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Mental health treatment-seeking behaviors in medical students: A mixed-methods approach

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Abstract

Background: Healthcare professionals can experience problems regarding mental health and emotional well-being (e.g. burnout) at a higher degree compared to their non-physician counterparts. Fear of stigma is often a barrier to seeking treatment among physicians. However, there is a shortage of studies related to mental health and treatment seeking among trainees and medical students.

Objectives: This study sought to examine mental health in U.S. medical students, factors contributing to mental health symptoms, and obstacles to seeking treatment.

Design and Methods: This cross-sectional study was conducted through a confidential survey sent out in fall 2021, with 510 U.S. medical student participants. This survey included scales to assess depression (the Patient Health Questionnaire-8), anxiety (Generalized Anxiety Disorder-7), past year symptoms of hazardous drinking (Alcohol Use Disorder Identification Test), and past 30-day binge drinking days. The survey also included free-response questions about their reasons for seeking mental health care if they did (facilitators) and any barriers that kept them from seeking treatment.

Results: About one-quarter of participants met criteria for possible depressive (24%) or anxiety disorders (24%); 9% of the sample drank at hazardous drinking levels. Between 47% and 60% of those who screened positive for depression, anxiety, or hazardous drinking reported an unmet need for mental health services. Anxiety and depression were cited as the most common reasons to seek treatment; concerns about stigma from peers and professional retaliation were notable for being barriers to treatment.

Conclusion: Our sample of medical students reported notable prevalence of probable depression or anxiety disorder, while also reporting needing more support to improve their mental health. Despite this, barriers exist that may discourage medical students from seeking needed treatments. Findings from this study aim to encourage discussion and positive change in the healthcare community regarding perception and attitudes toward mental health and substance use treatment.

Keywords

Treatment barriers, treatment facilitators, behavioral health, treatment, depression, anxiety, stigma, medical school, substance use disorders

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Background

Physicians, or medical doctors, are healthcare professionals that help treat other individuals for medical ailments, injuries, and disease, yet it is important to also consider their own well-being, including mental and emotional health. Resident physicians have been found to be at high risk for depressive symptoms, with prevalence rates

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ranging from 20.9% to 43.2% and escalating with each calendar year.[1] Overlap between depression and burnout (i.e. a phenomenon associated with depersonalization, emotional exhaustion, and low sense of accomplishment) was demonstrated among Austrian physicians, with depression being associated with more severe burnout.[2] The consequences of depressive mental health symptoms and burnout are severe. For example, the rate of physician suicide is higher than the rate of suicide within the general population,[3,4] with approximately 300 to 400 physicians dying by suicide a year.[5] This may be due to the several risk factors to which physicians are exposed. For instance, suicide and suicidal ideation are often linked to risk factors including burnout and mental health conditions, especially those that are unaddressed or undertreated, lack of an adequate support system, and access to lethal means.[6] In addition, though both depression and burnout are prevalent in physicians, with rates being higher than in the general population,[7] physicians are often undertreated for conditions such as depression and substance use disorders.[8]

One way to shed light on this public health issue among physicians is to examine the mental health of physicians-in-training, or medical students. Pressures of getting into medical school, successfully navigating through years of intensive programs, and eventually securing gainful employment have potential to have lasting impacts of well-being far past school. Indeed, medical education and environment, with high academic demands and expectations contributing to stress, may have to do with the high rates of distress among medical students.[9] One recent study of over 2000 medical students and residents showed such trainees have a high rate of depression, with 12% reporting probable major depression and 9.2% reporting probable mild to moderate depression.[10] Another study indicated that suicide is also a leading cause of death among residents, with rates of suicidal ideation increasing 370% within the first quarter of the first year of training.[11] Further, individuals undergoing medical training at any stage had higher levels of burnout and depressive symptoms compared to the general population.[12]

Anxiety is also much more prevalent in medical students than in the general population; a recent study reported upward of a one in three prevalence of anxiety among medical students worldwide.[13] Other research has shown that as medical school training progresses, the emotional wellness of students decreases, with increased amounts of compassion fatigue and burnout.[14,15] One study focusing on a medical school with a competency-based curriculum (compressed preclinical foundational sciences phase) indicated that emotional health was highest at baseline at matriculation and lowest at Year 1 of study but never reached baseline again, suggesting that medical training itself may be detrimental to students' well-being.[16] In terms of substance use, one study of 855 medical students across 49 medical colleges in the United States found that 33.8% of medical students have engaged in binge drinking, meaning that in the past 2 weeks, they consumed five or more drinks in one sitting.[17] Medical students, thus, exhibit similar high rates of behavioral health challenges as their physician counterparts, suggesting these mental health concerns may stem from as early on as training.

