by July of 1997. Although administratively a part of the DPH, the CIU operated like any other community-based agency and was not integrated into the DPH as a management tool. Furthermore, the CIU operated as an overlay on the existing treatment system, and was intended to refer clients to any of the available programs. Consequently, persons seeking substance abuse treatment could approach any individual treatment program directly or contact the CIU for assessment and referral. The CIU was designed to serve as an easy entry point to treatment through a one-stop assessment and referral service. CIU services were advertised in the community and among treatment providers, and a toll-free telephone number was widely publicized. Over time, the CIU became a substantial treatment access point, completing approximately 2,600 assessments in 1996.

CIU clients could phone in for an appointment, drop in during business hours, or receive services through CIU-specific outreach efforts. Ideally, the client would receive all CIU services in a single day. However, there were exceptions, such as clients who could not complete an assessment in the first session and those who participated in the CIU pretreatment program that was offered to assist those on an SDU waiting list. This pretreatment program included acupuncture and support group services.

STUDY SAMPLE

The San Francisco publicly-funded treatment system reported 123,333 admissions between 1 July 1995 and 30 June 1999. To obtain the present study sample, the authors included only cases entering treatment for themselves, excluding those who had admission status as a spouse or child of a substance abuser. Episodes of treatment in drinking driver programs were also dropped, since the court directly referred to those programs, as well as childcare and supportive housing programs. After these adjustments to the database a sample remained of 114,593 admissions during the study period. Data were entered locally by each of the SDUs and maintained in a central office of the health department.

MEASURES

During any SDU or CIU intake interview each client provided information for a standardized form, which was entered into San Francisco county's information system. The data collected included demographic characteristics,

legal status, homelessness, and history of drug use and treatment. Demographic characteristics included age, gender, race/ethnicity, income, education, marital status, and disability status. Education was measured in number of years of education completed and coded into three categories: less than high school, high school (including GED), and more than high school. Nearly all (99%) of the cases reported no income, so income was not included in the analyses.

Legal status was coded according to type (parole, probation, diversion, incarcerated). Number of previous arrests was also recorded. A client's housing situation was assessed at intake; anyone without a regular place to spend the night was considered homeless.

The reporting form collects information on drug of choice (i.e., primary problem) and combines specific drugs into categories: alcohol, marijuana, cocaine, methamphetamines, heroin, and other. Route of administration was converted to a dichotomous variable (injection versus noninjection) for analysis. Clients also reported number of previous treatment episodes; these were recoded as none, one to two, and three or more.

The county substance abuse database includes information collected at the time a person is admitted to any treatment program in the system, and again at the time of discharge. These records include date of admission and date of discharge, and type of treatment. Type of treatment is described in terms of eight modalities: CIU, drop-in, outpatient, day treatment, residential treatment, methadone detoxification, methadone maintenance, and residential detoxification. The admission and discharge records for a single treatment episode can be linked using a unique client identification number. Multiple admission and discharge records for the same person (i.e., multiple treatment episodes) can be linked over time using this identifier, giving a longitudinal picture of program utilization for any client.

A CIU episode generally consisted of an assessment and referral(s) to appropriate treatment and other services. The admissions database did not include referrals made by the CIU. As proxies for referral patterns, the authors identified treatment episodes occurring 30 days preceding, and for both 30 days and 90 days following, a CIU admission. That is, we assumed that participants discharged from another treatment in the 30 days before a CIU admission may have been referred to the CIU from that program. Similarly, it was assumed that participants admitted to another program within 30 days (and within 90 days) after a CIU admission may have been referred to that program by the CIU. Both 30 days and 90 days were used for the post-CIU window. These time frames were selected, based on consultation with CIU clinical staff, to reflect a high likelihood that a treatment admission within these time frames was associated with the CIU intervention. More specifically, treatment admissions that occurred within 30 days after the

CIU admission were very likely associated with the CIU assessment and referral. Treatment admissions that occurred up to 90 days after the CIU admission may still have been associated with the CIU assessment, because SDU waiting lists or other factors may delay treatment admission for some time. We assumed that treatment admissions occurring more than 90 days after the CIU assessment were not likely to be associated with the CIU assessment.

DATA ANALYSIS PLAN

Two sets of analyses were conducted. The first set of analyses involved descriptive statistics using demographic characteristics collected at admission to the treatment system. First, CIU and non-CIU individuals were compared (for an individual with multiple records, data was used from the first treatment episode that occurred in the sample time period), using univariate analyses across demographic measures. Proportions were compared using chi-square tests, and means were compared using t-tests. These initial analyses were followed by a logistic regression analysis to evaluate differences across the two groups while adjusting for the effects of demographic characteristics. Finally, an effort was made to determine whether CIU participants had been in the treatment system prior to their first CIU assessment.

