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Low availability, long wait times, and high geographic disparity of psychiatric outpatient care in the US

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ABSTRACT

Objective: To identify potential barriers to care, this study examined the general psychiatry outpatient new appointment availability in the US, including in-person and telepsychiatry appointments, comparing results between insurance types (Medicaid vs. private insurance), states, and urbanization levels.

Method: This mystery shopper study investigated 5 US states selected according to Mental Health America Adult Ranking and geography to represent the US mental health care system. Clinics across five selected states were stratified sampled by county urbanization levels. Calls were made during 05/2022–07/2022. Collected data included contact information accuracy, appointment availability, wait time (days), and related information.

Results: Altogether, 948 psychiatrists were sampled in New York, California, North Dakota, Virginia, and Wyoming. Overall contact information accuracy averaged 85.3%. Altogether, 18.5% of psychiatrists were available to see new patients with a significantly longer wait time for in-person than telepsychiatry appointments (median = 67.0 days vs median = 43.0 days, $p < 0.01$). The most frequent reason for unavailability was provider not taking new patients (54.0%). Mental health resources were unevenly distributed, favoring urban areas.

Conclusion: Psychiatric care has been severely restricted in the US with low accessibility and long wait times. Transitioning to telepsychiatry represents a potential solution for rural disparities in access.

1. Introduction

The availability and appointment wait times in the US health care system have been challenged. Previous studies have shown that the average appointment availability for general adult psychiatry patients with insurance ranges from 12 to 26%, with wait time ranging from <1 week to 2.5 months. [1–4] In the US, 157 million people live in a health professional shortage area (HPSA), lacking mental health profes-

APOCU, Availability of Psychiatry Outpatient Care in the US; COVID-19, coronavirus disease 2019; MHA, Mental Health America; NCHS, National Center for Health Statistics; CM, large central metro; FM, large fringe metro; MM, medium metro; SM, small metro; MI, micropolitan; NO, non-core

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sionals. [5] According to the Health Resources & Services Administration of United States Department of Health and Human Services, 7902 mental health providers are still needed for the HPSAs. [5] The foreseen severe shortage of mental health professionals is a real threat to the mental health of the country, [6] which is aggravated by the coronavirus disease 2019 (COVID-19) pandemic. [7]

In response to the need of social distancing as a result of COVID-19, federal and state governments loosened most restrictions on telepsychiatry, including prescribing controlled substances online, rules around Medicare and Medicaid reimbursement, and the requirement of psychiatrist' licenses in the state where patients are physically located. [8] Despite rapid expansion of telemedicine [9], the evolving availability of psychiatric care remains unclear due to potential increased need in mental health care service. [7,10,11]

Most updated studies regarding mental health accessibility come from database analyses or survey studies. [5,12,13] Database analyses provide a "big" picture of service availability but cannot investigate first-hand patient experience. Survey studies are known to be prone to confirmation bias, since the data are typically obtained from subjects' self-report or investigator-moderated interviews. [14] Conversely, the mystery shopper technique has advantages regarding accountability of performance monitoring for public services. [15] Notably, the US Department of Health and Human Services Office of Inspector General also acknowledged the mystery shopper technique as a reliable information resource to determine access to care. [16]

Current mystery shopper studies are limited to small sample sizes, local or regional investigations or specific patient populations. [17–19] The latest mystery shopper study that investigated general psychiatric care with multiple sampling sites was published in 2015, which was before the COVID-19 pandemic onset. [3] Not every mystery shopper study includes wait time and directory accuracy as outcomes, despite being significant factors for successful appointments and continuity of care. [20,21] Previous studies have shown that patients with private insurance had better access to health care in general, but only one study in the last 5 years has focused on psychiatry. [22] Healthcare disparity due to geographic factors is well-established, but the correlation between level of urbanization and mental health care access is rarely assessed in mystery shopper studies. [23]

Due to the above, we conducted a cross-states, large sample-size mystery shopper study to examine the accessibility of general mental health care in 5 selected US states representative of different mental health systems, focusing also on insurance type and urbanization level aiming to identify potential gaps and guide public health services administration and delivery.