Current literature points to a need for medical students to receive assessment and supportive services to alleviate mental health distress and to promote positive emotional well-being. Yet, fears of stigma, physicians' struggle to identify mental illnesses in themselves, limited understanding of physician mental health from lack of descriptive research, and normalization of stress in the training environment are often viewed as barriers to seeking mental health treatment.[6] Such barriers are present not only for seeking mental health care (e.g. for depression or anxiety) but also when seeking treatment for substance use disorders.[18] Among American physicians, there is a high rate of alcohol use disorder, which is associated with comorbid behavioral health issues, including depression and anxiety.[19,20] Studies also show that medical students, compared to the general population, have a higher prevalence of anxiety, depression, and overall psychological distress; however, there is a shortage of studies related to mental health and emotional well-being within this population.[15] Beyond managing symptoms of behavioral health issues, it is especially important to address mental health concerns among physicians and medical students, as mental health problems can be associated with making major medical errors in practice.[21,22] For the sake of both patient care and physician well-being, it is important to further understanding of behavioral health care in this population.

Objectives

This particular study focuses on mental health in US medical students, the factors surrounding mental health conditions (depression, anxiety, heavy drinking, and alcohol use disorders), and barriers and facilitators to seeking treatment. As an exploratory study utilizing confidential online surveys with both standardized scored questionnaires and open-ended prompts with qualitative coding, this study sought to identify barriers and facilitators to seeking mental health and substance use treatment among medical students.

Design and methods

Participants and procedures

This was a cross-sectional study. We recruited participants by contacting representatives from 205 medical schools across the United States to ask if a brief online survey could be distributed to medical students at the university. Six schools responded and their representatives agreed to distribute the survey to the student body via email. The

survey was also posted on an online forum geared toward medical students, medical student group pages, and chats (i.e. distributed through word-of-mouth). Participants completed a one-time survey at the beginning of the Fall semester in 2021. In order to be included in the study, participants had to be currently enrolled in a medical institution in a Doctor of Medicine (MD) or Doctor of Osteopathic Medicine (DO) program. In addition, we included two checks for attention (e.g. "Please select the response option 'several days' for this item.") and one check of the participant's student status by asking their year in school (e.g. first, second) and student status (e.g. MS1, MS2), ensuring these matched (with some response options also not being real student status indicators, for example, MS8). Participants were omitted from analysis if they failed two or more out of the three checks. All sampling procedures and survey questionnaires were approved by the International Review Board at the university in which data collection originated. All participants provided written consent before participating. In total, 568 participants began the survey, of which 46 did not progress past the first few demographic items. An additional 12 participants failed the attention checks and were removed. This left a final analytic sample of 510 participants from schools across 19 states.

Measures

Demographics. Participants completed measures of age, race/ethnicity, sex, gender identity, what type of medical program they were in, state where their school was, and year in medical school. Demographics are reported in Table 1.

Mental health symptoms. We measured depression symptoms using the Patient Health Questionnaire-8,[23] measured with 8 items on a scale from 0 = "not at all" to 3 = "nearly every day," with total scores ranging from 0 to 24. Symptoms of anxiety were measured with the Generalized Anxiety Disorder-7,[24] measured with 7 items on a scale from 0 = "not at all" to 3 = "nearly every day," with total scores ranging from 0 to 21. We also assessed past year symptoms of alcohol use disorder with the Alcohol Use Disorder Identification Test (AUDIT),[25] an 10-item scale with total scores ranging from 0 to 40, and a cutoff score of 8 indicating hazardous drinking. We included one item to assess past 30 day frequency of binge drinking ("Considering all types of alcoholic beverages, how many times during the past 30 days did you have (4 or 5) or more drinks on an occasion?," with responses ranging from 0 to 30. Binge drinking was considered four or more drinks for participants who indicated female biological sex; those who indicated male biological sex or did not respond to the item were displayed five drinks for binge drinking.[26]

Table 1. Sample demographics ($N = 510$).

