Preventing Psychiatric Hospitalization and Involuntary Outpatient Commitment

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Over the course of a decade in Victoria, Australia, this study considered how, for whom, under what circumstances, and with what consequences for a patient's treatment career involuntary outpatient commitment was used to prevent psychiatric hospitalization. Records were obtained from the Victorian Psychiatric Case Register for patients with career hospitalizations, 8,879 exposed to outpatient orders. Descriptive statistics and logistic regression were used to determine the characteristics of patients solely selected for placement on orders directly from the community, in lieu of re-hospitalization, versus patients selected for placement on orders only from the hospital or for those who experienced both hospital and community-initiated orders. Ordinary least squares regression was used to evaluate the relationship of sole reliance on community-initiated orders and experienced changes in future hospital utilization. Outpatient orders were infrequently issued directly from the community by comparison with orders issued at termination of inpatient episodes. Patients whose placements on orders were carried out only through direct community placement differed from those whose

placement was primarily initiated from hospital or from both hospital and community. The former group, while largely comprised of people with schizophrenia, was less likely to include such patients than the comparison samples. It also included fewer males and "never married" individuals as well as more individuals with major affective disorders. Those served solely with community-initiated orders showed significantly less use of subsequent inpatient care than individuals in the comparison samples, all other diagnostic and pre-morbid adjustment characteristics taken into account. For patients at risk of beginning a career of long-term psychiatric hospitalization, sole reliance on community-initiated orders appeared to prevent additional hospital involvement. The issuance of orders from hospital and the combined-order strategy were associated with protective oversight throughout extended inpatient careers. Sole reliance on community-initiated outpatient orders provided a "least restrictive" alternative to hospitalization.

KEYWORDS outpatient commitment, community treatment orders, preventing hospitalization, least restrictive alternative to hospitalization, involuntary treatment

Few studies of involuntary outpatient commitment orders address the issue by establishing: *What form orders take in the system of care? Who orders are being used for? And why orders are being used, their desired outcome?* (Rolfe, 2001; Torrey & Zdanowicz, 2001). Outpatient commitment provisions are written into law around the world (Torrey & Kaplan, 1995) and variously described as assisted treatment (Torrey & Zdanowicz, 2001), a means to deliver involuntary treatment (Gerrand, 2005), to engender treatment compliance (Van Puten, Santiago, & Bergen, 1998), or to stop "revolving door" admissions (Swartz et al., 1999). In civil commitment law outpatient orders are almost universally recognized as ". . . a least restrictive alternative to psychiatric hospitalization" for those meeting the involuntary civil commitment standard of the jurisdiction—that is, those considered a danger to self or others or gravely disabled or in need of protection or treatment for health and safety due to a mental disorder. Orders are terminated when patients no longer meet the involuntary commitment standard or when they are not a viable least restrictive alternative and as a consequence the patient is hospitalized. This article evaluates one aspect of outpatient order use that has become the center of controversy over the past 15 years—the prevention of hospitalization via community-initiated orders. It looks at the experience of Victoria Australia over almost a decade by considering the form hospitalization prevention has taken in the system, the patients selected for the service, and the service objective.

During the 1990s Victoria proceeded to rapidly deinstitutionalize its mentally ill, relying to a significant extent on outpatient orders as a least restrictive alternative to hospitalization (Commonwealth of Australia, 1999). There are two primary ways such orders are used as a least restrictive alternative to hospitalization. First, in by far the oldest and most used approach (Ridgley, Petrilla, & Borum, 2001), a patient is placed on orders as a form of *conditional release* from involuntary hospitalization as part of an aftercare plan and as a means to shorten the duration of a current hospital episode. Second, the focus of this investigation, the patient is placed on orders directly from the community to prevent hospitalization.

