

Hospitalized Insanity Acquittees' Level of Functioning

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Since 1975 in New Jersey, similar legal criteria apply to the discharge of insanity acquittees as those patients who are civilly committed. Based on contact with insanity acquittees (NGRIs) in a regional state hospital, we had the impression that they appeared to be functioning better than the general inpatient population. The purpose of this study was to assess the length of inpatient stay and the level of functioning for the NGRIs and contrast it to a comparison group selected to control for variables such as age, ethnicity, Axis I diagnosis, and history of substance abuse, which could impact on our variables of interest. We obtained psychiatrist-rated clinical global impression (CGI) scores and nursing-rated specific level of functioning (SLOF) scores in a group of 62 NGRIs and in a matched group of 62 controls. The NGRIs had significantly better CGI scores, and higher "personal care skills" and "social acceptability" SLOF section scores. The social acceptability subscale includes items for aggressiveness towards others, self, and property, all of which were significantly better for the NGRIs. Thus, in our setting, inpatient NGRIs displayed some evidence of better clinical functioning, including less perceived aggressiveness, than the control inpatients. Although the NGRIs had been in the regional state hospital for a shorter period than the controls, the NGRIs had spent an average of over three continuous years in secure facilities before transfer to the regional state hospital. We discuss our findings in view of high rates of paranoid subtypes of psychotic disorders among the NGRI group, and the high prevalence of substance abuse.

In New Jersey, insanity acquittees, that is, those individuals found not guilty of a crime by reason of insanity (NGRI), may be psychiatrically hospitalized pursuant to the *Krol* statute. This 1975 case

established that "the fact that the person to be committed has previously engaged in criminal acts is not a constitutionally acceptable basis for imposing upon him a substantially different standard or procedure for commitment," and "it is not sufficient that the state establish a possibility that defendant might commit some dangerous acts at some time in the indefinite future" but that "the risk of danger, a product of the likelihood of such conduct and the degree of harm which may ensue, must be substantial within the reasonable foreseeable future."¹ The *Krol* statute establishes sim-

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ilar legal criteria for the discharge of NGRI patients as exist for those civilly committed. Patients on *Krol* status may be conditionally discharged with mandatory continuing outpatient oversight, for a time no longer than the maximum sentence for their NGRI-adjudicated crime. Based on the *Krol* statute, and given the appreciable pressure to empty state hospital beds, one might expect that NGRIs who are functioning reasonably well and are perceived to have low aggressiveness towards others, self and property, would be conditionally discharged.

At Greystone Park Psychiatric Center, a regional state hospital in New Jersey, at the time of our study (mid-1992) 11 percent of the inpatient population was hospitalized on NGRI status, more than double the 5.2 percent of only six years earlier. By the end of 1993 this figure had further increased to 12.7 percent. This group thus represents a steadily growing fraction of the hospital's dwindling resident population. It is our impression that most of these NGRI patients continue to reside in state hospital beds for very long periods of time, despite reasonable levels of functioning. To explore whether our clinical impressions were valid, we undertook to compare the NGRI patients' length of stay, demographic characteristics, and clinical level of functioning, with that of a control group matched on variables that could affect their level of functioning or likelihood of discharge.

Methodology

We evaluated 62 NGRI inpatients at Greystone Park Psychiatric Center, re-

presenting 93 percent of the NGRI hospital population, recording demographic, diagnostic and forensic data from their charts. The remaining few NGRI patients were unavailable for the study either because they were temporarily transferred to the state forensic hospital for stabilization, or were discharged before we had a chance to interview them. Table 1 displays the crimes for which the study patients received NGRI status (most serious crime, if several were listed for one patient). There was a marked preponderance of serious violence directed against other individuals (40% homicide or attempted homicide, and an additional 31% aggravated assault), arson and sexual attacks accounting for an additional 6 and 5 percent, respectively.

One of four consulting psychiatrists rated each study patient using the Clinical Global Impression scale (CGI)² to estimate the level of severity of the patient's psychiatric disorder, and a senior member of the nursing staff most familiar with the patient (and unaware of the research hypothesis) recorded individual ratings using three relevant sections of the New Jersey Division of Mental Health and Hospitals "Specific Level of Functioning Assessment" (SLOF).³ The

Table 1
NGRI Crimes

	n	%
Homicide/attempted homicide	25	40
Aggravated assault	19	31
Arson/aggravated arson	8	13
Rape/sexual assault	4	6
Robbery/attempted robbery	3	5
Other	3	5
Totals	62	100

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CGI is a 7-point scale, for which 1 is a rating of no apparent psychiatric disorder, 4 represents the presence of a moderately severe disorder such as schizophrenia with active psychotic symptoms, and 7 represents extreme psychiatric disturbance, such as catatonia. The consulting psychiatrist rated each patient after performing a routine, detailed periodic interview and review. These psychiatrists did not serve as these patients' clinicians, and did not participate in release decisions or court appearances.

