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THE IMPACT OF STATE MENTAL HOSPITAL DEINSTITUTIONALIZATION ON UNITED STATES PRISON POPULATIONS, 1968-1978*

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In a 1939 study of several European countries, L. Penrose reported that "as a general rule, if the prison services are extensive, the asylum population is relatively small and the reverse also tends to be true."¹ Since then, the belief that the criminal justice and mental health systems are functionally interdependent has gained widespread acceptance among commentators and researchers.²

This hypothesized interdependence is frequently invoked in policy debates about the process of state mental hospital "deinstitutionaliza-

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¹ Penrose, *Mental Disease and Crime: Outline of a Comparative Study of European Statistics*, 18 BRIT. J. MED. PSYCHOLOGY 1 (1939).

² See, e.g., K. MILLER, *THE CRIMINAL JUSTICE AND MENTAL HEALTH SYSTEMS: CONFLICT AND COLLUSION* (1980).

tion" and its impact upon state prison populations. Deinstitutionalization is really a shorthand term for a range of procedural, statutory, and ideological changes that attempt to transfer the care of the chronically mentally ill from institutional to community settings.³ State mental hospital populations are reduced by discharging long-term residents, shortening hospital stays, and attempting to reduce the number of admissions. One hypothesized impact of these processes is that the flood of former mental patients shifted to community care in newly created (or, more often, nonexistent) "community mental health centers" leads to a drastic increase in deviant behavior in the community, to which the criminal justice system is forced to respond.⁴

Indeed, the epidemiologic data on population shifts in the criminal justice and mental health systems in the U.S. appear to confirm an interdependent relationship. At the end of 1968, there were 399,000 patients in state mental hospitals and 168,000 inmates in state prisons.⁵ Within a decade, the hospital population fell 64%, to 147,000,⁶ while the prison population rose 65%, to 277,000.⁷ Indeed, the correlation between the annual resident census of state mental hospitals and state prisons in the United States between 1968 and 1978 was a dramatic $-.87$.

Although the fact of the covariation of prison and mental hospital populations is indisputable, the precise nature of their interdependence is unclear. Several commentators have suggested that released mental patients who cause trouble in the community often are arrested to get them off the streets; they then may be treated for their disorders while incarcerated.⁸ This would imply not only the covariation that has been noted between *population* rates, but also that the *composition* of the prison population is changing in the direction of a greater incidence of mental disorder.

At the same time that these commentators claim that state prison populations have become more "disordered," there is evidence that state mental hospital populations may have become more "criminal." In

³ Bacharach, *A Conceptual Approach to Deinstitutionalization*, 29 HOSP. COMMUNITY PSYCHIATRY 573 (1978); Morrissey, *Deinstitutionalizing the Mentally Ill: Processes, Outcomes, and New Directions*, in DEVIANCE AND MENTAL ILLNESS (W. Gove ed. 1982).

⁴ Abramson, *The Criminalization of Mentally Disordered Behavior: Possible Side-Effect of a New Mental Health Law*, 23 HOSP. COMMUNITY PSYCHIATRY 101 (1972).

⁵ Goldman, Adams & Taube, *Deinstitutionalization: The Data Demythologized*, 34 HOSP. COMMUNITY PSYCHIATRY 129 (1983).

⁶ *Id.*

⁷ Personal communication with National Institute of Mental Health, Division of Biometry (1982); PRISONERS IN THE U.S. (Bureau of Justice Statistics, 1979). This is, of course, precisely the shift that Penrose, *supra* note 1, would have predicted.

⁸ Abramson, *supra* note 4; Geller & Lister, *The Process of Criminal Commitment for Pretrial Psychiatric Examination: An Evaluation*, 135 AM. J. PSYCHIATRY 53 (1978); Lamb & Grant, *The Mentally Ill in an Urban County Jail*, 39 ARCHIVES GEN. PSYCHIATRY 17 (1982).

