TREATMENT
ADVOCACY
CENTER

No Room at the Inn

Trends and Consequences of Closing Public Psychiatric Hospitals

2005 – 2010

JULY 19, 2012

Research from the Treatment Advocacy Center

No Room at the Inn:
Trends and Consequences of Closing Public Psychiatric Hospitals

E. Fuller Torrey, M.D.
Executive Director, Stanley Medical Research Institute
Board Member, Treatment Advocacy Center

Doris A. Fuller
Executive Director, Treatment Advocacy Center

Jeffrey Geller, M.D.
Professor of Psychiatry, University of Massachusetts
Board Member, Treatment Advocacy Center

Carla Jacobs
Coordinator, California Treatment Advocacy Coalition
Board Member, Treatment Advocacy Center

Kristina Ragosta, J.D., Senior Legislative & Policy Counsel
Treatment Advocacy Center

The Treatment Advocacy Center is a national nonprofit organization dedicated to eliminating barriers to the timely and effective treatment of severe mental illness. The organization promotes laws, policies and practices for the delivery of psychiatric care and supports the development of innovative treatments for and research into the causes of severe and persistent psychiatric illnesses, such as schizophrenia and bipolar disorder.

SUMMARY

The continuous emptying of state psychiatric hospitals for the past half century has decimated the number of public psychiatric beds available for the treatment of acutely or chronically ill psychiatric patients in the United States.

Although they constitute a small subset of all persons diagnosed with mental illness, the most severely ill patients are in dire need of the specialized, intensive treatment that has been delivered since the early 1830s through state hospital systems. The elimination of these systems is producing significant public and personal consequences in communities nationwide.

In "No Room at the Inn: Trends and Consequences of Closing Public Psychiatric Hospitals," we use data from the National Association of State Mental Health Program Directors (NASMHPD) Research Institute to report changes in the availability of public psychiatric hospital beds from 2005 to 2010 and to assess the consequences for individuals and society. In summary:

TRENDS

- **The number of state psychiatric beds decreased by 14% from 2005 to 2010**. In 2005, there were 50,509 state psychiatric beds available nationwide. By 2010, the number had shrunk to 43,318.

- **Per capita state psychiatric bed populations by 2010 plunged to 1850 levels.** In 1850, at the beginning of the movement to provide more humane care by treating seriously mentally ill persons in hospitals, there were 14 beds per 100,000 population. In 2010, the supply was virtually identical at 14.1.

- **Thirteen states closed 25% or more of their total state hospital beds from 2005 to 2010.** New Mexico and Minnesota closed more than 50% of their beds; Michigan and North Carolina closed just less than 50%. Ten states increased their total hospital beds but continued to provide less than half the beds considered to be minimally adequate.

- **The decrease in state psychiatric bed availability since 2005 is actually worse than the 14% that occurred 2005-2010.** Completed or announced bed eliminations *since* 2010 will eliminate additional beds.

Overall, many states appear to be effectively terminating a public psychiatric treatment system that has existed for nearly two centuries. The system was originally created to protect both the patients and the public, and its termination is taking place with little regard for the consequences to either group.

CONSEQUENCES

- **Nationwide, closures reduced the number of beds available in the combined 50 states to 28% of the number considered necessary for minimally adequate inpatient psychiatric services**. A minimum of 50 beds per 100,000 population, nearly three times the current bed population, is a consensus target for providing minimally adequate treatment. (By way of comparison, the ratio in England in 2008 was 63.2/100,000.)

- **In the absence of needed treatment and care, individuals in acute or chronic disabling psychiatric crisis increasingly gravitate to hospital emergency departments, jails and prisons.**

- **These systems experience significant negative impacts as a result**.

    - **Hospital emergency departments** are so overcrowded that some acutely ill patients wait days or even weeks for a psychiatric bed to open so they can be admitted; some eventually are released to the streets without treatment.
    - **Law enforcement agencies** find service calls, transportation and hospital security for people in acute psychiatric crisis creating significant, growing demands on their officers and straining public safety resources.
    - **Jails and prisons** are increasingly populated by individuals with untreated mental illness with some facilities reporting that one-third or more of their inmates are severely mentally ill.

- **The number of persons with mental illness who are homeless increased**. In some communities, officials have reported as many as two-thirds of their homeless population is mentally ill.

- **A statistically significant inverse association emerged between lower state-hospital spending and higher rates of arrest-related deaths.** In a comparison of hospital expenditures–a measure of public psychiatric bed availability–for 2008 and rates of arrest-related deaths (2003-2009 cumulative numbers), those states that decreased funding for public hospitals experienced increased arrest-related deaths.

- **A statistical trend emerged between public hospital bed populations and certain violent crimes, including homicide**. States that closed more public psychiatric beds between 2005 and 2010 experienced higher rates of violent crime generally and of aggravated assault in particular (2010 data). A trend-level association between lower per capita hospital expenses and higher rates of aggravated assault also was found.

BACKGROUND

The emptying of state psychiatric hospitals, commonly referred to as "deinstitutionalization," began more than half a century ago. In 1955, there were 558,922 state hospital beds in the United States for acutely ill psychiatric patients, the great majority with serious mental illnesses such as schizophrenia, bipolar disorder (known then as "manic depressive illness") or severe depression and a minority with developmental disabilities, dementia or other chronic brain diseases.

Driven in part by the emergence of medications that made it possible to stabilize many patients, the idea behind deinstitutionalization was fundamentally sound: Most patients could live safely outside a hospital while being treated in community facilities, provided that such treatment facilities existed. The result has been disastrous: 95% of the nation's public psychiatric hospital beds disappeared, but community psychiatric care exists for fewer than half the patients who do need it.

Even as the pace of deinstitutionalization accelerated, it has remained universally recognized by clinicians and most policy makers that a subset of patients with the most disabling psychiatric diseases requires intensive care in specialized facilities. This subset includes individuals with acute psychosis or mania, many of them unaware of their illness and/or dangerous to themselves or others, and individuals whose illness is chronic and such that they cannot function outside a hospital. People this critically ill rarely are capable of seeking treatment voluntarily or paying for it privately. Typically, they ultimately receive treatment when they decompensate to a point where they meet state criteria for involuntary hospitalization ("civil commitment"). The inpatient treatment system to which they are committed has been operated since the early 19th century by states and counties and is typically distinguished from general hospital facilities by its highly trained staff, therapeutic environment and heightened security.

