# Outcomes Associated With Court-Ordered Treatment Over Objection in an Acute Psychiatric Hospital

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The postdischarge outcomes of court-ordered treatment of acute psychiatric inpatients have not been adequately investigated. We reviewed the medical records of all patients who refused medication for whom a court order was sought during a recent three-year period, and compared this group to control patients who agreed to treatment and a group of patients who transiently refused medication. The principal outcome measures were successful linkage after discharge, readmission within six months of discharge, and transfer to a state hospital. The study group was less likely to link to an aftercare provider, and more likely to be transferred to a state hospital, had poorer insight on admission, had a longer average stay, and was more likely to utilize mandatory outpatient treatment and long-acting injectable medications after discharge. Patients who require court-ordered medication over objection constitute a group that is high risk for nonadherence after discharge and being refractive to treatment.

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Medication refusal among hospitalized patients with severe psychiatric disorders is common,[1] with rates of psychotropic medication refusal ranging from approximately 2 to 44 instances per month per 100 admissions.[2] Owiti and Bowers[2] attribute the variability in the rate of refusal to variability in the definition of refusal (e.g., refusal for one day[3–5] versus one week),[6,7] type of setting (e.g., general[3,4,5,8,9] versus forensic[7,10,11] hospital), and legal status[6,7] (i.e., voluntary versus involuntary admission). The consequences of medication refusal are significant and include higher risks of assaultive behavior in the hospital,[3,5,7,9,12–16] and, most likely, higher rates of restraint and seclusion.[3–5,12,16,17] The impact of medication refusal on length of stay is less clear; most studies report an increase in hospital days for refusers,[3,4,6,7,9,13,15,17] whereas others have found the opposite result.[6,14,18]

Appelbaum[19] described the two overarching medicolegal approaches to managing cases of psychotropic medication refusal: treatment driven and rights driven. The treatment-driven approach places the locus of control with physicians, either with or without the requirement for independent clinical judgments about the appropriateness of treatment, and does not emphasize the assessment of the patient's capacity to refuse treatment. Rights-driven approaches, on the other hand, examine both the treating physician's judgment about need for treatment and the patient's competency to refuse treatment. The rights-driven model exemplified by the 1986 decision in *Rivers v. Katz*[20] in New York State requires a formal judicial hearing that not only addresses the patient's competency, but also insinuates judicial determination of the appropriateness of treatment and the patient's best interests. This model also separates the need for involuntary retention from that for involuntary treatment.[19] There is some evidence that a rights-driven approach tends to result in fewer instances of involuntary medication and a longer average length of stay compared with a treatment-driven approach.[3,5,17]

Despite the clinical, and, arguably, the ethics-related imperatives to treat (or make aggressive efforts to treat) seriously ill psychiatric patients over their objection, very little is known of the intermediate or long-term outcomes of this approach. Cournos *et al.*[21] retrospectively examined the records of 51 involuntarily medicated patients and 51 control pa-

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tients who accepted medication in six state hospitals in New York City and followed their clinical course during the period of involuntary treatment and 12 months thereafter. These investigators found that compared with nonrefusers, the involuntarily treated patients were judged to be more dangerous to themselves or others, less delusional after treatment, and more likely to receive long-acting, injectable, antipsychotic medications. Rates of discharge, outpatient cooperation, and rehospitalization were comparable for both groups. However, only half of the patients in both groups were actually discharged, and, for those who were discharged, adherence to medication was low in both groups: 30 percent in the involuntarily treated group and 40 percent in the voluntarily treated group. The generalizability of these results may be limited, given that the study involved state hospital patients of a different treatment era, and, the sample size, after accounting for patients who were never discharged, was small.

The current retrospective chart review study had as its primary focus the short and intermediate term treatment outcome of patients who underwent court proceedings for authorization to treat them with medications over their objection. This group was compared with a control group of patients matched for year of index hospitalization(s), age, gender, diagnosis, and admission legal status, who accepted medication as prescribed. We also compared the group of medication-refusers who went to court with an unmatched group of patients for whom a court order process was formally initiated because of persistent medication refusal but who subsequently agreed to take medication before the actual court date. The outcome measures of principal interest were ability to be discharged from an inpatient setting (state hospital referral rate), success in linking to the postdischarge provider, and readmission to the hospital within six months of discharge.