New York State, for example, the percentage of male admittees with prior arrest records increased from 15% in 1947, to 32% in 1968, and to 40% in 1975.⁹ Further, hospital staffs perceive increasing assaultiveness and hostility in patients over time.¹⁰ Although the population of state mental hospitals may have precipitously declined, the "criminality" of those who remain may be increasing. This may be due, in part, to the tightening of commitment procedures and the development of the "dangerousness" criterion for commitment that began in the late 1960's.¹¹

In addition to these theoretical issues, the functional interdependence of prisons and mental hospitals may explain a wide variety of pragmatic ills in both the criminal justice and mental health systems. Some researchers attribute the severe and unanticipated overcrowding of U.S. prisons in the 1980's, for example, to failure to account for the effects of the collapse of the state mental hospital system.¹² Beyond simple overcrowding, researchers claim that the perceived influx of former mental patients into the prison population presents special management needs that prisons are ill-equipped to meet and disrupts the "programming" of more normal offenders.¹³ In the mental health system, the purported transformation of mental hospitals into detention facilities for "dangerous" persons prone to commit crimes has been held responsible for a drastically increased need for security that the hospitals were not designed to meet. Commentators also claim that hospital staffs have been thrust into the untenable position of treating antisocial behavior, a task for which few current treatments have been demonstrated as effective.¹⁴

Despite the frequency with which the correlation between prison and mental hospital populations and its implications for institutional composition has been invoked by commentators, attempts to verify it have been rare and partial. No study has employed both a *comparative* framework, to simultaneously assess changes in prison and mental hospital size and composition, and a *longitudinal* one, to measure these changes over time. The present study does both.

⁹ Steadman, Cocozza & Melick, *Explaining the Increased Arrest Rate Among Mental Patients: The Changing Clientele of State Hospitals*, 135 AM. J. PSYCHIATRY 816 (1978).

¹⁰ H.J. Steadman, J. Braff, P. Castellani, R. Ingalls & A. Weinstein, Staff Perceptions of Factors Affecting Changes in New York State Psychiatric Center Inpatient Trends (Bureau of Special Projects Research, New York State Office of Mental Health, January 1979) (unpublished manuscript).

¹¹ A. STONE, MENTAL HEALTH AND LAW: A SYSTEM IN TRANSITION (1975).

¹² Grabosky, *Rates of Imprisonment and Psychiatric Hospitalization in the United States*, 7 SOC. INDICATORS RESEARCH 63 (1980).

¹³ Wilson, *Who Will Care for the 'Mad and Bad,'* 6 CORRECTIONS MAG. 5 (1980).

¹⁴ Bonovitz & Guy, *Impact of Restrictive Civil Commitment Procedures on a Prison Psychiatric Service*, 136 AM. J. PSYCHIATRY 1045 (1979).

At first blush, the methodology for such an undertaking seems straightforward: administer diagnostic interviews and tests to prison admittees to ascertain levels of psychopathology at various points in time. Where shifts from mental hospitals to prisons were occurring, the rate of disorders would be expected to rise. Unfortunately, there is no available reliable baseline data from psychological interviews and tests on the prevalence of mental disorder in prison populations for the period before the deinstitutionalization of mental hospitals.¹⁵ A direct test of the hypothesis, therefore, is not feasible.

In our current study, we have attempted to test by more indirect means the degree of reciprocity between the criminal justice and mental health systems. The extent to which an individual has a history or *career*¹⁶ of involvement with the mental health system may be taken as an index of his or her disordered mental status. Indeed, numerous studies suggest that a history of mental hospitalization weighs heavily in the actual determination of current disorder by psychiatrists and psychologists.¹⁷ Similarly, researchers generally take a history of arrest and imprisonment as the definition of a "career" criminal, and also take it into account in assessing the criminal justice system's treatment of such offenders.¹⁸ Should data reveal that the proportion of prison admittees with a history of mental hospitalization rose at the same time that the populations of state mental hospitals fell, the theory that deinstitutionalization has contributed significantly to the rise in prison populations would be supported.¹⁹ Our data also permit an analysis of the type of functional interdependence between these two systems that can reflect changes in institutional composition. With the confinement career data, it is possible to test more broadly the prior New York State finding that

¹⁵ Monahan & Steadman, *Crime and Mental Disorder: An Epidemiological Approach*, in CRIME AND JUSTICE: AN ANNUAL REVIEW OF RESEARCH 145 (M. Tonry and N. Morris eds. 1983).

¹⁶ H.J. STEADMAN & J. COCOZZA, CAREERS OF THE CRIMINALLY INSANE (1974).

¹⁷ R. ROESCH & S. GOLDING, COMPETENCY TO STAND TRIAL (1980). Certainly, if the research focus had been on the prevalence of specific types of mental illness, more direct clinical indicators would have been essential. Because this research was not a prevalence study, however, but one of how institutional career patterns may have changed, the history of mental hospitalization was appropriate. Furthermore, there are no baseline data available on clinical measures that would permit a retrospective study of system changes.

¹⁸ Greenwood, *The Violent Offender in the Criminal Justice System*, in CRIMINAL VIOLENCE 320 (M. Wolfgang and N. Weiner eds. 1982).

