



Specialty Psychiatric Services in US Emergency Departments and General Hospitals: Results From a Nationwide Survey

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Abstract

Objective: To explore the handling of psychiatric patients in medical hospitals and emergency departments (EDs) as well as hospital characteristics associated with the availability of psychiatric services in these settings.

Methods: From October 1, 2017, to April 1, 2018, a telephone survey regarding the presence and nature of psychiatric services was attempted among all US registered Medicare hospitals.

Results: Of the included 4812 US hospitals, 2394 (50%) were surveyed. Of these hospitals, 1108 (46%) have some psychiatric services available, either in medical EDs or through psychiatric consultation on general medical inpatient wards. If medical ED patients with active psychiatric issues need admission, 59% of hospitals transfer the patient to a different hospital and 28% admit the patient to a medical ward. Exploration by logistic regression analysis of the association of selected variables and available psychiatric expertise suggested that larger hospitals, nonprofit services, or hospitals in urban settings were more likely to have psychiatrists on staff or available for consultation.

Conclusion: Despite the growing number of psychiatric patients seeking help in medical EDs and general hospitals, more than 50% of the EDs and general hospitals lack psychiatric services. These results suggest that accessibility to psychiatric care in medical settings requires improvement.

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A large proportion (15% to 50%) of medical inpatients have comorbid psychiatric illness.¹⁻³ Moreover, medical emergency department (ED) visits are often related to psychiatric comorbidity, and a systematic review showed that 4% of all medical ED visits are primarily due to behavioral health disorders.⁴ These figures are probably mediated by the general scarcity of psychiatric services as well as by the sharp decline in psychiatric beds since the 1950s.^{5,6} Psychiatric patients regularly wait for hours or days in an ED for psychiatric consultation, medical admission, or transfer to another hospital.⁷ While waiting in EDs, psychiatric patients

often receive no dedicated psychiatric care other than urgent medications for agitation.⁸ Integrated behavioral health and psychiatric interventions in medical settings have the potential to improve the poor medical and psychiatric outcomes of these patients and to reduce their health care use and associated costs.^{3,9,10} It is, however, not uncommon for general medical hospitals to lack psychiatric expertise.¹¹ Previous studies indicate differences in the availability of psychiatric services in rural and urban areas.¹² The magnitude of these differences and the manner in which US general medical hospitals meet the psychiatric care needs of ED patients and

inpatients are not known.¹² This study aimed to explore the handling of psychiatric patients in medical hospitals and EDs as well as hospital characteristics associated with the availability of psychiatric services in these settings.

METHODS

This exploratory study uses the data of a previous survey that examined the presence of inpatient integrated medicine and psychiatry units in US hospitals.¹³ With this aim, a list of US medical hospitals was obtained,¹⁴ and these were assigned to volunteering medical students and resident physicians to administer the survey. Per Tulane University School of Medicine's Institutional Review Board, approval was not required.

Survey Data

This survey included 7 questions (Table 1) on the handling of patients with psychiatric problems who are frequently encountered in medical hospitals and their EDs.

The aim of questions 1 and 2 was to examine whether a hospital system had a clinical inpatient unit that treated patients with both active medical and psychiatric conditions, a so-called complexity intervention unit (CIU).¹⁵ If the answer to these questions was no, the hospital was excluded as a potential CIU. Questions 3 and 4 were asked only if a hospital answered no to question 1 or 2. The aim of questions 3 and 4 was to examine how these hospitals handle patients with psychiatric morbidity. If a hospital answered yes to both questions 1 and 2, questions 5, 6, and 7 were asked. If the answer to all these questions was yes, the hospital has a CIU, and a questionnaire of more than 60 questions about the unit was sent. The data on the answers to questions 1 to 4, as shown in Table 1, are used in this study.

