

COST-BENEFIT AND COST-EFFECTIVENESS ANALYSIS OF
EMPLOYMENT SERVICES OFFERED BY THE
CLUBHOUSE MODEL.

By

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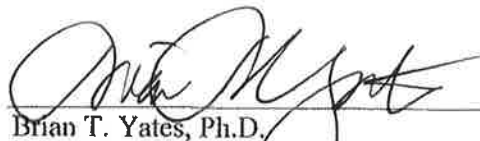
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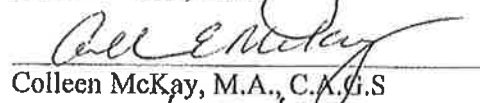
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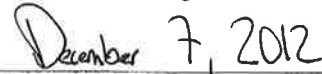

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ABSTRACT

Clubhouses are community-based mental health programs that offer participants (members) educational opportunities, housing, employment, and other services (Macias, Barreira, Alden, & Boyd, 2001). Currently, clubhouses dedicate many resources towards services to help members enter into community-based employment through Transitional Employment (TE), Supported Employment (SE), and Independent Employment (IE). Benefits from employment can assist in offsetting costs to mental health services. This study measured costs and some benefits of member employment services in 43 US clubhouses. The present study found several relationships between how member earnings and employment may be affected by specific member and staff characteristics. Results demonstrated that for every hour a staff member dedicates to employment services members earn \$38.73 and for every one dollar invested in employment services members earn \$1.31. Further, clubhouses dedicated a median of 120.55 hours and \$3,438 to employment services for every member employed for at least 6 months in a given year.

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CHAPTER 1

INTRODUCTION

Serious mental illness (SMI) affects approximately 6.5% of the U.S. population and costs the U.S. approximately \$193.2 billion annually in lost earnings (Kessler et al., 2008).

Additionally, even after controlling for sociodemographic and geographic values, persons diagnosed with SMI are less likely to have a job and earn approximately 42% less than those without SMI (Kessler et al., 2008). The DSM IV-TR categorizes SMI as adults whose diagnosed mental disorder causes substantial functional impairment and interferes with or limits one or more major life activities (American Psychiatric Association [APA], 2000).

Many people diagnosed with SMI have difficulty gaining employment and many employers have reservations with hiring persons diagnosed with a psychiatric disability (Corrigan, Green, Lundin, Kubiak, & Penn, 2001). Marcotte and Wilcox-Gok (2001) estimated that psychiatric illness prevents 5-6 million people from seeking, maintaining, or finding employment. Unemployment rates can vary from 50% for persons with SMI that contributes to some functional impairment to 77.5% for persons diagnosed with schizophrenia-related disorders (Mechanic et al., 2002). Kessler and colleagues (2008) estimated that U.S. individuals diagnosed with SMI earn approximately \$16,306 less annually than those without a diagnosis of SMI. However, most people diagnosed with SMI have reported a desire to work (Mechanic, Bilder, & McAlpine, 2002). The benefits of employment for persons diagnosed with SMI can help bolster pride and self-esteem, provide coping strategies for psychiatric symptoms, offer financial benefits, and facilitate the recovery process (Dunn, Wewiorski, & Rogers, 2008).

Employment outcomes have been an increasingly important topic since the recession of the U.S. economy began in December, 2007 (Isidore, 2008) followed by a U.S. unemployment

rate that was as high as 10% in October, 2009 (Bureau of Labor Statistics, 2012a). Furthermore, with continued caregiver concern over financial instability (Corsentino, Molinari, Gum, Roscoe, & Mills, 2008), contribution to finances from persons with mental illness may relieve some caregiver distress. Moreover, without adequate employment earnings, persons diagnosed with SMI are unable to pay for a variety of living expenses. Persons with mental illness link their worry of money to a slower recovery process (Corring, 2002). In the interest of serving persons diagnosed with SMI, it is important to measure employment processes in human service programs. The measurement of employment attainment and earnings can improve understanding of the financial and treatment benefits achieved through employment. Measuring these achievements can guide staff and funders to make data driven decisions to better satisfy the needs of the community and persons with SMI. One way of providing these services is through the clubhouse model.

Clubhouse Model

The clubhouse model is an established evidence-based practice and is included on a National Registry of Evidence Based Practices and Programs maintained by the Substance Abuse and Mental Health Services Administration (U.S Department of Health and Human Services, 2010). Clubhouses are rehabilitative programs for recovering adults diagnosed with a mental health problem. They offer educational opportunities, housing, employment, and other services (Macias, Barreira et al. 2001). These are voluntary gathering places for persons diagnosed with SMI, who may be in transition from halfway houses, day programs, hospitals or other living situations into the working world (Levin, 2012). Clubhouse participants are referred to as *members* and work side by side with staff to perform tasks essential to the operation of the clubhouse (Mowbray, Lewandowski, Holter, & Byebec, 2006). The average member is 35 years

of age, however clubhouses serve members older than 18 years and consist of adults from diverse educational and sociodemographic backgrounds (International Center for Clubhouse Development [ICCD], 2009b). Currently, clubhouses dedicate many resources to employment services to help members enter into community-based employment through Transitional Employment (TE), Supported Employment (SE), and Independent Employment (IE) (McKay, Yates, & Johnson, 2007).

The framework for the clubhouse model originated from a group of former patients of Rockland State Mental Hospital in New York. They formed a group known as We Are Not Alone (WANA). Members of WANA assisted ex-patients with finding jobs, housing, and other social supports. In 1948, WANA's initiative led them to purchase a building in Manhattan, which became the first clubhouse known as Fountain House (Aquila, Santos, Malamud, & McCroy, 1999). Since the creation of Fountain House, clubhouses have continued to expand to over 341 programs located in 32 countries and 37 states in the U.S. (ICCD, 2012).

Clubhouses function as community centers that serve as a mechanism of hope and support for persons with mental illness. With a multitude of services provided by the clubhouse, members are compelled to reach out to, form relationships with, and help other persons diagnosed with SMI (Glickman, 1992). Staff step down from their professional status to work side-by-side with members in the day to day operations of the clubhouse and provide opportunities for members to contribute to all clubhouse operations (Hallinan & Nistico, 1994).

Stigma of individuals with SMI can create a barrier for recovery (Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001). However, clubhouse members serve important, functional roles, which can decrease bias, empower members, and prepare them for work outside the clubhouse (Mowbray et al., 2006). Clubhouses seek to alleviate stigma through the coordination

of members' activities with those of community agencies and housing facilities (Nikelly, 2001).

Clubhouse Employment

Clubhouse employment supports are designed to help persons diagnosed with SMI obtain competitive employment (Macias, Jackson, Schroeder, & Wang, 1999). Competitive employment is defined as work in the competitive labor market at full-time or part-time basis in an integrated setting for which individuals are reimbursed at or above minimum wage, at the same level as individuals who are performing similar work and are not disabled (The Rehabilitation Act of 1973).

Most clubhouses encourage members to seek one of three different types of employment (Henry, Barriera, Banks, Brown, & McKay., 2001; Laird & Krown, 1991; Schonebaum, Boyd, & Dudek, 2006). Each type meets the federal definition of competitive employment. Transitional Employment (TE) is a clubhouse-owned member job offering that is a time-limited opportunity. TE is designed to be held from 6 to 9 months, offers at least minimum wage pay, and provides a substitute worker to employers in the case of absences. The employee is selected by the clubhouse and the job is held in a mainstream business location. Further, the clubhouse does not own the position, but develops and maintains a relationship with the employer.

Members in Supported Employment (SE) typically interview for the job, clubhouse staff make on-site visits, advocate for the member, and may maintain a relationship with the employer. The distinguishing factor of SE from TE is that SE jobs are not owned by the clubhouse, employees are not selected by the clubhouse, and clubhouses do not provide absence coverage. Independent Employment (IE) is distinguished from SE by an absence of on-site support or relationship with the employer, and always consists of a competitive interview process (McKay Johnsen, & Stein, 2005). Members employed in IE are typically employed more days

(McKay et al., 2005), have higher salary earnings, higher wages per hour, and work more hours per week than those in TE or SE (McKay et al., 2006).

