The Perceived Coerciveness of Involuntary Outpatient Commitment: Findings From an Experimental Study

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This study examines self-reported coercion in subjects with severe mental illness who were randomly assigned in an experimental study to continue under, or be released from, involuntary outpatient commitment (OPC) subsequent to hospital discharge. After review of bivariate relationships, multivariable analyses demonstrated significantly higher levels of reported coercion among subjects who experienced longer periods of OPC; who were African American; who were single and not cohabiting; and who had ongoing substance abuse problems, poor insight into illness, and severe symptoms. Case managers' verbal reminders to subjects about the consequences of nonadherence to treatment partially account for higher reports of coercion. Previous reports from this study have found that OPC, if sustained and combined with frequent outpatient mental health services, can improve some outcomes. The current analyses demonstrate that a consequence of OPC is increased perceptions of coercion in the treatment process, which is partially explained by the increased attention by case managers to noncompliance with treatment.

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Policies to reduce high rates of relapse and rehospitalization among persons with severe mental illness (SMI) have gained increasing attention from public and private payors for mental health treatment.[1–6] In theory, court-mandated community treatment should facilitate adherence to medication regimens and psychosocial interventions and thus reduce readmission to hospitals. One form of court-ordered treatment, involuntary outpatient commitment (OPC), is a civil procedure intended to improve adherence to treatment by ordering a patient to comply with the outpatient regimen. OPC is permitted in some form in virtually all states in the U.S.[5,7–9] Variants of OPC have been considered or adopted in several other countries including Canada, Israel, the United Kingdom, Australia, and New Zealand.

In the 1980s, several first-generation studies of OPC reported positive outcomes, including decreased hospital readmission rates, diminished lengths-of-stay, and increased access to community-based services.[5,7,10–16] However, these were naturalistic and quasiexperimental studies with inherent methodological limitations: selection bias, lack of diagnostic information about study subjects, poor specification of the OPC intervention, and lack of information about treatment.

Research into OPC in the 1990s generated a second phase of studies, including two randomized controlled trials in North Carolina and New York City.[17–21] The North Carolina study found that OPC, particularly if sustained, was effective in improving treatment outcomes. Specifically, subjects who underwent sustained periods of OPC beyond an initial court order while concurrently receiving fre-

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quent outpatient services had significantly improved adherence to medication and other treatment, had reduced hospital admissions with fewer days hospitalized, were less likely to be violent, and were less likely to be criminally victimized. Sustained OPC was shown to be particularly effective in reducing hospital readmission of individuals with psychotic disorders. In a subgroup of subjects with a combined history of multiple hospitalizations and prior arrests, sustained outpatient commitment was also associated with a significant reduction in the likelihood of rearrest during the study year. The study found no evidence of any improved outcomes in subjects who received frequent outpatient services without OPC. Details of this study's methods are described later in the article.

The second randomized study of OPC, conducted in New York City, was an evaluation of a pilot OPC program at Bellevue Hospital.[17] Subjects in the study were randomly assigned to court-ordered OPC or release, but all received enhanced treatment services. Although the evaluation found that subjects benefited from enhanced services, there was insufficient evidence that the court order *per se* was beneficial. The study's authors reported that subjects under OPC felt little coercion, but noted that under this newly initiated statute, sanctions for nonadherence to treatment were not enforced.

Despite some of the positive findings for the effectiveness of OPC, many mental health consumers and mental health law advocates oppose court-ordered mental health treatment, arguing that it infringes on civil liberties and alienates mental health consumers from treatment.[22–26]

Observers of OPC assert that the moral authority or coercive intent of the court under OPC may work in two ways: by motivating the individual to adhere to treatment under the threat of court sanctions and by stimulating mental health providers to intensify efforts to improve treatment adherence of the patient assigned to OPC. Thus, coercion experienced by the patient may be a direct effect of the court order but also may be an indirect effect of the mobilized efforts of treatment providers.

