

**ASSERTIVE COMMUNITY TREATMENT
EVALUATION PROJECT**

FINAL REPORT

A Joint Project of
the Michigan Department of Community Health
and
Systems Reform Program
of
the Michigan Public Health Institute

Funded by the Flinn Family Foundation

September 2004

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Background to Assertive Community Treatment

The Assertive Community Treatment Model

Assertive Community Treatment (ACT) is an inclusive array of community-based rehabilitative mental health services. It is provided primarily to individuals with serious mental illness who have a history of high use of psychiatric hospitalization and/or crisis stabilization. These consumers often require a well coordinated and integrated package of services that are provided over an extended duration. The goals of ACT are to keep persons with serious mental illness in contact with services in the community; reduce hospitalizations and costs; and improve outcomes, specifically social functioning and quality of life (Marshall & Lockwood, 2003).

ACT is a specialized model of treatment/service delivery in which a multi-disciplinary team assumes ultimate accountability for a small, defined caseload of individuals with serious and persistent mental illnesses and becomes the single point of responsibility for that caseload. Assertive Community Treatment is a unique treatment model in which the majority of direct services are provided internally by the ACT program in the consumer's regular environment. The key elements of the ACT model (Phillips, et al., 2001) are:

- Services are targeted to a specific group of persons with serious mental illness;
- Services are provided directly by the ACT team, rather than being brokered as in case management;
- Team members share responsibility for all individuals served by the team;
- Staff to consumer ratio is small (1 to 10);
- No arbitrary time limit is set on how long an individual is served by the team;
- Services are available 24 hours a day, seven days a week (24/7);
- Interventions are provided in vivo, in the location where the problem occurs, rather than in the clinic or office;
- Treatments and services are comprehensive and flexible;
- Treatment and supports are individualized; and
- Team is assertive in engaging individuals in treatment.

Research where ACT is compared to standard community-based services consistently finds that ACT results in positive outcomes for consumers. In a meta-analysis conducted for the Cochrane Review, Marshall and Lockwood (2003) found that individuals receiving ACT were more likely to stay in contact with services, less likely to be hospitalized, and spent less time in the hospital if they were hospitalized. They also concluded that ACT was successful in assisting individuals to achieve stability in housing, in finding and maintaining employment, and in obtaining higher consumer satisfaction than standard community-based services. They noted, however, that ACT did not show clear differences from standard community-based services in terms of

consumer deaths, incarceration or contact with police, psychiatric symptomatology, social functioning, self-esteem, or quality of life. They concluded that ACT is most effective at reducing hospital use and its associated cost when targeted at higher users of inpatient care. Phillips et al. (2001) review of ACT research similarly concluded that ACT is an efficacious service for individuals with the most severe and chronic symptoms and most impaired functioning.

Phillips et al. (2001) also reviewed studies on ACT model fidelity. Their review indicates that ACT programs which adhere well to the overall ACT model as measured by the Dartmouth Assertive Community Treatment Fidelity Scale (DACTS), were more effective than standard community-based services in reducing hospital use, cost, and substance use and in improving functioning and quality of life outcomes. They note, however, that the specific key components of ACT have not been shown to be independently associated with consumer outcomes. Their conclusion suggests that it is the application of the full ACT model, rather than specific model elements, which results in improved consumer outcomes.

Intensive case management is an alternative approach to service for individuals with high levels of need that is often contrasted with ACT. Intensive case management differs in practice from ACT in several key components (Schaedle, et al. 2000, 2002). ACT is based on a team approach with a shared caseload, whereas intensive case management uses case managers with individual caseloads. A second difference is the greater importance of assertive outreach in ACT programs. Third, intensive case management services have a greater tolerance for closing cases than ACT programs. Schaedle et al. also point out a treatment-orientation difference between the two programs. ACT mirrors the medical model with a strong emphasis on the essential roles of the nurse and psychiatrist and on the provision of comprehensive treatment and rehabilitation services by the team. In contrast, intensive case management models emphasize consumer strengths, empowerment, and community integration and use a brokered approach to linking and coordinating service delivery.

There is relatively little research directly comparing ACT with intensive case management. One recent study by Barry et al. (2003) has compared outcomes for consumers with similar mental health needs assigned non-randomly to ACT and a strengths-based intensive case management program. Barry concluded that the strengths-based intensive case management program was as effective as ACT in reducing days of inpatient care and showed greater improvements over time in reducing symptomatology and improving activities of daily living. Although the Barry study has a number of methodological limitations, it does suggest that the array of services for persons with serious mental illness needs to include multiple approaches targeted to achieve specific outcomes.

Assertive Community Treatment in Michigan

Changing Environment

Changes in state policy, funding, and treatment culture were the catalysts that supported the development of Assertive Community Treatment (ACT) in Michigan.

Policy changes included:

- The shift to a community-based system aimed both at more appropriate services and reducing the use of inpatient service;
- Development of financial arrangements to shift dollars from the state psychiatric hospitals to communities; and
- A response to growing consumer demand for alternatives to traditional mental health services.

Downsizing of Michigan's state psychiatric hospitals began during the 1960's and intensified during the early 1970's. In 1975, the resident population in the state psychiatric hospitals stabilized at around 4,500 and by 1987, the population had been reduced to 4,000. Targeted community-based programs, such as ACT, were implemented in 1987 in order to continue to decrease the adult state psychiatric hospitals' census. By March of 1989, the adult state psychiatric hospitals' census had declined to 3155 and by July of 1991 it had declined to 2548. By FY02, only 809 adults were served by state psychiatric hospitals (Figure 1, page 4). The continued reduction reflects, in part, the successful development of ACT as well as other alternative community programs.

Concurrently, legislation passed that allowed public non-profit community mental health service programs (CMHSPs) to take full responsibility (full management) for the provision and payment of the full continuum of community-based and state inpatient services. CMHSPs with full management status had the ability to develop community-based alternatives by redirecting savings from reduced state inpatient utilization into an array of community-based services. For example, the resources formerly used at Traverse City State Hospital were redirected to the community and used to develop and expand new ACT teams, case managers, crisis beds, and vocational programs.

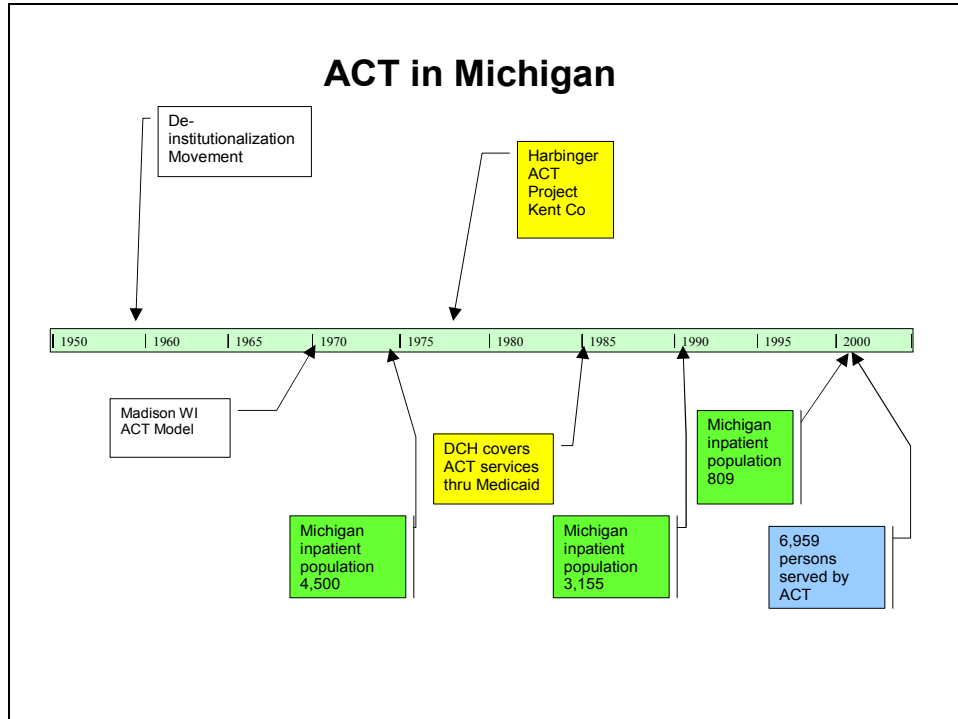
The Origination of Michigan's First ACT Teams

In 1978, ACT was initiated as a pilot demonstration project with consultation from the Madison Wisconsin Program for Assertive Community Treatment (PACT). Three Michigan communities were selected to replicate the PACT model: one rural residential program that was disbanded in the first year; a suburban program that showed equivocal results in terms of its program fidelity and impact; and an urban program that showed positive outcomes. The pilot projects focused on the redirection of appropriate individuals from inpatient to ACT services. In addition, the Michigan Department of Community Health (MDCH) funded an evaluation of the third pilot ACT program, Harbinger of Grand Rapids, operated by the Kent County CMHSP. The study design compared clients randomly assigned to either conventional pre-care/aftercare services

or ACT services. Thirty- and 66-month follow-up evaluations indicated significant differences favoring the Harbinger group compared to the control group on independent living, employment, and client functioning at 30 months with decreasing difference at 66 months. Of particular interest was the finding that the number of days of inpatient care was significantly lower for the Harbinger group at 30 months and was still lower for Harbinger at 66 months (Mowbray, et al., 1997a, 1997b). Following the successful pilot, additional ACT teams were developed using the Harbinger team for consultation.

During the late 1980's, MDCH began providing Medicaid funding to support the development of new ACT teams. The Medicaid Clinic Services program (now under the Rehabilitation Option) included coverage for services provided by ACT. The state's usual Medicaid reimbursement process was found to be unsuitable for ACT. The billing process for clinic services was professional and discipline-based and required clinic-based contacts. ACT services are primarily provided in the community using a multi/interdisciplinary approach that includes consumers and paraprofessional staff. MDCH collaborated with the state manager of the Medical Services Administration (MSA, i.e., Medicaid) to establish a new package of Medicaid-covered services called Assertive Community Treatment under the Medicaid's Rehabilitation option. This allows community-based contacts to be provided by any member of the treatment team. It was essential to successful dissemination, that the state Medicaid rules and regulations were modified to reflect the particular service delivery style and team approach of ACT.

Figure 1 Timeline for implementation of ACT in Michigan



Initially, federal Mental Health Block Grant funds supported the first year start up of new ACT Teams including teams to serve the needs of special populations. More recently,

Mental Health Block Grant funds support the addition of specialists in the area of dual diagnosis, older adult services, and corrections. Funds are also used to support statewide ACT training for new teams, supervisors, dual diagnosis, Dialectical Behavior Therapy (DBT) Training, and peer advocate positions on teams. Figure 1 (page 4) shows the timeline of ACT implementation in Michigan.

Currently, ACT services are provided either by single or multiple county CMHSP authorities or through a variety of contractual arrangements with ACT service providers. MDCH mandates that ACT services be available in population areas of 150,000 or more. In 2002, 41 of Michigan's 49 local mental health authorities provided ACT as part of their managed behavioral health care services to 6,959 individuals with serious and persistent mental illness. MDCH issued revised guidelines for ACT services in September 2003 as part of the Chapter 3 revision of the Medicaid regulations. These revised guidelines were designed to bring ACT services closer to the original model while maintaining necessary re-inventions to meet the unique needs of Michigan's community mental health system. The revision increased the specificity of Medicaid requirements and further emphasized the requirement for specific ACT training for team members. In addition, MDCH issued guidance on the minimum level of psychiatrist time that ACT programs were to provide to consumers. Training continues to be supported by MDCH using Block Grant funds.

Quality Assurance and Technical Assistance

Since 1979, when Michigan first initiated ACT, a MDCH central office staff position has been dedicated to the development of Assertive Community Treatment. Over time, this role included development of Medicaid requirements, an on-site Medicaid Enrollment process, Mental Health Block Grant funding designated to ACT team development, on-going technical assistance, and on-site consultation. MDCH conducts reviews of selected ACT teams annually through the site review process. This review of compliance with Medicaid and other department contractual requirements is based on CMHSP administrative records, interviews with administrative and clinical staff, review of individual consumer records, and interviews with consumers and their families. The Site Review Team documents compliance issues and MDCH sends a report to the CMHSP. The CMHSP is required to provide a plan of correction for these issues.

ACT Evaluation Project

In 2001, the Michigan Department of Community Health (MDCH) and the Michigan Public Health Institute (MPHI) Systems Reform Program formed a partnership to apply for a grant to improve the mental health system's use of evidence-based clinical practices. Assertive Community Treatment (ACT) was selected for the study. The purpose of this study was to:

- Assess the model fidelity of Michigan's adaptation of the ACT model;
- Identify how to improve ACT services; and
- Identify practices associated with positive outcomes to share with and inform ACT teams and consumers and for MDCH for policy development.

Support for the project was sought from the Flinn Family Foundation who uses its resources "through research to develop, evaluate, and implement best practice treatment programs delivered in the community" (Flinn Foundation, 2004). The three year grant has supported evaluation activities designed to assess current practices of Michigan's ACT programs and determine the fidelity of these practices to the ACT model and to Michigan Medicaid standards.

Advisory Committee

A stakeholder advisory group was convened to provide input on procedures and products. Participants included professional and consumer representatives of a variety of ACT teams from urban, rural, non-profit providers and community mental health operated teams. The Stakeholder Group provided input on:

- Logic models for the PACT model and Michigan adaptation of the ACT model;
- Development of the site-visit protocols;
- Selection of instruments;
- Selection of service use and outcome measures; and
- Potential policy recommendations based on the study's results.

Methods

Statewide ACT Team Mail Survey. The project identified 95 ACT teams in Michigan's public mental health system. These teams were mailed surveys regarding their current practices. Each team was asked to complete a separate survey and was encouraged to complete it as a team. Sixty-nine ACT teams responded to the survey. The survey collected information on team staffing, staff characteristics and training, team size in terms of number of staff and number of consumers served, functions of the team, how the team operated, service environments, characteristics of consumers served by the ACT team, criteria for consumer referral to/participation in ACT services, and services provided.

ACT Team Site-Visits. In 2002, the project selected sites to participate in additional data collection through site-visits. ACT teams were selected based on five model fidelity criteria: caseload size, staff to consumer ratio, in vivo treatment fidelity score (1 = 75 percent or less of contacts in the community, 2 = 75 to 79 percent of contacts in the community, 3 = 80 percent or more of contacts in the community), frequency of contact fidelity score (1= minimum of two contacts per week with any consumer, 2 = two to three contacts per week with any consumer, 3 = 4 or more contacts per week with all consumers), and a peer advocate on the team. Geographic location was used to stratify the sample to represent rural/small city, medium/metropolitan, and urban areas. A purposeful sample of 13 teams was selected and invited to participate in the site-visits. Twelve teams agreed to participate in the site-visits. Characteristics of the teams are presented in Table 1.

Table 1 Characteristics of ACT teams participating in site-visits

CMHSP	Team name	Case load size	Staff: consumer ratio	In vivo treatment score	Frequency of contacts score	Peer Advocate
Rural/Small City						
North Central ¹	Grayling ACT	35	8.8	3	1	No
	Western County ACT	46	15.3	1	1	No
Shiawassee	ACT	41	10.3	2	1	No
Van Buren	MI/CA	35	7.0	1	1	No
Medium/Metro						
Clinton Eaton Ingham	Dual Recovery ACT	77	15.4	1	1	No
Kalamazoo	Team 2	63	9.0	1	1	Yes
Lifeways	Team 1	44	8.8	2	1	No
Urban						
Genesee	ACTP Team 1	71	8.9	3	1	Yes
	ACTP Team II	76	8.4	1	1	Yes
Oakland	Oxford ACT	70	7.8	3	1	No
	ACT D - Pontiac	54	7.7	3	2	No
Wayne	Horizon's ACT	48	8.0	3	1	No

The evaluators spent a day visiting each site. During the site-visit, evaluators:

- Conducted a group interview with the ACT team staff;
- Conducted an individual interview with the peer advocate;
- Collected a written questionnaire from staff; and
- Interviewed ten randomly selected consumers.