Recent outpatient commitment research, most notably three comparison group studies (Preston, Kisely, & Xiao, 2002; Swartz et al., 1999; Steadman et al., 2001), has focused primarily on preventing hospitalization. Two studies (Swartz et al., 1999; Steadman et al., 2001) focus on prevention by randomizing without attention to the current inpatient episode; a third comparison group study (Preston et al., 2002) does this by statistically controlling for the effects of the preceding hospitalizations (Segal et al., 2009). This research has produced mixed results. The later comparison group study found no significant influence attributable to placement on orders. The former two, clinical trials in New York and North Carolina, randomized small groups of patients (142 and 252, respectively) with multiple major mental disorder diagnoses (characterized as severe mental illness) at various points in their treatment careers to outpatient commitment and no outpatient commitment conditions and followed them for a year. Both studies failed to find significant differences between the randomized groups on any service utilization or behavioral outcomes in their initial reports. In a secondary analysis, sacrificing the randomized component of the study, the North Carolina group found less hospital utilization among extended outpatient commitment patients. A subsequent follow-up of the North Carolina group reported reduced victimization among patients placed on orders. Four other studies, without comparison samples, are often cited as evidence that outpatient commitment reduces hospital admissions and the duration of hospital stays (O'Keefe, Potenza, & Mueser, 1997; Zanni & de Veau 1986; Munetz et al., 1996; & Rohland, 1998). As the focus of these latter studies was conditional release, shortening the duration of the current hospital episode, they seem to have minimal relevance to considering the effectiveness of orders in preventing hospitalization. Further, because the oversight function of aftercare staff in the issuance of outpatient orders following hospital release (Solomon, Draine, & Marcus, 2002), the procedure used in the three comparison group studies, often results in increased post-episode returns, prevention of future hospitalization is only a partial objective of this form of outpatient commitment. This investigation builds on the potential indicated by the positive outcomes reported in the North Carolina investigation by attempting to better understand the utility of outpatient orders in preventing hospitalization by

focusing on the experience of patients with community-initiated orders in the Victoria Mental Health System. It considers the use of orders issued to patients in the community over the course of a decade and the impact of such orders on the course of a patient's treatment career by comparing the experiences of those placed on community-initiated orders with those placed on orders initiated following hospital release and those placed on orders both from hospital and community.

Although this comparison group design does not afford the level of causal inference available in a randomized experiment, it provides a perspective on the real-world pattern of use of community-initiated orders over a period of time currently unavailable in the literature; information that is essential for treatment planning.

METHOD

Sample

The Victorian Psychiatric Case Register (VPCR) provides a record of all clinical contacts and their character occurring within the State of Victoria, Australia. The Victorian Department of Human Services and its ethics committee approved access to the register data. All patients having experienced a placement on orders between November 12, 1990 and June 30, 2000 (a period when all mental health service utilization and outpatient commitment could be reliably mapped using the VPCR) were identified (n = 8,879).

Units of Analysis

In documenting the patient's treatment career, all treatment contacts were organized into episodes of care: each hospitalization (from day of admission to day of discharge) was considered a separate inpatient episode; each continuous period of community provision without a break in service 90 days or longer, a community care episode (Tansella et al., 1995). A ≥90 days service break followed by re-initiation of care was considered the start of a new community care episode. All occasions of community service are reported as community treatment days; multiple occasions of community service on the same day count as one community treatment day.

Analyses

Analyses were completed using the SPSS Statistical Package 13 (SPSS 13.0 for Windows 2005). Descriptive statistics are presented and differences discussed by inspection in order to avoid redundant statistical testing. Statistical tests for group differences are used for the multivariate models.

Logistic regression was used in clarifying the distinguishing characteristics of patients on community-initiated orders versus other patients (Rolfe, 2001; Segal & Burgess, 2006). The model included: Four service selection factors (the experience of an inpatient episode greater than the 38-day average, the number of inpatient episodes experienced and the interaction of the later two during the period prior to placement on orders, and the duration of the patient's mental health treatment career in days—i.e., from the first date of contact with the mental health system to the last contact date), two demographic factors (age and gender), diagnoses (i.e., schizophrenia, major affective disorder, dementia, and paranoia or other psychoses), indicators of pre-morbid adjustment ("never married," age at entry into the mental health system, $\geq$ eleventh-grade education), and current social involvements (current marriage and employment).

