FINAL REPORT

Massachusetts Employment Intervention Demonstration Project

"An Experimental Comparison of PACT and Clubhouse"

Cooperative Agreement No. SM 51831

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Grantee: Fountain House, Inc., New York, New York

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EXECUTIVE SUMMARY

The Massachusetts EIDP is an experimental comparison of (1) the vocationally integrated Program of Assertive Community Treatment (PACT) that originated in Madison, Wisconsin and (2) the 'clubhouse' model of psychiatric rehabilitation that is based on Fountain House in New York City and operationally defined by the International Center for Clubhouse Development (ICCD). The MA EIDP was one of 8 collaborative projects within the Employment Intervention Demonstration Program (EIDP) of the federal Substance Abuse and Mental Health Services Administration conducted from 1995 to 2000.

The MA EIDP is unique within the EIDP. In contrast to the specialized employment programs that served as focal interventions in the 7 other projects, the MA EIDP had two focal interventions that were both multi-service programs in which all staff provided vocational services *in tandem* with mental health services. Each staff person provided vocational services to all consumers in his or her caseload. Staff trained in vocational rehabilitation provided consultation to other staff, but also operated as generalists, providing mental health services as well. By operational definition, both PACT and Clubhouse offered high quality supported employment services with a goal of competitive employment.

The PACT model. The Program of Assertive Community Treatment (Stein & Test, 1980; Test & Stein, 1980; Test, Knoedler, Allness, Burke, Kameshima, & Rounds, 1997) is an intensive mobile treatment team providing a full range of direct clinical and rehabilitation services in locations within the community. Full-time PACT personnel include generalist staff trained as registered nurses, clinical psychologists, case managers, substance abuse specialists, occupational therapists, and vocational specialists, in addition to part-time psychiatrists (Russert & Frey, 1991). The MA EIDP PACT was created by Leonard Stein, M.D. and Jana Frey, Ph.D. of Madison, Wisconsin. Fidelity of the PACT team to the original PACT model was verified through site visits by Dr. Stein, Dr. Frey, and Dr. Gary Bond.

The ICCD Clubhouse model. The Clubhouse model (Anderson, 1998; Beard, 1987) is a facility-based intervention designed to offer persons with serious mental illness membership in a mutually supportive community. A defining aspect of the Clubhouse model is the Work-Ordered Day (Beard et al., 1982), in which members and staff work side-by-side to perform work essential to the Clubhouse. All certified Clubhouses provide comprehensive case management by trained staff and an array of other support services, and consumers decide how and when to use Clubhouse services. The Clubhouse program in Worcester, Massachusetts, Genesis Club, Inc., has been continuously certified by the International Center for Clubhouse Development (ICCD) as having full fidelity to the Clubhouse model, confirming that it operates in compliance with the International Standards for Clubhouse Programs.

Because both PACT and Clubhouse programs routinely enroll persons not interested in employment, the MA EIDP did not screen for work interest. No mandatory informational or 'induction' meetings were held, and no applicants were turned away because they would not be willing to look for paid work. While 98%-100% of participants in the 7 other EIDP samples reported baseline interest in finding work, only 70% of MA EIDP participants did so. Admission criteria for the MA EIDP were (a) age 18 or older, (b) a DSM-IV diagnosis of serious mental illness, (c) absence of severe mental retardation (IQ>60), and (d) being currently unemployed. The only exclusion criterion was previous PACT or Clubhouse experience.

The MA EIDP is also unique in its inclusion of consumers and family members. All research activities included mental health service consumers, and 3 of the 6 full-time EIDP research staff had diagnoses of serious mental illness. All major research decisions, including all design issues and recruitment planning, were overseen by the project's Advisory Council composed primarily of consumer advocacy group members and members of the Massachusetts Alliance for the Mentally Ill.

Data sources for the MA EIDP included (a) clinical records, (b) participant interviews, (c) employment records, and (d) daily service logs. The datasets used in preparing this final report have been subjected to multiple checks as well as having been reviewed by experimental program staff, and, in the case of employment and personal history data, by the project participants themselves. MA EIDP data was also submitted on a quarterly basis to the EIDP Coordinating Center for quality assurance checks.

The MA EIDP sample was similar to general population descriptions of people with serious mental illness: 55% male, average age 38 years, 65% high school graduates, and 52% with a diagnosis of schizophrenia. The percentage of ethnic minority participants (21%) was similar to the local population. Few participants were predisposed to work: 42% reported being unable to work and 75% had been unemployed a year or more at the time of enrollment. The intent-to-treat study sample (175) included persons who were physically disabled, too ill to work, in jail, or continuously in the hospital.

Retention and Employment Rates. Study findings show clear superiority in participant retention for PACT. At the end of the 24-month follow-up period, 81% of PACT participants were still receiving direct services compared to a service retention rate of 60% for Clubhouse. The overall intent-to-treat competitive employment rates for PACT and Clubhouse were 57.0% and 48.3%, respectively. These employment rates compare favorably to published rates for other multi-service programs, e.g., the Village in California (Chandler, Meisel, Hu, McGowen & Madison, 1997), and Thresholds in Chicago (Bond, Dietzen, McGrew, & Miller, 1995). To allow MA EIDP rates to be compared to the rates of other supported employment programs designed to serve only people interested in work, placement rates were also calculated for only those participants who had expressed an interest in obtaining paid work at the time of study entry. The 24-month competitive employment rates for work-interested participants (only those persons who might ordinarily enroll in a supported employment program) were 64% for PACT and 59% for Clubhouse. The 12-month competitive employment rates for these same work-interested samples (56% & 48%) approximate the average 58% and 34% annual job placement rates for supported employment programs serving only consumers with *a priori* interest in paid work reported in recent research reviews (Bond et al., 1997; Crowther, Marshall, Bond, & Huxley, 2001). More important, about a third (32%) of all participants who were not clearly interested in getting a job (those persons who would *not* ordinarily enroll in supported employment) took a competitive job while in the MA EIDP.

Work Duration and Earnings. Clubhouse participants worked more total days (M = 254 vs. 173) of competitive employment for higher average hourly pay ($7.31 vs. $6.24) compared to PACT participants. Clubhouse competitive jobs were also more likely than PACT jobs to be white collar and professional rather than manual labor. This overall difference in employment outcomes may be related to greater PACT attention to very disabled participants and/or Clubhouse model reliance on a network of employers, in addition to a variety of operational differences between these two service models that will be explored in future analyses. Total participant earnings from any type of work over the two-year period were nearly equivalent for the two interventions: $262,475 for Clubhouse and $211,310 for PACT.
In spite of enrolling people without work interest, earnings for employed PACT and Clubhouse participants match the published earnings of popular supported employment teams designed to serve only consumers interested in work (Drake, et al., 1999; Drake, McHugo, Becker, Anthony & Clark, 1996). Clubhouse participants' average competitive employment earnings for an 18 month period ($4582) match the 18 month average earnings for an Individual Placement and Support (IPS) program in New Hampshire ($4347), and average competitive job earnings for both Clubhouse and PACT ($3051) exceed or match 18 month earnings for an IPS in Washington, DC ($3084). Moreover, MA EIDP participants with no initial work interest had similar total work days, work hours, earnings, and tenure on longest job as work interest participants even though they began work an average of two months later. These findings argue for the importance of conducting controlled comparisons of vocationally integrated multi-service

programs to vocational specialist teams, including comparisons of the simple operating costs of providing supported employment as a specialized service versus as an integrated part of existing mental health care.

REPORT NARRATIVE

I Project Description

A *Background and Context of the Research*:

The Massachusetts EIDP (MA EIDP) was conducted as part of the Employment Intervention Demonstration Program (EIDP) of the federal Substance Abuse and Mental Health Services Administration (SAMHSA). The EIDP consists of 8 individual experimental projects, a Coordinating Center, and a consumer representative. Each project is autonomous with its own research design, but every project used an identical data collection protocol, inclusive of interview instruments, employment tracking forms, and service reports. All project data was sent to the Coordinating Center, co-directed by Judith Cook, Ph.D. and Stephen Leff, Ph.D. The Coordinating Center checked all site data for accuracy, received site corrections, and then merged the data into a common database. The Coordinating Center will conduct the initial cross-project analyses and take the lead in publishing the core EIDP findings. Individual projects were allowed to begin publishing their own project findings in the spring of 2000, and will be allowed to analyze and publish from the cross-site database when it is released to each site one year from the beginning of the core cross-site data analyses.

The eight experimental EIDP projects are located in Arizona, Connecticut, Maine, Maryland, Massachusetts, Pennsylvania, South Carolina, and Texas. The Coordinating Center is composed of two entities, the Human Services Research Institute (HSRI) and the Rehabilitation Research and Training Center at the University of Illinois at Chicago, which carried responsibility for data management and data analysis, respectively. The SAMHSA monitor for the EIDP is Crystal Blyer, Ph.D. The consumer representative is Carolyn Kaufmann Ph.D. Project directors and their identified state representatives, Coordinating Center co-directors, the SAMHSA project monitor, and the EIDP consumer representative composed an EIDP Steering Committee. This committee met from two to four times a year from 1995 through 2000 to make joint decisions regarding the design of the common data collection protocol, standard data collection procedures, definitions of terms, and the planning of cross-site analyses. Each member of the committee was allotted a single vote, except that the vote of state representatives was cancelled in the fourth year of the project due to a general lack of participation from all except the Massachusetts site. The minutes of these Steering Committee meetings were recorded by the Coordinating Center and are available from Judith Cook at the University of Illinois at Chicago.

The MA EIDP project director (Cathaleene Macias, Ph.D.), project administrator (Charles Rodican, CSW), Massachusetts Deputy Commissioner of Mental Health (Paul Barreira, M.D.), service model representatives (Kenneth Dudek, MSW, Leonard Stein, MD, and Jana Frey, Ph.D), and rotating project research staff took part in the Steering Committee meetings. The MA EIDP followed the established data collection protocol, met all data collection deadlines, and provided additional data information, corrections, or clarifications to the Coordinating Center whenever requested. The MA EIDP also administered supplemental interviews on the topic of social security benefits to all study participants as a courtesy to Judith Cook at the University of Illinois at Chicago and provided cost information to the Cost Analysis Advisory Council as requested.

B *Study Hypotheses*. List your *hypotheses* as proposed in your original grant application.

The MA EIDP was designed as an experimental comparison of (1) the vocationally integrated Program of Assertive Community Treatment that originated in Madison, Wisconsin and (2) the 'clubhouse' model of psychiatric rehabilitation that is based on Fountain House in New York City and operationally defined by the International Center for Clubhouse Development Clubhouse (ICCD). We will use the abbreviated

terms ‘PACT’ and ‘Clubhouse’ to refer to these two focal interventions. Study hypotheses listed in the EIDP proposal submitted to SAMHSA in January 1995 focused on 10 areas of supported employment service effectiveness. Five predicted PACT superiority, five predicted Clubhouse superiority:

1. PACT will have greater participant retention over the course of the project.
2. PACT participants will have lower symptomatology in the workplace.
3. More PACT participants will attain competitive work.
4. PACT participants will have better work performance.
5. PACT participants will begin competitive work sooner.
6. Clubhouse participants will have longer work duration and higher earnings
7. Clubhouse participant jobs will be higher quality and pay higher wages
8. Clubhouse employed participants will have greater job satisfaction
9. Clubhouse employed participants’ fear of work will decrease more over time
10. Clubhouse participants will have longer job tenure.

C *Multisite Research Design: EIDP Common Data Collection Protocol*

The selection of common data collection measures and instruments was decided by majority vote of the EIDP Steering Committee during the first six months of the collaborative agreement. All data was to be collected at project sites, entered into a common SPSS database by individual projects, and then sent via disk or email to the HSRI Coordinating Center. Data was submitted for Coordinating Center review and checking in three-month batches, with corresponding quarterly data submission deadlines. Data submissions for the MA EIDP began in the spring of 1996 and ended in the fall of 2000. Each data submission was followed by a report from the Coordinating Center at HSRI regarding logical inconsistencies, outliers, or missing data that needed to be remedied by each individual project. Once corrections were made by the study sites, the data was resubmitted for rechecking and aggregation into a cumulative database kept by the Coordinating Center for each project. This continual checking ensured that problems with the datasets were identified and corrected in a timely manner while information was still readily available from interviewers, experimental program staff, and study participants. The MA EIDP met all deadlines for data submission on schedule and maintained a generally high quality of data.

Data Sources.
Data sources for the MA EIDP included (a) clinical information received from referring agencies, the current treating physician, or diagnostic tests conducted by the project, (b) interviews conducted with all project participants, (c) participant employment records kept by staff of the two experimental service programs, and (d) daily logs of services provided by staff in both programs. Data were collected from interviewers and experimental program staff on a monthly basis, entered into a spreadsheet, and checked for completeness and accuracy.