This conceptualization of OPC's putative coercive effect raises several questions: (1) Do patients find OPC more coercive than usual community care; (2) what personal and clinician factors are associated with increased coercion, independent of OPC; and (3) to what extent is coercion under OPC associated with behavior of clinicians responding to the mandate of the court order? We hypothesized that assignment to OPC and increasing duration of OPC are associated with increased perceived coercion, but that perceived coercion is also associated with poor insight into illness and other evidence of psychiatric impairment. Finally, we also hypothesized that increased coercion is associated with the case manager's attempts to monitor and correct treatment nonadherence. We addressed these hypotheses by examining the reported coerciveness of compulsory versus noncompulsory community treatment in the North Carolina experimental trial. We report descriptive analyses of reported coercion, bivariate associations among subjects, study characteristics, and reports of coercion and multivariable regression analyses of the effects of sociodemographic and clinical predictors on reported coercion.

Background

The existing North Carolina OPC statute[27] was modified in 1984 to allow less restrictive use of mandated outpatient treatment. The modified criteria include the presence of serious 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. North Carolina is unusual in lowering the threshold for OPC to allow its use to prevent relapse and recidivism, although several states, including New York, have similar statutes.[17] After a hearing, the court may order an initial commitment period of up to 90 days. The OPC statute explicitly prohibits forced medication, notwithstanding the fact that consumers often believe that a court order for treatment legally requires them to take their medication as prescribed.[28] When the subject is noncompliant with treatment, a treating clinician may request that law officers escort the noncompliant patient to a mental health facility for examination, "hopeful persuasion" to accept treatment, or evaluation for involuntary inpatient commitment. In North Carolina counties where OPC has been used, before the current study, marked reductions in readmissions and lengths of hospital stay have been observed.[10]

Study Design and Sample

Selection Criteria

Subjects were screened sequentially from a group of involuntarily hospitalized patients who had been ordered to undergo a period of OPC after discharge. Eligibility criteria for the study were: (1) age 18 years or older; (2) diagnosis of schizophrenia, schizoaffective disorder, other psychotic disorder, or major affective disorder; (3) duration of disorder of one year or more; (4) significant functional impairment in activities of daily living; (5) intensive treatment within the past two years; (6) resident of one of nine counties participating in the study; and (7) awaiting a period of court-ordered OPC.

Study Group Assignment

This study was approved by the Institutional Review Board of Duke University Medical Center. All eligible patients were approached for informed consent. By special arrangement with the court, subjects randomly assigned to a control group were released from OPC. Subjects in the experimental group received an initial period of OPC not longer than 90 days, by law. Thereafter, the commitment order could be renewed for up to 180 days if a psychiatrist and the court determined that the subject continued to meet legal criteria for OPC. However, subjects in the control group received "immunity" from any OPC during the year of the study. All subjects received case management and other outpatient treatment at one of four participating area mental health programs representing nine contiguous urban and rural counties. An exception to the randomization procedure was necessary in the case of subjects with a documented history of serious assault involving weapon use or physical injury to another person within the preceding year. These subjects (the seriously violent group) were required to undergo at least the initial period of OPC as ordered. Renewals were left to the discretion of the clinician and court.

Refusal, Attrition, and Differences in Length of Time in OPC

Of identified eligible patients, 12 percent did not consent to participate. Rates of refusal did not vary significantly by sex, race, or diagnosis. Subjects over age 45 were more likely to refuse than those under 45 (14% versus 7%). The baseline sample, of which 67 belonged to the violent subgroup, consisted of 331 subjects. At the 12-month follow-up, 112 subjects had withdrawn, were lost to follow-up, or had missing data on this measure of coercion, the MacArthur Admission Experience Survey (MAES). Thus, 219 remained for the present analysis—97 control subjects and 122 initially in OPC.

Attrition did not differ significantly by group. There was no evidence of sample bias in renewal of OPC orders, except that subjects with a baseline history of noncompliance with medication were more likely to receive extended OPC (renewed court orders)—40.0 percent versus 18.75 percent. Approximately one-third of subjects in both the OPC and violent OPC groups received more than 180 days of court-ordered treatment.

