Estimating Mental Health Needs and Service Utilization Among Prison Inmates

Henry J. Steadman, PhD; Edward J. Holohean, Jr., BS; and Joel Dvoskin, PhD

A sample of 3,684 inmates in the New York State prison system was surveyed in May 1986 to determine the prevalence of psychiatric and functional disability and service utilization. It was estimated that 5 percent had a severe psychiatric disability, and 10 percent had significant psychiatric disability. The higher the level of disability, the greater the proportion of inmates that had received mental health services in the last 30 days and in the last year. Still, 45 percent of the severe disability group had no service contacts in the last year. Patterns of utilization differed significantly by sex (a greater proportion of women received services) and by race (a greater proportion of whites received services). The clinical factors associated with receipt of services varied considerably between men and women.

Despite grave concern about burgeoning U.S. prison populations, little is known about the types and volume of mental health services prison inmates need and receive. Over the past 20 years much attention has been given by professional organizations to developing minimum standards for all health care in prisons.[1-4] However, within these standards only limited attention has been given to mental health services. The American Psychiatric Association's Task Force on Psychiatric Services to Jails and Prisons has developed another set of standards intended to offer both guidance and leverage for more adequate mental health services in correctional facilities. Thus far, however, the promulgation of standards has only marginally, at best, impacted on prison health services. One indication of this is a June 14, 1987, story in the *San Francisco Examiner* describing a U.S. Department of Justice report on the California Medical Facility at Vacaville that was entitled, "Prison Health Care Called Cruel and Unusual Punishment."

Over the 15 years during which these various standards have been promulgated, there has been a radical increase in the number of individuals incarcerated in U.S. prisons. In 1971, there were 198,061 inmates in federal and state prisons.[5] By 1989, this figure had increased 258 percent to 710,054.[6] In fact,

Dr. Steadman is affiliated with Policy Research Associates, Inc., 262 Delaware Avenue, Delmar, NY 12054. Mr. Holohean is affiliated with the Bureau of Survey and Evaluation Research, New York State Office of Mental Health, 44 Holland Avenue, Albany, NY 12229. Dr. Dvoskin is affiliated with the Bureau of Forensic Services, New York State Office of Mental Health, 44 Holland Avenue, Albany, NY 12229.

the increase from 1988 to 1989 of 82,466 was the largest absolute increase in the 60-year history of the Bureau of Justice Statistics National Prisoner Statistics Program.[6]

Despite this explosion in number of inmates, only minimal empirical data on their mental health needs have been generated. There are but three published reports estimating levels of mental disability in prison populations. James and colleagues[7] surveyed 246 inmates in the Oklahoma prison system. They determined that 10 percent were severely disturbed and that 35 percent required some mental health treatment. Collins and Schlenger[8] reported lifetime prevalence rates for an admission cohort to the North Carolina prison system. The third report is an earlier one of ours[9] on 3,684 inmates in the New York State prison system in which we found that 5 percent of this statewide sample was severely psychiatrically disabled and another 10 percent significantly psychiatrically disabled. Despite a variety of need and service data that is available on local jails,[10-13] there is little else in the literature beyond the three studies noted above related to prison mental health needs assessment. One exception is the series of reports by Adams[14,15] and Toch and Adams[16] examining linkages between receipt of mental health services and disruptive behavior in prisons.

In New York State, the Bureau of Forensic Services of the State Office of Mental Health is responsible for providing mental health services to sentenced inmates in state prisons. These services include both inpatient services in one JCAHO-accredited free-standing maximum security psychiatric hospital, as well as short-term inpatient and outpatient services provided within the prisons themselves in 13 mental health units. These units operate as prison community mental health centers and gatekeepers for the free-standing inpatient hospital. The goal of our earlier study[9] mentioned above was to provide data to assist in planning for and in obtaining the resources needed to address psychiatric disability among the rapidly expanding inmate population.

