

Programs of Assertive Community Treatment (PACT): A critical review.

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Abstract

Advocates of Programs of Assertive Community Treatment (PACT) make numerous claims for this intensive intervention program, including reduced hospitalization, overall cost, and clinical symptomatology, and increased client satisfaction, and vocational and social functioning. However, a reanalysis of the controlled experimental research finds no empirical support for any of these claims. Instead, there is evidence that the program is both coercive and potentially harmful. The current promotion of PACT appears to be based more on professional enthusiasm for the medical model than upon any benefit to the clients

Introduction

The Programs for Assertive Community Treatment model, commonly known as PACT or ACT, was invented approximately 25 years ago by Marks, Test, and Stein (1973; Stein & Test, 1980). It is the most well researched and promoted community mental health treatment for those labeled persistently and severely mentally ill (SMI's). According to Mueser, Bond, Drake, and Resnick (1998), 27 random assignment and 23 uncontrolled studies have been completed on the model. The growth of the Training in Community Living Program (as PACT was originally named) in just 14 states went from 223 programs in 1992 to 397 programs by 1996. These PACTs treat 24,436 individuals, with

total annual costs exceeding 157 million dollars, about half of which is paid through Medicaid (Community Support Network News [CSNN], 1997, p. 3).

In 1997, a National Alliance for the Mentally Ill (NAMI) "Initiative for National Dissemination of the PACT Model of Care for Adults with Psychiatric Brain Disorders" was launched with the support of the National Institute of Mental Health (NIMH). It sought to "implement a means of rapid and effective replication of the PACT model [and to] Influence state and local mental health authorities to adopt ACT as a core program within their service delivery system" (CSNN, 1997, p. 10). Other well researched models exist, such as the broker service, clinical case management, intensive case management, strengths, and rehabilitation models (Mueser et al., 1998). The choice of PACT seems based on claims such as "The effectiveness of the [PACT] model has been proven, not only in terms of clinical care, but also in terms of the quality of life and satisfaction of clients" (CSNN, 1997, p. 19).

Is the PACT model even a clear and distinct approach that can be studied and evaluated on its own and fruitfully compared to other community care models? The literature suggests otherwise. For example, Mueser et al. (1998) state that "In practice, the differences between models of community care can be difficult to establish" (p. 40). A further complication is the phenomenon of ad hoc definitional blurring, with the literature on assertive types of treatment now referring to the latter as "aggressive community treatment": "Defined broadly, aggressive community treatment includes ACT teams, intensive case management, mobile crisis teams, and out-reach to difficult to reach populations. The 'active ingredients' of aggressive community treatment include in vivo service delivery, low client/staff ratios (usually 10:1) and receipt of services 'as long as their need for help persists'" (Dennis & Monahan, 1996, p. 2).

As a consequence, the analysis which follows--although referring to PACT--can be applied to the various intensive community treatment models listed above. As we shall see, they appear to share the chief characteristics of intensity, assertiveness, or aggressiveness, which may better be identified as coercion. As Diamond (1996) succinctly put it, "The development of Programs for Assertive Community Treatment (PACT), assertive community treatment (ACT) teams and a variety of similar mobile, continuous treatment programs has made it possible to coerce a wide range of behaviors in the community" (p. 52).

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What is PACT and what does it claim to accomplish?

According to Test (1992), PACTs have four essential characteristics:

Core Services Team The team's function is to see that all the patient's needs are addressed in a timely fashion. ... Having one team provide most of these services minimizes the ... fragmentation of ... care systems and allows for integrated clinical management .

Assertive Outreach and In Vivo Treatment An essential ingredient ... is the use of

assertive outreach. [staff] reaches out and takes both biological and psychological services to the patient[in the community] .

Individualized Treatment Because persons with serious mental illnesses are greatly heterogeneous and both person and disorder are constantly changing over time, treatment must be highly individualized .