Data Collection

At baseline, an extensive face-to-face interview was conducted with each respondent, and a telephone interview was conducted with a designated family member or other informant who knew the respondent well. Follow-up interviews at 4, 8, 12, and 16 months were conducted with the subject, a family member or collateral informant, and case manager. Interviewers asked about perceived coercion and elicited a variety of other information including demographic characteristics, clinical characteristics, violent behavior, social support, insight into illness, adherence to treatment, and quality of life. Supplemental information regarding diagnosis, substance abuse, and violence was obtained by review of the medical record at baseline. The present study includes data from all subjects for whom relevant data were available at the two points of interest for this analysis: baseline and 12 months later. For the current analyses, subjects from the randomized and nonrandomized subgroups were combined.

Measures

Coercion

The MacArthur Research Network on Mental Health and the Law developed instruments to quantify better psychiatric patients' perceptions of coercion in the hospital admission process. These include the semistructured Admission Experience Interview (AEI) and structured MAES.[29–36] In the current study, a modified form of the MAES was used that was adapted with reference to outpatient treatment. Several studies have involved psychometric analyses

Table 1 MacArthur Modified Admission Experience Survey

Negative pressures
—People tried to force me to go to the mental health center.
—Someone threatened me to get me to go to the mental health center.
—Someone physically tried to get me to go to the mental health center.
—I was threatened with commitment.
—They said they would make me go to the mental health center.
—No one tried to force me to go to the mental health center.
Perceived coercion
—I felt free to do what I wanted about going to the mental health center.
—I chose to go to the mental health center.
—It was my idea to go to the mental health center.
—I had a lot of control over whether I went to the mental health center.
—I had more influence than anyone else on whether I went to the mental health center.
Process exclusion
—I had enough of a chance to say whether I wanted to go to the mental health center.
—I got to say what I wanted about going to the mental health center.
—No one seemed to want to know whether I wanted to go the mental health center.
—My opinion about going to the mental health center didn't matter.

on the perceived coercion scale from the MacArthur instruments and have shown high internal consistency in these instruments.[21,29,37,38]

Lidz and colleagues[33] developed a six-item scale from the original AEI to measure procedural justice, defined as the patient's perception of fairness and lack of deception in the admission process. Four items from this scale are contained in the MAES. (Items assessing the patient's appraisal of fairness and good faith were omitted.) Hiday and colleagues[37] term this measure "process exclusion." In the current study, we used the MAES, adapted for longitudinal outpatient treatment experience and found good internal consistency for the process exclusion and negative pressures subscales.

As shown in Table 1, the outpatient version of the MAES contains 15 true-false questions assessing perceived coercion, negative pressures, and process exclusion. According to Gardner and colleagues,[29] perceived coercion is represented by responses to five items indicating judgment about lack of autonomy in seeking outpatient care. Perceived negative pressures, such as threats and force, are represented by six items. Process exclusion—lack of "voice" and validation in treatment decisions—is represented by four items. As noted by the MacArthur group and others,[33,37] intercorrelation of these domains is high in responses from inpatients. In the current analyses, items were simply summed with one point per item, for a total possible scale score of 15 items.

OPC Intervention

Outpatient commitment was examined in two ways: original study group assignment (OPC, control, violent group) and total number of days spent in court-ordered treatment during the study year. In addition, enforcement was assessed by examining the issuance of police pick-up orders to address noncompliance of subjects in OPC.