Clinical Data

Diagnoses. Clinical records from both referring agencies and previous hospitalizations were requested for all project applicants. If the formal diagnosis contained in these records fit the eligibility requirements and was not ambiguous, then the participant’s record diagnosis was accepted as valid for the project. If two or more contradictory diagnoses were obtained, or if the applicant described symptoms that clearly conflicted with the record diagnosis, then a Structured Clinical Interview for the DSM-IV (SCID; First, Spitzer, Gibbon, & Williams, 1996) was performed by medical faculty of the Department of Psychiatry, University of Massachusetts at Worcester to verify participant eligibility for the project and provide a reliable diagnosis for research purposes. A comparison of a random sample of record diagnoses to diagnoses ascertained through professionally conducted SCIDS resulted in a 99% confirmation of the accuracy of record-derived diagnoses, demonstrating that the sample diagnoses were generally valid.

Substance Abuse. History of substance abuse was documented through clinical records and clinician responses to a referral form requesting information on current alcohol and drug use. Any participant whose records showed residential treatment for substance abuse or a DSM IV Axis I diagnosis of substance abuse, or whose referring clinician indicated that he or she had a current serious problem, was coded as having a history of substance abuse.

Interview Data

Interviewer training was conducted in early December 1995 in Baltimore MD by consultants provided through the EIDP Coordinating Center. The lead interviewer, research associate, project director, and project administrator all participated in the training. The training focused on the PANSS inventory, Lehman's Quality of Life Scale, and general techniques for maintaining high inter-rater reliability and response validity.

Pre-pilots of the interview package were conducted over a two-week period in December 1995 at Fountain House in NYC. The Coordinating Center then distributed the common protocol interview package to all eight projects in February 1996. The MA EIDP began formal pilot interviews within one day of receiving the completed package. Twenty individuals with serious mental illness who held current membership in Genesis Club were paid to participate in these pilot interviews. The data from the 20 pilot interviews, together with interviewer ratings of five video-taped interviews supplied by Louis Opler, MD, PANSS trainer, were then sent to Dartmouth University for psychometric analysis. Dartmouth confirmed that the MA EIDP interviewers had obtained sufficient inter-rater reliability to merit conduct of the actual interviews. As soon as the EIDP Coordinating Center gave permission, formal data collection began. Test-retest reliability was assessed over the first few weeks through repeated administrations of the baseline interview at one-week intervals with a random sample of 20 actual participants. Monthly assessments of PANSS reliability based on tape recordings continued throughout data collection.

The MA EIDP interview package required approximately 1_ hours to administer. All participants were paid for their interview time at a rate of $15 per baseline interview; $25 for follow-ups. Interviewers were trained psychiatric research staff at the University of Massachusetts Medical Center, two of whom had masters of social work degrees. A total of 4 interviewers were on staff over the course of the project. Continuity was maintained for the four years of data collection by minimal turnover and the retention of one interviewer for the entirety of the project. This long-term interviewer was fluent in Spanish (Puerto Rican dialect). The entire interview package was translated into Spanish and then back-translated to English by two bilingual professionals familiar with the mental health field. *Evelyn Nieves, Ph.D.*, then Deputy Commissioner of Mental Health for the City of New York, oversaw this translation as a *pro bono* contribution to the MA EIDP project. The core EIDP baseline interview included:

Demographics & Residential Status. Basic demographic data (e.g., birthdate, ethnicity, educational level, marital status) and housing information (e.g., type, autonomy) were recorded.

Financial Status Report. The common protocol documented amounts of income during the preceding month, categorized by source, including social security benefits, welfare, veteran's benefits, pensions, work incentives, PASS plans, and earned income. Total monthly personal income was recorded, along with total monthly household income.

If the participant was a recipient of Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI), a series of questions were asked regarding beliefs about the loss of benefits related to working. The SSI and SSDI versions of this subjective rating scale were designed by MATRIX Research Institute of Philadelphia.

Quality of Life Scale (Lehman, 1988). The self-report QOL instrument used in the present study was the Brief Version of Lehman's original scale (Lehman, Kernan & Postrado, 1997). Domains of measurement include such diverse areas of experience as living situation, family relations, non-family social relations, daily activities, finances, safety and legal problems, work, school, and physical health.

Hospitalization History. Each participant was asked his or her age at first hospitalization, number and months of total hospitalizations, and dates of most recent hospitalization.

Self-Esteem Scale (Rosenberg, 1979). The Rosenberg self esteem scale is a 10-item questionnaire designed to assess an individual's level of self-esteem. Gray-Little, Williams, and Hancock (1997) reported internal validities (alpha) of .72 to .88 and test-retest reliabilities of .50 to .82 for periods of from one year to one week, respectively.

Positive and Negative Syndrome Scale. The positive and negative syndrome scale (PANSS; Kay et al., 1987) is a structured clinical interview composed of the 18-item Brief Psychiatric Rating Scale (BPRS; Overall & Gorham, 1962), together with 12 additional items from the Psychopathology Rating Scale (Singh & Kay, 1975) which was designed to assess negative and general symptoms not addressed by the BPRS. The PANSS provides standard probe questions and descriptive rating anchors for each single-item symptom measurement, as well as thresholds for identifying clinical significance. The 30 items have a factor structure that reflects three basic dimensions: positive symptoms, negative symptoms, and general symptoms. The reliability and validity of the PANSS have been well-established (Bell, Milstein, Beam-Goulet, Lysaker, & Cicchetti, 1992), and it has been used extensively in clinical research. The PANSS requires approximately 45 minutes to administer.

Interviewers for the present study were trained by Lewis Opler, MD of Columbia-Presbyterian Medical Center, New York City, a close collaborator on the development of the PANSS. Assessments conducted by researchers from Dartmouth University confirm that the Worcester MA EIDP interviewers (n = 2) had high rates of inter-rater reliability for the positive (r = .95), negative (r = .89), and general (r = .94) subscales of the PANSS. The Worcester site two-week test-retest reliability was also acceptably high, with scores of r = .93, r =.95., r =.87 for the positive, negative, and general subscales, respectively (Trumbetta, McHugo, & Drake, 1997).

Report on Current Medications. The name and dosage of all psychotropic medications prescribed for the participant were requested during each research interview. Newer anti-psychotic medications (i.e., clozapine, risperidone, olanzapine) were identified and coded as 'atypicals.'

Work History. A Work History Questionnaire designed by the National Research and Training Center at the University of Illinois at Chicago requested information about participants' previous employment. Work history documentation included dates, pay, and descriptions of most recent job and longest job, current employment status, reasons for not being employed, and how many jobs were held during the five years preceding project enrollment. Whether the participant had worked in the last year and last five years were calculated from the above data, and length of previous unemployment was calculated as calendar days from the end of the most recent job to date of project enrollment.

Work Motivation. A 12-item self-report scale was developed specifically for the EIDP by a workgroup headed by the previous SAMHSA project monitor, Martha Ann Carey, Ph.D. A factor analysis of a convenience sample of consumer responses to this instrument revealed two primary factors, one consisting entirely of positively worded items and one consisting of negatively worded items, so the instrument was considered a univariate measure of motivation to work. Further psychometrics were to be determined through the EIDP.

Interest in Work. Interest in work was measured by a single question asked verbally in all research interviews: Are you currently interested in working? Responses were coded for analysis as (1) if the participant reported interest in paid work, and (0) if he or she did not want to work or was uncertain. The interviewer clarified that the question pertained only to paid employment if the consumer expressed interest in an avocation or volunteering. The question was asked immediately after a "select all that apply" item that documented current work status: currently employed, leave of absence, looking for work, keeping house, in school, doing volunteer work, in training, or unable to work. No participant selected 'currently employed' at the time of the baseline interview.

Employment Data

Employment data collection forms were designed by the National Research and Training Center at the University of Illinois at Chicago based on forms used in their own earlier research studies (Cook, et al., 1992). Employment information was collected on a job-by-job basis, with start and end dates, detailed

job characteristics, and reasons for termination. Changes in hours worked per week, job characteristics, and salary were tracked on a weekly basis. Sources for employment information were both program staff and participant self-reports. At the end of the data collection period, all employment data was returned to the experimental programs for review and confirmation of accuracy. Likewise, each final interview with the participants included a review of employment information and a request for any missing information.

Service Data

Services received by participants in both PACT and Clubhouse were tracked through daily service logs designed in collaboration with the direct service staff of both agencies. The PACT logs were also designed in collaboration with the MIS manager of the mental health center to ensure that they could be used for billing and accountability purposes as well as for the research study. The fields and directions for log use were identical for both experimental programs. Basic domains measured categorically by the logs include client need, service activity, location of service, people present, referral contact, and referral outcome. Quantitative measures include date, time of day, duration of service, and associated travel time. Client and service provider are identified using numerical codes, along with a specific code for non-client related program activities. These service records were kept by all program staff for all clinical, case management, and vocational support services. The research staff worked closely with all staff from both programs to ensure competent and consistent use of the logs, conducting repeated training sessions throughout the project and offering on-call assistance whenever there was a question about appropriate coding. Inter-rater reliability assessments of staff convergence in coding (using case account scenarios) were conducted as a routine part of every training session.

In addition to daily service logs, Clubhouse attendance (tracked through sign-in sheets) and receipt of Clubhouse-provided reduced-price meals were also reported to the Coordinating Center.

Data Management and Data Validation.

At the end of the data collection period, the MA EIDP research staff rechecked all data for a common 24-month participant-point-of-service period. Follow-up phone calls were made to participants who had moved out of the area, or to their relatives, to confirm move dates and reasons for relocation. Of the 177 original participants, only one person could not be located. Inconsistencies in responses between interview points, or between interview self-reports and program records, were also reconciled through phone calls and follow-up interviews with participants and their families. An example of a critical change in the data was a recode of a participant from ‘active’ to ‘inactive’ status: this individual had been coded as active in Genesis Club, but had been continuously hospitalized and legally restricted to the state hospital grounds since about a month after project entry. Being continuously available for interviews, and having attended Genesis Club on day passes a few times following random assignment, the participant continued to rate service satisfaction and had never been recoded as ‘inactive’ in the project files. Such discoveries confirm the need for comprehensive reviews of all project data at the end of data collection.

As a final check on the accuracy of employment records, the job database (i.e., participant name, basic job description fields, and start & end dates) was printed as a Microsoft Access report and given to each of the two experimental interventions to confirm the accuracy of the data that they had previously sent in. Both experimental programs checked the data against their agency records and the progress notes kept on all enrolled consumers, and when in doubt about a particular case contacted the participant directly for information. The revised interview, service log, and employment data was then resubmitted to the EIDP Coordinating Center in August 2000, with a clear identification and rationale for all changes made. In September 2000, at the request of SAMHSA and the Coordinating Center, the MA EIDP submitted an auxiliary database that contained three additional fields necessary to allow the Coordinating Center to recode the employment field ‘job ownership’ according to a definition endorsed by majority

vote of the Steering Committee but opposed by the MA EIDP. This comprehensive dataset comprised the MA EIDP data intended for site specific and cross-site analyses, and for release to the public domain.

As the MA EIDP began data analysis for this final report, minor anomalies in the datasets were discovered and the same detailed process of inquiry and confirmation was again initiated. The corrected SPSS datasets that were used to prepare this final report have now been sent on disk to the SAMHSA EIDP project monitor, Crystal Blyler, and to NIH grants management as part of our final report package. Copies of the complete MA EIDP data package will be sent to both parties after all recent data revisions are reviewed by the EIDP Coordinating Center, but no later than May 31, 2001. This delay in submission of the entire dataset to SAMHSA should provide sufficient time for the Coordinating Center to reconcile discrepancies or report errors in our site data and confirm the integrity of a final data package. In the event that the Coordinating Center does not do so, our own final data package will be formally submitted to SAMHSA CMHS and grants management on May 31, 2001. To ensure correspondence with this final report, it is of obvious importance that these final site-provided databases be included in the EIDP data package that is eventually released to the public by SAMHSA and the EIDP Coordinating Center.

D *Unique aspects of the MA EIDP*.

1. *Step-By-Step Oversight by a Project Advisory Council*.
During the first week funding was received for the MA EIDP, an Advisory Council was established to guide all research decisions. The Council was intended to be representative of all research stakeholders, with substantial representation of consumer and family member perspectives. The Advisory Council was headed by MA EIDP co-investigator, and then MA DMH Deputy Commissioner, Paul Barreira, M.D., and was composed of consumer advocacy group members, members of the MA Alliance for the Mentally Ill, experimental program directors and staff, DMH representatives, and other community leaders who held vested interests in seeing the project succeed. All major research decisions, including all research design issues, recruitment planning, and the design of interviews were overseen by the Advisory Council on a monthly basis for the first two years of the project, and on a biannual basis thereafter.