## Method

This study was approved by the North Shore-Long Island Jewish Health System Institutional Review Board.

Data obtained from the electronic medical record at The Zucker Hillside Hospital, a 208-bed acute care psychiatric hospital that treats adolescent, adult, and geriatric patients in an urban setting in Glen Oaks, New York, were reviewed for the purposes of this study. Principal study group subjects consisted of all patients treated in the hospital during the calendar years 2008, 2009, and 2010 who refused psychotropic medication, for whom a court order to treat over objection was sought, and who underwent judicial review (medication over objection group; MOO group). This group consisted of 130 individual patients, six of whom had multiple admissions and court order processes, resulting in a total of 139 instances of seeking a court order for treatment over objection up to and including judicial review. MOO group subjects were matched by year of index hospitalization, gender, age, diagnosis, and legal status on admission with patients who accepted treatment in the hospital ($n = 132$ patients with 135 admissions; Control group). Matching these variables was deemed methodologically preferable to statistically controlling for these factors *post hoc*, given that the focus of the study was postdischarge outcome. A comparison group consisting of subjects who initially refused medication and for whom the formal process of seeking a court order to treat over objection was initiated, but who subsequently agreed to take medication before the date of the court hearing (comparison group, $n = 89$, all unique cases) was included in an effort to explore possible demographic and clinical factors that might characterize this group.

Data gathered were divided into four categories: demographic variables pertaining to each patient (gender, age, race/ethnicity, religion, marital status, and employment status); clinical variables related to each hospitalization (legal status, primary discharge diagnosis, recent substance abuse, number of lifetime hospitalizations, trauma history, quality of peer relations, global assessment of function (GAF) on admission and discharge, global insight rating on admission and discharge, length of stay (LOS), and utilization of clozapine); variables related to discharge planning (residence, treatment site, assisted outpatient treatment (AOT), intensive case management (ICM), referral to substance abuse treatment, if indicated, and utilization of long acting injectable medication); and, postdischarge outcome variables (linkage to next provider of care, readmission to hospital within six months of discharge, and referral to long-term inpatient, i.e., state hospital, transfer). Finally, we recorded whether the comparison group subjects underwent a hospital administrative hearing, a procedural requirement before a court hearing in New York State. Insight ratings of poor, fair, or good, were left to clinician judgment and did not

have descriptive anchors. AOT in New York State consists of a court-mandated program of outpatient treatment provided by a combination of community-based services and state-sponsored resources, intended for adult patients with mental illness who are unlikely to survive in the community without supervision. Evidence for the latter includes a history of treatment nonadherence that resulted in two or more psychiatric hospitalizations or prison incarcerations within the preceding 36 months, serious risk of self-harm or violence within the preceding 48 months, or both.[22]

Missing data were common for some variables, including recent substance abuse, trauma history, and insight ratings. Information in the record regarding the number of life-time hospitalizations was often incomplete. By convention, records that reported multiple hospitalizations without further detail received a score of 1. This was clearly an underestimation of the true number, but there was no *a priori* reason to believe that the documentation for this variable differed among groups. A more serious limitation was the lack of information regarding readmissions. The electronic medical record had information only regarding readmissions to our own hospital. Readmission information (i.e., whether a patient was readmitted to a hospital after discharge), was lacking in 40 to 50 percent of our subjects across the three groups. Patients referred for long-term inpatient hospitalization at a state hospital were not included in analyses of readmission, linkage, or post-discharge services (e.g., AOT, ICM, residence).

All data contained in the medical records were collected for clinical purposes by a variety of clinicians with various degrees of experience and expertise, including attending psychiatrists, psychiatric residents (PGY-1 through 4), psychiatric nurse practitioners, and psychiatric social workers, as would occur in most large academic psychiatric hospital settings. These clinicians did not receive training for the purpose of achieving data collection reliability.