Subject and Clinical Predictors

Baseline demographic and social-environmental characteristics that were potentially related to coercion included age, gender, racial status (African American versus white/other), urban versus rural residence, marital status (married or cohabiting versus single), education, social support, negative life events, homelessness, criminal victimization, and violent behavior. We hypothesize that each predictor represents the subject's characteristics, predispositions, or experiences that may increase or attenuate the experience of coercion. Clinical background variables included insight into illness, cognitive impairment, global functioning, symptoms, age of onset of illness, diagnosis, substance abuse problems, and noncompliance with medication. We selected several additional variables that are also relevant to coercion and that reflect potentially problematic behavior occurring during the study year. These study-year variables included substance abuse, violence, homelessness, victimization, arrests, quality of life, treatment noncompliance, insight into illness, global functioning, symptomatology, psychiatric hospital admissions, case managers' reports of subjects' problem behavior, appointment attendance, case managers' reminders and warnings of consequences of nonadherence, and provision of case management services. Thus, these variables reflecting behavior or occurrences during the study year could have an effect on perceived coercion.

Negative life events and social support were measured by scales developed for use in the Duke Epidemiologic Catchment Area (ECA) study. The life events scale assessed the occurrence of stressful events, such as illness, bereavement, job loss, or mar-

ital separation. The social support scale that was used in the current study measured the respondent's subjective perception of his or her status as a member of a social network, whether the network would provide help if needed, and satisfaction with the quantity and quality of received support.[40]

Violent behavior was defined as any battery, involvement in physical fights, or threats made with a weapon in hand. Violence was assessed at baseline from record reviews and interviews with the subject and collateral informant. Violence during the study year period was assessed from interviews with the subject, collateral informant, and case manager. A detailed examination of the prevalence and characteristics of violent events in this sample is presented elsewhere.[41]

Substance abuse was assessed by an index combining interview data from the subject, collateral informant, and case manager, as well as a hospital record review at baseline. It was defined operationally as a diagnosis of psychoactive substance use disorder or report of any problems (with family, friends, job, the law, or health) due to drinking or using illicit drugs.[39]

Noncompliance with medication was measured by an index that combined several items from the three interview sources. Respondents were assessed as nonadherent to medication if either the subject, collateral informant, or case manager reported that the subject was prescribed psychotropic medications (oral or depot) during the study period, but never took the medications or only occasionally took them as prescribed.

Insight into illness was assessed at baseline by use of the Insight and Treatment Attitudes Questionnaire (ITAQ),[42–44] which measures recognition of mental illness and the need for treatment. Respondents indicate their agreement with statements about their having mental health problems, needing hospitalization for those problems, and needing medication specifically in the past, present, and future. Other questions inquire whether medications are helpful and about the intent to comply with prescribed medication in the future. Low ITAQ scores have been shown to be predictive of poor compliance with treatment and higher rates of readmission to the hospital.[44]

Cognitive impairment was measured by the Mini-Mental Status Examination,[45] a standard short test of a subject's cognitive functioning including orientation, memory recall, language, and numerical and constructional abilities.

Functioning at baseline was assessed by the Global Assessment of Functioning (GAF) Scale.[46] The GAF is a clinical rating of functional status on a scale from 1 to 100 that is used to assess the degree to which psychiatric disturbance impairs an individual's ability to function in major life domains, such as social relationships, work, and self-care. The ratings are determined based on observations and all relevant information available in the medical record. For the current study, the GAF was coded systematically by clinical research interviewers who were trained to inter-rater reliability.

Quality of life was assessed with an abbreviated form of Lehman's Quality of Life Scale,[46] which measures subjective and objective dimensions of quality of life and social functioning.

Psychiatric symptoms were assessed with the Brief Symptom Inventory (BSI),[48] a self-report scale of common symptoms including psychological distress, agitation, hostility, mood, and thought disturbance. Psychiatric diagnoses were obtained from hospital discharge records. The validity of these diagnoses was checked by administering the Structured Clinical Interview for DSM-IV (SCID)[46] to a sequential sample of 155 subjects; concordance was high ($\kappa = 0.72$).

Case manager reminders refer to a measure of the extent to which case managers gave verbal reminders or warnings to clients about the potential consequences of nonadherence to treatment. (For example, case managers were asked whether they had reminded the subject that noncompliance with medication might result in hospitalization.) Case managers were also asked to report subjects' frequency of attendance at scheduled appointments and the occurrence of a range of problem behavior (e.g., becoming verbally abusive, engaging in inappropriate sexual behavior, being careless with safety, having trouble with personal hygiene, and having difficulty in preparing meals).