Ongoing Treatment and Support It must be concluded that even very intensive community treatment models do not provide a cure for severe mental illness, but rather provide a support system within which persons with persistent vulnerabilities can live in the community and grow. It appears these supports must be ongoing rather than time limited." (1992, pp. 154–156)

These characteristics are said to be based on the "broad biopsychosocial model of serious mental illness" (pp. 156–157). A prior critical analysis of the theoretical framework of this model (a brief version of which will follow) suggests that it is nothing more than the "medical model" and contains serious conceptual and empirical difficulties (Gomory, 1998).

Various authors claim that PACT is significantly more effective than alternate treatments in reducing hospitalization rates, that it is more cost effective, that it provides greater client satisfaction than alternate treatments, that it improves client functioning and symptomatology, and that it improves vocational functioning (Burns & Santos, 1990; Mueser et al., 1998; Olfson, 1990; Scott & Dixon, 1995; Solomon, 1992). However, an in-depth review of the 27 randomized clinical trials of PACT suggests that the PACT approach does not, contrary to these claims, demonstrate any significant positive effects (Gomory, 1998). This review further suggests that the prime mechanism of PACT is coercion, backed by the biomedical model, which justifies the very high "maintenance" (common or routine) use of psychotropic medication. The coercive and biomedical characteristics of PACT are well expressed in two statements:

The program was "assertive"; if a patient did not show up for work, a staff member immediately went to the patient's home to help with any problem that was interfering. Each patient's medical status was carefully monitored and treated. Medication was routinely used for schizophrenic and manic depressive clients. (Stein & Test, 1980, p. 394)

Congruent with our conceptual model, we tell our patients that indeed we believe they are ill, otherwise we would not be prescribing medication for them. (Stein & Diamond, 1985, p. 272)

This paper will review the research findings on PACT, describe the development and utilization of coercion, and show how the medical model drives PACT. It will also provide a brief conceptual critique of why PACT is theoretically unsound as well as alternate explanations for the various phenomena PACT appears to influence. Where necessary, exemplary quotes from representative studies of PACT research (those closely replicating the PACT model as judged by the experts) will be used.

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Reviewer's Analytic Method

The present reviewer's approach can best be described as the application of fallibilist criteria (Miller 1994; Popper, 1962; 1979) to research findings. This approach attempts, through stringent criticism of each study, to falsify the study's findings. This is valuable because if such a critical effort fails, the evidence is up to the task and we may continue claiming efficacy for the treatment. If the evidence cannot withstand the criticism, then we ought to revise or abandon the non-efficacious treatment. The fallibilist approach contrasts with the justificationary approach found in typical reviews of PACT research. These appear to accept reported results as fact without close analysis (e.g., Burns & Santos, 1995; Mueser et al., 1998; Olfson, 1990; Scott & Dixon, 1995; Solomon, 1992).

Positive reviews are usually produced by experts who are themselves PACT researchers, so that the continued validation of the model strengthens the experts' value and power. This potential conflict of interest may undermine their ability or desire to critically evaluate the PACT clinical trials. Rarely, if ever, do reviewers evaluate the methodology used in individual studies (Draine, 1997, and Marshall & Lockwood, 1998, are exceptions but their efforts are not fallibilistic enough). Mueser et al. (1998) frankly acknowledge this lack of interest:

We recognize that methods exist that would allow us to rate the methodological rigor of studies. However, such ratings are tedious to perform and difficult to interpret. For these reasons, and because of the length of our review, we chose not to formally rate the methodological adequacy of studies. (p. 44)

A serious consequence of such uncritical acceptance is the use and standardization of unreliable and invalid outcome measures. The Cochrane Collaboration's recent PACT review states that "A striking and unexpected finding was the extent to which inadequately validated instruments were used to measure outcome. This finding suggests that there may be as yet some uncharted bias related to the use of outcome scales in psychiatry" (Marshall & Lockwood, 1998, p. 14).

The present author relies in this review on Test and Stein's original construct of PACT as the exemplar, even though it is well over 25 years old. Much has since been written about PACT. Because Test and Stein's model is still the only clearly articulated version of this treatment, researchers in recent controlled trials of PACT usually acknowledge that they are trying to "replicate" the original model (e.g., Lehman, Dixon, Kernan, DeForge, & Postrado 1997, p. 1039).