### *Statistical Analysis*

Comparisons among the three groups were conducted by analysis of variance (ANOVA). Pairwise comparisons for all variables were completed for the three groups (i.e., MOO group versus control group; MOO group versus comparison group, and comparison group versus control group). Means for continuous variables were compared using independent-samples Student's *t* test. Categorical variables were compared among groups by Pearson chi-square statistic. Cells containing instances of particular outcomes that were too small for meaningful analysis were combined where appropriate before chi-square testing. All tests were conducted at a five percent significance level. Further, multivariate logistic regression analyses were performed comparing the main outcome variables, pairwise, between groups after adjusting for confounding factors. Variables that were found to be significantly different between groups in univariate analysis (pairwise comparisons) were regarded as potential confounders. Among these potential confounders, only those that were clinically considered to be confounders were selected for adjustment in multivariate logistic analysis. For example, GAF (discharge), length of stay, and diagnosis were significantly different between the MOO and comparison groups. Among the three, GAF (discharge) and length of stay were not regarded as clinically meaningful confounders, but more as surrogates for the outcome measures; patients transferred to a state hospital in our system always have extended lengths of stay and lower GAF scores. Hence, only diagnosis was selected for adjustment in the corresponding multivariate analysis.

Two principal outcome measures, readmission rates, and linkage to the next level of care, had missing values, which was statistically addressed in the following manner: our primary analysis strategy was a complete case analysis. We also did a sensitivity analysis based on a multiple imputations approach with the Markov Chain Monte Carlo (MCMC) method, using PROC MI and PROC MIANALYZE in SAS, version 9.2.[23,24]

## Results

A court order to permit treatment over objection was granted in the MOO group in all but five instances (134/139, or 96%). For those patients who ultimately agreed to take medication before the court hearing (comparison group), 72 percent did so after the hospital administrative hearing. All results are summarized in Tables 1 through 4. Differences in variables were observed as follows.

### *MOO Group Versus Control Group*

Compared with the control group, the MOO group was less likely to have a history of recent substance abuse (chi-square = 5.541; $df = 1$; $p = .019$)

**Table 1** Demographic Variables

| | MOO Group | | Comparison Group | | Control Group | |
|---|---|---|---|---|---|---|
| | *n*/Mean | %/SD | *n*/Mean | %/SD | *n*/Mean | %/SD |
| Gender | | | | | | |
| Male | 62 | 48 | 40 | 45 | 64 | 48 |
| Female | 68 | 52 | 49 | 55 | 68 | 52 |
| Total | 130 | | 89 | | 132 | |
| Age, SD | 44.5 ($n$ = 130) | 16.9 | 40.6 ($n$ = 89) | 18.3 | 44.6 ( $n$ =132) | 16.3 |
| Race/ethnicity* | | | | | | |
| White | 53 | 41 | 40 | 45 | 51 | 38 |
| Black | 52 | 40 | 39 | 44 | 55 | 42 |
| Hispanic | 7 | 6 | 1 | 1 | 15 | 11 |
| Other | 17 | 13 | 9 | 10 | 11 | 9 |
| Religion | | | | | | |
| Protestant | 27 | 28 | 14 | 21 | 35 | 32 |
| Catholic | 18 | 19 | 14 | 21 | 30 | 28 |
| Jewish | 12 | 13 | 13 | 19 | 16 | 15 |
| Decline/none | 27 | 28 | 20 | 29 | 20 | 18 |
| Other | 11 | 12 | 7 | 10 | 8 | 7 |
| Marital status | | | | | | |
| Single | 108 | 88 | 76 | 92 | 112 | 89 |
| Divorced/separated | 6 | 5 | 3 | 4 | 5 | 4 |
| Married | 8 | 7 | 3 | 4 | 9 | 7 |
| Employment | | | | | | |
| Employed | 7 | 9 | 3 | 6 | 7 | 9 |
| Unemployed | 6 | 8 | 4 | 9 | 10 | 13 |
| Disabled | 53 | 68 | 32 | 70 | 48 | 63 |
| Retired | 12 | 15 | 7 | 15 | 11 | 15 |

* Comparison versus control: chi-square = 8.457, $df$ = 1, $p$ = .038.

and had fewer life-time hospitalizations ($t$ = −2.047; $df$ = 161.1; $p$ = .042), a trend toward a lower GAF score on discharge ($t$ = −1.931; $df$ = 258.8; $p$ = .055), poorer insight on admission (chi-square = 7.648; $df$ = 1; $p$ = .006), and a longer LOS ($t$ = −9.552; $df$ = 220.2; $p$ < .0001; Table 2). The MOO group was also more likely to utilize AOT ($\chi^2$ = 6.775; $df$ = 1; $p$ = .009) and utilize long-acting injectable antipsychotic medication on discharge ($\chi^2$ = 6.519; $df$ = 1; $p$ = .011; Table 3).