The SLOF rates 43 items of behavioral functioning on a forced-choice Likert-type scale with integer values of one to five, with five always indicating highest functioning. The SLOF was developed in an attempt to predict dischargeability. It has demonstrated value as a generally valid, reliable instrument, and is regularly used for all patients in the New Jersey State Hospital system.^{3,4} The SLOF yields six subscores. We collected data only for the subscales of Personal Care Skills, Interpersonal Relationships, and Social Acceptability. We individually recorded and analyzed the five items of the Social Acceptability section (verbally abuses others, physically abuses others, destroys property, physically abuses self, takes property from others without permission) which measured perceived aggressiveness. We selected a control group of 62 non-NGRI patients in the hospital by matching for gender and history of substance use disorder, and then as best as possible for principal Axis I diagnosis, ethnicity, and approximate age. We excluded patients

on IST forensic status (incompetent to stand trial) from the control population. We recorded the same data for controls as for NGRI patients, with the exception that there was no NGRI criminal charge. We determined the current length of stay for NGRIs and controls, and also obtained the duration the NGRIs had been continuously confined in secure facilities (principally in the state forensic hospital) before transfer to the regional state hospital.

We used Systat Macintosh version 5.2.1 for statistical analyses. Although we had selected our controls to match the cases as closely as possible, we conservatively used independent measures analyses for all *t*-tests. We considered CGI and SLOF section and item scores to be discrete ordinal data. Rather than using *t*-tests, we more conservatively analyzed them by group using Kolmogorov-Smirnov two-sample tests.

Results

Table 2 shows patient characteristics for the NGRI and control populations. Patients were exactly matched for gender (84% male, 16% female) and history of substance use disorder (68% for both groups), and closely matched for ethnicity (predominantly Caucasian). Axis I principal diagnoses were also alike (schizophrenia and schizoaffective disorder vastly predominating). The high rate of history of substance abuse or dependence in the NGRI group required the most effort in locating control candidates on this variable, and the resulting control population selected was slightly younger (38.0 years versus 41.4 years for

Table 2
Patient Characteristics

	NGRI	Controls
n	62	62
Male (%)	52 (84%)	52 (84%)
Caucasian (%)	39 (63%)	37 (60%)
History of substance use disorder	42 (68%)	42 (68%)
Principal diagnosis		
Schiz/schizo aff/delus disorder	56 (90%)	53 (85%)
Major mood disorder	1 (2%)	4 (6%)
Organic personality disorder	2 (3%)	2 (3%)
Psychotic disorder, NOS	0 (0%)	2 (3%)
Other	3 (5%)	1 (2%)
Age (mean \pm SD)*	41.4 \pm 11.0	38.0 \pm 8.6
Years ill (mean \pm SD)	18.1 \pm 8.8	17.5 \pm 9.3
Current length of stay (days) mean \pm SD†	1682 \pm 1453	2120 \pm 1544

* $t = 1.950$, $df = 122$, $p = .054$.

† $t = 1.627$, $df = 122$, $p = .106$, NS.

the NGRI patients). This difference approached statistical significance at the .05 level, but the number of years ill was similar for both groups. The average age of the entire inpatient population at the time of this study was 40 years. The mean length of current regional state hospitalization was nonsignificantly shorter for the NGRI patients (1682 versus 2120 days). The NGRI patients, however, had also spent an average of 1168 days (3.2 years) continuously interned in other secure facilities before transfer to the regional state hospital. This time was principally in the state forensic hospital, but also included earlier periods spent in the regional hospital interrupted by transfers back to the forensic hospital, and time spent in various jails.

The results of clinicians' ratings appear in Table 3. Supporting our previous impression that NGRI patients appeared to be functioning better than other inpatients, we found that the CGI scores for the NGRI group were significantly

better than those of the controls (3.65 versus 4.42, $p < .001$). The NGRI patients also had significantly better Personal Care Skills (32.5 versus 30.4, $p = .032$) and Social Acceptability scores (32.0 versus 27.1, $p < .001$), but did not differ from controls on the Interpersonal Relationships score of the SLOF. The five Social Acceptability items measuring perceived aggressiveness were all highly significantly better for the NGRI patients.