¹⁹ This approach assumes that the proportion of the general population that is seriously mentally ill remains relatively constant over time. Based on Dohrenwend, et al.'s 1980 comprehensive review of the extant epidemiological data, that assumption is empirically supportable. B. DOHRENWEND, B.S. DOHRENWEND, M.S. GOULD, B. LINK, R. NEUGEBAUER, R. WUNSCH-HITZIG, MENTAL ILLNESS IN THE UNITED STATES: EPIDEMIOLOGICAL ESTIMATES (1980). Accordingly, should the proportion of prisoners with a history of mental hospitalization increase, it would not be attributable to changes in the population rates of serious mental disorders.

the proportion of mental patients with a history of prior arrests is dramatically increasing.

METHODS

We chose the years 1968 and 1978 as the time frame for analysis. The earlier year was prior to the initiation of the "dangerousness" standard for commitment to mental hospitals in California, subsequently adopted, at least in part, by forty-eight other states.²⁰ Major acceleration in the movement to "deinstitutionalize" state mental patients also began after 1968 in most jurisdictions.²¹ The latter year was the most recent one for which records were available when the study began.

A purposive sample of six states was selected. The primary criterion was access to information systems that could provide 1968 data. The six states chosen (California, Arizona, Texas, Iowa, New York, and Massachusetts) are representative of the United States along geographic and urban-rural dimensions, and accounted for 26% of the U.S. prison population in both 1968 and 1978, and 16% of the U.S. state mental hospital patients in both years.

Random samples of approximately 400 adult (i.e., over eighteen years old) male admittees to state prisons and 400 adult male admittees to state mental hospitals in both 1968 and 1978 were selected in New York and California. In the other four states, random samples were drawn of approximately 300 adult male admittees to state prisons and 100 adult male admittees to state mental hospitals for each of the two years. The sample was limited to males because males comprise 96% of the U.S. prison population.²² The final sample for analysis totaled 6,273, of which 3,897 were prisoners and 2,376 were mental patients. For each prison or mental hospital admittee, selected data were gathered on the person's history of (a) arrest, (b) state imprisonment, and (c) state mental hospitalization. Research liaisons in each state combined computer and manual searches to locate the complete history of each individual. In Massachusetts, for example, this required manual searches in each of seventeen state hospitals for the 737 patients and inmates in the state samples. Officials in each system received assurances of the confidentiality of any information that could identify an individual patient or prisoner.

²⁰ R. SCHWITZGEBEL & R. SCHWITZGEBEL, *LAW AND PSYCHOLOGICAL PRACTICE* (1980).

²¹ Bassuk & Gerson, *Deinstitutionalization and Mental Health Services*, 238 *SCI. AM.* 46 (1978).

²² Weis & Henney, *Crime and Criminals in the United States*, in *CRIMINOLOGY REV.* Y.B. 743 (S. Messinger and E. Bittner eds. 1979).

RESULTS

The data in Table 1 clearly indicate that considerable deinstitutionalization of state mental hospitals occurred in all six study states. The 1968 year-end census of mental hospitals in the six states was 64,400. By 1978, this figure had plummeted 61.6% to 24,731, almost precisely following national trends. Only in Iowa was the decrease moderate (-15.1%). The rate of decline in the other states ranged from -38.5% in Arizona to -77.3% in Massachusetts. At the same time, the prison census climbed in each state except California. Across the six states, there were 56,734 inmates at year-end in 1968, and 71,381 in 1978, a 25.8% increase.

To adequately understand deinstitutionalization, however, it is essential to look to admission rates as well as to census figures. Although the *census* of state mental hospitals fell dramatically between 1968 and 1978, the number of *admissions* declined only slightly. In 1968, there were 66,077 male admissions to the six states' mental hospitals; in 1978, there were still 60,161 male admissions. As compared to the 61.6% decline in the census, admissions decreased only 9.0%. This discrepancy between a sharply declining hospital census and a relatively stable admission rate is accounted for by drastically reduced lengths of hospital stay, a phenomenon that has been noted by many other observers.²³ Thus, it is entirely inappropriate to depict deinstitutionalization as a trend that terminated most admissions to state hospitals. Almost as many persons were admitted in 1978 as in 1968; they just did not stay as long.

Although the volume of mental hospital admissions was fairly constant between 1968 and 1978, the characteristics of the persons admitted changed substantially. Across the six states studied, the mean age at hospital admission decreased from 39.1 in 1968 to 33.3 by 1978. The percentage of whites among admitted patients also decreased, from 81.7% in 1968 to 68.3% in 1978.

