



Community Living Services: Program Evaluation and 2004 Annual Review

**A Support Program for Adults with Severe and
Persistent Mental Illness Provided by:**

Community Mental Health Center of Lancaster County

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Data Collection /Analysis and Report Preparation

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EXECUTIVE SUMMARY

Community Living Services (CLS) provides case management and residential support services to adults with severe and persistent mental illness in a community setting.

Results of this Program Evaluation and 2004 Annual Review indicate the program is **highly effective** in providing community support services that maximize and maintain peoples' stability and independence in the community. This effectiveness is evidenced by:

- The very low psychiatric recidivism rate during enrollment in CLS
- The higher level of peoples' community functioning relative to a normative urban sample
- The similar level of engagement of services relative to a normative sample

INTRODUCTION

The Community Mental Health Center of Lancaster County (CMHC) is a licensed and accredited Community Mental Health Center that provides a comprehensive array of mental health services to residents of Lancaster County, Nebraska. The CMHC offers case management services (i.e., Community Living Services or CLS) that are individualized and accessible to the consumer. CLS provides one part of a comprehensive service system to assist the consumer in achieving optimal community functioning. The CMHC initiated a program evaluation of CLS for the purpose of continuing quality improvement and program development. This evaluation is commensurate with the CMHC's commitment to continuous quality improvement, which aims to meet and exceed the needs of the consumers. The results of the evaluation will demonstrate the effectiveness of the program and highlight areas for improvement. Results will also highlight how the CLS fits within the agency's larger continuum of mental health care.

Description of Program Mission and Philosophy

CLS provides outpatient case management to adults with severe and persistent mental illness within Lancaster County, Nebraska. CLS strives to provide services that are accessible, responsive to community needs, designed to maximize consumer engagement, and culturally aware and responsive. Continuous quality improvement is an imperative of CLS that is met by initiating program evaluations geared toward evaluating the efficacy of services provided by CLS, and recommending changes that are likely to improve this service.

CLS provides those with severe and persistent mental illness a bridge of support, rehabilitation, advocacy, and continuity to assist in obtaining the highest level of consumer functioning. A consumer's functioning is assessed and goals are developed based on the skills, abilities, needs, and preferences of the consumer. These services are based on the belief that individuals with severe and persistent mental health difficulties have the right to maximize their ability to function outside the hospital. The Community Support Worker's role is to facilitate optimal continuity of care and to ensure a service delivery system regardless of the setting or circumstance.

The goals and objectives of Community Living Services include:

- Provide a continuum of care designed to assist the consumers to enhance skills in community living in accordance with their skills, abilities, needs, and preferences
- Assist consumers to maximize their abilities to live in the community, accomplish personal goals, take charge of their rehabilitation, and to maintain their functionality over the life span
- Facilitate communication and coordination between multiple service providers that serve the same consumer
- Decrease the frequency and duration of hospitalization for the consumers

DESCRIPTION OF PROGRAM EVALUATION AND 2004 ANNUAL REVIEW

The program evaluation addresses the following questions:

1. Who are the people being served by CLS?
2. What is the rate of hospitalization of people being served by CLS?
3. What is the level of community ability of people being served by CLS?
4. What is the level of engagement of services of people served by CLS?
5. What is the rate of discharge of people served by CLS?

Information was gathered for people served by CLS from the FoxPro database, charts at CMHC, questionnaires completed by CMHC community support workers and people served, and CMHC hospitalization data. As of December 2004 there were a total of 582 people who were currently being served by CLS and are thus included in this review. Description of the people being served includes demographics (e.g., race, age etc.) and clinical characteristics (e.g., diagnosis, days hospitalized in 2004, etc.). The total number of people for these analyses was 582, which only included people being served by CLS during the month of December 2004. Those people who were admitted to CLS after December 2004 were not included in these analyses. For certain analyses less data was available and is so noted.

PART I: DESCRIPTION OF PEOPLE SERVED BY CLS

Summary of Description of People Served by CLS

CLS serves people with particularly severe and persistent psychiatric disorders. This severity is apparent in the:

- Severity of Axis I disorders, namely a high prevalence rate of schizophrenia spectrum disorders
- Relatively high degree of difficulty within the realms of social relations, activities of daily living, mood disturbance, substance use, and psychosis
- High rate of unemployment
- Relatively high rates of people receiving governmental medical coverage

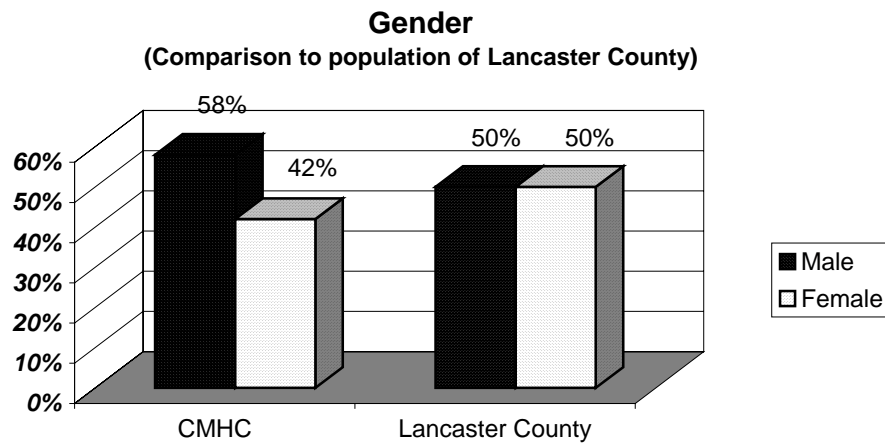
Demographics

With regard to the 582 people served by CLS at any point during 2004:

Gender: 335 (57.6%) have been men and 246 (42.3%) women. One case did not have data regarding gender, and is, therefore, not reported.

Average age of the 582 people served: 45.25 (range = 20 – 82)

Figure 1.