ACT Team Focus Group Interview. Each ACT Team Focus Group Interview was conducted using a MindMapping process with two facilitators and lasted approximately two hours. The group interview asked two questions:

- What makes the team successful?
- What are the barriers to success?

¹ North Central Community Mental Health Services Program is now part of the Northern Lakes CMHSP.

Focus group responses were recorded on newsprint during the session, as well as audio-taped in the event future clarification of recorded responses was necessary. Individual MindMaps were developed for each participating team for each question using MindMapper software. This provided a visual diagram of the ACT teams' responses to the questions. This qualitative data was compiled and analyzed across teams to identify common themes.

Staff Questionnaire. Following the Team Interview, all ACT team staff were asked to complete a short questionnaire. The Staff Questionnaire asked staff to complete the Attitudes toward Recovery Scale (Steffen, et al., 2000), a set of questions related to organizational climate and job expectations (James & James, 1989), and a set of items on inclusiveness (Gardenswartz & Rowe, 1993) and multicultural competencies (Onaga, et.al., 2001). The questionnaire also collected demographic and education information.

Peer Advocate Interview. As a member of the ACT team, the peer advocate participated in the focus group interview and completed the ACT Staff Questionnaire. In addition, a one-to-one interview was conducted with the peer advocate. The interviewer recorded responses to the interview on the interview form. The interview collected information about the peer advocate's role as a member of the ACT team. Peer Advocate interviews were audio-recorded with consent for transcription.

Consumer Interview Procedures. ACT team staff assisted the evaluation project in recruiting consumers for a one-hour personal interview. The evaluators provided each ACT Team with information packets for every consumer. Each ACT team was asked to give these information packets to their consumers. The packet indicated that 10 consumers would be randomly selected and invited to participate, and provided contact information for MPHI in the event additional information was desired. Each ACT team was asked to also provide an identification number for each consumer on the team caseload and to indicate how long the team had served the person. The evaluators randomly selected 10 consumers from the list and sent the identification numbers back to the team along with a specific invitation to participate in the interview. This invitation letter described the process, gave an appointment time, and indicated that the consumer would receive \$20 in cash. The invitation included a form on which the person indicated his or her willingness to participate in the interview. ACT Team staff conveyed this invitation to selected consumers and returned the agreement to participate form to the evaluation project. The evaluators randomly selected additional consumers from the identification number list and repeated this process with the ACT Team until 10 interviews were scheduled for each site.

The day of the interview, ACT Teams assisted the MPHI evaluation team in completing ten interviews by recruiting consumers as necessary to fill slots for cancellations and "no-shows". This recruiting was done as opportunity arose and was generally based on convenience; e.g. a consumer presenting at the agency for other services and agreeing to participate in the interview.

Consumer Interview. Interviews were one-to-one, lasting approximately 1 hour each. The interviewer recorded responses to the interview on the interview form. During the

interview, consumers were asked to provide their mental health diagnosis. If the participant chose to have the interviewer obtain this information from the ACT team, the participant completed an "Information on Diagnosis Form" granting permission. The interview was based on one used by the Florida Mental Health Institute to assess ACT programs in Florida (Boaz, 2001). The interview collected information on demographics; frequency of contact with the ACT team; services needed, received, and satisfaction with services received from the ACT team; perceptions of care provided by the ACT team; the consumer's perceptions of how well he or she was doing currently and compared to twelve months ago (outcomes); the Corrigan Recovery Scale (Corrigan, et al., 1995); the Colorado Symptom Index (Shern, et al., 2000); and the Symptom Checklist (SCL-10) (Derogatis & Melisaratos, 1983). Consumers also were asked four open-ended questions about what they liked best about ACT, what was most helpful, what they disliked most, and what other services they needed.

Hospitalization Data. Data on hospitalizations for consumers participating in the on-site interviews was collected as a follow-up with the ACT team. The twelve ACT teams that participated in the site-visits were asked to provide the length of time each consumer had been receiving ACT services, number of hospitalizations while receiving ACT services, and number of days of hospitalizations while receiving ACT services for each of five years prior to 2001. Six of the twelve site-visit teams provided the requested hospitalization data. The data did not include identifying information that could link data to specific consumers.

Administrative Issues

Team perspectives' on success

ACT teams exist within administrative and community environments that support their success in achieving consumer outcomes. Each team was asked to talk about what made them successful in carrying out their work. The lists of success factors were analyzed to develop themes related to success across teams. Six themes emerged in the analysis of factors that contributed to ACT success.

Team Service Delivery. Staff made the most comments about the team-based service delivery model of ACT. Team members attributed their success in large part to elements of the ACT model: being in the community with consumers (in vivo treatment), the structure provided by team meetings, the 24/7 accessibility of the team, the required diversity of staff, and participation of the psychiatrist. Team members also attributed their success to being able to provide a wide range of supports for daily living, social experiences, and therapeutic individual and group experiences for consumers.

Examples
Team Service Delivery Statements
<ul style="list-style-type: none">• Balance between stability, support and creating independence• Strong client focus, out in the community• Cutting-edge psychiatrist with ACT team experience• Quick response to what's going on – 24/7 availability• Clients get what they need – skill building, ADLs, opportunities for socialization• Peer advocate provides another avenue of support for consumers

CMHSP Support. A second theme about what contributed to success was support from the CMHSP administration. The trust of CMHSP management in the team's judgment regarding the daily provision of service and an overriding sense of support were identified by all teams who were visited. Location of the ACT office off-site from the main CMHSP offices was seen as being more conducive to highly focused work with consumers. Teams also felt supported when the pay, benefits and vacation time were seen as good; when the CMHSP made technology availability to the team (e.g., cell phones, pagers, laptop computers, electronic filing systems, etc.); and when the agency made cars available to the team. In addition, access to petty-cash funds by ACT teams was cited as supporting their work with consumers in the community. Finally, access to other CMHSP services such as supported employment, clubhouse programs, substance abuse treatment, jail diversion programs, and office support staff were seen as contributing to team success.

Examples
CMHSP Support Statements
<ul style="list-style-type: none">• Supportive management who has confidence in the team & trusts the team's decisions• Healthy level of support & recognition• Good support from CMH, sense of being part of a whole• Good benefits, ample vacation• Physical layout [of office] conducive to team work• Off-site – don't lose your focus & dedication, can be more creative, autonomous, away from office politics• Safety oriented – visit in pairs, provide training [on safety]

Team Dynamics. A third theme in the success factors concerned team dynamics. Teams commented on working as a team with trust, respect, and flexibility. Being a team was seen as an important factor in being successful. Communication within the team, the emotional support of team members, and the support of the team leader/supervisor/coordinator were components of team dynamics that contributed to success. The stability of the team and their ability to learn as a group were also important elements of the team dynamics.

- Examples**
Team Dynamics Statements
- Team work – congruent values, pulling together, support each other
 - Team interdependence
 - Inter-team communication
 - Shared knowledge of clients
 - Learning from mistakes without blame
 - Learning and growing from each other
 - Emotional support among team members
 - Strong supervisor support
 - Supervisor help & support [for] us to develop skills

Individual Characteristics of Team Members. A fourth theme in the comments on success factors involved the characteristics of individuals who make up the team. Diversity in educational and training credentials were identified as important to team success; as was rapport with consumers and competency of team members. In addition, personal characteristics including positive attitude, sense of humor, creativity, non-judgmental approach, and willingness to learn and grow were also seen as important to team success.

- Examples**
Individual Characteristics Statements
- Rich team diversity – education, experience, personalities
 - Passion for the people we serve
 - Each team member's personal commitment to helping [persons with] mental illness
 - Have fun – ability to laugh, celebrate
 - Satisfaction and enthusiasm [for job]
 - Can do attitude of staff
 - Willing to learn from each other, from own mistakes
 - Focus on quality patient care

Community resources and linkages. The fifth theme concerned the availability of community resources and linkages with community agencies. Teams indicated that support from the community through local businesses and charitable organizations help them succeed in supporting consumers in the community. Other public agencies in the community were seen as important to success. Good relationships with, and access to, psychosocial clubhouse programs, public transportation, vocational services, the Family Independence Agency, and Social Security Administration were seen as important to the team's success. Access to housing supports and housing options were important. Cooperation and support from the legal system including judges, police, and jails also were listed as important community resources. Finally, most teams noted natural supports from family, friends, and religious organizations as an element in achieving success.

- Examples**
Community Resources Statements
- Linking and coordinating with community resources
 - Community supports – local businesses, library, bowling alley, restaurants
 - ACT team's ability to develop relationships within community
 - Natural supports – family, friends, church

Recovery. The sixth theme focused on the team having a recovery philosophy. More than just a positive attitude toward their jobs, ACT team members indicated that they need to have hope, see the possibilities of change for the consumers, and be able to accept success as the consumers define it in order to be successful as a team. The peer advocate was seen as a role model for recovery for consumers.

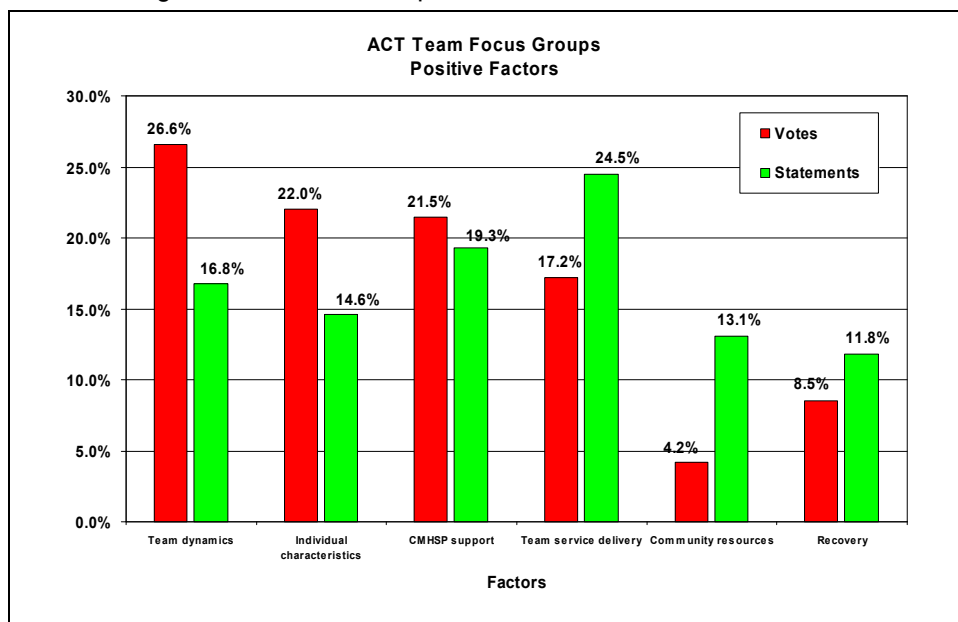
**Examples
Recovery Statements**

- Team has good relationships with clients – trust, rapport, empathy, non-invasive, respect
- Peer advocate is a role model for recovery, “its attainable”
- Assisting in recovery – emphasize success, goal attainment, build positive relationships
- Team believes in consumers
- Install realistic hope and purpose for the individuals we serve

Deciding the Most Important Success Factors.

Figure 2 shows the percentage of success statements by theme. Team service delivery accounted for the largest percentage of comments followed by CMHSP support. ACT team staff also were asked to vote with dots to indicate the statements from their discussion that they individually believed to be most important. Each person was given five self-sticking dots to place on the lists of statements. There were no restrictions on how they placed their dots. The distribution of votes (Figure 2) displays a different pattern of factors important to success. Team dynamics was clearly the most important factor in team success receiving over a quarter of the votes. Although teams generated a large number of statements about team service delivery, this theme received the fourth largest percentage of votes after team dynamics, individual characteristics, and CMHSP support. Based on the pattern of votes, the three most important factors contributing to success were team dynamics (i.e., working as a team with trust, respect, and flexibility; and communicating well), individual characteristics of team members (i.e., diversity in education and training, positive attitudes, sense of humor, creativity, etc.), and CMHSP support (i.e., trust of CMHSP management in team’s judgment, good pay and benefits, and access to technology, petty-cash funds and other CMHSP services).

Figure 2 Distribution of positive factor statements and votes



Team Perspectives' on Barriers

Administrative and community environments also present barriers to ACT teams' success in achieving consumer outcomes. Each team was asked to talk about what barriers they encountered in carrying out their work. The lists of barriers were analyzed to develop themes related to barriers across teams.

Lack of CMHSP support. Management and policy issues were the most often cited barriers for ACT teams. Teams remarked that the conflicts in policies and procedures between MDCH and certifying organizations (e.g., CARF) and other community agencies (e.g., FIA) created a confusing environment that limited the legitimacy and acceptability of their activities. They did not see the CMHSP as acknowledging or facilitating solutions to these conflicts. Access to needed services and supports were often limited or denied by other CMHSP management units without an understanding of the specific consumer's needs. Teams also identified inappropriate referral to ACT from other CMHSP units and from other agencies as a barrier in effectively serving their clientele. The shift to the managed care mental health plans for Medicaid, and the substantial organization changes resulting from this move, were seen as causing problems in accessing needed services and resources. CMHSP management was perceived as not understanding the ACT model and how it differed from office-based outpatient services. This also was reflected in comments about the amount of paperwork, access to files in a timely fashion, and the need to achieve a balance between paperwork and face-to-face contacts. The office environments with poor or broken equipment also were seen as a barrier. Finally, funding for community activities with consumers was lacking and hindered teams' efforts to engage consumers in the community and assist them with reintegration experiences.

Staffing. Staffing issues also were identified as barriers to success. Statements focused on: inadequate staffing levels, the team leader's administrative duties and time away from the clinical service provision, time issues related to

Examples

Lack of CMHSP Support Statements

- DCH and CARF drive policy and procedures – not all applicable to ACT, no room for flexibility to meet demands
- Constantly changing policies and requirements – state, federal, local, CARF, CMH
- Utilization[review] questions length of stay
- Critical decision about client level of risk made over our heads
- Inappropriate referrals from jail, court
- Uncertainty of the mental health environment
- Management's view of ACT model is not the same as the staff's view
- Lack of understanding of what the ACT team does by the court, FIA, emergency rooms and doctors
- [Lack of] money for other services even when the team feels it is in the clients best interest
- Petty cash for consumer loans
- Money for socials [consumer activities]
- Salaries aren't competitive, health benefits cut, mileage not reimbursed, no company cars

Examples

Staffing Issues Statements

- Demanding on call schedule
- Agency frenzied pace – no time for team meetings, no clinical supervision
- Staff stress – lack of positive reinforcement, always criticism
- Extremely high rate of burnout
- Not enough staff to meet needs
- High turnover [of staff]
- Team leader with more administrative functions, time away from clinical support
- No time for communication between team members
- Focus on what need to improve (not on what is done well)

on-call schedules and the quantity of work; and burnout. Poor team dynamics, including poor communication among team members and variance in treatment approaches, was another barrier. Other staff related barriers were lack of safety precautions and lack of training opportunities on ACT and on specialized services such as substance abuse treatment.

Community Resources. ACT teams identified difficulties with finding and accessing

services and supports within their communities as barriers to their success. Lack of affordable housing, access to hospital and medical care, and ACT interface with the criminal justice system were major concerns for ACT teams. The availability of transportation, employment options, substance abuse treatment options, and a general lack of community support for persons with mental illness were also problematic. Teams noted that coordination with other service providers in the community was often problematic and affected the continuity of care provided to consumers. Within this theme emerged concerns about the communities in which the teams work. Stigma within the community about mental illness was seen as a barrier to community inclusion and reintegration of consumers. Landlords, employers, and the community as a whole were seen as non-supportive and unwelcoming. The lack of natural support networks within the community for consumers was seen as a further barrier to community inclusion for consumers. Poverty and geographic isolation characterized a number of the communities. ACT teams felt these also were barriers in assisting consumers with community living.