This strong trend toward increased numbers of younger persons and nonwhites in mental hospital admissions was not paralleled in the prisons. Across the six states, the mean age of prison admittees was 29.0 in 1968 and 28.1 in 1978. The percentage of whites among prison admittees was also relatively stable, decreasing only from 57.6% in 1968 to 52.3% in 1978.

In general, the state mental hospitals in these six states appear to have begun serving a different clientele. Meanwhile, the composition of

²³ See, e.g., Bassuk & Gerson, *supra* note 21; Morrissey, *supra* note 3.

TABLE 1
 CENSUS AND ADMISSIONS OF MALES TO STATE MENTAL HOSPITALS AND PRISONS IN SIX STUDY STATES:
 1968 AND 1978

State	Hospital: Male Census		Hospital: Male Admittees		Prison: Male Census		Prison: Male Admittees	
	1968	1978	1968	1978	1968	1978	1968	1978
New York	37877	13271	25131	20740	12404	19635	6124	8572
			-65.0		-17.5		+58.3	+40.0
California	10446	5297	20132	14206	27369	20178	11251	11694
			-49.3		-29.4		-26.3	+3.9
Arizona	598	368	594	776	1626	3275	894	1774
			-38.5		+30.6		+101.4	+98.4
Texas	7088	3364	8355	15499	11842	23570	6075	11948
			-52.5		+85.5		+99.0	+96.7
Iowa	843	716	3500	4175	1700	1985	831	919
			-15.1		+19.3		+16.8	+10.6
Massachusetts	7548	1715	8365	4765	1793	2738	428	1540
			-77.3		-43.0		+52.7	+259.8
TOTAL	64400	24731	66077	60161	56734	71381	25603	36447
			-61.6		-9.0		+25.8	+42.4

the state prison populations remained fairly constant, although there was a substantial increase in the overall number of prisoners.

PRISONERS WITH A HISTORY OF MENTAL HOSPITALIZATION

Our data address the key question of the extent to which an increase in prison census is directly related to deinstitutionalization.

The percentage of prison admittees in 1968 and 1978 with a history of at least one prior mental hospitalization is presented in Table 2. There is little consistency across the six states in the percentage of admittees with such histories in either year, or in the direction of change in these percentages. In New York, Arizona, and Massachusetts, the percentage of admittees with prior hospitalization decreased (although not significantly) between 1968 and 1978. California, Texas, and Iowa, on the other hand, recorded significant increases in these percentages. Because the size of the three increases was so much larger than the size of the three decreases, there was a significant overall increase in the percentage of prisoners with a history of prior hospitalization, from 7.9% in 1968 to 10.4% in 1978.

TABLE 2
MALE PRISON ADMITTEES WITH PRIOR STATE MENTAL
HOSPITALIZATIONS:
1968 AND 1978

State	Percentage of Admittees With Prior Hospitalization				Number of Admittees With Prior Hospitalization		
	1968	1978	Test		1968	1978	% Change
New York	12.1	9.3	Z=-1.28;	NS	741	797	+7.6
California	9.5	15.2	Z= 2.45;	p≤.01	1069	1777	+66.2
Arizona	3.9	2.2	Z=-1.17;	NS	35	39	+11.4
Texas	0.3	8.4	Z= 4.86;	p≤.001	18	1004	+5477.8
Iowa	7.7	16.7	Z= 3.34;	p≤.001	64	153	+139.1
Massachusetts	12.5	9.0	Z=-1.33;	NS	54	139	+157.4
MEAN	7.9	10.4	Z= 2.70;	p≤.01	330	652	+97.3

The operational significance of these data, in terms of changing treatment and management needs within the prison population, may be better reflected in the *absolute number* of prison admittees with prior hospitalization, rather than in their proportion of the population. A projection of the percentages upon the total admission figures from Table 1 yields an estimate of the absolute numbers of prison admittees with prior hospitalization. These are presented in the right-hand columns of Table 2. Given the substantial increase that occurred in total prison

admissions for most states between 1968 and 1978, there is an increase for all six states in the absolute number of admittees with a history of mental hospitalization. That is, due to the dramatic trend of increased prison admissions, even in those states where the percentage of admittees with prior hospitalization decreased, the absolute number of persons with such an event in their history increased between 1968 and 1978. In New York, for example, where the proportion of inmates with prior hospitalization decreased from 12.1% to 9.3%, the volume of prison admissions increased so much (58.3%) that the total number of inmates with prior hospitalizations actually increased by 7.6%.