The second set of analyses considered characteristics of CIU episodes within the context of the larger treatment system. The proportion of all system admissions accounted for by the CIU and the proportion of persons served in the CIU were assessed. For the subset of CIU admissions, the authors assessed length of time for CIU episodes, the proportion of CIU episodes that were preceded by or followed by recent admissions elsewhere in the system, and in what type of treatment these other episodes occurred. In analyzing the proportion of CIU episodes that were followed by subsequent entry into another treatment setting, time frames of 30 and 90 days after the CIU admission were applied.

RESULTS

The study sample included 114,593 admissions to any of the SDUs or the CIU during the study period. These admissions served 30,337 individual persons. The results from the analyses are presented in two sections. First, individuals seeking CIU services are described as a proportion of the total service population and by number of previous treatment admissions, and by comparing CIU participants in the system to non-CIU participants. Second, characteristics of CIU episodes are described including length of episode, and the types of treatment episode that either preceded or followed the CIU assessment. In the absence of information about referrals clients may have had going into or coming out of the CIU, actual treatment episodes offer a proxy measure for referral patterns.

TABLE 1
Demographic Characteristics for CIU and Non-CIU Samples

Demographic Characteristic	Total (N=30,337) %	CIU (N=7626) %	Non-CIU (N=22711) %	Effect Size (Phi Coefficient)
Gender - % women	26.2	28.6	25.4	-0.06
Race/Ethnicity				0.05
White	40.4	40.8	40.3	
African-American	37.7	40.8	36.7	
Hispanic	14.6	1.3	1.6	
Asian/Pacific Islander	3.8	12.1	15.5	
Native American/Alaska Native	1.5	3.5	3.9	
Other/mixed race	2.0	1.6	2.1	
Education				0.01
Less than high school	31.2	31.6	31.6	
High school	38.3	38.7	38.1	
More than high school	30.5	31.2	30.3	
Marital status				0.04
Never married	64.80	65.9	64.4	
Now married	10.17	8.0	10.9	
Widowed/separated/divorced	25.04	26.2	24.7	
Disabled	17.8	26.7	15.0	0.24
Legal status				0.15
No legal issues	71.8	72.2	71.7	
Parole	6.3	2.7	7.6	
Probation	12.6	15.3	11.7	
Diversion	6.3	4.1	7.1	
Incarcerated	2.8	5.8	1.9	
Number of arrests prior two years				0.04
0	58.3	58.7	58.2	
1	22.7	21.0	23.3	
2	9.2	10.7	8.7	
3 or more	9.8	9.7	9.9	
Homeless	36.8	41.2	35.3	0.09
Primary problem at admission				0.10
Heroin	29.0	21.7	31.4	
Alcohol	32.5	34.4	31.9	
Methamphetamines	8.7	9.2	8.5	
Cocaine	23.4	27.9	21.9	
Marijuana	5.0	5.1	5.0	
Other	1.5	1.7	1.4	
Primary route of administration				-0.11
Injection	28.80	24.3	30.3	
Number of prior admissions				0.01
0	63.79	63.0	64.1	
1-2	21.73	22.8	21.4	
3 and more	14.48	14.3	14.6	

Individuals Seeking CIU Services

To assess whether clients accessing the CIU differed from clients not accessing the CIU, the sample was divided into two groups: those who ever went to the CIU and those who never went to the CIU during the four-year observation period. Of all 30,337 individuals seeking treatment in

the system between July 1, 1995 and June 30, 1999, 25% (n=7,626) had at least one contact with the CIU. Although individuals with any CIU contact were included in the CIU group, for some individuals the first admission during the time frame was in the CIU (n= 4,391) while for others the first admission frame was not in the CIU (n=3,235). The

TABLE 2
Proportion of Treatment Episodes Occurring Within 30 Days (N=10,238)
and Within 90 Days (N=10,125) of any CIU Episode by Treatment Type*

Treatment Type	Within 30 Days (N=3,555)	Within 90 Days (N=4,852)
Outpatient/day treatment	37.8%	34.2%
Drop-in services	15.5%	17.6%
CIU	14.8%	16.8%
Residential detoxification	14.7%	13.5%
Residential	11.7%	12.1%
Methadone detoxification	4.7%	5.0%
<u>Methadone maintenance</u>	<u>0.9%</u>	<u>0.9%</u>

*The total number of CIU admissions during the study period were 10,314. For data reported in this table, CIU episodes were eliminated if they occurred less than 30 days, or less than 90 days, before the end of the observation period.