- | Examples
Community Resources Statements |
|---|
| <ul style="list-style-type: none"> • Lack of [community] resources – dentist, substance abuse, housing, funding • Conflicting priorities with other providers – continuity of care • Poor communication with FIA, physicians, AFCs • [Lack of] affordable, subsidized housing • Lack of semi-independent housing – waiting list, no temporary housing • Legal system – lack of appropriate accountability [for consumers] – police take offender to the hospital not jail • Little treatment available for substance abuse • Disincentives for employment in the system – earn money = SSI cut • Stigma – the media and medical doctors perpetuate it, landlords increase rent and take advantage [of consumers] • [Lack of] families and friends – lack positive social networks • Increasing poverty in the community • Rural – have to plan geographic runs [to see consumers] |

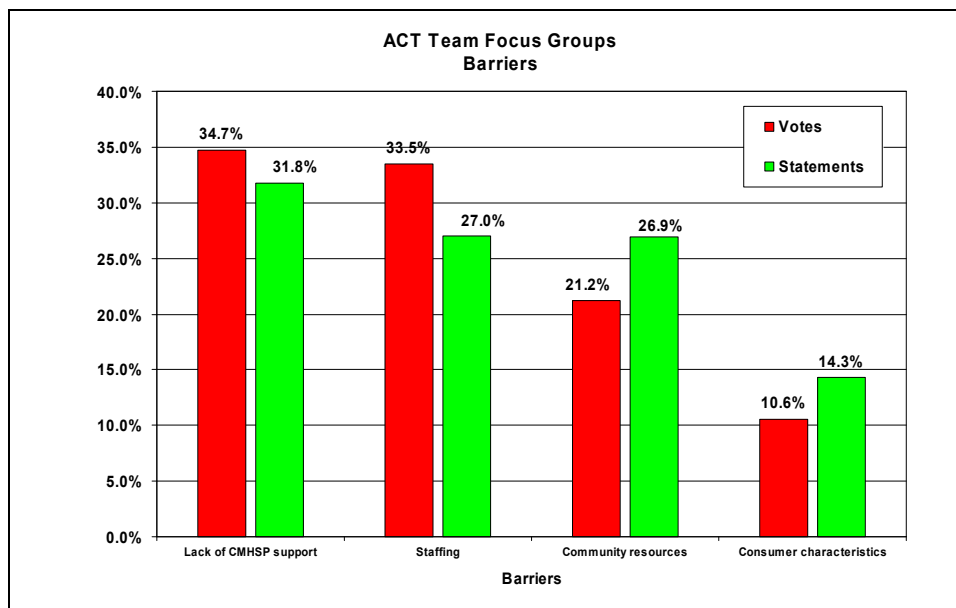
Consumer Characteristics. The diverse needs of consumers also created barriers for teams in terms of their capacity to meet the specific needs of each consumer. Teams identified barriers in working with persons with borderline personality disorders or substance use disorders, those who are inappropriately referred to ACT, and persons discharged from the hospital too early or without coordinated planning with the team. Consumers' unwillingness to comply with medication regimens, use of substances, and antisocial behaviors created situations where achieving successful outcomes with consumers was difficult. Teams commented on

- | Examples
Consumer Characteristics Statements |
|---|
| <ul style="list-style-type: none"> • Non-compliance and side effects of medications • Severity and intensity of illness increasing [on caseload] – 1:10 too high [a staff to consumer ratio] • Understanding clients' abilities to achieve success & participate in society – maintenance vs. treatment • ACT 'bails out' [consumers] by meeting basic needs – enables [dysfunctional behavior] |

the difficulty in assisting consumers to remain stable in community settings. Teams also talked about the barriers they faced in their efforts to build relationships with consumers. In some cases, teams felt that their support enabled consumers to continue with dysfunctional behaviors. Teams struggled with efforts to keep consumers in the community while helping consumers to understand the consequence of their behaviors.

Deciding the Most Important Barriers. Figure 3 shows the percentage of barriers by theme. As with the success statements, ACT team staff were asked to vote with dots to indicate the statements from their discussion that they individually believed to be the most important barriers. Figure 3 also presents the percentage of votes by major theme. When compared to the percentage of statements within each theme, the distribution of votes displays a similar pattern of what factors staff felt were barriers. Lack of CMHSP support and staffing issues accounted for two-thirds of the votes. This indicates that ACT teams primarily saw the barriers to their success as being internal to the CMHSP. It suggests that CMHSPs need to give more attention to creating an administrative environment that supports community-based teamwork and attending to staffing levels and personnel issues. Access to community resources is a barrier where CMHSP administration could facilitate coordination with other agencies in the community and work to achieve agreements with other service providers on access to their services, e.g., coordination of ACT and FIA efforts for consumers, agreements with MRS regarding access to vocational supports, etc.

Figure 3 Distribution of barriers statements and votes



Key Findings

Factors that contribute to ACT team success can also be barriers when absent. The themes that emerged from ACT teams’ discussions of success factors and barriers suggest four key areas for actions to promote the success of ACT services.

- CMHSP administrative support is essential.
 - CMHSP administration must understand the ACT model and its application in the community setting in order to provide an environment for success.
 - It is important for CMHSPs to provide ACT teams with adequate staffing in terms of the number of staff, professional disciplines of staff, and opportunities for on-going training.
 - CMHSP administrations that provide ACT services must provide the team with the technological and support resources needed to provide services in out-of-office settings.
- Team building and staffing are critical to successful teams.
 - CMHSP administration should provide time and relief staff so that ACT teams can engage in regular team building and information sharing.
 - Team members need opportunities to learn about each others' strengths and to plan how to most effectively use their collective knowledge, skills, and resources in working with their clientele.
- Knowledge of the ACT model and its application is necessary for success.
 - ACT is a powerful intervention. Teams will be most successful when they understand the ACT model and how to apply it to the diverse issues of their clientele. Initial and ongoing training in the ACT model and in alternative treatment options, e.g., DBT, substance abuse counseling, etc., are required for teams to function well.
 - Regular review by teams of their practices is necessary to maintain fidelity to the ACT model and for effectively applying ACT principles.
 - CMHSP administrations should be vigilant regarding the diagnostic and service needs of consumers referred to ACT. Not all high need consumers will necessarily benefit from ACT. ACT teams will be most effective when the mix of consumers is appropriate to the ACT model.
- Access to community resources and linkages with community providers is required.
 - ACT teams take responsibility for treatment and supports for their clientele. Teams need access to a variety of community resources, supports, and services to succeed in their efforts to maintain consumers in the community.
 - CMHSP administration should facilitate coordination with other agencies in the community so that treatment and support plans do not conflict and do support consumers' efforts to remain in the community e.g., coordination of ACT and FIA efforts for consumers.

- CMHSP administration should work to achieve agreements with other service providers on access to their services, e.g., agreements with MRS regarding access to vocational supports, etc.
- CMHSP administration should encourage the use of other CMHSP services that would increase consumers' reintegration into community life, e.g., clubhouse programs, supported employment, etc.

Model Fidelity

ACT model fidelity in this study is based on fifteen critical components identified in the Assertive Community Treatment Fidelity Scale (Teague, Bond, & Drake, 1998), the draft Implementation Resource Kit for Assertive Community Treatment (2003) and in a draft report on a study conducted by the Lewin Group (2001): The fifteen components are:

- admission criteria
- time limits on treatment
- maximum team caseload size
- staff to consumer ratio
- team leader
- psychiatrist
- nurse
- peer specialist
- team availability
- direct provision of services by all team members (shared case load)
- in vivo place of treatment
- frequency of contact with consumers
- frequency of contact with support networks
- frequency of case reviews
- treatment services provided in addition to case management

Each of these critical components has been defined to have three levels – not within standard, within standard, and above standard – that indicate the degree to which a team’s practices conform to fidelity standards cited in the research on ACT. When a team is rated as **not within standard**, this means that model fidelity for the component is low and does not fall within the standard of practices identified in the evidence-based model. A rating of **within standard** means that the model fidelity for the component is medium and falls within the standard of practices identified in the evidence-based model. A rating of **above standard** indicates high model fidelity and practices that fully meet or exceed practices identified in the evidence-based model.

Self-report data are available from 66 ACT teams in Michigan. These data were used to create ratings for the 15 critical components of the ACT model for each team. Six summary ratings were created to indicate the team’s model fidelity in terms of (1) team admission and treatment policies, (2) team caseload, (3) in vivo place of treatment, (4) team functioning, (5) team staffing, and (6) responsibility for treatment services.

Team Admission and Treatment Policies

Assertive Community Treatment is designed to serve individuals with serious and persistent mental illness (e.g., schizophrenia, schizoaffective, bipolar disorders, etc.) who require multiple services and supports to reduce their frequent hospitalizations and

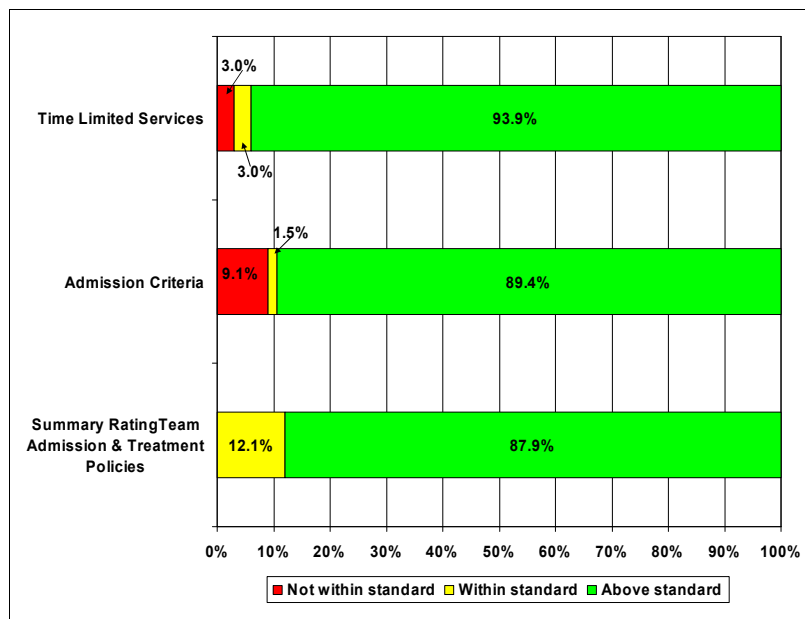
to treat co-occurring problems such as substance abuse, homelessness, and involvement with the criminal justice system. The PACT model indicates that consumers should be discharged from ACT services only when they demonstrate an ability to function in all major roles without significant relapse when services are withdrawn, or when the client requests discharge and the program staff mutually agree to the termination of services. Michigan’s Medicaid requirements state that consumers should be discharged when they meet criteria around stability, community tenure, or preference and that ACT services should not have predefined limitations. (See Appendix A for comparison.)

Model fidelity criteria, presented in Table 2, define the standards used in this study for admission criteria and time limits for receipt of ACT services. Each of these two components are scored as not within standard = 1, within standard = 2, or above standard = 3. When both component scores are added together, the summary rating of compliance for team admission and time limits ranges from 3 to 6. The ratings are presented in Figure 4.

Table 2 Team Admission and Treatment Policies

Fidelity components	Below Standard = 1	Within Standard = 2	Above Standard = 3
Admission criteria	No explicit eligibility criteria or team accepts consumers who do not meet eligibility criteria	Criterion is the individual has serious and persistent mental illness	Multiple criteria are used to determine who is appropriate for ACT services
Time limits on treatment	Consumers are served until goals are met		No discharge policy
Summary rating	Score of 0 to 2 points	Score of 3 to 4 points	Score of 5 to 6 points

N Figure 4 Percentage of ACT teams by level of model fidelity on admission and treatment policies



Only a small percentage of ACT teams had time-limited services or lacked explicated admission criteria. Admission criteria are based on diagnosis as well as frequency of hospitalizations and co-occurring disorders. Diagnoses for the sample of consumers interviewed at twelve ACT teams indicate that ACT teams serve primarily persons with schizophrenia (67.2 percent) and mood disorders (bipolar and major depression, 31.6 percent). All twelve site-visit ACT teams, however, identified barriers to working with persons with borderline personality or substance use disorders, who are inappropriately referred to ACT, or persons discharged from psychiatric hospitalization too early or without coordinated planning with the team.

The Admission Criteria standard may be a helpful guideline but does not separate effective teams from less effective teams. However, the intensive support needs of many ACT consumers and agency policies about who is referred to ACT appear to contribute to staff burn out and turn over. A major theme from the staff focus groups suggests that teams lack the following resources to work with persons with the most serious challenges:

- treatment groups (Dialectic Behavioral Therapy (DPT)) for persons with borderline personality;
- substance abuse treatment resources in addition to the team for persons with dual diagnoses;
- community resources to stabilize and support persons newly discharged from a psychiatric hospitalization; and
- adequate administrative support in determining who is appropriate for ACT.

Team Caseload

ACT teams need an adequate staff-to-consumer ratio in order to provide the intense services required to support their consumers in the community. The total team caseload needs to be of a size that permits all team staff to be knowledgeable and familiar with all consumers served by the team. Model fidelity with regard to team caseload is based on the maximum number of consumers served by the team and the ratio of staff to consumers. The PACT model requires a 1:10 staff-to-client ratio excluding the psychiatrist. The PACT model also specifies the number of clients per team for urban (120 or fewer clients) and rural (80 clients) settings. Michigan's Medicaid requirements specify a staff-to-client ratio of 1:10 but places no restrictions on the number of consumers assigned to a team. (See Appendix A for comparison.)

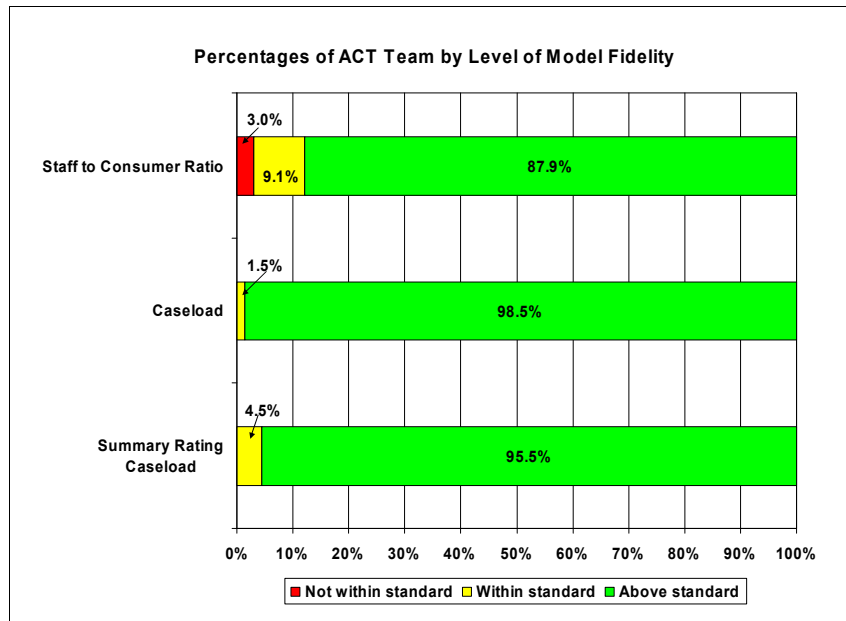
Model fidelity criteria, presented in Table 3 (page 21), define the standards used in this study for team caseload criteria. Each of these two components are scored as not within standard = 1, within standard = 2, or above standard = 3. When scores for both team load criteria components (i.e, caseload and staff to consumer ratio) are added together, the summary rating of compliance is from 3 to 6. The ratings are presented in Figure 5 (page 21).

Only a small percentage of teams did not meet the standards for staff-to-client ratios and size of the caseload. Staff-to-client ratios range from 1:2.5 to 1:15.4 with a median value of 1:7.8.