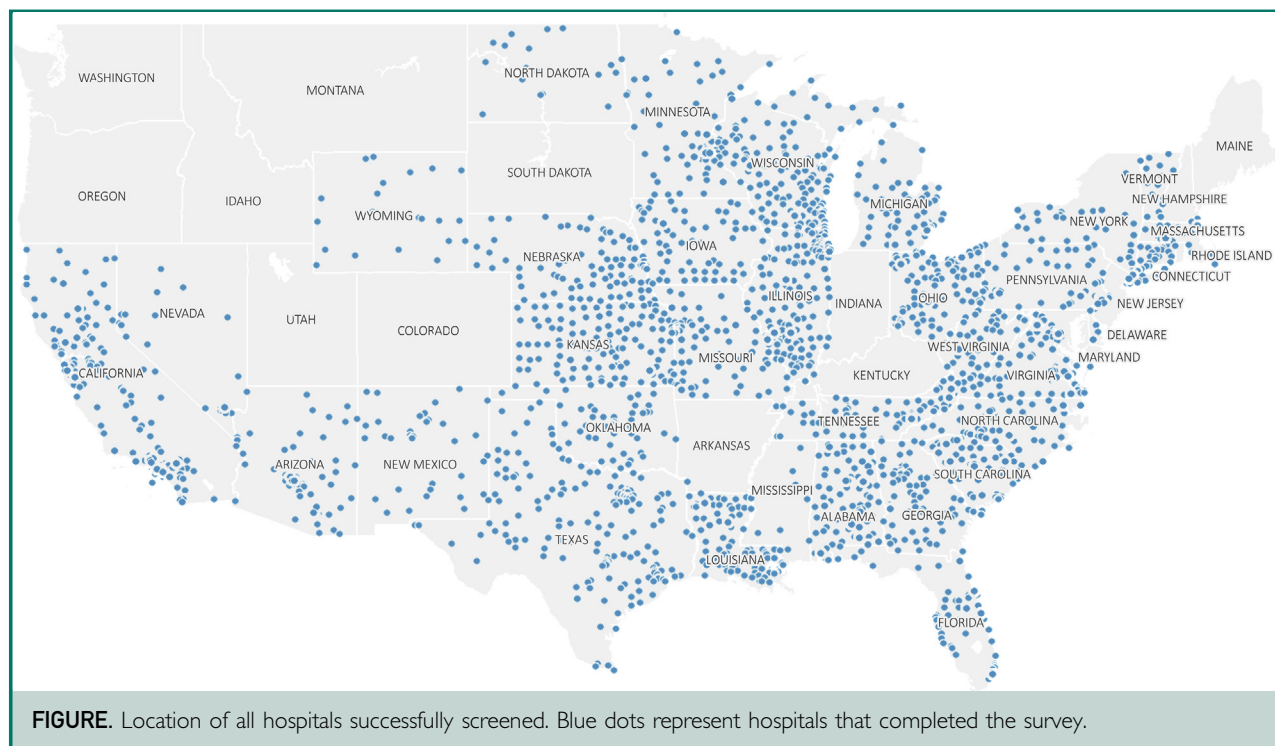
Hospital Characteristics

We used a second Medicare database¹⁶ that contained predetermined hospital characteristics about size (number of beds, number of full-time equivalents, number of days,

TABLE 1. Survey Questions on the Handling of Psychiatric Patients in Medical Hospitals and EDs

1.	Does your hospital have a psychiatrist on staff or available for consultation?	Yes/no
2.	Does your hospital have a clinical inpatient unit that treats patients with both active medical conditions and active psychiatric conditions?	Yes/no
If question 1 or 2 is no, proceed to questions 3 and 4 only.		
3.	How does your hospital handle ED patients with active psychiatric issues who need admission?	
	a. Transfer the patient to a different hospital	
	b. Admit the patient to the medical/surgical ward and manage with medical/surgical physicians	
	c. Admit the patient to the medical/surgical ward and use telepsychiatry	
	d. Other (include comments with details)	
4.	How does your hospital handle admitted patients with active psychiatric issues?	
	a. Consult psychiatrists located in the hospital	
	b. Use telepsychiatry	
	c. Transfer the patient to a different hospital	
	d. Transfer the patient to a hospital with a CIU	
	i. Which hospital?	
	e. Other (include comments with details)	
If questions 1 and 2 are yes, please answer questions 5 to 7.		
5.	Does your inpatient unit provide simultaneous medical and psychiatric care?	Yes/no
6.	Does your inpatient unit fully assess and treat both medical and psychiatric illness 24 hours a day, 7 days a week?	Yes/no
7.	Is your inpatient unit located in a general medical hospital?	Yes/no
CIU, complexity intervention unit; ED, emergency department.		

