



## Psychiatric Bed Supply Need Per Capita

### SUMMARY

The United States is in the midst of a psychiatric bed shortage that worsens every year. By early 2016, the practice of closing state mental hospitals, often called “deinstitutionalization,” had eliminated more than 96% of the last-resort beds that existed in the mid-1950s; after a brief period of expansion in the 1990s, private hospitals, too, are shrinking their psychiatric inpatient capacity. The consequences are many and far-ranging, yet most states continue to decrease the number of state hospital beds they supply per capita and, because of financial disincentives, private and other inpatient-service providers are not stepping in to replace those that are lost. Despite widespread consensus that “more beds are needed,” neither the United States nor its individual states have conducted research to establish evidence-based bed supply ranges. The Treatment Advocacy Center in 2008 published the most commonly cited bed target in the United States — 40 to 60 beds per 100,000 people — but no official effort has been made to validate or revise this number. New computer modeling holds promise for developing evidence-based targets in the future.

---

### BACKGROUND

Although most people with a diagnosed mental illness never require hospitalization, and many with the most serious conditions can be successfully treated in the community, inpatient psychiatric treatment remains an essential component of a complete mental healthcare continuum. “While community and hospital-at-home teams can be effective for many (but not all) patients, inpatient care is essential when an acute episode is accompanied by potentially high risks of suicide or violence,” Stephen Allison and a team of international colleagues write in the September issue of *Australian & New Zealand Journal of Psychiatry*. Psychiatric units in general hospitals and private psychiatric hospitals occasionally admit individuals who are severely ill, but most do not have the resources to provide intensive psychiatric care. Additionally, because individuals with the most severe and chronic mental illnesses experience high rates of unemployment, poverty and homelessness, they often do not have personal resources or health insurance to pay for their hospitalization, which discourages hospitals from admitting them. In 2013, uninsured individuals with schizophrenia or bipolar disorder were less likely than any other psychiatric patient category to receive hospital care.

As La and colleagues write in their 2015 report on psychiatric bed supply and demand in North Carolina, “state psychiatric hospitals are the ultimate safety net for people with mental illness.” Yet the number of available psychiatric beds grows smaller every year. In 1955, there were an estimated 559,000 state and county psychiatric beds, or nearly 340 beds per 100,000 people. By early 2016, the state hospital bed population had dropped more than 96%, to 37,679 beds, or 11.7 beds per 100,000 people. Of these, nearly half were occupied by criminal offenders with serious mental illness; barely six beds per 100,000 people remained for individuals with acute or chronic psychiatric disease who had not committed crimes.



## Psychiatric Bed Supply Need Per Capita

Allison, S., Bastiampillai, T., Fuller, D. A., Gupta, A., and Sherry, K. W. Chan. (2016). The Royal Australian and New Zealand College of Psychiatrists guidelines: Acute inpatient care for schizophrenia. *Australian & New Zealand Journal of Psychiatry*.

La, E. M., Lich, K. H., Wells, R., Ellis, A. R., Swartz, M. S., Zhu, R., & Morrissey, J. P. (2015). Increasing access to state psychiatric hospital beds: Exploring supply-side solutions. *Psychiatric Services*, 67, 523–528. Retrieved from <http://ps.psychiatryonline.org/doi/abs/10.1176/appi.ps.201400570>.

Parks, J., & Radke, A. (Eds.). (2014). The vital role of state psychiatric hospitals. Alexandria, VA: National Association of State Mental Health Program Directors. Retrieved from [http://www.nasmhpd.org/sites/default/files/The%20Vital%20Role%20of%20State%20Psychiatric%20HospitalsTechnical%20Report\\_July\\_2014.pdf](http://www.nasmhpd.org/sites/default/files/The%20Vital%20Role%20of%20State%20Psychiatric%20HospitalsTechnical%20Report_July_2014.pdf)

Agency for Healthcare Research and Quality. National statistics on mental health hospitalizations. US Department of Health & Human Services.

Fuller, D. A., Sinclair, E., Geller, J., Quanbeck, C., Snook, J. (2016). *Going, going, gone: Trends and consequences of eliminating state psychiatric beds, 2016*. Arlington, VA: Treatment Advocacy Center.