Table 3 Team Caseload

Fidelity components	Below Standard = 1	Within Standard = 2	Above Standard = 3
Caseload	ACT team has a caseload of more than 120 consumers	ACT team has a caseload between 99 and 120	ACT team has a caseload less than or equal to 98
Staff to consumer ratio	Staff to consumer ratio of 1 FTE per 15 or more consumers	Staff to consumer ratio is between 10 and 14 consumers per 1 FTE	Staff to consumer ratio is less than or equal to 10 consumers per 1 FTE
Summary rating	Score of 0 to 2 points	Score of 3 to 4 points	Score of 5 to 6 points

Figure 5 Percentage of ACT teams by level of model fidelity on caseload



All twelve site-visit teams identified issues with the number of staff on the team. Teams experience difficulty with vacancy and with increasing numbers of consumers on the team caseload. Over half of the teams (58.3%) attributed staffing vacancies to burnout, stress, and the demanding on-call schedule.

Team caseload standards may be helpful guidelines but have only limited ability to separate effective teams from less effective teams. However, teams will be less effective when issues regarding staff turn over and increasing caseload size are not address by the CMHSPs.

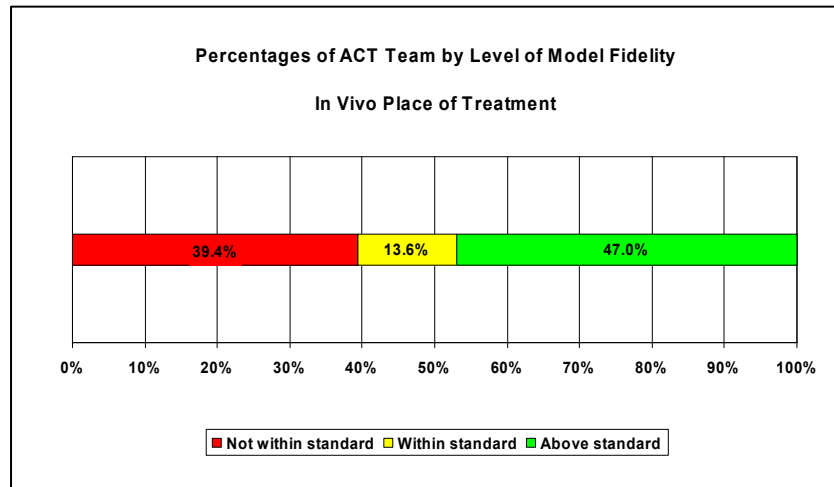
In Vivo Treatment

The ACT model requires the team to work with consumers in the community rather than in the office. Consumers are seen at home, at places they frequent in the community, and if necessary on the street. The team is assertive in its outreach and engagement of consumers where and when the consumer can be found. The PACT model requires that 75 to 85 percent of contacts be in the community in non-office or non-facility based settings. Michigan’s Medicaid Chapter 3 rules require that the majority of services are provided in locations other than the office and the Michigan Medicaid site review protocol requires 75 percent of contacts to be off site. Model fidelity criteria are presented in Table 4 and ratings are presented in Figure 6. This component is scored as not within standard = 1, within standard = 2, or above standard = 3. The summary rating of compliance for this component is from 1 to 3. (See Appendix A for comparison.)

Table 4 In Vivo Treatment

Fidelity components	Below Standard = 1	Within Standard = 2	Above Standard = 3
Place of treatment In vivo	less than 75% of contacts with consumers are in the community	75% to 79% of contacts with consumers are in the community	80% or more of contacts with consumers are in the community.

Figure 6 Percentage of ACT teams by level of model fidelity to in vivo treatment



Over a third (39 percent) of all teams fell below the 75 percent of contacts in the community. Staff at 83 percent of the site-visits teams identified issues that affected their ability to deliver services in the community. These included long travel times in large catchment areas, lack of cell phones and pagers, competing time demands among the all the tasks assigned to a team, and an undercurrent of resistance to delivering non-office based services.

The estimated percentage of client contacts that are in the community ranges from 30 percent to 100 percent with a median value of 75 percent. The estimated percentage of

client contacts in the community correlates $-.27$ with the number of employment services/supports offered ($p < .05$), $-.25$ with the number of entitlement supports offered ($p < .05$), $-.25$ with substance abuse services offered ($p < .05$), and $-.26$ with the number of crisis services offered ($p < .05$). In each case, the number of services offered declines as the percentage of contacts in the community increases. This suggests that a balance is needed between direct contact in the community and efforts staff make to assist consumers with obtaining and maintaining entitlements and finding employment. These findings also suggest that group-based services, such as substance abuse treatment groups, will reduce the percentage of contacts that are in the community. Increased crisis activities also were associated with fewer contacts in the community; which suggests that teams that expend more effort on managing crisis situations may be spending that time on behalf of, but not with, consumers.

For all teams, the estimated percentage of clients who live on their own or with family ranges from 38 percent to 100 percent with a median value of 88 percent. The estimated percentage of client contacts in the community correlates $.34$ with the percentage of consumers who live on their own or with family ($p < .01$) and correlates $-.38$ with the percentage of consumers living in group homes ($p < .01$). These correlations suggest that contacts in the community increase as the number of consumers living independently increases and teams with a high proportion of consumers living in group homes will tend to provide office-based services.

For site-visit teams, the percentage of client contacts in the community correlated $.61$ with consumer ratings of service satisfaction ($p < .05$) and $.68$ with consumer ratings of the helpfulness of ACT services ($p < .05$). This suggests that consumers were more satisfied and found the services more helpful as the team spent more time in the community with them. The percentage of client contacts in the community also correlates $.61$ with the average total score on the Colorado Symptom Index ($p < .05$). This indicates that as the average number of reported symptoms decreases, the percentage of client contacts in the community increases.

In vivo treatment is a hallmark of the ACT model that distinguishes this service from less intense mental health services for persons with serious mental illness. The standard on in vivo treatment is related to consumers' levels of symptomatology and to their satisfaction with the service. There needs to be a balance between time in the community with consumers and time in the office working on behalf of consumers. The standard suggested by the national study (Lewin, 2001) may be more stringent than is needed in order to achieve outcomes for consumers.

Team Functioning

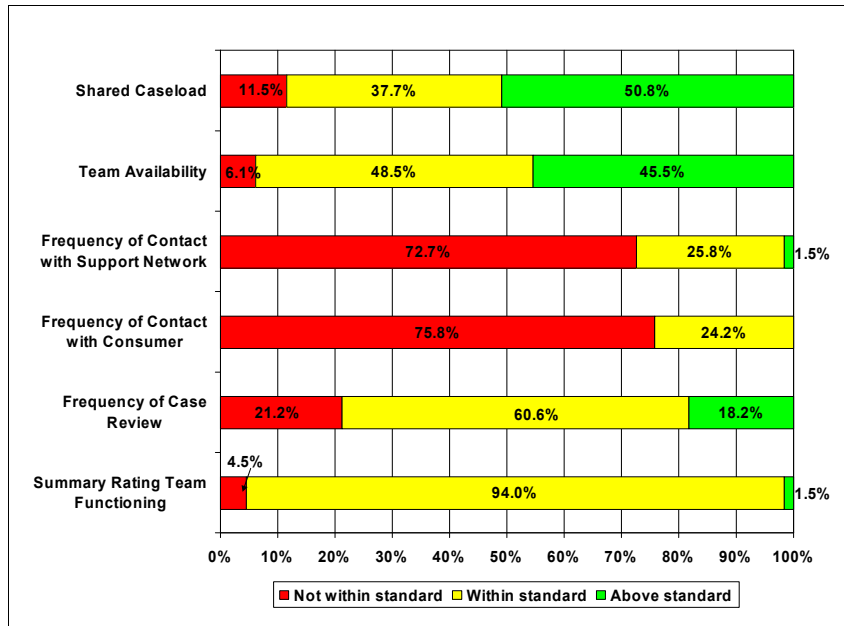
Team functioning is based on how the team operates in terms of the (a) frequency of case reviews, (b) frequency of contacts per week with the consumer, (c) frequency of contact per month with the consumer's support network, (d) hours that the team is available, and (e) number of staff who work with each consumer (shared caseload). Each of these five components are scored as not within standard = 1, within standard = 2, or above standard = 3. When scores for all five of these components are added

together, it results in a rating of team functioning that ranges from 5 to 15. Model fidelity criteria are presented in Table 5 and ratings are presented in Figure 7. (See Appendix A for comparison of Michigan Medicaid requirements and PACT model standards.)

Table 5 Team Functioning

Fidelity components	Below Standard = 1	Within Standard = 2	Above Standard = 3
Case review	Cases are reviewed less than 3 days or times/week	Cases are reviewed 3 days or times/week	Cases are reviewed 5 days or times/week
Contact with consumer	2 or fewer contacts/week	3 contracts/week	4 or more contacts/week
Contact with support network	0 contacts/month	1 to 3 contracts/month	4 or more contacts/month
Team availability	Business hours only	Business hours with team on call; crisis calls routed to the team via crisis line	Team available 24/7; team takes crisis calls directly
Shared caseload	Less than 70% of consumers have contact with more than one staff	70% to 89% of consumers have contact with more than one staff	90% of consumers have contact with more than one staff
Summary rating	Score of 5 to 7 points.	Score of 8 to 11 points	Score of 12 to 15 points

Figure 7 Percentage of ACT teams by level of model fidelity on team functioning



Frequency of case review. The PACT model requires daily organizational meetings for the team and treatment planning meetings at regularly scheduled times. Michigan's current Medicaid requirements specify daily team meetings Monday through Friday. Earlier Medicaid requirements specified a minimum of three team meetings a week. Only a small percentage of teams did not meet the standard for frequency of case reviews. The team meeting is an essential component to this team approach. It should foster an environment where multiple staff know and have a relationship with each

consumer and where there is ongoing communication about the status and needs of each consumer. A quarter of the site-visit teams identified lack of communication among team staff including the psychiatrist as a barrier to successfully providing ACT services. Teams also saw the team meeting and ongoing communication as critical to their success with 83 percent of the site-visit teams identifying the team meeting and communication about consumers as factors contributing to their success. Although the frequency of team meetings was not associated with differences in consumer outcomes, it does appear to be important in creating a team approach to treating and supporting persons with serious mental illness.

Contacts per week. Michigan Medicaid requirements state that consumers may receive multiple daily contacts based on need. The PACT standards also indicate that the number of daily contacts should be based on need, but specify that the team should have an average of three contacts per week with all consumers. Average number of contacts per week range from 1 to 4.12 with a median of 2.17 (SD = .67). The average number of contacts per week correlates -.25 with client-to-staff ratio ($p < .05$) indicating that teams with smaller ratios have higher average numbers of contacts. The average number of contacts also correlated .24 with the number of family related services provided ($p < .05$) indicating that teams who saw their consumers more often were more likely to provide family related services. Average number of contacts per week correlated .76 with average consumer service satisfaction ($p < .01$), .65 with average perceptions of how helpful ACT services were ($p < .05$), and .68 with average consumers' perceptions of how often their interaction with the team was positive and supportive ($p < .05$).

Hours of contact. Neither the Michigan Medicaid requirements nor the PACT standard address the number of hours of contact per week consumers should receive. The Assertive Community Treatment Fidelity Scale and the Lewin study were used as guides in setting the standard used for this component of team functioning. The number of consumers with two or less hours of contact per week was correlated -.34 with the average number of contacts per week ($p < .01$) indicating that as the number of contacts per week increased the amount of time spent with consumers decreased. The number of consumers with two or less hours of contact per week was correlated -.67 with average consumers' perceptions of their current functioning indicating that as average consumers' perceptions became more positive, more consumers received two or less hours of contact per week.

Shared case load. Both Michigan Medicaid requirements and PACT standards require a shared case load approach in which all team members have responsibility for consumers with the team. Neither document provided specific values for judging compliance with this component. The Assertive Community Treatment Fidelity Scale and the Lewin study were used as guides in setting the standard used for this component of team functioning. The average number of staff who worked with consumers ranged from 1 to 3 (limited by the response categories) with a median value of 2.8 (sd = .49). The average number of staff who worked with consumers correlated .24 with the number of medication services provided ($p < .05$) suggesting that the

number of staff who worked with a consumer may be related to the individual's need for assistance with medications.

Team Staffing

The intensive nature of ACT services requires a team representing multiple disciplines. The basic composition of ACT teams requires a team leader who is a qualified mental health professional, a nurse, access to a psychiatrist, and a peer specialist. Model fidelity criteria are presented in Table 6 and the four components of composition of teams can each be scored as not within standard = 1, within standard = 2, or above standard = 3 in terms of their staffing pattern. When scores for all four components are added together, the summary ratings of team composition ranges from 4 to 12. The ratings are presented in Figure 8. (See Appendix A for comparison of Michigan Medicaid requirements and PACT standards.)

Table 6 Team Staffing

Fidelity components	Below Standard = 1	Within Standard = 2	Above Standard = 3
Team leader	BA and work less than 40 hours/week with the team	BA, 40 hours/week with the team; no outside responsibilities	MA, 40 hours/week with the team and no outside responsibilities
Nurse	0 FTE	1 to 2 FTEs or less than 1 FTE nurse for each 50 consumers on caseload	2 or more FTEs or 1 FTE nurse for each 50 consumers on caseload
Psychiatrist	0 FTE	Less than 1 FTE per 100 consumers on caseload	1 FTE or more; or prorated at 1% FTE for each consumer on caseload
Peer specialist	No peer specialist		1 or more peer specialists
Summary rating	Score of 4 to 6 points	Score of 7 to 9 points	Score of 10 to 12 points

Team leader. Both Michigan Medicaid and the PACT standards require a full time team leader. Only a small percentage of teams did not have a team leader. This was generally due to staff vacancies. In addition to administrative responsibilities, the team leader is expected to provide direct client services. The percentage of the team leader's time spent in direct client service ranged from 5% to 77% with a median of 40%.

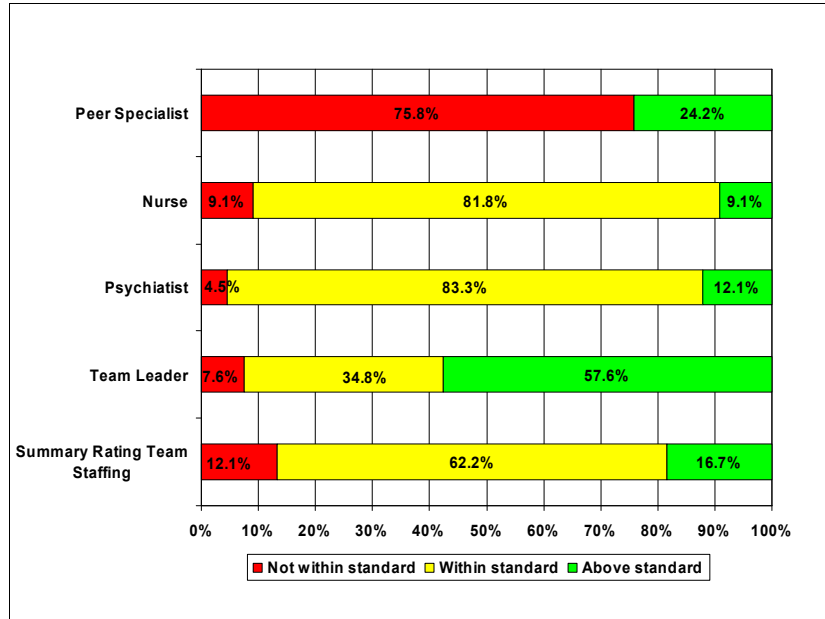
Nurse. Michigan Medicaid requirements specify a nurse on each team. The PACT standard requires 2 to 3 nurses. Only a small percentage of teams did not have a nurse. This was generally due to staff vacancies. Number of nurses on the team correlates .27 with medication services ($p < .05$) indicating more emphasis on medication for teams with more than one nurse; and .31 with the total number of consumers served by the team ($p < .01$) indicating the number of nurses increased as case load increased.