number of discharges, total costs and revenues), hospital type, hospital ownership, and area. Hospital type and area have a dependency because the term *critical access hospital* is a designation that is given by the Centers for Medicare and Medicaid Services to eligible rural hospitals. All characteristics that relate to hospital size were also highly correlated. We therefore selected the following characteristics that were included in our analyses: area (rural or urban), hospital size (number of beds), and hospital ownership (government, profit, or nonprofit). These characteristics were linked to each individual hospital on the basis of provider ID. In this second database, some of the data were missing or labeled not available; both were reported as missing values.



Data Collection

The hospitals were divided among 79 medical students and resident physicians who served as interviewers for the project. Each interviewer was assigned 60 to 80 hospitals corresponding to 1 or more states. All the hospitals in 1 state were randomly assigned, mostly to 1 or 2 students or resident physicians. The interviewers received detailed instructions on how they had to contact respondents, what they had to say, and how they had to register the data ([Supplemental Material](#), available online at <http://www.mayoclinicproceedings.org>). When an interviewer withdrew from the study, his or her allotment of hospitals was reassigned to another interviewer. These hospitals were contacted and reassigned as many times as necessary until a predefined data collection period of 6 months, from October 1, 2017, to April 1, 2018, had been reached.

Hospitals were contacted by the main telephone number provided in the Medicare database. We aimed to interview professionals who were knowledgeable on the

handling of psychiatric patients in the particular hospital. Therefore, surveys were preferably conducted with registered nurses, nurse managers, bed coordinators, physicians, or house supervisors of the hospitals. The results were compiled into an electronic data capture tool for research studies (OpenClinica).

Statistical Analyses

Descriptive statistics were used to summarize the results on availability of psychiatric services for patients with concurrent medical and psychiatric disorders. We performed multiple logistic regression analyses to evaluate potential differences between hospitals that responded and hospitals that did not respond and explored hospital characteristics associated with psychiatric expertise on staff or available for consultation. Because health service parameters in the Medicare database are highly correlated, we have selected noncorrelating characteristics. We selected hospital characteristics on area, ownership, and volume. Model fit was assessed by Nagelkerke's R^2 and the

Hosmer-Lemeshow test. For data management and statistical analysis, SPSS Statistics (version 26; IBM) was used.

RESULTS

Surveyed Hospitals

Within the predefined 6-month data collection time frame, 50% (2394) of the US hospitals were surveyed. The Figure shows the location of hospitals that participated in the screening calls. The number of screened hospitals per state is shown in the Supplemental Table (available online at <http://www.mayoclinicproceedings.org>). The remaining hospitals were not contacted, given limited availability of medical student and resident interviewer time. For 60% of the respondents, job titles were recorded. Of these, 83% had a job title that matched the inclusion criteria.

On occasion but uncommonly (4 hospitals [0.2%]), a hospital was unwilling to participate despite being reached. Table 2 shows descriptive results of all, both for hospitals that were screened and for hospitals that were not screened. The nonresponder analysis indicated that relatively smaller hospitals, hospitals in urban settings, and government-owned hospitals were slightly underrepresented in the interviews. However, unadjusted differences did not exceed 10% and are therefore unlikely to have an appreciable effect on the results of our study.

