Health Care for Soon-To-Be-Released Inmates: A Survey of State Prison Systems

Carlton A. Hornung, Ph.D., M.P.H., Department of Medicine, Center for Health Services and Policy Research, University of Louisville School of Medicine; B. Jaye Anno, Ph.D., CCHP-A; Robert B. Greifinger, M.D., National Commission on Correctional Health Care; and Soniya Gadre, M.P.H., Department of Medicine, Center for Health Services and Policy Research, University of Louisville School of Medicine

Introduction

A higher percentage of the population is incarcerated in the United States than in any other country. In the decade between 1985 and 1995, the population in prisons and jails increased dramatically. During this period, the total correctional population increased by 78.5 percent. Accounting for this was a 57.3 percent increase in the number of individuals on probation, a 95.8 percent increase in the number in jail, a 121.2 percent increase in the number in prison, and a 133.2 percent increase in the number on parole. The rate of growth of the prison population has averaged about 8.3 percent per year, while jail inmate population growth averaged 7.0 percent between 1985 and 1995. According to the Bureau of Justice Statistics (BJS), in 1995 approximately 3,096,529 persons were on probation, 1,078,500 individuals were in State prisons, another 499,300 were in local jails, and 700,174 were on parole. In 1995, prisons saw 521,970 new admissions of inmates with a sentence of 1 year or more and 455,139 releases.[1]

The rebellions that occurred in prisons across the Nation in the 1960s and 1970s called for improved health care as one of their central demands. The U.S. Supreme Court responded in 1976 with the *Estelle* v. *Gamble* decision that said deliberate indifference to the serious medical needs of prisoners constitutes the "unnecessary and wanton infliction of pain" prohibited by the eighth amendment.[2] This decision affirmed inmates' constitutional right to health care.

Inmates demanded better health care in jails and prisons before the epidemic of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) and the concurrent rise in multiple drug-resistant tuberculosis (TB). These demands also occurred before Federal initiatives to reduce the use of illegal drugs. The most important of these initiatives was the National Drug Control Strategy, announced in 1989, which called for mandatory minimum sentences for drug crimes. This resulted in a 423 percent increase (from 24,200 in 1985 to 104,400 in 1990) in the number of new court commitments to State prisons of individuals whose most serious offense was a drug offense. While 13.2 percent of newly sentenced prisoners admitted to State prisons in 1985 were for drug offenses, in 1990 the percentage jumped to 31.7 percent—a 240 percent increase. The proportion of those newly sentenced for a drug offense as their most serious crime has remained at about 31 percent through 1995.[3] During the same period, the percentage of inmates newly sentenced to State prisons for property crimes (e.g., burglary, larceny/theft, motor vehicle theft, fraud) dropped from 42.4 to 28.9 percent (a 31.8 percent decline), and the percentage sentenced for violent offenses declined from 35.1 to 29.5 percent (a 16 percent decline).

The increase in the percentage of newly sentenced inmates for drug offenses, coupled with longer sentences, has dramatically altered the composition of the prison inmate population. In 1985, only 38,900 inmates out of a total inmate population of 451,812 (8.6 percent) were in State

prisons for drug offenses as their most serious crime.[4] By 1995, this number had increased by 478 percent to 224,900 out of a total State prison inmate population of 989,007 (22.7 percent).

The increase in the numbers of inmates incarcerated for drug offenses has led to concomitant changes in the demographic profile of inmates. The numbers of female, nonwhite, and foreign-born inmates have increased disproportionately to the inmate population as a whole. The significance of these changes cannot be overstated. Most inmates are poor, have little education, and come from disadvantaged communities where health care services other than hospital emergency rooms are scant or underutilized.

Although considerable data exist about the prevalence of HIV/AIDS, sexually transmitted diseases (STDs), and TB in the prison and jail population,[5] little has been published about the prevalence of hepatitis and still less about the prevalence of chronic diseases and mental disorders among inmates. In an effort to acquire information about the prevalence of chronic diseases and mental illness in the State prison inmate population, State departments of correction were surveyed to determine which States had information about the demographic composition of their inmate population, which maintained databases containing information on the prevalence of chronic diseases and mental disorders, and which had information about the health status of inmates that they had released recently into the community.