2. Methods

2.1. Data source and sampling

We selected 5 states to represent the US mental health care system. The chosen states span geographies evenly throughout the US, including North-East, South-East, Northern, Central and Western states. We also imbedded the 2021 Mental Health America (MHA) Adult Ranking into our selection process to represent diverse health marketplaces. [24] The report is generated yearly by MHA, a community-based nonprofit organization. MHA took data from The Substance Abuse and Mental Health Services Administration (SAMHSA), The Centers for Disease Control and Prevention (CDC), and the Department of Education (DoE) to calculate a standardized score for the ranking. [24] The geographic categories and 2021 MHA ranking of the 5 selected states are shown in Table 1.

The estimated number of psychiatrists in practice were obtained from Estimating the Distribution of the U.S. Psychiatric Subspecialist Workforce published by the University of Michigan Behavioral Health Workforce Research Center. [23] The numbers of psychiatrists per state was calculated based on the American Medical Association (AMA) Masterfile data report which include provider information from state medical licensing boards, Accreditation Council on Graduate Medical Education (ACGME), and providers themselves. [23] We provided the number of psychiatrists per state in Table 1. The sample size of each state was determined by using Cochran's Formula (Confidence Level: 95, standard deviation: 0.5, margin of error: ±5%). [25] We stratified sample counties across each selected state by applying the National Center for Health Statistics (NCHS) Urban-Rural Classification Scheme for Counties, which classify the counties according to six urbanization levels: large central metro (CM), large fringe metro (FM), medium metro (MM), small metro (SM), micropolitan (MI), and non-core (NO) area [26].

Table 1
Sampling by states, urbanization level, and insurance type.

	New York (Northeast)	California (West)	North Dakota (North)	Virginia (Southeast)	Wyoming (Central)
[a]2021 MHA adult ranking	4	16	26	42	28
Estimated total number of psychiatrists per state	4979	5934	99	142	42
County number	62	58	53	133	23
Large central metro	7	8	0	5	0
Large fringe metro	13	8	0	43	0
Medium metro	10	13	0	14	0
Small metro	8	8	6	18	2
Micropolitan	14	8	7	8	7
Noncore	10	13	40	45	14
Total sample size (psychiatrists per state)	357	364	79	110	38
[b]Actual call number (psychiatrists per state)	341	324	62	104	33

[a] 2021 Mental Health America (MHA) Adult Ranking was published by MHA, a community-based nonprofit organization. MHA took data from The Substance Abuse and Mental Health Services Administration (SAMHSA), The Centers for Disease Control and Prevention (CDC), and the Department of Education (DoE) to calculated standardized score for the ranking. Information was accessed at https://mhanational.org/research-reports/2021-state-mental-health-america. (Last access: May 9, 2023).

[b] Actual numbers are smaller than the total sample size due to list duplication. The final sample size is divided into two parts for Medicaid and private health insurance holders. For example, for large central metro in New York, we sampled 40 clinics in total: 20 clinics as a Medicaid holder and 20 clinics as a private health insurance holder.

2.2. Study procedure

We applied mystery shopper methodology for data collection. We randomly sorted the list of providers by applying the county name or area code using the Medicaid directory or private insurer directory. Private insurers were defined as commercial insurance including BlueCross and Medica. (Supplement 1) When no psychiatrist contact information was listed for the selected county, a neighboring county or county with upper urbanization level was selected to sample the psychiatrist contact instead. Only board certificated psychiatrists were eligible to be in the study sample. We excluded psychiatrists without board-certification and physicians in other specialties who may provide mental health services because private insurance companies have different reimbursement policies for them. We excluded providers other than board-certified psychiatrists, like nurse practitioners and physician assistants, because their practice policy varies by state.

Calls were made by a single caller during regular business hours (09:00–17:00) according to the time zone where the sampled provider was located. The caller presented as an English-speaking 33-year-old female with a chief complaint of depression using a semi-structured encounter script for standardized data collection. To simulate a real-world phone encounter, the caller provided their name and insurance type. The caller would explain that a referral from their primary care physician would be available if being informed the clinic only accept patients with a referral. Thereby, we obtained information regardless of referral requirements. The caller consistently denied active suicidal ideation to prevent being instructed to go to the emergency room. Once the wait time had been confirmed, the caller then informed the person receiving the call that she would call back if she decided the make the appointment. No appointment was made during the encounter to prevent occupying actual appointment availability of the sampled clinics.