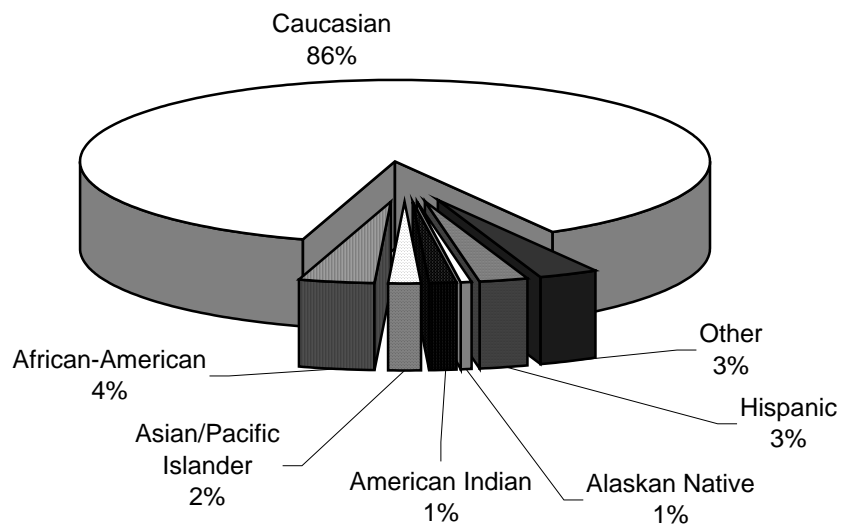


As seen in Figure 1, CMHC serves a relatively high proportion of male, and a relatively low proportion of female clients.

Race/Ethnicity:

Figure 2.

Breakdown of Clients Served by Race/Ethnicity



As seen in Figure 1:

506 (86.9%) are Caucasian

24 (4.1%) are African American.

15 (2.6%) are Hispanic

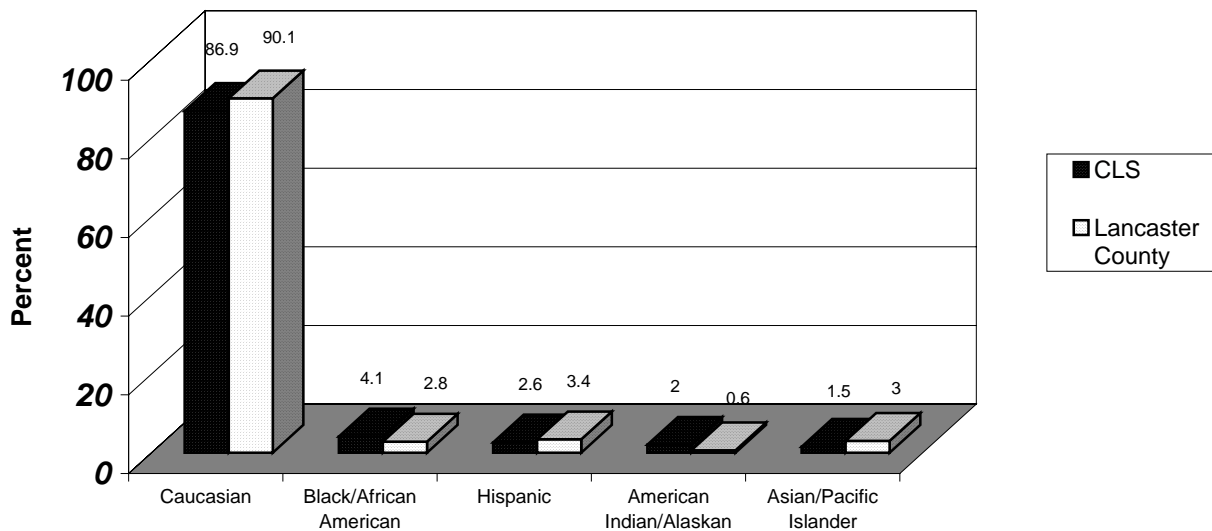
9 (1.5%) are Asian/Pacific Islander

8 (1.4%) are Native American or American Indian

2 (0.3%) Alaskan native

18 (3.1%) identified themselves as belonging to an “other” racial or ethnic category.

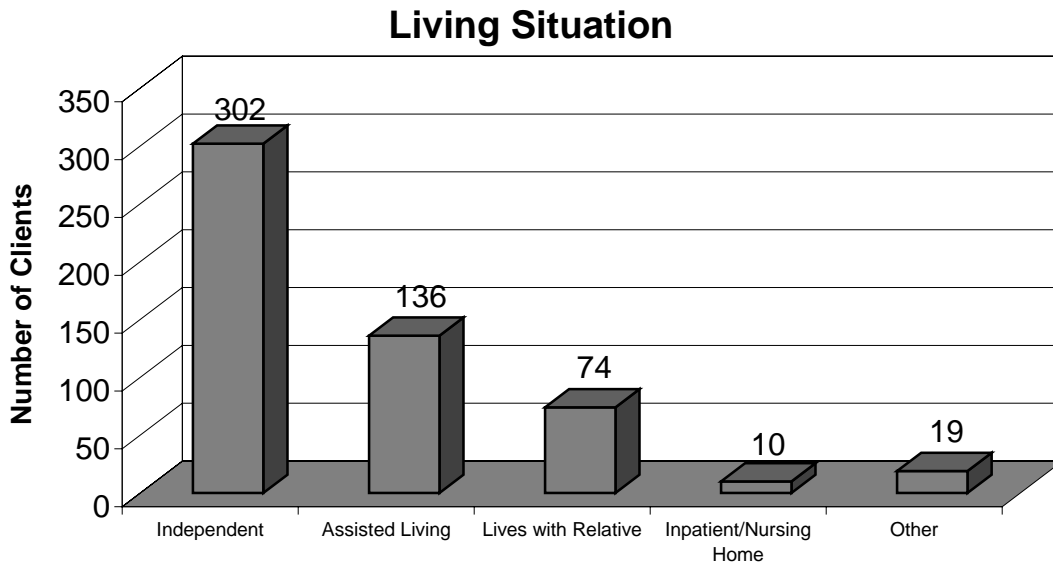
Figure 3.
Race/Ethnicity
(Comparison to population of Lancaster County)



As seen in Figure 3, the distribution of the race of clients in CLS is roughly proportional to the distribution of race in the population of Lancaster County. There are some differences, however. Specifically, there are a higher proportion of Black/African American and American Indian/Native Alaskan people in CLS than in the population of Lancaster County. In addition, there are a lower proportion of people who are Asian/Pacific Islander and Hispanic in CLS than in Lancaster County.