2. *Consumer Participation in All Research Activities*. At the outset of the MA EIDP, Fountain House research staff designed a data management system for the entry, tracking, checking, and cleaning of all project data that would allow full consumer participation in the research project. The use of Microsoft Access data screens that replicate the appearance of the data collection and interview forms facilitated accurate and easy data entry by members (consumers) in the research unit of Fountain House in Manhattan. The use of pre-designed queries allowed the conduct of logical consistency checks and preliminary reports on data distributions and basic descriptive statistics. This user-friendly system also allowed the verification of entry accuracy, the generation of interim reports, and an easy transfer of data into statistical software. For the entire five years of the project, members (consumers) of Fountain House have carried collaborative responsibility for the entry and management of all project data using this specialized software. To protect project participant confidentiality, only numerical codes are used as participant identifiers for both hard copy and software entry, and only key project staff have passwords to tables linking names with other types of identifiers. The recruitment of members as active collaborators in basic research activities, working side by side with project staff in addition to providing administrative oversight, is an innovative achievement in participatory research. The overall design and success of the data management is credited to the Project Administrator, Charles Rodican, who was himself a member of Fountain House for eight years. Mr. Rodican's recognition of consumer abilities and expertise has increased opportunities for members of Fountain House to make meaningful contributions to the field of mental health services research.

The MA EIDP is also unique in its inclusion of consumers with serious mental illness in the management and administrative aspects of the research. Three of the 6 full-time EIDP research staff had current diagnoses of serious mental illness. Because the MA EIDP site data has met all the deadlines and quality assurance requirements of the Coordinating Center for the course of the project, this aspect of the project has demonstrated that mental health consumer research participation can enhance the quality and integrity of even a large-scale, federally funded research project.

3. *Unique Design of the Research Study*
The Massachusetts EIDP was the only site within the collaborative agreement designed to evaluate the effectiveness of delivering vocational services in the context of mental health services. Both the PACT and the Clubhouse experimental interventions are well-defined multi-service programs in which every staff person operates as a vocational service generalist, providing vocational services in tandem with more specialized mental health services. This staff-level integration of mental health and vocational services makes the MA EIDP unique among the eight EIDP sites. By contrast, the experimental vocational interventions within each of the seven other sites rely on staff specialists, whose only responsibility is the delivery of vocational services. This striking difference in how supported employment services are delivered is a distinguishing feature of the MA EIDP.

a. Project Eligibility Criteria: No Screening for Work Interest.

Unlike the other seven EIDP projects, the MA EIDP did not screen for work interest. No informational or 'induction' meetings were held for potential applicants, and no applicants were turned away because they would not be willing to look for paid work. Nor were MA EIDP applicants screened for severity of substance abuse or physical impairments that might prevent their employment. An EIDP Coordinating Center report to the Steering Committee shows that while between 98% and 100% of the research participants in the seven other EIDP projects verbally expressed an interest in obtaining work at the baseline interview, only 70% of participants in the MA EIDP reported baseline interest in finding work. Admission criteria for the MA EIDP were (a) age 18 or older, (b) a DSM-IV diagnosis of serious mental illness, (c) absence of severe mental retardation (IQ>60), and (d) being currently unemployed. The only exclusion criterion was participation in either a PACT or a Clubhouse program within the last five years.

Relation of Eligibility Issues to Model Fidelity. The primary reason that 'work interest' could not be an eligibility requirement for the MA EIDP was that neither the PACT nor the Clubhouse model could be implemented with fidelity if this procedure were followed. Both program models specify a no-exclusion policy and provide a variety of support services in addition to vocational services. Consumers typically enroll in PACT or Clubhouse programs for a variety of reasons and with a wide range of personal needs, only one of which might be employment. To screen for work interest would have created 'hot house' experimental programs that served only higher functioning, work-ready participants, --consumers that would not be representative of PACT or Clubhouse programs in general. Since PACT and Clubhouse operational philosophies rest on the integration of mental health and employment services, and because both models are designed to increase consumer interest in getting paid work, screening out all persons who lack an a priori interest in seeking paid work would defeat the basic purpose of providing integrated vocational services in a mental health setting.

The MA EIDP also offers an opportunity to test key assumptions held by the developers of the PACT and Clubhouse models. For instance, the original PACT model was designed to serve only high-need, at-risk consumers with multiple previous hospitalizations (Test & Stein, 1980). There has been a long-standing assumption, and substantial research evidence, that PACT is most effective for this portion of the population of persons with serious mental illness (Latimer, 1999). However, this preposition has not been empirically tested. By recruiting a heterogeneous sample of persons with serious illness from the Worcester area community, we will be able to test this and other intervention-specific hypotheses.

Importance of a Heterogeneous and Representative Sample to External Validity. It is important that our study findings have wide generalizability to typical PACT and Clubhouse programs. Both PACT and ICCD Clubhouses typically serve heterogeneous groups of people with serious mental illness, inclusive of consumers whose functioning or severe symptoms would ordinarily exclude them from programs that specialize in providing employment services. For this reason, the study sample was recruited from the entire Worcester, MA area community, and applications were received in response to media advertising, word-of-mouth networking within consumer and family member (AMI) communities, and formal presentations to staff in a wide variety of mental health, homeless, and substance abuse treatment agencies. Over 150 different local agencies were directly contacted, and the resulting study sample varied substantially in regard to both intensity and source of previous service experience. Flyers announcing the MA EIDP underscored the information that interest in working was not required for study entry and that no participant would be pressured to take a job. Project announcements also reassured potential applicants that a variety of mental health services would be available from either experimental condition, and that receipt of mental health, housing, education, or substance abuse services would never be made contingent on the acceptance of vocational supports.

b. Research Design: A Comparison of Two Experimental Interventions without a Control Condition

State of the Field: From Efficacy to Effectiveness As stated clearly in the RFA of the EIDP, and in numerous subsequent publications, supported employment has been found to be superior to a variety of other types of vocational rehabilitation options. The general superiority of supported employment to a wide variety of 'services as usual' conditions, state vocational rehabilitation programs, and psychosocial rehabilitation programs lacking a strong vocational orientation has been established through a series of published randomized controlled studies. There is general consensus that supported employment (SE) is an 'evidence-based practice' (Bond et al., 2001).

Because the efficacy of supported employment is now well-established, it is time to move from very basic comparison of SE versus no or minimal SE to more informative comparisons of two or more different modalities of SE service delivery. The major research questions now facing the field of vocational rehabilitation are: 1) How is SE best delivered? 2) What types of consumers most benefit from SE? 3) For whom and through which service modalities is SE most cost effective? To answer these questions, it is essential to establish benchmarks for acceptable vocational program performance and to identify the pro's and con's of different methods of service delivery under a variety of circumstances, e.g., differing geographical locations and caseloads with differing demographics. The EIDP offers just such a diversity in settings and operational differences and, hence, is an ideal laboratory for effectiveness research.

Policy-Focus: Comparison of Different Ways of Delivering the Same Services The MA EIDP itself was designed to be both an efficacy evaluation and an effectiveness evaluation, and in the latter capacity offers a unique comparison of two widely replicated models of vocationally integrated supported employment. Both PACT and the ICCD Clubhouse model offer the same high quality SE services as stand-alone supported employment programs, and both rely on generalist staff to provide these SE services in tandem with other types of community supports. For this reason, an experimental comparison of PACT and Clubhouse provides a conceptually sophisticated research design in which types of vocational service and methods of integrating vocational services into mental health services are held constant, while the context of service delivery (e.g., types of other services provided and the nature of staff-client relations) vary greatly. The training and responsibilities of staff, as well as the variety of additional services provided, are unique within each intervention, and these critical differences in *how*

vocational services are delivered are intended to provide insight into what circumstances, and for whom, each type of intervention is optimal.

Non-Experimental Comparison Available to the MA EIDP The value of a comparison group for the MA EIDP is two-fold: First, it provides a benchmark of minimal expectations for performance, --so that the bar for 'effectiveness' is raised from any improvement to a minimal rate of improvement above what would be expected even without participation in the experimental intervention. Second, a comparison group provides a check on whether observed study outcomes could have resulted from concurrent causes other than the experimental intervention, including participant maturation or changes in local economic conditions. For both these considerations it is critical to have some external, concurrent comparison group against whose outcomes the uniqueness of experimental outcomes can be verified.

At the time of application to SAMHSA, there was a consensus among MA EIDP project staff and lead co-investigators that there would be two experimental conditions (with approximately 90 participants each) and no control condition. This decision was based on the need to recruit sufficiently large samples for the two experimental programs to allow the conduct of analyses with sufficient statistical power to detect demographic and diagnostic differences related to study outcomes. Given the population of Worcester, MA, it was deemed improbable that a sample larger than 180 could be recruited in time for 24-month point of service outcomes to be available for every participant before completion of the EIDP. However, the absence of a randomized control group was ameliorated by the availability of equivalent comparison groups from other local area agencies serving the same Worcester population of persons with serious mental illness. One large vocational program in particular has been identified as an optimal 'supported employment as usual' condition and an agreement has been made for this program to provide essential consumer demographic, diagnostic, employment and service records for the same time period to allow a three-way comparison with the PACT and Clubhouse programs. If caseload equivalence can be established, this comparison condition can provide the needed checks on the uniqueness of experimental study outcomes, as well as 'benchmark' what performance would be expected of a similar size vocational agency in this particular geographic area of Massachusetts.

4. *Site-Specific Research Measures*.

Measures Administered Within the Common Interview Protocol (Appendix A)

Star Social Network Scale. Because the common protocol interview package designed by the Steering Committee did not include a measure of participant social support, the MA EIDP adopted its own instrument. The Social Network Inventory used in the present study (Macias, Wang & Harding, 1995) was an adaptation of the Star Social Network Scale (Harding, Consalvo, Landerl, Mikkelsen, & Strauss, 1985) used in the Yale University longitudinal study of schizophrenia (Harding, Brooks, Ashikaga, Strauss, & Breier, 1987). The Social Network Inventory measures the density of (ego) social networks, types of relationships, and frequency of contact, in addition to a variety of other measures reflective of the quality of interpersonal relationships (e.g., reciprocity, negativity, and level of confidential disclosure). Instrument psychometrics will be established over the next few years using the MA EIDP dataset.

Program Evaluation Index: A Measure of Participatory Empowerment. This program evaluation instrument was designed by Cathaleene Macias in 1989 when she was at the University of Utah. Although this instrument has been used in a variety of smaller research studies, its psychometric properties have not yet been established.

Symptom Evaluation Adjective Checklist (SEA). This consumer self-report instrument was designed by Cathaleene Macias and Charles Rodican in 1994 as a method for tracking changes in Clubhouse member symptomatology on a weekly or monthly basis. Because the instrument is easily and quickly administered, it was included in the MA EIDP participant interviews on an exploratory basis to see how it would compare to trained interviewer assessments of symptomatology via the PANSS.

Data Collection Outside the EIDP Common Protocol Funded by Auxiliary Sources.

In addition to the incorporation of the above measures in the EIDP common protocol interview package, the MA EIDP obtained auxiliary funding from the van Ameringen Foundation to conduct *family member interviews* at six month intervals and funding from the Rhodebeck Charitable Trust to proceed with the collection of *cost data* from state DMH databases, Medicaid, and local area service providers.

E *Experimental Interventions*.

The Two Experimental Interventions.

The PACT and Clubhouse models of psychiatric rehabilitation are both multi-service programs in which all program staff provide vocational services in tandem with mental health services. In this sense, both PACT and Clubhouse are vocationally integrated at an intense level, with each staff person carrying bottom-line responsibility for providing both vocational and mental health services to all consumers in his or her caseload. Staff who have training in vocational rehabilitation offer continuous consultation to all other staff and often serve as liaisons with employers during job development, but even these vocational service specialists operate as generalists, providing both vocational and mental health services in the same way as other staff who have specialized training, e.g., in substance abuse or medication management. All client-staff relationships and reporting procedures (e.g., client conferences, progress reports, and one-on-one counseling) encompass both vocational and mental health goals, in addition to any other personal goals related to services offered by the program, e.g., supported education or housing.

By definition, both PACT and ICCD Clubhouse offer high quality supported employment services (such as rapid job searches, job development for individuals, on-job-site training, and follow-along supports) with a goal of competitive employment. This overall similarity in regard to type of vocational services and method of vocational service delivery provides an opportunity to evaluate the relative effectiveness of each service model as a vehicle for supported employment in general. The strong differences between experimental interventions in regard to other operational and philosophical characteristics provide a rich context in which to theorize about the efficacy of providing supported employment in conjunction with specific types of other services to specific types of clients under particular circumstances.

The following descriptions of the PACT and Clubhouse models provide a brief overview of program characteristics. Site visits by model experts were made on annual basis to confirm the fidelity of each program to model standards, and these findings were routinely reported to the EIDP Coordinating Center.