An analysis of covariance via dummy variable ordinary least squares (OLS) regression was used to consider the relationship between placement only on community-initiated orders, placement on a combined regimen of orders (i.e., orders following hospitalization and orders issued from the community), and the difference between the number of inpatient days experienced prior to placement on orders and following initial placement. The contrast group being those placed on orders only from the hospital. The model is estimated adjusting for the amount of community-based services the patient received, interactions of community-based services with the type of order regimen, age, gender, diagnoses (schizophrenia, major affective disorder, dementia, paranoia and other psychoses), year of entry into the mental health system (the deinstitutionalization trend control), and total number of days of involvement with the mental health system.

RESULTS

There were 16,569 orders written during the decade of record of which 8% ($n = 1,331$) were written from the community ostensibly to prevent hospitalization; thus 92% or 15,238 were written from the hospital ostensibly to shorten the duration of a hospital episode. The average duration of all outpatient orders was $M = 217.71$ days ($SD \pm 276.36$). Community-initiated orders were on average issued $M = 72.5$ days ($SD \pm 253.6$) following separation from the patient's previous inpatient episode and were M $= 198.43$ days ($SD \pm 234.60$) in average duration compared to the $M = 219.39$ days ($SD \pm 279.65$) of those issued on separation from hospital. This difference was significant at $p = .008$ ($F = 7.042$, 1 d.f. $= 16566$).

On average a person exposed to outpatient commitment was placed on outpatient orders 1.87 ($SD \pm 1.57$) times during their mental health career.

Those individuals who had community-initiated orders were likely to have $M = 1.06$ ($SD \pm .24$), those with hospital-initiated orders $M = 1.71$ ($SD \pm 1.34$), those on combined regimen, $M = 3.98$ ($SD \pm 2.39$).

Tables 1 and 2 present the demographic, diagnostic, and service use characteristics of the samples.

Table 3 addresses the issue of selection for community-initiated orders from a multivariate perspective. The model presented contrasts patients experiencing community-initiated orders only versus those experiencing the combined regimen. These two groups appear to be the most different in

TABLE 1 Demographic and Diagnostic Characteristics

Variables	Career with with outpatient commitment orders		Career with outpatient orders issued only following hospitalization		Career with outpatient orders issued from both hospital and initiated in community		Career with outpatient orders only initiated in community	
	($n = 8879$) $n/$ Mean ($\pm SD$)	%	($n = 7720$) $n/$Mean ($\pm SD$)	%	($n = 744$) $n/$Mean ($\pm SD$)	%	($n = 415$) $n/$Mean ($\pm SD$)	%
Age	42.4 ± 16.3		42.8 ± 16.4		37.5 ± 12.6		43.2 ± 18.1	
Gender:								
Male	5275	59	4554	59	498	67	223	54
Female	3604	41	3166	41	246	33	192	46
Education:								
<11th grade education	6796	76	5894	76	565	76	337	81
≥11th grade education	2083	24	1826	24	179	24	78	19
Employment:								
Employed	920	10	793	10	79	11	48	12
Other	7959	90	6927	90	665	89	367	88
Marital status:								
Never married	5023	57	4302	56	502	68	219	53
Currently married	1563	18	1397	18	83	11	83	20
Once married	1650	19	1456	19	109	15	85	20
Not known	643	7	565	7	50	7	28	7
Diagnosis								
Dementia or other Nervous system Disorders	872	10	760	11	64	9	48	12
Schizophrenic disorders	6911	78	5951	77	650	87	310	75
Paranoia and acute psychotic disorders	194	2	179	2	7	1	8	2
Major affective disorders	628	7	575	7	20	3	33	8
Other disorders	274	3	250	3	3	0	16	3

