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TARTALOM

ASSERTIVE COMMUNITY TREATMENT: A CRITICAL UPDATE

ASSZERTÍV KÖZÖSSÉGI ELLÁTÁS: KRITIKAI ÁTTEKINTÉS

TOMI GOMORY

Abstract

Assertive Community Treatment (ACT) has been identified in the United States as one of only six evidence-based practices for the severely mentally ill by federal, private foundation, and academic mental health experts and is being rapidly implemented throughout the world. This article reexamines the research of the inventors of ACT (the Madison Wisconsin ACT group) regarding two of their claims. First, that ACT reduces homelessness, and second, that it also reduces penal stays, outcomes which have been key empirical claims for the National Alliance of the Mentally Ill's proactive and very successful public relations campaign to institutionalize ACT across the US. The Madison Wisconsin ACT group makes these assertions in the longest study (at least 14-years) ever done on this treatment model. The analysis concludes that there is no ACT specific clinical effect in these domains. The implications of these findings are also discussed.

Keywords: mental disorders – Assertive Community Treatment – evidence-based practice – critical analysis – critical thinking

Összefoglaló

Az Asszertív Közösségi Ellátást (ACT) az Egyesült Államokban a szövetségi, magán- és alapítványi intézmények, akadémiai szakértők úgy ismerték el, mint az összesen hat bizonyítékokon alapuló segítői tevékenység egyikét a súlyos mentális zavarokkal küzdők kezelésében. A módszert világszerte gyorsan kezdték el alkalmazni. A jelen tanulmány áttekinti az ACT kidolgozói (a Madison Wisconsin ACT csoport) kutatásait, két állításukra fókuszálva. Az első, hogy az ACT csökkenti a hajléktalanság veszélyét, a második, hogy mérsékeli a büntetés-végrehajtó intézményekben töltött időt. Ezek azok az empirikus eredmények, amelynek alapján a Mentális Betegek Nemzeti Szövetsége sikeres PR kampányt folytatott le, hogy szerte az Egyesült Államokban intézményesítse az ACT gyakorlatát. A Madison Wisconsin ACT csoport állításait az e modellen valaha lefolytatott leghosszabb, legalább 14 évig tartó kutatásra alapozza. Azonban az elemzésből kiderül, hogy semmilyen, specifikusan az ACT-nek tulajdonítható klinikai hatásról nem beszélhetünk. A tanulmány tárgyalja ennek a kutatási eredménynek a lehetséges implikációit is.

Kulcsszavak: mentális betegségek – Asszertív Közösségi Ellátás – bizonyítékokon alapuló gyakorlat – kritikai elemzés – kritikai gondolkodás

> Many of the commonly used modes of causal inference are fallacious … one such method of inference, the method of "consensus," has been embraced, presumably for political reasons, by the National Institutes of Health. Were consensus a correct basis for inference, then a once flat earth must have become spherical … Consensus itself requires no further justification, and may be based on shared beliefs that are irrational.
>
> Kenneth J. Rothman, Department of Epidemiology, Harvard University

Assertive community treatment (ACT or PACT) is one of only six nationally recognized evidence-based practices (EBPs) for the severely mentally ill in the United States (Mueser, Torrey, Lynde, Singer, and Drake, 2003). Mary Ann Test, a clinical psychologist, psychiatrist Arnold J. Marx, and psychiatrist Leonard I. Stein developed ACT over 30 years ago in Madison Wisconsin at Mendota State Hospital (Stein and Test, 1985, pp. 9-10). It was considered to be an immediate treatment success and named a *Gold Award: Community Treatment Program* (Test and Stein, 1976) following its first randomized controlled study (Marx, Test, and Stein, 1973). Over time it has come to be "widely recognized as an evidence-based practice for adults with severe mental illness … with a research base includ[ing] 25 well-controlled studies" (Bond, Drake, Mueser, and Latimer, 2001, p. 155).