Clinics in counties with different urbanization levels were called alternately. When no one answered the phone, the caller left a voicemail message, asking for a call-back. If no call-back was received, the caller attempted to contact the clinic again 2 weeks later. We performed research debriefing at the end of the study by sending emails, letters or calling the clinics that were successfully contacted initially. A successful contact was one that had an available appointment with a precise waiting time. No patient information was utilized in the study. The Carilion Clinic Institutional Review Board exempted the requirement of IRB approval (IRB-22-1518, Availability of Psychiatry Outpatient Care in the US, APOCU).

2.3. Outcomes and statistical analysis

The primary outcomes included the contact information accuracy, appointment availability, and service equality. If the contact number was correct by confirming with the person receiving the call, the number was considered eligible. Appointment availability was defined as giving a precise waiting time during the phone encounter. Service equality was defined as a clinic that could be sampled in the selected county without need for choosing from an alternate neighboring county or a county with upper urbanization level due to lack of any listed board-certified psychiatrist. In other words, if most patients could find at least one provider in the counties they live, the equality for the state would be high. Secondary outcomes included the wait time and reasons for inability to make an appointment. We also collected descriptive data.

We used Chi-square/Fisher's exact tests to examine group differences regarding contact number eligibility, appointment availability, and service equality across different states, insurance types, and urbanization levels. For the analysis of wait times for in-person and telepsychiatry appointments by state, insurance type, and urbanization level, we used Kruskal-Wallis and Mann-Whitney tests because these data of were not normally distributed. All statistical analyses were two-sided with alpha = 0.05 and performed using STATA 17 (College Station, TX).

3. Results

3.1. Contact information accuracy, appointment availability and service equality

Despite the original sample size of 948 psychiatrists, only 864 psychiatrists were actually in the directory and could be called because of 8.9% duplicated psychiatrists in the lists. This discrepancy was due to 84 providers being called once but counted as two different contacts. For example, the first time a psychiatrist was called as the provider in a given county, but may lead to a second time that psychiatrist would have been called as a replacement for a provider in a neighboring county where no one was accessible for sampling in the directory. This lack of availability of a psychiatrist in one county led to the psychiatrist being eligible by study design to be called a second time. We did not carry out the calling protocol on the same clinic twice, however, because we attempted to minimize the effects on the clinic's administrative work.

Altogether, 809 out of 948 contacts of sampled psychiatrists were correctly listed on either Medicaid or private insurer websites, resulting in 85.3% correct contacts. The contact information accuracy varied by states ($p < 0.01$). Of the 5 investigated states, California had the highest accuracy (92.6% correct contacts, $n = 337$), while Wyoming had the lowest (55.3% correct contact, $n = 21$). There were no differences in accuracy by insurance type or urbanization level (Table 2). Common causes of 139 false contact information included wrong number ($n = 134$, 96.4%), including the number being connected to the main hospital instead of specific provider ($n = 49$, 35.3%) and numbers being out of service ($n = 47$, 33.8%). There were also numbers directed to the correct clinics, but no one answered the phone ($n = 5$, 3.6%).

Table 2
Contact information accuracy, appointment availability and availability equality by states, insurance type and urbanization level.

	Accuracy (%)	*P* value	Availability (%)	P value	Equality[a] (%)	P value
State (n)		<0.01		0.60		<0.01
California (364)	337 (92.58)		74 (20.33)		291 (60.16)	
North Dakota (79)	68 (86.08)		14 (17.72)		19 (24.05)	
New York (357)	299 (83.75)		66 (18.49)		296 (82.91)	
Virginia (110)	84 (76.36)		15 (13.64)		86 (78.18)	
Wyoming (38)	21 (55.26)		6 (15.79)		19 (50.00)	
Insurance type (n)		0.89		0.67		0.59
Medicaid (479)	408 (85.18)		91 (19.00)		160 (51.78)	
Private (469)	401 (85.50)		84 (17.91)		149 (48.22)	
Urbanization level (n)		0.58		0.72		<0.01
Large central metro (94)	79 (84.04)		18 (19.15)		92 (97.87)	
Large fringe metro (160)	136 (85.00)		24 (15.00)		128 (80.00)	
Medium metro (151)	124 (82.12)		29 (19.21)		125 (82.78)	
Small metro (124)	111 (89.52)		22 (17.74)		84 (67.74)	
Micropolitan (159)	139 (87.42)		27 (16.98)		102 (64.15)	
Noncore (260)	220 (84.62)		55 (21.55)		108 (41.54)	
Total (948)	809 (85.34)		175 (18.46)		309 (32.59)	