	M (SD) or *n* (%)
Age[a]	24.99 (2.66)
Sex[b]	
Male	157 (28.4%)
Female	364 (71.4%)
Gender identity[b]	
Man	143 (28.0%)
Woman	359 (70.4%)
Non-binary or gender non-conforming	7 (1.4%)
Year in medical school	
First year	177 (34.7%)
Second year	177 (34.7%)
Third year	102 (20.0%)
Fourth year	54 (10.6%)
Race/ethnicity[c]	
White	304 (59.6%)
Asian	96 (18.8%)
Hispanic/Latinx	46 (9.0%)
African American/Black	33 (6.5%)
Multiracial	28 (5.5%)
Native Hawaiian/Pacific Islander	1 (0.4%)
Behavioral health	
Screened positive for depression[c]	135 (26.5%)
Screen positive for anxiety	129 (25.3%)
Screened positive for hazardous drinking	50 (9.8%)
Any past 30-day binge drinking	214 (42.0%)

SD: standard deviation.
[a]Age ranged from 21 to 42 years old.
[b]One participant preferred not to answer item.
[c]Two participants preferred not to answer item.

Behavioral health treatment. Participants indicated whether they received substance use or mental health services in the past 12 months. They were asked, "During the past 12 months, have you received services or counseling or prescription medication for your use of alcohol or any drug, not counting cigarettes?" (yes/no) and "During the past 12 months, have you received services or counseling or prescription medication for any problem you were having with your emotions, nerves, or mental health? Please do not include treatment for alcohol or drug use" (yes/no). They were then asked if there was a time in the past 12 months when they needed substance use or mental health services but did not receive it: "During the past 12 months, was there any time when you needed alcohol or any drug services or counseling for yourself but didn't get it?" and "During the past 12 months, was there any time when you needed mental health services or counseling for yourself but didn't get it?" Participants that did reported an unmet need for either substance use or mental health treatment were presented with eight items (reasons) for not seeking care when it was needed (see items in Table 2). Finally, participants were asked four items each about

Table 2. Reasons for not seeking care among those who endorsed an unmet need for care.

	Unmet need for substance use care ($n = 5$)	Unmet need for mental health care ($n = 163$)
	n (% of those with unmet need)	
I had concerns about the cost of services	2 (40.0%)	80 (49.1%)
I was embarrassed to get services and/or concerned about what others might think of me	2 (40.0%)	51 (31.3%)
I was concerned that getting services might have a negative effect on my academic or employment opportunities	0 (0.0%)	45 (27.6%)
I did not know where or how to get services	2 (40.0%)	45 (27.6%)
I had concerns about confidentiality and/or consequences of disclosing information to a service provider (e.g. getting in legal trouble, forced to attend a treatment program against my wishes)	1 (20.0%)	33 (20.2%)
I didn't think services would help or thought I could handle the problem on my own	3 (60.0%)	86 (52.8%)
I had concerns about scheduling (e.g. didn't have time, it was difficult to schedule an appointment, or service hours were not convenient)	4 (80.0%)	122 (74.8%)
I had concerns about transportation (e.g. no transportation, location was not convenient)	0 (0.0%)	10 (6.1%)

perceived and actual stigma of seeking care for behavioral health concerns (including both substance use and mental health care).[27,28] Perceived stigma refers to how participants thought others would view them. Actual stigma refers to how participants would view others. Participants rated items for perceived stigma on a four-point scale from strongly disagree to strongly agree, with items of "It would be too embarrassing," "I would be seen as weak," "It would harm my reputation," and "people important to me would think less of me." They then were asked how they would feel if another medical student sought care using those four items: "They should feel embarrassed," "I would view them as weak," "They should worry about their reputation," and "I would think less of them." These latter items assessed actual stigma of others, while the former assessed perceived stigma from others.

Open-ended barriers and facilitators to treatment items. Participants were asked open-ended questions about their receipt of mental health treatment in medical school. First, we asked if the participant had ever sought counseling within the school, with the subsequent follow-up question, "Why or why not?." Those who indicated that they had sought counseling within the school were probed for facilitators (i.e. answering "Why?") and those who did not were probed for barriers (i.e. answering "Why not"). We then asked further about barriers to treatment by prompting, "Please write about or list barriers (if any) that would keep you from seeking mental health treatment."

Analysis plan

Quantitative analysis. Analyses consisted of descriptive statistics (means, frequencies) to describe the sample in terms of meeting cutoffs for mental health disorders, mental health symptom means, and frequencies of those seeking treatment. We also examined responses to the barrier items to describe the percentage of participants who indicated each item was a barrier to their care receipt. Given that stigma has been cited as a barrier to care, we included descriptive analyses where we reported participants' perception of stigma from others and the actual stigma toward others the sample reported themselves.