Most clubhouses have three types of staff which include generalist program staff, resource staff, and administrators. Generalists have general responsibilities that include managing a caseload, running the day to day activities and some responsibility for employment activities. Resource staff typically do not work regularly with members, and may include accountants, janitors, secretaries, and researchers. Administrators typically consist of program or executive directors (ICCD, 2009a).

Past research shows that 19.6% of the active members who attend the clubhouse at least once every 90 days attained competitive employment (Macias, Jackson et al., 1999). Furthermore, members progress toward employment with fewer supports after initial engagement (McKay et al., 2006). This finding suggests that financial resources dedicated to members in more supported employment may lead to lower costs as they may need less support when seeking future jobs.

McKay and colleagues (2006) examined movement between employment supports over a 4-year period for 2195 employed clubhouse members. They explored movement between employment supports over a 4-year period. Over half (60%) held more than one job. Of those people that held more than one job, almost half (44%) remained in the same form of employment (TE to TE or SE to SE), but were significantly more likely to transfer up to SE or IE than remain in TE. The 337 (46.2%) members in SE who did move between employment types were 1.7 times more likely to move up toward IE than to move down to SE. These findings have suggested that once members attain employment, they tend to seek more competitive employment (McKay et al., 2006). Furthermore, there are other monetary as well as physical and

mental health benefits clubhouses provide.

Clubhouse Model Compared with Other Models

Research conducted by Warner, Huxley, and Berg (1999) matched clubhouse members to individuals that utilize mental health center services. The two groups of 38 people were matched on age, gender, diagnosis, and length of contact with mental health center services, and then observed over a 2-year period. Clubhouses showed significant improvement in employment status, fewer hospitalizations, and lower treatment costs. Clubhouse members also reported increased quality of life as measured by a self-esteem questionnaire and an assessment of both positive and negative affect. However, this study did not measure the costs of employment services when comparing clubhouse members to the mental health center control group.

Program of Assertive Community Treatment (PACT). There are many human service programs in the U.S. that support persons diagnosed with SMI to attain employment. Often, cost information and outcomes partially drive funding and the ability of human service programs to continue. The outcomes from other human service programs that offer employment services are comparable to the clubhouse model in some ways, but less robust in others (Macias et al., 2006). The clubhouse model and the (PACT) follow many of the same principles.

However, PACT is an intensive mobile treatment team who provide clinical treatment services in a variety of locations including consumers' homes. Treatment teams can consist of nurses, case managers, job developers, psychologists, substance abuse specialists, and part-time psychiatrists who work together to coordinate services for consumers (Becker, Meisler, Stormer, & Brondino, 1999).

Employment levels between PACT and clubhouses have been shown to be approximately equal (Macias, DeCarlo, Wang, Frey, & Barreira, 2001). However, Macias and

colleagues (2006) followed 121 adults diagnosed with SMI who were in PACT and clubhouse services for 30 months. They reported that PACT members used more services (PACT 98%; clubhouse 74%) and had higher retention (PACT, 79%; clubhouse 58%). Although, there was no significant difference in employment rates, clubhouse members worked significantly longer, for more hours, and earned more money during the study period (Macias et al., 2006).

A separate analysis conducted by Schonebaum and colleagues (2006) focused on the efficacy of each model in placing members in competitive employment. They found that weekly employment rates were approximately equal. Similar to Macias and colleagues (2006), they found that participants from clubhouses were on average employed longer than those in PACT (21.8 weeks vs. 13.1 weeks) and earned more money per hour (\$7.38 vs. \$6.30).

Individualized placement support. Another program to employ persons recovering from psychiatric disability is Individualized Placement and Support (IPS). IPS emphasizes entering competitive work rapidly, on-the-job training, and high expectations. IPS is thought to enable participants to attain competitive employment, rather than place them in sheltered employment (Becker & Drake, 1994). Clubhouse member earnings over 18 months matched those in an IPS location in New Hampshire, but exceeded those in Washington, DC (Macias, 2001). Employment rate and earnings in IPS, PACT, and clubhouses may also depend on individual characteristics such as work interest of participants (Macias, DeCarlo, Wang, Frey, Barreira, 2001). Macias, DeCarlo, and colleagues (2001) found that members who were interested in competitive employment were more likely to attain employment than those who had no interest.

Henry and colleagues (2001) examined factors that influenced TE participation of 138 clubhouse members. Longer term in a TE job was significantly related to longer membership

prior to TE, member's advancement in years of age, and more days worked per week. The average TE term was 131 days, and 42 members (30.4%) obtained competitive employment in the year following their last TE job. Additionally, severity of psychiatric disability was unrelated to TE term (Henry et al., 2001). With many options available for helping adults with mental illness return to work, it is important to assess the costs of each program to determine other distinguishable differences and show program cost-effectiveness.

Measuring the costs of delivering services. Understanding the resources invested in programs is an important step in the evaluation process (Yates, 2009). Furthermore, it can enable clubhouse staff and funders to allocate resources to appropriately augment program effect. McKay and colleagues (2007) examined research from around the world and found that clubhouses cost less per member than Community Mental Health Centers (Baker & Woods, 2001), Individualized Placement and Support (IPS), Group Skills Training (Clark, Xie, Becker, & Drake, 1998), or Capitated Assertive Community Treatment and comparisons (Chandler & Spicer, 2002).

Clubhouses are less expensive per member than other treatment programs and required fewer financial resources than partial use of hospital services (Plotnick, & Salzar, 2008). Plotnick and Salzar documented the service costs of 29 Pennsylvania clubhouses. They found that annual cost per member over 3 years was \$3,454 and average annual cost per clubhouse was \$318,000. These results were estimated to cost 43% less per day than sub-acute partial hospital services. These findings demonstrated the importance of clubhouses in the Pennsylvania healthcare system and that clubhouses cost substantially less than partial use of hospital services. The study demonstrates the local contribution of clubhouses, which can promote economic growth in the local economy.

CHAPTER 2

PRESENT STUDY

A number of studies have examined employment outcomes (Henry et al., 2001; Laird & Krown, 1991; Macias, Rodican & Hargreaves, 1995; Macias, 2001; Macias et al., 2006; McKay et al., 2006; McKay, Johnsen, & Stein, 2005; Schonebaum et al., 2006). Only a few have measured the cost of clubhouse employment services (Cowell et al., 2003; McKay et al., 2007; Plotnick, & Salzar, 2008). The present study utilized cost-effectiveness and cost-benefit analyses to examine the relationship between resources invested into member employment services and subsequent outcome variables which include: (a) member job tenure in TE, SE, or IE for at least 6 months of the fiscal year, as well as (b) earnings in TE, SE, and IE. This study focused on time and money invested by clubhouses into employment services for members.

Cost-benefit analysis is typically measured in the same units and demonstrates the relationship between the value used in a program and value produced by that program (Yates, 2009). In this study, annual earnings by clubhouse members were compared to dollars invested in employment services. Another type of cost-benefit analysis is time to return on investment (TROI), which typically includes time elapsed between a clubhouses participation and monetary benefits it produced (Yates, 2009). TROI was not included in this study because one year of information on clubhouse employment services was not sufficiently representative to extrapolate to multiple years of data. Cost-effectiveness analysis typically demonstrates the relationship between the value of resources put into a program and the nonmonetary outcomes of the program (Yates, 2009). One way to show effectiveness is the rate in which clubhouse members attain job tenure. Members were considered to have job tenure if they held a job 6 months during the fiscal year. This period of time was measured for several reasons. It is the longest duration of

employment measured by the evaluation tool already in the process of data collection. Further, the time period captured the capacity to initiate and maintain employment, and past research found that persons diagnosed with SMI who were employed for a longer time period showed an increase in self-esteem (Torrey, Mueser, McHugo, & Drake, 2000) and symptom control (Bond, 2004).

These analyses of investments into employment services and subsequent outcomes can inform policy makers, funders, service providers, and clubhouse members and staff. Specifically, the resources used for employment services and subsequent outcomes allowed for an in-depth inspection of factors that may contribute to member employment and earnings.

