VIEWPOINT

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Estimating Psychiatric Bed Shortages in the US

The US is confronting an urgent and worsening shortage of psychiatric beds. For example, in Massachusetts, hundreds of patients have been wait-listed for acute inpatient psychiatric beds.1 In California, well over a thousand individuals deemed mentally incompetent to stand trial have been housed in county jails, awaiting placement at psychiatric facilities.2 The COVID-19 pandemic has exacerbated this dynamic, creating an epidemic within the broader pandemic.3 The percentage of the US populace reporting serious psychological distress—a marker of need for inpatient psychiatric services—has risen from 4% in 2018 to 13% in 2020.4 Meanwhile, psychiatric facilities have experienced disrupted continuity of operations and reduced bed capacity—for example, by converting double-occupancy rooms to single-occupancy rooms to reduce viral spread.

A Renewed Discourse on Psychiatric Beds

While the COVID-19 pandemic has shed light on the shortcomings of psychiatric bed infrastructure, the decline in bed capacity has progressed steadily for more than 50 years. This progression was driven, in part, by declining lengths of stays at psychiatric facilities, as well as the promise of community-based care that appropriately and humanely responded to patient needs. In practice, however, availability of community mental health services has remained lacking in many quarters.

Today, there is renewed discourse on the urgency of expanding psychiatric beds. States ranging from New York to Oregon to Illinois have required that health care systems offer services consonant with guidelines—such as the Level of Care Utilization System—which operationally defines appropriate care based on individuals’ level of need. Mental health parity legislation and court cases, such as Wit v United Behavioral Health, have provided further leverage to compel insurers to pay for services throughout this continuum.

The Consolidated Appropriations Act of 20215 ratified $4.25 billion to state investments in psychiatric services. Legislation that is currently being deliberated in Congress could add further provisions. Meanwhile, states have begun passing legislation to substantively overhaul their mental health systems, raising real promise about the potential to expand psychiatric beds.

A 3-Stage Approach to Estimation

In response to this conundrum, we propose that states and counties assume a staged approach, one that accounts for information uncertainty by triangulating multiple sources of information. As a starting point (stage 1), states should generate an inventory of current bed occupancy rates, average length of stay, wait list volume, transfer requests to higher and lower levels of care, and the types of patients that facilities are unable to place. By gathering this information, states should be able to identify main bottlenecks and estimate demand for psychiatric beds at each level of care. This approach has been articulated by O’Reilly and colleagues6 as an “observed outcomes” approach; health systems can observe how the present infrastructure is resulting in a specific array of outcomes, such as wait times or emergency department boarding volume, modify infrastructure based on these observations, and then reobserve outcomes.

A complementary, normative approach (stage 2) should focus on accumulating epidemiologic and treatment facilities. In fact, what even counts as a psychiatric bed is a topic of debate.6 A root cause of this paralysis in estimating bed shortages is that states often have bottlenecks at multiple levels. For example, an acute inpatient hospital may be at full-bed occupancy because it is unable to transfer patients to a lower level of care that would be more appropriate; as a result, beds at this lower level of care are also operating at capacity. In this context, it may be imprudent to expand acute inpatient hospital beds when the source of the bottleneck pertains to bed capacity at the lower level.

A second issue is that individuals with certain backgrounds or needs are remarkably hard to place in psychiatric beds, owing to liabilities and resource constraints. These populations include individuals with a history of violent behavior, a criminal conviction of arson, or comorbid dementia. In short, theoretical bed capacity does not always (or often) align with practical bed capacity.

A third issue is that demand may be a weak proxy for need, particularly at lower levels of care. Patients who need services may refrain from seeking care because of stigma, lack of insurance, or an inability to vocalize their needs. This raises a difficult question: should systems focus on addressing the gap between capacity and demand, or between capacity and need as indicated by epidemiological data? If the latter, then another issue arises: we have limited epidemiological information on the relationship between prevalence of mental health conditions and need for specific types of psychiatric beds.

Challenges in Estimating Psychiatric Bed Shortages

What remains worrisome is that there are no standardized approaches or best practices for determining psychiatric bed need. Central to this shortcoming is the fact that not all psychiatric beds are alike; they are situated in facilities that represent distinct levels of care—ranging from acute inpatient hospitals to residential facilities. In fact, what even counts as a psychiatric bed is a topic of debate.6 A root cause of this paralysis in estimating bed shortages is that states often have bottlenecks at multiple levels. For example, an acute inpatient hospital may be at full-bed occupancy because it is unable to transfer patients to a lower level of care that would be more appropriate; as a result, beds at this lower level of care are also operating at capacity. In this context, it may be imprudent to expand acute inpatient hospital beds when the source of the bottleneck pertains to bed capacity at the lower level.

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A complementary, normative approach (stage 2) should focus on accumulating epidemiologic and
demographic data to recalculate information from stage 1. Despite the limitations of epidemiologic information described above, states could nevertheless inspect relationships between county-level demographic composition, such as sex, race and ethnicity, age distribution, and levels of psychological distress, that correlate with need for inpatient services. This should yield insights about the alignment (or misalignment) of demand and need.

A third approach—which, historically, has been the most widely adopted—is to convene experts, including epidemiologists, methodologists, and clinicians, to deliberate evidence and theoretical considerations (stage 3). Today, the most cited estimate of psychiatric bed need in the US is 40 to 60 beds per 100,000 population, based on a panel convened by the Treatment Advocacy Center in 2008. However, this estimate does not indicate how to allocate beds among different types of facilities and may be more or less appropriate in settings with alternative models of care. From our vantage point, convening experts should serve 2 functions: to review estimates from stages 1 and 2 to provide feedback, and to propose a conceptually based alternative estimate for psychiatric bed need that can be used as a comparator for stage 1 and stage 2 estimates.

Recommendations for the Field
All 3 approaches have shortcomings, not least that they yield static estimates in response to dynamic circumstances. However, as states and counties build infrastructure, they should iteratively reassess psychiatric bed needs to fine-tune their efforts. Specifically, when a shortage of beds is identified, governments should consider several questions to guide investments, including: What level or levels of care are leading to the largest bottlenecks? Are specific types of infrastructure required for hard-to-place populations? In both absolute and relative terms (ie, number of beds and number of beds per 100,000 population), where is the need greatest?

The credibility of these efforts will, necessarily, be tied to the quality and precision of underlying inputs. Without deliberate effort to collate facility-level estimates on occupancy rates, length of stay, wait list volume, and transfer requests, any undertaking will be prone to estimation error. We therefore recommend conducting a survey of facilities as a starting point. Furthermore, those considering implementation might look to past large-scale efforts in settings such as Queensland, Australia, or domestic efforts underway in California. Though the task may seem daunting, we believe there is promise in a data-driven approach that inspects psychiatric bed shortages from multiple vantage points in an ongoing manner.

REFERENCES