Minority people in the United States generally seek mental health services to a lesser extent than Caucasians (U.S. Department of Health and Human Services, 2001). Factors such as reduced access to services, stigma, and reliance on alternative sources of support may play a role in this discrepancy. Interestingly, CLS serves a higher proportion of African-American and American Indian/Alaskan people than would be expected based upon the population distribution in Lancaster County. However, the relatively low proportion of Hispanic and Asian clients in CLS in comparison to Lancaster County suggests further effort may be warranted to inform people with these ethnic backgrounds of the services offered by CMHC and the CLS program. Contacting community programs in the Lancaster County area that serve people of these ethnicities and providing information regarding services provided by CMHC may facilitate this process. In addition, recruiting staff with diverse ethnic backgrounds may also promote engagement of a more diverse group of people in CLS, and improve the level of engagement of people currently in CLS.

Figure 4.



As shown in Figure 4:

- 302 (58.2%) clients live independently
- 136 (25.1%) clients reside in an assisted living facility
- 10 (1.8%) clients reside in an inpatient care setting or nursing home
- 74 (12.7%) clients live with a relative
- 19 (3.5%) clients live in some other setting

Participants were included in the “Independent” category if they lived in their own apartment or house, or if they were in the Independent Living Program (ILP). Participants who resided at CTP at the Heather, a residential psychiatric rehabilitation setting, were included in the “Assisted Living” category.

A one-way analysis of variance (ANOVA) was computed to examine any possible difference in the age of people across the different living situations. ANOVA revealed a statistically significant difference in the age of people across varying living situations, $F(4, 540)=12.76, p<.001$. Least significant difference post-hoc analyses indicated that people living with a relative were significantly younger on average (37.7 years) than people living independently (45.9 years), assisted (49.2 years), in an inpatient or nursing home facility (50.8 years), and people in the ‘Other’ category (44.4 years). Additionally, people who lived independently were significantly younger than people living in an assisted living facility. It is likely that a difference in the age of people living in an inpatient or nursing home facility relative to people living independently was not detected because of a lack of statistical power.

Figure 5.

Employment

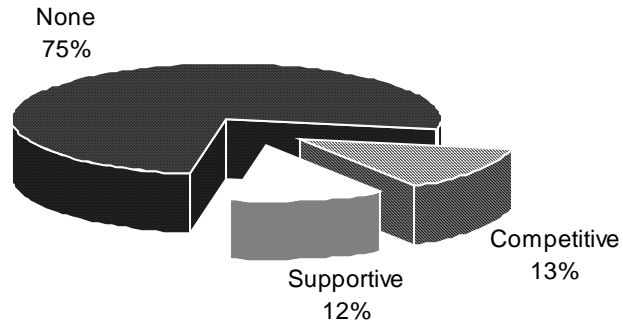
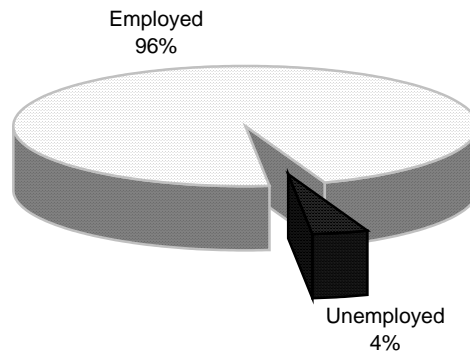


Figure 6.

Lancaster County Unemployment 2004



Source: Bureau of Labor Statistics

As indicated in Figure 5 above, only 25% (13% competitive, 12% supportive) of CLS participants were involved in some type of employment. This stands in contrast to the 96% employment rate observed in the population of Lancaster County. This suggests a relatively high rate of impairment in occupational functioning among CLS participants.

Clinical Characteristics of People Served

People enrolled in CLS tend to have histories of especially severe and persistent psychiatric disorders, and, in many cases, protracted institutionalization. These people can be hospitalized for reasons that include severe deficits in ordinary living skills, dangerousness to themselves and/or others, and impairments in reality testing.

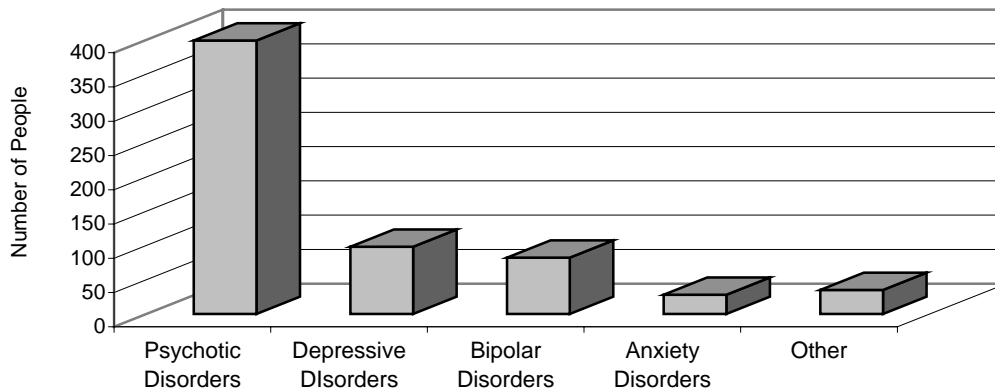
Hospitalization History Over 2004:

- On average, people served by CLS had **11.18 (range = 0 – 360) days of inpatient psychiatric hospitalizations** during 2004. This statistic includes people who enrolled in CLS at any point in 2004, which accounts for people who were hospitalized during 2004 **before they sought services from CLS** (N=582).
- Of people who were enrolled for the entire year of 2004 (n=533), **468 (87.8%) were not hospitalized during 2004.**
- People enrolled in CLS for the entire year of 2004, on average, had **3.17 (range = 0 – 252) days of inpatient psychiatric hospitalizations.** Outlier analysis indicated that one case (252 days) was not representative of the distribution of days hospitalized. After removal of that case, the average decreased to **2.70 (range = 0 – 115) days of inpatient psychiatric hospitalizations.**

Psychiatric Diagnosis:

Figure 7.