The State prison survey was designed to collect these data as the first phase of a research plan. A planned second phase was to review the medical records of a sample of inmates who had been recently released from prison in those States that appeared to have the most complete data on the health status of their inmate population. The objective of this second phase was to collect the information necessary to assess the health status and health care needs of soon-to-be-released inmates. Such an assessment, supported by empirical data, is needed for informed policy decisions and actions by prison and public health officials to insure that inmates with communicable or chronic diseases or mental disorders do not pose a threat to the health of the communities into which they are released.

Methods

A mailback questionnaire (see appendix C in volume 1) was sent to corrections officials in each State, the District of Columbia, and the Federal Bureau of Prisons. The survey instrument consists of three sections and is designed to be completed by different individuals in the prison health system. Section 1 requests the following information:

- What data are available on the prison system census.
- Whether inmate demographic data are computerized.
- Whether the prison administration can determine the demographic profiles of the current inmate population by age, gender, and race.

Section 2 of the instrument focuses on chronic diseases and the availability of medications for inmates, and seeks the following information:

- Routine screening practices for hypertension and diabetes.
- Policies and procedures for vaccinating inmates for hepatitis B.
- The prevalence of certain chronic medical conditions (i.e., asthma, diabetes, hypertension, and heart disease).
- The ability of the prison administration to determine the age-, race-, and gender-specific prevalence rates of those conditions.
- The existence of systemwide clinical protocols or treatment guidelines for the

management of asthma, diabetes, hypertension, and heart disease.

- Whether pharmacy data are computerized.
- The number of inmates taking selected medications.
- Policies and procedures about giving inmates medication when they are released into the community.
- The ability to identify recently released inmates with chronic conditions.

Section 3 of the survey asks administrators the following questions about mental health:

- Whether they have data on the number of inmates with mental disorders.
- How mental disorders are classified.
- Whether inmates with selected mental disorders can be identified by age, gender, and race.
- The prevalence of coexisting alcohol or other substance dependency.
- What treatment protocols are used.
- Whether inmates recently released with a mental disorder can be identified.

It was hoped that the information provided from the survey would enable the research team to identify those State prison systems with the most comprehensive data on the health status of their inmate populations and of inmates released into the community within the past 6 and 12 months. Once those State systems could be identified, the second phase of the research plan called for selecting a sample of prison facilities in these systems at which medical record reviews could be conducted to collect comprehensive data on the health status of a sample of inmates who were recently released into the community. Researchers were particularly interested in the prevalence of communicable diseases, chronic diseases, and mental health problems as well as provisions for continuity of health care. State prison systems and facilities would be selected to reflect States or regions with known high and low prevalence of disease (e.g., HIV/AIDS).

The surveys were mailed to the State departments of correction by the National Commission on Correctional Health Care (NCCHC). States that did not respond within 1 month were contacted by telephone by the Data Coordinating Center, NCCHC, and/or the project director. At least two calls were made to encourage response.

Results

Forty-one States,[6] including all of the Midwestern States and the District of Columbia, responded, although missing information was a significant problem. Three of the responding States did not provide reliable prevalence data and were not included in that analysis. One State reported hospital discharge figures, another reported chronic disease percentages, and the third reported prevalence for one institution in a State system. No response was obtained from the Federal Bureau of Prisons or from 10 States: 1 in the Northeast, 5 in the South, and 4 in the West.

The first section of the survey requested information on the inmate census. Table 1 presents the average daily population, total annual intakes, and total annual releases for the most current year available for those States that responded to the survey.

Responding States reported an average daily population (ADP) of a little more than 17,800 inmates for a total census of 641,137. The total represents approximately 76 percent of the prisoners under the jurisdiction of State correctional authorities at yearend 1996. These States reported more than 333,587 new intakes and 309,929 releases for the most recent period for which they had data (the period ending June 1997 to the period ending January 1998).