## CONSEQUENCES

When the safety net shrinks, the consequences appear to be many and far-ranging:

- Emergency rooms overwhelmed by people in psychiatric crisis, resulting in critically ill psychiatric patients waiting days and even weeks to be admitted to a hospital
- Mentally ill inmates who cannot be tried because they are unstable but who cannot be treated because there is no bed available for them
- Ultra-short hospital stays for patients who do get admitted in order to turn beds over
- Acutely ill individuals left untreated to suffer consequences that are often dire and sometimes fatal to themselves or others.

Despite the impact and cost of such consequences — and the growing outcry they have provoked from a variety of constituencies — evidence-based guidelines for policymakers and public health officials to use in establishing and maintaining a safe minimum number of psychiatric beds do not exist. Informal consensus estimates and localized anecdotes serve in their place. A team of researchers in North Carolina has developed a computer-based alternative that holds promise but has not been applied to practice.

American College of Emergency Physicians. (n.d.). “Psychiatric Emergencies.” Retrieved from [http://newsroom.acep.org/fact\\_sheets?item=30093](http://newsroom.acep.org/fact_sheets?item=30093).

Fuller, D. A., Sinclair, E., Geller, J., Quanbeck, C., Snook, J. (2016). *Going, going, gone: Trends and consequences of eliminating state psychiatric beds, 2016*. Arlington, VA: Treatment Advocacy Center.

Allison, S., Bastiampillai, T., Fuller, D. A., Gupta, A., and Sherry, K. W. Chan. (2016). The Royal Australian and New Zealand College of Psychiatrists guidelines: Acute inpatient care for schizophrenia. *Australian & New Zealand Journal of Psychiatry*.



## CONSENSUS BED SUPPLY RANGE

In 2008, the Treatment Advocacy Center published a study that included a safe minimum number of public beds for adequate psychiatric services per 100,000 populations. Estimates were solicited “from 15 experts on psychiatric care in the US, [including] individuals who have run private and state psychiatric hospitals, county mental health programs, and experts on serious psychiatric disorders.” Participating experts were asked to estimate beds for children and forensic (criminal justice-involved) patients, as well as civil, adult patients. An estimated range of 40-60 public psychiatric beds per 100,000 people emerged, with a consensus around 50 beds per 100,000 population. Across the 34-member Organization for Economic Cooperation and Development (OECD), to which the United States belongs, the median number of psychiatric beds per 100,000 people in 2014 was 68 beds. This suggests that international policy and practice are operating slightly above the upper end of the consensus range.

Torrey, E. F., Entsminger, K., Geller, J., Stanley, J., Jaffe, D. J. (2008). *The shortage of public hospital beds for mentally ill persons*. Arlington, VA: Treatment Advocacy Center.

Organization for Economic Cooperation and Development. (2013). *Health at a glance 2013: Hospital beds by function of health care, 2011 (or nearest year)*. Paris: OECD Publishing. Retrieved from [http://www.keepeek.com/Digital-AssetManagement/oe.cd/social-issues-migration-health/health-at-a-glance-2013/hospital-beds-by-function-of-health-care-2011-or-nearest-year\\_health\\_glance-2013-graph72-en#page2](http://www.keepeek.com/Digital-AssetManagement/oe.cd/social-issues-migration-health/health-at-a-glance-2013/hospital-beds-by-function-of-health-care-2011-or-nearest-year_health_glance-2013-graph72-en#page2)

## EVIDENCE-BASED BED SUPPLY RANGES

Of the many social and personal conditions reported to correlate with psychiatric bed shortages, emergency room “boarding” of psychiatric patients because no bed is available for them and jail/prison wait-listing of mentally ill inmates for the same reason serve as the most direct indicators of how well the current psychiatric bed population is meeting demand. In that context, the American College of Emergency Physicians reports that ER boarding of psychiatric patients is now virtually universal in the United States, with some patients waiting weeks for hospital admission. At the same time, a majority of the states report maintaining wait lists for forensic beds, with some inmates waiting weeks for admission to a bed. While factors such as the adequacy of community-based services that avert the arrival of mentally ill patients in the ER or inmates in the jail, bed shortages are clearly implicated. When a California county simultaneously halved the number of its psychiatric beds and closed its outpatient stabilization clinic, the number of visits to the local medical center for psychiatric consultation tripled, and ER boarding times skyrocketed.