Primary Axis I Disorder



As seen in Figure 7, the majority of people served (64.6%) have a psychotic disorder as their primary Axis I disorder (diagonal bars). Thus representing an especially severe portion of the SMI population. The ‘Other’ category included Personality Disorders, Developmental Disorders, Pedophilia, Impulse Control Disorders, Substance Use Disorders, and Cognitive Disorders. Twenty-five (4.3%) people did not have a diagnosis in FoxPro. A one-way ANOVA indicated that there was no statistically significant difference in the average days hospitalized in 2004 across diagnostic groups, $F(6, 532)=0.47, p=.83$.

Psychiatric Symptomatology:

A sub-sample of people (N = 69) had psychiatric symptom data collected upon admission to CLS. To assess psychiatric symptoms, the Behavior and Symptom Identification Scale (BASIS-32)¹ was used. The BASIS-32 is a 32-item self-report questionnaire that yields five sub-scales and a total score. The five sub-scales include ‘Relation to Self/Others,’ ‘Daily Living Skills,’ ‘Depression/Anxiety,’ ‘Impulsive/Addictive,’ and ‘Psychosis.’ People rate themselves on a Likert-type scale from 0=No Difficulty to 4=Extreme Difficulty. Below is a detailed graphical account of the type and severity of symptoms experienced by these people. This graph indicates that people self-report a mild degree of overall difficulty in their functioning when they enroll in CLS. Self-reported difficulties with depression and anxiety tended to be paramount followed by difficulties with social relations and daily living skills. Impulsive and addictive behaviors and difficulties with psychosis exhibited the lowest scores. Overall, these data suggest that people enrolling in CLS experience clinically significant mood disturbance, difficulties with social relations, and impairments in daily living skills.

Table 1.

Severity of Difficulty Measured by the BASIS-32 (n=69)

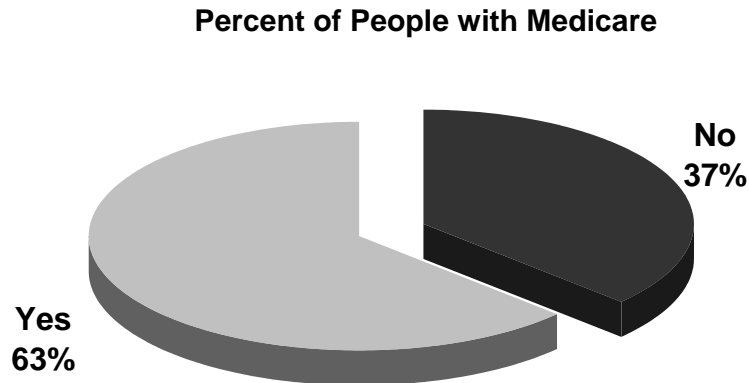
Relation to Self/Others	1.87				
Daily Living Skills	1.96				
Depression/Anxiety	2.06				
Impulsive/Addictive	0.88				
Psychosis	0.72				
BASIS-32 Total	1.54				
	0	1	2	3	4
	No	A Little	Moderate	Quite A Bit	Extreme
	Difficulty	Difficulty	Difficulty	of Difficulty	Difficulty

¹ Information regarding the BASIS-32 can be found at: <http://www.basissurvey.org/>

Medical Coverage

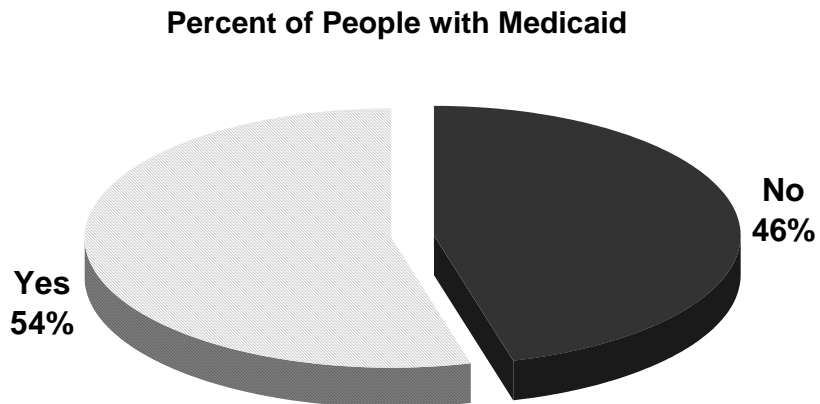
The disability in people being served by CLS is apparent in the greater proportion of people receiving Medicare and Medicaid (see Figures 4 and 5)

Figure 8.



As noted in Figure 8, a majority (63.1%) of people received benefits from Medicare.

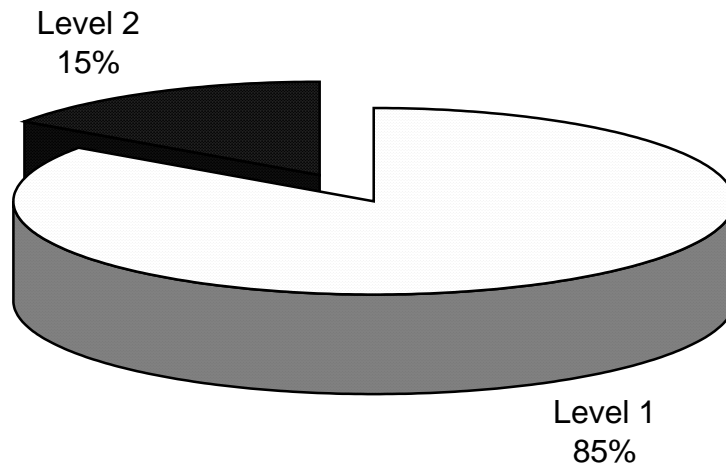
Figure 9.