The goal of the work presented here is to advance our prior activity and that of others on prisons by linking the issues of estimated need with those of service utilization. Within our 1986 survey on the 3,684 New York State prison inmates[9] was information on the receipt of mental health services during the past 30 days and the past year. This information allows, for the first time, a comparison of mental health disability in a random sample of prison inmates with the services they actually received. These analyses permit an examination of which factors (demographic, criminal history, and type of disability) appear to be associated with the receipt of mental health services and can guide service providers toward identifying inmate groups that may require services, but are not receiving them.

Methods

In May 1986, a survey of the 36,144 inmates in the New York State prison system was conducted. A 12 percent random sample of all inmates was selected

from the Department of Correctional Services computers plus all 360 persons listed as being in inpatient mental health beds in prisons. A three-part form was developed and sent to each prison where the selected inmates were assigned. The part on behavior during the past 30 days was completed by the correctional counselors. A second part on medical conditions was completed by health care staff, and a third segment was filled out by mental health treatment staff for those inmates currently on treatment rolls. We obtained 3,332 cases (9.4 percent overall and 84 percent of the sampling frame) from the general population sample and 352 of the 360 mental health cases. The noncompleted forms resulted from discharges from the prison system before we surveyed them and inmate deaths.

The sample produced closely mirrored the May 1, 1986, total inmate population on major demographic characteristics. The study group was 96 percent males with a median age of 29.8 years as compared with the total NYS inmate population's being 97 percent males with a median age of 28.9 years. Also, the sample's ethnic distribution was 51.7 percent black, 25.0 percent hispanic, 21.6 percent white, and 1.7 percent other as compared with the total population's 50.3 percent black, 27.3 percent hispanic, 21.8 percent white, and 0.6 percent other.[17] Specific details of the measurement and sampling are found in our earlier paper.[9]

In broad terms, we opted to avoid a clinical diagnostic assessment in favor of behaviorally based determinations. This approach was taken for three reasons. First, we wished to assess approximately 3,600 persons, and individual diagnostic assessments were not feasible. Second, the major purpose of the data was to guide the Office of Mental Health in requesting the types of programs needed by prison inmates, a goal that we felt could not be reached by knowing just the distributions of DSM-III-R diagnoses across the inmate population. Rather, we needed to know specifically how inmates, as a result of mental disability, were unable to function in a prison environment. Finally, the instrument selected allowed a direct comparison of the inmates' levels of disability with those of state mental hospital inpatients.

Instrumentation Our instrumentation was an adaptation of the "Level of Care Survey" (LOCS) that has been used since 1976 for surveys of New York State psychiatric centers. A major component of the LOCS was developed from the Nurses' Observation Scale for Inpatient Evaluation (NOSIE).[18] Within this instrument is a summary measure of psychiatric disability (PSYSUM) comprised of six subscales and a measure of functional disability, the Community Activity Dysfunction Scale (CADS). These scales and subscales do not produce diagnostic classes, but the various subscales are highly correlated with diagnostic classes. For instance, diagnosed schizophrenics score substantially higher on the manifest psychotic subscale and affective disorder diagnoses score worse on the depression subscale.

Analytic Approach The first step in the analysis was to divide the prison

Table 1
Proportions of Disabled Inmates Who Had Contact With Mental Health Services by Type and Level of Disability*

	Little/No (%)	Significant (%)	Severe (%)
Psychiatric disability	(n = 30,663)	(n = 3,627)	(n = 1,854)
Last 30 days	11	25	44
Last year	19	32	55
Functional disability	(n = 29,412)	(n = 4,517)	(n = 2,161)
Last 30 days	11	19	39
Last year	19	26	52

* N's reported represent extrapolations to population estimates based upon sample percentages.

Table 2
Distribution of Type of Service Received in the Last 30 Days by Psychiatric/Functional Disability*

Service Type	Level of Disability		
	Severe (%)	Significant (%)	Little/No (%)
Residential	1,361 (77.5)	692 (44.4)	1,147 (31.6)
Outpatient	300 (17.1)	677 (43.5)	1,929 (53.2)
Referral**	95 (5.4)	188 (12.1)	553 (15.2)
Total	1,756	1,557	3,629

* N's reported represent extrapolations to population estimates based upon sample percentages.
** Includes referred but refused treatment.