These reports provide evidence that the current mental health bed population is not sufficient but continue to leave unanswered the question of how many beds would be necessary to better align supply with demand.

A team of researchers at the University of North Carolina (UNC) and Duke University in 2015 reported on a computer modeling-based approach to answering the question. La and colleagues analyzed emergency room waits and hospital admissions for a 25-county region of North Carolina that is home to a population of 3.4 million people. The region’s total psychiatric bed capacity consisted of 398 beds in a state hospital, 494 adult psychiatric beds in 14 general or private psychiatric hospitals, and 66 non-hospital crisis beds in five facilities. Combined, this totaled 958 psychiatric beds, or approximately 28 adult beds per 100,000 population. The



average wait time in an emergency room for one of these beds at the time of the study (2010 to 2012) was 3.3 days.

The authors used a computer simulation program to model different scenarios to ascertain how many additional psychiatric beds would be needed to achieve an average preadmission wait time of less than one day. The answer was 356 additional beds (total bed capacity of 1,314 patients) or about 39 adult beds per 100,000 population — approximately the lower end of the consensus range. This calculation included only adult patients (ages 18 – 64) and assumed a median duration of stay in the state hospital of 20 days, which was typical in the hospital under study at that time. This calculation did not include psychiatric beds for children or for forensic patients, who usually stay for extended period. La and colleagues noted other measures can be taken to decrease the need for psychiatric beds but their impact was outside the scope of the study. Such measures include assertive community treatment and the use of assisted outpatient treatment (AOT) to ensure medication adherence.

In the state of South Australia (SA), public officials have essentially created a real-time test of the computer modeling project, adding psychiatric inpatient beds with the express purpose of reducing emergency room wait times for psychiatric patients. In October 2014, 284 psychiatric patients in the state were reported held in SA emergency rooms for 24 hours or more before admission to a mental health bed. By December 2015, that number was reduced nearly 75%, to 76 patients, and the average wait time for psychiatric hospitalism was cut in half. To reach that level, the state added 30 new acute care beds (typically used for patients with psychotic symptoms) and six new forensic beds. An additional four forensic beds were scheduled to reduce the time mentally ill offenders waited behind bars for a bed.

American College of Emergency Physicians. (n.d.). Psychiatric emergencies [Fact sheet]. Retrieved from [http://newsroom.acep.org/fact\\_sheets?item=30093](http://newsroom.acep.org/fact_sheets?item=30093)

American College of Emergency Physicians. (2014.) Care of the psychiatric patient in the emergency department.

Nesper, A. C., Morris, B. A., Scher, L. M., & Holmes, J. F. (2015). Effect of decreasing county mental health services on the emergency department. *Annals of Emergency Medicine*.

Torrey, E.F. (2008). *The Insanity Offense*. New York: W.W. Norton.

Stettin, B. (2014). An advocate's observations on research concerning assisted outpatient treatment. *Current Psychiatry Reports*.

Health Management Associates. (2015). *State and community considerations for demonstrating the cost effectiveness of AOT services*. Retrieved from <http://tacreports.org/storage/documents/aot-cost-study.pdf>

Siebert, B. (2016, February 12). Mental health emergency room waiting times halved. *InDaily*. Retrieved from <http://indaily.com.au/news/2016/02/12/mental-health-emergency-room-waiting-times-halved/>



## CONCLUSION

Psychiatric hospitals represent only one point on a care continuum, but they are a critical one for individuals in psychiatric crisis or otherwise in need of intensive services. As the Treatment Advocacy Center reported in *Going, Going, Gone*, its 2016 state survey of trends in hospital bed population, “With lawsuits and court orders proliferating over illegal boarding of psychiatric patients in hospital ERs and bed waits in jails, there is little doubt the United States needs more psychiatric beds to meet inpatient demand.” The report’s recommendation remains relevant: “In recognition of the national scope and consequences of the bed shortage and the need for baseline data nationwide and tools for setting targets,” the federal government should assess hospital bed need by type, facility and location. . . .”

Fuller, D. A., Sinclair, E., Geller, J., Quanbeck, C., Snook, J. (2016). *Going, going, gone: Trends and consequences of eliminating state psychiatric beds, 2016*. Arlington, VA: Treatment Advocacy Center.