The PACT model. The Program of Assertive Community Treatment (Stein & Test, 1980; Test & Stein, 1980; Test, Knoedler, Allness, Burke, Kameshima, & Rounds, 1997) is an intensive mobile treatment team providing a full range of direct clinical and rehabilitation services in consumers' homes or in other locations within the community. Key full-time personnel on a PACT team include generalist staff trained as registered nurses, clinical psychologists, case managers, substance abuse specialists, occupational therapists, and vocational specialists, in addition to one or more part-time psychiatrists (Russert & Frey, 1991). The PACT at Community Healthlink, Inc., in Worcester, Massachusetts, was

created by Leonard Stein, M.D. and Jana Frey, Ph.D. of Madison, Wisconsin. Together with Dr. Mary Ann Test, Leonard Stein shaped the original PACT program in Madison 20 years ago. Dr. Frey integrated supported employment into PACT in the 1980's and, as director of the original PACT at Mendota Mental Health Institute in Madison, provides national training in the vocationally-integrated version of PACT.

Operational and organizational fidelity of the Worcester PACT to the vocationally integrated PACT model was verified on an annual basis through site visits by Dr. Stein, Dr. Frey, and Dr. Gary Bond during the project's start-up phase, and by Dr. Frey on an annual basis thereafter. Both the Dartmouth Assertive Community Treatment Scale (DACTS; Teague, Bond, & Drake, 1998) and the PACT Fidelity Assessment Tool (Frey, 1995) were used along with written reports to provide diagnostic assessments of fidelity to the original PACT model. The overall fidelity score assigned by Dr. Bond to the PACT program in Worcester during its first year of operation (October 1996) was 4.4 out of a possible 5.0 mean score. This score was superior to the average scores reported for PACT programs in Illinois (M = 3.8) and a sample of East Coast PACT teams (M = 4.1). Fidelity ratings were as high or higher on subsequent site visits. In 1999, Dr. Bond also verified that the Worcester PACT team was delivering supported employment services of the same quality as those provided by other models of supported employment (e.g., choice in jobs, rapid job search, assertive outreach, follow-along supports), even though the team did not operate in the same way as programs that specialize in employment services (e.g., vocationally trained staff did not function as a vocational unit distinct from other PACT staff, vocationally trained staff provided substantial non-vocational support services, other PACT staff provided employment supports, and the program did not screen for work interest). Instruments used in the conduct of the PACT fidelity assessments can be found in Appendix B.

The ICCD Clubhouse model. The Clubhouse model (Anderson, 1998; Beard, 1987) is a facility-based intervention designed to offer persons with serious mental illness membership in a mutually supportive and empowering community. A defining aspect of the Clubhouse model is the Work-Ordered Day (Beard et al., 1982), in which members and staff work side-by-side in a 9-to-5 work setting to perform voluntary work essential to the Clubhouse. On weekends, evenings, and holidays, the same members and staff plan and participate in social activities together. All certified Clubhouses provide comprehensive case management by trained staff and an array of other community support services, including supported education, supported housing, mobile outreach, medication oversight, and supported employment, all of which are designed to integrate members into the wider community outside the Clubhouse. Regardless of how or how often a member chooses to use a Clubhouse, all ICCD Clubhouses remain a lifetime source of practical support and companionship (Macias & Rodican, 1997).

The Clubhouse program in Worcester, Massachusetts, Genesis Club, Inc., has been continuously certified by the International Center for Clubhouse Development (ICCD) as having full fidelity to the Clubhouse model, confirming that it operates in compliance with the International Standards for Clubhouse Programs (Propst, 1982; Appendix B). ICCD certification has been demonstrated to be an empirically valid method for documenting minimally acceptable program adherence to Clubhouse model standards (Macias, Jackson, Wang, & Schroeder, 1999; Macias, Harding, Alden, Geertsen, & Barreira, 1999). Genesis Club is also representative of certified Clubhouses in general, with operational characteristics and employment outcomes close to the averages established by the ICCD Benchmarks for Clubhouse Programs (Macias, Barreira, Alden & Boyd, 2001). Like most other ICCD certified clubhouses, Genesis Club offers a variety of auxiliary services designed to facilitate community integration, including supported apartments and a mobile outreach team.

Vocational Service Training. PACT team leader and key team staff attended a series of one-week *in vivo* trainings conducted by Leonard Stein, MD and Jana Frey, Ph.D. in Madison, Wisconsin. Dr. Stein and Dr. Frey also both provided *in vivo* training on-site in Worcester, as well as continuous telephone consultation. Dr. Stein carried primary responsibility for the start-up phase, and Dr. Frey continued this training in addition to providing more in-depth training in how to integrate vocational

supports into clinical services. In keeping the ICCD Standards for Clubhouse Programs, Genesis Club staff and member teams were sent to supported employment training programs conducted by a variety of different ICCD certified training bases in the United States, Canada and Europe. This Clubhouse model employment training was periodic but continuous throughout the study period.

To ensure that PACT and Clubhouse had equivalent staff skills and knowledge for providing supported employment services, generic SE training was provided simultaneously to both interventions at the outset of the project. Robert Gervey, PsyD and Joe Marrone, Ph.D provided two joint 3-day sessions.

F *Project Collaborations*.

Research Staff at Fountain House, Inc. in New York City
Cathaleene Macias, Ph.D., Principal Investigator, and *Charles Rodican*, Project Administrator, have carried primary responsibility for all MA EIDP activities. As a mental health consumer, Charles Rodican also participated fully in the conference calls held by the EIDP Consumer Assembly (headed by Carolyn Kaufman, Ph.D.) in the fourth year of the collaborative project. Key research staff at Fountain House who carried substantial responsibility for data collection and management include *Qi Wang, Andrew Schonebaum, Robert Young,* and *Maria Baines,* as well as Massachusetts interviewers *Debra Giza, Julia Vera, and Kathy Smith*. All data management and administrative activities were within Fountain House, Inc., a large and very old direct service mental health agency serving people with serious mental illness within the Clinton area ('Hell's Kitchen') in Manhattan. Thanks is extended to the members (consumers) and staff of Fountain House for their continuous practical support of the project, including data entry, filing, clerical supports, and conference presentations. The *Fountain House Research Unit* served as the MA EIDP main office and operational center for the entire five years of the project.

Massachusetts Department of Mental Health. The MA EIDP was conceived and designed through close collaboration with *Paul Barreira*, M.D., Chief of Community Clinical Services at McLean Hospital, Harvard University, who was then Deputy Commissioner of Mental Health for the Massachusetts DMH. Throughout the project, the MA DMH played a strong role in ensuring that both experimental interventions had comparable and sufficient resources, and that the project itself ran smoothly. The project would also not have been possible without the continuous support and endorsement of *Marylou Sudders*, Commissioner of Mental Health for Massachusetts, who in 1999 presented the Commissioner's Award for Distinguished Research in Mental Health to the MA EIDP.

Worcester Area Department of Mental Health.
Gerald Kokernak, deputy area director for the Massachusetts Department of Mental Health, has been a strong collaborator on the MA EIDP since its conception in 1995. Together with current area director *Elaine Hill*, Mr. Kokernak has worked continuously to ensure the success of the MA EIDP and to broaden its scope to ensure applicability of study findings for mental health policy.

University of Massachusetts Medical School, Department of Psychiatry. A project research office was set up within the Medical School's Center for Mental Health Services Research, located on the eighth floor of the state hospital in Worcester. The office space, furnishings, phone system, and xeroxing were an in-kind contribution of the Department of Psychiatry to the MA EIDP project. Interview space was also made available to the research staff on an as-needed basis to supplement the interviewing locations arranged within local service agencies around the Worcester community. Thanks are extended to *William Fisher, Ph.D*. and *Charles Lidz, Ph.D*., past and current directors of the research center, who arranged for these accommodations and worked with the MA EIDP to ensure project success.

MA EIDP Advisory Council. Chaired by *Paul Barriera*, MD, the members of the advisory council oversaw all aspects of the project, from participant recruitment to the selection of data collection instruments and interpretation of study findings. Members of the council included *Gerald Kokernak* and *Elaine Hill*, associate director and director of the Worcester Area DMH during the project period; *Kenneth Hetzler*, MD and *Debra Ekstrom*, past and present CEO's of Community Healthlink, Inc. in Worcester; NAMI representatives *Mary Query, Dorothy LaPointe, Grace LaPearl*, and *Ann Healy*;

representatives of the consumer advocacy group M-Power *Paul DeNubila, Patricia Colonna*, and *Ellen McGrail*; and the directors and lead staff of the two experimental programs, *Kevin Bradley*, MSW, director of Genesis Club, Inc., *Colleen McKay*, MA, Genesis Club project coordinator, *Allison Negron*, MSW, PACT team leader, and *Jeffrey Stovall*, MD, PACT clinical director.

Key Research Co-Investigators. Researchers who have provided substantial consultation and guidance for project activities over the past five years include *Leonard Stein, MD.*, of Madison, Wisconsin, *Jana Frey, Ph.D.,* Director of PACT, Inc. at Mendota Mental Health Institute in Madison, *William Hargreaves*, Ph.D., professor at the University of California at San Francisco, Department of Psychiatry, and *Courtenay Harding, Ph.D.,* Director of the Institute for the Study of Human Resilience at Sargent College, Boston University.

Consultation from other established researchers with specialized expertise was obtained through a reliance on funding from the van Ameringen Foundation and a grant from Nicholas and Llewellyn Nicholas: Intensive consultation in the design of a cost analysis and data retrieval plan has been provided by *William Hargreaves, Ph.D.* of the University of California at San Francisco; *Tei-Wei Hu, Ph.D.* of the Berkeley School of Economics; and *Martha Shumway, Ph.D*. of UCSF Medical School; and *William Fisher, Ph.D,,* professor at the University of Massachusetts Medical School, has designed an analysis of the impact of the two MA EIDP experimental programs on consumer arrests and use of forensic services.

II *Results*

A. *Enrollment*

1. *Sample Recruitment Procedures*

The EIDP sample was recruited from within and around the city of Worcester, Massachusetts. A strong effort was made to recruit participants from diverse sources in order to obtain a heterogeneous and representative sample of people with serious mental illness. The recruitment plan was designed by the project's Advisory Council, composed primarily of representatives from the National Alliance for the Mentally Ill (NAMI), consumer advocacy groups, the regional Department of Mental Health, and experimental intervention service providers. Referral sources for the project included families, advocacy organizations, mental health programs, the department of mental health, treatment and correctional facilities, and homeless shelters, as well as self-referrals by individuals in response to flyers, newspaper announcements, and radio advertising. Key project personnel and members of the Advisory Council made repeated presentations to promote the project at AMI meetings, consumer forums, local area agencies, and homeless shelters using scripts and printed hand-outs prepared by the project director.

All inquiries about the MA EIDP from potential applicants or referral sources were also handled in a standardized way, i.e., prepared answers to common questions and a written project description. If a formal application were made, the interviewer met with the applicant to answer questions and obtain signed releases for the request of clinical records from current or recent service providers to verify applicant eligibility. If the subsequent review of records confirmed eligibility, the interviewer then met again with the applicant to offer project admission and to have him or her sign an informed consent. If the applicant agreed to participate in the MA EIDP, a baseline interview was then immediately conducted. At the end of the interview, the participant was randomly assigned to receive either PACT or Clubhouse services through the blind drawing of a slip of paper. Once formally assigned in this manner to either experimental condition, the participant was told that he or she would be contacted soon by program staff. The assigned program was then given contact information for the new enrollee. Clinical records retrieved by the project were kept in a locked filing cabinet and were never shared with the experimental interventions. Each intervention had its own separate procedures for requesting clinical records.

In order to ensure the availability of research participants, enrollment in both experimental programs was restricted to MA EIDP participants during the recruitment phase of the project. Because the MA EIDP was the only way of getting into PACT or Clubhouse, a few participants applied to the project

with the intent of dropping out if they were not assigned to their preferred program. This became apparent when several applicants declined participation in MA EIDP services immediately following random assignment. In these instances, he or she was encouraged to give the assigned program a chance and was still considered active in the project; the assigned experimental program was notified of the admission without further comment. At least two other participants later admitted to interviewers they had enrolled in the MA EIDP just to get out of jail or a treatment facility with no intent of ever participating in any program services. For this reason, a number of participants remained active in the research project for the entire 24-month period but never had direct contact with their assigned intervention. In other cases, participants were hospitalized at baseline with the expectation of discharge within six months but never returned to community living. These hospital patients also remained active research participants.

2. *Rates of Enrollment and Rates of Participation in Follow-up Interviews*

Project enrollment began on February 22, 1996 and ended on May 20, 1998. A total of 177 participants were enrolled in the project and randomized to either PACT or Clubhouse experimental conditions. The sample was completed on schedule in the spring of 1998 within three participants of the original target sample size of 180. The rate of enrollment (4 to 6 participants per intervention per month) was determined by co-investigator Leonard Stein, MD, in keeping with PACT model standards.