Although past research has assessed overall costs of the clubhouse model, the present study was the first to report the cost of employment services offered within the clubhouse model. The present study was designed to measure the cost of employment services, rate of member employment, and overall member earnings in clubhouses. Cost of employment services was explored by examining clubhouse staff wages, staff hours dedicated to employment services, and overhead costs reported by the clubhouse. The study sought to determine if member job tenure rate and earnings were related to cost of member employment services, self-reported diagnosis of schizophrenia/schizoaffective disorder, member-to-staff ratio, staff educational credentials, staff training, and number of jobs offered to members in the geographic area. Furthermore, the present study utilized descriptive and multivariate statistical methodology. The hypotheses for the present study can be seen in the Table 1, and rationales for these hypotheses are explained directly after Table 1.

Table 1
Correlation Predictions Among Variables

Hypotheses	Cost of Employment Services per Member	Job Tenure Rate	Average Annual Member Earnings
Higher Cost of Employment Services per Member	N/A	Higher	Higher
Higher Job Tenure Rate in TE+SE	Higher	N/A	Higher
Higher Job Tenure Rate	Not Predicted	N/A	Higher
Lower Member-Staff Ratio	Higher	Higher	Higher
Higher Percentage of Staff Trained	No Prediction	Higher	Higher
Higher Percentage of Members Diagnosed with Schizophrenia Related Disorders	No Prediction	Lower	Lower
Lower Number of Member Job Offerings	No Prediction	Lower	Lower
Higher staff bachelor degree rate	No Prediction	Higher	Higher

It was predicted that a higher rate of member participation in TE and SE for at least 6 months of the year would be associated with higher cost of employment services per member. Simple reasoning indicated that investing more resources into employment services should yield

better employment outcomes. However, there were no published studies that examined how employment expenditures may be related to successful employment of clubhouse members. McKay et al. (2007) found a significant relationship between clubhouses with full accreditation and overall clubhouse budget. Full accreditation status typically requires high member employment performance (Macias, Harding, Alden, Geertsen, & Barreira, 1999). Although, there are many requirements to achieve full accreditation status (Macias, Harding, et al., 1999), clubhouses with higher budgets may allocate more resources toward employment services to produce the employment rates suitable for full accreditation.

Additionally, it was predicted that job tenure rate would be positively associated with average member earnings. It is reasonable to assume that when a higher proportion of members are employed for a 6-month time period, they are likely to earn a higher wage than those clubhouses with proportionally fewer members employed. Furthermore, the current study predicted that member-to-staff ratio would be negatively associated with average annual member earnings, job tenure rate, and cost of employment services per member. This postulates that if there were more members for every staff affiliate at a given clubhouse, average member earnings, job tenure rate, and cost of employment services per member will decrease. Job tenure rate accounts for the proportion of active members employed for at least 6 months in the past fiscal year. Member-to-staff ratio represents the number of active members for every one clubhouse staff affiliate. In addition, TE and SE typically require more staff supports therefore more staff involvement than IE. Consequently, clubhouses with higher employment costs per member were expected to have more members involved with TE and SE. Furthermore, lower member-to-staff ratio may increase staff availability to place members in TE or SE, develop jobs,

provide ongoing supports, visit work sites, and build relationships with potential employers, which could lead to better employment outcomes.

Other variables measured included staff training and educational credentials. It was predicted that a higher percentage of staff who attend ICCD trainings would be associated with higher average annual earnings and job tenure rates. This hypothesis assumes trained staff will be better able to assist members with employment needs. Training can be an important factor for staff who may lack appropriate knowledge and skills. Furthermore, training could influence staff beliefs, quality of the clubhouse program environment, service delivery, and outcomes (Pernice-Duca, Saxe & Johnson, 2010). In addition, previous training may not be germane to clubhouse principles or other evidence-based practices (Corrigan, Steiner, Stanley, McCracken, Blaser, & Barr, 2001).

Additionally, clubhouses with a higher proportion of staff who have a bachelor degree or higher were expected to attain better member employment outcomes. Hospitals that employ a higher proportion of nurses with at least a bachelor degree experienced less patient death within 30 days of admission and fewer odds of failure to rescue (Aiken, Clarke, Cheung, Sloane, & Silber, 2003). Given that clubhouse staff work closely with members, staff with higher education credentials may play a role in member outcomes much like the proportion of educated nurses who work in the hospitals do.

Self-reported mental health diagnosis and member job offerings were expected to be associated with employment outcomes of clubhouse members. It was anticipated that clubhouses with a higher percentage of active members diagnosed with schizophrenia/schizoaffective disorders would have lower employment outcomes. Sturm, Gresenz, Roan, Pacula, and Wells (1999) found that persons diagnosed with schizophrenia and related conditions had the lowest

rate of employment (39.6%) compared to persons diagnosed with depression (64.8%) and other mental disorders (73.4%). Additionally, it was predicted that clubhouses that had fewer member job offerings would have lower member employment rates and average annual earnings. Member job offerings measure employment opportunities for clubhouse members and logically, fewer opportunities could present challenges for members and result in lower employment rates and earnings.

CHAPTER 3

METHOD

This was a retrospective multi-site study using data gathered by the Program for Clubhouse Research at the University of Massachusetts Medical School (UMMS) from 2007 – 2012. A survey was administered biannually until 2007; however a transition from a paper to an electronic platform has been underway. Thereafter data were collected on a continual basis, rather than biannually. The current study examined deidentified data provided by clubhouses between 2010 –2012.

Additional data were gathered between May, 2011 and January, 2012 through a supplemental questionnaire used for validation and budget calculation purposes. This study was conducted by the Program Evaluation Research Lab (PERL) at American University and the Program for Clubhouse Research at UMMS. It met requirements to receive a waiver from the American University Institutional Review Board and the Research Subjects Office of the UMMS.

Participants

All 194 ICCD member U.S. clubhouses were asked to complete a supplementary questionnaire. For a sample more representative of clubhouses, those that were unusually small or unusually large were excluded from this study. As was done by McKay and colleagues (2007), clubhouses that served more than 15, but fewer than 500 members and had been in operation for at least 3 years were included in analyses ($N = 138$). The present study focused on clubhouses that:

- a) Provided members with TE, SE, and IE services
- b) Included data in necessary fields (i.e. budget, earnings, etc.)
- c) Operated to primarily serve persons diagnosed with SMI

Measures

Clubhouse Profile Questionnaire (CPQ). The ICCD began in 1994 to oversee quality of training, research, advocacy, creation, and evolution of the International Clubhouse Standards (ICCD, 2009b). The Clubhouse Profile Questionnaire (CPQ) is an electronic survey designed to obtain program level information concerning clubhouse practices, characteristics, concerns, and performance outcomes of clubhouse programs. Areas addressed include: funding, governance and administration; membership; staffing and staff credentials; unit structure; employment; housing; services provided; participation in clubhouse training; & research activities. The electronic CPQ was developed at UMMS with input from clubhouse members employed as research assistants in the PCR. The CPQ is administered by the PCR and is used by the ICCD for purposes of quality assurance and program improvement, to monitor progress of clubhouse accreditation and training, and track development of the Clubhouse Model over time. The CPQ is typically completed by a clubhouse director and allows users to save and update their data as needed. Further, it has built-in mechanisms for creating a pdf report of their completed CPQ or a data file that can be used for research purposes.

Brief Supplemental Questionnaire (BSQ). A questionnaire developed for this specific evaluation (see Appendix A) was sent to 194 clubhouse directors. The Brief Supplemental Questionnaire (BSQ) was used to validate previous staff and budget reports as well as to gather new information to determine the allocation of staff time towards employment services. The BSQ was specifically designed to aid in the estimation of employment service costs. Furthermore, the BSQ assessed changes in staff time dedicated to employment services and staff salary. The BSQ was matched to clubhouse CPQs to integrate information that the CPQ did not collect. For example, the CPQ provides employee salary information, but does not provide information about how much of the employee salary is dedicated to employment services.