The accuracy of contact information varied by states and was statistically significant, but not for insurance type and urbanization level. Altogether, 809 out of 948 contacts of sampled psychiatrists were correctly listed on either Medicaid or private insurer websites, resulting in 85.3% correct contacts. The contact information accuracy varied by states ($p < 0.01$). Of the 5 investigated states, California had the highest accuracy (92.6% correct contacts, $n = 337$), while Wyoming had the lowest (55.3% correct contact, $n = 21$). Common causes of 139 false contact information included wrong number ($n = 134$, 96.4%), including the number being connected to the main hospital instead of specific provider ($n = 49$, 35.3%) and numbers being out of service ($n = 47$, 33.8%). There were also numbers directed to the correct clinics, but no one answered the phone ($n = 5$, 3.6%).

[a] Equality is assessed based on whether the sample could be obtained from the original assigned county rather than neighboring county or county with an upper urbanization level. In other words, we defined equality as how many percent of the patients could find at least one provider available within the county they live.

Of the 948 sampled clinics, only 175 (18.5%) psychiatrists were available to see new patients. The appointment availability did not statistically vary across states, insurance type or urbanization level. However, service equality significantly varied by states and urbanization level ($p < 0.01$). Psychiatrists were most available in counties sampled in New York (82.9%, $n = 296$) and Virginia (78.2%, $n = 86$), followed by California (60.2%, $n = 291$), Wyoming (50.0%, $n = 19$), and the least in North Dakota (24.1%, $n = 19$). Service equality was significantly related to state and urbanization level. Local services were most available in New York (82.9%, $n = 296$) and least in North Dakota (24.1%, $n = 19$); most available in large central metro counties (97.9%, $n = 92$) and least in non-core counties (32.6%, $n = 309$). Detailed results are displayed in Table 2.

3.2. Wait time and reasons for unavailability

In-person appointment wait time (median: 67.0 days; interquartile range [IQR]: 37.0, 95.0 days) was significantly longer than the telepsychiatry appointment wait time (median: 43.0 days; IQR: 25.0, 67.0 days) ($p < 0.01$). Note, telepsychiatry wait time was not available in all states assessed in this study. Only one clinic in Wyoming sampled said they provide telepsychiatry, but they did not provide a wait time for the service. Wait time did not statistically differ across states, insurance types and urbanization levels. Among all available clinics, the shortest wait time was 10 days and the longest was 392 days. Detailed results are displayed in Table 3.

Most common barriers for making an appointment were psychiatrists not accepting new patients (54.0%, $n = 417$), followed by other reasons (e.g. provider no longer works in the specific clinic, the provider is in the process of leaving, not accepting patients outside their system, et al) (18.2%, $n = 141$), inability to reach the office (17.1%, $n = 132$), not accepting general adult outpatients (5.6%, $n = 43$), provider being out of office (4.7%, $n = 36$) and not accepting the insurance type despite being listed on the official website (0.5%, $n = 4$) (Table 4).

4. Discussion

Our findings highlight poor US mental health care availability with only 18.5% of psychiatrists being able to see new patients with non-urgent psychiatric needs during the period of 05/2022–07/2022. Contradictory to previous study results, private insurance holders did not have better access to new mental health care compared to those with Medicaid insurance ($p = 0.85$), suggesting mental health professional shortage is so severe that insurance type does not matter. [14,27] Common reasons for unavailability of a new mental health appointment also support this hypothesis, with the top reason being not accepting any new patients (54.0%). Another possible explanation could be that psychiatrists tended to accept self-pay patients only. A study performed in 2020 showed that >25% of psychiatrists accepted self-pay patients predominantly and the number is still increasing. [28] Additionally, providers not accessible for the call in our study were likely self-pay service psychiatrists. Hence the repeat call number suggests that 84 (8.9%) of 948 psychiatrists did not accept patients on insurance as they were not in the insurance-providing directory, further adding to the shortage of psychiatrists being able to provide diagnosis and care for adults with mental health needs in the sampled states. A recent survey study showed only 54.1% providers accepted Medicaid, which corroborates our hypothesis. [29]

On a positive note, the online directory accuracy of 85.3% was better than previously reported. [21] Only 0.5% of the contacted psychiatrists rejected the appointment request due to not accepting the insurance type. The directory accuracy varied significantly by state, suggesting that the leadership of Medicaid and private insurance systems at a state level should put more effort in website maintenance to ensure provider information is updated and correct. An additional quality improvement goal is the logistics of the search engines. Our call list was built based on the search result for general adult patients. We found that the directories led to psychiatrists who did not accept general adult