As noted in Figure 9, a majority (54.3%) of people received benefits from Medicaid.

Figure 10.

Level Status



As noted in Figure 10, most CLS clients (83.5%) are characterized as receiving Level 1 services, which indicates that they require and are eligible to receive the most intense level of CLS services offered.

PART II: PEOPLES' FUNCTIONING DURING CLS

Summary of Peoples' Functioning During CLS

CLS provides case management services within the community, which aid in maintaining or improving a person's level of functioning. Additionally, CLS helps in maintaining people in a less restrictive environment.

The data suggest the program is successful as evidenced by:

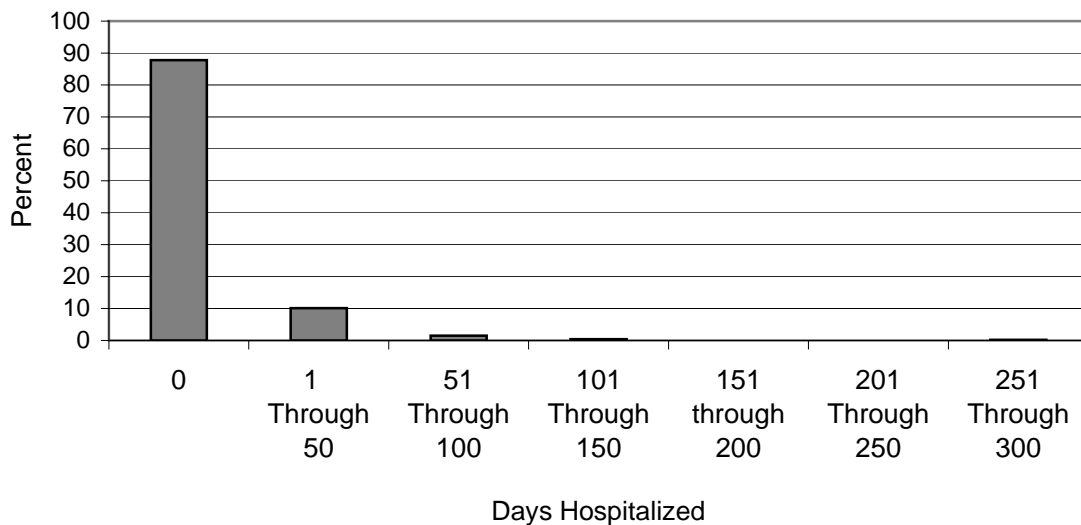
- The relatively low level of psychiatric hospitalization over the year 2004
- The people's relatively higher level of community functioning relative to normative Multnomah Community Ability Scale (MCAS; Barker, Barron, McFarland & Bigelow, 1994a) data
- The relatively higher rates of people with better community functioning, and the concurrent validity of the MCAS in correlating with important community functioning indices such as the rate of hospitalization and employment
- The relatively equivalent levels of help-seeking behaviors and treatment adherence relative to normative Service Engagement Scale (SES; Tait, Birchwood & Trower, 2002) data

Hospitalization Rate During CLS

Hospitalization rates during CLS in 2004 were operationalized as the number of days spent in an inpatient psychiatric facility while enrolled in CLS during the entire year of 2004. This included psychiatric units, regional center, or crisis center. This data was gathered from a CMHC hospitalization database, which was derived from monthly reports from Community Support Workers from the beginning of January 2004 through the end of December 2004. Only people who were enrolled in services through the entire year of 2004 (n=533) were included in the following analysis. The average number of days these people were hospitalized during the year of 2004 was 3.17 days (standard deviation = 16.42). Outlier analysis indicated that one case (252 days) was not representative of the distribution of days hospitalized. After removal of that case, the average decreased to 2.70 (standard deviation = 12.38) days of inpatient psychiatric hospitalizations. An analysis of the skewness of the distribution revealed a significantly positive skew (skew = 9.20), which suggests that most of the distribution falls in the lower range of hospitalization days. Of those who were hospitalized, the average length of stay was 21.0 days (standard deviation = 26.7). Figure 11 depicts the percent of people hospitalized according to their total days of hospitalization over the year of 2004. The modal number of days hospitalized during 2004 (i.e., 0) merges with the skewness statistic, and indicates that 87.8% of people were not hospitalized. Fifty-four (10.1%) people were hospitalized for 1 through 50 days. One-and-a-half percent (n=8) were hospitalized for 51 through 100 days. A total of only 2 people (0.4%) were hospitalized for 101 through 150 days. No people were hospitalized between 151 through 250 days, while only one person (0.2%) was hospitalized for 251 through 300 days.

Figure 11.

Rate of Hospitalization during 2004



Level of Community Functioning During CLS

The Multnomah Community Ability Scale (MCAS; Barker et al., 1994a) was employed to assess the relative level of community functioning among those enrolled in CLS. The MCAS is a 17-item questionnaire developed specifically to assess a severely mentally ill person’s community functioning across four domains (sub-scales) of functioning characterized as ‘Interference with Functioning,’ ‘Adjustment to Living,’ ‘Social Competence,’ and ‘Behavioral Problems.’ Additionally, the MCAS yields a total score, which indicated a person’s global level of functioning. Scores from the MCAS are derived from ratings provided by Community Support Workers. The MCAS utilizes a Likert-type scale (range of values from 1 through 5), and higher scores represent better community functioning. Barker et al. (1994b) provided normative data derived from urban community mental health programs across the state of Oregon. Scores derived from CLS were compared to this normative data using one-sample T-tests.

As described below, consistent with the program’s stated objectives of assisting in people in living more independently within the community, scores derived from CLS were statistically significantly higher than the Barker et al. (1994b) norms among the following sub-scales, ‘Social Competence,’ ‘Adjustment to Living,’ and the MCAS total (see Figures 12 and 13). The urban Oregon sample had a statistically significantly higher score on the ‘Behavioral Problems’ sub-scale.

Figure 12.

