

*Assertive Community Treatment and related approaches will have a defining impact on state hospitals, now and in the future.*

## The State Hospital and the Community: An Essential Continuum for Persons with Severe and Persistent Mental Illness

*Maria B. Monroe-DeVita, Dennis F. Mohatt*

Three decades after the deinstitutionalization movement began, treatment, rehabilitation, and support for individuals with severe and persistent mental illness continue to shift from institutions to community-based agencies (National Association of State Mental Health Program Director, 1997). With this shift of focus has come the development of a variety of innovative community-based programs. Today, these programs serve many individuals who are at risk for state hospital admission as well as many previously served within the state hospital setting (Kuehnel, Liberman, Storzbach, and Rose, 1990; Soreff, 1996).

Historically, there has been debate about whether *all* state hospital functions can be transferred to the community (Bachrach, 1976; Bachrach, 1996). Though many suggest that the “state hospital versus community care” debate is now over (for example, Stein, 1992), calls for complete deinstitutionalization continue (for example, Kincheloe, 1997). Research thus far questions whether state hospitals can be downsized without increasing costs (Rothbard and others, 1998) or whether such closures can be completed at all (Fisher and others, 1996). As a result, it is imperative to examine the efficacy of community-based services, particularly for those individuals for whom state hospitals have been the primary source of services.

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One of the most influential and widely researched community-based services is Assertive Community Treatment (ACT) (Drake and Burns, 1995), often described as a “hospital without walls.” Studies have shown that ACT decreases hospital utilization among people with severe and disabling psychiatric disorders (Baronet and Gerber, 1998; Burns and Santos, 1995; Lehman, Steinwachs, and the Co-investigators of the Patient Outcomes Research Team Project, 1998; Marshall, 1997; Mueser, Bond, Drake, and Resnick, 1998; Olfson, 1990; Scott and Dixon, 1995a; Spollen, Meissler, and Santos, 1998; Test, 1992; Taube, Morlock, Burns, and Santos, 1990). Introduction and development of ACT has been associated with significant downsizing of state hospitals in several states, including Michigan, where ten-year statewide dissemination efforts corresponded with a reduction in nearly three thousand state hospital beds (Rutkowski and others, 1997; see also Scalora, Chapter Five).

This chapter is a critical analysis of ACT, its efficacy for persons who are at greatest risk for state hospital admission, and its impact on the state hospital system. ACT is not “all there is” to community-based services. It is the focus of this discussion because of the relatively large amount of research on its outcome and widespread interest among researchers, advocacy groups, and state program planners. Also, ACT is accessible to most mental health systems, due to the availability of implementation manuals, training materials, standards, and efforts to promote its implementation nationwide (Allness and Knoedler, 1998; Furlong-Norman, 1997; National Alliance for the Mentally Ill, 1998; Stein and Santos, 1998).

## **Background and Overview of ACT**

Many community-based programs were developed in response to the unintended, pervasive, and negative outcomes of the first wave of deinstitutionalization—homelessness, incarceration, frequent incidents of relapse and readmission to state hospitals (that is, the “revolving-door” phenomenon), and transinstitutionalization (Stein, 1992; Torrey, Erdman, Wolfe, and Flynn, 1990). These consequences became quite visible by the early 1970s, supporting arguments that the Community Mental Health Centers Construction Act of 1963 did not bring about needed community services (Chu and Trotter, 1974).

In the early 1960s, researchers Arnold Marx, Leonard Stein, and Mary Ann Test found that despite the gains patients had made in a psychosocial inpatient program at Mendota State Hospital in Madison, Wisconsin, many were readmitted (Marx, Test, and Stein, 1973). A service model was developed to extend “hospital-like” services into the community. Over the course of subsequent development, the model was named the Total In-Community Treatment Team (Marx, Test, and Stein, 1973), Training in Community Living, and Program of Assertive Community Treatment (PACT) (Stein and Test, 1980; Test, 1992). The model has become most generally known as Assertive Community Treatment (ACT).