Qualitative analysis. Free responses to the barriers and facilitators, prompts were examined to expand upon the standardized set of barrier and facilitator items included in the survey. We developed an initial codebook of descriptive themes of barriers and facilitators to treatment engagement. Then, we discussed and agreed upon set definitions for each code. Once the codebook was finalized, two coders independently reviewed each of the open-ended responses from the participants and identified applicable code(s) for each response in separate documents. The two coders' responses were then merged, and two other researchers finalized code applications by resolving any discrepancies between the two initial coders. Researchers on the team met throughout the data analysis process to discuss any code definitions or responses that were unclear. Key themes from the qualitative responses are presented below.

Results

Sample description

Table 1 contains a description of the sample. Most participants were female (71.6%), with a spread of students

across medical school years. Sixty percent of the sample was White, with representation across racial/ethnicity groups of Asian (19%), Hispanic/Latinx (9%), African-American/Black (6%), and Multiracial (5%). Students came from 19 states with Wisconsin ($n=166$), Kansas ($n=104$), and California ($n=41$) representing the top three states. Most students were in an MD program ($n=470$, 92%), as opposed to a DO program ($n=37$, 7%) or an MD/PhD program ($n=3$; 1%).

Mental health and treatment-seeking behaviors

About one-quarter of the participants each met criteria for a possible depressive (27%) or anxiety disorder (25%). Ten percent of the sample drank at hazardous drinking levels, and 42% engaged in binge drinking at least once in the past 30 days. In the past year, five participants (1%) reported receiving behavioral health services for alcohol or drug use, with six participants (1%) reporting need for such services but not receiving them. Though 45% of the sample ($n=231$) reported receiving mental health services in the past year, 32% ($n=163$) reported not receiving mental health services that they needed. Almost half of those who met criteria for mental health problems reported not receiving care when they needed it: 40% of those who screened positive for depression and 48% of those who screened positive for anxiety. Fifty-four percent of those who met criteria for hazardous drinking on the AUDIT reported not receiving care when they needed it.

Reasons for not seeking care

Table 2 details the reasons for not seeking care among those that reported unmet need for care. The top reasons for not receiving needed substance use care or mental health care were for concerns about scheduling (e.g. did not have time), beliefs one could handle their problems on their own, and concerns about cost of services.

Participants believed that seeking care would be viewed negatively by others but stated that they would not negatively view another medical student would sought behavioral health care. Approximately one-quarter (27%) reported that they would not seek care because it would be embarrassing, while 31% reported they would be seen as weak by others, 27% believed seeking care would harm their reputation, and 25% believed that important people in their lives would think less of them for receiving care. However, the participants themselves stated that they did not think other medical student should feel embarrassed for seeking care (99% disagreed that other should feel embarrassed); 98% reported they would not view another student as weak for receiving care, 94% reported other students should not worry about seeking care harming their reputation, and 99% reported they would not think less of another medical student for receiving care.

Open-ended responses to reasons for receiving or not receiving care

These results pertain to the qualitative response section of the survey. This section describes the responses of medical students to the questions about whether they received care within the school and the reasons for their response. In addition, medical students were also asked to identify barriers to seeking care in general. The reasons for receiving care were considered facilitators of receiving treatment. The reasons for not receiving care within the school, along with the barriers that medical students self-identified, were considered barriers to receiving treatment.

Facilitators of receiving treatment

Several facilitators of seeking mental health treatment were noted by participants. Based on the major themes discovered from the responses, the facilitators were separated into the broader key categories of mental health symptoms, stressors, isolation/loneliness, imposter syndrome, encouragement/concern from others, accessibility, self-improvement, perception of treatment, and life changes. The categories are described and explored below. Table 3 includes these key categories of facilitators and verbatim examples from the open-ended text.

Mental health symptoms. Participants most frequently cited depressive symptoms as a reason for seeking mental health treatment. Anxiety was the second most-common mental health symptom reason, followed by trauma or post-traumatic stress disorder symptoms. Suicidal ideation was also identified as a reason for seeking mental health treatment. Some students mentioned seeking treatment in order to keep their previously diagnosed mental health conditions under control during school. One particular student mentioned that they noticed their mental health symptoms were exacerbated during medical school, with their anxiety having "grown substantially since starting medical school."