Table 3
Results of Discriminant Function Analysis: Full Sample, Service Within Last 30 Days

Variable	Standardized Coefficient	Service		No Service	
		Mean	Standard Error	Mean	Standard Error
Depression Scale	.4818	5.4341	.1003	4.5071	.0197
Sex	−.3846	.9019	.0139	.9730	.0030
Race	.3250	.3378	.0220	.2133	.0075
Psychotic Symptom Scale	.2696	7.6642	.1317	6.5489	.0274
Community Activity Dysfunction Scale	.2685	15.9537	.3122	13.1899	.0885
Social Affect and Interest Scale	−.2491	12.6549	.1809	14.1549	.0725
Violent crime	.1666	.3708	.0225	.2930	.0083
Disruptive-Agitation-Irritable Scale	−.1501	12.6549	.2456	11.4485	.0811
Maximum sentence	−.1289	22.0184	1.4676	23.0306	.5955
Personal Appearance and Neatness Scale	.1195	15.5225	.1545	16.5161	.0514
ADLS	.0854	4.7032	.0728	4.2497	.0172
Age	.0653	31.6498	.4084	30.6178	.1571
Confusion Scale	.0367	7.3864	.1375	6.3655	.0369
Time served	.0206	2.6648	.1273	2.4945	.0492

population into disability groups for both psychiatric disability and functional disability. The methodology that produced three groups (severe disability, significant disability, and little or no disability) is detailed elsewhere.[9] Basically, all persons scoring in excess of two standard deviations from the mean were labeled "severe disability." Those in excess of one standard deviation were in-

Table 4
Results of Discriminant Function Analysis: Full Sample, Service Within Last Year

Variable	Standardized Coefficient	Service		No Service	
		Mean	Standard Error	Mean	Standard Error
Depression Scale	.4358	5.2010	.0705	4.4756	.0199
Sex	−.3571	.9233	.0098	.9744	.0030
Race	.3429	.3100	.0170	.2081	.0078
Psychotic Symptom Scale	.2560	7.4091	.0962	6.5041	.0270
Maximum sentence	.2446	20.3924	1.0872	23.5774	.6362
Community Activity Dysfunction Scale	.2260	15.3055	.2403	13.0832	.0899
Violent crime	.2180	.3531	.0176	.2898	.0087
ADLS	.1736	4.6353	.0554	4.2217	.0167
Social Affect and Interest Scale	−.0829	13.3511	.1499	14.1382	.0757
Time served	.0801	2.6204	.0986	2.4891	.0519
Personal Appearance and Neatness Scale	.0609	15.7024	.1186	16.5689	.0534
Age	−.5534	30.6902	.3157	30.8330	.1657
Disruptive-Agitation-Irritable Scale	.0492	12.7517	.1886	11.2984	.0837
Confusion Scale	−.0238	7.1906	.1036	6.3142	.0374

Table 5
Results of Discriminant Function Analysis: Men Only, Service Within Last 30 Days

Variable	Standardized Coefficient	Service		No Service	
		Mean	Standard Error	Mean	Standard Error
Depression Scale	.5370	5.4436	.1049	4.4986	.0199
Race	.3564	.3534	.0234	.2141	.0076
Psychotic Symptom Scale	.2864	7.7163	.1382	6.5525	.0280
Community Activity Dysfunction Scale	.2546	15.9998	.3341	13.2082	0.900
Social Affect and Interest Scale	−.2508	12.7601	.1917	14.1360	.0733
Maximum sentence	−.1788	21.4335	1.5131	23.3105	.6070
Violent crime	.1556	.3549	.0235	.2946	.0084
Disruptive-Agitation-Irritable Scale	−.1321	12.7843	.2584	11.4547	.0826
Personal Appearance and Neatness Scale	.1248	15.4504	.1621	16.5018	.0520
ADLS	.1121	4.7342	.0779	4.2503	.1074
Age	.0900	31.5699	.4207	30.6278	.1591
Time Served	.0293	2.7347	.1369	2.5235	.0502
Confustion Scale	.0278	7.4547	.1446	6.3789	.0376

cluded in the "significant disability" category. Then, these group cutpoints were validated based on five other groups for whom prior analyses on scale items had been accomplished.