ACT consists of a comprehensive package of treatment, rehabilitation, and support services, addressing the full range of individuals' biopsychosocial needs in the community (Allness and Knoedler, 1998; Stein and Santos, 1998; Test, 1992). ACT services range from direct assistance with symptom management and instrumental functioning (for example, medication delivery and monitoring, assistance with shopping) and living-skills development (for example, living-skills training, vocational-skills training) to support with social casework issues (for example, securing Supplemental Security Income, obtaining adequate housing) and facilitating an optimally supportive environment (for example, family psychoeducation, social and leisure activities). Services are provided round-the-clock by an interdisciplinary team with a low staff-to-client ratio, typically one to ten. The ACT team is the primary provider of services, which it tailors to the needs of individual recipients. The majority of services are provided *in vivo*, in natural environments in the recipient's community. Services are not time limited. A recipient may require them indefinitely.

ACT services continue to evolve (Thompson, Griffith, and Leaf, 1990). Following a current trend to integrate psychosocial interventions into larger "service packages" (Scott and Dixon, 1995b), ACT incorporates specific treatment and rehabilitation modalities as they are developed and empirically validated (Allness and Knoedler, 1998; Stein and Santos, 1998).

**The Heterogeneity of ACT.** Despite the fact that ACT has been operationally defined and replicated in a variety of settings, the model has undergone adaptations and alterations in its fundamental principles, core services, and organizational structure. There is, therefore, some heterogeneity across programs that share the ACT label. Even in programs that adhere rigorously to the original model, individualization of services produces procedural heterogeneity.

Dissimilarities between programs multiply as they incorporate new treatment and rehabilitation modalities. For example, *social skills training* is commonly a component of an ACT program. In the outcome research that supports its efficacy, social skills training is an intensive and highly structured group therapy modality, requiring high levels of staff skill and client participation (Lieberman, DeRisis, and Mueser, 1989). In some ACT programs, social skills training is provided according to this model, whereas in others, social skills training consists of semistructured social activities, such as going out for coffee.

Across the more than forty published studies, ACT models differ in a variety of respects (Mueser, Bond, Drake, and Resnick, 1998; Allness and Knoedler, 1998; Ridgely and others, 1996). A recent survey of 303 responding ACT programs in thirty-three states indicated that ACT models vary on such critical components as shared caseloads, twenty-four-hour service provision, time-unlimited services, and direct provision of services (Deci and others, 1995). For example, the Thresholds Bridge program in Chicago adapted ACT to their inner city-based psychosocial program, which currently *brokers* many services instead of directly providing them (Wetheridge and Dincin,

1985). One of the cofounders of ACT describes a model that includes brokering services (Stein and Santos, 1998), a distinction from the model of another cofounder (Test, 1992), in which brokerage is a method of last resort. Program model "drift" has been observed internationally as well. For example, ACT teams in suburban Sydney, Australia, transfer their clients to less intensive services if they are clinically and functionally stable for over one year (Hambridge and Rosen, 1994).

**Why ACT Programs Differ.** ACT alterations occur in part because regions are socially, politically, and economically different, making exact replication of model programs difficult or impossible (Bachrach, 1988). For example, some communities have already invested in a variety of other community-based programs, such as psychosocial clubhouses and vocational rehabilitation. It may be good policy for ACT teams to broker such services instead of replicating them (Witheridge and Dincin, 1985). Similarly, elements of ACT, such as assertive outreach, lower caseloads, and service continuity have already been incorporated into some service systems (Essock, Drake, and Burns, 1998).