Stressors. Participants described stressors as facilitators of receiving care. More specifically, participants identified academics, feelings of being overwhelmed, burnout, personal life, and discrimination as being sources of stress. In regards to academics, multiple students noted the pressure of and amount of schoolwork from medical school to be major sources of stress. Other students noted feeling overwhelmed by events in their personal life. However, within the category of stressors, burnout was the most cited facilitator.

Isolation/loneliness. Participants noted how they felt isolated from their peers and because of distancing related to the COVID pandemic. COVID-related loneliness garnered the highest response within this category.

Table 3. Key categories of facilitators and examples.

Key category	Examples
Mental health symptoms	"Feeling unusually anxious, thought they might have some resources/advice" "Scored poorly on the mental health survey in comparison to other students. I realized I needed help and that my thoughts and feelings were not as universal as I had hoped/imagined." "I have sought counseling for anxiety and panic disorder. My anxiety has grown substantially since starting medical school and I was unprepared for this shift in my mental health."
Stressors	"I was feeling extremely anxious about schoolwork and personal problems that were impeding my academic performance. And these in-school counselling services were helpful and free." "Medical school takes away all the joys in life, makes you feel subpar to your peers, and makes you worried to enter a career that isn't known to be any easier on your mental health." "I had trouble coping with how to deal with the grief while feeling as though I was drowning in schoolwork."
Isolation/loneliness	"Overwhelmed first semester and mild depression. Was hard to start first year last year in complete isolation due to COVID." "Depressive symptoms during M1 year/general covid distancing/isolating and contacting the counseling services was readily available and easily accessible at my school" "Was hard to start first year last year in complete isolation due to COVID."
Impostor syndrome	"To help with imposter syndrome and the struggles associated with medical school." "To overcome imposter syndrome and get over some things that bothered me from my past"
Encouragement/ concern from others	"Depression—referred to a mental health professional through the school, paid for by the school" "I self-initiated counseling for the first time last year as a way to be pro-active. I was surrounded by great medical student friends who were very candid about their therapy and I decided to do that." "We had a session during orientation that encouraged seeking help and becoming the best version of ourselves in order to best treat patients in the future."
Accessibility	"Why: felt comfortable talking to trusted faculty. Their efforts to provide anonymous mental health services led me to seek (free to students) counseling with a provider not affiliated with the school." "It was incredibly easy to access . . . Here, in my medical school, it's much easier to access and they encourage everyone to reach out. When I called, they apologized that they could "only" find time for an appointment for me in two days . . . and I was shocked. The early response and quick turnaround time on their end definitely made the difference for me and allowed me to address the issues while they were still smaller and manageable, rather than allowing them to grow bigger and less manageable while waiting. I got help for anxiety, focus issues, and keeping my depression under control and they were so helpful. Would recommend to anyone." "It's anonymous and the school never finds out so no concerns about it impacting career etc"
Self-improvement	"I am learning to handle new struggles and stresses and wanted counseling to find coping strategies and talk things through with a professional." ". . . I have gained a lot of useful knowledge from therapy, and I am far from where I want to be, but I have improved a lot, and I wanted to continue that trend while in medical school, especially because this is one of the most stressful times I will likely ever go through."
Perception of treatment	"I have gained a lot of useful knowledge from therapy, and I am far from where I want to be, but I have improved a lot" "I have done lots of counseling in the past and found it extremely beneficial, so I am grateful to know that option is there and provided by my school." "I think counseling is an important part of maintaining my health."
Life changes	"I was feeling overwhelmed by the transition to med school" "To assist with transition to medical school and moving from out of state. Also to resolve issues with my family and past relationship. My medical school offers 10 free counseling sessions per year so I decided to take advantage."

Imposter syndrome. Imposter syndrome was described as having feelings of inadequacy and doubts of one's own capabilities.

Encouragement/concern from others. Participants mentioned they received support and suggestions from friends to receive counseling. Others responded that their schools encouraged them to seek counseling for managing schoolwork and improving academic performance. Concern from the school was the most cited facilitator in this category.

Accessibility. Many participants mentioned being able to seek mental health care due to the free and accessible mental health services provided by their medical schools.

Self-improvement. Reasons related to self-improvement included wanting to improve self-esteem, academic performance, and/or desire for support.

Perception of treatment. Having a positive perception of treatment was a reason for some medical students to seek care. Some participants noted their previous positive experiences with counseling, while other students mentioned that they viewed mental health treatment as positive and helpful.