A 2008 Treatment Advocacy Center study ("The Shortage of Public Hospital Beds for Mentally Ill Persons") assessed 2005 data to report a total of 50,509 public psychiatric beds or 17.1 beds per 100,000 population in the combined 50 states.[1] Compared with the nearly 560,000 public psychiatric beds available in 1955, this represented more than a 90% reduction in bed population in the first 50 years of deinstitutionalization. Mississippi (49.7/100,000) and South Dakota (40.3/100,000) provided the most state psychiatric beds in 2005, while Nevada (5.1/100,000), Arizona (5.9/100,000) and Arkansas (6.7/100,000) had the fewest. The report suggested that 50 beds per 100,000 population were the minimum number needed for adequate treatment to take place, a suggestion somewhat comparable to bed availability in other developed countries that have undergone deinstitutionalization, such as the United Kingdom, where, in 2005, 63.1 beds were reported available per 100,000 population.[2]

By the time of the 2008 report, hospital emergency rooms crowded with mentally ill persons waiting for psychiatric beds had become commonplace. Police officers and sheriffs reported committing increased time and other resources responding to calls associated with individuals with untreated mental illness. Jails and prisons had become overcrowded with mentally ill inmates, most of them charged with crimes committed while experiencing symptoms of untreated illness, many of which were "public nuisance" offenses and other misdemeanors. Felonies committed by this population included a small but growing number of violent acts,

such as mass murders, that made spectacular headlines and contributed to stigma against individuals with mental illness of all kinds.

Given the severity of the situation in 2005 and anecdotal evidence that public bed populations had declined even further since then, likely increasing the consequences of untreated severe mental illness, the Treatment Advocacy Center undertook the current study using 2010 data that became available in May, 2012.

METHODS

For the purposes of this study, "public psychiatric beds" are defined as beds controlled by state governments. Private psychiatric beds are not considered in the study because, in most states, they are available only to those patients with insurance, who are well enough to voluntarily admit themselves for treatment or who, if involuntarily admitted, do not pose an imminent threat in the hospital.

- Data was obtained from the National Association of State Mental Health Program Directors (NASMHPD) Research Institute in Alexandria, Virginia.
- Collected in early 2012, data included the number of patients on January 1, 2010.
- 2010 census numbers were used to develop bed population rates per population.
- Reductions or increases in bed populations were calculated by comparing the aforementioned 2010 data with previously published 2005 data.[1]
- The estimated minimally adequate number of public psychiatric beds represents a previously published consensus of 15 psychiatric experts;[1] the number is 50 beds per 100,000 population.
- The estimated number of forensic beds for each state was taken from data on forensic expenses in *Funding and Characteristics of State Mental Health Agencies, 2010*[3] (pp. 107-108).
- *Funding and Characteristics* likewise was the source for data on total state hospital-related expenses by state for 2008 (pp. 114-115).
- Total state mental health agency expenditures for 2009 were obtained from data available on the NASMHPD Research Institute website.
- Statistics on total violent crimes, aggravated assault, and "murder and non-negligent manslaughter" by state for 2010 were obtained from the U.S. Department of Justice's Uniform Crime Reporting Statistics; incident rates were calculated for each state per 100,000 adult population.
- Statistics on arrest-related deaths, cumulative for 2003-2009, were obtained from the Bureau of Justice Statistics, U.S. Department of Justice;[4] these were calculated for each state per million adult population.
- With this data, pairwise correlations were carried out between the state hospital expenditures, the percentage of beds lost between 2005 and 2010, and the measures of violent crime.

TRENDS IN HOSPITAL BED AVAILABILITY

BED AVAILABILITY – NATIONWIDE

A total of 43,318 public psychiatric beds were available in 2010, a reduction of 7,191 beds, or 14%, since 2005 (Table 1). The number of beds in 2010 was 14.1 per 100,000 compared with 17.1 per 100,000 in 2005. Compared to the minimum number of public psychiatric beds deemed necessary for adequate psychiatric services (50/100,000 population), the combined 50 states provided only 28% of the beds needed nationwide in 2010. No state provided 50 beds per 100,000, and 15 states provided fewer than 10 beds per 100,000 people. Minnesota, for example, provided 3.9.

BED AVAILABILITY – SELECTED STATES

The states with the most beds in 2010 were Mississippi (39.0/100,000) and South Dakota (29.2/100,000). The states with the fewest beds in 2010 were Minnesota (3.9), Arizona (4.1), Iowa (4.9) and Michigan (5.4). As would be expected, a strong statistical correlation was found between the number of public psychiatric beds per 100,000 population and per capita state hospital expenditures by state ($r=0.622$, $p<0.001$).

BED REDUCTIONS AND ADDITIONS – SELECTED STATE

During the five-year period from 2005 to 2010, 38 states reduced the number of beds available, 10 states added beds, and two states were unchanged (see Table 1).

- Five states reduced beds by at least 40%: New Mexico (60%), Minnesota (56%), North Carolina (48%), Michigan (47%) and Tennessee (42%).
- Eight additional states reduced beds by 25% or more.
- Two states increased beds by at least 20%: Nevada, which opened a new psychiatric hospital (153%), and Delaware (58%). Both states remained in the lower half of the nation in beds per capita even after the additions; Nevada provided only 11.2 beds per 100,000 people.
- Several states made efforts to add new buildings or improve old ones at the same time they were reducing beds or increasing them slightly overall.
- Two states did not register a change: Montana and West Virginia. Idaho and Louisiana each experienced only a 1% decline.

COMPARISON WITH THE 19TH CENTURY

It is instructive to put the current number of public psychiatric beds into historical perspective. Such data is available from 1831[5] (Table 2). *The current supply of public psychiatric beds, 14.1 per 100,000 population, is virtually identical to the number available in 1850 when it was 14.0 per 100,000 population.*

The dearth of hospital beds in 1850 and the resultant abandonment or alternative institutionalization of individuals with mental illness in jails and "poor houses" eventually prompted a treatment reform movement led by Dorothea Dix and others. The public outcry produced the psychiatric hospital system that is approaching extinction today. Nineteenth-century advocates like Robert Waterston, a prominent Massachusetts clergyman, urged that mentally ill individuals "should be met with pity, not with punishment, and of all diseases, surely there is none more worthy of compassion than that under which the Lunatic suffers." Samuel Gridley Howe, a physician and advocate for the disabled, added, "Let the State government be urged to make immediate and ample provision for *all* the indigent insane."[6]

COMPARISON WITH 1955

It is also instructive to compare the bed population in 2010 with 1955, the peak year of psychiatric hospitalization.