Perhaps the most useful way to analyze these changes in the actual numbers of prisoners having prior contact with the mental health system is to compare them with the changes that would have been expected by the increased admissions alone, holding constant with 1968 proportions of inmates with prior mental hospitalizations. Absent some effect from deinstitutionalization or some substantial change in the incidence of mental disorder in the population at risk, one would expect that the number of those imprisoned in 1968 who had prior mental hospitalization would have changed by the same amount as the general prison admission rate over the ten-year period. The comparisons between the actual numbers of prison admittees in 1978 who previously had been in a mental hospital, and the number that would be expected in 1978 from the application of the rate of change in the general admission figures to the 1968 base rates is presented in Table 3.

TABLE 3

ACTUAL NUMBER OF 1978 MALE PRISON ADMITTEES WITH
PRIOR HOSPITALIZATION AND NUMBER
EXPECTED FROM CHANGES IN TOTAL
PRISON ADMISSIONS, 1968-1978

State	Expected	Actual	% Difference
New York	1037	797	-23.1
California	1111	1777	+59.9
Arizona	69	39	-43.5
Texas	35	1004	+2768.6
Iowa	71	153	+115.5
Massachusetts	194	139	-28.4
MEAN	420	652	+55.2

The table shows that in New York, Arizona, and Massachusetts, the number of 1978 prisoners found to have a history of prior hospitaliza-

tion was *less* than would have been expected from the 1968 figures and the general prison admission trends. A projection for these three states of the number of 1978 admittees with prior hospitalization from the number of such admittees in 1968 and the shift in total admissions results in *overestimates* ranging from 23.1% to 43.5%. There are fewer, rather than more, previously hospitalized prisoners in 1978 than expected.

In the other three study states, the actual number of 1978 prison admittees with prior hospitalization exceeded the expected values. In California and Iowa—where there were the smallest increases in the general volume of prison admissions (Table 1)—the number of admittees with prior hospitalization was 59.9% and 115.5% higher, respectively, than expected. In California, there were 666 more admittees with prior hospitalization than would have been expected in 1978, which could account for the entire 443-person increase in the general prison admission statistics over this period (Table 1). Similarly, there were eighty-two more admittees with prior hospitalization than would have been predicted for Iowa in 1978, which could account almost completely for the negligible increase (eighty-eight persons) in prison admissions.

Among our six study states, Texas had both the most dramatic increase in the number of prison admittees with prior hospitalization and the largest difference between the expected and actual numbers of such admissions. In 1968, only eighteen previously hospitalized persons were admitted to Texas prisons (Table 2). Based on general increases in the prison admission figures, one would have expected thirty-five such persons to have been admitted in 1978. In fact, there were 1,004 such admissions in 1978. Any inferences about mental hospitals' contributions to prison size, however, necessitates estimating the *magnitude* of any population shifts between mental hospitals and prisons. Texas prison admissions increased by 5,873 persons between 1968 and 1978 (Table 1). There were 969 more prison admittees with prior hospitalization in 1978 than would have been expected (Table 3). Of the total increase in admissions to Texas state prisons between 1968 and 1978, therefore, only an estimated 16.5% (969/5,873) was attributable to the admission of former mental patients, who, in a previous era, might have remained hospitalized.

In sum, the evidence is weak that the rapid growth in state prison populations between 1968 and 1978 was attributable substantially to the shift of persons from state mental hospitals to state prisons. During the period of maximum deinstitutionalization of mental hospitals, the percentage of former patients among the ranks of prison admittees decreased in as many study states as it increased. Although the absolute

number of prison admittees with a history of mental hospitalization increased in all states between 1968 and 1978, the 1978 figures for three states were less than would have been expected from an application of the number of such admissions in 1968 to the general rates of increase in prison admissions. In two of the three states where the actual number of 1978 admittees with prior hospitalization exceeds expectation, former patients may account for the increased number of prison admissions. Yet these two states already had the lowest rates of increase in prison admissions (3.9% in California and 10.6% in Iowa). Texas had the largest increase in the number of prison admissions between 1968 and 1978, but former mental patients could have accounted for only 16.5% of it.