Provision of case management services was obtained from billing records in the information systems of community mental health centers where subjects received case management and community-based treatment. For the present analysis the sum of all billed case management services was calculated. Although it is clear that billing records do not capture all case management activities, comparisons (not shown) of case manager self-reports of their activities

and billing records show a high correlation between the two.

Methods of Analysis

Initial analyses examined mean and median levels of total MAES scale scores across the control and OPC-assigned groups. Because the data were skewed, Wilcoxon and Mann-Whitney nonparametric procedures were used to test for group differences.

The relationship of coercion measured on the MAES to subject and study characteristics was determined in a second series of analyses that estimated Spearman zero-order correlations between MAES scores and potential clinical and study-year predictors of coercion. Assignment to the control or outpatient commitment group was determined by duration of outpatient commitment during the trial year.

Logistic regression analysis was used to examine the relative effects of OPC, baseline sociodemographic factors, and study-year factors on perceived coercion. Odds ratios (ORs) produced by this technique estimate the average change in the odds of a predicted outcome (e.g., higher than median perceived coercion) associated with exposure to a risk factor or protective factor. For independent variables measured on a continuous scale or ranking, the OR indicates the change in the likelihood of an event per unit change in the predictor. OR confidence intervals of more than 1 indicate a significant positive effect at $p < .05$; conversely, OR confidence intervals of less than 1 indicate a significant negative effect at $p < .05$. The log likelihood chi-square test shows the overall significance of a given logistic regression model, and the pseudo R^2 statistic estimates the percentage of variance in the dependent variable that is explained by the model.[49] In a previous report,[21] MAES scores were shown to be highly skewed, with a large proportion of subjects reporting little or no coercion. Because the MAES scores were highly skewed, the total MAES coercion scale was dichotomized above or below the median (0: ≤ 3; 1: ≥ 4).

The primary focus of these analyses was to examine the association of outpatient commitment with perceived coercion while examining the simultaneous effect of subject and study characteristics. Because the number of potential variables that could contribute to coercion was large, a data-reduction strategy was used, applying backward stepwise elimination procedures to a series of staged regressions. Beginning with a simple model, a dichotomous variable representing above-median coercion on the MAES was regressed on days of OPC. A control variable representing violent subjects who were ineligible for randomization was also included in this first stage.

Other potential predictors of coercion, such as baseline sociodemographic and clinical factors, as well as study-year factors, were subsequently added to this basic model as a block of variables. If addition of the block led to a significant increment in model fit, variables in the block were subjected to stepwise elimination procedures using a liberal .15 probability inclusion level and a .10 probability exclusion level. Variables retained in the model were carried forward to the next stage, at which point they were included with the next block of candidate variables for retesting. Model-building using stepwise procedures is one of several data-reduction techniques. Although it provides a parsimonious final model, we recognize that the procedure has limitations and that different procedures may have produced other putative final models.

Sample Description

Demographic Characteristics

Sample members were predominantly young to middle-aged adults (mean age, 39 years) of low income (median, $6,000 annually) and low educational status (38% did not complete high school), and most were single (80% not married or cohabiting). The racial distribution of the sample was 66 percent African American, 33 percent non-Hispanic white, and 1 percent other race. Twenty percent had been homeless during the four months preceding baseline hospital admission, and 26 percent had been recent victims of crimes. Although the majority (58%) were city residents, a substantial proportion (42%) lived in rural areas and small towns. This sample was demographically representative of the population of patients admitted to state mental hospitals in North Carolina.