Psychiatrist. Michigan Medicaid requirements do not specify a minimum number of hours of psychiatrist time. The PACT standards require a minimum of 16 hours per week for each 50 consumers or .32 hours per consumer per week. The number of

doctor hours per consumer ranged from .05 to 2.0 per week with a median of .69 hours/consumer. Doctor hours per client correlated -.46 with the total case load for the team ($p < .01$). The amount of contact with the psychiatrist decreased as the number of consumers increased.

Peer Specialist. Michigan Medicaid requirements specify a peer specialist on the team while the PACT standards require one FTE peer specialist. Only a quarter of the teams indicated a peer specialist as part of the team staffing.

Figure 8 Percentage of ACT teams by level of model fidelity on team staffing



Responsibility for Treatment Services

ACT teams are the primary provider of services for their consumers. Teams must provide a variety of rehabilitative and psychiatric services to support and maintain their consumers in the community. These services focused on 11 service and support areas: (1) daily activities (ADLs), (2) family life, (3) work opportunities (supported employment), (4) entitlements, (5) substance abuse treatment, (6) crisis services, (7) physical health services, (8) medication support, (9) housing assistance, (10) financial management, and (11) individual or group therapy. The draft Implementation Resource Kit for Assertive Community Treatment (2003) was used to identify specific services to be included in the rating of responsibility for treatment. Consumers vary in their need for each of these services. It is expected, however, that each of these services and supports will be needed by some consumers on all teams. In assessing model fidelity, ACT teams were given points on a 110 point index that indicates the extent to which each of these services is provided. Each of the 11 areas is weighted equally in this index. This is the responsibility for treatment services fidelity rating.

Ratings were created for each of the services included in the fidelity index for responsibility for treatment services. These ratings were based on the number of activities a team reported in the service/support area. Model fidelity criteria are presented in Table 7 and ratings are presented in Figure 9 (page 29).

Table 7 Responsibility for treatment services

Fidelity components (# items)	Below Standard = 1	Within Standard = 2	Above Standard = 3
Responsibility for treatment services (40)	Team has less than 84 points, e.g., less than 76% of the possible points	Team has 84 to 98 points, e.g., 76% to 89% of the possible points.	Team has 99 to 110 points, e.g., 90% to 100% of the possible points
Therapy (1)	No activities		1 activity
Employment (5)	0 to 3 activities, e.g., 0% to 60% of the possible points	4 activities, e.g., 80% of the possible points	5 activities e.g., 100% of the possible points
Daily activities (5)	0 to 3 activities, e.g., 0% to 60% of the possible points	4 activities, e.g., 80% of the possible points	5 activities e.g., 100% of the possible points
Housing (5)	0 to 3 activities, e.g., 0% to 60% of the possible points	4 activities, e.g., 80% of the possible points	5 activities e.g., 100% of the possible points
Entitlements (4)	0 to 2 activities, e.g., 50% of the possible points	3 activities, e.g., 75% of the possible points	4 activities e.g., 100% of the possible points
Financial management (3)	0 to 1 activities, e.g., 0% to 33% of the possible points	2 activities, e.g., 66% of the possible points	3 activities e.g., 100% of the possible points
Health (5)	0 to 3 activities, e.g., 0% to 60% of the possible points	4 activities, e.g., 80% of the possible points	5 activities e.g., 100% of the possible points
Medications/psychiatric services (6)	0 to 4 activities, e.g., 0% to 66% of the possible points	5 activities, e.g., 83% of the possible points	6 activities e.g., 100% of the possible points
Family (4)	0 to 2 activities, e.g., 50% of the possible points	3 activities, e.g., 75% of the possible points	4 activities e.g., 100% of the possible points
Substance abuse treatment (1)	No activities		1 activity
Crisis services (1)	No activities		1 activity
Summary rating	Score of less than 84 points, e.g., less than 76% of possible points	Score of 84 to 98 points, e.g., than 79% to 89% of possible points	Score of 99 to 110 points, e.g., than 80% to 100% of possible points

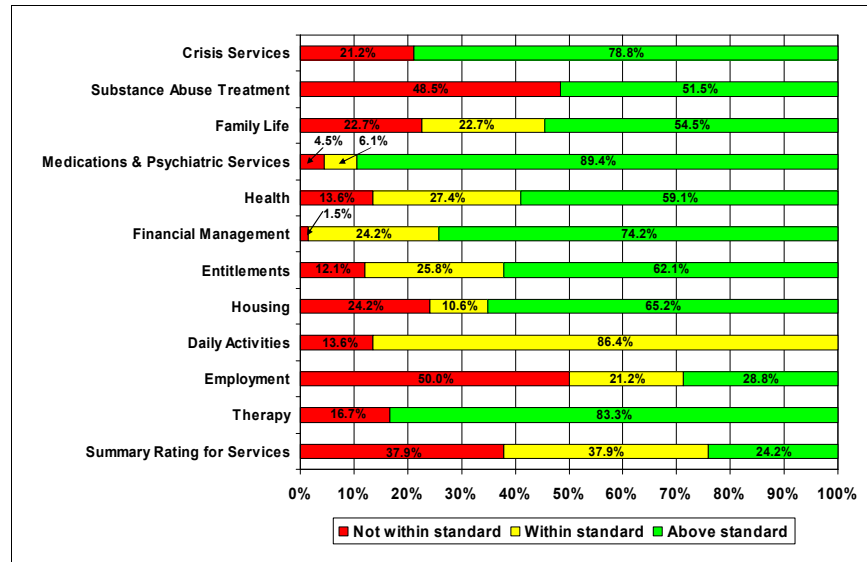
Only about 10 percent of teams did not meet the standards for medication and psychiatric services, financial management, and activities of daily living. Ten to 15 percent did not meet the standards for health care, obtaining entitlements, and therapy. Approximately 20 to 25 percent of the teams were below standard for crisis services, supports for family life, and housing. Half the teams were below standard for substance abuse services and employment. Across all service areas, 28.2 percent of teams did not meet standards for the range of services provided.

Substance abuse services. The number of substance abuse services provided correlated .58 with how helpful or harmful consumers rated ACT services ($p < .05$). As the number of substance abuse services increased, ACT services were rated as more helpful. The number of substance abuse services correlated -.67 with the consumers' average perception of care ($p < .05$). As the number of substance abuse services

increased, consumers indicated that ACT services were more often positive and supportive.

Activities of daily living. The percentage of consumers living in their own home or with family correlated .69 with the number of daily activity services provided ($p < .05$) and .65 with the number of health services ($p < .05$) provided. This suggests that teams with larger numbers of consumers living independently or with family were more likely to work on activities of daily living and health issues with their consumers.

Figure 9 Percentage of ACT teams by level of model fidelity on responsibility for treatment services

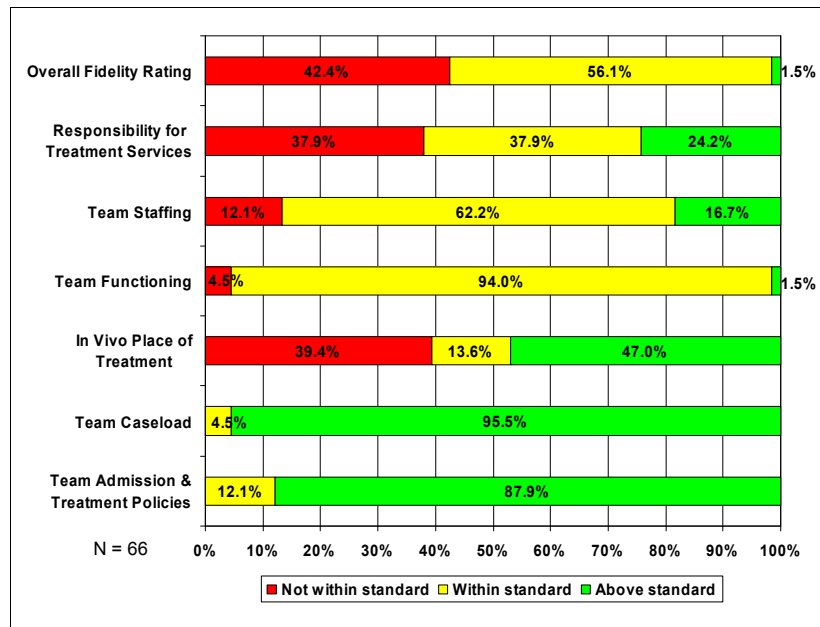


Summary Ratings

Six summary ratings and an overall rating were created to indicate the team's model fidelity in terms of team admission and treatment policies, team caseload, in vivo place of treatment, team functioning, team staffing, and responsibility for treatment services. An overall fidelity rating was calculated by adding together the ratings of the six summary ratings, resulting in a rating of team fidelity that ranges from 6 to 18. Overall fidelity ratings of 0 to 13 were labeled as 'not within standard'; 14 to 16 were labeled as 'within standard'; 17 to 18 were labeled as 'above standard'. Figure 10 (page 30) presents the percentages of ACT teams in Michigan that were not within standard, within standard, and above standard for each of the summary ratings.

Overall, 42.4% of teams did not meet the minimum criteria for model fidelity. This was due in large part to not meeting the criteria for responsibility for treatment services, team staffing, and in vivo place of treatment. These three components are essential elements of ACT that make it different from other mental health services.

Figure 10 Summary rating for ACT team on model fidelity factors



Key Findings

- 42.4% of teams did not meet the minimum criteria for model fidelity.
 - This was due to not meeting the criteria for responsibility for treatment services, team staffing, and in vivo place of treatment. These three components are essential elements of ACT that make it different from other mental health services.
- Current monitoring practices maintain adequate services but are not sufficient to result in exemplary model fidelity.
- The intensive support needs of many ACT consumers and agency policies about who is referred to ACT appear to contribute to staff burn out and turn over.
- Team caseload standards may be helpful guidelines but have only limited ability to separate effective teams from less effective teams. However, teams will be less effective when issues regarding staff turn over and increasing caseload size are not addressed by the CMHSPs.
- The standard on in vivo treatment is related to consumers' levels of symptomatology and to their satisfaction with the service. There needs to be a balance between time in the community with consumers and time in the office working on behalf of consumers. The standard suggested by the national study (Lewin, 2001) may be more stringent than is needed in order to achieve outcomes for consumers.
- The case management function of ACT teams is not always balanced with direct contact in the community.

- The team meeting is an essential component to the team approach. While all teams reported holding team meetings, the team psychiatrist and nurse did not participate in these meetings with all teams.
- ACT is a high intensity service characterized by frequent contacts with consumers. Many teams were not characterized by frequent contacts with their consumers.
- Team ability to meet the model fidelity criteria on responsibility to services varied by service.
 - Eight-five to ninety percent of teams met the standards for medication and psychiatric services, financial management, and activities of daily living.
 - Seventy-five to eighty percent met the standards for health care, obtaining entitlements, and therapy.
 - Approximately 75 to 80 percent of the teams met the standards for crisis services, supports for family life, and housing.
 - Fifty percent of teams met the standards for substance abuse services and employment.
 - Across all service areas, 72 percent of teams met standard for the range of services provided.

Consumer Satisfaction with ACT

Consumers were asked as part of the interview about their perceptions of care, the helpfulness of the ACT team, and their satisfaction with specific elements of ACT. Perceptions of care were measured with:

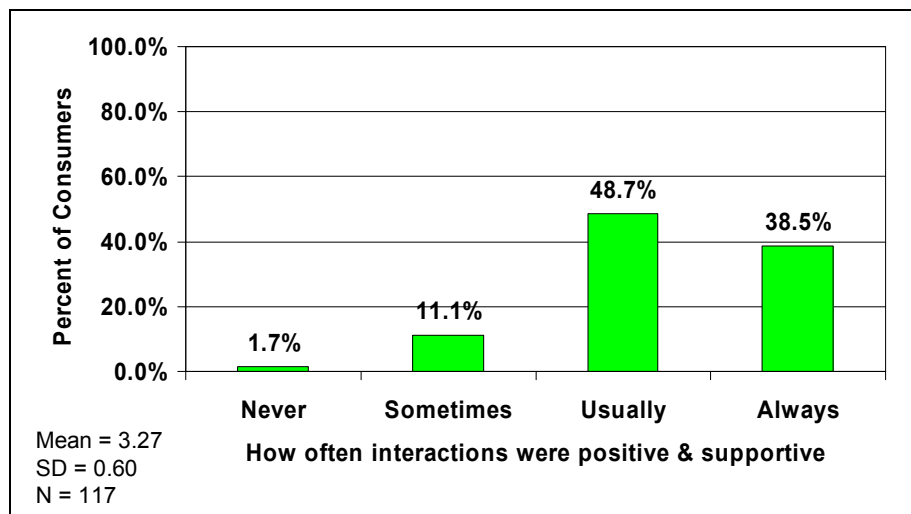
- a composite of eight items that assessed consumer's perceptions of how often the ACT team's interactions with him/her were positive and supportive;
- a single item that assessed how often the ACT team indicated they thought the consumer could improve; and
- a single item that assessed how often the ACT team encouraged the consumer to take responsibility for what happened in his/her life.

Helpfulness of the ACT team was measured using a four-item scale that asked the consumer to rate how helpful or harmful the ACT services had been to him or her. Service satisfaction was measured with a ten-item scale that rated satisfaction with the person-centered plan, psychiatrist, nurse, housing supports, medical care, counseling/psychotherapy, employment supports, crisis services, rehabilitative services (skill training, help with everyday activities and problems), and substance abuse treatment.

Perception of Care

The eight-item perception of care scale could have scores from 1 = never to 4 = always. Scores were from 1.25 to 3.88 with a mean of 3.27. Mean scores were grouped such that scores from 1.00 to 1.50 meant never, 1.51 to 2.50 meant sometimes, 2.51 to 3.50 meant usually, and 3.51 to 4.00 meant always. Consumers perceived their interactions with the ACT teams as positive and supportive with 97.2 percent giving ACT services a rating of usually or always on these eight items (Figure 11).

Figure 11 Perception of Care - Overall



Nearly three-quarters of consumers (71.8 percent) indicated that their team usually or always thought that the consumer could improve (Figure 12). Approximately 80 percent (79.5 percent) of consumers indicated that their team usually or always encouraged them to take responsibility for their life (Figure 13).