MENTAL PATIENTS WITH A HISTORY OF ARREST AND IMPRISONMENT

The other portion of our data dealing with the functional interdependence of criminal justice and mental health systems focuses on the criminal histories of patients admitted to state mental hospitals in 1968 and 1978. The percentage of mental hospital admittees in 1968 and 1978 with at least one arrest prior to their hospitalization is presented in Table 4. As would be expected from prior research,²⁴ the strong trend favored an increase in the proportion of male admittees with prior arrests. In four of the six study states, there was a significant increase in this percentage. Across the six states, the percentage of male hospital admittees with at least one prior arrest increased from 38.2% in 1968 to

TABLE 4
PERCENTAGE AND NUMBER OF MALE MENTAL HOSPITAL
ADMITTEES WITH PRIOR ARRESTS

State	Percentage of Admittees With 1 or More Prior Arrests			Number of Admittees With 1 or More Prior Arrests		
	1968	1978	Test	1968	1978	% Change
New York	36.7	51.0	Z= 4.09; p*≤.001	9223	10577	+14.7
California	32.8	65.3	Z= 9.24; p≤.001	6603	9319	+41.1
Arizona	32.6	47.5	Z= 2.03; p≤.05	198	369	+86.4
Texas	37.0	49.0	Z= 1.77; p≤.05	3091	7595	+145.7
Iowa	55.6	42.9	Z=-1.81; NS	1946	1787	-8.2
Massachusetts	<u>56.0</u>	<u>62.6</u>	<u>Z= .94; NS</u>	<u>4684</u>	<u>2983</u>	<u>-36.3</u>
MEAN	38.2	55.6	Z= 8.45; ≤.001	4291	5438	+26.7

* probabilities are for 1-tailed tests.

²⁴ Steadman, Coccozza & Melick, *supra* note 9.

55.6% in 1978. A projection of these percentages upon the total admission figures from Table 1 yields an estimate of the absolute number of admittees with an arrest history. In four of the six states, the number of admittees with a prior arrest was substantially higher in 1978 than in 1968, despite decreases in the volume of admissions to state mental hospitals.

In addition to the proportion of admittees with prior arrests, there are three other indicators of the increasingly criminal nature of state mental hospital admittees between 1968 and 1978: the proportion with multiple prior arrests, with prior imprisonments, and with histories of serious, rather than minor, crimes. Previous research in New York State has indicated that the increased crime rate of released mental patients, compared with the general population, is attributable largely to patients with two or more arrests prior to their hospitalization.²⁵ It may be, therefore, that the proportion of patients with two or more prior arrests is a more sensitive index of the "criminality" of mental patients. For all of our study states but Iowa and Massachusetts, both the percentage and the estimated number of state mental hospital admittees with two or more arrests increased substantially between 1968 and 1978.

Another index of whether state mental hospitals were admitting more criminal-type persons in 1978 than in 1968 can be derived from the rates of prior imprisonment. Overall, the percentage of patients with a history of prior imprisonment was 5.7% in 1968 and 8.8% in 1978. In three of the six states, the percentage of hospital admittees with a history of prior imprisonment was higher in 1978 than in 1968. In the other three states, however, the percentage with such a history was lower in 1978 than in 1968. A projection of these figures upon the number of total admissions from Table 1 yields an estimate of the number of hospital admittees who had previously been in prison. In all states but Massachusetts and New York, the number of admittees with such a history was higher in 1978 than in 1968.

One final index of the "criminality" of mental hospital patients is the seriousness of the crime for which they were arrested. Here, too, we find evidence of substantial change. Of those hospital admittees in 1968 with an arrest in their background, 43.2% had been arrested for a crime against a person. By 1978, this figure had increased to 60.0%. Admittees with an arrest for a property or drug crime in their background increased from 53.9% and 12.6%, respectively, to 64.1% and 27.6%. Only minor crimes (e.g., disorderly conduct, public intoxication) decreased, from 76.3% of those with an arrest history in 1968 to 65.0% in 1978.

²⁵ *Id.*

As before, the most appropriate way to evaluate the data on prior mental patient contact with the criminal justice system may be to compare the actual number of hospital admittees in 1978 who previously had been arrested or imprisoned with the number of such persons one would expect to be represented in the 1978 admission statistics, given the 1968 base-rates and whatever shifts occurred in total admissions from 1968 to 1978. The comparisons between the expected and actual number of 1978 hospital admittees with records of prior arrest and imprisonment are presented in Table 5.