### *MOO Group Versus Comparison Group*

These groups differed with respect to average LOS ($t$ = −5.099; $df$ = 214.9; $p$ < .0001; Table 2) and referral to AOT ($\chi^2$ = 11.234; $df$ = 1; $p$ = .0008; Table 3). The MOO group had a longer average LOS and more AOT referrals than did the comparison group.

### *Comparison Group Versus Control Group*

There was a group difference in race/ethnicity that appears to be related to the paucity of Hispanic patients in the comparison group relative to the control group ($\chi^2$ = 8.457; $df$ = 1; $p$ = .038; Table 1). Average LOS was longer in the comparison group ($t$ = 3.983; $df$ = 168.7; $p$ = .0001; Table 2). There were trend differences in discharge diagnosis ($\chi^2$ = 7.402; $df$ = 1; $p$ = .06; Table 2) and referral to AOT ($\chi^2$ = 3.133; $df$ = 1; $p$ = .077; Table 3). The comparison group tended to have more patients with affective disorder and diagnoses of other disorders, whereas the control group had more AOT referrals.

### *Principal Outcome Measures*

A univariate logistic regression analysis revealed that the MOO group differed from the control group with respect to linkage postdischarge (OR = .51; 95% CI 0.34–0.76; $p$ = .001) and transfer to state hospital (OR = 2.06; 95% CI 1.33–3.20; $p$ = .001). Readmission rates were not different (OR = 1.11; 95% CI 0.78–1.59; $p$ = .551). MOO group patients were less likely to link and more likely to be transferred to a state hospital after discharge (Table 4). Similarly, the MOO group patients were more likely to

**Table 2** Clinical Variables Related to Each Hospitalization

| | MOO Group | | Comparison Group | | Control Group | |
|---|---|---|---|---|---|---|
| | *n*/Mean | %/SD | *n*/Mean | %/SD | *n*/Mean | %/SD |
| Legal status | | | | | | |
| Voluntary | 19 | 14 | 19 | 21 | 18 | 13 |
| Involuntary | 120 | 86 | 70 | 79 | 118 | 87 |
| Primary diagnosis | | | | | | |
| Schizophrenia | 47 | 34 | 28 | 32 | 45 | 33 |
| Schizoaffective disorder | 49 | 35 | 20 | 23 | 49 | 36 |
| Psychosis NOS | 19 | 14 | 12 | 13 | 17 | 13 |
| Affective disorder, other | 24 | 17 | 29 | 32 | 25 | 18 |
| Substance abuse* | | | | | | |
| Any | 21 | 16 | 19 | 22 | 38 | 28 |
| None | 113 | 84 | 68 | 78 | 97 | 72 |
| Lifetime hospitalizations† | 3.3 | 2.9 | 3.6 | 3.6 | 4.9 | 8.3 |
| Trauma | | | | | | |
| Trauma history | 9 | 10 | 9 | 14 | 15 | 15 |
| No trauma history | 78 | 90 | 54 | 86 | 86 | 85 |
| Peer relations | | | | | | |
| Good/fair | 57 | 52 | 41 | 58 | 73 | 60 |
| Poor | 53 | 48 | 30 | 42 | 49 | 40 |
| GAF (admission), SD | 29 | 6.3 | 28.9 | 4.4 | 28.9 | 4.4 |
| GAF (discharge), SD‡ | 45.2 | 8.5 | 47 | 6.5 | 47.2 | 8 |
| Insight admission§ | | | | | | |
| Good/fair | 12 | 10 | 11 | 15 | 29 | 23 |
| Poor | 110 | 90 | 64 | 85 | 98 | 77 |
| Insight discharge | | | | | | |
| Good/fair | 73 | 66 | 47 | 68 | 74 | 75 |
| Poor | 37 | 34 | 22 | 32 | 24 | 25 |
| Average length of stay, days□¶# | 82.3 | 53.7 | 49.9 | 40.9 | 28.5 | 34.5 |
| Use of clozapine | | | | | | |
| Yes | 3 | 2 | 1 | 1 | 4 | 3 |
| No | 136 | 98 | 88 | 99 | 132 | 97 |