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Strauss and Carpenter's Psychosocial Model of Mental Illness

The originators of PACT "utilize a broad biopsychosocial model of serious mental illnesses (Strauss & Carpenter, 1981) to conceptualize the treatments and services that might be helpful" (Test, 1992, pp. 156-157). They present this model as a unique and

recent theoretical construct, though it is the same medical model that has been discussed since the 19th century, when alienists realized that the combination of psychosocial and biomedical explanations of bizarre behavior would be convincing and difficult to refute. These explanations encompass all potential causes, and offer the requisite "scientific" cover of medicine (Scull, 1989, p. 112; 1993, pp. 41–42). Strauss and Carpenter (1981) acknowledge this when they state that, "The introduction of [Kraepelin's medical model] has had a profound impact; Kraepelin's discrimination of dementia praecox from manic depressive illness is a cornerstone of scientific psychiatry" (p. 3). Like their predecessors, Strauss & Carpenter provide no empirical evidence to support this model and acknowledge that we still know very little about schizophrenia: "Since Kraepelin and Bleuler originated the concept of schizophrenia, steady progress has been made in the acquisition of knowledge necessary for understanding this disorder. Despite this progress, the essence of the puzzle remains unsolved." (1981, p. 7).

By using the biopsychosocial model to explain mental illness, PACT researchers are not using a scientific, but a scientistic model of explanation, not testable even in principle. By definition, this model allows any rationale for etiology: nothing is excludable (refutable) and ad hoc statements may explain away any potential falsifications. Its vague and imprecise nature provides a fertile environment for the growth of endless numbers of alleged etiological explanations. Strauss and Carpenter (1981, chapters 7 and 8) offer genetic, biochemical, psychophysiological, psychological, and social explanations for "serious mental illness".

Further, psychiatry's inability to demonstrate the existence of a discrete non-random syndrome of schizophrenia undermines a scientifically meaningful explanation of schizophrenia as a "real" disease (Boyle, 1990; Gomory, 1998). The failure to identify a specific biological dysfunction further impedes the likelihood of finding disease specific treatments.

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Comprehensive PACT Services for All Client Needs?

The PACT claim that a Core Service Team can provide all the necessary services that a person may need is philosophically naïve and empirically impossible. On a societal level, this would be labeled utopian (Hayek, 1979; Popper, 1962). Such utopian efforts are logically untenable but may help enhance the model's market value.

The PACT effort to meet "all" client needs appears to have more to do with what the providers define as needs than what the clients desire. The assumption of specific client "needs" must also hypothesize some "gaps" as defined by the PACT experts, in the social, environmental, or personal domains impacting clients. These gaps must be "compensated" for by providing employment training, skills training, rehabilitation, education, or environmental and behavior modification (Test, 1992, pp. 154–158). The PACT experts emphasize that "programs must provide interventions ... focusing not only on changing the person but also on changing the environment " (pp.156–157). This agenda thus assumes some notion of necessary change; from a behavior or situation defined as unhealthy or inappropriate, to another behavior or situation presumably

found to be better.

Professionally defined expectations of client change can be coercive and patronizing, and ultimately harmful. Clients expected to make such changes should therefore freely commit to them. The PACT researchers rarely state explicitly that this choice is the autonomous right of PACT clients. Who should be authorized to define appropriate change of client environment and behavior?

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The Problem of Vanishing Treatment Effect

Ongoing assertive community treatment, wanted or unwanted by clients, is justified by the claim that when such treatment stops, the intervention effect evaporates (Test, 1992, p. 159). PACT experts admit that it is unclear why this occurs, but they hypothesize that because "the underlying psychobiological vulnerabilities and/or deficits of schizophrenia persist for many patients," these "may need ongoing rather than time-limited special supports" (Test, Knoedler, Allness, Burke, Brown, & Wallish, 1991, p. 240).

