Trends in State Prison Admission of Offenders With Serious Mental Illness

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Objective: **This study examined whether the proportion as well as the number of prisoners with behavioral health disorders have increased in recent years.** ***Methods:*** **Among 41,440 persons admitted to Washington State prisons from 1998 through 2006, this study estimated numbers and proportions of behavioral health disorders diagnosed while persons were in the community or in prison.** ***Results:*** **There was a 44% increase in persons admitted with a diagnosed co-occurring substance use disorder between 1998 (N=477) and 2005 (N=686); this increase dropped to 27% by 2006 (N=604). Ratewise, increases in the annual proportion of persons admitted with co-occurring disorders were much smaller, ranging from approximately .2% to 2.6%.** ***Conclusions:*** **The growth in the numbers of prisoners with serious mental illness and co-occurring substance use disorders was not due primarily to increases in admission base rates. Nevertheless, more treatment resources will be needed in prisons to meet growing mental health care needs, and more community-based resources will be needed to ensure continuity of treatment and successful community reentry. (*Psychiatric Services* 61:1263–1265, 2010)**

In recent decades, with changes in sentencing practices (such as the advent of determinate sentencing and "truth in sentencing" legislation), the size of the U.S. prison population has expanded rapidly. In 2007 there were over 2.3 million persons in prisons and jails in the United States, compared with fewer than 400,000 only 35 years ago (1). Much of this growth has been associated with successive waves of heroin, cocaine, and crack cocaine use and with increasingly harsh sanctions meted out by the courts for illegal drug offenses (2).

Numerous reports have also documented the overrepresentation of persons with mental illness in the criminal justice system. Recent estimates suggest that the prevalence of serious mental illness ranges approximately 5%–7% in the community (3), 6%–12% in jails (4,5), and 16%–24% in prisons (1,6,7). State prisons, however, have received much less research attention than jails have. There are three to five times as many persons with mental illness in prisons than in mental hospitals, and the number of prison inmates with mental illness continues to increase (8).

This growth has been variously attributed to the deinstitutionalization of patients in state psychiatric hospitals (9), steady reductions of local psychiatric beds (10), and scarcity of community-based treatment (11). Also, people with serious mental illness living in the community are not immune to the easy availability of street drugs. Many begin using these drugs to self-medicate their illnesses. They often engage in illegal activities to support their drug habits, many are arrested and become involved in criminal proceedings, and eventually some end up in prison.

The increasing numbers of prisoners with serious mental illness, however, may result from two distinct processes that have not been carefully distinguished in the scientific literature. First, this growth could be due to increases in their admission base rate. Base rate increases imply disproportionate increases in imprisonment of persons with mental illness relative to other offenders. Second, even if the base rate of serious mental illness among persons admitted to prison were to remain constant, increases in the overall number of persons admitted would lead to incarceration of more individuals with serious mental illness.

For example, more aggressive community policing to enforce drug laws in urban neighborhoods with higher concentrations of persons with serious mental illness or concerted efforts to rid the streets of homeless persons, many of whom have serious mental illness, would lead to a base rate change and thereby support the increasing base rate interpretation. However, if the use of street drugs were no greater among persons with serious mental illness than among

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others and changes in sentencing and arrest practices uniformly increased the likelihood of incarceration for all drug offenders and most offenders in general, then the rate of incarceration of persons with serious mental illness relative to other offenders would remain relatively constant. That is, as the overall number of prison admissions increased because of tougher sentencing practices and the justice system's greater reliance on incarceration generally, so too would the number of prisoners who had a serious mental illness. Therefore, there would likely be more persons admitted with serious mental illness but no base rate change.

Although it is clear that more people with serious mental illness are being imprisoned, it is difficult to know from published studies whether the "increasing rates" or "increasing numbers" interpretation is more consistent with recent trends. There are gaps in the periods covered by published studies as well as differences in sample size, types of facilities studied, and criteria for defining mental illness (7,12). Here, we address the issue of increasing rates versus increasing numbers by examining trends in serious mental illness among prisoners in one state system over several consecutive years.