Social work, the "helping" profession with the largest number of professionals in mental health practice enthusiastically promotes ACT. In a recent text, *Social Work Practice in Mental Health* (2002), Sands and Angell (2002) call ACT an "exemplar program" which "demonstrate[s] how effective mental health teams work" (p. 272). Assertive community treatment is now a federally recognized Medicaid-reimbursable treatment program as well (Bond et al., 2001, p, 147). Its success according to the consensus of its academic admirers is based on:

> Reviews of the research [which] consistently conclude that compared with other treatments under controlled conditions …. [ACT] results in greater reduction in psychiatric hospitalization and higher levels of housing stability. The effects of assertive community treatment on quality of life, symptoms and social functioning are [however] similar to … other treatments. (Phillips, Burns, Edgar, Mueser et al., 2001, p. 771)

For example, one of the latest reviews states:

> In agreement with most other reviews we conclude that ACT substantially reduces psychiatric hospital use, increases housing stability and moderately improves symptoms and subjective quality of life, but has little impact on social functioning. (Bond et al., 2001, p. 149)

The expert consensus on ACT research thus attributes two outcomes firmly to ACT when compared to alternate treatments: reduced hospitalization and greater community housing tenure. The start-up manual for ACT implementation commissioned by the National Alliance of the Mentally Ill (Allness and Knoedler, 1998), in addition to these generally recognized findings also asserts that:

The PACT intervention group demonstrated relative to the control group:

> Less time in a combination of hospitals, skilled nursing facilities, penal settings and conditions of homelessness. (p. 5)

This particular claim is based on as yet "unpublished" but widely referenced paper "Long Term Care of Schizophrenia: Seven Year Results" presented at the 1994 Annual Meeting of the American Psychiatric Association on the Madison ACT team's long-term study (Test, Knoedler, Allness, Kameshima et al., 1994).

Political supporters, such as NAMI use this particular paper's findings to forcefully promote and lobby state and federal legislators on behalf of ACT. NAMI's web site declares that:

> Thirty years of research already demonstrates that ACT is more effective than office-based traditional care for people with the most disabling psychiatric illnesses. ACT reduces the most devastating outcomes of severe psychiatric disorders, *including hospitalization, homelessness, and criminal incarceration*. Frustrated by the nation's continued failure to provide the effective treatment that researchers know works, NAMI decided to "take the bull by the horns" and promote the ACT model throughout the country. (emphasis added)

NAMI's lobbying and wide ranging national public relations campaign through the NAMI Anti-Stigma Foundation's NAMI/PACT Initiative for National Dissemination of the PACT Model has been largely responsible for the nationwide implementation of ACT (CSNN, 1997; Mueser et al., 2003).

The present author has previously pointed out in several articles (Gomory 1999; 2001; 2002a; 2002b), and a dissertation (Gomory, 1998), that ACT *itself* may not, when compared to alternate clinical treatment reduce the key and most widely claimed ACT "effect", hospital use or stay, nor other hoped for outcomes such as: increased independent community housing stability, improved symptomatology, and enhanced subjective quality of life. It does however; appear to rely on coercion to attain its "tautological" outcomes (on ACT and coercion see, Dennis, & Monahan, 1996). For example, hospitalization is reduced for the ACT treatment group not through any ACT clinical effect but due to:

> A fairly strict administrative rule not to admit or readmit any PACT clients for hospitalization regardless of the psychiatric symptoms and to carry out all treatment in the community, while at the same time freely readmitting any troubled client in the comparison group. The PACT originators make this explicit in their first experimental trial, where they list "virtual abstention from rehospitalizing any patients being managed in the community" (Marx, Test, & Stein, 1973, p. 506) as their second treatment guideline. (Gomory, 1999, p. 154)

And increases independent community housing appears to "work" by helping ACT, but *not* control:

> clients find rooms and apartments in the community rather than using …specialized residential settings. (Test, Knoedler, Allness, Kameshima, et al, 1994, p. 4)

So, by differentially targeting the ACT treatment group for administrative restrictions

(i.e. ACT group members regardless of symptomatology will be prevented from being hospitalized unless absolutely necessary, or ACT group members will not be offered "supervised" but only "independent" housing options , it appears *as if* ACT clinical treatment is reducing hospitalization and increasing independent living when in fact it's just selective and *paternalistic* administrative activity that is responsible.