Discussion

In the present study, the crimes for which our patients received NGRI status were generally quite extreme, with homicide and attempted homicide alone accounting for 40 percent of the group, and most of the remainder also quite serious. This was a more violent population than revealed in a recent eight-state study, which found that 15 percent of insanity acquittees had committed murder, and another 38 percent physical assaults.⁵ However, some of that group,

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Table 3
Functional Assessment and Diagnostic Subtyping for NGRI versus Control Patients

	NGRI	Control	Statistic*	<i>p</i>
n	62	62		
CGI†	3.65	4.42	Dmax = .387	<.001
Level of functioning assessment†				
Personal care skills	32.5	30.4	Dmax = .258	.032
Interpersonal relationships	25.1	25.0	Dmax = .113	.824, NS
Social acceptability	32.0	27.1	Dmax = .597	<.001
SA items measuring dangerousness†				
Verbally abuses others	4.02	3.32	Dmax = .419	<.001
Physically abuses others	4.73	3.60	Dmax = .661	<.001
Destroys property	4.84	4.19	Dmax = .468	<.001
Physically abuses self	4.92	4.40	Dmax = .355	.001
Takes property from others without permission	4.73	4.16	Dmax = .323	.003
Paranoid subtype of schizophrenia or delusional disorder (%)	28 (45%)	11 (18%)	Fisher's exact‡	.002

* Kolmogorov-Smirnov two-sample tests for CGI and SLOF section and item ratings.

† Higher values indicate better functioning for all CGI and SLOF section and item ratings.

‡ Fisher's exact test two-tailed.

perhaps the less violent, may have been directly assigned to mandatory outpatient treatment or only briefly hospitalized. A recent study of New York State NGRI patients found a distribution of NGRI crimes closer to ours (33% homicide or attempted homicide, 19% aggravated assault, 16% arson).⁶ Certainly, the group of NGRI patients eventually sent to regional state hospitals ("regionalized") are not generally the healthiest: a recent Maryland study found that regionalized (compared with nonregionalized) NGRI patients had more prior hospitalizations and arrests, had longer NGRI hospitalizations, and were more likely to be rearrested on discharge, particularly for serious crimes.⁷

We found evidence confirming our impression that the NGRI patients were functioning better than the general inpatient population, although not in the area of "interpersonal relationships." The physician's CGI, and nursing's rat-

ings of "personal care skills" and "social acceptability" were significantly better for the NGRI patients, and, most remarkably, this appeared to extend to every one of the five social acceptability items measuring aggressiveness. This low rate of aggressiveness is similar to that reported by Singer, who also found that only two of the 46 NGRI patients she studied had been behaviorally disruptive during their hospitalization.⁸ While these functional assessment data should, of course, not be simply translatable into release decisions, in states where NGRI release decisions are based on substantially the same criteria as those for civil commitment, hospital staff recommendations tend to be biased towards patients' past and present dangerous behavior in the hospital.⁹

The NGRI patients had a nonsignificant shorter current length of hospitalization. However, records for the NGRI patients indicated that they had spent,

on average, over three continuous years in secure facilities, mainly the state's centralized Forensic Psychiatric Hospital, before being transferred to the regional state hospital. (Patients not infrequently spent some of this time in jails, where we could not determine the adequacy of treatment they may have received, so we did not subject this length of stay data to further analysis.) Therefore, our recorded lengths of stay for NGRI patients significantly understate their current continuous period of secure psychiatric treatment. A longer regional hospital length of stay for NGRI patients is more dramatically demonstrated by recent discharge data. Data for the last three available calendar years (1990 through 1992), indicate that 31 NGRI patients were discharged from the hospital, with an average length of stay of 938 days, compared with an average of 530 days for the 1716 non-NGRI patients discharged during this period. Our control population, it may be noted, had rather longer hospitalizations: this was principally related to our needing to match for age (which usually translated to a long history of psychiatric illness), and a very high rate of substance use disorder, selecting for a difficult-to-discharge subset of the state hospital population. Our principal interest, however, was less in comparing lengths of stay than in comparing current functioning, in light of the *Krol* statute.

Differences in type of psychiatric symptomatology may help explain our finding that hospitalized NGRI patients were functioning behaviorally better than controls. Table 2 indicates that 56

(90%) of NGRI patients were diagnosed with schizophrenia or delusional disorder. These diagnoses were similarly represented in the control group, with 53 (85%). However, as indicated in Table 3, NGRI patients were far more frequently diagnosed with a paranoid subtype of a psychotic disorder ($n = 28$; 26 with paranoid schizophrenia and two with delusional disorder, paranoid type) than controls ($n = 11$, all with paranoid schizophrenia; $p = .002$, Fisher's exact test, two-tailed). It may be that among the seriously mentally ill, those with prominent acute paranoid symptoms may be both more likely to behave violently and commit serious crimes¹⁰⁻¹⁷ and, after treatment, function behaviorally at a higher level than non-paranoid patients. The latter may be more disorganized, more impaired by deficit symptoms and/or less responsive to medication.