TABLE 2 Service Characteristics

Service Characteristics	Careers with outpatient commitment (n = 8879)		Career with outpatient orders issued only following hospitalization (n = 7715)		Career with outpatient orders issued from both hospital and initiated in community (n = 744)		Career with outpatient orders only initiated in community (n = 415)	
	Mean/Percent	± SD	Mean/Percent	± SD	Mean/Percent	± SD	Mean/Percent	± SD
Number of days in system	3104	3554	3070	3586	3664	3344	2728	3216
Total IOPC episodes	1.87	1.57	1.71	1.34	3.98	2.39	1.06	.24
# of orders initiated in community	NA	NA	0	0	1.20	.54	1.06	.24
Average community IOPC duration	NA	NA	0	0	189.09	199.01	235.36	280.71
Had >38 day inpatient episode prior to first IOPC	20%		20%		16%		26%	
Total inpatient episodes before 1st IOPC	2.25	2.185	2.20	2.127	2.61	2.630	2.40	2.313
Total inpatient episodes after 1st IOPC	2.46	4.16	2.17	3.83	6.39	5.94	.65	1.29
Total inpatient episode days before 1st IOPC	86.52	181.15	80.67	153.39	88.18	129.41	192.38	472.31
Total inpatient episode days after 1st IOPC	101.33	265.27	88.88	246.06	267.01	398.03	35.97	198.33
Difference in before/After first IOPC in inpatient days use	−14.83	286.50	−8.22	250.10	−178.83	387.66	156.41	495.74

NA, not applicable.

character. The Logistic model is significant, $p < .000$, $n = 1159$; it correctly classifies 75% of patients. The service history factors appear to be most important in distinguishing the community-initiated orders only group. Having had an inpatient episode longer than the 38-day average prior to being placed on orders increased one's chances of group membership by 63.25 times, and each additional hospitalization prior to placement on orders by

TABLE 3 Factors in Selection to Sole Reliance on Community Initiated Orders (n = 1159)*

Distinguishing characteristics	B	S.E.	Sig.	Exp(B)
Service History Selection Factors:				
Had an inpatient episode longer than the 38 day average	4.15	.51	.000	63.25
Number of Prior Inpatient Episodes	.04	.03	.173	1.04
Interaction of inpatient episode greater than 38 days by number of inpatient episodes	−.39	.06	.000	.68
Time from first date known to mental health system to last face-to-face contact	−.001	.00	.000	.999
Demographic Selection Factors:				
Age	.31	.07	.000	1.36
Gender	−.30	.15	.050	.74
Community Involvement Selection Factors:				
Employed	.20	.22	.353	1.22
Currently married	.44	.26	.051	1.55
Premorbid Selection Factors:				
Age at first date known to mental health system	−.29	.07	.000	.75
Education: 11th- grade plus	−.27	.17	.117	.76
Never married	.02	.19	.91	1.02
Disorder Selection Factors:				
Major Affective Disorder	−.130	.436	.765	.88
Dementia	−.840	.429	.050	.43
Schizophrenia	−.992	.318	.002	.37
Paranoia and other psychoses	−.475	.653	.467	.62

*Model characteristics: Chi Square = 265.36; df = 15; Significance, $p < .000$. % Correct classification = 75.2%. n = 1151. Missing cases, 8.

only 4%. Yet having many longer hospitalizations prior to placement reduced one's chances of membership by 32%. Demographics also played a role in that each year of age increased one's membership probability by 36% and males were 26% less likely to be selected. Finally, people with schizophrenia were 63% less likely to be selected.