TABLE 5
ACTUAL NUMBER OF 1978 STATE MENTAL HOSPITAL
MALE ADMITTEES WITH PRIOR ARRESTS AND
IMPRISONMENTS AND NUMBER
EXPECTED FROM CHANGES IN TOTAL MENTAL HOSPITAL
ADMISSIONS, 1968-1978

State	Number of Admittees With 1 or More Prior Arrests			Number of Admittees With Prior Imprisonment		
	Expected	Actual	% Difference	Expected	Actual	% Difference
New York	7609	10577	+39.0	1099	1203	+9.5
California	4662	9319	+99.9	597	1918	+221.3
Arizona	259	369	+42.5	39	31	-20.5
Texas	5734	7595	+32.5	466	1271	+172.7
Iowa	2322	1787	-23.0	635	555	-12.6
Massachusetts	2670	2983	+11.7	363	152	-58.1
MEAN	3876	5438	+40.3	533	855	+60.4

In all study states but Iowa, the actual number of hospital admittees with one or more prior arrests is substantially higher (from 11.7% to 99.9%) than would be expected from total admission trends. On average, the number of admittees with one or more prior arrests is 40.3% higher than would have been expected given 1968 proportions and 1978 admission rates.

As before, the data are less clear with respect to prior imprisonment. In three of the six states, the actual number of admittees with records of prior imprisonment was lower than would have been expected based on general admission trends, although the mean proportion of the six states' actual admission is 60.4% higher than the expected number of admittees with histories of prior imprisonment.

In sum, much evidence exists to support a substantial change in the

composition of state mental hospital patients. In five of the six study states, the percentage of hospital admittees with a prior arrest record increased substantially between 1968 and 1978; the absolute number of such admittees also increased in four of the six states. The actual number of 1978 hospital admittees with a record of prior arrest exceeded the number expected—based on the number of such admissions ten years earlier and the general admission trends—in five of the six study states. Further, the crimes for which these patients were arrested increased in seriousness. The arrest data, with all its permutations, convincingly demonstrate a major increase in the proportion of state mental hospital patients who have had regular and often serious involvement with the criminal justice system in the decade of deinstitutionalization studied here.

DISCUSSION

We have found little support for the hypothesis that prisons and mental hospitals are functionally interdependent. There is no question that the prison population in the United States—and in the six states that we studied—increased during the same historic period that the population of mental hospitals decreased. Yet there is little evidence of a shift of former state mental hospital patients to state prisons. In three of the six states studied, the trend was for a smaller proportion of prison inmates to have state hospital histories in 1978 than in 1968, suggesting that the release of mental patients had no effect on the prison population. In two states, deinstitutionalization may have accounted for the relatively small increase in prison admissions; in the final state, that with the largest increase in the prison population, former mental patients could have accounted for no more than 16.5% of the increase.²⁶

The source of the “explosion” in the U.S. prison population apparently must be found elsewhere than in the deinstitutionalization of U.S. mental patients. One plausible rival hypothesis is that increases in the population at risk of committing crime (i.e., increases in the number of “baby boom” males reaching criminogenic age in the late 1960’s and early 1970’s) led to an increase in the rate of serious crimes punishable by imprisonment. In our six states, for example, the rate of reported

²⁶ These results are clearly consistent with those of Grabosky, who examined U.S. trends in mental patient and prison censuses from 1930-1970. See *supra* note 12. He found strong relationships between prison size and factors such as crime rates and unemployment rates, but none with the size of populations in mental hospitals. He concluded that “in the contemporary American setting, agencies of control have attained a substantial state of differentiation, and in general, may be seen to operate independently of each other Simply stated, the operations of contemporary American penal systems [i.e. state prisons] appear generally uninfluenced by the use of custodial alternatives.” *Id.* at 69.

FBI "index" crimes increased from a mean of 2,614 per 100,000 in 1968 to 5,900 per 100,000 in 1978.²⁷ This 125.7% increase in the rate of serious crime then generated the 42.3% increase in the rate of prison admissions noted in Table 1. Another factor that also may have contributed to the observed trends is the increasing average sentence lengths associated with the elimination of parole, determinant sentencing, and mandatory minimum sentences.