When possible, the BSQ captured staff time dedicated to employment services so that part of staff salary based on staff time spent on member employment services can be apportioned to employment services costs. Additionally, the BSQ requested information about part-time employee salary and their time spent toward member employment services, which the CPQ was not designed to collect. Furthermore, the BSQ captured changes in the amount of staff, salary, and time allocated to employment services since the last CPQ was submitted. The collection of changes in staff operations since the CPQ was submitted allowed for examination of the period between data collection of the BSQ and CPQ, which could vary from several days to two years. Further, this captured changes in individual clubhouse operations that naturally occur over time. The combination of both questionnaires hoped to provide a more accurate approximation of employment services costs.

Procedure

The BSQ was sent to 194 US clubhouses via email and the U.S. Postal Service simultaneously. The BSQ data were collected between May 2011 and January 2012, whereas the CPQ completion date ranged from January of 2010 to January of 2012. Of all 43 CPQs that met inclusion criteria, 41.9% were completed in 2010, 46.6% in 2011, and 11.5% were from 2012. Clubhouses in this sample were located in 21 distinct states and varied in operation time from 4 years to 51 years for an average of 18 years.

The CPQ asked clubhouses to provide information on employment and related costs for a 12-month period between 2009 through 2011. Of all clubhouses that submitted a CPQ from January 2010 to January 2012, 34 clubhouses sent in more than one CPQ. If more than one CPQ was completed within the time frame by the same clubhouse, the more recent CPQ was used for analysis. All director names, clubhouse names, and other identifiers were removed by the

Program for Clubhouse Research staff prior to receipt of the data. BSQ and CPQ data collection tools were deidentified by Program for Clubhouse Research staff prior to receipt and subsequent analysis.

In the course of data collection, specific variables were challenging to accumulate. IE earnings were particularly difficult to report for 21 of the 43 clubhouses because of member autonomy and sometimes infrequent clubhouse visits. Further, 17 clubhouses were unable to report the amount of time staff dedicated to employment services. This may have been difficult for many clubhouses because staff fulfill many responsibilities: it can be challenging to estimate weekly hours dedicated to employment services. Furthermore, it proved difficult to match both the BSQ and CPQ to the same clubhouse when the anonymous identifier was absent. As a result, there were fewer clubhouses in analyses for variables such as cost of employment services, staff hours dedicated to employment services, IE earnings per member, and net benefit than other analyses. Subsequently, correlation analyses of possible relationships with the best estimate for the cost of employment services could not be conducted due to insufficient sample sizes, as determined by power analyses described below. Consequently, post-hoc analyses were conducted with cost per member. The cost per member variable was utilized for its ability to control for membership and demonstrate financial resources that contribute both indirectly and directly towards employment of members.

Statistical Analysis Plan

After data collection, a post-hoc power analysis, using G*Power 3.1.2 (Buchner, Erdfelder, Faul, & Lang, 2009), indicated that a sample of 21 clubhouses would be sufficient to yield significant two-tailed correlational relationships between two variables. A point biserial model demonstrated that with an effect size of .5 and $\alpha = .05$ would find a significant

relationship 71% of the time given there was an actual relationship among the variables. A correlation coefficient of .5 with $\alpha = .05$ would find a significant relationship given that 21 of the 194 clubhouses met the criteria for eligibility. A sample of 194 would be sufficient for a variety of statistical analyses given that relationships between variables existed and were large enough to capture.

All data analyses were performed using SPSS version 19.0 (IBM Corp, 2010), and alpha was set at .05. In all analyses, α was not reduced from the .05 level, which can be used to reduce the chance of a Type I error. Findings that reached an α level of $\leq .05$ were presented as significant to capture a wider range of possible relationships and promote future research. Data were examined for outliers and other checks for data normalcy to ensure that significantly higher and lower outliers were not distorting the measure of central tendency. Outliers represented values that were more than two standard deviations from the mean value. In addition to correlational analyses, scatter-plots of each correlation were reviewed for possible curvilinear relationships or its determination by a few outliers. Moreover, linear relationships between variables were illustrated through Spearman rank correlation coefficients. When data could be easily skewed by extreme outliers, it is recommended to use Spearman rank correlation coefficient, which can capture relationships that Pearson correlations may not be able to recognize (Zou, Tuncali & Silverman, 2003).

Independent variables examined were cost of employment services, staff educational credentials, staff training, member job offerings, rate of self-reported diagnosis of schizophrenia/schizoaffective disorders per clubhouse, and member-to-staff ratio. The two dependent variables were member earnings and job tenure rate. The correlation analyses were conducted using data gathered from the CPQ and BSQ.

Clubhouse membership and job tenure. Information regarding clubhouse membership was gathered from the CPQ, which identified active members as those who have been in attendance at least once in the last 90 days. The proportion of active members who were employed in TE, SE, or IE for at least 6 months in the 1-year period represented the job tenure rate for each clubhouse.

Cost of employment services and overhead rate. Cost of employment services were calculated by adding the number of hours dedicated to employment services from full-time and part-time staff. This calculation demonstrated the amount of hours staff dedicated to employment services. The number of hours each staff affiliate dedicated to employment services was then multiplied by their designated average hourly wage. The designated hourly wage was determined by whether they were a generalist, resource, or administrative staff affiliate, and calculated from the CPQ salary responses for that clubhouse. Each type of staff affiliate has different, but sometimes overlapping roles, and are typically paid different wages as reported on the CPQ. Typically, generalists work side-by-side with members during daily activities. Resource staff do not typically work with members and may include accountants, janitors, secretaries, and researchers. Administrators typically consist of program or executive directors (ICCD, 2009a).

The mean hourly wage in all clubhouses was \$20.79 as an administrator, \$11.03 as resource staff, and \$14.01 as generalist staff. One clubhouse was removed from the calculation of staff hourly wage because the values given were several standard deviations from the mean. In the calculation of cost of employment services the hours worked by each type of staff affiliate in a clubhouse were multiplied by the mean hourly wage for each type of staff affiliate in that clubhouse. Clubhouse reported overhead rate was collected from the BSQ and included when calculating cost of employment services for each clubhouse. Overhead rate captured the cost of

resources other than staff salary which contribute to member employment services. In the present study, the overhead rate was total costs excluding all costs that vary directly as the clubhouse serviced more clients. Overhead was costs excluding staff salary and benefits, as well as other costs of staff who work with members, utilities that vary as member visits increase or decrease, and mortgage or lease payments. Of the 43 clubhouses, 19 were unable to report their overhead rate. Many clubhouses indicated their financial structure made it difficult for them to accurately assess their overhead rate or did not have access to such information. Overhead rate for these clubhouses was estimated as the median overhead rate of 19% for clubhouses which did report overhead.

Staff education and training. Staff education was assessed as the proportion of full-time staff with a minimum of a bachelor's degree in each clubhouse. Staff training was assessed by the proportion of full-time and part-time staff who attended a 3-week ICCD Comprehensive Clubhouse Training. The 3-week curriculum has provided in-vivo training in the clubhouse model to both members and staff concurrently and has been conducted by ICCD-approved training bases. The clubhouse model is based on The International Standards for Clubhouse Programs (ICCD standards) that are reviewed and augmented every 2 years (Macias, Barreira et al., 2001). ICCD training was calculated by dividing the number of full- and part-time staff who received training in a clubhouse by the total full- and part-time staff in that clubhouse.

Member earnings. All member earnings and number of member job offerings were gathered from the CPQ. Total member earnings from each clubhouse were calculated for all employed members including those who were employed for less than 6 months. When creating earnings variables for correlational analysis earnings were divided by the number of active members to control for number of clubhouse members. Also, annual earnings were divided by

the number of active members, to show true earnings per clubhouse member. For correlational analysis, earnings variables for TE, SE, and IE were separated and divided by the number of active members in the clubhouse. Dividing by all members guarded against earnings disparities between employment types that may drive relationships with other variables of interest and accounted for differences in clubhouse membership. Furthermore, earnings by members in TE and SE earnings were also summed and divided by the number active members in each clubhouse to control for number of active members and create the variable TE+SE. IE was excluded from the TE+SE correlations because staff tended to have more contact with TE and SE members and subsequently, data were more available to clubhouses. Of the 43 clubhouses, 23 reported IE earnings, and although this provided a sufficient sample to conduct correlations between IE and other variables, when combined with TE and SE earnings the sample did not reach the necessary size of 21 as indicated by the power analysis.