"non-CIU" group (n=22,711 persons) may have entered treatment one or more times as well, but none of their treatment episodes involved services at the CIU. Thus, these individuals entered the treatment program through the traditional means, by directly approaching the SDU.

What proportion of clients in the treatment system have utilized the CIU? Since anyone could enter the CIU at any time, persons entering the CIU could have had any number of previous treatment episodes in the system. The number of treatment episodes prior to the first CIU episode an individual person may have had were evaluated as an indicator of whether the CIU was likely to serve clients who were new to the treatment system. Most people (57.6%) entering the CIU for the first time were also entering the system for the first time. The remainder had one prior admission in the system (13.7%), two prior admissions (10.3%), three prior admissions (5.1%), or four or more prior admissions (13.3%).

Is the CIU population different from the non-CIU population? Comparisons were made between the CIU and the non-CIU groups on the demographic characteristics, including legal issues and homelessness. The average age for the population was 37.1 (SD=10.1), and this was not significantly different between CIU (Mean=37.4, SD=9.6) and non-CIU (Mean=37.0, SD=10.3) groups. Because of the large sample size, statistically significant between-group differences were found for all characteristics shown in Table 1. As an indicator of whether these differences may be meaningful, the table reports the phi coefficient for each comparison (Cohen 1992). The phi coefficient is a measure of effect size, ranging from 0 to 1, where larger values indicate larger effect sizes. The largest phi coefficients in the table are for disability status (0.24) and legal status (0.15) and, while these are small effect sizes, the authors interpret these as meaningful between-group differences. The direction of these relationships reflect that CIU participants were more likely to report having a disability, and more likely to be on probation or incarcerated at the start

of the CIU episode. Smaller between group differences suggest that the CIU may have served larger proportions of women, African-Americans, and homeless persons. CIU participants were also more likely to report cocaine as the primary problem at admission, and less likely to report heroin as a primary problem or a history of drug injection. A simultaneous logistic regression analysis was conducted to assess differences between CIU and non-CIU participants, while controlling for age and all demographic measures shown in Table 1. This analysis confirmed the general pattern shown in Table 1, with largest differences between groups on the disability and legal status measures (data not shown).

Characteristics of CIU Episodes

Of 114,593 treatment episodes in the system between July 1, 1995 and June 30, 1999, there were 10,314 CIU episodes (9.0%).

How long do people stay in the CIU? Of all 10,314 CIU episodes, the majority (64.6%) opened and closed in a single day (stay of 0 days). Few episodes lasted longer than two weeks, with a total of 91.2% episodes open for 0 to 10 calendar days; 96.8% of the CIU episodes were open for less than 90 days.

What proportion of CIU episodes result in subsequent treatment admissions? Of all the CIU episodes, 67.6% had a subsequent treatment episode in any treatment setting, including another CIU episode, and at any time during the four-year observation period. To assess the proportion of CIU episodes that were followed by another admission within 30 days, and within 90 days, the authors first eliminated those CIU episodes occurring at the end of the observation window (since the time limits would extend beyond the periods available on the dataset). This reduced slightly the number of CIU episodes available for the 30-day and 90-day analyses. Of the 10,238 CIU episodes that occurred more than 30 days prior to the end of the study period, 3,555 (34.7%) were followed by another treatment

TABLE 3
Proportion of CIU Episodes Occurring Within 30 Days of a Non-CIU Admission for Types of Treatment Services*

Types of Prior Treatment	Any CIU Episode (N=2,174)
Residential detoxification	59.4%
Drop-in services	17.9%
Outpatient/day treatment	11.4%
Methadone detoxification	7.3%
Residential	2.7%
Methadone maintenance	1.3%

*Excludes approximately 500 cases where a CIU admission was preceded by a separate CIU admission within 30 days.

episode within 30 days of the CIU admission date. Of the 10,125 CIU episodes that occurred more than 90 days prior to the end of the study period, 4,852 (47.9%) were followed by another treatment episode within 90 days of the CIU admission date. CIU episodes that opened within the 30 days or 90 days, respectively, of the end of the database time frame were not included in these last two analyses.

