A Randomized Controlled Trial of Outpatient Commitment in North Carolina

Marvin S. Swartz, M.D.
Jeffrey W. Swanson, Ph.D.
Virginia A. Hiday, Ph.D.
H. Ryan Wagner, Ph.D.
Barbara J. Burns, Ph.D.
Randy Borum, Psy.D.

Objective: **A randomized controlled trial of outpatient commitment was conducted in North Carolina to provide empirical data on involuntary outpatient commitment and to evaluate its effectiveness in improving outcomes among persons with severe mental illnesses.** ***Methods:*** **A total of 331 involuntarily hospitalized patients awaiting discharge under outpatient commitment were randomly assigned to be released or to undergo outpatient commitment. Each received case management services and outpatient treatment. Participants in both groups were monitored for one year. After the initial 90-day outpatient commitment order, a patient could receive a renewable 180-day extension. Patients in the control group were immune from outpatient commitment for one year. Information was obtained from self-reports and reports of several informants as well as from outpatient treatment, hospital, and arrest records.** ***Results:*** **In most bivariate analyses, outcomes for the outpatient commitment group and the control group did not differ significantly when the duration of outpatient commitment was not taken into account. However, patients who underwent sustained outpatient commitment and who received relatively intensive outpatient treatment had fewer hospital admissions and fewer days in the hospital, were more likely to adhere to community treatment, and were less likely to be violent or to be victimized. Extended outpatient commitment was also associated with fewer arrests of participants with a combined history of multiple rehospitalizations and previous arrests. The intervention was particularly effective among individuals with psychotic disorders.** ***Conclusions:*** **Outpatient commitment can improve treatment outcomes when the court order is sustained and combined with relatively intensive community treatment. A court order alone cannot substitute for effective treatment in improving outcomes. (*Psychiatric Services* 52:325–329, 2001)**

Dr. Swartz, Dr. Swanson, Dr. Wagner, *and* ***Dr. Burns*** *are affiliated with the services effectiveness research program in the department of psychiatry and behavioral sciences at Duke University Medical Center, Box 3173, Durham, North Carolina 27710 (e-mail, swart001@mc.duke.edu).* ***Dr. Hiday*** *is with the department of sociology and anthropology at North Carolina State University in Raleigh.* ***Dr. Borum*** *is affiliated with the Florida Mental Health Institute at the University of South Florida in Tampa.* *This paper is part of a special section on outpatient commitment.*

Involuntary outpatient commitment is a legal intervention intended to benefit severely mentally ill persons who need ongoing psychiatric care to prevent relapse, rehospitalizaton, and dangerous behavior and who have difficulty following through with community-based treatment (1–4). In all but a small minority of states, the criteria for outpatient commitment are identical to those for inpatient commitment, which limits the preventive use of outpatient commitment. However, one relatively recent variant of outpatient commitment implemented in several states allows for a preventive form.

Outpatient commitment orders typically require that patients comply with recommended outpatient treatment. Some outpatient commitment statutes stop short of permitting forced medication, as in North Carolina, where this study took place. In North Carolina a psychiatrist may recommend to the court that an individual be placed on outpatient commitment for a period no longer than 90 days initially, after which a hearing must be held to renew the order for up to 180 days. When a person under outpatient commitment fails to comply with treatment, the responsible clinician may request that law enforcement officers transport the individual to an outpatient facility, where mental health professionals attempt to persuade the patient to comply with treatment. The law specifies that the individual be evaluated for inpatient commitment before or after attempts at persuasion. Some clinicians

are reluctant to petition for outpatient commitment because they believe that it will not be enforced and they know that the law does not allow forced medications. However, patients in one North Carolina study believed that the law required medication adherence and believed that noncompliance could result in strong sanctions (5).

In North Carolina involuntary outpatient commitment criteria include the presence of severe mental illness, the capacity to survive in the community with available supports, a clinical history indicating a need for treatment to prevent deterioration that would predictably result in dangerousness, and a mental status that limits or negates the individual's ability to make informed decisions to seek or to comply voluntarily with recommended treatment (6). North Carolina is unusual in its lowering of the commitment threshold to allow it to be used as a preventive measure to avert relapse and hospital recidivism (3). A recent pilot statute tested in a Bellevue Hospital program in New York City includes similar criteria (7,8).