One of the original 177 participants later withdrew from the project and formally requested that her data not be used by the EIDP for any purpose. We therefore deleted all data for this participant and requested that the Coordinating Center do likewise. A second participant was identified as a ‘crossover’ who received services from both PACT and Clubhouse, and who, although randomly assigned to PACT, enrolled in Genesis Club and successfully worked several jobs provided by this Clubhouse intervention before the duplication of services was discovered. At the Coordinating Center’s request, we deleted this participant from our sample. A total of 175 participants remain in the study sample.

As Table 1 shows, approximately three-quarters of the sample were interviewed at each follow-up point. Participants assigned to PACT had consistently higher interview response rates. The overall rate of participation in the follow-up interviews (percent of participants completing any interview after the baseline) was 90% for Clubhouse and 94% for PACT, -- 92% for the sample as a whole. Included in these interviews are participants who had never enrolled in their assigned experimental service, those who had withdrawn from their assigned service during the first six months of participation, and those who were hospitalized at baseline and never discharged. Participants who moved out of state were interviewed by telephone using the EIDP common interview protocol without the PANSS.

Table 1. Interview Rates

Program	Baseline (n)	6th Month (n)	12th Month (n)	18th Month (n)	24th Month (n)
Clubhouse	100% (89)	70% (62)	69% (61)	70% (62)	73% (65)
PACT	100% (86)	83% (71)	86% (74)	90% (77)	83% (71)
Total	100% (175)	76% (133)	77% (135)	79% (139)	78% (136)

Data for the entire 24 month follow-up period were available for 78% of the sample via participant interviews and 90% via staff reports. Employment status and job information could be confirmed for 174 of the 175 participants; one participant was lost to follow-up (i.e., unable to be contacted after the six month point of service). For purposes of these analyses, this individual was coded as unemployed.

B. *Baseline Descriptive Statistics*

Demographics and Clinical Characteristics.

The MA EIDP sample at baseline was similar to general population descriptions of people with serious mental illness. Ethnic minority representation, primarily Hispanic and African-American, was representative of the Worcester community in general. As Table 2 shows, PACT and Clubhouse conditions were very similar in regard to demographics and receipt of social security benefits. Age range for the study sample was from 18 to 75, with approximately one-fourth of the sample over age 45 and one-fourth under age 30. The Clubhouse condition did have almost twice the number of participants over age 50 at baseline (15 vs. 7), with three Clubhouse participants being over age 60. However, this age difference did not reach statistical significance.

Table 2. Sample Baseline Demographics & Entitlement Status

Program (n)	Male Gender	Minority Ethnicity	High School Graduate	Age in Years Mean (SD)	SSI/SSDI Income
Clubhouse (89)	49% (44)	19% (17)	67% (60)	38.99 (11.22)	66% (59)
PACT (86)	61% (52)	22% (19)	62% (53)	37.08 (8.96)	71% (61)
Total (175)	55% (96)	21% (36)	65% (113)	38.05 (10.19)	69% (120)

Table 3 shows that PACT had significantly more participants with schizophrenia spectrum disorder diagnoses, while Clubhouse had more participants with diagnoses of an affective disorder, i.e., major depression or bipolar disorder, Chi Square (N = 175) = 4.86, $p < .05$. However, the two groups were similar at baseline in regard to PANSS-identified delusions and hallucinations (presence vs. absence), as well as self-reported psychiatric medication, i.e., yes vs. no/don't know & total number prescribed.

Table 3. Sample Baseline Psychiatric Characteristics

Program (n)	Schizophrenia Spectrum	PANSS Delusions	PANSS Hallucinations	Psychiatric Medication	Total Meds Mean (SD)
Clubhouse (89)	44% (39)	66% (59)	70% (62)	98% (87)	2.77 (1.11)
PACT (86)	61% (52)	65% (56)	77% (66)	95% (82)	2.68 (1.47)
Total (175)	52% (91)	66% (115)	73% (128)	97% (169)	2.73 (1.29)

Work Motivation and Work History.

The MA EIDP was advertised as an employment project, but all flyers, project presentations, and communications with referring agencies made it clear that no participant would be required to take a job or accept vocational services, and that a variety of community support services would be offered by both PACT and Genesis Club in addition to standard supported employment services. As a result of how the project was promoted, as well as the fact that the only way to enroll in either PACT or Clubhouse was through enrollment in the MA EIDP, many participants entered the project for reasons other than a desire for paid work. In fact, 30% of the total sample said they did not want to go to work or were unsure about whether they wanted to work when they entered the project. Within PACT, 26% of the sample lacked interest in obtaining paid work; within the Clubhouse condition, the figure was 35%.

Less than one-fourth of the total sample had worked in the year preceding the baseline interview. About 40% of the participants in each condition reported being unable to work and about 40% had not worked during the five years before study entry. Overall, only about a third of the total sample (33.7%) described themselves as both currently able to work and as having worked for pay at any time during the previous five years. Only 3% of the study participants (3 PACT, 2 Clubhouse) reported being in state vocational rehabilitation ('MassRehab') at the time of enrollment. There were no statistically significant baseline differences between conditions on any work history variables.

Table 4. Sample Baseline Work History & Work Motivation

Program (n)	Work Interest (Self-Report)	Able to Work (Self-Report)	Worked in Past 5 Years	Worked in Past Year
Clubhouse (89)	65% (58)	57% (51)	62% (55)	19% (17)
PACT (86)	74% (64)	56% (48)	59% (50)	26% (22)
Total (175)	70% (122)	57% (99)	60% (105)	22% (39)

<u>Research Sample for Hypothesis Testing</u>.

The sample used in the section on 'Research Hypotheses' includes every person randomized to either PACT or Clubhouse, exclusive of only the employed 'crossover' participant removed by the EIDP Coordinating Center and the participant who refused to allow use of her data (N = 175). This Intent-to-Treat evaluation provides a very stringent test of service effectiveness because the sample includes all persons who left the study for any reason before their 24-month point of service date, as well as persons whose physical or mental impairments, or personal responsibilities (e.g., care of an elderly parent or birth of a child), prevented their obtaining paid work. The results presented in sections II. C and II. D. are based on a sample that includes participants who:

- Refused services immediately following randomization, prior to any service contact
- Became inactive in either experimental program during the follow-up period
- Died during the follow-up period
- Went to prison for an extended period during the follow-up period
- Moved out of state early in the follow-up period
- Had physical impairments that made it impossible to seek competitive work
- Were hospitalized at the time of study entry and never discharged

C. <u>Key Outcomes: Research Hypotheses</u>

Ten research hypotheses were listed in the project proposal submitted to SAMHSA in January 1995. These hypotheses stemmed from a basic assumption that both PACT and Clubhouse interventions would be effective in providing supported employment services, but that each program would be differentially effective in particular areas of consumer recovery and vocational rehabilitation. It was hypothesized that PACT would be superior in regard to those outcomes most heavily influenced by *in vivo* monitoring and one-on-one professional services. On the other hand, it was expected that the Clubhouse intervention would be superior in regard to those outcomes related to Clubhouse leverage in negotiations with employers and participant membership in an empowering community.

1. <u>Definition of Work</u>. All employment addressed by the MA EIDP study hypotheses refers to competitive work as defined by the federal government (Department of Labor, 1998; Workforce Investment Act, 1998), i.e., jobs paying at least minimum wage located in integrated, mainstream settings.

Eliminated from the analyses were several types of jobs tracked by the MA EIDP and reported to the EIDP Coordinating Center: (1) all sub-minimum wage jobs, e.g., in-hospital jobs worked while a patient; (2) all enclave or sheltered jobs, including jobs deemed 'sheltered' because the program itself was the employer (e.g., consumer aide jobs), and (3) jobs meant to be worked only a day at a time. The latter types of jobs were all above minimum wage and located in mainstream settings, but they were either jobs reserved for consumers who wanted to try-out real work on a spontaneous one-day-at-a-time basis or else were instances of absence coverage where the participant helped a fellow consumer keep a regular job.

Retained for analyses were all types of competitive employment, including regular jobs not set aside for consumers, jobs developed specifically for individual consumers by program staff, jobs set aside by employers for any mental health consumer, jobs set aside by employers for consumers in one of the experimental programs, and jobs obtained through personnel temp agencies in the community. Each of the experimental conditions had jobs that fell into each of these categories. PACT was unique in its stronger reliance on temp agency jobs, while the Clubhouse was unique its offering of Transitional Employment as defined by the ICCD Standards for Clubhouse Programs (Propst, 1992; Appendix B).

Recently, a few vocational researchers (e.g., Bond et al., 2001; Crowther, Marshall, Bond, & Huxley, 2001) have questioned the categorization of Clubhouse Transitional Employment as competitive work. TE has specific characteristics that may appear to make it less competitive than other types of supported employment, e.g., time-limitations, being set aside, employee selection and on-site training by Clubhouse staff. However, none of these characteristics are unique to TE, and TE jobs, by definition, share the basic characteristics of most other supported employment jobs: mainstream, integrated locations; at least minimum wage pay directly from the employer; employer and employee (not program staff) responsibility for determining job length and job terminations; and program advocacy in employer-employee negotiations. On the other hand, employment in TE does not require participation in other Clubhouse activities, does not require training other than on-job-site with full pay, and is not limited to menial work positions. Findings of the MA EIDP demonstrate that TE jobs provided by a certified Clubhouse require more sophisticated work skills than most non-TE jobs, both within the MA EIDP and in comparison to job descriptions in the few published research studies that contain this information (e.g., Drake et al., 1999; Chandler, Levin & Barry, 1999). In Table 5, 'manual labor' is inclusive of jobs such truck loading, dishwashing, janitorial work; 'skilled labor' includes jobs such as van driving, child care, or fast-food preparation; and 'white collar' refers to jobs that require skills in dealing with the public and/or technical/professional training, such as retail sales, secretarial work, or teaching. As can be seen, TE jobs were no more likely to be manual labor jobs than jobs worked by PACT participants, and were just as likely as Clubhouse non-TE jobs to be 'white collar' retail, clerical, or professional positions.

Table 5. Types of Competitive Jobs Worked by Participants in the MA EIDP

Type of Job (n)	Manual Labor	Skilled Labor	White Collar
Club TE (21)	43% (9)	14% (3)	43% (9)
Club non-TE (54)	20% (11)	37% (20)	43% (23)
PACT (106)	45% (48)	23% (24)	32% (34)
Totals (181)	37% (68)	26% (47)	37% (66)

Likewise, as Table 6 shows, TE jobs provided by a certified Clubhouse program, like Genesis Club in Worcester, last as long and pay similarly high wages as other types of supported employment. Genesis Club TE jobs do average fewer hours per week, but this lower mean score is due to the definition of TE as part-time jobs typically requiring 10-20 hours of work per week. Unlike other types of supported employment, no TE jobs are full-time.

Table 6. Mean Characteristics of Competitive Jobs Worked by Participants in the MA EIDP

Job Type (n)	Wage per Hour	Weekly Job Hours	Weeks Worked	Total Hours Worked	Job Earnings
Club TE (21)	$6.88	12.3	19.1	283	$2012.
Club non-TE (54)	$7.48	20.8	22.3	491	$4037.
PACT (106)	$6.24	20.8	11.8	264	$1754.
Total (181)	$6.69	19.8	15.8	334	$2465.

The MA EIDP outcomes demonstrate empirically that Transitional Employment jobs, when provided in accordance with the ICCD Standards for Clubhouse Programs, are either equivalent or superior to non-TE forms of supported employment in every regard except number of hours worked per week. These findings confirm that criticisms of TE based on the assumption that TE jobs are inferior in regard to quality, duration, or earning potential have no empirical foundation and that federal definitions of 'supported employment' and 'competitive employment' that include TE have a firm basis in reality.

2. *Limitations of the Analyses*.

Limits to Hypothesis Testing.

Two of the above hypotheses (# 2 and # 4) cannot be tested with the available study data. The RFA required that the proposal be written with an awareness that the research design and all data collection procedures would be subject to revision by the joint EIDP Steering Committee. The proposal was reviewed on its own merits, but each collaborative project was required to adhere not to its proposed procedures, but rather to decisions rendered by majority vote of the Steering Committee. Because no workplace measures were included into the common protocol developed by the Steering Committee, on-the-job symptomatology and on-the-job work performance cannot be evaluated.

Limits of Analytic Strategies.

This final report of 24 month point-of-service findings follows a report format stipulated by SAMHSA and is limited to univariate, descriptive analyses addressing the specific study hypotheses listed in the original 1995 project proposal. These univariate findings should provide a basic framework for generating more complex hypotheses regarding specificity and causality. Multivariate analyses drawing on multiple data sources (e.g., interview, clinical, service logs) will be conducted over the course of the next two years as time and resources allow. It is important that these first univariate findings be considered tentative in so far as any finding could be later found to be contingent upon the timing of intervention services, level of participation in the intervention, or the characteristics of participants being served. However, the measures and types of analyses reported here are comparable to results reported in most published research studies of supported employment effectiveness for people with serious mental illness.