In the cost analyses, member earnings in each employment type were divided by the amount of members in that employment type to understand the average earnings of members employed in each type of employment. For example, IE earnings were divided by number of members who participated in IE at any time in the past year to capture IE earnings per member in IE. This analysis was completed to capture differences in earnings by employment type.

Member job offerings. Member job offerings were reported via the CPQ and captured the annual number of member employment opportunities that met clubhouse definitions for employment. Each member job offering was counted only once, regardless of the number of members who worked in the same position. Additionally, a correlation analysis examined the relationship between member job offerings and self-reported non-clubhouse unemployment rates

in the area to more adequately assess the effect of environmental factors on clubhouse employment outcomes

Self-reported mental health diagnosis. Self-reported diagnosis of schizophrenia/schizoaffective disorders were gathered from the CPQ, which asked clubhouse directors to estimate the number of active members diagnosed with schizophrenia/schizoaffective, bipolar, or major depressive disorders. The proportion of active members reported to be diagnosed with schizophrenia/schizoaffective disorders in each clubhouse were utilized in analyses.

Disparity between time of CPQ and BSQ data collection. One aspect of the BSQ is to elicit information regarding changes in staff time allocated to employment services and salary increases since the most recent CPQ submission. Because changes in staff time dedicated to employment services or salary could lead to the over or under estimation of current costs, this information enabled a more comprehensive estimation of costs.

Relationships with earnings per member and job tenure rate. Following descriptive analyses and tests for normalcy of distribution using histograms, QQ plots, and box plots for each variable, correlation analysis began. This study set out to conduct separate multiple regressions. Each consisted of six independent variables: costs of employment services per active member, self-reported mental health diagnosis, staff educational credentials, staff training, member job offerings, and member-to-staff ratio. The dependent variables were expected to be earnings per member and job tenure rate. However only 5 cases contained all necessary variables, therefore the multiple regressions were not interpretable. Consequently, to capture

relationships among the independent and dependent variables, the present study conducted bivariate correlations between each independent and dependent variable.

Cost-benefit and cost-effectiveness analysis. In the cost-benefit analysis net benefit for each clubhouse and each member was assessed by the deduction of cost of employment services from member earnings. Further, cost per job tenured member was shown by dividing the cost of employment services in a clubhouse by members who worked in that clubhouse for at least 6 months in the past year. Member earnings per staff hour was calculated by dividing member earnings in a clubhouse by the amount of hours staff dedicated to employment services in that clubhouse. The cost-effectiveness analysis showed annual staff hours per job tenured member by dividing the number of staff hours dedicated to employment services in a clubhouse by the number of members who worked in that clubhouse for at least 6 months in the past year.

CHAPTER 4

RESULTS

A primary goal of this study was to conduct cost-effectiveness and cost-benefit analysis of employment services offered by U.S. clubhouses. Means are reported for clubhouse demographics in Table 2. Other variables had many outliers, consequently median was used when reporting cost-benefit, cost-effectiveness and cost analysis results to minimize the distortion of central tendency. Furthermore, budget excluding funding for housing in each clubhouse was used to complete all necessary analyses. Excluding housing costs standardized the interpretation of clubhouse budgets, as clubhouses differ in availability of funding for member housing.

Table 2
Clubhouse Demographics

Clubhouse Characteristics	M	SD	Minimum – Maximum	N
Active members	135	70	33-368	43
Full-time employees	7.9	3.9	1-19	42
Part-time employees	1.1	1	0-7	36
Members per full-time employee	18.67	8.8	5.9-51.3	42
Annual member job offerings	35.2	26.1	3-127	41
Daily member attendance	41.7	20.2	4-83	43
% of staff with a BA/BS or higher	68.9%	24.2%	20%-100%	37
% of employees in ICCD training	38.3%	24.8%	0%-100%	37

Table 3
Diagnosis and Accreditation

Mental Health Diagnosis	%	SD	Maximum – Minimum	<i>N</i>
Schizophrenia Disorders	42.3%	16.3%	18%-86%	27
Bipolar Disorder	19.7%	8.9%	8%-41%	27
Major Depressive Disorder	18.4%	7%	3%-32%	27
Accreditation Status	<i>N</i>	%		
Not certified	11	25.6%	N/A	N/A
1 year	8	18.6%	N/A	N/A
3 year or provisional	24	54.9%	N/A	N/A

Clubhouses reported a mean of 68.9% ($SD = 24.2\%$) of full-time employees who had obtained a bachelor's degree or higher. Of all 43 clubhouses in the sample, 11 (25.6%) were not certified, 8 (18.6%) had a 1-year accreditation, and 24 (54.9%) had a provisional 3-year/three-year accreditation status. Each accreditation status denoted a different level of fidelity to the clubhouse model, in which a 3-year accreditation status is the highest and no certification status is the lowest (Macias, Harding et al., 1999). For more complete clubhouse characteristic information refer to Table 2 and 3.

Cost analyses. The cost analysis of clubhouses examined financially descriptive information. Cost per member was calculated by dividing the annual clubhouse budget by the number of active members in each clubhouse. Further, cost per visit was determined by the proportion of the annual budget allocated to annual member visits. The cost of employment services was divided by clubhouse budget to calculate the proportion of the clubhouse budget dedicated to employment services for each clubhouse.

The percentage of the overall budget dedicated to employment services varied from 2% to 44% (median = 20.2%). As members transitioned to less supported employment, they tended to earn more (Table 4). Annual IE earnings totaled \$1,675 per active member and almost earned more than both TE and SE members. Therefore, is important to include this information when accurately calculating member earnings. Complete cost analyses results are reported in Table 4.

Table 4
Cost Analysis

Clubhouse Characteristics	Median	SD	Minimum – Maximum	N
Annual budget excluding housing	\$530,870	\$306,876	\$80,000-\$1,324,323	37
Annual cost of employment services	\$108,253	\$107,617	\$3,793-\$446,015	16
Annual cost of employment services per member	\$797	\$1,324	\$34.80-\$5,819	16
Percentage of annual budget dedicated to employment services	21%	12.8%	2%-44%	14
Cost per member	\$4,552	\$1,917	\$1,664-\$9,100	37
Cost per visit	\$37.22	\$13.23	\$21.54-\$74.01	37
Annual TE earnings per member	\$700	\$1,983	\$63.97-\$11,011	28
Annual SE earnings per member	\$1,270	\$804	\$179-\$3,235	26
Annual IE earnings per member	\$1,675	\$88,281	\$288-\$416,059	22

Clubhouse Characteristics	Median	SD	Minimum – Maximum	<i>N</i>
*Annual earnings per member	\$1,339	\$903	\$389-\$3,928	20
Annual TE earnings per clubhouse	\$24,060	\$24,892	\$4,985- \$89,256	30
Annual SE Earnings per clubhouse	\$41,850	\$79,511	\$1,788- \$300,187	29
Annual IE earnings per clubhouse	\$91,632	\$3,792,618	\$11,345- \$18,306,605	23

*Based on all total active members regardless of employment status

Cost-benefit and cost- effectiveness analysis of employment services. Net benefit can be measured using several methods. In this study net benefit was calculated by deducting costs of employment services from the benefit of member earnings for each clubhouse. Net benefit was also divided by active members in each clubhouse to demonstrate net benefit per member. Member earnings per dollar invested in employment services demonstrated clubhouses' financial contribution toward the generation of member income. This was calculated by dividing annual earnings per member by cost of employment services per member. This calculation partly underestimates earnings of employed members by including all active members of the clubhouse as members may attend to receive supports other than employment. It was used because some resources were spent on supporting members for employment who were not employed.

Member earnings per staff hour dedicated to employment services was calculated by dividing average member earnings by annual staff hours dedicated employment services per member. Cost per member who achieved job tenure was calculated by dividing cost of employment services by the number of members employed in the same type of employment (TE,

SE, or IE) for six months of the past year for each clubhouse. Cost-benefit analyses are displayed in Table 5.