Table 3
Waiting times (days) for appointments by encounter type, insurance type, state and urbanization level.

	min	Q1	med	Q3	max	P value
In-person						
State (n)						0.22
California (74)	12	33	62	92	374	
North Dakota (14)	14	32	67.5	93	271	
New York (66)	13	45	67	92	390	
Virginia (15)	17	39	70	153	392	
Wyoming (6)	66	71	92	153	227	
Insurance type (n)						0.39
Medicaid (91)	12	39	67	96	271	
Private (84)	12	34	65.5	91.5	392	
Urbanization level (n)						0.50
Large central metro (18)	24	45	67.5	84	174	
Large fringe metro (24)	24	37	67	101.5	390	
Medium metro (29)	14	27	59	82	369	
Small metro (22)	12	28	62	91	154	
Micropolitan (27)	12	34	65	103	374	
Noncore (55)	14	46	73	101	392	
Total (175)	12	37	67	95	392	
Telepsychiatry						
State (n)						0.75
California (58)	10	25	40	67	206	
North Dakota (8)	14	23	35	48	87	
New York (43)	13	27	45	62	187	
Virginia (10)	14	17	63	83	153	
Wyoming (NA)	NA	NA	NA	NA	NA	
Insurance type (n)						0.68
Medicaid (61)	13	27	46	67	206	
Private (58)	10	24	38	65	154	
Urbanization level (n)						0.25
Large central metro (10)	27	38	52.5	75	87	
Large fringe metro (17)	15	32	37	68	147	
Medium metro (26)	14	23	35	52	206	
Small metro (17)	10	14	28	62	154	
Micropolitan (15)	13	25	52	73	187	
Noncore (34)	14	31	52	67	154	
Total (119)	10	25	43	67	206	

Wait time is statistically shorter for telepsychiatry than in-person appointments (in-person median wait time: 67.0 days, interquartile range [IQR]: 37.0, 95.0 days; telepsychiatry median wait time: 43.0 days, IQR: 25.0, 67.0 days), but not different between state, insurance type and urbanization level. Note, telepsychiatry wait time was not available in all states assessed in this study. Only one clinic in Wyoming sampled said they provide telepsychiatry, but they did not provide a wait time for the service. Wait time did not statistically differ across states, insurance types and urbanization levels. Among all available clinics, the shortest wait time was 10 days and the longest was 392 days.

Table 4
Reasons of unavailability of mental healthcare provider.

	Number	Percentage
Not accepting new patients	417	53.9%
Not able to reach the office	132	17.1%
Other	141	18.2%
Does not accept general adult outpatients	43	5.6%
The provider is out of office	36	4.7%
Not accepting the insurance type listed	4	0.5%

Most common barriers for making an appointment were psychiatrists not accepting new patients (53.9%, $n = 417$), followed by not able to reach the office and other reasons. "Other" reasons for inability to make an appointment include provider no longer works in the specific clinic, the provider is in the process of leaving, not accepting patients outside their system, and patients must be seen by a primary care provider in their system first.

patients despite searching for those who did. Altogether, 5.6% of contacted psychiatrists declined the appointment request because they did not accept general adult patients. They were either specialized in child and adolescent psychiatry, addiction psychiatry, or only accepted veterans.

Our study underscores that long wait time is an important issue of the US mental health system in addition to poor availability of psychiatric specialty care. Extreme wait times >200 days could be considered as unavailable. The median wait time of 67 days (IQR: 37.0, 95.0 days) means patients have to wait >9 weeks for an in-person visit. The median wait time of 43 days (IQR: 25.0, 67.0 days) was significantly shorter for telepsychiatry services, but still translates into having to wait for almost 6 weeks. Long wait times are an issue in psychiatry. Previous studies have shown long wait time as a significant factor of non-attendance of a first appointment. [20,30] Extensively prolonged wait time is common for patients in non-acute or subacute mental health care needs, compared to patients discharged from emergency room settings who usually received a follow-up appointment within 2 weeks, partially due to hospital/insurance policies. [1] Longer wait time also predicts worse psychiatric outcomes, including more severe symptoms, reduced treatment response, and lower remission in both patients with mood and psychotic disorders. [31–34] Timely psychiatric interventions are therefore key to recovery.