Figure 12 Perception of Care - Improvement

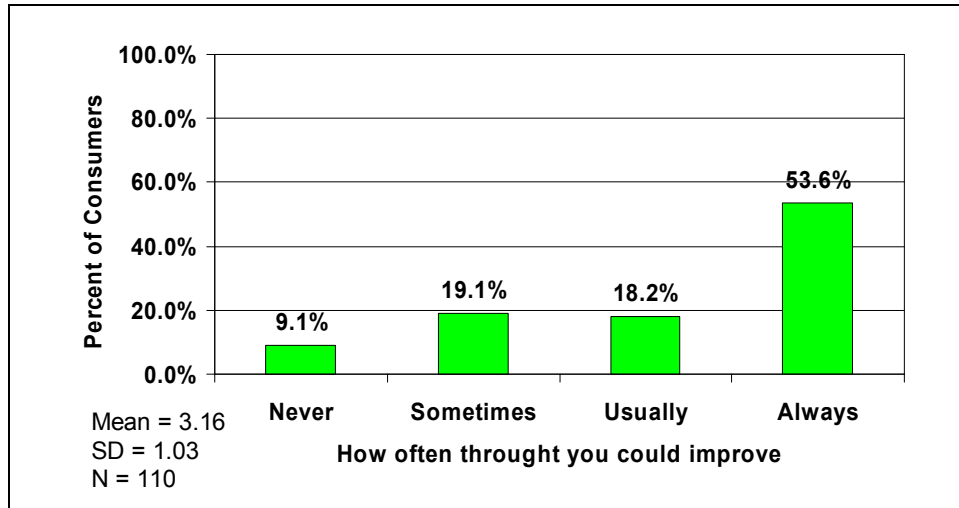
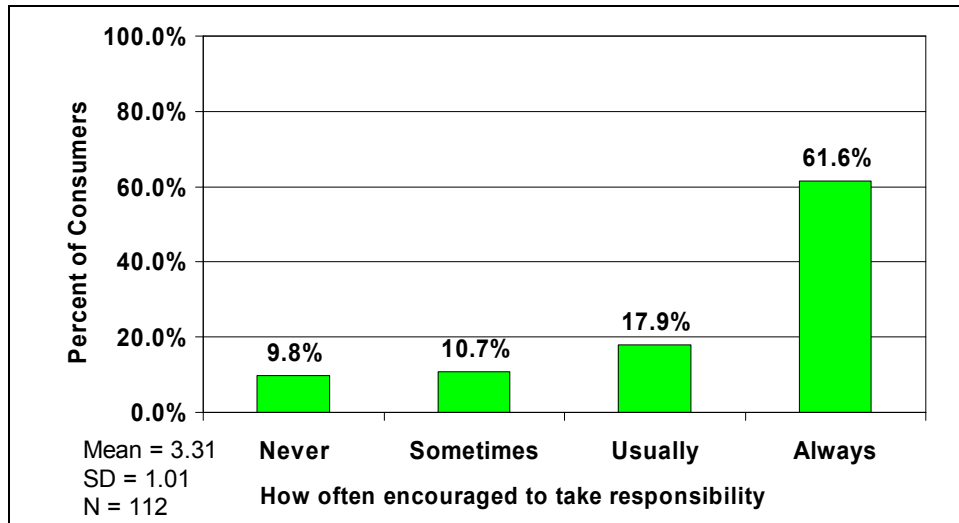


Figure 13 Perception of Care - Responsibility Encouraged

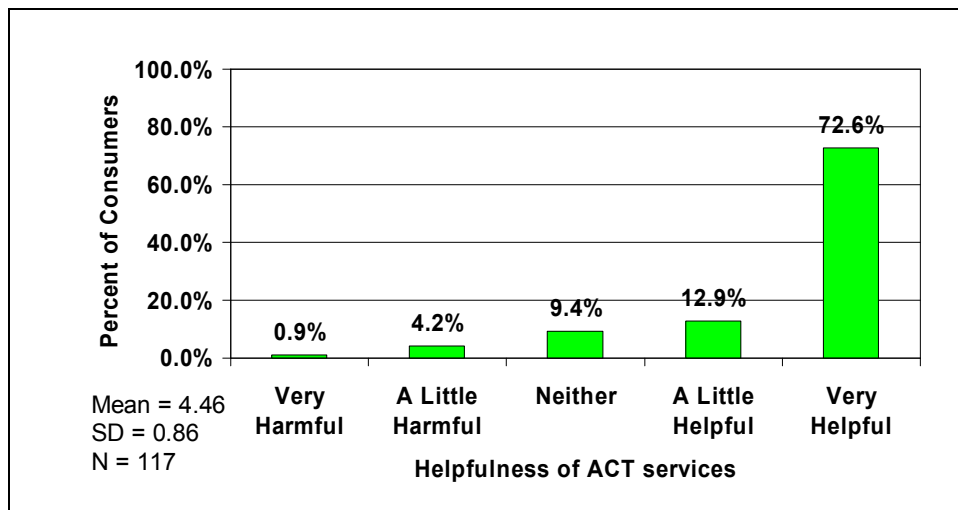


A regression analysis was used to identify variables related to consumers' perception of care. Demographic, service, and functioning variables were tested. Results of the regression analysis indicate that perception of care was rated as better by clients with better psychological functioning (reporting fewer symptoms), who received more contact in the last week (more minutes of contact), whose self-report of their functioning was positive, who indicated that the team encouraged them to take responsibility for what happens and were told they could improve by the team ($R = .58$, r -squared = $.34$).

Helpfulness

The four-item helpfulness scale could have scores from 1 = very harmful to 5 = very helpful. Scores were from 1.00 to 5.00 with a mean of 4.46. Mean scores were grouped such that scores from 1.00 to 1.49 meant very harmful, 1.50 to 2.49 meant harmful, 2.50 to 3.49 meant neither, 3.50 to 4.49 meant a little helpful, and 4.50 to 5.00 meant very helpful. Nearly three-quarters of the consumers (72.6 percent) reported ACT services were helpful (Figure 14). Results of a regression analysis indicate that ACT is rated as more helpful by clients with better psychological functioning (reporting fewer symptoms), who indicated that the team encouraged them to take responsibility for what happens in their lives, were told they could improve by the team, and by clients who saw fewer staff in the last week ($R = .48$, $r\text{-squared} = .23$). Average consumers' perception of the helpfulness of ACT services correlated $.68$ ($p < .05$) with the percentage of contacts that teams reported were in the community. This suggests that consumers found ACT services more helpful when the team spent more time in the community with them.

Figure 14 Helpfulness of ACT Services

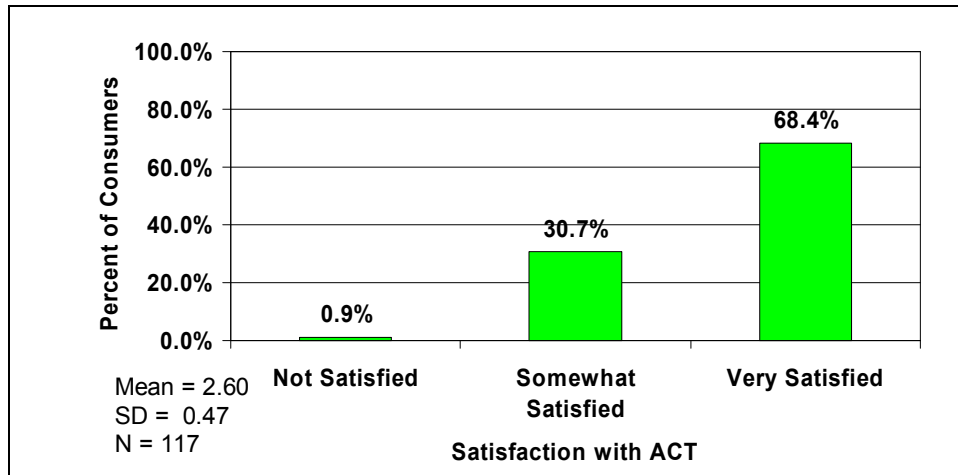


Service satisfaction

The ten-item satisfaction scale could have scores from 1 = not satisfied to 3 = very satisfied. Scores were from 1.40 to 3.00 with a mean of 2.60. Mean scores were grouped such that scores from 1.00 to 1.49 meant not satisfied, 1.50 to 2.49 meant satisfied, and 2.50 to 3.00 meant very satisfied. Nearly all consumers (99.1 percent) were satisfied with ACT services and over two-thirds were very satisfied with ACT services (Figure 15, page 35). Results of a regression analysis indicate that client satisfaction with ACT was higher for clients with better psychological functioning (reporting fewer symptoms), who indicated that the team encouraged them to take responsibility for what happens and were told they could improve by the team ($R = .41$, $r\text{-squared} = .22$). Average consumers' satisfaction with ACT services correlated $.61$ ($p < .05$) with the percentage of contacts that teams reported were in the community. This suggests that consumers were more satisfied with ACT services when the team spent

more time in the community with them. In addition, the average number of contacts per week correlated .76 ($p < .01$) with average consumer satisfaction suggesting that consumers were more satisfied with ACT services when they had greater contact with the team.

Figure 15 Satisfaction with ACT Services



Consumer satisfaction ratings with specific ACT services are presented in Table 8. Consumers were satisfied with all of the ACT services received. It should be noted, however, that other than psychiatric and nursing services, less than half the consumers received and rated the other services.

Table 8 Consumer Satisfaction with ACT Services

Satisfaction with:	Mean	SD	Number of Consumers
Person-centered plan	2.62	.60	102
Psychiatrist	2.57	.65	107
Nurse	2.67	.57	102
Housing services	2.63	.66	41
Physical health care	2.65	.59	51
Counseling/psychotherapy	2.69	.59	64
Employment supports	2.48	.75	27
Crisis services	2.64	.61	44
Help with daily activities	2.66	.52	47
Substance abuse treatment	2.34	.75	38

*Percent of consumers rating the service out of 117. 1 = not satisfied to 3 = very satisfied

Positives and Negatives of ACT

Consumers were asked two open-ended questions about what they liked and did not like about ACT. The 117 consumers provided 299 comments about what they liked. Four of these comments were that they liked nothing or had no response indicating that 96.6 percent (113) of consumers made some positive comment. Consumers made 161

comments on what they disliked, of which 54 comments were that they disliked nothing indicating that 53.8 percent (63) of the consumers made negative comments on ACT.

The positive comments were grouped into six categories based on similarity of content: interactions with staff (51.5 percent), services provided by the team (18.3 percent), the ACT model's 24/7 in vivo approach (11.5 percent), activities (7.8 percent), outcomes of ACT services (5.1 percent), and friendship with the staff (4.4 percent). The majority of comments were related to the positive and supportive interaction with the ACT team.

Consumers most often listed the supportive and caring approach of the staff as what they liked about ACT. The team's attitudes toward and respect for consumers along with their knowledge of the consumers were the most frequent statements among those about staff interactions. Consumers identified the feeling of being wanted and believed in as contributing to the sense of positive support from staff. They also liked that the team members were understanding and sensitive to their individual situations and the openness of staff and their ability to listen. Staff helpfulness, problem solving, and overall effort to work with, and on behalf of, consumers were also identified as positive aspects of ACT.

- What consumers liked
- I like the fact that they are willing to work with people others have given up on. They are trying very hard to provide a program where there is independent community living.
 - Very friendly, helpful, always treat me good, never push me into a corner and say "deal with it."
 - They listen to what I have to say and are concerned about how I feel.
 - They're very helpful and they come and see you. They're there for you whenever you need to speak with them.
 - Being treated with respect and as someone who doesn't have a mental disability

Services provided by the ACT team also were among the things consumers liked about ACT. Consumers' most frequent comments were about the team providing medications and the psychiatrist. Assistance with financial supports, transportation and housing were other services often identified as positive aspects of ACT. Consumers also made statements about the community activities the team provided (e.g., picnics, holiday parties, outings, etc.).

Consumers made some statements about the ACT model including the availability of the team 24/7, in-vivo contacts, team members' skills, and the security provided by having relationships with multiple staff. Some consumers made statements about positive outcomes as a result of ACT services. Although few in number, the comments about the importance of the friendship of the ACT team staff indicate the importance of ACT in these consumers' lives. Overall, these consumers expressed positive experiences with ACT. In general, the intensive, frequent contacts were seen as supportive and helpful.

Negative comments were grouped into seven categories: negative interactions with staff (28.5 percent), services not provided by the team (26.8 percent), availability of and access to staff (23.2 percent), medications (14.3 percent), lack of time for friendship with the team (2.7 percent), use of hospitalization (2.7 percent) and funding for ACT (1.8 percent). Interactions with staff also were the most frequent comments on what consumers did not like. Comments by consumers about what they did not like focused on interaction with the staff, services not provided, and the availability and access to

staff. These three categories accounted for 78.5 percent of the comments. Negative attitudes towards consumers, lack of understanding of their situations, and the directive approach of the ACT teams were frequent areas of dislike. In terms of services not provided or provided poorly by the team, consumers commented most often on access to the psychiatrist, financial supports provided, and assistance with housing. Access to staff was considered a problem with consumers commenting that staff were not available to take telephone calls, did not return calls, missed appointments, and could not give a specific time for home visits. Consumers listed problems with medications (getting the right medications or the effects of medications) as things they disliked about ACT. They also commented on the lack of time for friendship with team members as well as wanting the team members to see them more often or spend more time on each visit. Although the number of comments were small, it is clear that for some consumers, the ACT team is their source of social support and friendship.

What consumers did not liked

- When they criticize me, I would like them to understand me more and give me a little leeway.
- When I make an effort to take care of all my stuff, they still come around and remind me even when I've got it together.
- Sometimes they push me to be more self-reliant and there are times when I don't need that and need more one on one with the team.
- They can't tell me when exactly they will be coming by; no way to reach them if are out of the office on errands.
- Don't get enough time with them. They are my only friends but they are busy people and can only give so much time.

Key Findings

- Consumers perceived their interactions with the ACT teams as positive and supportive.
- Nearly three-quarters of the consumers reported ACT services were helpful.
- Nearly all consumers were satisfied with ACT services and over two-thirds were very satisfied with ACT services.
- Staff attitudes toward, respect for, and knowledge of the consumers are essential to engaging consumers in ACT services.
 - Perceptions of care, helpfulness, and satisfaction with services were positively related to team encouragement for consumers to take responsibility for what happens in their lives and to teams' reinforcing the idea that they could improve.
 - Negative interaction with the staff, services not provided, and the availability and access to staff are factors that reduce consumers' perceptions of the helpfulness of ACT.

Consumer Demographics

Demographic information was collected as part of the on-site consumer interviews with 117 consumers.

Age

All consumers were adults ranging in age from 18 to over 75:

- 19.7 percent between the age of 18 and 34;
- 39.3 percent between the ages of 35 and 44;
- 29.9 percent between the ages of 45 and 54; and
- 11.2 percent were ages 55 or older.

Gender

More men than women were interviewed. Fifty-three and eight tenths (53.8) percent of the sample was male.

Education Levels

Consumers had a range of education levels with:

- 33.3 percent less than high school education;
- 39.3 percent had graduated high school or had a GED, and
- 27.4 percent had post-high school education.

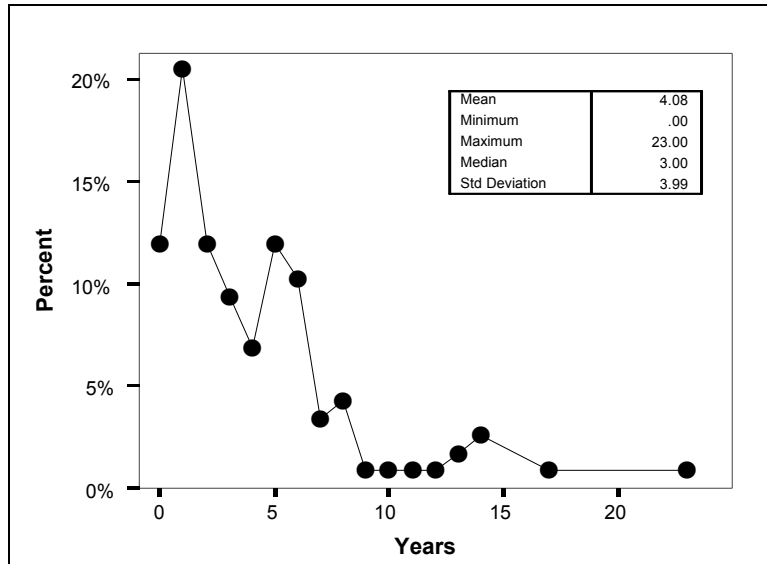
Ethnicity

The majority of consumers were white (66.7 percent) with 17.1 percent African American and 16.3 percent other ethnicities.

Time with ACT

Consumers had received ACT services from less than one year to as long as 23 years. The mean number of years was around four and the median number of years was three. Figure 16 (page 38) displays the distribution of years of service from ACT for consumers who were interviewed. The largest proportion (32.5 percent) had received ACT services for less than two years, 40.2 percent had received ACT services for two to five years, 19.7 percent for six to ten years, and 7.7 percent for more than ten years. The variation in the length of time consumers had been with ACT teams suggests some turn over in the caseload with about one-third of consumers added to teams' caseloads over the period of two years.