Life changes. Life changes that were noted by participants included transition to medical school to loss and grief, with examples such as miscarriage, end of relationships, and family member death. Grief was the most cited facilitator in this category.

Barriers to receiving treatment

Several barriers to seeking mental health treatment within medical school and in general were noted. Based on the major themes discovered from the responses, the barriers were separated into the broader categories of dissatisfaction/distrust, stigma, anxiety/stress about seeking care, lack of resources, lack of accessibility/convenience, lack of experience or knowledge, intent to seek treatment, lack of need, and barriers regarding culture/gender/sexuality/background. The categories are described and explored below. Table 4 includes these key categories of facilitators and verbatim examples from the open-ended text.

Dissatisfaction/distrust. These responses pertained to dissatisfaction/distrust with mental health services in general or with the specific mental health services provided by the medical students' medical schools. Several students found their medical school's mental health services to be dissatisfactory, with various responses, such as feelings of discomfort or discontent with the school's providers and their approaches and lack of trust of the school. Dissatisfaction/distrust with the mental health services provided by the medical students' medical schools was cited the most within this category. Some students reported already receiving care outside of their medical school, with some mentioning they preferred outside services to school mental health care, and others feeling uncomfortable by the idea of seeking counseling at their own medical school.

Stigma. Participants described their concerns of confidentiality breaches, their school finding out about their mental health treatment records, and perceived retaliation and negative consequences from the school, residency programs, and/or potential employers. Students also cited not wanting to experience social stigma related to mental health care from their peers, family, and community. Within this category of stigma as a barrier to receiving care, concern about stigma from the professional community (i.e. fear of retaliation or negative consequences when applying to residency programs due to preconceived notions of mental health) garnered the highest response.

Anxiety/stress about seeking care. Participants reported that they felt anxiety or stress about opening up to a counselor, talking about their problems, and not knowing what to expect when seeking care.

Lack of resources. Students reported they lacked resources such as time, energy and effort, and finances/insurance for seeking mental health care. Among the lack of resources students reported, lack of time was the most cited.

Lack of accessibility/convenience. Lack of accessibility/convenience was described as school-specific or in general. School-specific lack of accessibility/convenience was most cited within this category, with reasons including the school services' long wait times, lack of counselors, and lack of scheduling accessibility within the confines of the medical student education schedule. Difficulty finding or reaching a provider taking new patients and having to make phone calls to providers (instead of signing up online) were examples of lack of accessibility/convenience in general.

Lack of experience or knowledge. Participants reported that they did not have enough information regarding mental health care and its effects, did not know how to set up appointments or where to find mental health care, and were unsure of what to expect during care.

Intent to seek treatment. Several medical students mentioned having intent to seek treatment but having not done so due to reasons such as forgetting to set up an appointment, not making mental health treatment a priority, or being new to school, thus not having the time to make an appointment yet. Most of these barriers appeared to be described as temporary and indicated that the participant would likely seek care once that barrier would be removed.

Lack of need. Participants mentioned they felt they could overcome mental health obstacles by themselves and therefore did not want or need to seek mental health care. Other students reported that they felt satisfied with their own support systems, like family and friends, and therefore did not need additional support. Some felt they simply did not need services. Others mentioned that they felt or worried that their problems and mental health were not serious enough to warrant mental health care.

Barriers regarding culture/gender/sexuality/background. Several students mentioned the lack of diversity among providers to be a barrier to their seeking care. Others had negative

Table 4. Key categories of barriers and examples.