As an alternate hypothesis, the PACT program may be confusing the workers' effort for the clients' effort. For example, what is really happening "when a patient did not show up for work one day, the psychiatrist accompanied the other staff members to the patient's home and got him out of bed and off to his job" (Stein and Test, 1976, p. 268)? If PACT workers invade a reluctant client's home and force the client to go to work they may not have accomplished their therapeutic goal. At most, they have demonstrated that force can get a client to the job site. No claim can be made about improving the client's work effort, nothing may have been internalized independently by the client about the value of doing the coerced activity.

That clients do not attend work on their own after these PACT interventions are discontinued tends to corroborate this alternate explanation. The "effect loss" (Test, 1994, p. 156) may be an artifact of PACT workers no longer coercing the measured activity. Such program failure or "effect loss" is found in all of the PACT research. It is mistakenly explained by the alleged incurable nature of mental illness. This justifies indefinite treatment with long term PACT funding providing a steady source of income for the experts involved.

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PACT as Coercive Intervention

What does the PACT program look like in practice? Stein (1990) explains:

The ACCT (the team) serves as a fixed point of responsibility ...

and is concerned with all aspects of their (the patients) lives that influence their functioning, including psychological health, physical health, living situation, finances, socialization, vocational activities, and recreational

activities. The team sets no time limits for their involvement with patients, is assertive in keeping patients involved. In addition to the day to day work ... the team is available 24 hours a day, seven days a week. (p. 650, emphasis added)

This methodology appears highly intrusive. PACT activity may include such coercive moves as becoming the representative "financial payee" of the client, which provides opportunities to blackmail the clients by enforcing medication compliance or threatening to withhold monies belonging to the client (Stein & Test, 1985, pp.88–89). Forcing treatment on clients who do not want it is also used (pp. 91–92). Even bribery may be deemed appropriate in the name of PACT treatment: "it might be necessary to pay a socially withdrawn patient for going to the movies in addition to buying his ticket" (Test & Stein, 1976, p. 78).

To validate the use of assertive outreach and treatment, the original PACT researchers rely on just two studies, one of which is their own (Test, 1981, p. 80). The other study is by Beard, Malamud & Rossman (1978), who describe their Fountain House outreach program as follows: " phone calls, letters, and home and hospital visits made by both staff and members. Through such contacts, subjects who dropped out were provided with further information . In those ... instances when an individual requested that no further contacts be made, his wishes, of course, where respected" (p. 624, emphasis added). Respect for the wishes of people who choose not to be involved in the Fountain House program contrasts with the coercive methods used by Test and Stein (1976):

A staff person attempting to assist an ambivalent patient to a sheltered workshop in the morning is likely to receive a verbal and behavioral "no" . If the staff member approaches the patient with a firm, "It's time for you to go to work; I'll wait here while you get dressed," the likelihood of compliance increases. The latter method allows less room for the patient to "choose" passivity. (p. 77).

Two questions come to mind: why is the patient described as ambivalent, when the patient's reported behavior indicates a resolute opposition to going to work? Second, why is the patient's active refusal redefined into "passivity"? The disregard of patients' expressed wishes, and the reinterpretation of their behavior to justify programmatic interventions, appear to be the outstanding characteristics of PACT-like programs. The Fountain House model, by contrast, immediately discontinues outreach efforts if asked by the dropouts. This difference leaves the PACT experts with nothing except their own research to support the effectiveness of the assertive approach they advocate.

Coercion appears to be a vital part of the PACT model, according to the candid admission of Diamond (1996), a close associate of the original PACT group in Madison:

Paternalism has been a part of assertive community treatment from its very beginning.... In the early stages of PACT, consumer empowerment was not a serious consideration . it was designed to "do" for the client what the client could not do for himself or herself. Staff were assumed to know what the client

"needed." Even the goal of getting clients paid employment was a staff driven value that was at times at odds with the client's own preferences.... A significant number of clients in community support programs have been assigned a financial payee.... This kind of coercion can be extremely effective.... Obtaining spending money can be made dependent on participating in other parts of treatment. A client can then be pressured by staff to take prescribed medication . the pressure to take medication can be enormous....While control of housing and control of money are the most common methods of coercion in the community other kinds of control are also possible. This pressure can be almost as coercive as the hospital but with fewer safeguards. (pp. 53–58).