Based on the U.S. population at both times, the per capita bed population in 1955 was more than 300 beds per 100,000 people in the U.S., i.e., more than 20 times the ratio in 2010. The standards and conditions of many hospitals by the onset of deinstitutionalization unquestionably were overdue for reform. Funding priorities, politics, the voicelessness of the individuals served and other factors had left many hospital facilities constructed in the late 1800s and early 1900s in dire need of rehabilitation or replacement by the mid-20th century.

Instead of motivating improved care, these conditions became an incentive and an economic pretext for policy makers to eliminate hospital treatment altogether. Their timing couldn't have been better. More effective antipsychotic medications were becoming available just as civil libertarians began agitating to move individuals who didn't need to be in hospitals into communities, and fiscal conservatives were calling for smaller government were advocating unsupported convictions that closing hospitals would save money and be the right thing to do.

Without question, these "first-generation" medications in fact made it possible for many individuals who previously required hospitalization to live safely and productively in the community. Nonetheless, it strains credulity to propose that 95% of the beds available in 1955 are no longer needed today. Indeed, multiple studies have reported that approximately half of all seriously mentally ill individuals in the United States are not receiving any treatment at any given time.[7] Only to those who believe that being disabled by brain disease is a sacred personal liberty, or who are indifferent to the social consequences of such a wholesale abdication in humane care, can this be remotely acceptable.

THE IMPACT OF FORENSIC HOSPITALIZATION

The number of public psychiatric beds, enumerated in Table 1 for each state, represents a best-case scenario for 2010. In some states, many of those beds were in fact occupied by mentally ill individuals who had been charged with crimes and were being hospitalized pending a finding of their competency to stand trial, as a result of being found not guilty by reason of insanity, or because they were found guilty of a crime but sentenced to a psychiatric hospital

instead of a correctional facility. Such beds, called “forensic beds,” are thus not available for general use.

Nationwide in 2010, approximately 33% of all public psychiatric beds were occupied by forensic patients, a percentage varying widely from state to state.[3] The ratio was highest in Ohio (66% of all beds), Oregon (57%) and Maryland (54%). By contrast, less than 5% of public psychiatric beds were occupied by forensic patients in Idaho, Iowa, Mississippi, New Hampshire, North Carolina, North Dakota and South Dakota.

TRENDS SINCE 2010

Many additional public psychiatric beds have been eliminated *since* 2010. According to a congressional staff briefing provided by the National Association of State Mental Health Program Directors in March, 2012, a total of 3,222 additional beds were closed between 2009 and 2012 in 29 states.[8]

Additional plans to eliminate 1,249 more beds in 10 states have been announced. These combined reductions suggest the current or imminent total number of public psychiatric beds to be 38,847, a 23% reduction since 2005. In short, the psychiatric bed shortage and its attendant consequences are likely worse than depicted in this report.

CONSEQUENCES OF HOSPITAL BED CLOSURES

The consequences of providing an insufficient number of public beds for the treatment of seriously ill psychiatric patients include an increasing:

- Number of mentally ill individuals in hospital emergency rooms waiting for psychiatric beds;
- Demand on police and sheriffs who, for all intents and purposes, become frontline mental health workers;
- Number of mentally ill individuals in jails and prisons; and
- Number of acts of violence, including homicides, committed by mentally ill individuals who are not being treated;
- Number of mentally ill homeless individuals.

EMERGENCY-ROOM “BOARDING”

Individuals with untreated severe mental illnesses are overwhelming hospital emergency departments (EDs) throughout the United States. A 2007 survey reported that one in eight patients seen in EDs had “a mental health or substance abuse condition” and that this problem “has been on the rise for more than a decade.”[9] In a March 2012 Congressional briefing, NASMHPD reported that a recent survey of more than 6,000 emergency departments nationwide found 70% reporting they “boarded” psychiatric patients for “hours or days,” and 10% reporting they boarded individuals in psychiatric crisis for several *weeks*.[10]

Reports from individual states within the past 18 months suggest that the emergency room problem is becoming increasingly severe. In New Hampshire, "mentally ill people waiting in local emergency rooms for a bed at the state hospital has reached a historic high."[11] In Massachusetts, it has been reported that "mental health patients [are] flooding local ERs."[12] In New Jersey, the number of mentally ill individuals seeking treatment doubled between 2005 and 2012.[13] In South Carolina, the director of an emergency room commenting on this problem said, "They say it is going to get worse, but I don't know how….It is really horrendous."[14] In Louisiana, "the lack of mental health beds is forcing hospital emergency rooms to become *de facto* psychiatric units."[15] At a hospital in North Dakota, "since just last year the number of patients with psychosis as their primary diagnosis" admitted through the emergency room "has more than doubled."[16] In Arizona, "emergency room psychiatric consultations have spiked by 40% since last spring."[17] In California, a director of hospital emergency services complained of being "inundated with these [mentally ill] patients."[18]

Staff in emergency departments in some states complain that psychiatric patients can be boarded in EDs for 24 to 48 hours. As remarkably long as that may sound, ED workers in other states scoff at this figure, reporting that they have psychiatric patients stuck in emergency departments as long as four weeks.[19]

LAW ENFORCEMENT IMPACTS

Police and sheriffs in every state have been overwhelmed by an increasing number of mental illness-related calls. A 2011 survey of more than 2,400 law enforcement officials reported that police-related incidents involving individuals with severe mental illnesses were perceived as "a major consumer of law enforcement resources nationally" and are requiring an increasing amount of time and manpower. Respondents reported that mental illness-related calls outnumbered calls for routine larceny, traffic accidents and domestic disputes.[20]

These findings are consistent with anecdotal reports. For example, "San Diego police have seen a 54% increase in the number of mental health and suicide-related calls"[21] and, in Medford, Oregon, police were dealing with "an alarming spike in the number of mentally ill people coming in contact with the police on an almost daily basis."[22] In North Carolina in 2010, sheriffs' departments "reported more than 32,000 trips last year to transport psychiatric patients for involuntary commitments."[23]

Summarizing the situation, the sheriff of Pueblo County, Colorado, in 2007 said, "By default, we've become the mental health agencies for the individual counties."[24] Similarly, the president of the Los Angeles County Police Chiefs' Association noted that "our local police forces have become armed social workers."[25]

With law enforcement officers becoming front-line mental health workers, violent, officer-involved confrontations in which mental illness is a prominent factor appear to be on the rise. Because the U.S. Department of Justice does not track the variable of mental illness in officer-involved shootings, precise data is not available about these incidents. However, a majority of the 2,400 respondents in the 2010 survey of police and sheriffs perceived mental illness to be a significant factor in the injury or death of on-duty law enforcement officers,[26] and a wealth of data from individual states supports their perceptions.