3. Hypothesis Testing Procedures and Findings.

Hypothesis 1: PACT will have greater participant retention over the course of the project.

Hypothesis 1 was tested through a comparison of rates of direct service provision. Table 7 presents the percentages and numbers of participants who received any direct services during each of four point-of-service periods. These intent-to-treat rates reflect both service engagement and retention because they include all randomized participants regardless of whether they actually enrolled in PACT or Clubhouse and regardless of availability for services. PACT served a higher proportion of its assigned participants during all four study intervals, and had retained more participants by the last six months of the project, Chi Square (N = 175) = 9.99, $p < .01$. These findings provide clear empirical support for Hypothesis 1.

Table 7. Participants Receiving Any Direct Service Contact as Ratio of Total Participants

Program (n)	First 6 Months	6 – 12 Months	12 – 18 Months	18 – 24 Months
Clubhouse (89)	92% (82)	82% (73)	63% (56)	60% (53)
PACT (86)	99% (85)	90% (77)	83% (71)	81% (70)

Hypothesis 2: PACT participants will have lower symptomatology in the workplace.

Hypothesis 2 could not be tested (See limitations, above)

Hypothesis 3: More PACT participants will attain competitive work

PACT had more participants who began competitive jobs during the 24 month study period: PACT = 57.0% (n = 49) versus Clubhouse = 48.3% (n = 43). However, this 8.7% difference is not statistically significant, Chi Square (N = 175) = 1.32, p = .25), and overall job placement rates for the two interventions do not differ significantly at the 6, 12, or 18 month points of service. To allow MA EIDP employment rates to be compared later to the rates of other EIDP projects that screened study applicants for work interest, we also calculated employment rates for only those participants who had expressed an interest in obtaining paid work at the time of study entry. The 24 month competitive employment rates for work-interest participants (Table 8) were 64% (n = 41) for PACT and 59% (n = 34) for Clubhouse, Chi Square (N=122), = .38, p = .54. The PACT vs. Clubhouse differences for the 6, 12, and 18 month points of service for these same participants were also non-significant, but PACT's consistent lead in competitive employment rates, both for the total sample and for participants who had an initial interest in work, suggests that no conclusion be drawn until the later conduct of multivariate analyses.

Table 8. Competitive Employment Rates for Work-Interested Participants

Program (n)	Baseline	6th Month	12th Month	18th Month	24th Month
Clubhouse (58)	0% (0)	29% (17)	48% (28)	52% (30)	59% (34)
PACT (64)	0% (0)	28% (18)	56% (36)	59% (38)	64% (41)
Total (122)	0% (0)	29% (35)	53% (64)	56% (68)	62% (75)

Hypothesis 4: PACT participants will have better on-the-job performance.

Hypothesis 4 could not be tested (See limitations, above)

Hypothesis 5: PACT participants will begin competitive work sooner.

Hypothesis 5 was tested through a t-test comparison of mean days from baseline (project entry) to first competitive job for PACT and Clubhouse participants. The results of this analysis (Table 9) show nearly equivalent days between baseline and first competitive job for PACT and Clubhouse, t(90) = .73, p = .47. A Chi Square comparison revealed that 40% of the employed participants in the Clubhouse condition took their first competitive job within three months after entry into the MA EIDP, and 25% of PACT participants did so. This difference was non-significant, Chi Square (N = 92) = 2.40, p = .12. Overall, about half (47.8%) of the employed participants took their first competitive job within six months of their baseline interview (PACT = 43%; Clubhouse = 54%; Chi Square (N=92) = 1.04, p = .31. Therefore, Hypothesis 5 did not receive support from these 24-month study findings.

Table 9. Competitive Employment Outcomes: Mean (SD)
Unit of Analysis = Employed Study Participant

Program (n)	Days to First Job	Total Days of Work	Total Hours of Work	Total Earnings	Wage of Best Paying Job

Clubhouse (43)	212 (200)	257 (224)	755 (895)	$6052. (8677)	$8.08 (3.08)
PACT (49)	242 (197)	173 (158)	570 (652)	$3792. (4575)	$6.84 (1.69)
Total (92)	228 (198)	213 (195)	657 (776)	$4848. (6862)	$7.42 (2.50)

Hypothesis 6: Clubhouse participants will have longer work duration and higher earnings

The first part of Hypothesis 6, that Clubhouse participants would stay employed longer, was tested through a comparison of mean total days of competitive employment for PACT vs. Clubhouse participants. This t-test comparison was statistically significant, $t(74.4) = 2.05$, $p < .05$, indicating that Clubhouse employed participants were employed more calendar days than PACT participants over the course of their 24 months in the project. The intervention mean values for total calendar days of employment can be seen in Table 9. A closer examination of total days of work per participant (Table 10) reveals that the longer work duration within the Clubhouse condition is primarily attributable to those participants who worked a year or longer, Chi Square (2, N= 92) = 9.76, $p < .01$.

Table 10. Total Days of Work for PACT vs. Clubhouse Employed Participants

Program (n)	Less than 3 Months	3 Months to a Year	More than a Year
Clubhouse (43)	37% (16)	23% (10)	40% (17)
PACT (49)	45% (22)	43% (21)	12% (6)

Mean total hours of work and total earnings for both experimental conditions can be seen in Table 9. For both of these variables, the standard deviations exceeded the mean scores, indicating wide variability in scores. A breakdown of mean total earnings by point of service (Table 11) shows that participants in the Clubhouse condition maintained a consistently higher mean rate of earning throughout the study, but the variability of the Clubhouse earnings also increased over time relative to the PACT condition. More specifically, the Clubhouse sample had more participants with high-paying jobs that were worked for long periods of time; these 'high earners' continuously increased the Clubhouse sample mean as the MA EIDP continued but it also increased the range in earnings. Such wide variability makes parametric tests (e.g., t-tests) of statistical significance inappropriate.

Table 11. Mean Participant Earnings for PACT and Clubhouse at each Point of Service: M (SD)

Program (n)	6th Month	12th Month	18th Month	24th Month
Clubhouse (43)	$2440 (2849)	$3212 (3947)	$4582 (6083)	$6052 (8677)
PACT (49)	$1467 (1535)	$1994 (2702)	$3051 (3846)	$3792 (4575)
Total (92)	$1976 (2343)	$2579 (3390)	$3770 (5050)	$4848 (6862)

Categorizing earning scores into high, medium, and low categories allows a fairer comparison of participant total earnings for the entire 24-month period. As can be seen in Table 12, about half of the employed participants in each condition earned less than $2000 over the course of the study, while about 20% of the participants earned more than $10,000. However, the Clubhouse intervention has a higher ceiling on earnings compared to PACT. The individual with the highest earnings ($49,000) was a computer programmer who first developed his skills and made connections with employers through voluntary assistance with the practical day-to-day management of the computer LAN system at Genesis Club. The next highest earner ($20,000) was a PACT client who worked first as an aide at a public library and then as a guide in the local art museum. Clubhouse participants did actually earn more than PACT, but this difference is due to there being more Clubhouse participants in the highest earning category. There appears to be very little difference in intervention earning power within the first two

categories, but nearly twice the percentage of Clubhouse participants earned more than $10,000. For this reason, there was no overall statistical difference in PACT and Clubhouse average earnings.

Table 12. Total Personal Earnings for PACT vs. Clubhouse Employed Participants

Program (n)	Less than $2000	$2000 to $10,000	More than $10,000
Clubhouse (43)	49% (21)	28% (12)	23% (10)
PACT (49)	55% (27)	31% (15)	14% (7)

The 24 month point-of-service findings provide support for Hypothesis 6. with the qualification that higher earning by Clubhouse participants is reflected only in the fact that more of the employed Clubhouse participants had total earnings greater than $10,000.

<u>Hypothesis 7: Clubhouse participant jobs will be higher quality and pay higher wages</u>

Hypothesis 7 was tested through a t-test comparison of the hourly wage of the highest paying competitive job worked by each PACT versus Clubhouse employed participant, as well as a comparison of the average hourly wage across all competitive jobs worked by each PACT versus Clubhouse participant. As can be seen in Table 9, Clubhouse participants worked for higher wages on their best paying jobs, $t(90) = 2.44$, $p < .05$. Likewise, a comparison of average wage per hour across all weeks of work for each competitive job showed a generally higher pay rate for the Clubhouse intervention: M = $7.31 per job for Clubhouse; M = $6.25 per job for PACT; $t(99.2) = 3.31$, $p < .01$.

A Chi Square test of differences in the characteristics of all jobs worked by PACT and Clubhouse participants was also conducted to compare types of jobs across interventions. Jobs were divided into five classifications based on written job descriptions provided by the programs or the participants:

(1) manual labor (e.g., janitorial work, stocking, lawn care, dishwashing)
(2) skilled labor (e.g., mechanic, fast food preparation, caretaker of children, ill, or disabled)
(3) retail sales (e.g., cashier, salesclerk, waitress/waiter, telemarketing)
(4) clerical work (e.g., secretary, receptionist, library assistant, mailroom clerk)
(5) professional (e.g., teaching, computer work, counseling)

Table 13 presents the percentage and number of jobs that fell into each of the five categories.

Table 13. Types of Jobs Worked by MA EIDP Participants: % (n)

Program (n)	Manual Labor	Skilled Labor	Retail Sales	Clerical	Professional
Clubhouse (75)	26% (20)	31% (23)	15% (11)	17% (13)	11% (8)
PACT (106)	45% (48)	23% (24)	23% (24)	5% (6)	4% (4)
Totals (181)	37% (68)	26% (47)	19% (35)	11% (19)	7% (12)

Overall, Clubhouse jobs appear to be of higher quality than PACT jobs, with more Clubhouse jobs falling into the clerical and professional categories, and fewer falling into the manual labor category. Combining 'clerical' jobs with 'retail service' jobs (because both types of jobs require substantial social and job skills) provides four categories of work that have an ordinal ranking: manual labor, skilled labor, retail/clerical, and professional. The resulting Chi Square for the four categories of service is statistically significant at Chi Square (3, N = 181) = 8.49, $p < .05$ for the PACT vs. Clubhouse comparison.

The two experimental programs were also compared on a 1 to 4 rating of the 'best' job worked by each project participant based on the 4 job categories manual labor, skilled labor, retail/clerical, and professional. This analysis revealed that the overall PACT vs. Clubhouse difference in job quality holds even when the individual participant is the unit of analysis. Clubhouse participants obtained jobs of generally higher quality than PACT participants: Mann-Whitney $U = 762.5$, $W = 1987.5$, $Z = -2.38$, $p < .05$. Mean ranks were 53.3 (Clubhouse) and 40.6 (PACT). These findings, together with the t-test results for the PACT vs. Clubhouse wage comparisons, provide strong empirical support for Hypothesis 7.

Hypothesis 8: Clubhouse employed participants will have greater job satisfaction

Hypothesis 8 was tested through a comparison of average scores on a self-report measure of job satisfaction included in all follow-up participant interviews. (See EIDP common protocol). The instrument contained 16 positively-worded items asking about employee satisfaction with various aspects of the job being evaluated, e.g., 'your chance for promotion.' The participant responded to each item with a rating from '1' = very dissatisfied to '7' = extremely satisfied. The instrument was scored by a sum of ratings over the 16 items, with the highest possible score being 112.

Approximately two-thirds of all employed participants completed at least one job satisfaction questionnaire. A comparison of average job satisfaction scores for the 28 PACT and 33 Clubhouse participants who had complete data for at least one questionnaire suggested no overall difference in job satisfaction for PACT vs. Clubhouse, $t(59) = 1.39$, $p = .17$, $M = 82$ vs. 77, respectively. These two mean scores correspond to an average rating of '5' (moderately satisfied) for both conditions. However, the overall low response rate to the work satisfaction questionnaire makes it impossible to provide an accurate test of Hypothesis 8.

Hypothesis 9: Clubhouse employed participants' fear of work will decrease more over time

Hypothesis 9 was tested through a comparison of job placement rates for participants who did and did not express an interest in paid work at the time of study enrollment. Overall, about a third of all 'no work interest' participants did take a competitive job, and this employment rate was comparable within PACT (36%, n = 8) and Clubhouse (26%, n = 9), although the overall employment rate (32%) was nearly half that of 'work interested' participants (62%), Chi Square (N = 175) = 12.81, $p < .001$. A comparison of work outcomes for all 'work interest' and 'no work interest' employed participants reveals near equivalence in average hours worked per week (M = 22 vs. 20), total days of work (M = 217 vs. 191), total hours of work (M = 688 vs. 521), and days on longest job (M = 159 vs. 146), even though 'no work interest' participants began their first competitive jobs an average of two months later in their 24-month service period (M = 216 vs. 282 days after baseline, respectively).