* MOO versus control: $\chi^2 = 5.541$; $df = 1$; $p = .019$.
† MOO versus control: $t = -2.047$; $df = 161.1$; $p = .042$.
‡ MOO versus control: $t = -1.931$; $df = 258.8$; $p = .055$, trend.
§ MOO versus control: $\chi^2 = 7.648$; $df = 1$; $p = .006$.
□ MOO versus control: $t = -9.552$; $df = 220.2$; $p < .0001$.
¶ Comparison versus control: $t = 3.983$; $df = 168.7$; $p = .0001$.
# MOO versus comparison: $t = -5.099$; $df = 214.9$; $p < .0001$.

have state hospital transfers than were the comparison group patients (OR = 5.06; 95% CI 1.70–15.1; $p = .004$), and showed a trend toward poorer linkage (OR = 0.46; 95% CI 0.21–1.02; $p = .056$; Table 4). Readmission rates were not different between these groups (OR = 0.62; 95% CI 0.28–1.39; $p = .248$). None of the principal outcome measures significantly differed between the comparison and control groups (Table 4). Sensitivity analysis using multiple imputations yielded corresponding ORs, 95 percent confidence intervals, and *P* values that were very close to the values reported; hence, they are not included in the text.

The following confounding variables were entered into the various multivariate logistic regression analyses: MOO versus control group analysis was adjusted for recent substance abuse; MOO versus comparison adjusted for diagnosis; and comparison versus control adjusted for age, race, legal status, diagnosis, and number of hospitalizations. All significant pairwise differences of the main outcomes between the groups remained after adjustment for confounders and no new differences emerged after these analyses.

## Discussion

The major findings of this study were that patients for whom court-ordered medication was sought (MOO group), and, with few exceptions, obtained, were more likely to be transferred to state hospitals for long-term inpatient care and less likely to link to

**Table 3** Variables Related to Discharge Planning

| | MOO Group | | Comparison Group | | Control Group | |
|---|---|---|---|---|---|---|
| | *n* | % | *n* | % | *n* | % |
| Residence | | | | | | |
| Home | 82 | 73 | 63 | 75 | 90 | 70 |
| Community residence | 29 | 25 | 17 | 20 | 33 | 25 |
| Other | 2 | 2 | 4 | 5 | 6 | 5 |
| Treatment site | | | | | | |
| Clinic | 59 | 53 | 40 | 48 | 70 | 54 |
| Partial | 19 | 17 | 15 | 17 | 16 | 13 |
| Day program | 1 | 1 | 8 | 10 | 15 | 12 |
| Private | 6 | 5 | 8 | 10 | 7 | 5 |
| ACT | 12 | 11 | 6 | 7 | 7 | 5 |
| On site | 9 | 8 | 6 | 7 | 6 | 5 |
| Other | 0 | 0 | 1 | 1 | 5 | 4 |
| None | 5 | 5 | 0 | 0 | 3 | 2 |
| AOT referral* | | | | | | |
| Yes | 16 | 15 | 0 | 0 | 5 | 4 |
| No | 94 | 85 | 77 | 100 | 125 | 96 |
| ICM referral | | | | | | |
| Yes | 25 | 23 | 17 | 20 | 31 | 24 |
| No | 85 | 77 | 68 | 80 | 99 | 76 |
| Substance referral | | | | | | |
| Yes | 3 | 14 | 3 | 15 | 5 | 15 |
| No | 18 | 86 | 17 | 85 | 29 | 85 |
| Long-acting injectable | | | | | | |
| Yes | 44 | 32 | 19 | 21 | 24 | 18 |
| No | 95 | 68 | 70 | 79 | 112 | 82 |

* MOO versus comparison: $\chi^2 = 11.234$, $df = 1$, $p = .0008$.

the next level of care after discharge, compared with similar patients who accepted treatment. These findings were essentially the same when MOO group patients were compared with patients who initially refused but ultimately accepted medication.