Key category	Example
Dissatisfaction/ distrust	"I sought counseling to use the 10 free sessions we have but when I called the clinic where I was supposed to schedule my appointment they were very rude and refused to talk to me unless I gave them my insurance or was going to pay out of pocket. They had never heard of my program that allows 10 free sessions. I was discouraged to call them again." "I have been told that the counselor on campus mainly focuses on academic goals rather than assisting mental health related issues." "I also don't really trust the school to have my best interests in mind if profits are on the line" "I don't feel comfortable having my medical care performed at the institute where I am going to school"
Stigma	"Too concerned about whether it will be tracked, on my record, bill me (cannot afford that) or in some way come back to haunt me during residency applications." "I'm afraid of making an appointment. I think I'm afraid of being judged for seeking counseling by my family and worried about what the counselor will think of me and my ability to be a doctor if I revealed my level of anxiety." "I was concerned to seek counseling within the school because of the stigma regarding mental health that is still prevalent and fears that seeking help would impact how the school would look at my performance, but I was glad to see that getting help made it easier to deal with issues and was truly confidential." "The possibility of creating a record that may discourage employers from hiring me" "Feeling like I want to hide my anxiety because people might not think I am fit to be a doctor" "Fear of a fellow medical student accessing my psychiatry/psychology visit notes"
Anxiety/stress about seeking care	"I feel like I should, I am just nervous about starting a connection with someone and being vulnerable around them. Also I don't want to be a burden on someone else just because my feelings hurt. " "Feeling guilty like I should be studying" "Admitting to myself that I am in need of that level of care"
Lack of resources	"The biggest barrier is the copay that adds up. At the beginning of medical school there was no copay for telehealth but now I have cut down on how often I have appointments because of the cost." "The time and effort required to schedule meetings and find a counselor" "Energy/time searching for a compatible/affordable/understanding provider"
Lack of accessibility/ convenience	"Having to wait for weeks after scheduling an appointment. Only having one way to book appointments (ie you have to call in). Not allowing walk ins. Having the mental health services in a place where deans/admin could see me enter their office. None of these are true at my school but if they were they'd be obstacles for me." "There aren't enough counselors to help everyone who needs it" "Having to wait for weeks after scheduling an appointment" "Flexibility in scheduling appointments since we get very little time off in clinical years and no control over our schedule in preclinical years"
Lack of experience or knowledge	"Unclear how to get started/initiate counseling, unclear how many sessions are included with tuition, rumors of there being a long waitlist, finding time during busy schedule, not wanting to address suppressed emotions, worried about stigma and judgment" "Not knowing if it will be helpful" "Unsure what to expect of an appointment"
Intent to seek treatment	"I am my own biggest barrier. I don't prioritize taking the time to call or make the appointment" "Felt like a hassle to schedule, did not feel strongly enough that it was needed to make the time" "I keep forgetting to set it up once I'm no longer in a stressful period"
Lack of need	"I have felt enough support from other faculty members, classmates, and family members." "Feeling like my mental health is not bad enough to be worth seeking treatment" "Wanting to figure it out myself" "Worrying that my problems aren't "big enough" for therapy"
Barriers regarding culture/gender/ sexuality/ background	"I don't trust mental healthcare due to previous traumatic experiences with mental healthcare professionals on account of being trans. I also have had very negative experiences with my school's regular student health program with respect to my trans status. As a result, I am not comfortable seeking help from the school counselor because I would prefer not to risk negative experiences." I have specific beliefs and religious convictions that I would want to be respected and talked about with someone who understands them more and would encourage me in them. As my school is a state school, there is no religious affiliations with the counselors and I would feel more comfortable elsewhere." "I would appreciate having someone in that position that looked like me. It's difficult to seek help from individuals who I do not relate to, even though I understand that they may still be helpful" "Would like to see a larger array of diversity in the mental health staff" "As an Asian American woman, I strongly prefer having a counselor who is AAPI [Asian American and Pacific Islander] as well, to understand my cultural upbringing and background. My school has a small amount of POC [People of Color] therapists, which has been difficult to find someone fitting for me that I am comfortable with."

experiences with providers; for instance, one student reported that a provider repeatedly misgendered them. Students mentioned that they wanted mental health providers to have more diversity and sensitivity to cultural backgrounds.

Discussion

The purpose of this study was to examine the facilitators and barriers to receiving mental health care among medical students. Between 47% and 60% of the medical student participants in our study who screened positive for depression, anxiety, or hazardous drinking reported an unmet need for mental health services. Medicine is considered one of the most challenging professions to enter,[29] and prior work has shown that medical students are at-risk for a number of mental health and substance use problems.[10,12,19] Thus, addressing unmet needs among medical students is important to consider, especially for medical students who are so early in their medical career trajectory, and who may move on to careers as physicians with continued unmet need.

Medical students in this study provided descriptions of the facilitators and barriers to seeking mental health services. Major facilitators were having mental health symptoms (e.g. anxiety and depression), and stressors (e.g. burnout), factors related to the COVID-19 pandemic (e.g. loneliness), and discrimination. In other words, students reported their mental health symptoms and stressors were primary sources of motivation to seek help. Previous studies have shown that stress levels do not differ among non-medical students and medical students at the start of entering medical school.[30] However, studies have suggested that medical students' mental health appears to worsen during their time in medical school.[10,31–33] For instance, one study even reported that the rate of depressive symptoms increased by 13.5% from before medical school to during medical school.[34] These findings highlight the importance of addressing mental health issues in incoming medical student populations as a preventive measure.