In this update I will examine two politically powerful assertions; that ACT reduces homelessness, and criminal incarceration.

Methodological Note

The present article focuses specifically on the Madison ACT team's controlled studies and does not undertake a comprehensive review of the many ACT replication studies extant. The rationale for such a review of studies implemented mostly in the 1970s and 1980s is that all the contemporary ACT replications, uniformly accept and rely on the claims made by the Madison group regarding the validity of the original ACT research findings and the methodology employed, using it as the criterion for current ACT best practice. In fact, the latter generation of ACT proponents have developed fidelity scales to check how closely replications resemble the Madison model (Teague, Bond, and Drake, 1998) because "the more closely case management programs follow ACT principles, the better the outcomes" (Bond et al., 2001, p. 149). The largest randomized and controlled replication ever done on ACT, a Department of Veterans Affairs multisite demonstration project with over 800 clients is typical:

> The VA … program was designed through a comprehensive literature review supplemented by consultation from national experts in the Wisconsin Program of Assertive Community Treatment (PACT) *(Stein & Test, 1980).* … Consultation, including several site visits and attendance at program-wide orientation and training meetings, was obtained from an expert in the PACT approach. Efforts were made to improve program implementation at sites where the model did not appear to be fully implemented. (Rosenheck & Neale, 1998, p. 193)

Another group of long-time ACT researchers, Bond et al. (2001), describe ACT's working assumptions and its impact on mental health treatment research thusly:

> They … hypothesized that … community programs needed to replicate the array of medical, residential rehabilitation and other services provided by the hospital. That is, community programs needed to create a "hospital without walls." … Stein and Test's initial study involved *deflecting* patients presenting for hospitalization at a state hospital. One group received PACT services, whereas the comparison group received the standard community services. *Results clearly demonstrated the advantages of the PACT program across a range of clinical and social outcomes* … The study by Stein and Test … is probably the single most cited study in the literature on psychosocial treatment of mental illness in the twentieth century. (p. 146, emphasis added)

Because of this broad professional acceptance and consequent reliance on the ACT originators' research by the newer replication studies, if some or all of these well-accepted results turn out to be in error then the replication studies basing their work on these erroneous findings may also turn out to be flawed. Specifically, if the original clinical framework of

ACT does not actually produce the required clinical effects[1] claimed, any replications (by definition trying to mimic the original design as closely as possible) also may be subject to similar flaws and criticisms.

I have purposely stayed away from doing a "systematic empirical review" or a meta-analysis, the standard fare of current scientific research attempting to prove the evidence-based efficacy of psychiatric treatment, and rely instead on inferential reasoning of another sort. It is the "traditional methods of reflection, tracing of connections, [and] reaching tentative conclusions" (Bauer, 2000 p. 20).

A formulaic reliance on statistical significance testing and arbitrarily aggregated statistical findings can be harmful for good scientific work (McCloskey, 1985; Oakes, 1986) and may obscure or mask deeper methodological problems such as the erroneous construction of the variables used for a study's statistical analysis or the ignoring of the historical development of ideas, concepts, or theories fundamental to a research project (for example, see Gomory, 2002 for the history of the idea of ACT and its relation to coercion). As the distinguished economist Peter Bauer has suggested in another context:

> The acceptance of quantitative methods as the most respectable [scientific] procedure has permitted the burgeoning of incompetent and inappropriate econometric studies, including those based on flawed data. Conversely, studies based on direct observation or detailed examination of slices of history are apt to be dismissed as anecdotal, unscholarly or unscientific… In short, preoccupation with mathematical and quantitative methods has brought with it regrettable atrophy of close observation and simple reflection. … This type of reasoning … has retreated not because it has been proved less informative … [but] because it has been castigated as … less rigorous than its more modish successors, largely because it less resembles the procedures of the natural sciences, especially physics. (Bauer, p. 20)