Figure 16 Percent of consumers by years with ACT



Key Findings

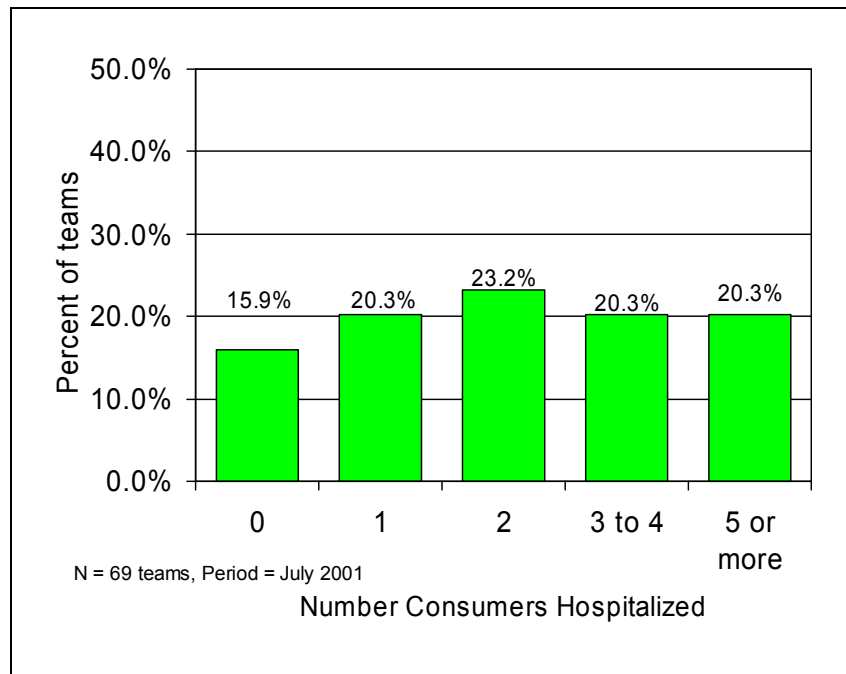
- The ages of the majority of consumers were that of the workforce population; yet, a third had not completed high school and only 16 percent had regular employment.
- Although ACT services are often considered life-long with no discharge, half the consumers had been with ACT team less than three years. The percentage of consumers who had used ACT for more than ten years was small.

Consumers' Outcomes

Hospitalizations

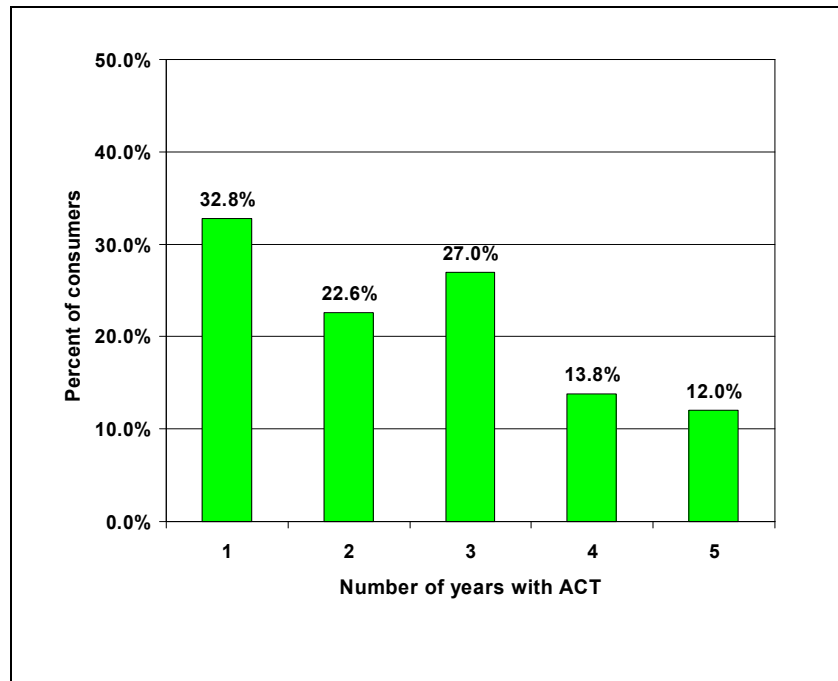
One goal of ACT teams is to reduce hospitalizations of consumers. ACT teams were asked to report the number of consumers from their teams who were hospitalized during the month of July 2001. The 69 teams reported 201 consumers out of 3257 (6.2 percent) to be hospitalized in that time period. Nearly 60 percent (59.4 percent) of the 69 teams had two or fewer consumers hospitalized during July 2001 (Figure 17).

Figure 17 Number of consumers hospitalized by percent of teams



Six of the site-visit ACT teams provided information on hospitalizations for 61 consumers by year in which the hospitalization occurred. Over five years, 26 consumers (42.6 percent) were hospitalized in one or more years after starting treatment with the ACT team. Figure 18 (page 41) shows the percentage of consumers with a hospitalization by the year of ACT treatment in which the hospitalization occurred. Hospitalizations were mostly likely to occur during the first year a consumer was with the ACT team with 32.8% of consumers with experiencing a hospitalization within the first year of treatment while only 12.0 percent of consumers who have been with ACT for five years experience hospitalization within the fifth year of treatment.

Figure 18 Percentage of consumers with a hospitalization by year of ACT treatment*



*Note. Total N = 61. Consumers could have hospitalizations in more than one year. Denominator based number of consumers with 1, 2, 3, 4, and 5 years of ACT treatment.

Recovery

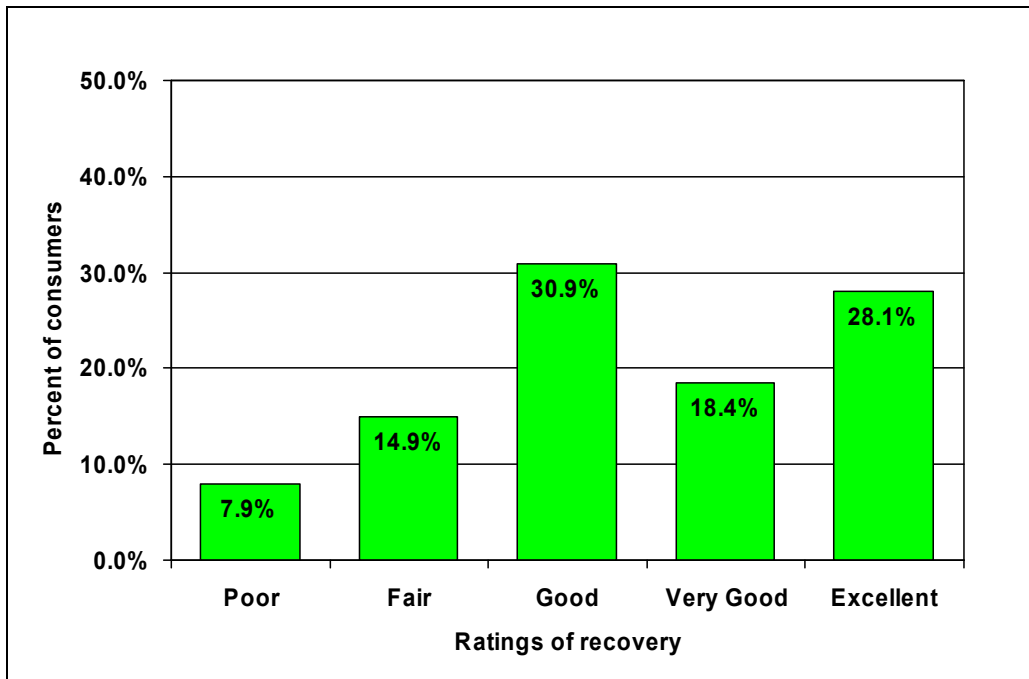
Members were asked to rate their recovery from mental illness in the personal interviews. The Corrigan Recovery Scale was used to measure the extent to which members agreed or disagreed with 41 statements reflecting different domains of recovery. For example, the interview contained statements such as, “I can identify what triggers the symptoms of mental illness”, “Fear doesn’t stop me from living the way I want to”, and “I can handle it if I get sick again”. Each item was scored on a five-point scale (i.e., 1 = strongly disagree to 5 = strongly agree). The scale was grouped into five recovery subscales: (1) Managing the Illness, (2) Hopefulness, (3) Self-efficacy, (4), Purpose in Life, and (5) Social Support. The Recovery Scale was designed to measure progress toward recovery from mental illness. Higher scores on the scale indicate a more advanced stage of recovery. Table 9 presents the mean scores for the subscale and total scale score. Overall, consumers indicated a relatively strong sense of recovery.

Table 9 Corrigan Recovery Scale

	Mean	Standard Deviation
Managing Illness	3.6	.69
Hopefulness	3.7	.69
Self Efficacy	4.2	.47
Purpose in Life	4.2	.49
Social Support	4.0	.61
Total Recovery Score	3.9	.48

Consumers also were asked to rate their recovery on a five-point scale from excellent to poor. Figure 19 presents the distribution of responses to the rating question on recovery. Nearly half (46.5 percent) the consumers rated their recovery as very good or excellent.

Figure 19 Consumer self-ratings of recovery



The median value for the rating of recovery was 3.0 or good. This value was used to group the consumers into a higher recovery group (those rating their recovery as excellent or very good) and a lower recovery group (those rating their recovery as good, fair, or poor). Table 10 presents the mean scores on the Corrigan Recovery Scale for these two groups. A multivariate analysis of variance indicated that the Lower Recovery Group scored significantly lower ($p < .05$) on all of the subscales of the Corrigan Recovery Scale. This suggests that a large group of ACT consumers continues to require education and support in their continuing efforts in recovery.

Table 10 Mean scale scores for the Corrigan Recovery Scale by recovery group

	Recovery group			
	Lower rating of recovery		Higher rating of recovery	
	Mean	Std Deviation	Mean	Std Deviation
Managing Illness	3.4	.61	3.9	.71
Hopefulness	3.4	.73	4.1	.47
Self efficacy	4.0	.44	4.3	.47
Purpose in Life	4.1	.47	4.3	.49
Social Support	3.8	.61	4.1	.57
Total Recovery Score	3.7	.45	4.1	.43

Consumers were asked to rate outcomes in four areas: mental health functioning, relationships, meeting their own needs, and quality of life. Table 11 presents

consumers ratings of these outcomes for the two recovery groups. A multivariate analysis of variance indicated that consumers in the higher recovery group consistently rated these outcomes as better than consumers in the lower recovery group ($p < .001$). This indicates that recovery was linked with better mental health functioning, better relationships with family and friends, increased ability to meet one's own needs, and better quality of life.

Table 11 Consumers' ratings of outcomes by recovery group

	Recovery group			
	Lower rating of recovery		Higher rating of recovery	
	Mean	Standard Deviation	Mean	Standard Deviation
Mental health functioning	2.8	.73	4.1	.56
Relationships	2.7	.83	3.4	.86
Meeting needs	2.8	.87	3.6	.82
Quality of life	2.4	.89	3.2	.90

1 = poor, 5 = excellent

Symptomatology

Diagnoses. The majority of consumers had been given a diagnosis of schizophrenia (63.2 percent) with 31.6 percent reporting diagnoses of mood disorders, and 5.2 percent with other or no reported diagnoses. A third (34.2 percent) of the consumers reported a substance use diagnosis. Table 12 displays the percentages of consumers with mood disorders and schizophrenia by team.

Table 12 Diagnoses by ACT team

CMHSP	Team name	Percent	
		Mood Disorders	Schizophrenia
North Central	Grayling ACT	50.0	50.0
	Western County ACT	33.3	66.7
Shiawassee	ACT	10.0	90.0
Van Buren	MI/CA	50.0	50.0
Clinton Eaton Ingham	Dual Recovery ACT	10.0	90.0
Kalamazoo	Team 2	50.0	50.0
Lifeways	Team 1	33.3	66.7
Genesee	ACTP Team 1	66.7	33.3
	ACTP Team II	36.4	63.6
Oakland	Oxford ACT	20.0	80.0
	ACT D - Pontiac	28.6	71.4
Wayne	Horizon's ACT	20.0	80.0
All site-visit teams		33.3	66.7

Symptoms. Consumers were asked to report on their current symptoms on the Colorado Symptom Index (CSI, Shern, et al., 2000) and the Brief Symptom Index (BSI, Derogatis, et al. 1983). Scores on the CSI can range from 'not at all' (1) to 'at least every day' (5). Scores on the BSI can range from not at all (1) to extremely (5). Table 13 (page 43) presents the mean scores for these scales. Psychiatric symptoms (CSI) were reported on average as occurring from once a month to several times a month.

Symptoms of depression (BSI) were on average reported as bothering consumers 'a little bit'. These consumers of ACT services appear to be experiencing psychiatric symptoms, such as paranoia and hallucinations, but relatively less depression. Consumers who rated their recovery as higher were compared to those who rated their recovery as lower on the CSI and BSI. Multivariate analysis of variance indicated that consumers in the lower recovery group reported more symptoms on the CSI than did consumers in the higher recovery group ($p < .03$). The two groups were not different on the number of symptoms reported on the BSI. This indicates that part of the population the ACT teams served were experiencing symptoms that would impede their recovery and reintegration into community life.

Table 13 Consumer reported symptoms

	Mean	Standard Deviation
Colorado Symptom Index	2.5	.99
Brief Symptom Index	2.18	.84

Community Reintegration

Community reintegration is described by the Center for Community Reintegration (2003) as follows:

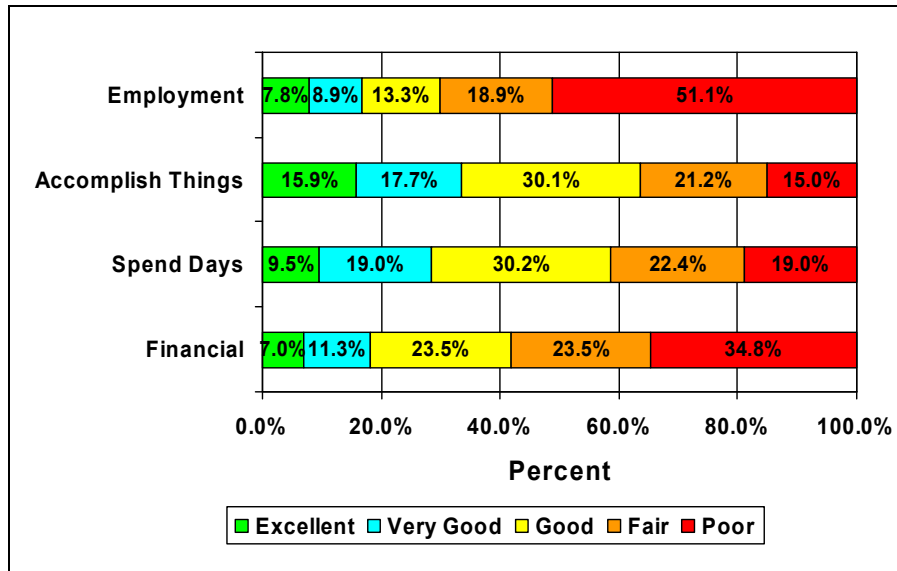
Reintegration is the process of finding that person **meaningful work, restoring his or her relationships**, and moving him/her toward **independent living**. The term "reintegration" includes all the things you do from the time you start your treatment until the time you are able to meet your goals; some of the most important of these goals - such as finding the right place to live or going back to school - involve creating ways to live as independently as possible.

- One of the main goals of reintegration is a return to meaningful **employment**. This can be a special challenge for people with serious mental illness; but helpful resources exist in communities around the world.
- **Healthy relationships** are essential to the well-being of everyone - especially those persons with persistent mental illnesses such as schizophrenia or bipolar disorder. But these illnesses can cause a strain on even the strongest relationships. Many people with such illnesses live with their families, requiring the active involvement of all members of the household in the day-to-day care and support of the individual with the illness. Others live with friends. Regardless of where the person with the illness lives, he or she will need a primary caregiver - a parent, sibling, spouse, adult child, or significant other (boyfriend/girlfriend, family friend, teacher, etc.). And, regardless of the specific relationship, caregivers will face numerous issues and will have many needs in coping with the illness on a long-term basis.
- People recovering from a serious and persistent mental illness often wonder what will happen to them as they get better. They have concerns about whether they'll be able to **live on their own** - and if so, where they will live and how they will take care of all their needs.
- **Identifying your needs** and learning how to get those **needs met independently** are critical to the process of reintegration. People have many different types of needs - some basic, some more complex. Basic survival needs include a place to live and food to eat, both of which can be obtained better with appropriate

education. Feeling that your life has balance and purpose is another need most people have. When basic needs are fulfilled, people feel inner comfort and a greater sense of peace. People who are not well may not realize they have basic needs that must be met. But these needs usually become clearer to them as they begin to recover from their illness.