Table 1. Inmate Census Data for States Responding to the Survey*			
	Average Daily Population	Total Annual Intakes	Total Annual Releases
Range			
Minimum	840	578	520
Maximum	69,671	29,868	30,469
Mean	17,809	9,266	8,609
Medium	12,134	6,610	5,576
Sum	641,137	333,587	309,929

* Based on 36 of 41 responses; 2 States provided no data; data from 3 States were not usable.

Forty States indicated they had computerized systems for recording inmate demographic data, yet only 38 reported having the capability to determine the *current* population by their demographic characteristics (e.g., age, race, and gender). All 41 responding States said they could determine the gender distribution of their inmate population; 39 could determine the age and the race distribution. Most important, 37 States reported they had the capability to determine the age, race, and gender distribution of their inmates (e.g., the number of Hispanic/Latino males aged 35–40).

Eight States (20 percent of those responding) reported that they designate certain facilities for housing inmates with specific chronic diseases or cluster inmates with chronic conditions in certain facilities. These eight State prison systems had an ADP totaling 217,492, with a total annual intake of 96,734 and total annual releases of 94,766.

This amounts to 26.5 percent of the total inmate population in the responding States, 20.6 percent of total annual intakes in those States, and 21.9 percent of total annual releases among responding States. Those State systems that have designated facilities for housing inmates with specific chronic diseases or that cluster inmates with chronic conditions in certain facilities have larger populations than States that did not designate one or more facilities to manage inmates with chronic conditions (mean ADP 27,187 vs. 19,504; mean annual intake 12,092 vs. 12,047; and mean total annual releases 11,846 vs. 10,887).

The 10 States that did not respond to the survey have generally smaller prison populations according to BJS.[7] Two nonresponding States had inmate populations of fewer than 2,000; two had populations of about 3,500; three had populations of nearly 10,000; and two had populations of approximately 15,000. Only one had a population of more than 115,000.

Screening for Diabetes and Hypertension

States were asked if they routinely screened inmates for fasting blood sugar and for blood pressure at intake to their prisons. Table 2 shows the number of State prison systems that routinely screen inmates at intake, their total annual intake, and the percentage of all annual intakes in all 39 responding States who are screened for diabetes and hypertension.

Table 2. Intake Screening for Diabetes and Hypertension			
Screened for:	**# of States**	**Mean Annual Intake**	**% Total Annual Intake Screened***
Fasting blood sugar	12	9,266	25.4
Blood pressure	38	12,310	99.5

* Responding States only.

Only 25 percent, or 119,267, of the approximately 470,000 annual intakes into these 39 prison systems are screened for diabetes using fasting blood sugar; more than 99 percent have their blood pressures measured at intake. No information was collected on how the results of screening tests were treated. It is not known what is done when an inmate coming into the system has a fasting blood sugar greater than 110 mg/dL, which constitutes glucose intolerance according to the most recent guidelines of the National Institutes of Health (NIH), or 126 mg/dL, which constitutes diabetes according to the most recent NIH guidelines.[8] Similarly, although almost every new inmate has his or her blood pressure taken, no data were collected on whether the screening procedures conform to NIH standards or whether the diagnostic or treatment guidelines published by the Joint National Committee (JNC–VI)[9] were followed.

Prevalence of Chronic Diseases

Nineteen States reported that they had data on the number of inmates in their system with chronic diseases. These States tend to be smaller in terms of average, daily population than those that did not have data on chronic disease prevalence (mean ADP 14,103 vs. 23,076). At the same time, these States had a larger mean annual intake (11,264 vs. 7,945) and larger mean annual releases (10,339 vs. 7,510).

Although these 19 States claimed to have data on the prevalence of chronic diseases in their prison systems, when asked to report either the number or percentage of inmates in their systems with asthma, diabetes, hypertension, and heart disease, not all of them could provide numbers or percentages for each condition. When the prevalence of chronic diseases were expressed as rates per 1,000 inmates, rates varied as much as threefold. The prevalence of asthma among 17 responding States ranged from 2.5 percent (25/1000) to 7.2 percent (72/1000; mean: 4.8 percent); the prevalence of diabetes in 18 State systems ranged from 1.9 percent (19/1000) to 2.8 percent (28/1000; mean 2.35 percent). The prevalence rates for hypertension in 15 State systems reporting ranged from 1.3 percent (13/1000) to 7.8 percent (78/1000; mean 4.5 percent). The prevalence rates for heart disease in 15 State systems reporting ranged from 1.5 percent (15/1000) to 2.8 percent (28/1000; mean 2.1 percent).