Clinical Characteristics, Substance Abuse, and Violence History at Baseline

The majority of the sample (68%) had diagnoses of nonaffective psychotic disorders (primarily schizophrenia and schizoaffective disorders), whereas 28 percent had bipolar disorder, and 4 percent had recurrent major depression. Thirteen percent had a co-

occurring diagnosis of a personality disorder. Most had moderate to severe functional impairment (GAF median score, 47). Co-occurring alcohol and drug abuse (35%), medication noncompliance (73%), and violent behavior (51%) were common in the four months before hospitalization. More than one-third (38%) had experienced two or more psychiatric hospital admissions during the preceding year. For a more extensive presentation of the sample, readers are referred to publications by Swanson *et al.*[41] and Swartz *et al.*[21]

Results

The primary goal of these analyses was to determine the extent to which OPC is associated with subjects' perceived coercion as measured by the MAES. Did subjects in the OPC group report higher levels of coercion at 12 months? If so, what baseline sociodemographic, clinical, and study-year variables predict higher levels of perceived coercion?

Mean total MAES scores were evaluated across the control and OPC groups. Total MAES scale scores were elevated in the OPC group (5.51 vs. 3.80; $p = .002$) compared with control subjects not assigned to OPC.

Table 2 examines the correlation of MAES scale scores with sociodemographic and clinical baseline predictors and client and case manager variables assessed during the study year with OPC intervention variables. A number of baseline subject characteristics were correlated with coercion scores on the MAES. Higher levels of coercion were associated with African-American race. Lower coercion scores correlated with being married or cohabiting, having greater insight into illness, and having higher levels of functioning, as measured on the GAF. During the study year, higher levels of coercion were associated with substance abuse problems, noncompliance with treatment, and more severe symptoms, as measured on the BSI. Lower coercion scores were correlated with higher reported quality of life, better insight into illness, and higher global functioning. In addition, case manager reports of problem behavior, reminders regarding the consequences of noncompliance, and higher levels of service provision were also associated with higher coercion scores. Finally, enforcement of OPC through orders to law enforcement to pick up subjects and transport them to treatment was also associated with higher coercion scores.

Table 2 Baseline and Study-Year Characteristics and MacArthur Admission Experience Survey Scores (Modified): Correlation Analyses

Predictors and Variables	MAES Scale Score
Baseline predictors	
Age	0.072
Male	−0.049
African american	0.150*
Urban residence	0.046
Married or cohabiting	−0.200†
Education	0.087
Social support	−0.033
Negative life events	−0.031
Substance abuse problems	−0.008
Fights	0.025
Homelessness	0.052
Crime victim	−0.046
Insight into illness	−0.179†
Cognitive status	−0.007
Global functioning (GAF)	−0.157*
Symptoms (BSI)	0.000
Age of onset of illness	0.059
Noncompliance (baseline)	0.049
Psychotic diagnoses	−0.023
Study-year predictors: client	
Substance abuse problems	0.132*
Fights	0.053
Homelessness	0.112
Crime victim	0.065
Arrests	0.076
Quality of life	−0.176†
Noncompliance	0.201†
Insight into illness	−0.182†
Global functioning (GAF)	−0.197*
Symptoms (BSI)	0.142*
Psychiatric hospital admission	0.102
Study-year predictors: case manager reports	
Client problem behavior	0.178†
Compliance	−0.001
Reminders	0.263‡
Case manager services	0.159*
Study variables	
Days of outpatient commitment	0.216†
Pick-up orders	0.204*
Violent	0.036

* $p \leq .05$
† $p \leq .01$
‡ $p < .001$

We conducted logistic regression analyses using a dichotomous measure of coercion as the dependent variable—that is, being at or above the median on total MAES scores. Table 3 summarizes the results of these analyses and reinforces the bivariate findings in most respects.