Table 4 shows the relationship of all independent variables to inpatient utilization following placement on orders (defined as pre-placement days minus post-placement days). Most important are the relationships of the independent variables: "community initiated orders only group membership," "membership in the group with both hospital and community initiated orders," and the interactions of each group membership with service days. The model is significant, Adj. R^2 = .05; DF Reg. = 13; DF Res. = 8751; n = 1144; F = 37.24; Sig. < .000. It shows that in comparison with those patients selected for orders following hospitalization those placed on orders only from the community were likely to experience 116 less inpatient days post placement and that those placed on the combined regimen experienced 152 days more post placement inpatient days, all other factors taken into account.

TABLE 4 Change in Inpatient Days Logged Following IOPC

Criterion variable:	Inpatient days following IOPC				
Independent variables	Unstandardized regression coefficient/B	Std. error	Standardized regression coefficient	t	Sig.
Age	.069	.202	.004	.342	.733
Gender	−15.401	6.129	−.027	−2.513	.012
Major affective disorder	51.377	16.650	.047	3.086	.002
Schizophrenia	41.068	12.988	.061	3.162	.002
Dementia	43.331	16.743	.040	2.588	.010
Paranoia and other psychosis	60.058	23.225	.032	2.586	.010
Total community treatment days	−.028	.016	−.023	−1.787	.074
IOPC initiated in community only	116.085	16.911	.088	6.864	.000
IOPC from hospital and community	−152.813	15.981	−.153	−9.562	.000
Interaction of hospital and community initiated IOPC and service days	−.017	.037	−.008	−.462	.644
Interaction of community only initiated IOPC and service days	.120	.057	.027	2.103	.035
Year of first inpatient episode	5.127	1.242	.049	4.127	.000
Number of days from first date to "last known face to face contact date" (var[1])	−.003	.001	−.035	−3.029	.002

[1]Dependent Variable: Inpatient days before 1st cto minus inpatient days after (i.e., days saved).

DISCUSSION

Patients appear to be selected for a singular regimen of community-initiated orders in a manner that emphasizes their experience of a single extended hospital stay. They tend to be older females and although most patients selected suffer with schizophrenia among patients placed on orders, those with other conditions are more likely to be selected into this group. A likely scenario given the career descriptions of these patients and the multivariate model results is that such a patient experiences a single hospitalization of duration slightly longer than six months and is released from hospital. During the two months that follow the patient experiences some deterioration, perhaps discontinuing treatment. The outpatient order is written to prevent return to the hospital and establish a pattern of care that will eliminate the need for future hospitalization. The strategy appears to work for this subgroup in that

they experience less inpatient days post placement on community-initiated orders and only about one in five actually return to the hospital.

Patients placed on the combined regimen of hospital- and community-initiated orders appear to be the most difficult. This is to some extent indicated in their demographic and illness characteristics—they are younger (37.5 ± 12.6) males (67%) who have never been married (68%) and suffer with schizophrenia (87%). These are the "revolving door" patients where outpatient orders seem to serve the functions of shortening the duration of current inpatient episodes (Segal & Burgess, 2006) and of providing community-based oversight in an extended career of episodic hospitalizations. Such patients may benefit from such protective oversight in the form of reduced exposure to victimization (Torrey & Zdanowicz, 2000; Hiday et al., 2002). They, however, experience the longest treatment careers (ten years on average) in all likelihood because of the severity of their illness and their early entry into the mental health system.

The study has shed some light on *the patient-career-pattern of those patients placed on community initiated orders—one subgroup experiencing such orders as a true preventative measure and the other as a form of oversight in the context of an extended mental health treatment career.*

This study has several limitations. While it represents a first view of a population's experience with community-initiated orders over almost a decade, the pattern of care herein observed may be unique to Victoria and its treatment approach and resources. Results, we emphasize again, derived in a comparison group design with adjustments for available covariates do not have the causal certainty attributable to a clinical trial. While the administrative data used represents perhaps the best in this category of information, they suffer from all the validity problems associated with administratively collected information. Given these limitations however, it appears that for a select group of patients, community-initiated orders *may* help in future avoidance of inpatient care following a shaky period of community care after an initial extended inpatient episode.

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