Table 3 shows the crude prevalence rates for asthma, diabetes, hypertension, and heart disease per 100 inmate population calculated from survey forms completed by the States.[10] For comparison purposes, table 3 also shows rates calculated from the National Health and Nutrition Examination Survey (NHANES–III; 1988–94).[11] NHANES–III is a multistage probability sample of the noninstitutionalized U.S. population. Prevalence rates also were calculated for a subsample of the NHANES respondents selected to reflect low socioeconomic status. The individuals in this subsample had received food stamps, welfare assistance, or other public assistance within the previous year. This subsample represents a population of approximately 66 million and reflects the lowest quartile of socioeconomic status in the United States.[12]

Table 3. Prevalence of Chronic Diseases in Prisons From the Survey of State Prison Facilities and the U.S. Population Estimated From the National Health and Nutrition Examination Survey (NHANES–III)

Disease	NIJ–NCCHC State Prison Survey	NHANES–III (All U.S.)	NHANES–III[a] (Lowest SES)
Asthma	4.8[b]	7.7	8.4
Diabetes	2.3	5.3	7.3
Hypertension	4.5	23.1	28.5
Heart disease	2.1	3.4	5.3

[a] Self-report data: "Have you ever been told that you have . . . ?"
[b] All rates are per 100.

The rates in table 3 are crude rates per 100 population. Comparing estimated prevalence between the prison population and the general population (i.e., NHANES) can be misleading because of differences in the demographic profiles and other characteristics that may make one group more or less susceptible to disease than another. For example, the prevalence of hypertension increases with age. Thus, the crude prevalence of hypertension is expected to be lower in the prison population because it is disproportionately younger than the general population. Diabetes tends to be more prevalent among women than men. Therefore, it could be expected to be less prevalent in the prison population than the general population because of a lower percentage of women in the prison population.

The prevalence of asthma, diabetes, hypertension, and heart disease in the prison population as reported by the States responding to the survey are low relative to the rates in the general U.S. population. These lower prevalence rates are unlikely to be "explained away" by age, race, or gender differences in the respective populations. In the case of hypertension, where more than 99 percent of inmates have blood pressures taken upon entering the system, the estimate that 4.5 percent of the inmates are hypertensive is significantly lower than the rate of self-reported hypertension in the general U.S. population. Moreover, it is only one-fifth the rate of hypertension in a similar socioeconomic group in the community, who are least likely to have their blood pressures checked frequently. The survey data raise the suspicion either that chronic diseases are significantly undetected and underdiagnosed in prison health care systems or that prison systems have poor quality data on the prevalence of chronic disease in their populations.

Treatment Protocols

The next section of the survey inquired about systemwide clinical protocols or treatment guidelines for the management of the target chronic diseases. Table 4 shows that the number of States with systemwide treatment protocols varies. Twenty States have protocols for treating heart disease; 26 States have protocols for treating asthma. States with systemwide protocols for treating or managing diseases tended to be those with the largest ADP and the most annual releases.

About two-thirds of the responding prison systems reported systemwide protocols for treating asthma. These 26 prison systems house approximately 84 percent of inmates and account for 78 percent of annual releases among responding States. Fewer than 70 percent of inmates and annual releases are from prisons with systemwide protocols for treating heart disease. Despite numerous guidelines for treating diabetes and hypertension, only about 73 percent of inmates and releases are from systems with protocols for treating diabetes, and 80 percent of inmates and 77 percent of releases are from systems with protocols for treating hypertension.