These findings provide no support for Hypothesis 9, but do demonstrate the effectiveness of both PACT and Clubhouse for increasing consumer interest in competitive work and facilitating the employment of persons who would have lacked the initiative or courage to enter a specialized employment program.

Hypothesis 10: Clubhouse participants will have longer job tenure

A t-test comparison of Clubhouse and PACT calendar days per job was statistically significant, M = 148 vs. 80 days, respectively, $t(179) = 3.72$, $p < .01$. On the average, Clubhouse jobs lasted nearly twice as long as PACT jobs. A Chi Square analysis substantiates this finding in regard to categories of job tenure. As can be seen in Table 14, twice as many Clubhouse jobs compared to PACT jobs were 3 months or more in duration, Chi Square (4, N = 181) = 12.61, $p < .05$.

Table 14. Length of Jobs Worked by MA EIDP Participants: % (n)

Program	Less than 3 mo	At least 3 mo	At least 6 mo	At least 9 mo	Year or more
Clubhouse (75)	50% (37)	21% (16)	9% (7)	11% (8)	9% (7)
PACT (106)	73% (78)	11% (12)	8% (8)	5% (5)	3% (3)
Total (181)	64% (115)	15% (28)	8% (15)	7% (13)	6% (10)

This difference corresponds to the fact that PACT participants had a higher rate of job turnover, working slightly more jobs overall: PACT M = 2.16 jobs per person vs. Clubhouse M = 1.74 jobs per person, $t(71.1) = 1.54$, $p = .13$. A comparison of the longest job held by each participant in the PACT and Clubhouse conditions also revealed greater job longevity for the Clubhouse model: PACT M = 128 days vs. Clubhouse M = 190 days, $t(74.9) = 2.00$, $p < .05$. These 24 month findings of the MA EIDP provide support for Hypothesis 10.

4. *GPRA Measures: Employment Performance Rates for PACT and Clubhouse*

The MA EIDP was designed to evaluate the relative effectiveness of the PACT and Clubhouse models in helping people with serious mental illness get and keep competitive employment. While the MA EIDP tracked all employment of any kind, we reported only competitive employment jobs (i.e., jobs paying at least minimum wage located in mainstream settings) to the EIDP Coordinating Center for the first two years of the project. At the request of the EIDP Coordinating Center, we changed our reporting procedures to include any type of employment. The employment figures in Tables 15 – 17 represent all competitive employment through the 24-month point of service for each participant, in addition to all work done in sheltered settings or in jobs that paid less than minimum wage. For this reason, these figures do not match the competitive employment outcomes reported in Section 3 (Hypotheses Testing).

Table 15 indicates that one participant was working at the time of study entry (i.e., as an inpatient in the state hospital he was paid $2.50 per hour for maintenance work inside a locked ward). This individual did not report this work at the time of project admission because he did not consider it a ‘real’ job. For this same reason, he would have been considered eligible for the MA EIDP (i.e., as unemployed) if the job had been revealed during the baseline interview.

Table 15. Employment Rates

Program (n)	Baseline	6th Month	12th Month	18th Month	24th Month
Clubhouse (89)	1% (1)	32% (28)	44% (39)	48% (43)	54% (48)
PACT (86)	0% (0)	33% (28)	56% (48)	67% (58)	72% (62)
Total (175)	0% (0)	32% (56)	50% (87)	58% (101)	63% (110)

Table 16. Total Hours Worked

Program	Baseline	6th Month	12th Month	18th Month	24th Month
Clubhouse	0% (0)	7,276	15,334	23,328	33,020
PACT	0% (0)	5,918	14,099	24,531	34,363
Total	0% (0)	13,194	29,433	47,859	67,383

Table 17. Total Earnings

Program	Baseline	6th Month	12th Month	18th Month	24th Month

Clubhouse	0% (0)	$56,493	$116,708	$180,087	$262,475
PACT	0% (0)	$35,582	$ 86,416	$151,396	$211,310
Total	0% (0)	$92,075	$203,124	$331,483	$473,785

E *Cost Study*

Cost data were sent on July 16, 2000 to Dave Marcott and Virginia Wilcox-Gok, EIDP consultants; Crystal Blyler at SAMHSA; and Judith Cook and Steve Leff at the EIDP Coordinating Centers. These data included: (1) budgets for FY 98 and FY 99 for the PACT team at Community Healthlink, Inc. and Genesis Club, the ICCD Clubhouse intervention; (2) both experimental interventions' agency-wide service utilization data for (a) all enrolled clients and (b) research participants-only for these same fiscal periods; and (3) service utilization records and related charges for all clinical services provided by the local community mental health center to any Clubhouse member who participated in the study.

All service utilization data (2) was aggregated by month, quarter and year for the purpose of apportioning research participants-only budget costs for each intervention because both PACT and Clubhouse programs served additional persons not enrolled in the MA EIDP.

It is also important to note that clinical services received by Clubhouse research participants at the main community mental health center in Worcester (Community Healthlink, Inc.) are under-reported in (3) since some Clubhouse members received services from clinicians not associated with the CMHC that provided this service data. It is also important to note that none of these clinical services were provided by or at Genesis Club and therefore billed charges reported for these non-vocational services cannot be associated with the Clubhouse budgets submitted to SAMHSA. All data distributed for cross-site analyses and/or made available to the public should be explicitly labeled with these stipulations.

Following the methodology used by Dave Marcott and Virginia Wilcox-Gok in the Coordinating Center's preliminary cost analysis, the *per participant* cost findings for the Massachusetts EIDP project are as follows:

PACT

PACT vocational direct costs per person: $527 for FY 98 and $307 for FY 99
PACT total direct costs per person: $4041 for FY 98 and $4453 for FY 99

ICCD Clubhouse

Clubhouse vocational direct costs per person: $228 for FY 98 and $398 for FY 99
Clubhouse total direct costs per person: $1989 for FY 98 and $2157 for FY 99
Billed charges for clinical services at local CMHC $1459 for FY 98 and $1373 for FY 99

III Conclusions and Impact

A *Overview of MA EIDP Findings*

1. *PACT vs. Clubhouse Experimental Comparison*.

This initial report of univariate findings for the MA EIDP shows clear evidence for PACT superiority in participant retention. PACT was better able to engage and maintain contact with its assigned enrollees throughout the 24-month point-of-service follow-up period in comparison to an ICCD Clubhouse that operated a mobile outreach team. This finding replicates the results of other studies that demonstrate PACT's value for engaging and retaining clients (e.g., McHugo, Drake, Teague & Xie, 1999; Herinckx, Kinney, Clarke & Paulson, 1997). Obviously, the intensely mobile, community-based service delivery style of PACT contributes to these better rates of retention, but it may also be that embedding vocational services into clinical service delivery ensures a higher rate of routine, one-on-one participant contact with program staff. Although rates of retention for programs specializing in employment services cannot be

compared directly to the retention rates for PACT or Clubhouse without statistical controls for possible sample differences, it is likely that the 81% retention rate over a two year period that was achieved by the Worcester PACT surpasses the retention rates for most other supported employment interventions.

PACT's strong rate of participant retention may also account for its higher job placement rates. There was a clear trend toward PACT superiority in job placement, both for any type of paid employment and for competitive employment. PACT had a greater number of participants working competitive jobs even when rates were calculated separately for work-interest participants (64% vs. 59%) and participants not initially interested in getting paid work (36% vs. 29%). On the other hand, Clubhouse participants who began competitive jobs worked longer at higher rates of pay and in higher ranking occupations compared to competitively employed PACT participants. While these initial findings deserve more scrutiny and will be explored through multivariate analyses in coming months, several tentative explanations for the strong PACT employment rates and strong Clubhouse work longevity are immediately apparent and lead to further hypotheses concerning service effectiveness.

First, the philosophical and operational differences between PACT and Clubhouse suggest that PACT was more successful in placing consumers into jobs because PACT staff are generally more assertive than Clubhouse staff in their orientation toward service delivery, resulting in frequent interactions with study participants in their homes, restaurants, and a wide variety of other public locations. Moreover, the capacity for PACT to provide vocational services in tandem with not only case management and life skill development, but also concurrently with clinical services, --such as medication management, physical health check-ups, and psychotherapy,-- gives the PACT model a distinct advantage as a supported employment intervention. It is possible that PACT is not simply successful in terms of overall job placement rates, but is especially successful in getting the most disabled portion of the seriously mentally ill population into competitive work. Certainly, the ability to integrate the topic of work into conversations about medication side-effects or symptoms offers a unique opportunity to convince consumers that their illness does not have to stand in the way of their taking a job; such conversations are far more credible when the consumer knows the clinician is familiar with his or her psychiatric history. Moreover, the ability to monitor psychiatric symptoms and manage medication dosages in response to fluctuations in job performance can help to keep a consumer employed.

These assumptions about the reasons for PACT effectiveness hold implications for how PACT should be implemented within community mental health centers, in particular in regard to whether vocational services should be an integral part of all service delivery (via generalist staff roles) or whether PACT should be attached formally or informally to a separate vocational team. The findings of the MA EIDP with a typical and heterogeneous sample of persons with serious mental illness suggests that the full integration of vocational services via generalist staff roles is the more efficacious approach to PACT implementation. The EIDP cross-site data offers an opportunity to test this hypothesis since the South Carolina site has an ACT - IPS combination as its focal intervention. A quasi-experimental cross-site comparison of employment outcomes could be readily conducted within the EIDP if sample differences in regard to participant characteristics and baseline interest in work were statistically controlled. Key co-investigators on the MA EIDP (William Hargreaves & Paul Barreira) have suggested such a quasi-experimental study, including a cost analysis, and this possibility will be presented to the South Carolina EIDP when the MA EIDP staff have adequate time to participate in the collaborative venture.

Second, the fact that employed Clubhouse participants obtained better quality jobs and stayed longer on these jobs suggests that the Clubhouse intervention was able to tailor vocational services to meet individual needs and preferences. Certainly, the fact that the Clubhouse model encourages members to support one another, and often includes members as job co-managers or job developers, may have made it easier for Clubhouse participants to get the vocational help they needed more quickly. When Clubhouse

participants needed to talk or problem-solve they had only to show up at the Clubhouse and ask for help. And, certainly, the emphasis placed on individual self-determination within the Clubhouse model predisposes members to encourage one another to seek work that will fit their individual needs. This emphasis on 'fit' between individual and job was evident within the Clubhouse condition regardless of the level of work expertise or training. For example, one Clubhouse participant was encouraged by staff to join with another member to begin a jewelry design business and sell their creations through local retailers. Another Clubhouse participant who had a Ph.D. in biochemistry was helped with first obtaining a part-time college teaching position and then counseled to forego this academic appointment in lieu of a higher paying laboratory research job that lacked the interpersonal stressors encountered in the academic world. By comparison, it is likely that PACT attention to the clinical and medical needs of clients predisposed PACT staff to have more routine contact with the most disabled clients in their caseloads, and thus to focus more on simply getting these very disabled participants decent jobs in contrast to 'career' development. For instance, one PACT client who was Spanish-speaking with a diagnosis of schizophrenia managed to work a total of 46 weeks out of his 114 weeks in the project, often for as much as 20 to 30 hours a week, in entry level auto maintenance jobs, in spite of multiple interruptions caused by arrests, substance abuse treatment, and hospitalizations. The nature of *how* vocational services are integrated into mental health service delivery within PACT and Clubhouse obviously determines to a strong degree not only who will receive vocational assistance but the types of jobs that are pursued and the ability of employed participants to hold onto their jobs.

It should also be pointed out that while PACT as a newly developed program met full fidelity and was fully operational within the first year of the MA EIDP, the existing Clubhouse program, Genesis Club, had pre-established, strong relationships with local area employers on which it could rely for job placement opportunities. The majority of organizations in this employer consortium provided Transitional Employment jobs and met frequently with one another and with Genesis Club staff to talk about their experiences with Genesis Club members as employees and additional employment opportunities that could be created. Some of these employers opened their doors to PACT clients as well, but for the most part PACT staff lacked the same type of employer network based on established program-employer personal relationships. For this reason, like many other supported employment programs, PACT relied heavily upon temporary help employment agencies ('temp agencies') to find immediate mainstream work for clients. In some respects, these temporary jobs served the same purpose as TE, getting participants to work quickly and allowing flexibility and choice in work schedules. Nevertheless, such jobs could not offer as great longevity as TE, and few were as likely to lead to permanent employment. Two Clubhouse participants were hired permanently by their TE employers after the TE job had been held for a year or longer. Although Transitional Employment represented only 28% of all Clubhouse jobs worked by study participants, the impact of the TE program on Clubhouse study outcomes was no doubt very strong in terms of this consortium of TE employers who were receptive to setting aside non-TE positions or to hiring TE employees as permanent workers. It would be interesting to see what the employment outcomes would be for a vocationally integrated PACT team that had full access to an employer consortium similar to the employer networks that are naturally created by Clubhouse programs. It would also be interesting to know to what extent typical supported employment programs value opportunities for quick entrance into temporary work (i.e., what proportion of job placements in specialized supported employment programs are obtained through temp agencies).