Methods

We identified the rates and numbers of offenders with serious mental illness alone and those with co-occurring substance use disorders among the 41,440 persons admitted to Washington State prisons from 1998 through 2006. Data sources both internal and external to the Washington Department of Corrections were used to identify prisoners with serious mental illness. Although the frequencies are admission-based, they represent an unduplicated count of persons admitted to the Department of Corrections within a given year. We identified 16 individuals who were admitted to prison, served time, were released, and then were readmitted to prison within a given year. These readmissions were excluded.

Internally, we obtained *ICD-9* diagnoses from the Department of Corrections and classified them into serious mental illness with and without co-occurring substance use disorders. These diagnoses were made by prison mental health staff during intake evaluations. Externally, we linked the entire prison admission file with databases maintained by the Washington State Department of Social and Health Services, which contained *ICD-9* diagnoses from Medicaid claims. Diagnoses were made in community-based mental health and substance abuse treatment agencies.

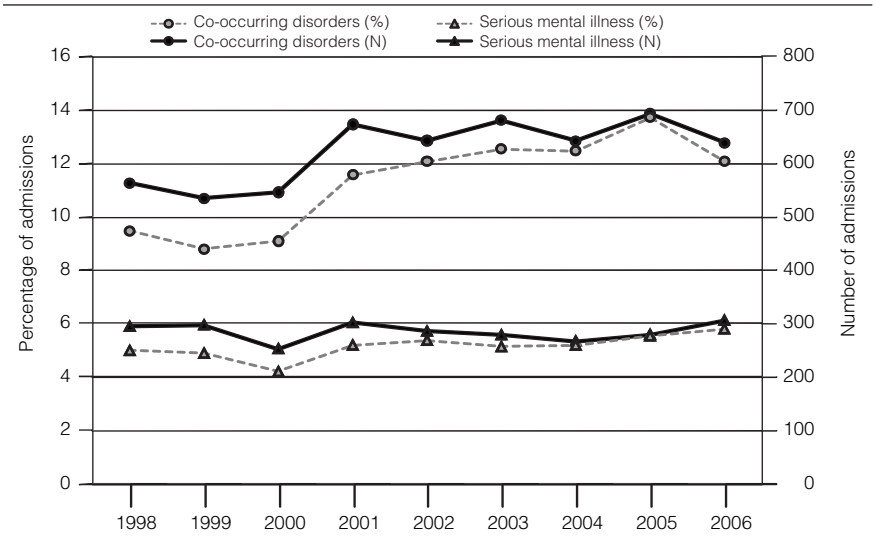
Offenders from either source who ever had an *ICD-9* diagnosis of a psychotic disorder (codes 295–295.99, 297–297.99, 298–298.99, and 299–299.99), bipolar disorder (codes 296.0–296.19, 296.4–296.99, and 298.1–298.19), or major depression (codes 296.2–296.29, 296.3–296.39, 298.0–298.09, 300.4–300.49, and 311–311.99) were classified into the serious mental illness category; offenders with serious mental illness who ever had a record of substance abuse (codes 303.0–305.99 and 291.0–292.99) were counted in the co-occurring disorders category. Numbers of offenders in these two diagnostic categories and their rate in proportion to total persons admitted were examined on an annual basis from 1998 through 2006.

The chance-adjusted agreement between the Department of Corrections data and the Medicaid claims was only 22% (κ=.22, 95% confidence interval of .21–.24, p<.001). This means that there was only a slight agreement between the two data sources; many individuals who received one of these diagnoses in one system did not receive one in the other. For example, only 29% (1,606 of 5,538) of those with a diagnosis in the Medicaid claims also had a diagnosis in the Department of Corrections data, and only 43% (1,606 of 3,728) of those with a diagnosis in the Department of Corrections data also had a diagnosis in the Medicaid claims. Most of the discrepancies involved a co-occurring substance use disorder. Fifty-five percent (1,396 of 2,531) of those with co-occurring diagnoses by Department of Corrections data had no such diagnosis in the Medicaid claims, whereas 70% (2,556 of 3,645) of those with co-occurring diagnoses in the Medicaid claims had no such correctional diagnosis.