The implications of this sporadic use of systemwide treatment protocols are unclear. On the one hand, one could expect a higher quality of care to

Table 4. Systemwide Treatment Protocols for Chronic Diseases: Average Daily Population and Mean Total Annual Releases

			Average Daily Population		Total Annual Releases	
Disease	Mean ADP	Mean TAR	*N*	%	*N*	%
Asthma (*n* = 26)	26,627	13,706	692,295	84.2	338,695	78.4
Diabetes (*n* = 24)	25,287	13,195	606,878	73.8	316,686	73.3
Hypertension (*n* = 25)	26,421	13,453	660,520	80.3	336,320	77.8
Heart disease (*n* = 20)	26,597	14,654	566,103	68.9	307,731	68.9

be provided when established treatment protocols (such as that advocated for hypertension by the JNC–VI or for diabetes by NIH or the American Diabetes Association) are in place systemwide. On the other hand, treatment guidelines that are not adhered to may lead to poorer quality of care than when accepted standards are followed in the absence of systemwide treatment protocols.

Medication Use

The survey asked whether pharmacy data for the prison system were computerized. Thirty-one States responded that they had a computerized pharmacy system. These systems have an ADP of 708,835 (86.2 percent of the ADP for the 41 responding States). Only 17 States, however, indicated they could determine the number of inmates taking selected medications. Even fewer gave the number of inmates taking inhaled asthma medications, insulin or oral hypoglycemic agents, or antihypertension medicines. Fewer yet could state the number of inmates taking medications prescribed for heart disease (e.g., anti-ischemic and antiarrhythmic agents). Table 5 presents the available data on the number and percentage of inmates in the States reporting this information who are taking these medications.

Discharge Planning

Discharge planning facilitates an inmate's transition into the community. In the case of health care, discharge planning means that arrangements are made for inmates to have a "point of care" to receive needed medical attention for their condition when they are released into the community. Sixteen States indicated they had policies and procedures for discharge planning for inmates with chronic diseases. These State systems housed 60.8 percent of the total inmate population and released 278,548 inmates into the community in their most recent accounting period. Twenty-nine States, accounting for 84.2 percent of total annual releases, indicated that inmates with chronic medical conditions were given a supply of medication when they were released. At least 35 percent of inmates (approximately 150,000) are released each year without the benefits of a system of discharge planning. More disturbing, 67,000 or more inmates with chronic medical conditions are released each year without even a supply of medication.

Recently Released Inmates

An important section of the survey queried respondents about information they could provide concerning inmates recently released from their prison systems. Of the 41 States that responded, 30 indicated they could determine which inmates had been released within the past 6 months. These facilities released approximately 382,799 inmates (88.6 percent of inmates released from all State prisons) during the most recent period. Only 12 State systems indicated that they could provide demographic data (e.g., age, race, and gender) on their recently released inmates. These 12 systems released 219,827 inmates in 1997 (50.1 percent of those released by all State prisons). Moreover, only 10 State systems, which released 94,531 inmates in 1997 (48.5 percent of those released by all State prisons), said they could identify the age, race, and gender of recently released inmates with chronic diseases.

Table 5. Number and Percentage of Inmates Taking Selected Medications

Medication	# of Inmates	% ADP
Inhaled asthma medications	4,787	2.48
Insulin or oral hypoglemics	4,995	2.48
Antihypertension agents	11,916	6.29
Anti-ischemic agents	2,782	1.85
Antiarrhythmic agents	1,162	0.61

Table 6 lists these 10 State systems, the number of inmates they released in 1996, and the number of inmates reported to have asthma, diabetes, hypertension, and heart disease. Although these 10 States reported they could identify inmates with chronic diseases released within the past 6 months, 3 States (North Dakota, Maryland and Oklahoma) either could not or did not indicate the prevalence of any of the target chronic diseases in their current population of inmates. Three other States (Illinois, Florida, and Utah) could provide prevalence data on some, but not all, of the target conditions.

The prevalence rates reported by Oregon and Washington appear to be inconsistent. Both States have an approximately equal number of annual releases (5,608 vs. 5,545), yet Washington has three or more times the number of inmates diagnosed with asthma, diabetes, and hypertension and six times the number of inmates diagnosed with heart disease.