In California's Ventura County in 2007, sheriff's deputies used Taser guns to subdue people 107 times, and "the majority of those shot by deputies were mentally ill."[27] In Santa Clara County, "of the 22 officer-related shootings from 2004 to 2009 in the county, 10 involved people who were mentally ill."[28] In 2008 in West Warwick, Rhode Island–a city of 29,000 people–five persons described as having "mental health issues" died in police-related incidents in a six-month period.[29] In 2011 in Syracuse, New York–a city of 185,000–three of the five officer-related shootings involved "emotionally disturbed people."[30] In 2011 in New Hampshire, at least four of the six officer-related shootings "had some mental health issues."[31] In Albuquerque, New Mexico–a city of 546,000–24 men were shot by police officers between January 2010 and May 2012, and "11 of those men had a history of either mental illness, substance abuse or both."[32]

In an effort to determine whether such reports reflect a trend of statistical significance, data on arrest-related deaths collected by the U.S. Department of Justice was assessed. Available by state and cumulative for 2003-2009,[4] this data is known to have variable levels of completeness from state to state and does not track what percentage of the deaths occurred in individuals who were mentally ill.

These limitations notwithstanding, the number of arrest-related deaths for 2003-2009 and the per capita state hospital expenditures by state for 2008 ($r= -0.333$, $p= 0.012$) were found to show a statistically significant inverse association, with those states spending less money on state psychiatric hospitals reporting more arrest-related deaths.

While correlation does not prove causation, and the failure of the Department of Justice to collect data on the role of mental illness is problematic, the consistency of this data with law enforcement experience and anecdotal evidence suggests at least suggests that further study is warranted.

JAILS AND PRISONS

Increased numbers of jail and prison inmates with severe mental illness have been inversely associated with public hospital bed numbers since the initiation of deinstitutionalization. A 2010 Treatment Advocacy Center study, "More Mentally Ill Persons Are in Jails and Prisons Than Hospitals: A Survey of the States," found "there are now three times more seriously mentally ill persons in jails and prisons than in hospitals."[33]

The U.S. Department of Justice in 2006 reported that 24% of inmates in county jails and 15% of inmates in state prisons were psychotic.[34] By bed population, the largest psychiatric inpatient facilities in the United States are the county jails in Los Angeles, Chicago and New York City. Unlike the state psychiatric hospitals they have succeeded, these institutions provide little or no treatment. The same 2006 Department of Justice report found that 84% of jail inmates and 75% of federal prisoners with mental illness receive no treatment.

Since 2006, reports from many jurisdictions suggest that the number of mentally ill individuals in jails and prisons is increasing. According to the Massachusetts Sheriffs' Association, 26% of all jail inmates "have major mental illness."[35] In Stark County, Ohio, "30% of the jail population

suffers from mental illness."[36] In Boone County, Missouri, "at least 30% of the jail population" is mentally ill[37] and, in New York's Rikers Island Jail, "one in three prisoners" is mentally ill[38] In Alabama's Tuscaloosa County Jail, "about 40% of the inmates … receive some form of psychiatric care"[39] and, in Texas's El Paso County Jail, "about 40% of inmates" need "some type of psychotropic drugs."[40] In Iowa's Black Hawk County Jail, the sheriff says that "more than 60% of the inmates are mentally ill."[41] In Mississippi's Hinds County Detention Center, "about two-thirds of the 594 inmates … take anti-psychotic medicine"[42] and, in Montana's Cascade County Detention Center, the sheriff in 2012 estimated that "80% of the people in our jail suffer from a mental illness."[43]

In many of these jurisdictions, law enforcement officials have noted a relationship between the closing of public psychiatric beds and an increase in mentally ill individuals in the jail. Following the closure of the local public psychiatric hospital in Gwinnett County, Georgia, "the jail's population of inmates with mental illness increased dramatically." According to the director of the jail, "The schizophrenic and chronically ill mental population just exploded and we found ourselves being the hospital."[44]

VIOLENT CRIME AND HOMICIDES

When individuals with severe mental illness receive appropriate and effective treatment, their risk of committing violent acts is no greater than that of the general population. When they do not receive treatment, multiple studies have found their risk of violent behavior, including homicides, to be significantly elevated. In the United States, a small study in Albany County, New York, reported that eight individuals, all diagnosed with schizophrenia, were responsible for 29% of all homicides in the county during a six-year period.[45] Another small study in Contra Costa County, California, reported that seven out of 71 (10 %) of homicide offenders were diagnosed with schizophrenia during a three-year period.[46]

A larger study in Indiana, published in 2008, examined the records of 518 individuals imprisoned for homicide.[47] Among the 518, 53 or 10.2% had been diagnosed with schizophrenia, bipolar disorder or other psychotic disorders not associated with drug abuse. An additional 42 individuals (8.1%) had been diagnosed with mania or major depressive disorder. This suggests that at least 10% of homicides are associated with severe mental illnesses, a number consistent with the findings of multiple studies in Europe. Because the Indiana study only included homicide offenders who went to prison and not those found not guilty by reason of insanity, the actual prevalence of mental illness among individuals committing homicide was doubtless understated.

On January 8, 2011, the attention of the American public was directed to the potential negative consequences of untreated severe mental illness when Jared Lee Loughner, a young man with untreated schizophrenia, killed six people and wounded thirteen, including Congresswoman Gabrielle Giffords, in Tucson, Arizona.

In the previous five years, at least 10 similar multiple shootings were committed around the nation by mentally ill individuals who were not being treated in:

- New York, Matthew Colletta killed one and injured five;

- Pismo Beach, California, Lawrence Woods killed two;
- San Francisco, Omeed Popal killed one and injured fourteen;
- Goleta, California, Jennifer San Marco killed eight;
- Maine, Newry, Christian Nielsen killed four;
- Seattle, Naveed Haq killed one and injured five;
- Colorado Springs, Matthew Murray killed four and injured five;
- Virginia, Seung-Hui Cho killed 32 and injured 24;
- Seattle, Isaac Zamora killed six and injured four; and
- Binghamton, New York, Jiverly Wong killed 13 and injured four.

Thus, between 2005 and 2010, a tragic pattern became increasingly apparent.

This pattern is also consistent with a 2006 study of 81 American cities. That study reported a statistically significant correlation between the number of public psychiatric beds available in that city and the prevalence of violent crimes (defined as murder, robbery, assault and rape).[48] It is also consistent with a 2011 state study in which it was reported that having fewer public psychiatric beds was statistically associated with increased rates of homicide.[49] Thus, the consequences of closing public psychiatric hospitals beds have become abundantly–if painfully–clear: The more beds you close, the more adverse consequences you can expect.