Uncontrolled studies of outpatient commitment suggest that this form of court-mandated treatment is associated with certain positive outcomes such as decreased hospital readmission rates and lengths of stay, but other clinical outcomes are less clear (2,3,9–13). One naturalistic study of outpatient commitment in North Carolina showed marked reductions in readmissions and lengths of hospital stay. In a three-year period, adjusted readmission rates in a sample of 4,179 individuals under outpatient commitment declined 82 percent, and lengths of stay declined 33 percent (14). However, that study and others had a number of methodological limitations (2,3,15).

To provide additional empirical data on outpatient commitment, we conducted a randomized controlled trial of outpatient commitment combined with community-based case management in the Piedmont region of North Carolina (3,5,6,9,16–20). Five research questions were explored. Among persons with severe mental illness, can outpatient commitment effectively improve treatment outcomes, such as functioning; reduce hospital recidivism, victimization, violent behavior, and arrests; and help mitigate strain among families and caregivers? If outpatient commitment is effective in improving outcomes in one or more domains, does it need to be sustained over several months to be effective? For which client subgroups is outpatient commitment most effective? To what extent is outpatient commitment perceived as coercive, and what are the potential negative consequences of this coercion? What is the role of community-based treatment in the effectiveness of outpatient commitment? This overview summarizes methods and key outcomes from this study that have been reported in peer-reviewed journals or at scientific meetings (3,5,6,9,16–20).

North Carolina is unusual in its lowering of the commitment threshold to allow outpatient commitment to be used as a preventive measure to avert relapse and hospital recidivism.

Methods

Between 1993 and 1996, the study enrolled 331 patients who had been involuntarily hospitalized and given a court order for a period of mandatory treatment in the community after discharge and who consented to participate in the study. Patients in the experimental group remained under the court order and by law received an initial period of commitment no longer than 90 days. Thereafter, the commitment order could be renewed for up to 180 days if a psychiatrist and the court determined that the person continued to meet legal criteria for outpatient commitment. By agreement with the court, participants in the control group received immunity from any outpatient commitment during their study year. All patients received case management and other outpatient treatment at one of four participating mental health programs representing nine contiguous urban and rural counties.

For persons with a documented history of serious assault involving weapon use or physical injury to another person within the preceding year, an exception to the randomization procedure was necessary for ethical and practical reasons. These violent patients were required to undergo at least the initial period of outpatient commitment as ordered.

Outcomes were assessed by means of follow-up interviews with participants, family members, and case managers every four months for a period of 16 months. Data were also obtained from treatment, hospital admission, and arrest records for the previous two years. The study focused on the association of outpatient commitment with a range of outcomes, including hospital readmission, violent behavior, criminal victimization, and arrests.

Patients enrolled had been involuntarily admitted to one state hospital and three general hospitals. To be eligible for the study a person had to be at least 18 years old and to have a diagnosis of schizophrenia, schizoaffective disorder, other psychotic disorder, or major mood disorder with a duration of illness of at least one year. Eligible persons also had to have significant functional impairment in activities of daily living and to have received intensive treatment within the past two years. They also had to have been a resident of one of nine counties participating in the study. All patients were awaiting a period of court-ordered outpatient commitment on the basis of the legal criteria described above.

The sample is described in detail elsewhere (16,17). Briefly, participants were in their late thirties, with a

mean age of about 39. Approximately half were men, roughly two-thirds were African American, almost all were poor, most had only a high school education or less, and only a fifth were married or cohabiting. Most had a diagnosis of a psychotic disorder; about two-thirds were diagnosed as having schizophrenia, schizoaffective disorder, or another nonaffective psychotic disorder. Of those with mood disorders, bipolar disorder was the most common diagnosis. A third of the participants had co-occurring substance abuse problems. Few significant differences were noted between the study groups.

Results

Hospital readmissions

Hospital readmission data included any psychiatric or substance abuse readmission during the 12-month follow-up period. In bivariate analyses comparing patients assigned to the control group and those assigned to outpatient commitment, the groups did not differ significantly in hospital outcomes. However, repeated-measures multivariate analyses showed that the odds of readmission were lower among patients in the outpatient commitment group (17).

Patients who underwent sustained periods of outpatient commitment beyond the initial court order had about 57 percent fewer admissions on average than those in the control group (Kruskal-Wallis χ^2=6.27, df=2, p=.04). The sustained-order patients also were hospitalized for 20 fewer days on average than those in the control group (rank-analysis nonparametric analysis of variance, χ^2= 8.51, df=2, p=.01). Among individuals with nonaffective psychotic disorders, sustained commitment was strongly associated with fewer hospitalizations and fewer days hospitalized.