Mental Health

The final section of the survey instrument inquired about the prevalence of mental disorders among inmates. Seventeen States with a total ADP of 401,265 (48.8 percent of the ADP of all responding State prisons), 170,263 annual intakes (36.2 percent of annual intakes into State prisons in responding States), and 161,554 annual releases (37.4 percent of annual releases from State prisons in responding States) reported that they designate one or more facilities for housing inmates receiving treatment for mental disorders. Twenty-one State systems housing 544,926 inmates (66.3 percent of the ADP of all responding States), 306,385 admissions (65.6 percent of annual intakes into State prisons in responding States), and 283,450 annual releases (65.6 percent of annual releases from State prisons in responding States) claimed they maintained data on the number of inmates with mental disorders by diagnoses. Fourteen systems

Table 6. States Reporting They Have Chronic Disease Data by Demographic Characteristics of Recently Released Inmates

State	# of Inmates					
	Total Annual Releases	Facilities	Asthma	Diabetes Mellitus	Hypertension	Heart Disease
Arkansas	4,977	18	315	146	642	128
Florida*	23,866	60	33,829	1,276	—	—
Illinois	25,124	32	2,962	729	—	—
Iowa	3,845	8	172	114	271	58
Maryland	12,000	26	—	—	—	—
North Dakota	520	7	—	—	—	—
Oklahoma	6,582	42	—	—	—	—
Oregon	5,608	12	156	115	284	94
Utah	1,464	2	250	123	318	—
Washington	5,545	12	570	391	1,259	577

* Computed from the percentage of inmates with the diagnosis and the average daily population of inmates.

with 268,741 inmates (32.7 percent of the ADP of all responding States), 130,573 admissions (27.8 percent of annual intakes into State prisons in responding States), and 124,186 annual releases (28.7 percent of annual releases from State prisons in responding States) classify diagnosed mental disorders according to the DSM–IV criteria for Axes 1, 2, and 3.

Few States reported on the number of inmates within their systems with selected mental diagnoses. Table 7 presents the number of responding prison systems and reported prevalence rates for selected mental conditions. All reported prevalence rates are low, ranging from about 3 inmates per 1,000 with panic disorder to 18 per 1,000 with schizophrenia.

Information also was sought on the number of inmates with mental disorders who had co-occurring alcohol dependency and other substance dependency disorders. Only four responses to these questions were received and the accuracy of the data was highly suspect.

Table 8 shows the number of States that could identify inmates with mental conditions according to demographic characteristics and the total ADP of these State prison systems. Fourteen States indicated that they could identify the age, race, and gender of recently released inmates with mental disorders, but only 12 States said they had data on race and 13 said they had data on the gender of the inmates. This incongruity raises questions about the validity of the reported data.

When asked if they had treatment protocols or guidelines for the management of inmates with mental disorders, 15 States responded “yes” and 12 said “no”; the balance did not complete this question. The total ADP of the 15 States with treatment protocols is 317,511 (mean daily population = 21,167), which is larger than the ADP for those responding that they did not have protocols for managing inmates with mental disorders (mean = 13,104).

Table 7. Reported Rates of Selected Mental Disorders

Mental Disorder	# of States	Prevalence per 100 Inmates
Schizophrenia	7	1.81
Affective disorder	6	0.54
Psychotic disorder	6	0.36
Major depression	7	1.72
Bipolar disorder	7	0.67
Dysthymic disorder	8	0.41
Panic disorder	4	0.30
Post-traumatic stress disorder	6	0.33
Delusions, dementia, amnestic cognitive disorder, and organic brain syndrome	5	0.80

Table 8. Number and Average Daily Population of States Able to Identify Recently Released Inmates With Mental Disorders

Characteristics	# of States	Total ADP
Age	14	230,314
Gender	13	308,062
Race	12	271,262
Age/gender/race	14	454,084

Policies covering discharge planning for inmates with mental disorders are in effect in 7 States with a mean ADP of 24,368. These States house more than 414,000 inmates and release a total of 185,337 inmates each year. Nine States that release a total of 47,330 inmates each year responded that they had no policies or procedures for the discharge planning of inmates with mental disorders. About one-half of the responding States left this question blank.

Twenty-three States with total annual releases of 228,646 inmates provide medication to inmates with mental disorders when they are released into the community. Only three States responded that it was not their policy to give inmates with mental disorders a supply of medication on release.