In the present study, possible relationships between the availability of public psychiatric beds and available measures of violence were examined by state. A statistical inverse trend was found between state hospital expenditures per capita and rates of aggravated assault ($r = -0.249$, $p = 0.082$). Similar statistical trends were found in the relationship between the loss of public psychiatric beds between 2005 and 2010 and aggravated assault ($r = 0.273$, $p = 0.097$) and the loss of beds and total violent crimes ($r = 0.275$, $p = 0.095$) (2010 data). These are relatively weak statistical associations but, given the many possible causes of increased violence, it is surprising to see even a weak association emerge. This is another topic with significant implications for public safety that warrants further study.

MENTALLY ILL HOMELESS

The proportion of mentally ill individuals within the homeless population is typically estimated at roughly one-third of all males and two-thirds of all females. As the homeless population grew between 2005 and 2010, it is reasonable to presume that the number of homeless individuals with mental illness grew as well. Victimization was common, occurring from 2.3-140 times more frequently than in the general population.[50] Anecdotal information abounds:

- Colorado Springs (2009): “As many as two-thirds of the 400 chronically homeless people … suffer [from] severe mental illnesses.”[51]

- San Francisco (2009): Forty-three homeless individuals had been killed on the streets, “the highest level in a decade.”[52]

- Philadelphia (2000-2002): The average cost for public services to 438 homeless individuals with mental illness was $22,372 per person. These individuals represented 16% of the homeless population during the three-year study period but produced 60% of the city's entire expenditures for the homeless.[53]

DISCUSSION

In the United States, many states are in the process of dismantling the system whereby they provided treatment for individuals with acute or chronic severe mental illness. This system, operational for almost 200 years, has provided protection (asylum) for those who are mentally ill as well as protection of the public from the consequences of untreated mental illness. Its abolition, leaving virtually no public psychiatric beds for the subgroup of severely mentally ill individuals who cannot be successfully treated in the community, no matter how comprehensive the services, is therefore a profound change. It is taking place with little forethought and even less regard for consequences.

The closing of public psychiatric hospitals is not a new idea. In 1958, Dr. Harry Solomon, then president of the American Psychiatric Association, called state mental hospitals "bankrupt beyond remedy" and advocated their liquidation "as rapidly as can be done in an orderly and progressive fashion." Twenty-five years later, Dr. Robert Okin, then commissioner of the Massachusetts Department of Mental Health, similarly argued that "the majority of state hospitals should be replaced altogether with a very different kind of system of care."[54]

COMMUNITY PSYCHIATRIC CARE

Solomon and Okin envisioned an alternative system of community psychiatric care being established *before* public psychiatric beds were eliminated. In the intervening years, many thoughtful voices have warned that closing beds without alternative services in place would be a prescription for certain disaster. Drs. Richard Lamb and Roger Peele, for example, correctly noted that "this ideal of normalization … cannot be achieved for every chronically mentally ill person."[55] Drs. Mark Olfson and David Mechanic cautioned that before widespread closures occur, "it is critical that policy makers identify and develop resources to replace the care these institutions currently provide to poor patients with severe psychiatric disorders."[56] Dr. Jeffrey Geller et.al., suggested that instead of shuttering state mental hospitals, they should be embraced as "multiservice centers that fulfill a key role in the public sector, [as] integrated systems of treatment, care, training and research.[57]

This has not happened. Community psychiatric care exists for fewer than half the patients who need it. Even where it does exist, it is mostly uncoordinated, disjointed and lacks accountability. Community psychiatric care in many places is largely a psychiatric Chimera, a delusive notion promoted by many state administrators and others, who invoke it as a platitude to justify the closure of additional beds.

COST SHIFTING AS A FACTOR

What is driving the dismantling of state treatment systems for individuals with severe psychiatric disorders? *The driving force is an attempt to shift the cost of care from the states to*

the federal government. The cost of a patient in a state mental hospital is covered at an average of 79% by the state. But when the person is transferred to community treatment, the state covers on average only 55% of the cost; in some states, the state's share is nearer 20% (Table 3). Thus, every time a state closes a public psychiatric bed, it saves money.

States have become expert at manipulating the funding system to their advantage. For example, they switch patients who are eligible for both Medicaid and Medicare (the "dual eligibles") from Medicaid, under which the state must pay part of the cost, to Medicare, under which the federal government pays it all.[58] Many states also transfer seriously mentally ill individuals from state psychiatric hospitals to nursing homes that are inadequately staffed and ill-equipped to care for such patients. This puts other elderly nursing home residents at risk and has led to homicides and other disasters.[59] The reason for such transfers is simple and well-illustrated in New York state, where–in 2002–the annual state cost for a mentally ill patient in a state mental hospital was $120,000, but the state's share of the cost for the same individual in a nursing home was only $20,000, with the federal government covering the rest.[60]

Even for community treatment, state departments of mental health have become skilled at shifting their costs to other departments. Mentally ill individuals, who once were inpatients in state hospitals, now sit in jails and prisons with their care being paid for by the state and county departments of correction. This has added huge costs to corrections for medication and additional staff. For example, in Texas prisons in 2003, non-mentally ill prisoners cost $22,000 per year, but mentally ill prisoners cost $30,000 to $50,000 per year. In Florida's Broward County Jail in 2007, non-mentally ill prisoners cost $80 per day, but mentally ill prisoners cost $130 per day.[61] In state prisons, the cost for almost any inmate with mental illness is less than the hospital cost would be, thus saving the states money.

In the larger scheme of things, eliminating needed public psychiatric beds does not save money but, in fact, ends up costing taxpayers more money. Untreated mentally ill individuals revolve endlessly through hospitals, courts, jails, social services, group homes, the streets and back again. It is a spectacularly inefficient and costly system, perhaps best symbolized by "Million Dollar Murray," a mentally ill homeless man who cost Nevada more than $1 million, mostly in emergency department costs, as he rotated through the system for 10 years.[62] Or by the nine individuals in Austin, Texas, who had a total of 2,678 emergency room visits between 2003 and 2008; seven of the nine "were diagnosed with mental health issues."[63] Illinois Rep. Al Riley, was right on target in 2012 when he said, in response to a proposal to close another state mental hospital, "Don't say we are going to save money by closing this facility. It's shifting of money, not saving money."[64]

The finding that lowering the census in state hospitals is accompanied by increasing populations in jails and prisons is not new but–as is so often the case in public mental health–we forget our history. In a paper published in 1939, Penrose examined 18 European countries and found an inverse relationship between the number of mental hospital beds and the number of persons in prison.[65] In a contemporary extension of Penrose's work, Harcourt found, after controlling for economic conditions, youth population rates, criminal justice enforcement and demographic factors, "a large, robust, and statistically significant relationship between aggregate institutionalization (in psychiatric hospitals and prisons) and homicide rates" for the

period 1934-2001.[66] For more than 70 years, contemporarily relevant data supporting the continuance of state hospitals has been available but unused to guide policy decisions regarding them.