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An Analysis of PACT claims

Claim – PACT significantly reduces hospitalization when compared to standard treatment. (This claim has been primarily responsible for the enthusiastic response to PACT.)

Evidence – PACT methods have no direct bearing on the reduced hospital stays found in the studies. This result is 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.

Similarly, in one of the acclaimed Australian PACT replications, "The project group patients were not admitted if this could be avoided: instead they were seen by members of the project team who took them back to the community ." (Hoult, Reynolds, Charbonneau-Powis, Weekes, & Briggs 1983, p. 161). No effort was made to keep the control group from readmission and 96% were readmitted (p. 160). Several reviewers (Olfson, 1990; Solomon, 1992) have noticed this maneuver. According to Olfson (1990), "Restricting the clinical criteria for hospitalization is an explicit tenet of assertive community treatment. Under such conditions, reducing hospital utilization becomes more of [a] process variable than an outcome variable" (p. c-75). In sum, any decrease in hospitalization is not intervention dependent; it results from an administrative action.

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Claim – PACT is more cost effective than standard interventions.

Evidence – Since hospitalization is by far the more costly treatment, the cost savings are not dependent on specific PACT interventions but on keeping people away from hospitals. Cost reduction occurs as a by-product of the PACT approach. Cost reduction could occur with any other treatment rigorously pursuing the same objective of not admitting patients to hospitals.

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Claim – PACT provides significantly greater client satisfaction.

Evidence ~ Client satisfaction appears to be independent of distinct PACT activity. For example, in the Australian study the claim of client satisfaction favoring the PACT methods is contradicted by the data. It appears that the greater autonomy provided by any community treatment, not the particular interventions of PACT cause this increased satisfaction. In this study the patients were surveyed at a 12-month follow-up: "The majority (80%) of experimental group patients who were not admitted to the hospital were pleased and grateful about it; only 30% of control group patients were pleased and grateful about being admitted to hospital, whereas 39% were upset and angry." (Hoult, 1986, p. 142). Stated differently, "Treatment preference was explored by asking all patients whether they prefer admission to Macquarie Hospital or treatment at home by a community team. The majority of the project (87%) and control (61%) patients preferred community treatment" (Hoult et al., 1983, p. 163). A majority (61%) of the group that did not experience the PACT treatment still preferred community treatment rather than incarceration in an institution. In fact, the experimental group felt that the most important elements of the PACT treatment were the availability of staff for frequent caring, supportive, personal contact and the enhanced freedom, elements not specific to PACT (Hoult et al., 1983, p. 163).

Lending further support, the only published survey of "client perspectives" on PACT "ingredients" (McGrew, Wilson, & Bond, 1996) identified in order of preference "helping relationship, attributes of therapist, availability of staff, and non-specific assistance" as what clients liked most (p. 16, table 1). Again, these attributes are not PACT specific and are applicable to all forms of "helping". The least liked of the 25 elements associated with PACT treatment was "intensity of service". The survey's authors, themselves longtime PACT experts, admit that "Somewhat surprisingly, non-specific features of the helping relationship emerged as the aspects of [PACT] most frequently mentioned as helpful (McGrew et al. 1996, p. 190).

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Claim ~ PACT significantly improves client functioning.

Evidence – No PACT specific treatment achieves significantly superior client functional or symptomatological improvement over an alternate treatment. This can best be explained by briefly reviewing the largest controlled trial (n=873), done on PACT (Rosenheck & Neale, 1997; 1998). The researchers report that at the 6 General Medical and Surgical Hospital sites (GMS) (n=528), but not at the 4 Neuro-Psychiatric Hospital sites (n=345) PACT "is associated with greater improvement in long-term (2-year) clinical outcomes and when fully implemented is cost neutral" (Rosenheck & Neale, 1998, p. 459).