States' capability to identify inmates with mental disorders after they are released into the community is limited. Fifteen States with 113,122 total annual releases indicated they could identify inmates with mental disorders released within the past 3 months. Fourteen States with 108,381 total annual releases could identify inmates with mental disorders released within the past 6 months. Nine States with 86,595 total annual releases could identify inmates with mental disorders released into the community within the past year.

Conclusions

State prison systems were surveyed to collect information on the prevalence of selected chronic medical conditions—asthma, diabetes, hypertension, and heart disease—and mental disorders in the inmate population, and to learn their policies and procedures for discharge planning and providing medications to inmates when they are released into the community. Information was also sought on whether inmates with chronic medical conditions or mental disorders who were released into the community in the past 3, 6, and 12 months could be identified.

The responses received from 41 States were of limited value. Ten States and the Federal Bureau of Prisons did not respond to the survey despite repeated requests from NCCHC and the study organizers. In a study of sexually transmitted diseases, the Centers for Disease Control and Prevention (CDC) were able to obtain a better response rate, but only by sending a CDC representative to the jails to assist correctional personnel in collecting and recording the requested data.[13] In this survey, the 10 nonresponding States house approximately 200,000 inmates, which is a significant percentage of the prison population. Moreover, several of the States that returned their questionnaires provided little usable data. Either questions were not answered or some answers that were provided were clearly erroneous. Missing or erroneous data, particularly in the section of the questionnaire related to mental health, seriously weaken the conclusions that can be reached.

Although the researchers did not learn much of what they wanted to, much was learned about the state of prison health. Many State prison systems cannot report detailed, accurate data on the prevalence of medical problems or mental disorders within their inmate populations. It would appear that State systems have not integrated their inmate databases. Administrative databases that contain information on the demographic profile of the inmate population are not "connected" to databases that contain medical data on diagnosed conditions or medication usage from the pharmacy. Concerns regarding confidentiality of inmates' health conditions undoubtedly contribute to the lack of linkage between these databases.

Notes

1. Bureau of Justice Statistics, *Correctional Populations in the United States, 1995,* Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics, 1997, NCJ 163916.

2. *Estelle* v. *Gamble*, 429 U.S. 97 (1976).

3. Bureau of Justice Statistics, *Correctional Populations in the United States, 1995* (see note 1).

4. Bureau of Justice Statistics, *Correctional Populations in the United States, 1996,* Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics, 1999, NCJ 170013.

5. Hammett, T.M., R. Widom, J. Epstein, M. Gross, S. Sifre, and T. Enos, *HIV/AIDS and STDs in Correctional Facilities: 1994 Update*, Washington, DC: U.S.

Department of Justice, National Institute of Justice; and U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for HIV, STD, and TB Prevention, 1995, NCJ 156832.

6. The Federal Bureau of Prisons did not respond to the survey despite repeated requests. Further, for simplicity, the District of Columbia is included as a State.

7. Bureau of Justice Statistics, *Correctional Populations in the United States, 1997,* Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics, 2000, NCJ 177613.

8. Expert Committee on the Diagnosis and Classification of Diabetes Mellitus, "Report of the Expert Committee on the Diagnosis and Classification of Diabetes Mellitus," *Diabetes Care* 20(7)(1997): 1183–97.

9. Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure, *The Sixth Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure,* Bethesda, MD: National Institutes of Health, National Heart, Lung and Blood Institute, 1998, NIH publication No. 98–4080.

10. Some States provided frequency counts, while others responded in terms of percentages of inmates. All frequency counts were converted to percentages based upon the average daily population of the system.

11. National Center for Health Statistics, *National Health and Nutrition Examination Survey III [NHANES–III]*, Washington, DC: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 1997.

12. Hornung, C.A., R.B. Greifinger, and S. Gadre, "A Projection Model of the Prevalence of Selected Chronic Diseases in the Inmate Population," paper prepared for the National Commission on Correctional Health Care, Chicago, Illinois, n.d. (Copy in this volume.)

13. National Center for HIV, STD, and TB Prevention, Division of STD Prevention, *Sexually Transmitted Disease Surveillance, 1998,* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, September 1999.