Table 5
Cost-Benefit Analysis

Clubhouse Characteristics	Median	Standard Deviation	Minimum – Maximum	<i>N</i>
Annual net benefit per clubhouse	\$63,348	\$164,799	\$-241,110-\$396,871	10
Annual net benefit per member	\$308	\$2,005	\$-5252-\$2362	10
Annual member earnings per dollar invested	\$1.31	\$8.75	\$0.10-\$28.85	10
Annual cost per job tenured member	\$3,438	\$12,989	\$252-\$53,531	15
*Member earnings per staff hour dedicated to employment services	\$38.73	\$178.15	\$2.16-\$701.60	14

*Self-reported direct service hours

The cost-benefit analyses showed the relationship between financial resources used by clubhouses and the value of resources produced by this sample. Cost of employment services were calculated based on the amount of hours employees dedicated to employment services, their hourly wage, and reported overhead costs. The present study found that clubhouse members annually earned \$1,512 for every \$1,198 clubhouses spent on employment services.

Furthermore, for every dollar invested in employment services, a member earned \$1.31.

However, a two-tailed, one-sample Wilcoxon signed rank test showed that earnings per dollar invested in employment services were not significantly different than \$1, $p = .24$, $N = 10$.

Findings indicated that for every \$3,438 invested toward employment services, one member was employed for at least 6 months in a given year. Results suggested that for every hour a staff

affiliate spent on employment services, a member earned a median of \$38.73. Cost-effectiveness analyses are shown in Table 6.

Table 6
Cost-Effectiveness Analysis

Clubhouse Characteristics	Median	Standard Deviation	Minimum- Maximum	<i>N</i>
Annual staff hours per job tenured member	120.6	577.7	10.4-2,454	23

Staff time dedicated to employment services for each job tenured member was calculated from clubhouse reported hours dedicated to employment services, then divided by the number of members who achieved job tenure. Cost-effectiveness analyses demonstrated the relationship between the value of resources used in the programs' implementation and nonmonetary outcomes produced by that program. Findings indicated that for every 120.6 staff hours spent on employment services, one member was employed for at least 6 months in a given year.

Determinants of member earnings. Correlations in Table 7 display earnings per active member regardless of actual member employment status or participation.

Table 7
Determinants of Earnings Per Member

Variable 1	Variable 2	Spearman Rho	<i>N</i>
TE tenure rate	Annual TE earnings per member	.75**	30
SE tenure rate	Annual SE earnings per member	.76**	28
IE tenure rate	Annual IE earnings per member	.7**	22
TE+SE tenure rate	Annual TE+SE earnings per member	.72**	27

Variable 1	Variable 2	Spearman Rho	<i>N</i>
Job offerings	Annual TE+SE earnings per	.25	27
Percent of staff trained	Annual TE+SE earnings per member	.27	22
Rate of staff with at least a bachelor's degree	Annual TE+SE earnings per member	.04	24
Member-to-staff ratio	Annual TE+SE earnings per member	.13	27
Active members	Annual TE+SE earnings per member	.17	27

****** $p < .001$

It was predicted that financial resources dedicated to employment services per member would be positively correlated with earnings per member. However, cost of employment services, self-reported diagnosis of schizophrenia/schizoaffective disorder, and average earnings per member had insufficient response rates ($N < 21$) and were not completed. Annual TE+SE earnings per member were substituted to examine relevant relationships and factors of member earnings. As predicted TE+SE tenure rate was positively and significantly correlated to TE+SE earnings per member. Moreover, tenure rate in every type of employment was significantly and positively correlated with respective earnings per member. This suggests that as clubhouses have more members who attain employment for 6 months or more in a year, they tend to have higher annual TE+SE member earnings. Contrary to hypotheses, Table 7 shows member job offerings, rate of staff with a bachelor's degree, percentage of staff who attended an ICCD 3-week training, and member-to-staff ratio did not have a significant relationship with annual TE+SE earnings per member.

Determinants of job tenure rate. Relationships with job tenure rate are shown below.

Table 8
Associations with Job Tenure Rate

Variable	Spearman Rho	<i>N</i>
Job offerings	.35*	39
Member-to-staff ratio	.01	40
Rate of staff with at least a bachelor's degree	-.09	36
Percent of staff trained	.05	35
Active Members	.12	40

* $p \leq .05$

As predicted, clubhouses with more member job offerings were more likely to have higher job tenure rates. However, staff education level and training had no significant relationship with job tenure rate. In addition, member-to-staff ratio was not significantly related to job tenure rate. Contrary to hypothesis, self-reported diagnosis of schizophrenia/schizoaffective disorder was not significantly related to job tenure rate, but the correlation showed that clubhouses which had more members who were diagnosed with schizophrenia/schizoaffective related disorders were also more likely to have higher SE tenure rates, Spearman rho = .535, $p = .006$, $N = 25$.

Determinants of cost per member. Cost per member for each clubhouse is determined by many factors and the exact impact that financial resources have on members is difficult to measure. However, several relationships that financial resources have with other variables can be seen in Table 9. Cost per member was shown to be significantly and positively related with TE tenure rate, but negatively related to IE tenure rate. Further, clubhouses with a higher proportion of members who self-reported a diagnosis of schizophrenia/schizoaffective disorder also tended

to have higher costs per member. Findings also indicated that member-to-staff ratio was significantly and negatively related to cost per member.

Table 9
Relationships with Cost per Member

Variable	Spearman Rho	N
Member-to-staff ratio	-.71**	36
Rate of diagnosis of schizophrenia	.44*	22
TE tenure rate	.44*	35
IE tenure rate	-.35*	35
Annual IE earnings per member in IE	.47*	21
Active members	-.4*	37
SE tenure rate	.33 [†]	35
Job offerings	-.28 [†]	36
Rate of staff with at least a bachelor's degree	-.23	33
Percent of staff trained	-.18	31
Annual TE+SE earnings per member	.33	21

** $p \leq .001$. * $p \leq .05$. [†] $p \leq .1 > .05$

Unemployment, job offerings, and adjustments. The largest interval between CPQ and BSQ data collection was 2 years. Of the 43 clubhouses in the sample, 24 stated that staff time

dedicated to employment services had changed since they completed their most recent CPQ. Clubhouses reported a median increase of 20% ($SD = 22.26\%$) of staff time dedicated to employment services. Furthermore, 20 of the 43 clubhouses reported that staff salaries remained the same, 18 indicated it decreased, and four clubhouses reported that staff salaries increased since their last reported CPQ. Further, it is noteworthy to mention that all data from the CPQ and the BSQ were collected after the beginning of the U.S. financial recession in December, 2007 (Isidore, 2008).

The unemployment rate in clubhouse catchment areas ranged from 4% to 12% with a median of 7% ($M = 6.94\%$). This was lower than the national average between 2009 – 2012 ($M = 9.29\%$, $SD = 0.51\%$) (Bureau of Labor Statistics, 2012a). Moreover, there was no significant relationship between unemployment rate in the catchment area served by clubhouses and job tenure rate, Spearman $\rho = 0.42$, $p = .814$, $N = 34$, annual TE+SE earnings per member, Spearman $\rho = .086$, $p = .689$, $N = 24$, or member job offerings, Spearman $\rho = -.282$, $p = .10$, $N = 35$.

CHAPTER 5

DISCUSSION

This study focused on hypothesized relationships between resources that clubhouses devote to facilitating member employment, and outcomes of the proportion of members employed as well as member earnings. Moreover, these analyses primarily examined the relationship of member earnings and job tenure rate with member job offerings, self-reported diagnosis of schizophrenia/schizoaffective disorder, member-to-staff ratio, cost of employment services, cost per member, staff educational credentials, and staff training. Several correlations indicated relationships between specific variables. Member job offerings showed a positive and significant relationship with job tenure rate. Moreover, clubhouses with a higher tenure rate in respective employment types tended to also have higher earnings per member in those employment types. Furthermore, clubhouses with a higher proportion of members who self-reported a diagnosis of schizophrenia/schizoaffective disorder had higher SE tenure rates. In addition, clubhouses with a higher rate of staff affiliates who attained at least a bachelor's degree tended to have higher earnings per member. Calculations in this study show promising representations of how clubhouse resources are allocated as well as their relationship to other variables.