Multnomah Community Ability Sub-Scale Scores

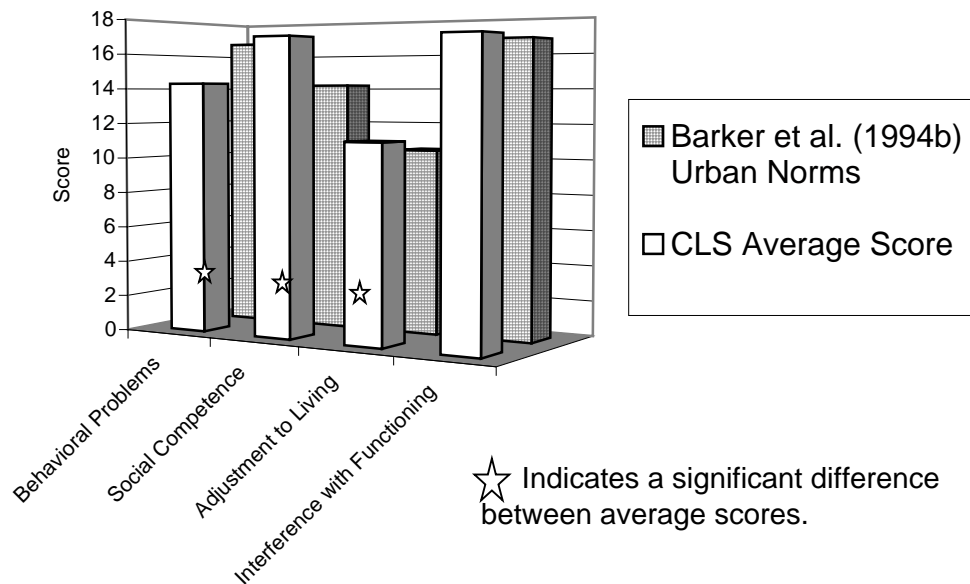
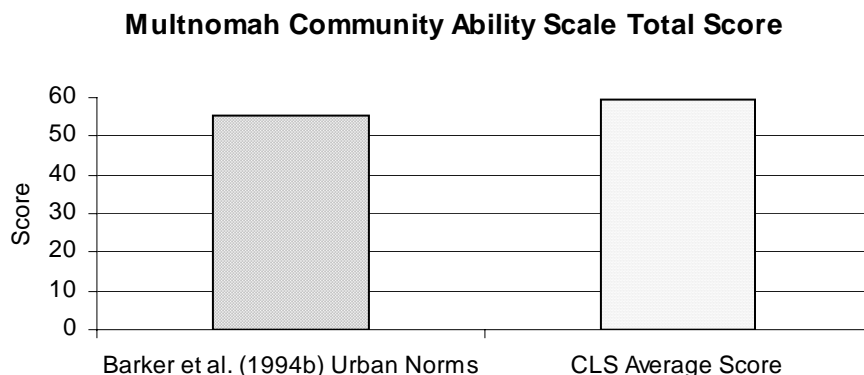


Figure 13.



Note: CLS average score was statistically significantly greater than Barker et al. (1994b) urban norms.

The results of these analyses suggest that this CLS sample is functioning at a relatively higher level than a sample of people with serious mental illness. These analyses, however, have significant limitations that warrant comment. The comparison between data derived from a separate community mental health center is limited by the relative lack of control for confounding variables. Variables such as symptom severity, gender, and age were not controlled for in these analyses. Future CLS program evaluations will compare longitudinal MCAS data in order to track changes in peoples' functioning over time, which will afford stronger inferences regarding the effects of CLS over time.

Level of community functioning derived from the MCAS total score exhibited a relatively high degree of concurrent validity. MCAS total scores were correlated with the rate of hospitalization ($\chi^2= 30.24, p=.017$) and employment ($\chi^2= 39.71, p<.001$) in a subset of people (n=477; see Table 2). Lower rates of hospitalization and employment were shown in people with relatively better community functioning. Additionally, there were higher rates of people who were rated by Community Support Workers as demonstrating better community functioning.

Table 2.

MCAS Total Score	n	Percent with No Hospitalizations	
		In 2004	Percent Employed
17-39	34	79.4	4.8
40-49	77	76.6	8.9
50-59	147	85.7	23.4
60-69	156	91.7	37.9
70-75	63	96.8	25.0

MCAS scores were analyzed in relation to the age of the person using Pearson correlation techniques. Results from these analyses indicated that all MCAS sub-scales and the total score correlated negatively with the age of the person (see Table 3), which suggests that people with lower levels of community functioning tended to be older. This correlation may be at least partially due to the observed differences in age and living situation (i.e., people living in an assisted living facility tended to be older than those living independently or with a relative).

Table 3.

MCAS Domain	n	Pearson Correlation With Age	p
Interference With Functioning	566	-.129	.002
Adjustment to Living	570	-.226	<.001
Social Competence	566	-.129	.002
Behavioral Problems	569	-.178	<.001
MCAS Total	566	-.162	<.001

Note: Statistically significant correlations are in bold.

It should be noted that 65 (11.2%) people had a 'Don't Know' response to MCAS Item-16: 'How frequently does your client abuse drugs and/or alcohol?' The 'Don't Know' response was endorsed most frequently on MCAS Item-16 relative to all other MCAS items. This finding suggests that the Community Support Workers tend to have a deficient knowledge base regarding alcohol and substance abuse in a hand-full of people served.

Level of Service Engagement During CLS

The Service Engagement Scale (SES; Tait, Birchwood & Trower, 2002) was employed to measure a person’s level of engagement with community services. The SES is a brief 14-item measure utilizing a 4-point Likert scale to quantify four aspects of engagement with community mental health services; the authors characterize these four aspects as ‘Availability,’ ‘Collaboration,’ ‘Help-Seeking,’ and ‘Treatment Adherence.’ Additionally, the SES yields a total score, which indicates a person’s global level of engagement. Scores from the SES are derived from ratings provided by Community Support Workers. Higher scores represent relatively poorer engagement. Tait et al. (2002) provided normative data derived from Northern Birmingham Mental Health Trust’s Assertive Outreach Team in England. Scores derived from the CLS were compared to this normative data using one-sample T-tests.