The local mental health resource distribution varied considerably by states and urbanization levels. Psychiatric services were less available in rural regions compared to urban regions. People in NO regions had limited local psychiatrists (41.5%), while almost every CM region had eligible psychiatrists (97.9%). States with high percentages of rural regions had worse local resource equality: only 24.1% counties had eligible psychiatrists in North Dakota where 88.0% of the counties are MI or NO areas. Conversely, psychiatrists were eligible in 82.9% of the sampled counties in New York, but only 39.0% of the counties are MI or NO areas. Thus, geography is another possible factor for unequally distributed mental health care resources, with more psychiatrists practicing in the North-East. [6]

The significantly shorter, albeit still considerable, wait time for telepsychiatry than in-person appointments in our study suggest telepsychiatry as at least a partial solution for mental health care unavailability. [9] Telepsychiatry may also reduce disparity due to geographic factors by eliminating the need to travel. Additionally, survey studies show both patients and physicians have positive attitudes toward telepsychiatry. [35,36] In the context of reducing barriers to and increasing acceptance of mental health care, telepsychiatry should be the new normal for mental health visits even after the COVID-19 pandemic, and restrictions should not be re-imposed.

It is difficult to tell if our results reflect the continued psychiatrist shortage in general, or the market picture complexed by the COVID pandemic. After the COVID-19 pandemic outbreak, >40% of adults in the US reported anxiety or depressive symptoms. [37] Suicide, overdose, and violence also became more prevalent. [38] Additionally, COVID-19 infection itself is related to increased risk of neuropsychiatric disorders. [39] Theoretically, the demand for mental health care increases during a pandemic but we do not have pre-pandemic data to support this assumption. Also, we want to emphasize that this study aims to investigate psychiatric care availability in a non-emergent setting. The results could not be applied to patients with emergent psychiatric need that had to be seen by providers at the emergency room.

To summarize, contact number eligibility, appointment availability, wait time and service equality were not consistent with 2021 MHA ranking. The updated 2022 MHA ranking continues to show disproportional results of database analysis and real-world patient experience. [12] This study provides additional information to fill the gap of public understanding of mental health availability in the US updated in the context of the COVID-19 pandemic.

4.1. Limitations

Despite careful design, there are still limitations of the study. First, the states investigated were selected according to the 2021 MHA ranking. [24] The ranking was based on database analysis with the survey year 2017–2019, while mystery shopper's methodology was carried out in 2022. Thus, the selected states might not accurately represent the different levels of mental health accessibility in the US during the time of investigation. Second, the sampling protocol might have affected the results. We assumed that if no psychiatrist could be found in a certain county, patients would seek psychiatric care in a neighboring county or county with an upper urbanization level. However, traveling in real-world circumstance might be too challenging for patients who lack transportation resources. Hence, our study might overestimate the accessibility in counties without local mental health resources. The availability difference by urbanization level might be affected by the same reason. Third, we had a single caller as a simulated patient with a single patient script as part of the mystery shopper procedure. Thus, we could not assess if the caller's race, age, gender, language, or chief complaint would make any difference regarding the accessibility results. Fourth, we chose BlueCross and Medica to represent the private insurance system with the hope to cover the largest number of in-network providers, but results may not be applicable to patients with other types of private insurance. Finally, we did not call psychiatrists who only see self-pay patients because few patients with mental disorders have the financial means to afford consistent self-pay psychiatric care. The exclusion of uncertified psychiatrists and non-physician practitioners is another potential limitation.

5. Conclusions

We observed a concerning shortage of psychiatric care with evidence of low accessibility and long wait times. Mental health resources were even more difficult to access in rural areas. Telepsychiatry was more accessible compared to in-person appointments with shorter wait time and more flexible settings, but wait times were still considerable. Transitioning to telepsychiatry is a potential, at least partial solution for mental health care disparity due to geographic reasons, but the effect on overall availability and wait time was unclear. Further research is warranted to identify potential strategies to encourage psychiatrists to accept Medicaid and private insurance instead of restricting care to self-pay patients.

Author statement

CF Sun designed and led the study as the sub-investigator, illustrated the results, and drafted the manuscript. AS Kablinger supervised the study, provided resources, and facilitated IRB submission as the principal investigator. RT Patel, VL Metsutnan, EC McDaid, A Saha, C Kui, P Lewis, SH Bhatt sampled the directories to generate the initial psychiatrists call list; Y Lin, RP Uymatiao examined and adjusted the list; CF Sun finalized the list. LE Lipphard acted as the simulated patient to collect data from sampled clinics. H Xie and MS Hankey performed statistical analysis. CU Correll advised on methodology; reviewed, revised, and proofread the manuscript. AS Kablinger and RL Trestman reviewed and revised the manuscript.