Subsequent repeated-measures analyses examining the role of outpatient treatment found that sustained outpatient commitment was associated with fewer hospital readmissions, particularly when it was combined with more intensive outpatient services. Patients who had at least three community service contacts per month and who averaged seven contacts were particularly likely to have fewer readmissions. Related analyses demonstrated that sustained periods of outpatient commitment were also associated with better treatment adherence.

Violent behavior

Additional analyses examined whether patients who experienced sustained outpatient commitment were less violent than those who received only brief outpatient commitment or none (16). These analyses included the randomized subjects and an additional group of patients with a history of serious assaultive behavior who could not be randomly assigned to release from outpatient commitment. Patients in the violent group received at least an initial period of outpatient commitment no longer than 90 days. The data included self-report measures and reports from case managers and collateral persons about violent acts or serious threats of violence toward others (21).

Arrest was significantly less likely among participants who adhered to their prescribed medication regimen, avoided substance abuse, and did not engage in violent behavior.

The analyses found that the incidence of any violence during the study year was significantly lower among those who had received extended outpatient commitment than among those with shorter periods of outpatient commitment (27 percent versus 42 percent; Fisher's exact test, two-tailed, p=.049).

Moreover, when the analyses took into account the frequency of outpatient service contacts, outpatient commitment was shown to be effective only among patients who averaged three or more service contacts per month. For those with fewer than three per month, outpatient commitment was not associated with a lower level of violence. Similarly, patients who received services frequently but who were not on sustained outpatient commitment did not have a lower level of violence.

A multivariate logistic regression analysis that controlled for a history of violence at baseline yielded a model with several significant predictors of violence at follow-up. Participants who were under age 40, those who were not married or cohabiting, those with less social support, those who were abusing substances, and those who stopped taking their prescribed medication were significantly more likely to be violent. When these risk factors were controlled for, patients who received sustained outpatient commitment and who used mental health services regularly—defined as three or more service contacts per month—were significantly less likely to be violent than those who did not receive sustained outpatient commitment and regular services (24 percent versus 48 percent). This finding held for participants with or without a psychotic disorder.

Among participants on sustained outpatient commitment who used regular services, those who concurrently showed improvement on substance abuse and medication adherence had especially low rates of violence (13 percent).

In comparison, the incidence of violence was particularly high (53 percent) among patients who did not receive sustained outpatient commitment, who did not use services frequently, who continued to abuse substances, and who did not take medications as prescribed.

Arrests

To examine the frequency of arrests as an outcome, we reviewed arrest records for a period starting one year before enrollment at hospital admission and ending one year after baseline discharge (19). Arrests were identified by a review of electronic

records archived in two North Carolina databases. For the follow-up period, during which interview data were available, arrest records were supplemented by case managers' reports.

During the follow-up year, 52 participants (20 percent) were arrested at least once. Bivariate analyses indicated that several variables were associated with arrest: younger age (under 40), male gender, African-American race, single marital status, recent crime victimization, recent homelessness, substance abuse, more than two hospital admissions in the previous year, and previous arrest.

Arrest was significantly less likely among participants who adhered to their prescribed medication regimen during the study year, those who avoided substance abuse, and those who did not engage in violent behavior throughout follow-up. Multivariate analyses showed that the strongest demographic and clinical predictors of arrest were a prior criminal history, involvement in both the mental health and criminal justice systems, hospital recidivism, African-American race, criminal victimization, and substance abuse while not adhering to the prescribed medication regimen (19).

For the entire sample, outpatient commitment was not significantly associated with fewer arrests; however, among a subgroup with a history of multiple hospitalizations who had also previously been arrested or who had previously been violent, extended outpatient commitment was significantly associated with fewer arrests during the study year. Among this subgroup the one-year arrest rate was 47 percent for those in the control group, 44 percent for those with brief outpatient commitment, and only 12 percent for those with extended outpatient commitment. Multivariate analysis showed that part of the association between extended outpatient commitment and reduced arrest was due to the effect of extended outpatient commitment on reducing the risk of violent behavior.

Among persons with severe mental illness whose history of arrest is plausibly related to illness relapse, outpatient commitment appeared to reduce the risk of contact with the criminal justice system by improving treatment adherence and access to mental health services. However, in those whose criminal behavior appeared not to be related to relapses, outpatient commitment may not reduce arrests.