As for systematic reviews by way of meta-analyses two well-respected American statisticians Richard Berk and David A. Freeman advise:

> [W]ith respect to meta-analysis, our recommendation is simple: just say no. The suggested alternate is equally simple: read the papers, think about them, and summarize them. Try our alternative. Trust us: you will like it. And if you can't sort the papers into meaningful categories, neither can the meta-analysts. (Berk &Freedman, 2001, p. 21)

Reduced Homelessness and Penal Stays

Several ACT outcome variables, one found individually to be statistically significant (hospitalization) and two others statistically non-significant (homelessness and penal stays), appear to be inappropriately combined in a variable called *all-poor settings* in the long-term Madison ACT longitudinal study giving erroneous impressions of ACT effectiveness

1 *Clinical treatment effect* is defined as some specified non-administrative clinical/biological/behavioral component(s) of ACT that can motivate or cause internalized/volitional change, or the "acquisition of coping skills" by ACT clients, which leads to clients' improved functioning that results in reduced hospital stays and greater "independent" community tenure for example.

in domains where none were actually achieved. The following quote on the NAMI web page gives the impression that ACT independently affects these three important patient outcomes:

> ACT reduces the most devastating outcomes of severe psychiatric disorders, *including hospitalization, homelessness, and criminal incarceration.* (NAMI, 2004)

The start-up manual for ACT implementation relying on Test et al. (1994), states in part that:

> Analysis of data from the first seven years of this investigation has been completed. To date the ACT intervention group demonstrated relative to the control group, … [l]ess time in a *combination* of hospitals, skilled nursing facilities, penal settings, and conditions of homelessness. (Allness & Knoedler, 1998, p. 5, emphasis added)

Specifically, ACT researchers asserted in 1994 that the patients in the experimental group did significantly better in a "combined" category labeled "all poor settings" (time spent in hospitals/skilled nursing homes + penal settings + homelessness) than the control group over the whole experimental period (Test et al., 1994). This variable appears to suggest that the experimental program not only reduces time spent hospitalized and in skilled nursing homes, (these settings are considered to be the same by the ACT researchers, see Test, Knoedler, Allness, Burke, Brown, & Wallisch, 1991, p. 243), but that it *also* significantly reduces, independent of reduced hospitalization, the amount of time spent in homelessness, and independent of either of the other components, time spent in penal settings. These are exactly the outcomes we would want such programs to impact and this appears to be the way NAMI has interpreted these results.

The Madison ACT inventors report this combined variable for the first time in 1994, some 16 years after the inception of the long-term study in 1978. They introduced it in the "unpublished" paper presented at the 1994 annual meeting of the American psychiatric Association (APA) [Test et al., 1994]. Their previous published articles on this long-term study analyzed each of these variables separately, as was also done in all their earlier ACT studies (i.e., Stein, Test, and Marx, 1975). This *innovative* "summing" of the three independent variables yielded statistically significant measurements favoring the experimental group at certain, *but not all* measurement periods. What this combining of previously discretely measured variables camouflages, is that the only statistically significant difference between the experimental and control groups among these components was on the component variable "time hospitalized/time in skilled nursing homes". Neither the "homelessness" nor the "penal settings" component was statistically significant between experimental and control treatment for the first two years of the study when measured independently. Any claimed statistical significance for the combined variable was driven by the statistically significant difference found for the "time in hospital/nursing home" component.