The relatively high rate of state hospital transfers in the MOO group strongly suggests that persistent medication refusal in a hospital setting may be a risk factor for treatment refractory status. Patients are transferred to a state hospital when discharge to the

**Table 4** Postdischarge Outcome Variables

| | MOO Group | | Comparison Group | | Control Group | |
|---|---|---|---|---|---|---|
| | *n* | % | *n* | % | *n* | % |
| Linkage*† | | | | | | |
| Yes | 85 | 77 | 72 | 88 | 120 | 93 |
| No | 20 | 23 | 10 | 12 | 9 | 7 |
| Readmitted within 6 months | | | | | | |
| Yes | 30 | 27 | 21 | 25 | 27 | 21 |
| No | 35 | 31 | 19 | 22 | 49 | 38 |
| Unknown | 47 | 42 | 45 | 53 | 53 | 41 |
| State transfer‡§ | | | | | | |
| Yes | 27 | 19 | 4 | 5 | 7 | 5 |
| No | 112 | 81 | 85 | 95 | 129 | 95 |

* MOO versus control: OR = 0.51, 95% CI 0.34–0.76, $p = .001$.
† MOO versus comparison: OR = 0.46, 95% CI 0.21–1.02, $p = .056$, trend.
‡ MOO versus control: OR = 2.06, 95% CI 1.33–3.20, $p = .001$.
§ MOO versus comparison: OR = 5.06, 95% CI 1.70–15.1, $p = .004$.

community is considered unsafe and they have not responded to many months of aggressive inpatient treatment, typically four to six months in our setting. It is interesting to speculate that there may have been an interaction between medication refusal and treatment nonresponse even after obtaining a court order. Possible explanations include suboptimal treatment because of practical limitations concerning medication choice (e.g., mood stabilizers and clozapine cannot readily be given involuntarily), suboptimal dosage, even in the face of a court authorization to minimize confrontation with an unwilling patient, and, perhaps, the nocebo effect, where a negative attitude toward treatment yields poorer outcomes.[25]

Failure to link to the next level of care was significantly more likely in the MOO group than in the control group, whereas the linkage failure rate for the comparison group was intermediate between the two. Medication refusal is clearly a risk factor for nonadherence after discharge. The rate of hospital readmission, however, perhaps the most important measure of effectiveness of the medication over objection process, was not different among the three groups, consistent with the findings of Cournos *et al.*[21] A generous interpretation of this result is that the court order process was indeed effective in aligning the risk of readmission within six months for known high-risk patients (at least those patients who could be discharged and did not require state hospital transfer) with the overall risk for psychiatric inpatients in our facility. However, this interpretation must be viewed with caution, given that our data set for readmission was incomplete. It is possible that we might have detected significant differences in readmission rates had we had information regarding readmission to all hospitals. It is possible that if a patient who experienced the court order process in a particular hospital needed readmission, he might be less inclined to return to that hospital. Our data set would not capture such a readmission. On the other hand, our clinical experience is that these patients rarely choose readmission (86% of our MOO group sample were involuntary) and that the choice of hospital is generally based on geographic considerations. The relationship between medication refusal and readmission requires further exploration that uses data sets that include all readmissions. These data sets are becoming more available on state-wide data bases.[26]

Secondary aims of the study included the identification of demographic and clinical characteristics of patients who refuse medications. Within the group of medication refusers, there were no differences between the MOO and comparison groups with respect to the various demographic factors measured, and no differences among the three groups with regard to these factors as well, with the exception of finding a relative paucity of Hispanic subjects in the comparison group. The significance of this latter finding is unclear, given the very small number of Hispanic patients in the sample (and no Hispanic treating clinicians), but may warrant further study. Medication refusers, whether they went to court or not, tended to be admitted on an involuntary basis, with the rate somewhat higher for the MOO group (i.e., 86 percent versus 77 percent). In general, 40 percent of patients admitted to our facility are involuntary, half the rate of medication refusers. MOO and comparison group patients were very likely to be diagnosed with a primary psychotic disorder. However, use of substances before admission was higher in the control group than in the MOO group. The explanation for this is not readily apparent but deserves further study.