WHAT'S NEEDED

The elimination of dedicated psychiatric facilities for those with the most acute or profoundly disabling mental illnesses is wreaking devastating impacts on individuals in need of treatment and the communities in which they live.

We are calling for a moratorium on further public hospital bed closures until a sufficient number of psychiatric beds for acutely and/or chronically ill individuals is available either in state hospitals or community facilities.

Our study, "The Shortage of Public Hospital Beds for Mentally Ill Persons," in 2008 proposed additional pathways for ameliorating the public hospital bed shortage. Time has only increased the need for the following measures and thus the urgency of the following:

- Holding state governors and mental health officials responsible for the shortage and demand that they create the number of public psychiatric beds needed to meet the minimum standards of treatment.
- Implementing and using assertive community treatment (ACT) programs and assisted outpatient treatment (AOT) in every community; both of which have been shown to significantly reduce the consequences; both programs have been proven to decrease the need for hospitalization
- Lifting the federal prohibition on the use of Medicaid ("Institution for Mental Diseases [IMD] exclusion") in state hospitals so that decisions regarding treatment are made entirely on a clinical basis rather than a fiscal basis.
- Making the public aware that the shortage of public psychiatric beds contributes to a number of costly and sometimes dangerous social problems, including jails and prisons overcrowded with inmates who are acutely ill and untreated, emergency departments overcrowded with patients in psychiatric crisis, increased homelessness, and increased violence.

ACKNOWLEDGEMENTS

We are grateful to Ted Lutterman at the National Association of State Mental Health Program Directors (NASMHPD) Research Institute and to Joanne Atay and Laura Milazzo-Sayre at Substance and Mental Health Services Administration (SAMHSA) for sharing their data on psychiatric beds. Dr. Faith Dickerson at Sheppard Pratt Hospital kindly provided statistical assistance. Andrea Burch in the U.S. Department of Justice clarified the arrest-related deaths data. Rosanna Esposito, Brian Stettin and Barbara Torrey provided useful suggestions. Excellent technical assistance was contributed by Melissa Bolla, Jana Bowcut, Shakira Butler and Ana Ramos.

---

[1] Torrey, E.F., Entsminger, K, Geller, J, et al. the shortage of public hospital beds for mentally ill persons. Arlington, VA: Treatment Advocacy Center, 2008.
[2] Keown, P., Weich, S., Kamaldeep, S Bhui, Scott, J. Association between provision of mental illness beds and rate of involuntary admissions in the NHS in England 1988-2008: ecological study. BMJ (British Medical Journal) 2011; 343:d3736.
[3] SAMHSA. Funding and Characteristics of State Mental Health Agencies, 2010. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2011, pp. 107-108.
[4] The U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics. Arrest-related deaths, 2003-2009-Statistical Tables, NCJ 235385, November 2011. Retrieved from http://www.bjs.gov/ on April 10, 2012.
[5] Stroup, A.L., & Manderscheid, R.W. The development of the state mental hospital system in the United States: 1840-1890. *Journal of the Washington Academy of the Sciences* 1988; 78: 59-68.
[6] Waterson, R.C. The insane in Massachusetts. *Christian Examiner* 1843; 33: 338-352. Howe is quoted in Jarvis, E. Statistics of insanity in the United States. *Boston Medical and Surgical Journal* 1843; 27: 281-282.
[7] Von Korff, M, Nestadt, G, Romanoski, A, et al. Prevalence of treated and untreated DSM-III schizophrenia. *Journal of Nervous and Mental Disease* 1985; 73: 577-581. Narrow, WE. Mental health service use by Americans with severe mental illnesses. *Social Psychiatric Epidemiology* 2000; 35: 147-155. Vanelli, M, Burstein, P, & Cramer, J. Refill patterns of atypical and conventional antipsychotic medications at a national retail pharmacy chain. *Psychiatric Services* 2001; 52: 1248-1250. Oflson, M, Marcus, S, & Doshi, J. Continuity of care after inpatient discharge of patients with schizophrenia in the Medicaid program: A retrospective longitudinal cohort analysis. *Journal of Clinical Psychiatry* 2010; 71: 831-838. Kessler, R, Berglund, P, Bruce, M, et al. The prevalence and correlates of untreated serious mental illness. *Health Services Research* 2001; 36: 987-1007.
[8] Nelson, L. Impact of the state budget crisis and treatment gap on the public substance abuse and mental health system. Congressional staff briefing, National Association of State Mental Health Program Directors, March 22, 2012.
[9] Owens, P, Mutter, R, & Stocks, C. Mental health and substance abuse-related emergency department visits among adults, 2007. HCUP Statistical Brief #92. July 2010. Rockville, MD: Agency for Healthcare Research and Quality.
[10] Glover, R.W., Miller, J.E., Sadowski, S.R. Proceedings on the state budget crisis and the behavioral health treatment gap: The impact on public substance abuse and mental health systems. Washington, D.C.: NASMHPD, March 22, 2012.
[11] Timmins, A. State hospital wait list hits historic high. *Concord Monitor*, March 17, 2012.
[12] Stewart, N. Mental health patients flooding local ERs. *Patriot Ledger*, March 30, 2011.
[13] Fitzgerald, B. NJ hospital responds to growing psychiatric needs of geriatric patients. *NJ Spotlight*, February 14, 2012.
[14] Brown, K. Fewer beds at S.C. psychiatric hospitals mean more mentally ill patients end up in emergency rooms. *Anderson Independent Mail*, April 2, 2011.
[15] Wilson, S. More inpatient beds needed for mentally ill. Retrieved from http://www.fox8live.com/news/local/story/More-inpatient-beds-needed-for-mentally-ill/QajbULlmH0yypaqefKWRdA.cspx?rss=2085 on November 8, 2011.
[16] San Miguel, M. More mental health patients. Retrieved from http://www.kfyrtv.com/News_Stories.asp?news=57677 on June 15, 2012.
[17] Reinhart, M. Mental health cuts' toll debated. *The Arizona Republic*, September 21, 2011.