The only source of this information is an earlier article by the Madison ACT researchers, which gave the two year results of the long-term study, but did not mention any "combined" variable (Test, Knoedler, Allness, Senn Burke, Brown and Wallisch, 1991). This article explains that subjects in the experimental group spent significantly (p=. 001) less mean time, from study entry through 24 months, in hospital/skilled nursing home settings

than the controls (Test et al., 1991, p. 243). But when it came to the two-year findings on homelessness and penal settings, which constitute two-thirds of the combined variable "all poor settings", the researchers state that:

> [W]e also studied time spent in jail or other penal settings and in homelessness or homeless shelters. Throughout the first *2 years* the time that patients in both groups spent in these settings was small and did *not differ significantly between the groups*. (Test et al., 1991, p. 244, emphasis added)

The "unpublished" paper introducing this new "combined" variable is cited in the book, *The ACT Model: A Manual for ACT Start-Up* (Allness & Knoedler, 1998) as mentioned previously and also in many peer-reviewed publications to support the claim that ACT is an effective long-term treatment for "all poor settings" (e.g. Mueser et al., 1998, Wasner, Pinkerton, Dincin, & Rychlik, 1999).

Beyond the just quoted statistically non-significant findings for homelessness and penal stays in the early two year data described in Test et al., 1991, no further data has ever been published from this long-term study related to either this "combined" variable or homelessness and penal stays as separate outcome variables by any ACT researchers. It is clear from my unpublished review of the 1994 paper, contrary to the Madison ACT team's potentially misleading claims, neither homeless conditions nor penal settings measured *independently* differ significantly between the experimental and control groups. This holds true not only for the first two years, but for the balance of the seven years as well. It is difficult to see why the combined variable of "all poor settings" was created so late in the analysis of the long-term study other then to suggest a program effect on important outcome measures when none in fact exists.

An intriguing postscript surfaced just recently. Professor Test, the principal investigator of the long-term study, wrote a short article for the 2002 edition of the *Social workers' desk reference* entitled "Guidelines for assertive community treatment teams." This article was published approximately a year after criticisms regarding ACT's coercive approach and lack of efficacy beyond the tautological reduction of hospitalization appeared in *Psychiatric Services* (Gomory, 2001). In describing ACT effectiveness when compared to alternate treatments Professor Test states that ACT obtains:

> Marked reduction in days spent in inpatient settings, *with no greater time spent homeless or in jails/prisons.* (Test, 2002, p. 513, emphasis added)

Professor Test is unmistakably indicating that ACT *does not* reduce homelessness and jail time any more than control treatments, while reiterating the long standing ACT claim of reduced hospital stays. Her statement concerning homelessness and penal stays is unequivocally clear, while the earlier statement by her colleagues in the NAMI ACT start-up manual, who are also the co-principle investigators of the long-term study, is ambiguous. To repeat they assert:

> To date the ACT intervention group demonstrated relative to the control group, … [l]ess time in a *combination* of hospitals, skilled nursing facilities, penal settings, and conditions of homelessness. (Allness and Knoedler, 1998, p. 5, emphasis added)

Professor Test's acknowledgement raises some questions about the Madison ACT

researchers' earlier "published data" (actually only published assertions, no empirical data was ever provided) and the rationale behind the methodology of combining these variables for the ACT promotional publications.

A concrete example of how the studied obtuseness of "[l]ess time in a *combination* of hospitals, skilled nursing facilities, penal settings, and conditions of homelessness" can lead to factual misrepresentation, intentional or mistaken, that ACT is effective in each of the individual conditions of homelessness and penal settings, rather than only when summed together, can be found in a 1997 edited volume of a very popular publication series on "New Directions for Mental health Services" by Jossey-Bass titled, *The successful diffusion of innovative program approaches*. Citing the aforementioned 1994 APA paper the chapter author, Deborah Allness, one of the original authors of the 1994 ACT paper, misstates the original ACT research claims made in that paper, writing, "relative to the control subjects, the PACT intervention group showed … less time being homeless *or* in hospitals and penal settings" (1997, p. 22, emphasis added) rather than *and*. This way of putting the findings suggests discrete ACT effect in individual settings rather than the original PACT claim of ACT effectiveness only in a summative combination of these "all poor" settings.