Scores derived from CLS were statistically equivalent to the Tait et al. (2002) norms among the following sub-scales, ‘Help-Seeking’ and ‘Treatment Adherence’ (see Figures 14 and 15). The Tait et al. (2002) sample had a statistically significantly lower scores on ‘Availability,’ ‘Collaboration,’ and SES total.

Figure 14.

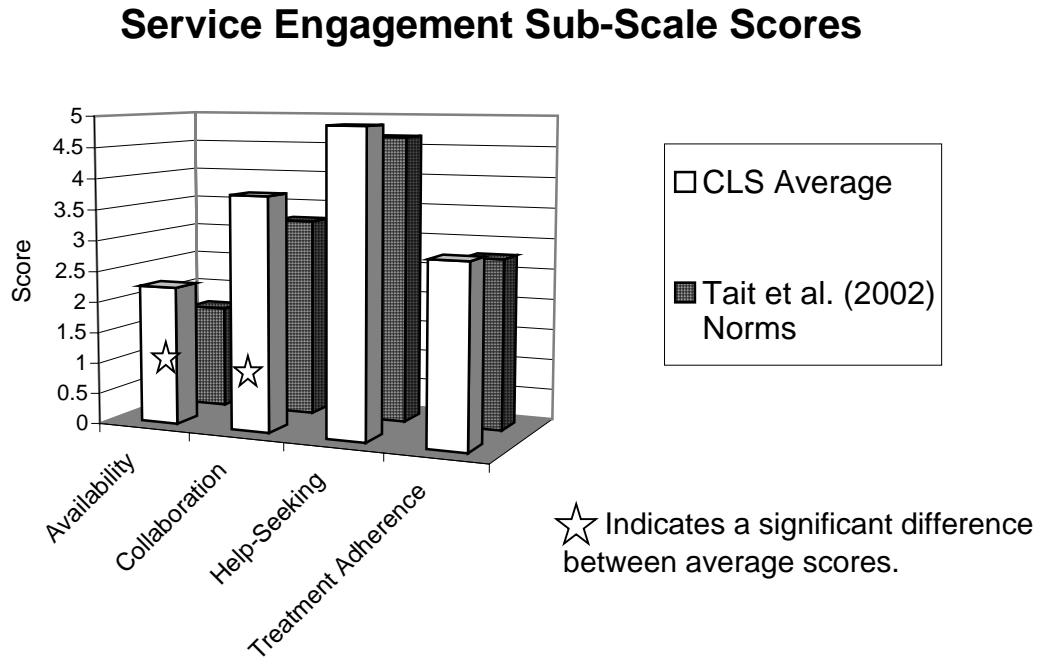
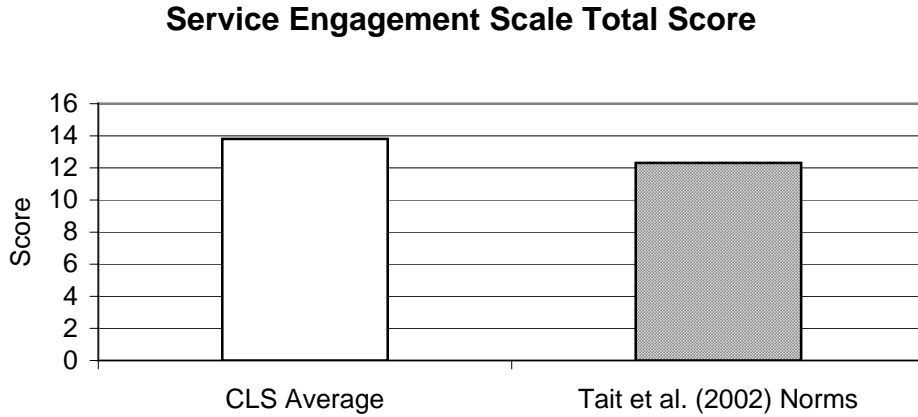


Figure 15.



Note: CLS average score was statistically significantly higher than Tait et al. (2002) norms.

The results of these analyses suggest that this CLS sample is as help-seeking and treatment adherent as an independent sample of people with serious mental illness. Furthermore, it appears that this CLS sample is relatively less engaged with respect to availability for treatment and collaboration with treatment providers. These analyses, however, have significant limitations that warrant comment. The comparison between data derived from a separate community mental health center is limited by the relative lack of control for confounding variables such as symptom severity, gender, and age. Additionally, the Tait et al. (2002) norms were derived from a limited number of people (N=66) with serious mental illness. Future CLS program evaluations will compare longitudinal SES data in order to track changes in peoples' engagement over time, which will afford stronger inferences regarding the effects of CLS over time.

To examine the concurrent validity of the SES, we correlated the SES total score with the MCAS total score. This analysis yielded a Pearson correlation coefficient of -0.333 ($p < .001$; $n = 562$), which indicates that higher levels of engagement are associated with better community functioning. Additionally, the SES total score correlated with the rate of hospitalization ($\chi^2 = 181.47$, $p < .001$) and employment ($\chi^2 = 13.18$, $p = .04$) in a subset of people ($n = 530$). People who were not hospitalized in 2004 and those who were employed tended to have relatively higher level of service engagement.

Table 4.

SES Total Score	n	Percent with No Hospitalizations	
		In 2004	Percent Employed
0 - 10	252	87.3	53.6
11 - 20	190	82.6	30.5
21 - 30	100	81.0	11.9
31 - 42	36	69.4	4.0

SES scores were analyzed in relation to the age of the person using Pearson correlation techniques. Results from these analyses indicated that Availability, Treatment Adherence, and the SES Total score correlated positively with the age of the person (see Table 5), which suggests that people with lower levels of availability for treatment, treatment adherence, and overall service engagement tended to be older.

Table 5.