For examination of the effect of duration of OPC on coercion, analyses were conducted with total days in OPC as a continuous predictor variable. The potential baseline and study-year predictors of coercion depicted in Table 2 were also tested in the modeling

Table 3 Predictors of Coercion at End of Trial: Complete MAES Scale Logistic Regression Models

	MODEL 1 Odds Ratio (95% CI)	MODEL 2 Odds Ratio (95% CI)
Study variable		
Days of outpatient commitment	1.003 (1.001–1.005)*	1.002 (0.999–1.005)
Violent	0.753 (0.337–1.684)	1.015 (0.387–2.661)
Baseline predictors		
African American	1.890 (1.015–3.521)*	1.171 (1.032–4.567)*
Married or cohabiting	0.328 (0.151–0.714)**	0.352 (0.143–0.865)*
Diagnosis of psychosis	NS	0.424 (0.201–0.893)*
Study-year predictors		
Substance abuse problems	2.250 (1.229–4.120)**	NS
Insight into illness	0.833 (0.715–0.971)*	NS
Symptoms (BSI)	1.612 (1.072–2.424)*	NS
Case manager reports		
Reminders and warnings	—	1.160 (1.015–1.325)*
Other statistics		
Degrees of freedom	8	7
Rank correlation predicted/observed	0.737	0.727
Pseudo R^2	0.162	0.176
Model significance probability	0.000	0.000

* $p \leq 0.05$
** $p \leq 0.01$

procedures discussed earlier. Only significant predictors were retained in the model as described. As seen in Model 1, increased days in OPC was associated with a higher coercion score (OR = 1.003; CI, 1.001–1.005; $p \leq .05$). A control variable was included in this and all models to hold constant the effect of nonrandom assignment to the OPC group, due to recent history of serious violence. This control variable was not a significant predictor of coercion. The OR associated with days in OPC is 1.003, indicating that the risk of perceived coercion increased, on average, approximately 0.003 percent for each additional day of OPC. This small change in risk per day adds up to a large change over months. Specifically, it adds up to a 10 percent increase in risk of coercion over one month and to a larger percentage change over multiple months.

In this model, African-American race was associated with higher coercion scores (OR = 1.9; CI, 1.015–3.521; $p \leq .05$), whereas being married or cohabiting was associated with significantly lower reported coercion (OR = 0.33; CI, 0.15–0.71; $p \leq .01$).

Among study-year predictors, evidence of problems related to substance abuse more than doubled the odds of scoring above median on the coercion scale (OR = 2.25; CI, 1.23–4.12; $p \leq .01$). Self-report of higher levels of psychiatric symptoms (BSI) was also associated with higher odds of scoring above median (OR = 1.61; CI, 1.07–2.42; $p \leq .05$), whereas high levels of insight were associated with lower odds of perceived coercion (OR = 0.83, CI, 0.72–0.97; $p \leq .05$). Quality-of-life scores, homelessness, noncompliance and global functioning (GAF) assessments, although significant in bivariate analyses, failed to meet multivariable inclusion criteria. In the final Model 2, baseline measures of race and marital status remained significant, and diagnosis of psychosis became significant.

The addition of case manager reminders rendered nonsignificant all study year predictors selected into Model 1. Apparently, the case managers were aware of more symptomatic and noncompliant clients and focused their energies on them. Case managers' reminders and warnings about the consequences of nonadherence to treatment were associated with significantly higher odds of scoring above median on coercion (OR = 1.16; CI, 1.01–1.32; $p \leq .05$). Moreover, the effect of case manager reminders and warnings to the subjects attenuated the effect of OPC's duration on coercion, rendering it nonsignificant, which suggests that at least some of the coercive elements associated with outpatient commitment were accounted for by the case manager's behavior.

Discussion

In bivariate analyses of MAES coercion scores, we found that subjects in OPC at the end of 12 months

reported significantly higher levels of coercion than subjects in the control (no-OPC) condition. Multivariable analyses extended these findings by demonstrating that duration of OPC was also associated with higher levels of perceived coercion. The effect of OPC remained significant after adjustment for potential predictors of coercion in multivariable regression analyses with the exception of analyses in Table 3, Model 2, which examined the activities of case managers. Given that all subjects were hospitalized involuntarily during their index hospitalization, these differences are striking.

These data demonstrate that African Americans with SMI reported higher levels of coercion in outpatient mental health treatment, independent of OPC. This finding could reflect actual differences in how African-American subjects were engaged by mental health providers. It could also indicate that African-American individuals with SMI feel more alienated from the mental health services offered. Unfortunately, more fine-grained hypotheses cannot be tested with the current data. Attempts to examine interaction effects involving race and other demographic and clinical predictors were not fruitful.