Disclosures

The authors have no conflict of interest to report. Two of the authors (CF Sun and Y Lin) are American Psychiatric Association fellows in the year of publication. The contents of this publication are solely the responsibility of the authors and do not necessarily represent the official views of the American Psychiatric Association or American Psychiatric

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.genhosppsych.2023.05.012.

References

[1] Rhodes K.V, Vieth T.L, Kushner H, et al. Referral without access: for psychiatric services, wait for the beep. Ann Emerg Med 2009;54:272–8.
[2] Boyd J.W, Linsenmeyer A, Woolhandler S, et al. The crisis in mental health care: a preliminary study of access to psychiatric care in Boston. Ann Emerg Med 2011; 58:218–9.
[3] Malowney M, Keltz S, Fischer D, et al. Availability of outpatient care from psychiatrists: a simulated-patient study in three US cities. Psychiatr Serv 2015;66: 94–6.
[4] Steinman K.J, Shoben A.B, Dembe A.E, et al. How long do adolescents wait for psychiatry appointments? Community Ment Health J 2015;51:782–9.
[5] Health Workforce Shortage Areas. United States Department of Health and Human Services. https://data.hrsa.gov/topics/health-workforce/shortage-areas; 2022, Accessed Dec 14, 2022.
[6] Satiani A, Niedermier J, Satiani B, et al. Projected workforce of psychiatrists in the United States: a population analysis. Psychiatr Serv 2018;69:710–3.
[7] Moreno C, Wykes T, Galderisi S, et al. How mental health care should change as a consequence of the COVID-19 pandemic. Lancet Psychiatry 2020;7:813–24.
[8] Shore J.H, Schneck C.D, Mishkind M.C. Telepsychiatry and the coronavirus disease 2019 pandemic—current and future outcomes of the rapid virtualization of psychiatric care. JAMA Psychiatry 2020;77:1211–2.
[9] Kinoshita S, Cortright K, Crawford A, et al. Changes in telepsychiatry regulations during the COVID-19 pandemic: 17 countries and regions' approaches to an evolving healthcare landscape. Psychol Med 2022;52:2606–13.
[10] Kichloo A, Albosta M, Dettloff K, et al. Telemedicine, the current COVID-19 pandemic and the future: a narrative review and perspectives moving forward in the USA. Fam Med Commun Health 2020;8:3.
[11] Patel S.Y, Mehrotra A, Huskamp H.A, et al. Trends in outpatient care delivery and telemedicine during the COVID-19 pandemic in the US. JAMA Intern Med 2021;181:388–91.
[12] Reinert M, Fritze D, Nguyen T. The State of Mental Health in America 2022. Alexandria, Virginia, US: Mental Health America; October 2021.
[13] West J.C, Clarke D.E, Duffy F.F, et al. Availability of mental health services prior to health care reform insurance expansions. Psychiatr Serv 2016;67:983–9.
[14] Hsiang W.R, Lukasiewicz A, Gentry M, et al. Medicaid patients have greater difficulty scheduling health care appointments compared with private insurance patients: a meta-analysis. Inquiry 2019;56. 0046958019838118.
[15] Jacob S, Schiffino N, Biard B. The mystery shopper: a tool to measure public service delivery? Int Rev Admin Sci 2018;84:164–84.
[16] Murrin S, General D.I. State Standards for Access to Care in Medicaid Managed Care. Washington, DC: US Department of Health and Human Services, Office of the Inspector General; 2014. https://oig.hhs.gov/oei/reports/oei-02-11-00320.pdf. Access: Dec 15, 2022.
[17] Adams D.R. Assessing Real-World Access to Community-Based Mental Health Services for Adolescents: A Mixed Methods Mystery Shopper Study. Doctoral dissertation. The University of Chicago; 2022. https://www.proquest.com/pagepdf/2719481403?accountid=27688. Access: Dec 12, 2022.
[18] Scheeringa M.S, Singer A.M, Mai T.A, et al. Access to medicaid providers: availability of mental health services for children and adolescents in child welfare in Louisiana. J Public Child Welfare 2020;14:161–73.