Methodological difficulties

The claim of clinical effectiveness rests on putatively finding significantly higher

community living skills favoring IPCC (PACT) patients "across the [4] follow-up periods" and with finding, at "the final interview" only, significantly lower symptoms, higher functioning and increased satisfaction with services (p. 459). In a non blind study such as this one, all the measurement instruments requiring observer ratings such as the Brief Psychiatric Rating Scale or the Global Rating Scale are open to observer bias. Instruments using self-report measures like the Global Severity Index of The Brief Symptom Inventory may be confounded by the effect of the environment on the patients' responses (Gomory, 1998), potentially affecting the validity of the data gathered.

The "finding" of significantly higher community living skills across treatment periods favoring the PACT group is belied by the data. At 6 and 12 months the "community living skills competence" scores favor the control treatment. The graph in figure 3 shows that the control group outperformed the experimental group for well over 12 months, but an impressive difference favors the experimental treatment at the exit interview (Rosenheck & Neale, 1998, p. 463, table 2 and Rosenheck & Neale, 1997, figure 3). The seemingly positive result in the exit interview could have been caused by many factors including (1) relief at being free of a coercive program, (2) fear of offending a potentially dangerous authority in a coercive program, or (3) a desire to please the interviewer. Meanwhile, an expensive, long-term, and potentially abusive program should not be justified on the basis of an exit interview that contradicts data gathered during the treatment period.

Unintended research results

The researchers identified post facto, two GMS study sites (no. 2 and 5) that did not fully implement the PACT treatment: Site 5 "developed a low-intensity patient tracking program rather than [PACT] services." (Rosenheck, Neale, Leaf, Milstein, & Frisman, 1995, p. 134); and site 2 provided substantially fewer community based services and under performed in most PACT categories when evaluated for program fidelity (Rosenheck & Neale, 1997, p. 11). Attempting to show that the increased costs of PACT were the result of these 2 sites' ineffective PACT implementation, the researchers decided to reanalyze the data with these two sites excluded. They thus eliminated 34% of the original sample. This proved fruitful because the statistically significant difference found during the original analysis of costs was reduced to a non-significant difference, (Rosenheck & Neale, 1998, p. 463). More to the point, eliminating these two sites created an unintended experimental situation to reanalyze clinical outcomes.

If the dropped programs were less effective the reanalyzed clinical outcome measures should have increased the statistically significant impact originally found. However, after "excluding the 2 general medical and surgical sites that did not implement the [PACT] program clinical outcome results did not change" (Rosenheck & Neale, 1998, p. 463). In other words, with over a third of the original sample removed, about half of whom were essentially in a no treatment group, no change occurred in "the clinical outcome data". Being or not being in PACT made no difference to clinical outcome. Dr. Rosenheck (personal communication, October 1997) confirmed that in the original analysis the clinical results of the two excluded sites were in the same direction and with similar significance as the results found at the other sites.

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Claim ~ Occasionally, positive significant vocational effects are observed as a result of PACT (Marx et al., 1973; Stein & Test 1980).

Evidence ~ The latest review of the research corroborates the present author's detailed analysis provided elsewhere (Gomory, 1998): "Examining the results of the three positive studies [the only PACT experimental trials finding positive effects] further suggests that vocational outcomes are probably not the results of the [PACT] per se." (Mueser et al., 1998, p. 55).

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Possible Negative effects PACT

Another consistent justification for advocating the utilization of PACT, even where limited or no effectiveness can be attributed, is that it does no harm. In her review of case management models--14 out of 20 of which are PACT programs--Solomon (1992) writes that "Case management does not appear to produce negative effects and is as effective as hospitalization and subsequent aftercare." (p. 176-177).

In a subsequent study, Solomon and Draine found one of two key negative effects. The study was part of a larger randomized controlled trial of 200 homeless SMI's leaving an urban jail system (Solomon & Draine, 1995a) which aimed to test the effectiveness of PACT compared to individual case management and to a no-intervention control group. Solomon and Draine (1995b) noticed a high recidivism rate (56%) among the PACT group, compared to 22% among case managed individuals and 36% among the controls (p. 168). The researchers subsequently compared 22 clients in the PACT to 29 clients in individual case management in order to explain this unexpected finding. The significant findings of this second study were that clients of case managers who sought legal stipulations were more likely to return to jail, case managers were more likely to initiate a violation of probation process as an intervention strategy with clients for whom they sought legal stipulations and these clients returned to jail faster (p. 170). These were all PACT specific activities. Solomon and Draine (1995b) note that "These findings raise provocative questions regarding the possibility of deleterious consequences of intensive case management services for seriously mentally ill people" (p. 171). This study was the first to publicly acknowledge possible harmful effects of PACT and potentially serious ethical and moral difficulties inherent in PACT coercion: "coercive case management may defeat the goal of increased independence and is antithetical to the general principle of client self-determination" (p. 171).