With regard to marital status, it is unclear why persons who are single report higher levels of coercion in outpatient mental health care. However, it is plausible that single individuals with SMI may be more isolated, may generally feel more interpersonally alienated—avoiding treatment personnel, family, and friends—and may thus regard treatment interactions as more intrusive. Similarly, it may be that treatment personnel are more concerned about single and/or isolated individuals dropping out of treatment and, hence, may engage them more coercively.

Conversely, married and cohabiting individuals may be more affiliative and willing to engage in treatment encounters. It is also likely that being married provides a supportive context in which treatment can be interpreted as tolerable or even helpful, even if regarded as unnecessary or inconvenient. Studies in other samples support this view of the family and spouse as facilitators of help-seeking.[50]

Several clinical variables also were associated with increased coercion, independent of OPC. Persons with schizophrenia, schizoaffective disorders, or other psychoses felt less coerced than did their counterparts with mood disorders (largely bipolar disorder). Anecdotally, some subjects with psychotic disorders such as schizophrenia demonstrated more passive and negative symptomatology and may have been less sensitive to threats to autonomy. Persons with substance abuse problems during the study year reported more coercion, because treatment addressing denial of the need for abstinence may be unwanted and perceived as intrusive. Table 3, Model 2 suggests that the reported coercion in these persons was in part a function of case managers' attempts to avert treatment failure and nonadherence to treatment. Similarly, individuals with lower insight or awareness of illness during the study period felt more coerced, probably because they viewed themselves as less in need of treatment and viewed treatment as encroaching on their autonomy. Subjects more symptomatic during the study year also felt more coerced, perhaps for reasons similar to those of the individuals with low insight into illness. Paranoid and hostile symptoms may well have contributed to the association with reported coercion, but there was limited statistical power to examine these subgroups of symptomatic subjects.

Case managers' reminders about the consequences of noncompliance independently predicted higher perceived coercion and attenuated the effects of the OPC intervention and subject-level predictors of coercion. Although we viewed these case managers' attempts at limit-setting as verbal reminders or warnings, subjects could have interpreted them as more coercive. Unfortunately, we lack data to explore case manager-subject interactions in greater detail. Clearly, the actions of case managers in response to client behavior accounts for some of the reported coercion related to OPC. In analyses not shown, we found that case managers in OPC issued more frequent reminders and provided more active case management compared with case managers providing voluntary care. Taken together, these findings suggest that OPC exerts an effect on patients under the court order, but also on the case managers, by increasing their responsiveness to potential noncompliance with treatment. Thus, these results confirm our hypothesis that OPC is associated with self-reported coercion but that increased coercion is also associated with the case manager's efforts to correct nonadherence to treatment.

These findings also point to a clear and expected relationship between assignment to OPC, duration of OPC, and reported coercion. However, they also indicate that reported coercion is independently associated with a number of other clinical characteris-

tics—most notably, lack of awareness of illness (insight), severe symptoms, and ongoing substance abuse.

Previous reports and the current results lead to the conclusion that OPC, if sustained and combined with frequent services, can improve several outcomes in persons with SMI and a history of poor adherence to community-based treatment. One consequence of OPC is increased coercion, as perceived by individuals subjected to OPC. However, these results do not allow a further appraisal weighing these benefits and personal costs, particularly because they may vary across groups of stakeholders concerned with OPC, an issue highlighted by recent suggested guidelines and commentary regarding OPC.[51–55] It is certainly possible that some subgroups of persons subjected to OPC would eventually come to feel less coercion and more autonomy as a result of clearly improved outcomes—such as diminished compulsory hospitalization. Future analyses will compare feelings of coercion among persons who improve and do not improve under OPC, testing implicitly whether some lost autonomy is tolerable if outcomes improve. Results of additional empirical investigations are also forthcoming that will evaluate a range of tradeoffs inherent in mandated mental health treatment.

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