Of the 2394 interviewed hospitals, 1095 (46%) hospitals were in rural and 1260 (53%) in urban areas. For 39 (2%) hospitals, rural and urban status could not conclusively be determined because the information was not available. Of the 1344 critical access hospitals, 1238 (92%) were in a rural area, which confirms the earlier described dependence between area and critical access hospitals. The number of hospital beds ranged from 2 to 2049, with a median of 60 (25 to 188).

TABLE 2. Characteristics of the Screened and Not Screened Hospitals

	Screened	%	Not screened	%
Hospital type				
Acute care hospitals	1575	66	1794	74
Children's	54	2	45	2
Critical access hospitals	765	32	579	24
Hospital ownership				
Government, federal	25	1	20	1
Government, hospital district or authority	317	13	244	10
Government, local	221	9	186	8
Government, state	33	1	32	1
Physician	46	2	22	1
Proprietary	378	16	422	17
Tribal	3	0	6	0
Voluntary nonprofit, church	172	7	171	7
Voluntary nonprofit, other	218	9	244	10
Voluntary nonprofit, private	981	41	1071	44
Location				
Urban	1260	53	1370	57
Rural	1095	46	1003	41
NA	39	2	45	2
No. of beds				
Median (IQR)	60 (25-188)		92 (25-213)	
Q1	880	37	667	28
Q2	301	13	523	22
Q3	586	24	591	24
Q4	588	25	592	24
NA	39	2	45	2

IQR, interquartile range; NA, not available.

Psychiatric Service Availability in EDs and Medical Hospitals in the United States

As shown in Table 3, 1108 (46%) of the screened general (nonpsychiatric) hospitals had a psychiatrist on staff or available to provide consultations; 59% (n=1297) answered that they transferred ED patients with active psychiatric issues who needed psychiatric admission to a different hospital, and 473 (21%) hospitals reported that they admitted patients needing psychiatric admission to medical/surgical beds and consulted the psychiatry service. Another 5% (n=107) of the general hospitals reported admitting patients to psychiatry beds and consulting the medicine service or admitting patients to medical/surgical beds and consulting the psychiatry service. Three percent (n=73) of the hospitals admitted patients to medical/surgical

TABLE 3. Availability of Psychiatric Services in the United States and Urban and Rural Areas

No.	Area	Total yes	Rural	Urban
	Completed screening interviews	2394 (50)	1095 (46)	1260 (54)
1	Does your hospital have a psychiatrist on staff or available for consultation?	1108 (46)	330 (30)	723 (57)
2	Does your hospital have a clinical inpatient unit that treats patients with both active medical conditions and active psychiatric conditions?	175 (7)	38 (3)	135 (11)
3	How does your hospital handle emergency department patients with active psychiatric issues who need admission?	n=2215	n=1062	n=1116
	a. Transfer the patient to a different hospital	1297 (59)	756 (71)	523 (47)
	b. Admit the patient to the medical/surgical ward and consult the psychiatry service	473 (21)	140 (13)	330 (30)
	c. Admit the patient to a psychiatry bed and consult the medicine/surgery service	46 (2)	13 (1)	32 (3)
	d. Combination of b and c	107 (5)	33 (3)	73 (7)
	e. Admit the patient to the medical/surgical ward and use telepsychiatry	73 (3)	38 (4)	32 (3)
	f. Other	219 (10)	82 (8)	126 (11)
4	How does your hospital handle admitted patients with active psychiatric issues?	n=2200	n=1059	n=1104
	a. Consult psychiatrists located in the hospital	593 (27)	163 (15)	424 (38)
	b. Use telepsychiatry	127 (6)	69 (7)	54 (5)
	c. Transfer the patient to a different hospital	1268 (58)	728 (69)	521 (47)
	d. Transfer the patient to a hospital with a complexity intervention unit	17 (1)	10 (1)	7 (1)
	e. Other	195 (9)	89 (8)	98 (9)

Values are reported as number (%).

beds and used telepsychiatry to deliver behavioral health care, and 46 (2%) hospitals admitted patients to psychiatry beds and consulted the medicine/surgery service.