The initial findings of the MA EIDP beg for more in-depth analyses of the role of interpersonal relationships, program philosophy, operational procedures, concurrent provision of other types of service, and employer consortiums on supported employment outcomes. The nearly complete lack of research attention to the social and community aspects of job retention is perhaps due to the greater emphasis that has been placed in recent years on program performance (job placement rates) in contrast to job type and job tenure. In an era of managed care, it is understandable that program performance remains an essential

research topic, but it is vitally important that research begin to incorporate more consumer-relevant measures and that high quality multi-service programs with a clear goal of encouraging participants to seek and keep competitive employment be included as focal interventions in controlled research studies. Certainly, the demonstrated ability of both PACT and Clubhouse to encourage a third of their participants who were not initially interested in work to try a competitive job argues strongly for more research on motivation and the viability of multi-service programs that do not require *a priori* interest in getting a job.

2. *Performance of PACT and Clubhouse in Comparison to Published Rates of Employment*.

The basic employment outcomes of the MA EIDP offer reassurance that supported employment can be effectively provided by multi-service mental health programs. The competitive employment rates for the PACT and Clubhouse interventions meet or exceed most published job placement and earnings rates for exemplary supported employment programs.

Job Placement Rates. The overall rates of competitive employment for PACT (57%) and Clubhouse (48%) cannot be compared directly to the rates of specialized vocational programs providing only employment services (e.g., model of Individualized Placement and Support) because such programs, by definition, serve only persons who are interested in seeking paid work while the PACT and Clubhouse interventions in our project served a general population of persons with serious mental illness with varying work interest. This difference is underscored by the fact that one-third of the MA EIDP sample reported no interest in obtaining paid work at the time they entered the project. However, the total sample employment rates do compare favorably to published rates for other multi-service programs that serve a general population of people with serious mental illness, e.g., the Village in California (Chandler, Meisel, Hu, McGowen & Madison, 1997), and Thresholds in Chicago (Bond, Dietzen, McGrew, & Miller, 1995). To allow MA EIDP rates to be compared to the rates of other supported employment programs designed to serve only people interested in work, placement rates were also calculated for only those participants who had expressed an interest in obtaining paid work at the time of study entry. The 24 month competitive employment rates for work-interested participants (only those persons who would ordinarily be admitted to a supported employment program) were 64% ($n = 41$) for PACT and 59% ($n = 34$) for Clubhouse, Chi Square ($N=122$), $p = .54$. The 12-month competitive employment rates for this same work-interested sample (56% & 48%) approximate the average 58% and 34% annual job placement rates for supported employment programs serving only consumers with *a priori* interest in paid work that have been reported in recent research reviews (Bond et al., 1997; Crowther, Marshall, Bond, & Huxley, 2001).

Employee Earnings. In spite of opening up the MA EIDP study sample to people without work interest, earnings for employed PACT and Clubhouse participants match published outcomes for specialized supported employment programs (Drake, et al., 1999; Drake, McHugo, Becker, Anthony & Clark, 1996). The MA EIDP Clubhouse intervention mean total earnings for competitive employment over an 18 month period (M = $4582; SD = 6083., n = 43) match the 18 month outcomes for an experimental Individual Placement and Support (IPS) program in New Hampshire (M = $4347; SD = 5824, n = 57), and competitive job earnings for both Clubhouse and PACT (M = $3051; SD = 3846., n = 48) exceed or match average earnings for an experimental IPS in Washington, DC (M = $3084; n = 45) over a similar 18 month period. These direct performance comparisons establish PACT and Clubhouse viability as providers of supported employment and argue for the conduct of randomized controlled cost-effectiveness studies that compare multi-service interventions like PACT and Clubhouse to specialist supported employment teams. Unfortunately, because the bulk of research on supported employment has been conducted by proponents of a single SE model, and because SE has recently been characterized as synonymous with a team of vocational specialists, there is little published evidence regarding the relative effectiveness of different service delivery modalities. Perhaps new federal RFA’s addressing employment for people with mental illness can encourage greater diversity in research applications.

3. *Limitations of the MA EIDP Study Findings to Date*.

This report of MA EIDP findings had to be prepared in advance of the retrieval of employment and service records for the 'supported employment as usual' comparison condition. Therefore, employment rates for PACT and Clubhouse cannot be confirmed as exceeding what would have been attained by study participants had they enrolled in this alternative program. Also, all conclusions regarding intervention comparisons remain tentative until multivariate analyses have been conducted.

The start-up of a new supported employment program in Worcester clearly affected MA EIDP enrollment and limited the availability of local jobs. Fortunately, there were no other system-level events, such as changes in economic conditions, which might have influenced study outcomes. MA managed care began operation during the study period, but this affected only hospitals, not the two experimental interventions. Staff turnover was nearly equivalent in PACT and Clubhouse and typical of real-world service programs. There were also no major changes in sources of service funding during the study period.

B *Obstacles to Project Completion*

The MA EIDP encountered two primary obstacles to project implementation: First, the principal investigator and project administrator had to raise sufficient funds to enable the local community mental health center to implement the new PACT intervention. This was accomplished during the first few months of the project with the help of Marylou Sudders and Paul Barriera, commissioner and deputy commissioner, respectively, of mental health for the state of Massachusetts. As a result of careful planning at the state, regional, and local agency levels, both experimental interventions received funding from the same basic sources. Neither program received substantial funding from sources that set restrictions on type or length of service provision (e.g., PACT received no state vocational rehabilitation funding and Genesis Club received only 5%). Second, the final phase of participant recruitment was endangered during 1997 by the start-up of a new supported employment intervention within the Worcester area. This generic supported employment program competed with the MA EIDP for program participants over the last year of EIDP recruitment. However, instead of becoming an obstacle to success, the new program has become an equivalent comparison condition for the MA EIDP, enhancing our project's overall worth as an evaluation of supported employment service effectiveness.

C *Impact of the MA EIDP on Health Policy and Practice*.

Because the MA EIDP has been a collaborative venture with the state and regional departments of mental health from the outset, the relationship between the researchers and state representatives is strong and continuous. At the present time, the EIDP project administrators are meeting frequently with the Commissioner's office to plan the state-wide implementation of PACT, based on the experience of the EIDP in creating and maintaining the Worcester PACT program over the past five years.

The MA EIDP has also been instrumental in the writing and submission of several SAMHSA Community Action Grants, two of which have been funded and three of which are in preparation. These applications are aimed at the dissemination of both the PACT and the Clubhouse models, and two of the applications are state-wide initiatives.

The MA EIDP has also provided continuous guidance to other researchers designing evaluations of either PACT or Clubhouse programs, including quality improvement and accountability systems for local, regional, and state departments of mental health. These efforts have involved the design of performance-based contracts and well as tracking and service documentation efforts.

D *Published reports on the MA EIDP* (Appendix C)

Two published articles based on data collected by the MA EIDP are included in the Appendix.

E *Case Examples*. (Appendix D)

Four case examples have been provided that illustrate participant success in the PACT and Clubhouse programs. Consumer names are not included in order to protect participant anonymity. No participant described in these case accounts has given permission to have his or her story released for public dissemination (e.g., in presentations, journal articles, or newsletters). All MA EIDP participants from whom we have obtained personal accounts have been assured that no information will be used without their written consent (even with names omitted) and, if permission is requested, they will have the right to review the entire manuscript or script in which their story is embedded before signing a release.

IV Future Directions

A *Project Continuation Activities*

All MA EIDP Clubhouse participants are being encouraged to continue to participate in Genesis Club now that the project has ended. PACT, however, has kept only those MA EIDP enrollees who now fit the state's definition of 'high risk' clients targeted by the PACT initiative in Massachusetts. PACT was designed to be a service-intense intervention for the most seriously mentally ill, and the Worcester PACT team's enrollment of MA EIDP participants from the general population of persons with serious mental illness was an accommodation made to facilitate the experimental evaluation of PACT efficacy. Now that the MA EIDP has ended, PACT clients who are not deemed 'high risk' have been transferred to case management and vocational programs within the same mental health center. PACT staff remain available for case consultation on any MA EIDP participant who was ever active in PACT.

B *Planned Analyses and Publications*

The MA EIDP remaining staff (Cathaleene Macias and Charles Rodican) will continue with data analysis and the preparation of conference presentations and refereed articles as their individual work schedules permit. At the present time, the first publication of 24-month employment outcomes is scheduled for journal submission in January of 2002. No other manuscripts have been planned or are in preparation.

Funding is still being sought to pay for the clerical and statistical expertise needed to complete data analysis for the MA EIDP over the next few years. The data analysis funding offered by SAMHSA toward the end of MA EIDP project period was sufficient to pay for only one part-time statistician position. Since receipt of this funding would require the conduct and reporting of analyses that would have to be conducted primarily by the MA EIDP principal investigator and research administrator at Fountain House expense, we had to decline receipt of this SAMHSA funding in lieu of beginning new research projects that had staff salaries included in their budgets. At the present time, an application for data analysis funding is being reviewed by NIMH and support is being sought from other federal agencies and a number of philanthropic organizations.

C *Plans for Participation in the Writing of Cross-Site Papers*

The principal investigator (Cathaleene Macias) and project administrator (Charles Rodican) will continue to participate in the collaborative writing of multi-site papers with the EIDP Steering Committee to the best of their ability and as their personal workloads allow until November of 2002.

D *Future Directions for Employment Research*

Efficacy Research. The MA EIDP study findings suggest the need for a randomized controlled study that compares one or more vocationally-integrated multi-service programs, like PACT or Clubhouse, to specialized employment programs in a manner that controls for basic differences in participant recruitment procedures. For instance, research participants could be randomly assigned to either a vocationally integrated PACT intervention or to a case management program with an affiliated specialized employment team. Participants in the two conditions could then be directly compared in regard to receipt of vocational services as well as employment outcomes. Those persons enrolled in case management who do not choose to enroll in vocational services would be comparable to PACT clients who refuse vocational services. Such an experimental study would provide a fair test of the efficacy and cost of these two service modalities for the delivery of supported employment and would enhance the knowledge of policymakers engaged in services evaluation and mental health service quality assurance.

Service Systems Research. The MA EIDP study findings also suggest the need for more research on mental health service system design and the costs of providing employment services within different types of systems. For many years it has been assumed that close networking among the staff of separate programs would ensure that consumers receive the services they need. This attention to provider networks could be enhanced by an assessment of the advantages of relying on generalist staff provision of specialized services within one or more multi-service organizations. For instance, the inclusion of a vocationally-integrated multi-service program (e.g., PACT or Clubhouse) and specialized vocational programs within the same service system would optimize consumer choice and ensure that consumers who lack the initiative to enroll in the specialized employment program will still receive the vocational supports they need. Moreover, the inclusion of both PACT and ICCD Clubhouse programs within the same service system could ensure that individuals could select the type of multi-service modality they prefer (i.e., mobile team vs. clubhouse community) and the intensity of services they need. On the other hand, because many departments of mental health and comprehensive community mental health centers must limit the programs they offer due to fiscal or geographic constraints, there is a great need for research on the cost-effectiveness of both specialized and multi-service employment programs under varying circumstances and for differing consumer populations.

V. Administrative Supplement

A. $31,000 September 1, 1997 – August 31, 1998

B. Part-Time Statistician

This supplemental funding was intended, and used, for the salary of a part-time statistician to help with the design and conduct of statistical analysis for the MA EIDP. The grant activities focused on the design of a methodology for quantitatively tracking PACT program development.

The proposal requesting supplemental funding is attached in Appendix E. The request included fringe benefits and indirect costs for the statistician position, but these items were not funded.

C. The PACT Documentation and Fidelity Grid (Appendix E)

The MA EIDP developed a method for documenting PACT team development by synthesizing information from three separate data sources:

1) Daily Service Logs Kept By All PACT Staff
2) PACT Expert Observations Using the PACT Fidelity Scale
3) Open-Ended Interviews With Key PACT Staff

This method of triangulating multiple data sources provides a quantitative assessment of PACT model fidelity with demonstrated strong concurrent validity. The method also provides a vehicle for CQI reporting to PACT teams and their sponsor agencies on a routine basis.

The PACT Documentation and Fidelity Grid was used throughout the start-up phase of the Worcester PACT to ensure that the program reached full fidelity to the vocationally-integrated PACT model developed by Jana Frey, Ph.D. and William Knoedler, M.D. in Madison, Wisconsin.

An application for continuation funding for the statistician position was submitted to SAMHSA in March of 1998 (letter attached), but funding was not received. Because this research position was discontinued, the appropriate statistical methods for modeling PACT program maturation were not developed.

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VII. Appendices

A. Site specific measures

B Program manuals and fidelity instruments

C. Published and unpublished articles resulting from the study

D. PACT and Clubhouse case examples

E. Supplemental funding documentation