The two data sources are complementary in that Medicaid is the principal payer of community-based services for persons with serious mental illness and the Department of Corrections may identify large numbers of uninsured persons with serious mental illness who would not show up in the Medicaid claims. Combining data sources allowed for a more comprehensive count of prisoners with serious mental illness or co-occurring

Figure 1

Serious mental illness and co-occurring disorders among admissions to Washington State Department of Corrections, 1998–2006[a]



[a] Co-occurring disorders included *ICD-9* diagnoses of serious mental illness (psychotic disorders, bipolar disorders, and major depression) and diagnosed alcohol or substance abuse or dependence.

disorders. Although the incentive to accurately capture diagnostic information in fee-for-service Medicaid claims is variable, the *ICD-9-CM* diagnoses within administrative claims data have been found to be reliable indicators of serious mental illnesses such as schizophrenia (12,13).

Research procedures related to this study were reviewed for human subjects' protections and approved by the Institutional Review Board at University of North Carolina at Chapel Hill.

Results

The annual number of persons admitted to Washington State prisons increased 37% over the nine-year study period, from 6,319 in 1998 to 8,671 in 2006. The number of persons admitted with a serious mental illness with or without a co-occurring substance use disorder increased by 23%, from 724 to 894, over the same period. Together, the two diagnosis categories made up between 17% and 19% of total persons admitted each year.

Figure 1 displays trends in annual numbers and rates of persons admitted for the two diagnosis groups over the study period. Three features stand out. First, for any given year, both the numbers and rates of admissions of offenders with co-occurring disorders were twice as large as those for offenders with a serious mental illness alone. This means that offenders with co-occurring substance use disorders made up roughly two-thirds of persons admitted with serious mental illness each year.

Second, the trend lines illustrate that, although the number of admissions increased, the annual rate of persons admitted who received a diagnosis of serious mental illness alone before, during, or after incarceration was in the range of 5%–6% each year and did not significantly change over the study period. Third, in contrast, there were noticeable increases in both the number and rate of persons who received a diagnosis of co-occurring disorders before, during, or after incarceration. By the numbers, there was a 44% increase in persons admitted with a co-occurring disorder between 1998 (N=477) and 2005 (N=686); this increase dropped to 27% by 2006 (N=604). Ratewise, increases in the annual proportion of persons admitted with co-occurring disorders were much smaller, ranging from approximately .2% to 2.6%. However, the cumulative impact of these incremental changes over the study period led to a small but statistically significant increase in the admission rate of offenders with co-occurring disorders, from 11.2% to 12.8% (χ^2=5.5, df=1, p<.01).

Discussion and conclusions

Our examination of trends over a nine-year period of admissions to the Washington State prison system revealed that growth in the numbers of prisoners with serious mental illness and co-occurring substance use disorders was not due primarily to increases in admission base rates. These findings help to temper alarmist claims that prisons are used increasingly as new asylums for persons with serious mental illness. On the other hand, the findings clearly indicate that more and more persons with serious mental illness—especially those with a co-occurring substance use disorder—are entering state prisons each year.

The resources necessary to manage people who have mental health needs, including treatment, supervision, and staffing demands, make imprisonment of persons with behavioral health disorders particularly challenging to state prison authorities. These trends also signify growing challenges for community mental health authorities because of the increasing numbers of individuals released from prison each year with serious mental illness, substance use disorders, and the secondary deficits associated with incarceration experiences. How to address and balance these issues is a major unresolved problem for public mental health policy (14).

Findings from one state system do not account for national trends or point the way to national solutions. However, they do illustrate the ways in which other states can use available administrative data to address these issues. Improved coordination and information sharing across justice and community mental health systems are essential to ensure that individuals with serious mental illness obtain appropriate treatment during their incarceration and continue to receive care as they reenter the community. Future work must also devise ways to move beyond simply describing these problems to offering solutions to them.

Acknowledgments and disclosures

The program received support through institutional training grant T32 MH019117 from the National Research Service Award Program of the National Institute of Mental Health and through contract 0065-08428 from the Washington State Department of Social and Health Services.

The authors report no competing interests.

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