Once the disability groups were defined and identified, the inmates were divided into those who had contact with mental health services and those who had no contact with mental health services. The contact group included any inmate who was receiving or had received residential or outpatient services, been referred to mental health services for evaluation, was awaiting transfer to Central New York Psychiatric Center, or had refused psychiatric treatment or medication. The no contact group included all those inmates who had none of any such contacts. This grouping was

Table 6
Results of Discriminant Function Analysis: Women Only, Service Within Last 30 Days

Variable	Standardized Coefficient	Service		No Service	
		Mean	Standard Error	Mean	Standard Error
Community Activity Dysfunction Scale	.6214	15.5297	.8288	12.5320	.4755
Maximum Sentence	.4972	27.3984	5.4846	12.9588	2.6188
Violent crime	.4763	.5173	.0754	.2326	.0474
Disruptive-Agitation-Irritable Scale	−.3283	11.4647	.7740	11.2261	.3965
Social Affect and Interest Scale	−.2916	12.8362	.5463	14.8354	.4782
Age	−.2904	32.3854	1.5496	32.2545	.9851
ADLS	−.2484	4.4174	.1891	4.2284	.0946
Depression Scale	.2242	5.3462	.3411	4.8126	.1232
Personal Appearance and Neatness Scale	.2197	16.1859	.5008	17.0291	.3293
Confusion Scale	.2132	6.7585	.4329	5.8834	.1800
Psychotic Symptom Scale	.0851	7.1854	.4280	6.4188	.1161
Race	.0626	.1943	.0597	.1840	.0433
Time served	−.0368	2.0219	.2987	1.4510	.1909

Table 7
Receipt of Mental Health Services in the Past 30 Days by Sex and Psychiatric Disability Level*

	Little/No (%)	Significant (%)	Severe (%)
Females			
No service	621 (67.2)	44 (40.7)	24 (34.8)
Service	303 (32.8)	64 (59.3)	45 (65.2)
Total	924 (100.0)	108 (100.0)	69 (100.0)
Males			
No service	26,660 (89.6)	2,687 (76.4)	1,017 (57.0)
Service	3,079 (10.4)	832 (23.6)	768 (43.0)
Total	29,739 (100.0)	3,519 (100.0)	1,785 (100.0)
Grand totals	30,663	3,627	1,854

* N's reported are extrapolations to population estimates based upon sample percentages.

Table 8
Receipt of Mental Health Services by Ethnic Group*

Ethnic Group	Service Received			
	In Last 30 Days		In Last Year	
	n/Total	%	n/Total	%
Black	2,093/18,514	11.3	3,590/18,514	19.4
Hispanic	1,016/8,902	11.4	1,633/8,902	18.3
White	1,650/8,225	20.1	2,382/8,225	29.0
Other	59/197	29.9	59/197	29.0
Missing	273/306	89.2	273/306	89.2
Total	5,091/36,144	14.1	7,937/36,144	22.0

* N's reported are extrapolations to population estimates based upon sample percentages.

done for both within 30 days of the survey and within one year of the survey. In addition, the contact groups were broken down by the type of contact (residential and/or outpatient service, or only referral to mental health for evaluation).

The major clinical dimensions considered were the subscales contained within the NOSIE, which we revised to fit the setting.[9] The subscales included: *Psychiatric Disabilities:* (1) Disruptive-Agitated-Irritability Subscale (DAIS), (2) Social Affect and Interest Subscale (SAIS), (3) Psychotic Symptom Subscale (PSYS), (4) Confusion Subscale (CONS), (5) Depression Subscale (DEPS), (6) Personal Appearance and Neatness Subscale (PANS), (7) Activities of Daily Living Subscale (ADLS), and *Functional Disabilities,* and (8) Community Activities Dysfunction Scale (CADS).