When interpreting findings, it is helpful to understand them within the context of previous samples. Clubhouse characteristics were similar to other studies (Macias, Jackson et al., 1999; McKay et al., 2007; Plotnick & Salzer, 2008). Comparable inflation was added to previous findings to provide a thorough and proportional comparison between studies (Table 10). Inflation was computed using the consumer price index (CPI) inflation calculator provided by the U.S. Department of Labor (Bureau of Labor Statistics, 2012b). The CPI inflation calculator allows

users to calculate the value of current dollars in an earlier period or to calculate the current value of dollar amounts from years ago (Bureau of Labor Statistics, 2012c). Table 10 values were adjusted to 2011 levels to standardize results.

Table 10
Descriptive Statistics from Clubhouse Evaluations Adjusted to 2011 Values

Variable	Mean and (SD) for current study	Mean and (SD) for Plotnick & Salzer (2008)	Mean and (SD) for McKay, Yates & Johnsen (2007)	Mean and (SD) for Macias, Jackson et al., (1999)
Clubhouse budget	\$596,892 (\$306,876)	\$374,711 (not provided)	\$533,063 (\$269,817)	602,681 (288,483)
Annual cost per member	\$4,671 (\$1,917)	\$4,082 (not provided)	\$4,184 (\$1,584)	\$5,412 (\$1,852)
Annual cost per visit	\$40.31 (\$13.23)	\$55.19 (not provided)	\$35.43 (\$14.15)	Not provided
Total active members	134.77 (70)	92.96 (not provided)	95.5 (not provided)	118 (70)

The clubhouse populations in each study were slightly different. McKay et al., (2007) included both US and international clubhouses. Information from Plotnick and Salzar (2008) was based on 26 Pennsylvania clubhouses in operation for fewer years than in the current study. Macias, Jackson and colleagues (1999) conducted research on a similar population, which included a larger sample that was in operation for fewer years than most clubhouses included in the current sample. Despite slight population differences in each sample, the information collected from the current sample has similar findings to previous research throughout the years. Of all studies examined in Table 10, the current study was neither the lowest nor highest in any category except total active members. The increase of active members in the current study as

compared to previous studies may indicate clubhouse progress in their ability to increase member attendance.

Cost-benefit and cost-effectiveness interpretation. The annual income members earned exceeded annual cost of employment services by a median of \$63,348 per clubhouse and \$308 per member. Further, for every \$1 spent on employment services, \$1.31 was earned by a member. Although member earnings were not significantly different that cost of employment services, these findings appeared to be driven by low cost of employment services and cumulative efforts from all types of employment with strongest influence by members in IE. In the average clubhouse IE generated a median of \$4,003 annually per clubhouse than TE and SE combined. Members in IE earned a median of \$51 more per member than members in TE and SE combined. A two-tailed related samples Wilcoxon signed rank test showed that IE earnings per member employed in IE was significantly greater than TE+SE earnings per member employed in TE+SE, $p = .019$, $N = 20$. Furthermore, previous research suggested that members tended to progress towards less supported employment (McKay et al., 2006); therefore, clubhouse resources and intervention likely contributed to earnings for members in IE.

Moreover, net benefit findings may be a testament to member progress and clubhouse efficacy. However, when IE earnings were removed from the relationship, results suggested that clubhouses contribute more financial resources to employment services than members in TE and SE earn. Excluding IE earnings in net benefit findings showed a median net loss of \$41,964 per clubhouse and \$264 per member. This may demonstrate when working with members who require more staff attention, costs rise and more time spent with these members may not translate into a net benefit until members reach IE. However, more staff time spent with members may

increase non-monetary gains such as quality of life (Elkund, 2009), continued education, improved physical health, stable housing, and enable members to progress toward IE.

Furthermore, results suggest that active members earned an average of \$38.73 per year for every hour staff dedicated to employment services. Even when the more lucrative IE earnings were excluded from analysis members earned a median of \$18.41 per year for every hour a staff affiliate dedicated to employment services. This finding is quite substantial considering that generalist staff contributed a median of 89% of the staff hours dedicated to employment services and their average hourly wage was only \$14.01.

Cost per member interpretation. Results suggest that higher costs per member were significantly associated with higher rates of TE tenure rate and lower IE tenure rate. TE typically requires more staff intervention than IE; therefore more resources may be required to achieve a higher tenure rate. Further, IE, which is the least supported type of employment, would naturally require fewer resources, thus cost less per member. Moreover, these associations with cost per member may suggest that there may be financial resources that contribute to employment outcomes that are not employment services related. This conclusion is in line with the view of the clubhouse model as holistic and that measuring some components separately may obscure some potential findings.

Further, the present study found that as cost per member increased, so did IE member earnings. This may indicate that members in IE earn more when clubhouses have more financial resources to engage and grow member programs. Examining the possible effects of cost of living on IE earnings was considered. However the only indicator for cost of living was from area of population served, which assumes that a greater population served is indicative of a higher cost of living. Due to the anonymity of data collection, the exact locations of the clubhouses were

unknown. Area of population served was not significantly related to cost per member, Spearman $\rho = -.029$, $p > .10$, $N = 37$. Moreover, the study found that as cost per member decreased, both member-to-staff ratio and total active members increased. These two findings may suggest that when overhead costs become distributed among more members, coupled with paying a proportionally smaller staff, costs decrease.

Determinants of job tenure and member earnings. As expected, evidence showed that clubhouses with a higher rate of reported schizophrenia/schizoaffective disorder diagnoses had higher annual costs per member. Contrary to expectations, the present study found a significant and positive relationship between SE tenure rate and rate of self-reported diagnosis of schizophrenia/schizoaffective disorders. Subsequently, SE tenure rate may confound results and it was not possible to make definitive conclusions on the cost implications of the diagnosis. There was insufficient data overlap to conduct a partial correlation and remove possible effects of SE tenure rate from the analysis. Although, SE tenure rate was positively but not significantly related to cost per member ($p = .052$), it warrants further examination to properly deduce SE's role in driving relationship between diagnosis and cost per member. Therefore, resources dedicated to members in SE may account for the relationship between cost per member and self-reported diagnosis of schizophrenia/schizoaffective disorder.

As predicted, member job offerings were positively related to job tenure rate. Furthermore, post-hoc analyses showed that total job tenure achieved per clubhouse regardless of number of members was also significantly and positively related to member job offerings (Spearman $\rho = .672$, $p < .001$, $N = 39$). This suggests that an increase in the quantity of job offerings may increase job tenure for members. Furthermore, tenure rate in TE was positively related to cost per member. This may indicate that clubhouses with more resources per member

are better able to provide members in TE with sustained employment. Unexpectedly, neither member job offerings nor cost per member was significantly related to TE+SE earnings per member. This suggests that although these variables may influence tenure rates they may not affect the amount of money earned while employed in TE and SE. The analysis did not include IE earnings, which contributed the most to member earnings and may have substantially affected earnings per member relationship with cost per member and job offerings.

In future research, it may be helpful to not only gather sufficient data in all employment types but to examine the method clubhouses use to allocate resources toward employment types, to discern more exact relationships between costs of services and employment outcomes. Especially because member earnings tended to be higher in clubhouses that had higher job tenure rates. Earnings per member in every mode of employment were significantly related to each respective tenure rate. This suggests that as members achieve tenure they may also obtain benefits of increased annual income.

Adjustments. Clubhouses noted an increase in staff time dedicated to employment services between 2010 – 2012. This suggests a trend of increased staff time dedicated to employment services and a reallocation of resources toward employment services. One critical factor may have been that previous CPQ evaluations were completed before or at the beginning of the U.S. financial recession in December 2007 (Isidore, 2008). As the recession continued, clubhouse staff may have increased their time dedicated to employment services to contend with diminished member employment opportunities. Clubhouses reported a median 20% increase in staff time dedicated to employment services and a staff salary that remained the same (47%) or decreased (42%) since reporting their finances on the CPQ. Therefore, it is unlikely that the cost

of employment services was underestimated by more than 20% and may have been slightly overestimated in some clubhouses due to decreased staff salary.