[18] Gorman, A. ERs are becoming costly destinations for mentally disturbed patients. *Los Angeles Times,* September 5, 2011.
[19] Personal communication, South Carolina Hospital Association, March 4, 2009.
[20] Retrieved from http://www.treatmentadvocacycenter.org on June 21, 2012.
[21] Mental health, suicide-related calls to police increasing. Retrieved from http://www.10news.com/news/31189109/detail.html on June 13, 2012.
[22] Conrad, C. Incidents involving mentally ill increase. *Medford Mail Tribune*, May 2, 2011.
[23] Sheehran, R. Shuttling patients burdens deputies. *News and Observer*, January 15, 2010.
[24] Malone, P. Mentally ill inmates pose big problems, sheriffs say. *Pueblo Chieftain*, September 22, 2007.
[25] NAMI E-news, Volume 01-20, September 22, 2000.
[26] Biasotti, M. The impact of mental illness on law enforcement resources. Treadment Advocacy Center, December 2011.
[27] Scheibe, J. Injuries drop for officers with Tasers, officials say. *Ventura County Star*, March 27, 2008
[28] Goldston, L. Former cops changing way Santa Clara County deals with mentally ill in crisis. *Mercury News*, November 4, 2010.
[29] Buford, T. Questions linger about man's death in police custody. *Providence Journal,* July 1, 2008.
[30] Gibas, K. Syracuse police say encounters with emotionally disturbed people are on the rise. Retrieved from http://centralny.ynn.com/content/top_stories/567616/syracuse-police-say-encounters-with-emotionally-disturbed-people-are-on-the-rise/ on December 19, 2011.
[31] Are some police shootings linked to lapse in mental health care? Retrieved from http://www.wmur.com/r/29270964/detail.html on September 22, 2011.
[32]Proctor, J. Database to warn cops of mental illness red flags. *Police One*, May 8, 2012.
[33] Torrey, E.F, Kennard A. D., Eslinger D. & et al. More mentally ill persons are in jails and prisons than hospitals: A survey of the states. Arlington, VA: Treatment Advocacy Center, 2010.
[34] James, D.J., & Glaze, L.E. Mental health problems of prison and jail inmates. Washington D.C., U.S. Department of Justice, 2006.
[35] Mentally ill need treatment, not jail. Retrieved from http://www.wwlp.com/dpp/news/politics/state_politics/Mentally-ill-need-treatment-not-jail on February 2, 2012.
[36] Monsewicz, L. Stark County Jail can be a dangerous place. *Canton Rep*, October 19, 2011.
[37] Hermes, A. Boone County struggles to meet mental health care needs for inmates. *Athens Banner-Herald*, December 17, 2007.
[38]Gross, C. Rikers Island struggles with record mental illness numbers. Retrieved from http://www.ny1.com/content/top_stories/148187/rikers-island-struggles-with-record-mental-illness-numbers on September 30, 2011.
[39] Avant, L. Mentally ill crowding jails, officials say. *Tuscaloosa News,* April 19, 2012.
[40] Grissom, B. Sheriff's worry over proposed mental health cuts. *The Texas Tribune*, December 16, 2010.
[41] Geary, M. Mentally-ill inmates fill black hawk county jail. *Eastern Iowa News Now*, April 3, 2011.
[42] Mitchell, J. Jail no place for mentally ill, advocates say. *Clarion Ledger,* January 31, 2011.
[43] Stukey, K. Mental illness takes toll on law enforcement system. Retrieved from http://www.krtv.com/news/mental-illness-takes-toll-on-law-enforcement-system/ on May 19, 2012.
[44] Simmons, A. Prisons see more inmates requiring mental health care. *Gwinnett Daily Post*, July 30, 2006.
[45] Grunberg, E, Klinger, B.I., & Grumet, B. Homicide and deinstitutionalization of the mentally ill. *American Journal of Psychiatry* 1977; 134: 685-87; Grunberg, E, Klinger, B.I., & Grumet, B. Homicide and community-based psychiatry. *Journal of Nervous and Mental Disease* 1978; 166: 868-74.
[46] Wilcox, D.E. The relationship of mental illness to homicide. *American Journal of Forensic Psychiatry* 1985; 6: 3-15.
[47] Matejkowski, J.C., Cullen, S.W., & Solomon, P.L. Characteristics of persons with severe mental illness who have been incarcerated for murder. *Journal of the American Academy of Psychiatry and the Law* 2008; 36: 74-86.
[48] Markowitz, F.E. Psychiatric hospital capacity, homelessness, and crime and arrest rates. *Criminology* 2006; 44: 45-72.
[49] Segal, S.P. Civil commitment law, mental health services, and U.S. homicide rates. *Social Psychiatry and Psychiatric Epidemiology*, n.pag. Retrieved on June 26, 2012 from http://www.springerlink.com/content/j863135828x42626/?MUD=MP, doi:10.1007/s00127-011-0450-0.

[50] Treatment Advocacy Center website. Victimization: One of the consequences of failing to treatment individuals with severe psychiatric disorders. April 2007.
[51] Treatment Newsome, B, & Bencel, L. Mental health troubles dog the chronically homeless. *Colorado Springs Gazette*, January 6, 2009.
[52] Lichtblau, E. Killings of homeless rise to highest level in a decade. *New York Times*, August 19, 2010.
[53] Poulin, S.R., Maguire, M, Metraux., Culhane D. Service use and costs for persons experiencing chronic homelessness in Philadelphia: A population-based study. Psychiatric Services 2010, 61: 1093-1098.
[54] Okin, R. The future of state hospitals: Should there be one? *American Journal of Psychiatry* 1983; 140: 577-581.
[55] Lamb, R, & Peele, R. The need for continuing asylum and sanctuary. *Hospital and Community Psychiatry* 1984; 35: 798-800.
[56] Olfson, M, & Mechanic, D. Mental disorders in public, private nonprofit, and proprietary general hospitals. *American Journal of Psychiatry* 1996; 153: 1613-1619.
[57] Gellar, J.L., Shore, H, Grudzinskas, A.J., & Appelbaum, P.S. Against the grain? A reasoned argument for not closing a state hospital. *Psychiatric Quarterly* 2005, 76: 177-194.
[58] Bubolz, T, Emerson, C, & Skinner, J. State spending on dual eligible under age 65 shows variations, evidence of cost shifting from Medicaid to Medicare. *Health Affairs* 2012; 31: 939-947.
[59] Johnson, C.K. Nursing home patients, endangered by mentally ill. *Pottsdown [PA] Mercury*, May 4, 2009.
[60] Pear, R. Report finds violations at most nursing homes. *New York Times*, September 30, 2008.
[61] Bender, E. Community treatment more humane, reduces criminal justice costs. *Psychiatric News* 2003; 38: 28; Miller, C.M., & Fantz, A. Special “psych” jails planned. *Miami Herald*, November 15, 2007.
[62] O’Malley, J. $15 million tab for the homeless. *Reno Gazette Journal*, December 12, 2007.
[63] Associated Press. 9 patients made nearly 2,700 ER visits in Texas. April 1, 2009.
[64] Metsch, S. Tinley Park center’s closing again ripped; shutdown set for July 1. *Southtown Star*, April 10, 2012.
[65] New York State Office of Mental Health press release on the new residential unit at Marcy Correctional Facility, December 15, 2009.
[66] Harcourt B.E. An institutionalization effect: The impact of mental hospitalization and imprisonment on homicide in the United States, 1934-2001. Journal of Legal Studies 2011, 40:39-83.