This conclusion is supported by Krakowski *et al.*'s¹⁸ analysis of seven studies, four of which found a greater incidence of violence in paranoid compared with nonparanoid patients, two less violence, and one no difference. Examining these studies' clinical settings and the timing of evaluations, Krakowski concluded that paranoid patients, beset by disturbing systematized delusions and more dangerous to others when untreated, make a better recovery and are less dangerous than disorganized patients after adequate treatment.

The frequency of substance use disorder in the NGRI population was high (68%) and may represent a risk factor for the seriously mentally ill committing

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serious crimes, but was intentionally matched in our selection of controls. Singer⁸ found that 21 of a series of 46 New Jersey NGRI patients from one county had been drinking at the time of their crimes. However, in contrast to the high rate of serious psychiatric illness among our study patients, Singer found that many of her series had no significant psychiatric disorder, but were apparently unjustifiably accorded NGRI status for behavioral disturbances simply associated with alcohol and/or drug intoxication. Rice and Harris¹⁹ found alcohol involved in the index offense for 17% of their schizophrenic NGRIs, compared with 63% of nonschizophrenic offenders hospitalized for pre-trial psychiatric assessments. Other studies consistently find between one- and two-thirds of all murderers have a substance use disorder or were intoxicated at the time of their crime.²⁰⁻²³ Methodological difficulties in these assessments have been reviewed by several groups, most recently by Bradford *et al.*²³ Dual diagnosis patients are difficult to discharge, because of problems in finding placements. Our group of NGRIs had a high rate of substance abuse, which coupled with their criminal history, make them particularly challenging to find dispositions for, contributing to their long lengths of stay.

Conclusions

An increasing proportion of our state hospital inpatients are insanity acquittees. *Foucha v. Louisiana*,²⁴ a recent U.S. Supreme Court decision, mandates that insanity acquittees should have sub-

stantially the same discharge criteria as civilly committed patients (although Justice O'Connor's swing vote and separate opinion may indicate some future unspecified latitude²⁵). New Jersey has had such a judicial requirement since 1975, but we found that hospitalized insanity acquittees in a New Jersey regional state hospital appeared to be functioning significantly better than a matched hospitalized population, even after controlling for comorbid history of substance use disorder.

Concern about psychiatric and criminal recidivism in such a population are nonetheless understandable, and well founded.²⁶⁻³¹ Close case management of conditionally released NGRI patients appears to offer a feasible alternative to continued hospitalization for many such individuals. Oregon's model program with a strong monitored conditional release Psychiatric Security Review Board (PSRB) system has been studied and adopted in some form in other states. It appears clinically and administratively effective, as well as cost effective.³²⁻³⁵

In view of our findings and *Krol* statutory requirements, we were not able to determine why more of our hospitalized NGRI patients were not deemed well enough for conditional release. Possibilities include a less-than-fully developed conditional release program, and medical and judicial fears that were not addressed by our evaluation. These fears might include perceived risk only to specific individuals outside the hospital, such as family members, or specific members of the health care, judicial or governmental systems; or perceived in-

creased seriousness of a mistake in discharging a patient who has been homicidal, or set fires, or committed sexual assaults. Often not only family members, but former neighbors and other concerned community members lobby against an NGRI patient's potential release. Many of our patients may have been particularly challenging to discharge because they had both substance abuse histories and documented criminal records. Other researchers have asserted that other "political" factors, such as a patient's ability to obtain legal representation and assertively and articulately present his or her case for discharge, and whether there had recently been any well-known local "horrendous offense" committed by a discharged acquittee, significantly predict release decisions for insanity acquittees.³⁶ Certainly, the possibilities listed above would warrant further study.

Another relevant factor may be the seriousness of the offenses. An increasing fraction of regionally hospitalized NGRI patients may have committed the most serious crimes (e.g., homicide or attempted homicide). An NGRI crime of homicide was one of the few demographic, clinical or legal factors that Singer found predictive of judicial reluctance to discharge NGRI patients.⁸ Studies of New York State NGRI patients also found that patients with more serious NGRI crimes, such as homicide, had longer hospitalizations.³⁷⁻³⁹

Eisner⁴⁰ has proposed use of an experimental scale to evaluate readiness for insanity acquittees' dischargeability: with judicious weighting factors, perhaps

such efforts will prove useful in aiding us in the difficult task of predicting future dangerousness. For such sensitive discharge decisions, however, the most skillful clinical judgment will continue to be needed. Challenging decisions will be less agonizing if there is a strong, monitored conditional discharge system in place.

Acknowledgment

We acknowledge Marie E. Seprish for her assistance.

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