Victimization

An additional analysis examined whether outpatient commitment was associated with a lower risk of criminal victimization (20). For this analysis, data were available for 223 participants who were interviewed at the 12-month follow-up. Participants were asked whether they had been a victim of any violent or nonviolent crime. Seventy-four respondents (33 percent) reported being victimized at least once during the year. Twenty-two (10 percent) experienced violent victimization, and 64 (29 percent) experienced nonviolent victimization. Those in the outpatient commitment group were significantly less likely than those in the control group to experience any criminal victimization during the follow-up year (24 percent versus 42 percent; Fisher's exact test, two-tailed, $p<.008$.

Duration of outpatient commitment was also associated with a lower risk of victimization. The correlation between total number of days on outpatient commitment and any criminal victimization was –.194 ($p<.01$).

Staged multivariate logistic regression analysis with stepwise selection was used to test the net effect of outpatient commitment on risk of criminal victimization, with salient demographic and clinical covariates controlled for. The final model demonstrated a significant effect for the number of days of outpatient commitment. When the analysis controlled for three selected significant baseline predictors of victimization, the risk of victimization was about 3 percent less for each additional ten days of court-ordered treatment (16). The three selected predictors were a low level of social support, higher functional impairment as measured by the Global Assessment of Functioning, and use of alcohol or illicit substances. A control variable was also included to adjust for the inclusion of 39 subjects (17.5 percent) with a history of serious violence—causing injury or using a weapon—who were nonrandomly assigned to undergo up to 90 days of outpatient commitment after the initial discharge.

Analysis of concurrent effects in these models showed that the impact of outpatient commitment on victimization risk was mediated by combined improvement in medication adherence and diminished substance abuse. In staged multivariate analysis, when the effects on victimization risk attributable to diminished violent behavior, reduced substance abuse, and improved medication adherence were controlled for, the main effect of increasing days of outpatient commitment on victimization was rendered nonsignificant. This evidence suggests that outpatient commitment exerts an indirect effect on risk of victimization via reduced violence and substance abuse and improved medication adherence. That is to say, these intervening outcomes were significantly affected by outpatient commitment, as shown in previous analyses (16). In turn, participants who improved on these measures were significantly less likely to be victimized.

Discussion and conclusions

The analyses reported here indicate that subjects who underwent sustained periods of outpatient commitment beyond the initial court order and who received relatively intensive outpatient treatment had fewer hospital admissions, spent fewer days hospitalized, and were less likely to be violent or to be victims of crime. Sustained outpatient commitment was shown to be particularly effective in reducing the number and duration of hospitalizations for individuals with nonaffective psychotic disorders. In addition, for a subgroup of patients with a combined history of multiple hospitalizations and previous arrests or episodes of violence, sustained outpatient commitment was associated with a significant reduction in the likelihood of rearrest during the study year.

Despite these consistent findings, certain limitations should be acknowledged. The amount of time on outpatient commitment was not random or controlled experimentally but varied as clinicians and judges applied

the legal criteria for renewal of commitment orders. This situation might have led to a biased conclusion—that is, positive outcomes for subjects who may have had better outcomes anyway could have been attributed to outpatient commitment. This bias would come into play only if subjects at higher risk of poor outcomes were less likely to have their court order renewed. However, the criteria for outpatient commitment renewal make this scenario unlikely.

Renewal of the court order required a second determination by a psychiatrist and the court that the patient would predictably become dangerous, including dangerously disabled, without treatment and predictably would not comply with treatment. At the end of the initial outpatient commitment period, each case was reevaluated systematically. Under the study protocol, clinicians were reminded that a patient's outpatient commitment order was about to expire and were asked to document which criteria were met for renewal. If the psychiatrist and the court concluded that the person was no longer likely to become dangerous without treatment or would comply voluntarily with treatment, then the legal criteria for outpatient commitment were not satisfied and the order could not be renewed.

We found that participants who had been most compliant with their medication regimen in the four months before entering the study were significantly less likely to receive an extended outpatient commitment order after the initial order expired (16). Therefore, if any bias affected the selection of patients for longer periods of commitment, it would seem to work against finding that extended outpatient commitment lowers the risk of adverse outcomes. Thus our results may understate the true impact of outpatient commitment in improving outcomes.

It seems clear from these findings that outpatient commitment can improve certain treatment outcomes when the court order is targeted toward individuals with psychotic disorders and when it is sustained and combined with intensive treatment. It is also clear that outpatient commitment cannot substitute for appropriately intensive treatment. It appears that outpatient commitment influences both service providers and patients. It influences service providers by conveying a legal directive to prioritize treatment for the individual under the order. It also motivates the individual with mental illness to adhere to treatment.