The recipient population also plays a critical role in the way ACT services are delivered. ACT was developed to serve the estimated 20 to 40 percent of persons with severe and persistent mental illness who are "in greatest need," as evidenced by significant *functional impairments* (for example, difficulty with maintaining daily personal hygiene, taking care of personal business affairs, maintaining employment) and *continuous high service needs* (for example, repeated psychiatric hospitalizations, psychiatric symptoms that have been treatment refractory, difficulty with engaging in traditional office-based services) (Allness and Knoedler, 1998). Even with such explicit criteria, persons in greatest need are a heterogeneous group, in terms of diagnosis, onset, course, symptomatology, level of severity, level of impairment, and service needs (Bachrach, 1993). For example, individuals who meet the continuous high service needs criteria due to difficulty in engaging in traditional mental health services may need more support services that specifically promote adherence and follow-up (for example, assertive outreach, multiple contacts per day), whereas those who meet such criteria based on treatment-refractory psychiatric symptoms may require more services addressing symptom management.

ACT is often adapted to serve particular subpopulations. These include homeless persons with severe and persistent mental illness (Dixon, Friedman, and Lehman, 1993; Dixon and others, 1995; Lehman and others, 1997), persons with comorbid mental illness and substance abuse problems (Drake and others, 1998; Drake, McHugo, and Noordsy, 1993; Teague, Drake, and Ackerson, 1995), Veterans Administration service recipients with mental illness (Neale and Rosenheck, 1995; Rosenheck and Neale, 1998), and homeless persons with mental illness released from jail (Solomon and Draine, 1995). Similarly, client characteristics may vary by location, further accounting for differential service needs (Burns and Santos, 1995). For example, homelessness and substance abuse may be more problematic for clients served in urban

areas (Drake and others, 1997), whereas social isolation, poverty, stigma, and limited access to mental health services may be more problematic for clients served in rural areas (Mueser, Bond, Drake, and Resnick, 1998).

Geographical differences may also contribute to variations in ACT teams. For example, in rural areas, the long distances between towns and the lack of staff resources have essentially forced rural ACT teams to modify their service practices of providing twenty-four-hour coverage and a higher frequency of contacts (Fekete and others, 1998; Lachance and Santos, 1995; Santos and others, 1993).

Differing financing strategies and payment methods may also play a significant role in the extent to which particular ACT services are provided (Clark, 1997; Stein and Santos, 1998). Federal subsidies for ACT are more accessible for ACT-related services in states that include the Psychosocial Rehabilitation Option in their Medicaid plan (Allness and Knoedler, 1998; Mowbray, Plum, and Masterton, 1997; Stein and Santos, 1998) than in states that are limited to the Clinic Option. *Retrospective financing mechanisms* (for example, fee-for-service) allow for better monitoring of services actually provided, but may inhibit availability of services that generate less revenue. *Prospective financing* (for example, per diem) allows some flexibility in the services provided, but with greater difficulty in pinpointing which services were actually delivered (Clark, 1997).

Several states may have altered ACT to maximize perceived cost-effectiveness (Burns and Santos, 1995), especially states that contract with managed care organizations to provide mental health services. A profit-oriented managed care perspective emphasizes use of specific services that provide the best outcome at the lowest cost in a limited time frame, rather than investment in a service *model* whose benefits may accrue more slowly (Steinwachs and others, 1997).

## ACT Outcome Research

The various sources of heterogeneity in ACT produce inconsistencies in the results of outcome research. Careful analysis of heterogeneity across ACT programs is necessary in interpreting the research data. Similarly, it is increasingly important to identify the particular components of ACT that contribute to its overall outcome (Spollen, Meissler, and Santos, 1998). Several studies have identified such elements (for example, in vivo service delivery, low staff-to-client ratio, shared caseloads) (Lachance and Santos, 1995; McGrew and Bond, 1995; Witheridge, 1991). Researchers have developed measures of program fidelity (McGrew, Bond, Dietzen, and Salyers, 1994; Teague, Drake, Ackerson, 1995; Teague, Drake, and Bond, 1995) and methods of documenting the actual services provided by ACT teams (for example, Brekke and Test, 1987). One study found that programs that adhered most closely to the original model had lower hospital utilization (McGrew, Bond, Dietzen, and Salyers, 1994). Unfortunately, however, much of the research on ACT has not included

scrupulous attention to the content or procedural fidelity of its specific treatment and rehabilitation modalities, and access to such information is seriously limited. Until this methodological limitation is addressed, conclusions from the research remain incomplete.