The remaining 219 hospitals (10%) used other means to manage ED patients needing psychiatric evaluation. Methods mentioned for this included the following: using an ED social worker or contracted mental health crisis team to provide psychiatric assistance; transporting patients to an outpatient psychiatric clinic for evaluation; calling a county mental health department to evaluate the patient in the medical ED; admitting the patient to a medical ward and then curbsiding a community psychiatrist for recommendations while waiting for an

available psychiatric bed; and using consultation psychiatrists from other hospitals. Six (3%) of these 219 hospitals reported that patients waited days to weeks before receiving appropriate psychiatric care in these situations.

When admitted patients had an active psychiatric issue, 1268 hospitals (58%) transferred the patient to a different hospital before psychiatric treatment began, 593 hospitals (27%) had psychiatric consultation services available, 127 (6%) used telepsychiatry, 17 (1%) transferred patients to a hospital with a dedicated CIU, and 195 (9%) used other undescribed methods.

In urban areas, 723 hospitals (57%) had a psychiatrist on staff or available for

consultation. This was almost 2 times more than in rural hospitals. Furthermore, hospitals in rural areas reported that they transferred patients in medical EDs to a different hospital when psychiatric admission was needed 1.5 times more often than hospitals in urban areas (71% vs 47%; Table 2). Exploration by logistic regression analysis of the association of selected variables and available psychiatric expertise suggested that larger hospitals, nonprofit services, or hospitals in urban settings were more likely to have psychiatrists on staff or available for consultation. Moderate model fit indicated that other factors besides setting, type of organization, and volume may help to understand the differences in availability of psychiatric services for patients with concurrent medical and psychiatric disorders (Table 4).

DISCUSSION

In our study, 54% of US hospitals had no psychiatrist on staff or available for medical ED and inpatient consultation. When admissions for active psychiatric issues were needed, 59% of hospitals transferred patients to another hospital. Our findings are consistent with the 2008 survey of the American College of Emergency Physicians showing that 62% of medical EDs had no psychiatric providers available to assist with patient care.¹⁷ To our knowledge, there have been no previous studies that investigated the way in which US general medical hospitals meet the psychiatric care needs of ED patients and inpatients.

Our analysis suggested that smaller, rural, and governmental or for-profit hospitals were less likely to have psychiatrists on staff or available for consultation. Psychiatrists are available almost twice as often in urban area hospitals as in rural hospitals (57% vs 30%). According to Smalley and Rainer,¹² the accessibility and availability of psychiatric services in rural areas remain a crucial challenge, including health professional shortages and problematic transportation to and from psychiatric services.

Our findings show that 70% of the rural hospitals have no psychiatrist on staff or available for consultation. If psychiatric services are not available, most hospitals (~60%) transfer the patient to another hospital. Rural hospitals reported transfer of patients more often than urban hospitals did. Because the distances between hospitals are presumably more considerable in rural areas, patients with psychiatric morbidity must travel long distances to access care. A systematic review reported that 77% of the included studies showed evidence of the association between traveling to a health care facility and worse health outcomes.¹⁸ The lack of psychiatric services in general (nonpsychiatric) hospitals might thus result in worse health outcomes mediated by longer traveling distances.

Our results also showed that telepsychiatry is used more often in rural hospitals, which is congruent with a recent study about telepsychiatry in the United States.¹⁹ Increasing the availability of telepsychiatry in rural areas might bring a solution for some patients who present to EDs with non-acute psychiatric disorders. In reality, many of these patients present with acute psychiatric disorders. The question remains whether telepsychiatry is sufficiently meeting the needs of these patients and ED staff. Furthermore, our results suggested that larger hospitals have a psychiatrist on staff or available for consultation more often. The relation between a hospital's size and the availability of psychiatric services is, to our

TABLE 4. Multiple Logistic Regression Model Predicting Availability of Psychiatric Services for Patients With Concurrent Medical and Psychiatric Disorders

Variable	Parameter estimate (ES)	OR (95% CI)	P value
Urban (reference: rural)	0.41 (0.11)	1.51 (1.21-1.88)	<.001
Hospital ownership (reference: nonprofit)			
Government owned	-0.31 (0.12)	0.74 (0.59-0.92)	.008
Profit	-0.63 (0.13)	0.54 (0.42-0.69)	<.001
No. of beds	0.01 (0.001)	1.01 (1.006-1.008)	<.001

ES, effect size; OR, odds ratio.