Although the clientele of prisons, based on their state hospitalization histories, appeared not to be appreciably more disordered in 1978 than in 1968, the clientele of mental hospitals included many more persons who had been involved previously with the criminal justice system. The increased arrest rate of mental patients in 1978 may be largely a function of the younger average age and increased proportion of non-whites being served by state mental hospitals in 1978. The relationship between these two demographic factors and arrest is well-established in the criminological literature.²⁸ The finding that these new-found mental patients were much more likely to have been arrested than their predecessors, but usually had not been previously in state prison, may provide an important insight to the overall theme of the functional interdependence between the mental health and criminal justice systems.²⁹

What happened to these hospital admittees who had often been arrested but rarely imprisoned? In all likelihood, they spent at least some period in *local jails* before their hospitalization. The local jail, not the state prison, may be the criminal justice setting that is most functionally interdependent with mental hospitals. We found that few state prisoners have had experience in state mental hospitals (no more than 16.7% in 1978), and few state mental patients have had experience in state prisons (no more than 13.5% in 1978). Neither percentage, on average, changed appreciably between 1968 and 1978. But *most* 1978 state mental hospital admittees (a mean of 55.5%) had been arrested, and probably jailed for at least some period, therefore, before being admitted to the hospital. Although it was not possible to investigate rates of mental disorder among local jail populations in this study, numerous other investigations³⁰ have found these rates to be rising substantially.

²⁷ Federal Bureau of Investigation, *Crime in the United States* 46-57 (1978); Federal Bureau of Investigation, *Crime in the United States* 66-75 (1968).

²⁸ Monahan & Steadman, *supra* note 15.

²⁹ J. MONAHAN & H.J. STEADMAN, *MENTALLY DISORDERED OFFENDERS: PERSPECTIVES FROM LAW AND SOCIAL SCIENCE* (1983).

³⁰ C. DUNN & H.J. STEADMAN, *MENTAL HEALTH SERVICES IN LOCAL JAILS* (National Institute of Mental Health, Crime and Delinquency Monograph Series, 1982).

It may be that a large group of patients/inmates are being exchanged between mental hospitals and local jails.

This hypothesis suggests at least one variation on Penrose's explanation for the remarkably stable proportion of the U.S. population found in prisons and mental hospitals at any time. Instead of a direct relationship in which changes in prison or mental hospital population drive complementary changes in the other institution, it posits a process whereby changes in the size of each type of institutionalized population are *indirect*. That is, when one of these institutions substantially reduces its population, the released patients or inmates may not be passed directly to the other. Rather, the released group may effect an increased level of deviance that exceeds society's tolerance level, but instead of institutionalizing the newly discharged patients, other groups previously in the community—in board and care homes, community residences, and men's shelters—are arrested and incarcerated. Thus, it is segments of such "buffer" groups that are sent to state institutions, producing fairly constant levels of institutionalized populations. Certainly, some of those who are deinstitutionalized wind up being reinstitutionalized at the state level, but this portion is only a small segment of the entire increase in the other system.

The local jail populations may be one primary "buffer" group to consider in any study of the changes in mental health and criminal justice systems between 1968 and 1978.³¹ The 3,493 jails in the U.S. that average 157,000 inmates each day are complex, fast-turnaround institutions. They are gate-keeping facilities. Such frontline institutions would be expected to bear the brunt of the initial impact of a large-scale social change such as mental patient deinstitutionalization. When society's tolerance level for deviants³² is tested by something such as deinstitutionalization, it may be in local community facilities, such as jails, where the impact is first evident. When these facilities become overtaxed, state prisons may be forced to pick up the burden of housing convicted inmates. There is, in sum, little evidence to support a straightforward inverse relationship between prison and mental hospital population levels, but much evidence to indicate complex indirect interactions that are still little understood.

CONCLUSION

The hypothesis that the populations of mental hospitals and prisons are functionally interdependent has gained widespread acceptance since Penrose originally proposed it in 1939. This hypothesis is now invoked

³¹ Nursing homes and V.A. hospitals may be other groups.

³² Erikson, *Notes on the Sociology of Deviance*, 9 SOC. PROBLEMS 307 (1962).

frequently to account for the burgeoning U.S. prison population as a function of the deinstitutionalization of U.S. state mental hospitals. Data from 6,273 mental patients and prisoners in six states were examined to determine whether changes in their institutional careers between 1968 and 1978 indicated that former mental patients were being imprisoned more frequently. Little evidence was found to support the idea that mental hospital deinstitutionalization was a significant factor in the rise of prison populations during that period. Mental hospital admittees, on the other hand, were much more likely to have a history of involvement with the criminal justice system in 1978 than ten years previously.

Rather than direct relationships between correctional and mental health institutions, it appears that the interrelationships are indirect, mediated by community reaction towards all types of socially marginal groups when the societal tolerance level for deviance is exceeded. It may not be recently released former mental patients who are thus arrested. Instead, for example, it may be former residents in rundown hotels whose operators turned them out in favor of ex-patients who had more governmental subsidies. These relationships are extremely complex and this paper is but a first step in addressing a topic that warrants major research initiatives for both policy and substantive reasons.