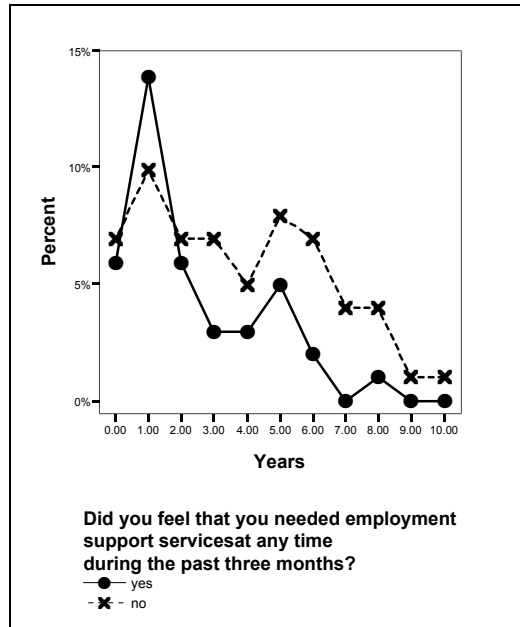
Employment. Only 15.9 percent reported being employed on a regular basis. Seventy percent of consumers said their employment situation was fair to poor and 58.3 percent said their financial situation was fair to poor (Figure 20). Additionally, 36.2 percent of consumers indicated that their ability to accomplish what they wanted was only fair to poor and 41.4 percent said that how they spent their days was only fair to poor. These findings indicate that the majority of consumers required help with employment and assistance to improve their ability to accomplish things and have meaningful days.

Figure 20 Consumers' ratings of their employment and daily accomplishments



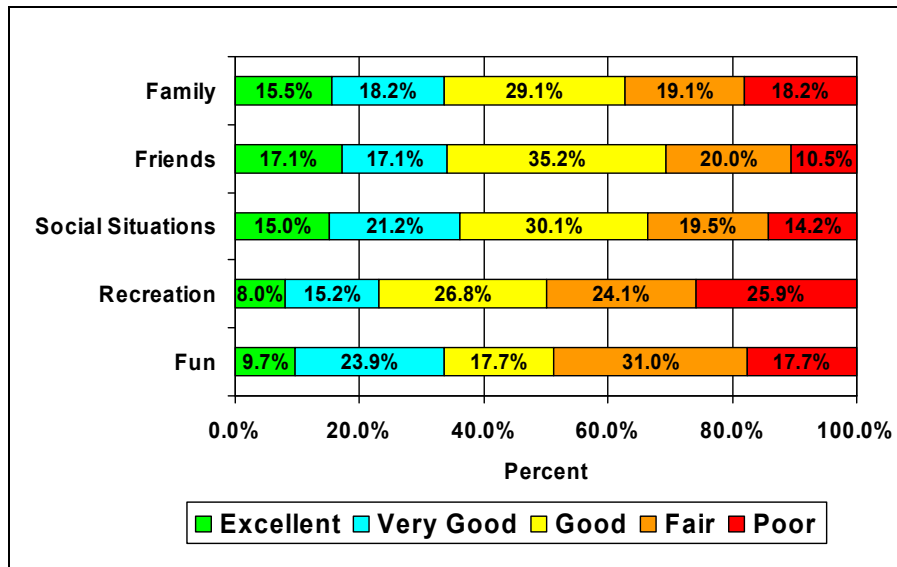
In the employment area, 29% of consumers said they needed, but did not receive, help from the ACT team with finding or keeping a job (Figure 25, page 49). Consumers were more likely to indicate a need for employment services if they had received ACT services for less than two years. Perceived need for employment supports decreased with length of time in ACT services (Figure 21, page 46): more consumers with less than one year with ACT expressed need for employment than consumers having 5 or more years of time with ACT (Chi-square = 5.35, $p < .07$). For consumers with 10 years or less with ACT, those who indicated a need for employment support had received ACT for a mean of 2.3 years while those who said they did not need employment services had a mean of 3.7 years of ACT services.

Figure 21 Consumers' need for employment supports by number of years with ACT



Relationships. Most consumers had few people in their lives and little social interaction. Over a third of the consumers interviewed indicated that they had poor to only fair relationships with family and friends (Figure 22). ACT teams did not report being able to assist consumers in creating new friendships or rebuilding relationships with family nor do consumers report receiving such help from the teams. Consumers commented that they liked coming to the team office for the social opportunity that the visit offers. This suggests a major need that ACT teams are not able to address. Half the consumers reported that their recreation opportunities and the amount of fun they had were poor to only fair. This also suggests a low degree of community integration for many ACT consumers.

Figure 22 Consumers' ratings of their family, friends, and social situations



Independent living. Over half the consumers (56.6 percent) lived on their own, 21.2 percent lived with family members², and 22.1 percent were living in foster care or group homes (Table 14). Consumers living in group homes were not uniformly present at all ACT team sites. Two teams had higher than expected numbers of consumers in group homes (Lifeways, 57.1 percent; Oakland Oxford ACT, 60.0 percent). The other ten teams had 70 percent or more of consumers living independently or with family. This suggests that there are site factors as well as consumer factors that determine where consumers live. The two teams with the largest percentages of consumers in dependent living situations did not have higher percentages of consumers with schizophrenia than did teams who had the majority of their consumers living independently.

Table 14 Consumers' living arrangements by ACT team

CMHSP	Team name	Independent	Percent	
			Family	Group Home
North Central	Grayling ACT	66.7	33.3	0.0
	Western County ACT	70.0	20.0	10.0
Shiawassee	ACT	90.0	0.0	10.0
Van Buren	MI/CA	66.7	22.2	11.1
Clinton Eaton Ingham	Dual Recovery ACT	60.0	20.0	20.0
Kalamazoo	Team 2	50.0	20.0	30.0
Lifeways	Team 1	28.6	14.3	57.1
Genesee	ACTP Team 1	50.0	25.0	25.0
	ACTP Team II	45.4	27.3	27.3
Oakland	Oxford ACT	40.0	0.0	60.0
	ACT D - Pontiac	44.5	33.3	22.2
Wayne	Horizon's ACT	60.0	40.0	0.0
All site-visit teams		56.7	21.2	22.1

When examined by the number of years the consumers had received ACT services, the percentage of consumers living in group home or dependent settings declined as consumers were with ACT until ten years (Figure 23, page 48). Consumers who had been with ACT six to ten years were less likely to be in dependent settings than at any other time point. This suggests that over time ACT services assist consumers to live in independent settings, but that a small number of longer term consumers may continue to reside in dependent settings.

When asked to rate the quality of their current housing, 26.4 percent of consumers rated it as fair to poor and another 21.4 percent rated it as good (Figure 24, page 48). This suggests that not all consumers were satisfied with their living arrangement. Additionally, almost a quarter of consumers (21.2 percent) said they needed but did not receive help with housing (Figure 25, page 49). Consumers were more likely to indicate that they needed help with housing if they rated their current housing as fair to poor and less likely to indicate a need for help with housing if they rated their housing as excellent (Chi-square = 14.05, df = 4, p < .01).

² Living with family did not include living with a spouse. Living with a spouse was included in living on your own.

Figure 23 Living in a group home by years with ACT

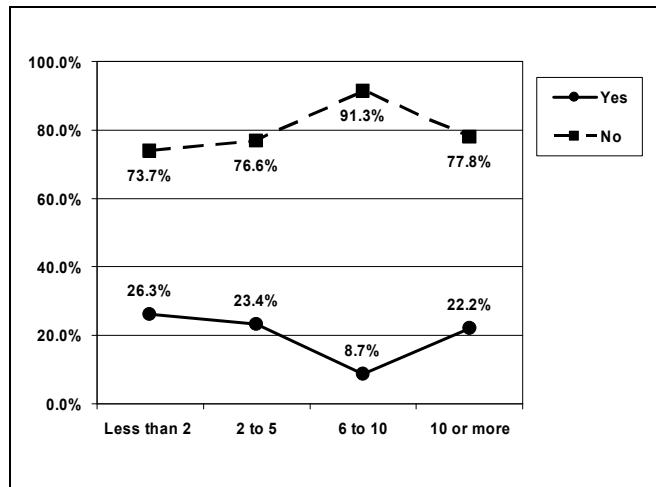
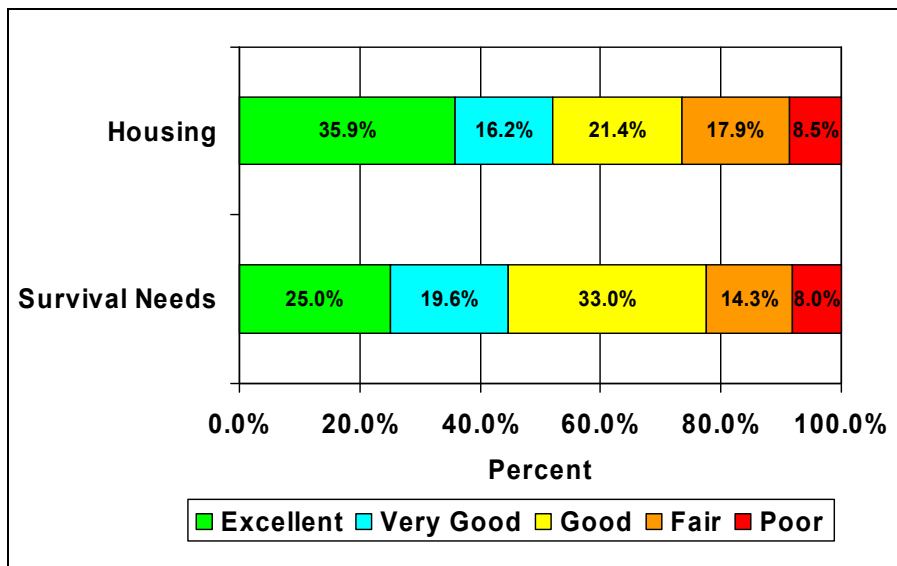
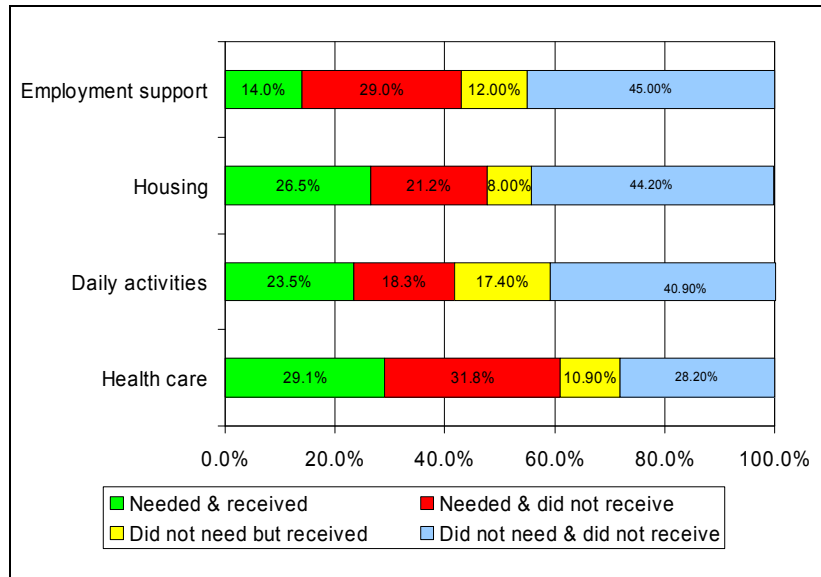


Figure 24 Consumers' ratings of their housing and survival needs



Meeting needs. Consumers judged themselves to do well at providing for their survival needs (food, clothing, etc.) with only 22.3 percent indicating that their ability in this area was fair to poor. When asked if they needed help with daily activities, 18.3 percent said they needed but did not receive help (Figure 25, page 49). About one-third (31.8 percent) of consumers indicated that they needed but did not receive treatment for physical health problems. This suggests that while most consumers were confident in meeting basic needs and health needs, there was a group of consumers who depended on the ACT team to assist them in this area.

Figure 25 Consumers' perceived need for services



Outcomes and Model Fidelity

Review articles on the effectiveness of ACT consistently report that ACT results in greater reductions in hospitalizations, greater stability in housing, and decreasing substance use (Phillips et al., 2001; Marshall & Lockwood, 2003) when compared to standard case management. Some studies have identified the multi-disciplinary team, shared caseloads, and daily meetings as critical program components of ACT (McGrew & Bond, 1997; Shaedle, et al., 2002) while others have identified in vivo services, small caseloads, assertive engagement, and explicit admission criteria as critical elements (Phillips, et al., 2001). However, there is little evidence to suggest that specific program components are related to specific consumer outcomes (Phillips, et al., 2001). Despite the lack of evidence regarding specific model components, there is clear evidence that higher model fidelity is associated with better hospitalization, housing, and substance use outcomes (McGrew, et al., 1994; McHugo, et al., 1999; Phillips, et al., 2001).

In this study cross-sectional consumer-reported outcomes were examined in relation to ACT teams' model fidelity. No strong relationships between model fidelity and cross-sectional consumer outcomes were found. This is due to two factors, one created by the environment in which ACT services were provided and one created by the study design.

First, MDCH has standards which ACT teams must meet in order to be a Medicaid service. This creates an environment that minimized variation in model fidelity. The majority of teams, including all those selected for site-visits, met the MDCH standards for ACT. This meant that none of the teams had either very low or very high model fidelity. While there was variation in model fidelity and nearly half the teams were rated

as below the more stringent standards used in national studies, the pattern of variation did not result in a strong differentiation of “good” and “poor” teams. The individual teams selected for site-visits were similar to all the teams in their overall model fidelity. Since most teams were at similar levels of model fidelity, there was limited variation to associate with differential outcomes.

The second factor that limited detection of relationships between model fidelity and consumer outcomes was the cross-sectional research design. Consumer outcomes were measured at a single point in time. At any given time, some consumers will be doing better and some will not. It is only by looking at outcomes over time in relation to the ACT services provided that the impact of ACT on outcomes can be addressed. Another aspect of the research design was the small number of teams selected for site-visits. The small sample size when coupled with the limited variation in model fidelity resulted in analyses with a low level of power which decreased the chances of finding relationships that may exist.

Key Findings

- Hospitalizations were most likely to occur during the first year a consumer was with the ACT team and declined over the period of time consumers received ACT services. This indicates that ACT was effective in reducing the frequency of hospitalizations.
- Consumers indicated a relatively strong sense of recovery.
- Recovery was linked with better mental health functioning, better relationships with family and friends, increased ability to meet one’s own needs, and better quality of life.
- Consumers appeared to experience psychiatric symptoms, such as paranoia and hallucinations, but to have relatively less depression.
- Consumers who rated themselves as lower on recovery reported more psychiatric symptoms than did consumers who rated their recovery as higher. This suggests that part of the population the ACT teams served was experiencing symptoms that would impede their recovery and reintegration into community life.
- The major of consumers required help with employment and assistance to improve their ability to accomplish things and have meaningful days.
- Perceived need for employment supports decreased with length of time in ACT services. This suggests that efforts to assist consumers to find and maintain employment may be more effective if provided early in a consumer’s time with ACT.
- Most consumers had few people in their lives and little social interaction. Half the consumers reported that their recreation opportunities and the amount of fun they

had were poor to only fair. This suggests a low degree of community integration for many ACT consumers.

- Consumers were more likely to indicate that they needed help with housing if they rated their current housing as fair to poor and less likely to indicate a need for help with housing if they rated their housing as excellent.
- There are site factors as well as consumer factors that determine where consumers live.
- Over time ACT services assist consumers to live in independent settings, but a small number of longer term consumers may continue to reside in dependent settings.
- While most consumers were confident in meeting basic needs, there was a group of consumers who depended on the ACT team to assist them in this area.

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