Nagelkerke $R^2 = 0.32$; Hosmer-Lemeshow test: 12.3 ($df=8$), $P=.14$.

knowledge, not described in the literature. We hypothesize that larger hospitals encounter a sizable number of patients with psychiatric comorbidity or primary psychiatric presentations and thus more often need a psychiatrist on staff.¹ We can expect that these hospitals more often have the budget to employ these professionals. Our analysis also suggests that for-profit and governmental hospitals have fewer psychiatric services available.

The independent administrative practices used by health systems worldwide might be a relevant factor in this finding.^{3,20} In the United States, medical facilities are not paid to treat behavioral health conditions because standalone behavioral health payers prohibit delivery of psychiatric services in medical settings.²¹ The integration of medical and psychiatric care in medical environments can change this problem because providers will be paid for both medical and psychiatric services by the medical payer. Several studies have shown that integrated care improves the accessibility and patient acceptance of behavioral health care while potentially diminishing stigmatization.^{22,23} The delivery of integrated medical and psychiatric care can improve patient-related and health economic outcomes, including mortality and excess medical costs.^{20,24} From this perspective, the medical ED and medical hospital environment appear to be ideal for integrating medical and behavioral health care services.²⁵

Health Care Utilization

Medical health care utilization differences for psychiatric patients can be related to patient factors, such as the presence of severe mental illness and substance use disorder, as well as to health system factors, such as differences in the availability and quality of services.^{20,26,27} The lack of available psychiatric services in many medical EDs that we found and consequently the absence of integrated medical and psychiatric assessment and provision of appropriate follow-up care represent a missed opportunity in improving the adverse health outcomes of this group.

Limitations

First, the primary aim of the survey data we used differed from the aim of this study. Therefore, the structure of the survey was not optimally in line with this aim. Nevertheless, we believe the survey questions were suitable to answer the research questions of this study.

Second, half of all US Medicare hospitals were never called because of interviewers that withdrew from the study as a result of time constraints. There was also a potential selection bias in the study setup because 70% of the students were affiliated with the same medical school. Third, we did not assign random groups of hospitals to students but assigned them by state; for 41 (82%) states, only 1 or 2 interviewers were assigned. If 1 or both of those interviewers withdrew from the study, no data were collected for that state. This resulted in differences within the percentage of screened hospitals per state and is the reason that some states had no data collected. This might have resulted in a selection bias because differences in state policies can affect the availability of psychiatric services.

The nonresponder analysis indicated that relatively smaller hospitals, hospitals in urban settings, and government-owned hospitals were slightly underrepresented in the interviews. However, unadjusted differences did not exceed 10% and therefore were unlikely to have appreciably affected the results of our study. In some states in which we did not contact any hospitals, we cannot state that our results apply to these states. However, based on the nonresponder analysis, for the states in which we interviewed at least 1 hospital, our results are likely to be generalizable.

Fourth, the Medicare database of hospitals included 54 hospitals that uniquely addressed surgical issues. Removing these surgical sites from the number screened had a small effect on percentage of the number of hospitals lacking psychiatric services (53% instead of the uncorrected 54%). Also, the Medicare database includes registered Medicare hospitals only.¹⁴ This leaves out facilities that are not registered with Medicare.

The American Hospital Association listed 4840 “community” hospitals in 2016; therefore, potentially 49.4% instead of 49.8% of the whole United States was interviewed.²⁸ Whereas the number of hospitals not interviewed could be a factor, it would be unlikely to change our main message that approximately half of US general hospitals have no psychiatric services available.