The original ACT program in Madison, Wisconsin, continues to find the most consistent and positive client outcomes across a variety of domains (Stein and Test, 1980; Test and others, 1994). The first ACT outcome study targeted an unselected group of persons presenting for state hospital admission (half of whom were diagnosed with schizophrenia) (Stein and Test, 1980), whereas the second ongoing longitudinal study focuses on young adults with recent onset of schizophrenia, schizoaffective disorder, or schizotypal personality disorder, with a history of fewer than twelve months in psychiatric hospitals or penal institutions (Test, 1992). The first study compared ACT to standard hospital and aftercare services, whereas the second study continues to compare ACT to the range of services provided within the local mental health system in Madison.

Taken together, the results of these studies suggest that in comparison with the control group, ACT clients spent less time in psychiatric hospitals, skilled nursing facilities, legal settings, and in homeless conditions; spent more time in independent living and demonstrated greater success in that setting; spent less time unemployed, more time in sheltered employment, more time in normative employment, and earned more income from competitive employment; demonstrated less psychiatric symptomatology and less subjective distress; reported greater satisfaction with life; demonstrated better medication compliance eight and sixteen months after admission; reported more contact with trusted friends and participation in social groups; and demonstrated no greater family or community burden (Stein and Test, 1980; Test and others, 1994). There were no significant differences found between the ACT clients and control groups in their level of suicidality, ability to maintain social relationships, leisure-time activities, and quality of environment (Stein and Test, 1980; Test and others, 1994).

ACT's effectiveness in reducing psychiatric hospital utilization is a strong and consistent finding, particularly for those individuals who are high service users (Baronet and Gerber, 1998; Burns and Santos, 1995; Lehman, Steinwachs, and the Co-investigators of the Patient Outcomes Research Team Project, 1998; Marshall, 1997; Mueser, Bond, Drake, and Resnick, 1998; Olfson, 1990; Scott and Dixon, 1995a; Spollen, Meissler, and Santos, 1998; Test, 1992; Taube, Morlock, Burns, and Santos, 1990). In most reviews and in one empirical meta-analysis (Marshall, 1997), ACT was also consistently found to improve housing stability and level of independent living (Baronet and Gerber, 1998; Burns and Santos, 1995; Marshall, 1997; Mueser, Bond, Drake, and Resnick, 1998; Scott and Dixon, 1995a), as well as client and family satisfaction (Baronet and Gerber, 1998; Burns and Santos, 1995; Marshall, 1997; Mueser, Bond, Drake, and Resnick, 1998; Olfson, 1990; Test, 1992).

ACT's impact on psychiatric symptoms, employment, social functioning, and quality of life has been less consistently supported. Some reviews indicate a significant reduction in psychiatric symptoms (Baronet and Gerber, 1998; Scott and Dixon, 1995a; Taube, Morlock, Burns and Santos, 1990; Test, 1992), whereas others suggest more modest effects (Mueser, Bond, Drake, and Resnick, 1998), and still others indicate mixed results or no significant findings (Burns and Santos, 1995; Marshall, 1997; Olfson, 1990; Spollen, Meissler, and Santos, 1998; Test, 1992). Some indicate that ACT clients spend significantly more time employed (Marshall, 1997; Taube, Morlock, Burns, and Santos, 1990), but others indicate little effect (Mueser, Bond, Drake, and Resnick, 1998), or mixed outcomes (Baronet and Gerber, 1998; Burns and Santos, 1995; Spollen, Meissler, and Santos, 1998; Test, 1992), or no effect (Olfson, 1990). Social functioning has been more variably measured in the literature. Two reviews found ACT to have a significantly positive impact on social functioning (Scott and Dixon, 1995a; Taube, Morlock, Burns, and Santos, 1990), one review found little effect (Mueser, Bond, Drake, and Resnick, 1998), three indicated mixed findings (Burns and Santos, 1995; Spollen, Meissler, and Santos, 1998; Test, 1992), and two indicated no impact (Marshall, 1997; Olfson, 1990). Only one review found moderate improvements in quality of life (Mueser, Bond, Drake, and Resnick, 1998), whereas most reviews indicated mixed results or no effect at all (Baronet and Gerber, 1998; Olfson, 1990; Scott and Dixon, 1995a; Spollen, Meissler, and Santos, 1998; Test, 1992). Outcome in areas such as program retention, medication and treatment compliance, jail time, substance abuse, and family burden have not been consistently examined across research studies.