Weighting To address the issue of statistical adjustments for the dual sampling method, a weighting procedure was employed to ensure accurate representations of the population parameters. Specifically, the sampled cases from the general population were weighted in proportion to their actual distribution within each prison security level. In New York State, the prisons are divided into three such levels: maximum, medium, and minimum. Our survey encompassed 23 maximum security facilities, 24 medium security facilities, 13 minimum security facilities, and 16 mental health units. It was decided to employ security level as a means of weighting in this particular analysis in order to reflect accurately any potential differences between these groups, but eliminate any possible facility-based distortions. The actual weighting formula amounted to multiplying each maximum security case by 10.9661, each medium security case by 10.2743, each minimum security case by 11.1121, and each mental health case by 1.0345.

Results

Displayed in Table 1 is the information on the proportion of each of the psychiatric disability groups that received mental health services within 30 days and within one year of the survey. Three major findings emerge. First, as would be expected, the more seriously disabled groups both on psychiatric and functional dimensions had higher proportions of inmates who had received services (44 percent of the severely disabled, 25 percent of the significantly disabled, and 11 percent of the little or no group in the past 30 days). Second, there was little difference between the proportions receiving services in the prior 30 days and in the past year. An extra 11 months only increased the severe group receiving services from 44 to 55 percent. Third, a very substantial number of inmates who scored in the severe group (56 percent) had no contact with mental health services in the prior 30 days and 45 percent in this group had received none in the past year. Fully 75 percent of those in the significant disability group had no mental health contacts in the past month, and 68 percent had none in the past year.

Our analyses then focused on two dif-

ferent issues: (1) what services were received, and (2) what factors determined who received services.

The data in Table 2 focus on how the level of psychiatric and/or functional disability related to the type of service received. As expected, of the 1,756 severely disabled group who received service, 1,361 (77.5 percent) received inpatient treatment. This represented 45.7 percent of the entire group. The predominantly inpatient service mode for the severe group was not the case in the significant disability group where 1,557 of this group (26.9 percent) received service, but where only 692 of the serviced inmates (44.4 percent) received inpatient treatment. A similar tendency to rely on outpatient services was evident in the little/none disability group for those who had received some service.

Having found this relationship between severity and inpatient treatment, we moved to the final set of questions about what factors were associated with reception of services. As seen in Tables 3 and 4, stepwise discriminant function analysis was employed using 14 variables. These factors were run against any mental health contact in the prior 30 days and in the past year. For both points of reference, the results are quite consistent. The first four variables entered into the classification equation are the same and are entered in the same order. The depression subscale is the most important factor (higher depression score is associated with being more likely to have received service).

Given the importance of the depression scale and sex in predicting receipt of service, and given the tendency for women to disproportionately receive affective diagnoses in general psychiatric practice, we reran the discriminant analysis separately for men and women. As seen in Tables 5 and 6, the results suggest two very different patterns among the factors associated with receipt of mental health services.

In fact, for female inmates scores on the depression subscale are only the seventh variable entered into the discriminant equation. What takes on greater importance for women is whether their current conviction is for a violent crime. This variable, plus the Community Activity Dysfunction Scale score, produces an $r^2 = .4673$ while all 11 variables among the men produces an r^2 of only .4154. Further, a longer maximum sentence, which is highly interrelated to having a violent crime conviction, is third entered for the women but ninth for the men. These results suggested two quite different patterns of service for men and women. This possibility is reinforced by the data presented in Table 7.

The data in Table 7 illustrate how the proportions of men and women vary from one another and how they vary by psychiatric disability level. Clearly, proportionately many more women receive services than do men. Of all 1,101 women inmates, 37.4 percent had received some mental health services in the past 30 days. Among all 35,043 male inmates, only 13.4 percent had received services during the same period.