Finally, this study assessed only for the presence of psychiatrists and not for advanced practice providers with a psychiatric focus, so our results could underestimate the actual availability of psychiatric services. However, for hospitals that demonstrated a lack of a psychiatrist, none of those hospitals commented on the presence of an advanced practice provider. The comments obtained revealed that if a psychiatrist was not available, the other “behavioral health” provider most likely used was a social worker; thus, we do not anticipate that using the word “psychiatrist” biased our findings.

CONCLUSION

Whereas the broad scarcity of psychiatric services in the United States forces patients with acute psychiatric complaints to the doors of general medical hospitals and EDs, more than 50% of the surveyed US medical EDs and hospitals lack psychiatric services. This finding is likely to be generalizable to the United States as a whole. These results suggest that accessibility to psychiatric care in medical settings requires improvement.

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SUPPLEMENTAL ONLINE MATERIAL

Supplemental material can be found online at <http://www.mayoclinicproceedings.org>. Supplemental material attached to journal articles has not been edited, and the authors take responsibility for the accuracy of all data.

Abbreviations and Acronyms: CIU, complexity intervention unit; ED, emergency department

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REFERENCES

1. Barnett K, Mercer SW, Norbury M, Watt G, Wyke S, Guthrie B. Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. *Lancet*. 2012;380(9836):37-43.
2. Weichert I. The prevalence and impact of psychiatric comorbidity in inpatients admitted to a district general hospital in England: a 1-week cross-sectional study. *J R Coll Physicians Edinb*. 2019;49(3):237-244.