Further, it appears that when outpatient commitment is sustained over time, it embodies a reciprocal commitment between the court and the service system to provide sustained and intensive treatment. Outpatient commitment clearly exerts pressure on the individual—some of it unwanted—to adhere to treatment (18). This pressure, which is the legislative intent of outpatient commitment, may be conveyed by the moral authority of the court alone, but it is often demonstrably reinforced by providers, families, and peers. ♦

Acknowledgments

This work was supported by grants MH-48103 and MH51410 from the National Institute of Mental Health.

References

1. McCafferty G, Dooley J: Involuntary outpatient commitment: an update. Mental and Physical Disability Law Reporter 14:277–287, 1990
2. Hiday VA: Coercion in civil commitment: process, preferences, and outcome. International Journal of Law and Psychiatry 15:359–377, 1992
3. Swartz MS, Burns BJ, Hiday VA, et al: New directions in research on involuntary outpatient commitment. Psychiatric Services 46:381–385, 1995
4. Torrey EF, Kaplan RJ: A national survey of the use of outpatient commitment. Psychiatric Services 46:778–784, 1995
5. Borum R, Swartz MS, Riley S, et al: Consumer perceptions of involuntary outpatient commitment. Psychiatric Services 50:1489–1491, 1999
6. Swartz MS, Burns BJ, George LK, et al: The ethical challenges of a randomized controlled trial of involuntary outpatient commitment. Journal of Mental Health Administration 24:35–43, 1997
7. Steadman, HJ, Gounis K, Dennis D, et al: Assessing the New York City involuntary outpatient commitment pilot program. Psychiatric Services 52:330–336, 2001
8. Steadman HJ, Dennis DL, Gounis K, et al: Assessing the operation of a New York City program for involuntary outpatient commitment, in Research in Community and Mental Health, vol 10: Coercion in Mental Health Services, Edited by Morrissey J, Monahan J. Stamford, Conn, JAI Press, 1999
9. Swanson JW, Swartz MS, George LK, et al: Interpreting the effectiveness of involuntary outpatient commitment: a conceptual model. Journal of the American Academy of Psychiatry and the Law 25:5–16, 1997
10. Hiday VA, Scheid-Cook TL: The North Carolina experience with outpatient commitment: a critical appraisal. International Journal of Law and Psychiatry 10:215–232, 1987
11. Hiday VA, Scheid-Cook TL: A follow-up of chronic patients committed to outpatient treatment. Hospital and Community Psychiatry 40:52–59, 1989
12. Hiday VA, Scheid-Cook TL: Outpatient commitment for "revolving door" patients: compliance and treatment. Journal of Nervous and Mental Disease 179:83–88, 1991
13. Keilitz I: Empirical studies of involuntary outpatient civil commitment: is it working? Mental and Physical Disability Law Reporter 14:368–379, 1990
14. Fernandez GA, Nygard S: Impact of involuntary outpatient commitment on the revolving-door syndrome in North Carolina. Hospital and Community Psychiatry 41: 1001–1004, 1990
15. Moloy KA: Analysis: Critiquing the Empirical Evidence: Does Involuntary Outpatient Commitment Work? Washington, DC, Mental Health Policy Resource Center, 1992
16. Swanson JW, Swartz MS, Borum R, et al: Involuntary out-patient commitment and reduction of violent behaviour in persons with severe mental illness. British Journal of Psychiatry 176:324–331, 2000
17. Swartz MS, Swanson JW, Wagner RR, et al: Can involuntary outpatient commitment reduce hospital recidivism? Findings from a randomized trial in severely mentally ill individuals. American Journal of Psychiatry 156:1968–1975, 1999
18. Swartz MS, Hiday VA, Swanson JW, et al: Measuring coercion under involuntary outpatient commitment: initial findings from a randomized controlled trial, in Research in Community and Mental Health, vol 10: Coercion in Mental Health Services. Edited by Morrissey J, Monahan J. Stamford, Conn, JAI Press, 1999
19. Swanson JW, Borum R, Swartz MS, et al: Can involuntary outpatient commitment reduce arrests among persons with severe mental illness? Criminal Justice and Human Behavior, in press
20. Hiday VA, Wagner HR, Swanson JW, et al: Severe mental illness and victimization under outpatient commitment. Presented at the annual meeting of the American Sociological Association, Chicago, Aug 9–11, 1999
21. Swanson J, Borum R, Swartz M, et al: Violent behavior preceding hospitalization among persons with severe mental illness. Law and Human Behavior 23:185–204, 1999