Among both the women and the men, the proportion receiving services has a strong relationship to their disability

level. Among the men, as the level of disability rose so too did the proportion receiving services (10.4 percent for little/none, 23.6 percent for significant, and 43.0 percent for severe). Among the women the proportions were 32.8, 59.3, and 65.2 percent, respectively, being higher at every disability level.

Having determined that the service patterns for women were quite different than that for men, we next pursued one other avenue of investigation. In Tables 3 and 4, the third factor entered for service reception at both 30 days and one year was race. Whites were more apt to receive services than nonwhites. One explanation posited for that result was that Hispanics, included among the nonwhites, were badly underserved because of difficulties in hiring treatment staff with Spanish language skills, whereas blacks as a group may not be underserved as compared with whites. To check this explanation, the data presented in Table 8 were developed.

What is clear is that there are no substantial differences between the proportions of blacks and Hispanics who received services during either the last 30 days or the last year. A substantially higher proportion of whites received services over both time periods than either blacks or Hispanics. The Other category has too few cases to be statistically reliable. The language explanation for differences observed between whites and nonwhites does not appear viable from these data.

Going back to the question of who were the 45 to 56 percent of inmates with severe disability who did not receive mental health services, the answer is that they tended to be nonwhite males with other than depressive or psychotic disorders. The same held true in the significant disability and the little/no disability groups.

Discussion

The fact that just under half of the NYS prison inmates whom we identified as having severe psychiatric or functional disabilities had no contact with prison mental health services in the past year should not be surprising. With the New York State prison system having exploded in the 1980s from 21,639 inmates on January 1, 1980, to 36,144 in May 1986, when we conducted our survey, it may be more surprising that half did have mental health contacts.

Relative to other U.S. state prison systems, New York's system for mental health care is quite well developed. A network of 16 mental health clinics in state prisons serve as front line mental health treatment centers, as well as providing triage, referral, and aftercare services in conjunction with a JCAHO-accredited maximum security inpatient facility (Central New York Psychiatric Center). Further, the vast majority of inmates entering the prison system receive a thorough screening including a mental health screening by OMH staff at the central reception centers run by the Department of Correctional Services. What a need-service comparison such as we have reported here might be in systems with less developed prison mental health services is unclear, but there would probably be greater discrep-

ancies found between needs and services.

One note of caution; the fact that 19 percent of those in both the psychiatric and functional little/no disability groups had a mental health contact in the past year (Table 1) should not be seen necessarily as inappropriate service provision. It may well be that these inmates were functioning within acceptable ranges at the time of our survey *because* of the services that had been received.

What is disturbing within our data is the suggestion that some bias against nonwhites in service delivery or utilization may exist. Clearly, the dominant factors affecting receipt of services were clinical in nature. Depression and psychotic symptom subscales and community activity dysfunctions, together, were the chief factors that influenced reception of services for male inmates. On the other hand, whites tended to more often receive services within all three disability groups. With most states' prison systems heavily nonwhite and male in composition, any general prejudice in service delivery on these factors would exacerbate an already poor situation.

Just how poor prison mental health services are nationally is unknown. Few data exist on the untreated or treated prevalence of mental disorder among prison inmates. Even fewer models of comprehensive mental health systems for prisons exist and few, if any, are adequately funded. As this article is written, the states of Maryland and California were conducting mental health needs assessment surveys of their state prison systems. Ohio and Michigan had recently completed such surveys, and Oregon and Idaho were considering mounting similar efforts.

The time has long since passed to analyze and debate the macro issues of how deinstitutionalization may have impacted on correctional facilities. Instead, it is time for careful empirical examinations of the mental health needs of prison (and jail/lock-up) inmates, as indicated by their day-to-day functioning in prisons and what types and amounts of services they require. Our current empirical vacuum makes adequate planning impossible. Mental health standards cannot substitute for necessary data and sound planning for these essential services. Scientifically sound needs assessment surveys that can be translated into services and service packages are what is required.

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