3. Kathol R, Saravay SM, Lobo A, Ormel J. Epidemiologic trends and costs of fragmentation. *Med Clin North Am.* 2006;90(4):549-572.
4. Barratt H, Rojas-García A, Clarke K, et al. Epidemiology of mental health attendances at emergency departments: systematic review and meta-analysis. *PLoS One.* 2016;11(4):e0154449.
5. Wang PS, Aguilar-Gaxiola S, Alonso J, et al. Use of mental health services for anxiety, mood, and substance disorders in 17 countries in the WHO world mental health surveys. *Lancet.* 2007;370(9590):841-850.
6. Kessler RC, Demler O, Frank RG, et al. Prevalence and treatment of mental disorders, 1990 to 2003. *N Engl J Med.* 2005;352(24):2515-2523.
7. Fuller DA, Sinclair E, Geller J, et al. Going, going, gone: trends and consequences of eliminating state psychiatric beds. June 2016: <https://www.treatmentadvocacycenter.org/storage/documents/going-going-gone.pdf>. Accessed May 4, 2019.
8. Alakeson V, Pande N, Ludwig M. A plan to reduce emergency room "boarding" of psychiatric patients. *Health Aff (Millwood).* 2010;29(9):1637-1642.
9. Jansen L, van Schijndel M, van Waarde J, van Busschbach J. Health-economic outcomes in hospital patients with medical-psychiatric comorbidity: a systematic review and meta-analysis. *PLoS One.* 2018;13(3):e0194029.
10. Scott KM, Lim C, Al-Hamzawi A, et al. Association of mental disorders with subsequent chronic physical conditions: world mental health surveys from 17 countries. *JAMA Psychiatry.* 2016;73(2):150-158.
11. Alexander V, Ellis H, Barrett B. Medical-surgical nurses' perceptions of psychiatric patients: a review of the literature with clinical and practice applications. *Arch Psychiatr Nurs.* 2016;30(2):262-270.
12. Smalley KB, Rainer J. *Rural Mental Health: Issues, Policies, and Best Practices.* Springer Publishing Company; 2012.
13. Jansen L, Ellison AE, Nguyen F, et al. Complexity interventions units in the United States: organization and dispersion. *Psychosom Med.* 2020;82(8):805-807.
14. Centers for Medicare and Medicaid Services. Provider data catalog. May 14, 2014: <https://data.medicare.gov/Hospital-Compare/Hospital-General-Information/xubh-q36u/data>. Accessed August 8, 2017.
15. Kathol RG, Kunkel EJ, Weiner JS, et al. Psychiatrists for medically complex patients: bringing value at the physical health and mental health/substance-use disorder interface. *Psychosomatics.* 2009;50(2):93-107.
16. Medicare hospital cost report PUF 2015. <https://data.cms.gov/Medicare-Inpatient/Medicare-Hospital-Cost-Report-PUF-2015/absp-nd3x>. Accessed March 30, 2020.
17. American College of Emergency Physicians. ACEP psychiatric and substance abuse survey 2008. <http://newsroom.acep.org/download/ACEP%2BPsychiatric%2BAnd%2BSubstance%2BAbuse%2BSurvey%2B-%2BApril%2B2008.pdf>. Accessed May 4, 2019.
18. Kelly C, Hulme C, Farragher T, Clarke G. Are differences in travel time. Are differences in travel time or distance to health-care for adults in global north countries associated with an impact on health outcomes? A systematic review. *BMJ Open.* 2016;6(11):e013059.
19. Freeman RE, Boggs KM, Zachrisson KS, et al. National study of telepsychiatry use in US emergency departments. *Psychiatr Serv.* 2020;71(6):540-546.
20. Firth J, Siddiqi N, Koyanagi A, et al. The Lancet Psychiatry Commission: a blueprint for protecting physical health in people with mental illness. *Lancet Psychiatry.* 2019;6(8):675-712.
21. Kathol RG, Melek SP, Sargent S, et al. Chapter 11. Non-traditional mental health and substance use disorder services as a core part of health in CINs and ACOs. In: Yale K, Raskauskas T, Bohn J, Konschak C, eds. *Clinical Integration: Population Health and Accountable Care.* 3rd ed. Convergent Publishing LLC; 2015.
22. Maassen EF, Schrevel SJ, Dedding CW, Broerse JE, Regeer BJ. Comparing patients' perspectives of "good care" in Dutch outpatient psychiatric services with academic perspectives of patient-centred care. *J Ment Health.* 2017;26(1):84-94.
23. van Schijndel MA, Caarls P, van Wijngaarden J, et al. Identifying value-based quality indicators for general hospital psychiatry. *Gen Hosp Psychiatry.* 2018;55:27-37.
24. Melek SP, Norris DT, Paulus J, Matthews K, Weaver A, Davenport S. Economic impact of integrated medical-behavioral healthcare: updated projections for 2017. Milliman Research Report; February 12, 2018. <https://www.milliman.com/en/insight/potential-economic-impact-of-integrated-medical-behavioral-healthcare-updated-projections>. Accessed November 5, 2020.
25. Verheesen SMH, Ten Doesschate F, van Schijndel MA, van der Gaag RJ, Cahn W, van Waarde JA. Intoxicated persons showing challenging behavior: Intoxicated persons showing challenging behavior demand complexity interventions: a pilot study at the interface of the ER and the complexity intervention unit. *Eur Arch Psychiatry Clin Neurosci.* 2021;271(5):903-913.
26. Rinehart DJ, Oronce C, Durfee MJ, et al. Identifying subgroups of adult super-utilizers in an urban safety-net system using latent class analysis: implications for clinical practice. *Med Care.* 2018;56(1):e1-e9.
27. Smeets RGM, Elissen AMJ, Kroese MEAL, Hameleers N, Ruwaard D. Identifying subgroups of high-need, high-cost, chronically ill patients in primary care: a latent class analysis. *PLoS One.* 2020;15(1):e0228103.
28. American Hospital Association. TrendWatch Chartbook 2018: trends affecting hospitals and health systems. <https://www.aha.org/system/files/2018-07/2018-aha-chartbook.pdf>. Accessed November 5, 2020.