Several studies have examined the extent to which ACT clients can be transferred to less intensive community-based services over time (McRae, Higgins, Lycan, and Sherman, 1990; Salyers and others, 1998; Stein and Test, 1980). Overall, findings have been mixed, but several hypotheses may be drawn from them. ACT clients who are high service users may not fare well with a step-down approach, however. Such a transfer may be possible for ACT clients who have become relatively low service users and have made significant gains in independent functioning (Mueser, Bond, Drake, and Resnick, 1998; see Salyers and others, 1998).

Cost-effectiveness and cost-benefit studies of ACT have also been inconsistent. The original ACT study found that ACT had a small economic advantage over hospital-based care (Weisbrod, Test, and Stein, 1980). Several subsequent reviews and studies comparing ACT to other community-based services have found ACT to be cost-effective for individuals who are high users of hospital services (Essock, Frisman, and Kontos, 1998; Taube, Morlock, Burns, and Santos, 1990). However, in studies that assessed ACT in comparison to more rigorous community-based services for clients who were not high users of hospital services, ACT was no more cost-effective (Drake and others, 1998).

The inconsistencies in the ACT outcome research may be due in part to use of different outcome measures and outcome indicators (Burns and Santos,

1995; Taube, Morlock, Burns, and Santos, 1990), varying time periods for treatment and assessment (Burns and Santos, 1995; Olfson, 1990), and general methodological differences (McHugo and others, 1998). However, it seems unlikely that this can account for all the differences. In view of the heterogeneity of ACT and its recipient populations, logic points to two nonmutually exclusive conclusions: some kinds of ACT (as defined by core services, organizational structure, and so forth) are better than others; and ACT is more beneficial for some recipients than for others. This recalls Gordon Paul's famous comment that outcome research ultimately needs to go beyond global hypotheses of efficacy to determine, "What treatment, by whom, is most effective for this individual with what specific problem, under which circumstances, and how does it come about?" (Paul, 1969, p. 44). ACT research has only just begun to address these questions.

In this context, policy issues that look beyond the most basic principles (for example, mental health systems should have the capability of providing ACT) can be only tentatively addressed. Questions as to whether recipients can or should be moved to less intensive programs, whether high service use should be an eligibility criterion, what variables produce optimum cost-effectiveness, or even who can be safely and effectively served cannot be confidently answered based on current research findings. The relative contribution of ACT as a unified approach, as opposed to specific *components* of ACT delivered in other ways, is unclear. ACT services have been implemented to varying degrees, along with a variety of other supports and services, including case management, emergency services, residential facilities, and subacute hospitalization (for example, Rothbard, Richman, and Hadley, 1997; Rothbard and others, 1998). Comprehensive service arrays that lack the unifying and coordinating aspects of ACT may not optimally reduce hospitalization.

Future research needs to examine outcomes systematically across a variety of domains and variables, including those that are client-, setting-, and service-specific (Paul and Menditto, 1992). Continued efforts toward examining essential elements and direct-service practices will further aid this process and will be necessary to fully understand the outcome data. This does not mean that promotional activities and other efforts to stimulate development of ACT capability are ill-advised or premature, but it does indicate caution in mental health system planning regarding expectations about the nature and universality of ACT's benefits.