Where do the subsequent episodes occur? To evaluate the type of services that CIU clients might have been referred to, the subsequent treatment episode for people with a treatment admission within 30 days and again within 90 days of their CIU admission was analyzed (Table 2). Because most CIU admissions were short, the 30- and 90-day time periods were calculated from the admission date for the CIU episode to the admission date for the subsequent treatment episode. Types of services included all publicly-funded programs in San Francisco, as well as privately-funded methadone programs (which include detoxification, standard maintenance and LAAM). Although there is some variability in the size of the proportions, the general pattern is the same whether considered within 30 days or 90 days of a CIU episode. About a third of the post-CIU admissions were to outpatient and day treatment services. Close to 15% were to each of the following types of programs: drop-in services, CIU, residential detoxification. Smaller proportions of CIU episodes were followed by admissions to residential treatment, and methadone detoxification and maintenance.

Where do CIU clients come from? Because the CIU provided referrals to treatment services, it served a secondary purpose for providers who would sometimes refer their own clients to the CIU for assessment and referral. This was reported to occur when providers had waiting lists or conducted an intake on a client who proved to be inappropriate for the services provided by that agency, or when clients completed a treatment program and needed referral for additional treatment. Table 3 shows the types of treatment that occurred in the 30 days preceding CIU episodes. The 30-day period is calculated from the end date of the prior episode to the admission date of the CIU episode. This analysis excludes instances where a CIU episode was

preceded by another CIU episode, which occurred in approximately 500 cases (see Table 2). Of all CIU episodes (N=10,314), 2,174 or 21% had been in the local treatment system within the 30 days preceding the CIU episode. Of these pre-CIU episodes, 59.4% were in residential detoxification, 7.3% were in methadone detoxification, and 17.9% were in drop in services. Among those who had been in treatment in the system within 30 days before their CIU assessment, nearly 85% had been in front-end or early intervention modalities (detoxification or drop-in services).

DISCUSSION

For program planners and administrators who may consider centralizing substance abuse assessment and referral as a means to increase efficiency in a treatment system, one key decision is whether the CIU is intended to serve all clients or some clients. In San Francisco CIU clients could access treatment either through the CIU or by directly approaching a program. The CIU was a resource for clients seeking treatment, and for healthcare professionals in the community referring their clients for substance abuse services. A CIU assessment was not required for clients who chose to find treatment on their own. The findings reported here may inform other treatment systems where a CIU is implemented in a similar way, but may be uninformative where, in particular, a CIU assessment is required as an initial step in accessing treatment.

Over a four-year period, and with a limited number of exclusions, the San Francisco treatment system registered 114,593 treatment admissions, and served 30,337 individuals. Of all system admissions, 9% were CIU admissions (n=10,314). Of all individuals served, 25% were served at least once in the CIU (n=7,626). Over time, the San Francisco CIU was called on to intervene with a substantial proportion of all persons served in the system.

This comparison of CIU and non-CIU participants is difficult to interpret on statistical grounds because sample sizes were large, because differences in proportions were small, and because effect sizes were small. To understand the importance of these differences, the authors considered

what it might mean to a treatment program if it had a 6% increase in homelessness, a 12% increase in disability, and a 4% increase in both incarceration and probation among new clients. Such changes would likely mean a population that was somewhat harder to treat, and for whom positive outcomes were somewhat harder to achieve. These differences are explained in part because the San Francisco Target Cities project implemented the local drug court, and a CIU assessment was required for drug court participants. In addition, Social Security Insurance (SSI) rules in force during the study period mandated assessment and treatment for persons receiving SSI benefits as a result of a drug and alcohol disability. The San Francisco CIU held a contract to provide assessment, referral and monitoring for these SSI recipients, increasing the proportion of CIU cases having any disability.

The CIU was also somewhat less likely to serve either heroin users or injection drug users, and these differences may shift the case mix towards a more treatment responsive population. During the study period San Francisco methadone treatment programs had consistently high demand, insufficient supply of treatment slots, and intractable waiting lists. The authors believe that the CIU was understood, by clients and by the community, to be ineffective in bridging these barriers. As a consequence, persons seeking methadone treatment may have been less likely to do so through the CIU. On balance, we conclude that there was a difference in case mix between CIU participants and non-participants, and that the CIU served a somewhat more difficult population than that found in the rest of the system. It is also noted that case mix differences were likely due to other considerations in the community, such as the role of the CIU in serving drug court and SSI populations, and were not a function of the CIU itself. We would not expect, based on these findings, that another CIU in San Francisco or elsewhere would necessarily serve a more severe client population.

The CIU was designed as an assessment and referral service, so that service episodes were expected to be brief. Nearly two thirds of all CIU episodes were opened and closed on the same day. That some episodes were open longer may reflect cases where a second visit was needed to complete the assessment and referral process, or due to use of the CIU's pretreatment services. Whether or not a participant received pretreatment services was not recorded in the database, however, and CIU staff reported that some cases remained open due to administrative errors.