[19] Tenner N.L, Reddy M, Block A.E. Secret shopper analysis shows getting psychiatry appointment in New York City is well kept secret. Community Ment Health J 2022;59:290–3.
[20] Zhang X, Felici J, Gander H, Mubariz A.R, et al. Twelve-month analysis of nonattendance for initial assessment in a resident outpatient psychiatry clinic. J Psychiatr Pract 2020;26:337–43.
[21] Busch S.H, Kyanko K.A. Incorrect provider directories associated with out-of-network mental health care and outpatient surprise bills. Health Aff (Millwood) 2020;39:975–83.
[22] Wiznia D.H, Maisano J, Kim C.Y, et al. The effect of insurance type on trauma patient access to psychiatric care under the affordable care act. Gen Hosp Psychiatry 2017;45:19–24.
[23] Beck A.J, Page C, Buche J, et al. Estimating the distribution of the US psychiatric subspecialist workforce. Population 2018;600:47–56.
[24] The State of Mental Health in America 2021. Alexandria, VA: Mental Health America; October 2020. https://mhanationalorg/research-reports/2021-state-mental-health-america. Access: Dec 13, 2022.
[25] Ahmad H, Halim H. Determining sample size for research activities. Selangor Busin Rev 2017;20–34.
[26] Ingram D.D, Franco S.J. NCHS urban-rural classification scheme for counties. National Center for Health Statistics Vital Health Stat 2013;2(166):2014. https://www.cdc.gov/nchs/data/series/sr_02/sr02_166.pdf. Access: Dec 14, 2022.
[27] Beetham T, Saloner B, Wakeman S.E, et al. Access to office-based buprenorphine treatment in areas with high rates of opioid-related mortality: an audit study. Ann Intern Med 2019;171:1–9.
[28] Benjenk I, Chen J. Trends in self-payment for outpatient psychiatrist visits. JAMA Psychiatry 2020;77:1305–7.
[29] Hawkins M. Survey of Physician Appointment Wait Times and Medicare and Medicaid Acceptance Rates. https://www.merritthawkins.com/trends-and-insights/article/surveys/2022-physician-wait-times-survey/; 2022, Access: Dec 13, 2022.
[30] Zykienė B, Kalibatas V. Evaluating the reasons for nonattendance to outpatient consultations: is waiting time an important factor? BMC Health Serv Res 2022;22: 1–9.
[31] Koire A, Nong Y.H, Cain C.M, et al. Longer wait time after identification of peripartum depression symptoms is associated with increased symptom burden at psychiatric assessment. J Psychiatr Res 2022;152:360–5.
[32] Bukh J.D, Bock C, Vinberg M, et al. The effect of prolonged duration of untreated depression on antidepressant treatment outcome. J Affect Disord 2013;145:42–8.
[33] Drake R.J, Husain N, Marshall M, et al. Effect of delaying treatment of first-episode psychosis on symptoms and social outcomes: a longitudinal analysis and modelling study. Lancet Psychiatry 2020;7:602–10.
[34] Chen A. Noncompliance in community psychiatry: a review of clinical interventions. Psychiatr Serv 1991;42:282–7.
[35] Guinart D, Marcy P, Hauser M, et al. Patient attitudes toward telepsychiatry during the COVID-19 pandemic: a nationwide, multisite survey. JMIR Ment Health 2020;7:e24761.
[36] Guinart D, Marcy P, Hauser M, et al. Mental health care providers' attitudes toward telepsychiatry: a systemwide, multisite survey during the COVID-19 pandemic. Psychiatr Serv 2021;72:704–7.
[37] Vahratian A, Blumberg S.J, Terlizzi E.P, et al. Symptoms of anxiety or depressive disorder and use of mental health care among adults during the COVID-19 pandemic - United States, August 2020-February 2021. MMWR Morb Mortal Wkly Rep 2021;70:490–4.
[38] Holland K.M, Jones C, Vivolo-Kantor A.M, et al. Trends in US emergency department visits for mental health, overdose, and violence outcomes before and during the COVID-19 pandemic. JAMA Psychiatry 2021;78:372–9.
[39] Taquet M, Sillett R, Zhu L, et al. Neurological and psychiatric risk trajectories after SARS-CoV-2 infection: an analysis of 2-year retrospective cohort studies including 1284437 patients. Lancet Psychiatry 2022;9:815–27.