Severity of illness as measured by the GAF score on admission and discharge were not revealing. It should be noted, however, that the assigning of a GAF score may be overdetermined, perhaps unduly influenced by the need to meet severity criteria for both admission and discharge. The comparison of the number of lifetime hospitalizations, another possible proxy for severity of illness, yielded an unexpected result. Curiously, the control group had significantly more lifetime hospitalizations than the MOO group had, with no difference from the comparison group. However, obtaining accurate estimates of lifetime hospitalizations was very difficult because this information was often not well documented. Conceivably, these data were more complete for more cooperative patients, so that the totals may have been skewed in the direction of patients who were more willing reporters. Our convention of counting multiple prior admissions as one admission may have further biased this result.

We included a measure of insight because of the relationship between insight and medication adherence.[27] The measure we used was extremely crude (good/fair and poor), without anchoring definitions. The good and fair categories were collapsed because there were so few patients judged to have good insight. Nevertheless, perhaps not surprisingly, insight

was poorer in the MOO group than in the control group at the time of admission. It is certainly possible that medication nonadherence was itself a major determinant in assigning a score for insight at the time of admission, potentially challenging the validity of this finding. Length of stay was significantly longer in the MOO group than in both other groups and significantly longer in the comparison group than in the control group. Medication refusal resulted in longer lengths of stay, consistent with the findings of Cournos *et al.*[21] Clozapine was rarely used in any group, in agreement with other studies revealing the underutilization of this medication.[28]

Regarding concerns about nonadherence after discharge, we found that patients in the MOO group were more likely to receive a referral for Assisted Outpatient Treatment (AOT), the New York State program for court-ordered mandatory outpatient treatment. Although not without controversy in terms of effectiveness,[29] this program has shown substantial evidence of being helpful in enhancing outpatient care for high-risk, treatment-resistant patients and maintaining them in the community.[30,31] In addition, the utilization of long-acting injectable antipsychotic preparations was significantly higher in the MOO group than in the control group. Again, although the effectiveness of this strategy may be somewhat controversial, clinical consensus and some empirical findings clearly support the use of the modality for patients with psychotic disorders who struggle with treatment adherence.[26]

Documentation was not adequate or systematic enough to discern the reasons the comparison group patients ultimately agreed to take medication before their court hearing. Examples describing the rationale for these reversals culled from the medical records included viewing taking medication as a means of being discharged from the hospital more expeditiously, family pressure to take medication, prior experience with court hearings, a sense the hospital would prevail, and discomfort with the prospect of going to court. In some cases, the hospital administrative hearing itself appeared to have influenced the patients' decision to accept medication.

An aim of this study was to stimulate discussion regarding the immediate and longer term outcomes associated with seeking court orders to treat psychiatric patients over their objection. Regardless of outcome, however, there will continue to be clinical, ethics-related, risk management, and societal imperatives to seek these orders in selected cases. Clearly, providing adequate care to patients who refuse medications is associated with increased costs. Increased length of stay is only one measure of expense and does not take into account the considerable costs to both the hospital and the state associated with administrative and judicial reviews. A potentially useful approach to improving the medication over objection process is to begin to identify those patients who are likely to benefit from this process. A detailed, prospective exploration of psychopathological factors such as severity of paranoia and quality of insight would be worthy of study. Equally important are explorations of the interventions that may mitigate the need for implementing the medication over objection process. Careful attention to appropriately engaging patients in all hospital encounters, encouraging patients to participate in their own care, enlisting family support and the support of outside providers in the discussion regarding treatment recommendations, and exploring nonmedication options when the clinical circumstances permit, are all desirable approaches. After a medication-over-objection order is obtained, ongoing patient engagement efforts and meticulous, comprehensive aftercare planning are required to optimize treatment outcomes.

In conclusion, we have reported that patients who resolutely refuse medication in hospital are at higher risk of needing long-term inpatient care, at higher risk of not linking to the postdischarge provider of care, tend to be involuntarily admitted with primary psychotic disorders and with poor insight into their condition, have long lengths of stay, and are more likely to receive AOT and long-acting injectable medications on discharge. We need to explore more effective approaches to persuading such patients of the need for treatment and ensure that the beneficial effects of clinical improvement are sustained in the community after discharge.

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