In addition Solomon and Draine (1995a) found no differences in any domain between the three treatment groups. This result argues strongly for the use of no-treatment control groups in every PACT trial in order to determine whether PACT is superior to minimum or no treatment.

A second negative effect, possibly related to the coercive elements of PACT, is the increased incidence of suicide in PACT settings. Cohen, Test, and Brown (1990, p. 603) report eight clear-cut and one possible suicides among the subjects of the long-term study conducted by the PACT originators, Test, Knoedler, Allness, Burke (1985). There may have been one additional suicide in this study. Test et al. (1985) report that the subjects in the study were given the structured interview from which the baseline data was obtained after three months of participation. Reporting on clients who were excluded from this interview they state, "It was not possible to interview five subjects: one committed suicide during the first three months" (p. 854). Since Cohen et al. (1990) reported only the data collected on those suicides that were given at least one structured interview, they may have left out the one suicide that occurred in the first three months.

Another study by Hoult et al. (1983) reports that "during the eight months after presenting at Macquire Hospital 10% of the project but none of the control patients were reported by relatives as having attempted suicide. These were project patients, who prior to and during the study period made repeated suicide attempts" (p. 165).

Another study that attempted to closely replicate the Test and Stein model (Knapp, Beecham, Koutsogeorgopoulou, Hallam, Fenyo, Marks, Connolly, Audini, & Muijen 1994; Marks, Connolly, Muijen, Audini, McNamee, & Lawrence, 1994) reports that, "In the cohort of 189 patients, five died of self-harm in the 20 month study (three [PACT], two control). As with SMI suicides in Madison [Test and Stein's study] such deaths were unexpected and occurred despite recent contact with staff" (Marks et al., 1994, p. 187). While the result does not implicate PACT as a cause of suicidal behavior, it suggests that PACT was unable to prevent these suicides. The study's authors spend considerable article space attempting to demonstrate that the PACT treatment was carefully and comprehensively provided to these patients. Several PACT patients were judged to be improved by the PACT experts immediately before they committed suicide. This points to the problematic nature of psychiatric evaluations. Psychiatric tools appear to be unreliable both in preventing suicides and in identifying suicidal individuals (Gomory, 1997).

Research is needed to explore the possible harmful coercive elements in assertive treatment that may contribute to both suicidal behavior and completed suicides. We should question the scientific validity and professional ethics of using any coercive methods in working with such vulnerable patients (Gomory, 1997). Marks et al. study's PACT patients had very close attention paid to them by the assertive treatment team: "The three [PACT] suicidal patients had had unusually persistent care" (Marks et al., 1994, p. 187). Can such coercive scrutiny be counter-therapeutic?

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Conclusion

Although PACTs are packaged by institutional psychiatry and its various supporters as a discrete, well tested modality of effective treatment, a critical review of the conceptual framework and the controlled experimental research reveals negative findings as well as possible harmful effects. Why PACT remains aggressively marketed may be explained

by the failure of institutional and biopsychiatric treatment efforts in general (see, generally, Breggin, 1997; Fisher & Greenberg, 1997; Valenstein, 1998). It is consistent with current trends to resort to increasingly coercive approaches.

The paradigm of mental illness as brain disease organizes and restricts the vast majority of potential research into helping interventions for seriously troubled persons to the biomedical model, the one model asserted to be "scientific" by institutional psychiatry. This contrasts with the history of the Soteria project, a well-researched non-medical, non-coercive, residential treatment program treating the same population that rarely used medication. Despite the positive results demonstrated in controlled studies of this psychosocial approach, it was defunded and rejected by organized psychiatry (Mosher, 1995).