SES Domain	n	Pearson Correlation With Age	p
Availability	581	.160	<.001
Collaboration	582	.037	.379
Help-Seeking	581	.079	.057
Treatment Adherence	580	.122	.003
SES Total	578	.122	.003

PART III: DISCHARGE DATA

Summary of Discharge Data

Clients are typically discharged from CLS after it is determined that they no longer require the level of services provided by the program. Thus, rate of discharge represents a rough estimate of how many clients successfully developed and utilized skills necessary for independent living. The ability of staff to prepare clients to live independently without the support of CLS and identify clients who no longer require the level of services provided by CLS is evidence by:

- The relatively high rate of discharge of clients from the CLS program
- The relatively brief period of engagement in CLS services for clients who were discharged

Table 6.

Clients Discharged in 2004

	Number of Clients Discharged from CLS	Number of Clients in CLS at end of 2004:	Estimate of Percentage of CLS Clients Discharged in 2004	Average Length of Participation in Program*
2004	82	582	14.1%	2.04 Years

*Among the 66 participants admitted after April 1, 2004

Data was obtained for all CLS clients who were discharged in 2004. This data set includes many participants who were not included in the data discussed above from the November 2004 collection period. Overall, 82 clients were discharged. Although an exact figure regarding the number of clients enrolled in CLS at the beginning of 2004 is not available, it is estimated that the total number of clients at this time was similar to the number of clients in the program at the end of 2004 when there were 582 clients. Thus, the 82 clients discharged in 2004 represent approximately 14.1% of the total client base. Records regarding participation in CLS were not kept until April of 1999. Therefore, data regarding length of participation for participants admitted before April of 1999 are not available. Of the 82 clients discharged in 2004, 66 were admitted after April 1, 1999. This subset of clients participated in CLS for an average of 2.04 years before being discharged. It should be noted that this is likely an underestimate of average length of participation in CLS as participants admitted to CLS before April of 1999, who were not included in this sub-sample, are likely the clients who require longer-term services.

CONCLUSIONS AND RECOMMENDATIONS

In summary, this evaluation indicates that services provided by CLS staff facilitates independent living and prevents hospitalization. This is demonstrated by low rates of hospitalization over the course of 2004, with the vast majority of CLS clients having no hospitalizations. In addition, the level of community functioning of CLS clients was significantly better than expected based upon published normative data, and engagement in services of CLS clients was consistent with normative data. The rate of discharge from CLS was relatively high during 2004, with many of the discharges occurring after relatively short periods of engagement in CLS services. This finding suggests that CLS staff effectively prepare participants for independent living and identify clients who no longer require the level of services provided by CLS.

These outcomes are especially striking given that CLS serves a client base with particularly severe and persistent forms of psychiatric disorders. This is reflected by the high prevalence of relative severe primary Axis I diagnoses (i.e., schizophrenia spectrum disorders), and the significant difficulty reported by consumers in the domains of social functioning, mood disturbance, substance use, and psychosis. Severe deficits in functioning are further indicated by the low rate of employment and high rate of client's receiving governmental medical assistance.

Overall, the evaluation suggests that CLS is largely successful at facilitating the optimal community functioning of people with severe and persistent mental illness. However, methodological constraints (e.g., cross-sectional data) limit the certainty associated with these findings. Additionally, there are a few findings from the evaluation that warrant further study.

In order to overcome the methodological constraints, repeated measures of the MCAS and SES over time will be obtained. This will afford future program evaluations the opportunity to examine changes in community ability and service engagement over time. Such a temporal analyses will strengthen the certainty of inferences regarding treatment effects. In order to conduct such analyses, it will be necessary for Community Support Workers to increase their knowledge of their consumer with regard to alcohol and substance abuse difficulties, and, subsequently, reduce the frequency of 'Don't Know' responses on the MCAS item that addresses alcohol and substance abuse.

Although an analysis of the MCAS and SES data revealed acceptable concurrent validity, their predictive validity was not established. Future evaluations should examine the ability of the MCAS and SES to predict subsequent hospitalization, perhaps with the use of stepwise multiple regression and/or logistic regression. Such a model would prove useful in identifying 'high-risk' consumers that may require more specialized treatment.

The analyses regarding discharge were limited by the fact that data on participation in CLS were not kept until April of 1999. It is recommended that CMHC continue to compile data regarding dates of admission and discharge from CLS in order to evaluate emerging trends on an ongoing basis. It was also noted that dates of admission and discharge for CLS

participants were not easily obtained via queries of the current databases. Therefore, it is recommended that the database be modified to allow easier extraction of this data for future analyses.

Over the course of the research, it was noted that several sources were utilized in order to unify the reported data into a single database for analyses. It is recommended that efforts be made to consolidate these sources into a single, unifying source, perhaps FoxPro. This would increase the efficiency of future program evaluations, and provide staff with a single, unified means from which to enter the data. Additionally, a significant proportion of the data in FoxPro proved to be spurious given that certain inconstant values (e.g., income, type of employment) were not updated. It is recommended that these variables be tracked and routinely updated over the course of time in order to accurately reflect any changes in a person's demographic status. In addition to the recommended routine updates, it is recommended that CMHC increase the scope of demographic data to include certain other important variables such as legal status. Guidelines for the specification and definition of demographic data that are identified as essential to the description and analysis of mental health organizations can be found at:

<http://www.mhsip.org/documents/fn-10.htm>

The relatively constricted domains measured limited this evaluation. Other key domains such as quality of life and satisfaction with services were not measured as part of this evaluation. Future evaluations should consider widening the scope of domains, which would serve to provide more in-depth and issue-specific information of interest. Additionally, the perspective of the consumer was only marginally accounted for in this evaluation (i.e., self-reported scores on the BASIS-32). Future evaluations should include information from the consumer's perspective with regard to their satisfaction with services, community functioning, and/or quality of life.

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Below is a breakdown of the activities and hours of the CMHC clinical psychology externs associated with the project:

1. Gathered hospitalization data from CMHC records. This process involved individual chart reviews, extracting data from the CMHC FoxPro database, cross-checking data from FoxPro with data in CMHC medical records. **20 hours**
2. Development of database. **15 hours**
3. Data entry. **25 hours**
4. Data analysis. **30 hours.**
5. Compiling report, revisions and completion of final report. **60 hours**

Total Hours: 150

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