Table 1. Loss of Public Psychiatric Beds between 2005 and 2010

State	Number of beds 2010	Number of beds 2005	Number of beds lost or gained	Percent of beds lost or gained	2010 beds/ 100,000 total pop.	Relation to target beds per capita	State ranking per capita (highest to lowest)
Alabama	1,119	1,001	118	+ 12%	23.4	49%	5
Alaska	52	74	-22	- 30%	7.3	16%	45
Arizona	260	338	-78	- 23%	4.1	8%	49
Arkansas	203	184	19	+ 10%	7.0	14%	46
California	5,283	6,285	-1,002	- 16%	14.2	29%	22
Colorado	520	776	-256	- 33%	10.3	23%	35
Connecticut	741	889	-148	- 17%	20.7	43%	10
Delaware	209	281	-72	- 26%	23.3	51%	6
Florida	3,321	2,101	1,220	+ 58%	17.7	38%	18
Georgia	1,187	1,635	-448	- 27%	12.3	27%	26
Hawaii	182	171	11	+ 6%	13.4	29%	25
Idaho	155	157	-2	- 1%	9.9	23%	36
Illinois	1,429	1,821	-392	- 22%	11.1	23%	29
Indiana	908	1,201	-293	- 24%	14.0	29%	24
Iowa	149	239	-90	- 38%	4.9	10%	48
Kansas	705	594	111	+ 19%	24.7	51%	4
Kentucky	446	646	-200	- 31%	10.3	21%	32-35
Louisiana	903	914	-11	- 1%	19.9	40%	12
Maine	137	166	-29	- 17%	10.3	21%	32-35
Maryland	1,058	1,203	-145	- 12%	18.3	38%	15-16
Massachusetts	696	1,015	-319	- 31%	10.6	22%	31
Michigan	530	1,006	-476	- 47%	5.4	11%	47
Minnesota	206	464	-258	- 56%	3.9	8%	50
Mississippi	1,156	1,442	-286	- 20%	39.0	79%	1
Missouri	1,332	1,238	94	+ 8%	22.2	46%	8
Montana	194	194	0	0%	19.6	42%	13
Nebraska	337	361	-24	- 7%	18.5	38%	14
Nevada	302	119	183	+153%	11.2	25%	27-28
New Hampshire	189	224	-35	- 16%	14.4	29%	21
New Jersey	1,922	2,820	-898	- 32%	21.9	44%	9
New Mexico	171	425	-254	- 60%	8.3	18%	42-43
New York	4,958	5,269	-311	- 6%	25.6	52%	3
North Carolina	761	1,461	-700	- 48%	8.0	18%	44
North Dakota	150	164	-14	- 9%	22.3	48%	7
Ohio	1,058	1,210	-152	- 13%	9.2	18%	39-40

Oklahoma	401	386	15	+ 4%	10.7	23%	30
Oregon	700	691	9	+ 1%	18.3	39%	15-16
Pennsylvania	1,850	2,349	-499	- 21%	14.6	30%	20
Rhode Island	108	134	-26	- 19%	10.3	20%	32-35
South Carolina	426	443	-17	- 4%	9.2	20%	39
South Dakota	238	311	-73	- 23%	29.2	62%	2
Tennessee	616	1,068	-452	- 42%	9.7	21%	38
Texas	2,129	2,730	-601	- 22%	8.5	19%	41
Utah	310	329	-19	- 6%	11.2	26%	27-28
Vermont	52	55	-3	- 5%	8.3	17%	42-43
Virginia	1,407	1,659	-252	- 15%	17.6	37%	19
Washington	1,220	1,170	50	+ 4%	18.1	34%	17
West Virginia	259	258	1	0%	14.0	29%	23-24
Wisconsin	558	716	-158	- 22%	9.8	20%	37
Wyoming	115	122	-7	- 6%	20.4	45%	11
TOTALS	**43,318**	**50,509**	**-7,191**		**14.1**		

Table 2. Patients in Public Psychiatric Hospitals per Total Population

Year	Number of patients in public psychiatric hospitals*	Rate per 100,000 population
1831	150	1.0
1840	471	3.0
1850	3,275	14.1
1860	7,696	24.4
1870	14,605	36.6
1881	36,780	71.4
1896	69,445	110.1
1903	144,653	179.4
1910	180,247	195.1
1923	255,245	228.0
1931	318,821	257.0
1940	423,445	320.9
1950	512,501	338.9
1960	535,540	297.6
1970	337,619	165.7
1980	135,134	58.3
1990	92,059	36.9
2000	54,836	18.5
2010	43,318	14.0

*Data for 1831-1980 taken from Stroup, A.L., & Manderscheid, R.W. The development of the state mental hospital system in the United States: 1840-1890, *Journal of the Washington Academy of the Sciences*,1988;78: 59-68.

Table 3. Funding Sources for the Treatment of Psychiatric Patients in State Hospitals and Community Treatment

	State Hospital	Community Treatment
State funds (include state Medicaid match)	79%	55%
Federal funds (mostly Medicaid and Medicare)	16%	37%
Local (county and city)	1%	3%
Other	4%	5%

Source: SAMHSA, Funding and Characteristics of State Mental Health Agencies, 2010. Rockville, MD, Substance Abuse and Mental Health Services Administration, 2011, pp.95 and 119.

Treatment Advocacy Center
TreatmentAdvocacyCenter.org
Twitter: twitter.com/treatmentadvctr
Facebook: facebook.com/TreatmentAdvocacyCtr