NIMH's nearly one billion dollar annual budget sends a powerful signal. Researchers must attempt to find solutions that support and justify mental illness as brain disorder if they expect to be funded. The PACT model fully embraces this paradigm.

PACT's misinterpreted early results appeared to demonstrate treatment success (Gomory, 1998). By not looking critically at these studies and by reusing unreliable psychiatric measures and instruments from the earlier studies, newer research repeated the same mistakes. Once research careers are established around specific treatment paradigms the need for self-justification rarely allows admissions of error. Instead, contradictory evidence is ignored leading to ever more problematic results (Popper, 1962). PACT's long-term, expensive, potentially abusive program continues to be promoted despite research results that demonstrate its lack of effectiveness.

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NOTES

[1] For purposes of clarity we use the acronym PACT throughout, although PACT-like programs described in the studies here reviewed receive various other acronyms, such as TCL, ACT, IPCC, etc.

[2] Popper (1962) criticizes utopian (holistic) social intervention on the grounds of logical impossibility (pp.70–93). It is not possible to identify all needs a person may have, even at a specific point in time. Different people may identify different needs depending on their perspective. Some needs are social constructions, like a need for social skills, while others are objectively definable necessities such as food and clothing. The nature of the client's social and material environment will dictate the kind of ^skills~ required. Consequently, there is no way to train a team of experts to provide the virtually innumerable interventions potentially needed for the satisfaction of all the possible needs covered by this claim. We are here even excluding services for needs resulting from the iatrogenic effects of the interventions themselves, such as services needed to cope with tardive dyskinesia and sexual dysfunction caused by psychotropic medication, for example (see, generally, Breggin, 1997).

[3] Descriptions of PACT technology are vague. The voluminous writings of the PACT inventors do not include a single (as far as the present author has been able to determine) detailed case example of the methodology at work. In a ^case example~ Stein and Test describe the first meeting with a client thus: ^It was soon evident that John was in the midst, of a schizophrenic episode, but was not immediately suicidal~ (1978, p. 50). How this was assessed or what interventions helped in John's dramatic clinical improvement ^within a week~ are not provided (p. 51). Test offers the following methodological description for ^Direct Assistance with Symptom Management~: ^Specific interventions employed ... include medication ... 24- hour crisis availability, and

occasional brief hospitalization. Additionally, we provide each patient with a long-term one-to-one relationship aimed at problem solving, at assisting them to learn about their illness, and at enhancing their own coping strategies for dealing with serious symptoms (1992, p. 157). Dispensing medication and brief hospitalization are concrete interventions the others are vague and do not describe what PACT services do. PACT spends 21.4% of its contacts with patients medicating them, taking up the second greatest number of worker contacts with clients. One to one support (24.9%), largely spent convincing the clients that they are mentally ill and in need of psychotropic medication is first in worker contacts (p. 157). PACT, spending 21.4% dispensing medication, and 24.9% in one to one support appears to be spending 46.3% of total client contacts dispensing psychotropic medications and related management compared with 10.9% on vocational issues, 2.5% on their living situation, .2% on physical health, 12.1% on social recreation, 11.3% on psychotherapy/case monitoring, and 9.2% on activities of daily living (for service contact breakdown, see Brekke and Test, 1992, p. 240).

[4] The concept ^assertive~ as used by PACT differs from how the research literature usually defines this concept. The field of behavior therapy has for a long time been interested in assertion training. Assertive behavior is defined in that literature for example as, ^effective social influence skills that are acquired through learning.~(Gambrell, 1995). And, as opposed to the PACT approach (as demonstrated in the present paper), ^Fundamental to the concept of assertion is a concern with basic human rights.~ (p. 82). Assertive and aggressive behaviors are carefully distinguished both by their form and their effect (p. 85). PACT theorists do not differentiate ^assertive~ from ^aggressive~ behavior. They appear to be interchangeable in PACT (Dennis & Monahan, 1996, p 3).