For this study it was assumed that subsequent episodes within 90 days of the CIU assessment were related to the CIU referral, and that episodes occurring more than 90 days after assessment were unrelated to the CIU intervention. This assumption allows an estimate, based on system wide admissions data, of the proportion of CIU episodes that were related to the CIU intervention. Of all CIU episodes, just under half (47.9%) were followed by another

treatment or service within 90 days. This may be an underestimate, as participants may have been referred to non-substance abuse services, or to substance abuse services that were not part of the publicly-funded system. This may also be an overestimate, since participants may enter treatment for reasons unrelated to the recent CIU assessment. The authors believe the figure of 47.9% offers a reasonable indicator, nevertheless, of what program planners may expect of a CIU. That is, while all assessments are intended to result in the receipt of some follow-on treatment, only about half are likely to do so. This rate of follow through, however, may be increased by follow up or case management services, or active efforts to support the participant in initiating the recommended treatment.

The effectiveness of the CIU in linking persons to treatment may also be enhanced through additional system management efforts. Importantly, the San Francisco CIU did not control or manage access to treatment slots paid for by the county. Consequently, treatment referrals made by the CIU were hampered, in the same way as any other referral, by waiting lists, limited availability, and program priorities. In the authors' view, having a CIU goes only part way towards better management of community treatment resources. Another part of systems management would involve linking the CIU to treatment funding, through slot management, treatment vouchers, or contractual arrangements, so that those assessed at the CIU could also access the programs to which they were referred.

CIU participants who appeared elsewhere in the system within 90 days were most likely to be admitted to outpatient programs, and less likely to enter treatment in residential treatment, or methadone detoxification or maintenance programs. This may reflect treatment availability more than any other factor, as outpatient treatment was relatively more available while residential and methadone programs had waiting lists. Some participants were seen in drop-in services or in the CIU, for a second visit, within the 90-day post-CIU period. Both of these modalities may be conceptualized as short-term and low threshold, generally designed to intervene briefly and refer onto other treatments. Such admissions, in the wake of a CIU assessment, may be understood in at least two ways. The use of low threshold services suggests a continuing interest or motivation on the part of the client to pursue treatment, and is preferable to disengagement. At the same time, the use of a low threshold treatment following a CIU assessment may suggest that a more appropriate intervention was not available, or not accessible, or that other barriers may have interfered with treatment engagement. As an outcome of a CIU assessment and referral, low threshold treatment may be better than none, but inferior to other longer-term types of treatment.

It was found that 21% of all CIU admissions were preceded by another treatment admission for the same person within 30 days. Of these cases ($n=2,174$), nearly 85% had

been in residential detoxification, methadone detoxification, or drop-in services, so that these recent pre-CIU episodes tended to be for detoxification or low threshold services. The authors' analysis design assumes that these findings reflect referral patterns from service providers to the CIU. If this assumption fails and these patterns do not represent referral patterns, they nevertheless reflect actual service patterns. In either case, the pattern observed is rational, such that clients coming to the CIU after recent contact elsewhere in the system most often came from detoxification programs, seeking assessment and referral to additional or other longer-term treatment.

Study findings may have limited generalizability, since CIUs operate using different models and procedures, and with differing local contexts. Only small differences were observed between CIU and non-CIU groups, and the conclusions about between-group differences rely on an interpretation of how small differences may impact treatment effectiveness. Findings concerning how CIU admissions related to pre-CIU or post-CIU admissions elsewhere in the system rely on length of time between admissions as a proxy for actual referral data. Certain service patterns occurred, with CIU episodes either preceded or followed by other admissions in a short time. While these

patterns are likely related to the activities of the CIU and its role in the community, they may also have occurred for reasons unrelated to the CIU.

Over time, the San Francisco CIU served a substantial proportion of all persons served in the publicly funded drug abuse treatment system. The CIU population was somewhat more severely impaired than the non-CIU treatment population, but this was likely due to community and policy factors only weakly related to the CIU. The majority of CIU episodes were short, consistent with the nature of assessment and referral services. About half of all CIU assessments were followed by another treatment admission within 90 days. This proportion offers a benchmark for other similar programs, and also suggests that incorporating strategies to enhance admissions to post-CIU services could increase CIU impacts. The post-CIU admission patterns observed here were consistent with greater availability of outpatient and day treatment slots in the system, and with lesser availability of methadone and residential treatment services. The pre-CIU admission patterns suggested that treatment agencies in the system, and particularly detoxification and low threshold brief intervention services, used the CIU as a means to transition their clients into additional or longer-term treatment.

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