## **Implications for the State Hospital**

Despite the ambiguities in the research, it is clear that at the very least, ACT has made it possible for many persons with severe and persistent mental illness to live in community settings. In all probability, ACT will continue to be a factor in state hospital downsizing efforts. ACT not only reduces the need for long-term hospitalization but also enables recipients to use shorter-term inpatient services that are more commonly available in the private sector.

Ultimately, however, more must be learned about the particular nature of ACT “successes” and “failures” to predict its final impact on the role of state hospitals. There is some agreement that ACT is not successful for some individuals (Mueser, Bond, Drake, and Resnick, 1998). Even in Stein and Test’s (1980) widely cited original ACT study, about 18 percent were rehospitalized (see Allness and Knoedler, 1998). There have been no systematic studies of the characteristics of unsuccessful ACT recipients. It is probably a heterogeneous group. Many factors may contribute to failure, including the sheer severity of disability, persistence of acute psychosis, presence of high-risk behaviors and active noncompliance. Until more is known about this, an appropriate principle for mental health services planning would seem to be that ACT programs should be expected to successfully serve about 80 to 85 percent of the traditional state hospital recipient population. Alternatives must be available for the 15 to 20 percent for whom ACT fails. State hospitals may play an important role in this regard.

The evidence that ACT actually improves personal and social functioning is inconsistent. The evidence that it improves quality of life is weak at best. ACT’s emphasis on extraordinary support, as opposed to functional improvement, even raises concerns that it fosters dependency (Estroff, 1981). Although reducing hospital utilization is an intrinsically worthwhile goal, policy dilemmas arise if extraordinary support is an *alternative* to functional recovery. Ironically, some of the strongest empirical support for the efficacy of psychosocial rehabilitation in improving patients’ functioning comes from Paul and Lentz’s (1977) landmark outcome study, conducted in long-term inpatient settings (see also Stuve and Menditto, Chapter Three). It is possible that at least for some individuals, functional recovery requires services and settings more intensive than those typically associated with ACT, at least during discrete periods of time. If so, this may suggest an important role for state hospitals of the future.

## Conclusions

The extent to which ACT and related technologies will affect the role and recipient population of state hospitals is unclear. Key parameters are indeterminate or remain unknown, including the characteristics of successful recipients and their representation in the overall population, the nature of failure cases, the role of consent and involuntary treatment, the degree to which true rehabilitation is part of the ACT program, and the results of the cost-effectiveness calculus that considers the long-term value of functional improvement in comparison to continuing extraordinary support. Nevertheless, further ACT dissemination must be expected to contribute to a transformation of state hospital populations, toward smaller numbers of individuals who have more severe disorders and disabilities, and higher levels of noncompliance and dangerousness. This indicates a need for differentiation of function between the state hospital and the community, with state hospitals specializing in the unique needs of that subpopulation.

With modern rehabilitation technology, it can be expected that most individuals who need state hospital-based services that provide such rehabilitation at one point in time will achieve enough functional recovery to move on to community-based services. State hospitals and community-based agencies should provide a continuum of rehabilitation services to reflect that expectation. Active collaboration and exchange of resources and technologies between rehabilitation programs, regardless of their settings, are necessary for an optimal continuum of services (see Vandiver, 1997). In particular, future state hospital downsizing efforts should focus on application of rehabilitation technology *across the entire service system* and on the need for greater communication and service coordination between various settings.

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MARIA B. MONROE-DEVITA is a graduate student in the Clinical Psychology Training Program at the University of Nebraska-Lincoln and served as team leader in the development of a statewide program evaluation of Assertive Community Treatment in Nebraska.

DENNIS F. MOHATT is western regional vice president for Alternative Behavioral Services and former deputy director of the Nebraska Department of Health and Human Services, where he served as commissioner of mental health.