Unemployment and member job offerings. Unexpectedly, unemployment rate in clubhouse served areas was not significantly related to job tenure rate or member job offerings. This suggests that clubhouse members may be insulated from some environmental difficulties that non-members may encounter when seeking employment. Further, clubhouses reported overall unemployment rates in areas near clubhouses that were on average 2.35% less than the national average during the data collection period. These findings may indicate that clubhouses in this sample were located in areas less affected by the financial recession or other factors that may hinder employment.

Future research and limitations. The present study set out to not only evaluate clubhouses through the analysis of specific variables, but to also generate inquiry into clubhouse processes. The study sought to combine two different surveys to gather detailed data, and although successful in data collection, the size of this sample may have been hindered by the specific nature of the information required to conduct the study. Moreover, the data were de-identified, and some were collected prior to the commencement of the study, which limited the ability to query clubhouse sites. Additionally, the calculations of member employment can both over- and under-estimate the level of employment at a clubhouse. It is possible that members in SE and IE programs were not counted as active members, as some members in SE and IE employment may not visit the clubhouse and would not be counted as active. However, previous research demonstrated that members with a high rate of attendance have a higher employment status than those with a low rate of clubhouse attendance (Di Masso, Avi-Itzhak, & Obler, 2001).

The examination of employment for at least 6 months may underestimate employment in all categories, especially TE because the average tenure is approximately 4.38 months (Henry et al., 2001). Furthermore, members who changed employment categories within 6 months were not included in analysis. Therefore, members could have been employed 4 months in TE then 2 months in SE, but not be counted in either category. Additionally, false reporting is possible, but unlikely because data collected were part of a routine procedure that assists in the clubhouse accreditation process. Therefore, a clubhouse may go through an on-site review by members of the ICCD based on reports from the instrument. However, the accreditation process may create a demand to inflate employment statistics.

Further, this study did not measure other program assets such as donated resources or volunteer time, which can make up a substantial portion of program resources (Yates, 1980). A consequence of the clubhouse model is that members and staff can have the same function in a clubhouse. Therefore, it is difficult to decipher member from staff roles and how staff and member characteristics affect outcomes. Moreover, other variables related to the development of clubhouses such as years of operation and accreditation level were not thoroughly examined and perhaps future integration of these variables could provide better understanding of how clubhouse characteristics influence members.

Furthermore, research in a residential treatment setting from Yates, Haven, & Thorsen (1979) found that assessment of staff resources expended were more thorough when measured in units of minutes rather than dollars. These findings may be relevant for clubhouses because staff salary variation may obfuscate potential findings related to staff time. Although this study included some analysis of staff time, future evaluation may benefit from more specific time-inclusive evaluations such as the inclusion of staff time spent on types of employment services

and activities. Furthermore, because job tenure was positively related to member job offerings, it may be beneficial to explore components of member job offerings and variables that can promote its increase.

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APPENDIX A

BRIEF SUPPLEMENTARY QUESTIONNAIRE (BSQ)

Instructions: Please review the following questions and respond to the best of your ability. Feel free to gather information from other clubhouse staff if you are unsure of a response. After you have completed the questionnaire, please forward to Colleen.McKay@umassmed.edu . Should you have any questions please contact Colleen.McKay@umassmed.edu.

For the following questions when we refer to **employment supports** we refer to supports such as job development, job placements, job site visits, job training and absence coverage for Transitional Employment, assistance with job searches, transportation to work and/or job interviews, advocacy or meetings with employers or potential employers, job performance assessments, etc. for all types of Employment – Transitional, Supported, and Independent Employment offered by the clubhouse.

1. How has the number of your staff **partially** dedicated to providing employment supports changed over the last 4 years? (Place an X beside the best answer)

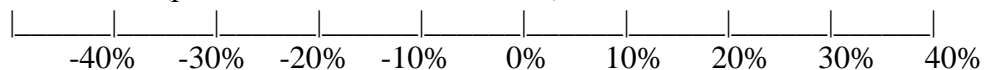
1. a. __ Increased b. __ Decreased c. __ Remained about the same d. __ I don't know

2. How has staff salaries changed over the last 4 years? (Place an X beside the best answer)

a. __ Increased b. __ Decreased c. __ Remained about the same d. __ I don't know

- 2a. Since your last CPQ submission on _____ (insert date), has staff time dedicated to member employment supports changed? __ Yes __ No (place an X beside the best answer).

If Yes, how much more or less time, do staff dedicate to providing employment supports, since your last CPQ submission? (place an X on the scale below)



(Based on your response to Question 2A, please indicate percentage below)

- 2b. My clubhouse has increased ____% or decreased ____% (only choose one) of its staff time dedicated to member employment supports since the most recent CPQ was submitted.

The following definitions and categories of staff are needed to complete questions 3-9.

Administrators are clubhouse executive directors, directors, or program directors.

Resource Staff have job descriptions that do not include working with members in the Work-ordered Day (WOD) and/or the provision of community support services as a primary responsibility (for example, janitors, accountants, secretaries, or researchers).

Generalist program staff have general responsibilities within the clubhouse, generally including work units, member involvement and some responsibility for employment.

3. Are there any full-time staff whose **exclusive** responsibilities are supporting and developing the TE program? If yes, how many? (Enter the number of full-time staff in each category below, if none please enter 0)

4.

Type of Staff

	Administrator	Generalist	Resource
Full-time staff whose responsibilities are <u>exclusively</u> providing employment supports	#	#	#
Full-time staff <u>partially</u> dedicated to providing employment supports	#	#	#

5. Approximately how many hours do full-time employees that are **partially** dedicated to providing employment supports spend on these responsibilities per week?

Enter the number of full-time staff that are **partially** dedicated to providing job supports in the appropriate column. Please fill in chart below. If the question is not applicable, please place an 'X' in the N/A column.

Number of Full-Time Staff partially dedicated to providing employment or job supports

Type of Full - Time Staff	N/A	Number of Hours Per Week							
		1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40
Administrator Staff		#_____	#_____	#_____	#_____	#_____	#_____	#_____	#_____
Generalist Staff		#_____	#_____	#_____	#_____	#_____	#_____	#_____	#_____
Resource Staff		#_____	#_____	#_____	#_____	#_____	#_____	#_____	#_____

Part-time employees

8. What is the average wage (or salary) of **part-time employees** that provide employment supports?

Part-time **Generalist** staff: \$ _____ per hour or salary \$ _____ per year NA _____

Part-time **Administrator** staff: \$ _____ per hour or salary \$ _____ per year NA _____

Part-time **Resource** staff: \$ _____ per hour or salary \$ _____ per year NA _____

9. How many **part-time employees** are involved in providing employment supports? _____

Approximately how many hours per week do **part-time employees** spend on providing employment supports? Enter the number of **part-time employees** that provide employment

supports in the appropriate columns. If the question is not applicable, please place an 'X' in the N/A column.

Number of Part-Time Staff partially dedicated to providing employment or job supports

Type of Part-Time Staff		Number of Hours Per Week							
	N/A	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40
Administrator Staff		#_____	#_____ —	#_____	#_____	#_____ —	#_____	#_____	#_____
Generalist Staff		#_____	#_____ —	#_____	#_____	#_____ —	#_____	#_____	#_____
Resource Staff		#_____	#_____ —	#_____	#_____	#_____ —	#_____	#_____	#_____

Members

11. How many clubhouse **members** have employment supports responsibilities? _____ (If none, please enter 0)
12. On average, how many hours do **members** dedicate to employment supports spend on these responsibilities per week? (Fill in chart below)

Enter the number of **members** that have responsibilities for providing employment supports in the appropriate column. If the question is not applicable, please place an 'X' in the N/A column.

N/A	1-5 hrs	6-10 hrs	11-15 hrs	16-20 hrs	21-25 hrs	26-30 hrs	31-35 hrs	36-40 hrs
	#_____	#_____	#_____	#_____	#_____	#_____	#_____	#_____

Clubhouse Overhead Rate

13. What is your clubhouse's average overhead rate? %_____

For example: If you were applying for a grant your overhead rate would be xx% for costs associated with utilities, administrative costs, rent etc.

Other comments