Conclusion

This article, a follow-up to the present author's previous publications critically assessing Assertive Community Treatment (Gomory, 1998; 1999; 2001; 2002a; 2002b; 2005), addresses two key ACT outcome claims made by the supporters of ACT for justifying it as an evidence-based treatment model which were not addressed in his prior work, namely reduced homelessness and reduced penal stays. After analyzing the papers and publications of the ACT originators, despite their assertions, no clinical ACT effect was found for these two important variables, as there was none found for the other outcome claims of reduced hospitalization, longer and more autonomous community tenure, and reduced symptomatology in the earlier analyses.

Instead, this review found that the Madison ACT originators oddly combine three previously independently measured variables, hospital stays, homelessness, and penal stays. When they summatively combined them together under the label "all poor settings" the Madison ACT team found a statistically significant impact by ACT. The present review after separating the three variables comprising "all poor settings" and reviewing the relevant background research finds no clinical ACT effect successfully targeting independently homelessness or penal stays. Both homelessness and penal stays are statistically non-significant when separated from the statistically highly significant tautological finding of reduced hospitalization. Professor Test in a very recent publication (Test, 2002) fully agrees with this analysis. This leaves the question of why the "all poor settings" variable was created in the first place? Could it be the pressure on the ACT originators to "demonstrate" outcome findings beyond their self admittedly limited one of hospital stays after so many years of research and public tax dollars spent on extensive implementation?

Some Difficulties

The fact, that the current author's present and prior work examining the original ACT developers claims for treatment effectiveness found all of these claims to be errors, findings which have never been empirically refuted by the ACT experts (see the exchange between the present author and the ACT experts in *Psychiatric Services*, 2001, pp. 1394-1397),

suggests some difficulties for these experts and their latter ACT replications. All of these current and future replications appear to be in a logically impossible position. You cannot maintain that you have identified a well-tested evidence-based practice which is replicable based on the scientific success of the original model, insisting that the quality of these replications is to be judged by achieving close fidelity to the original model (attempting to implement all the original elements as closely as possible to the model described by the Madison team), while at the same time admitting that you must make changes to the original model by having to take steps "over … two decades to address the imperfect evidence base …to inform further development of the model" (Burns, 2001, p. 1395).

The point is, that every time you change a discrete intervention model, let's say ACT, because problems are discovered during implementation requiring model revisions you no longer have the original model but instead, a brand *new* model, let's call it ACT1, with new components and interactions among them that requires brand new testing of this new model. These two models are the same "model" in name only. As a consequence, the originally implemented model, in this case ACT, which I argue has been refuted as a clinically specific, effective treatment model through the analysis described in the present paper no longer can be identified as an appropriate model for future replication of effective clinical treatment. Any subsequent, reworked "replication" model (ACT1) for instance, may in fact be found, after rigorous independent testing, to be clinically effective, but it could not and should not be referred to as ACT because it will be structurally and methodologically different.

A Challenge

For the proponents of ACT who are skeptical of the analysis presented here and in this author's prior publications I would urge them to subject the author's findings to empirical testing. For example, to test my claim that reduced hospitalization is due to the administrative rule that *all ACT patients are to be treated in the community regardless of symptomatology* and not to any specific ACT clinical effect, a future ACT randomized and controlled trial should simply reverse the administrative application of this rule. The "control" community treatment patients would be kept in the community and treated there regardless of their symptoms, while the ACT patients would be routinely hospitalized if they become highly symptomatic in the community. The aim would be to see if the "control" *clinical* treatment now becomes the more "effective" community treatment by having fewer patients hospitalized or with fewer hospital days. If ACT despite the rule change continues to have fewer hospital admissions or hospital days than the control treatment, then we can conclusively attribute this outcome to ACT *clinical* effect as is now asserted by ACT experts. If not, then the present author is correct and no ACT *clinical* effect exists for reduced hospitalization. All the other ACT findings, which this author argues are also administratively induced, could be evaluated similarly.

Since we are talking about a program model that cost several hundreds of millions of dollars annually to implement and maintain throughout America and is rapidly being "replicated" in the rest of the world and which potentially involves hundreds of thousands of individuals who are labeled severely mentally ill, finding out which mechanism - administrative coercion or therapeutic treatment - is at work, would have significant economic and human impact.

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