Our study also highlights several major barriers to seeking mental health care among medical students. These barriers are important to explore, especially as mental health problems can continue into further levels of training, such as residency,[1] and have potential to lead to school dropout. These depressive symptoms have consequences; mental health problems among physicians and physicians-in-training have been linked to higher risk of suicidal ideation and medical error.[21,22] Major barriers to seeking mental health services included concerns about stigma from peers and the professional community, fear of negative consequences or retaliation, concerns about confidentiality, and a lack of resources.

Of particular note was the topic of stigma, which emerged highly in our data. Between 25% and 31% of participants responded they would not seek care because of reasons such as concern about embarrassment, being seen as weak by others, and harm to reputation. However, 94% to 99% of the participants also stated that they would not view their fellow students negatively if the participants knew that their peers were seeking mental health care. Thus, it may be important to highlight and emphasize that a large majority of medical students would not think negatively about those who seek care, which may relieve some of the anxiety that medical students report about stigma surrounding seeking treatment. Given that stigma within the community of medical students is so prevalent, it is essential to address and challenge, which may reduce the strong hesitancy among students to seek mental health treatment.

Stigma from parents and the school (supervisors, professors, and administrators) was cited by many students in the study, with fears that receiving mental health care would interfere with their career, job perspectives, and status at their school or training site (e.g. "risk of expulsion") if others were to discover their involvement in treatment. It is unclear from our data how parents and school faculty/supervisors would actually view their students if they were to seek care. Efforts may need to be made to reduce stigma held by parents and faculty/supervisors. Access to confidential care both within and outside the medical school may help to alleviate students' stigma concerns, as long as care is confidential. Indeed, confidentiality concerns were also listed as a barrier. Concerns surrounding confidentiality of mental health medical records and fear that confidentiality may be breached despite assurances that medical records will be kept private were reported. Awareness campaigns can help students to better understand what confidential care entails.

Another discussion point to note is that while mental health treatment may be encouraged by the school, students often do not feel they have the time, resources, or energy to pursue mental health treatment. Perhaps it is important to consider the structure and required time commitments of medical school (i.e. regularly setting aside protected time for students to take care of their mental health) to make accessing mental health care more attainable to students. Working with medical students to establish reasonable school time commitments and healthier work-life balance could be among the measures medical schools take to address students' barriers to mental health care. Finally, implementing strategies institutionally to directly target well-being can help schools address medical student mental health directly. One recent study explored strategies employed by various medical schools to promote student wellness, including curriculums that emphasize well-being, mental wellness assessment tools, and pass/fail grading systems.[35] Longitudinal studies are needed to identify which of these strategies are most effective in promoting student wellness over time.

There are several strengths to this study. The survey had responses from a wide demographic of medical students. For instance, there were responses from medical students across the country and medical students from all years of medical school. We also used both quantitative (descriptive analyses) and qualitative (coding of themes from open-ended responses) methods to examine data, providing a unique opportunity to gather more detailed information about factors related to mental health and treatment-seeking behaviors among medical students.

There are also several limitations to this study. Six schools agreed to distribute the survey, so future research may benefit from greater participation from students from a larger pool of medical schools. Still, message board posts and other advertisements we used in the study expanded the sample beyond these six schools only, with students coming from multiple schools within 19 different states (since the survey was anonymous, it is unclear how many different schools were represented). Future studies may also benefit from longer follow-up periods in order to capture additional data from medical students as they progress through medical school. In addition, participation in this survey was voluntary, meaning the medical students who participated in this project may have been self-selecting; perhaps those who are more aware of or interested in their own mental health were more likely to have chosen to participate in this research study, compared to those who may not prioritize mental health. Regardless, it is important to continue to prioritize research and clinical efforts toward improving medical students' mental health. Moreover, though we asked participants about treatment related to any substance use problems, we only report on alcohol use, which may limit understanding of how use problems relate to treatment engagement among those who use other substances (e.g. tobacco, cannabis, illicit drug use). Future studies can elaborate upon our findings by focusing on other drug use. Finally, though survey participants may have exhibited self-report bias, we attempted to minimize this through keeping responses completely anonymous.

Conclusion

Mental health and care receipt are often under-prioritized among physicians-in-training and medical students. Despite endorsing many reasons to seek behavioral health care, many medical students who report mental health symptoms ultimately do not end up obtaining care. Reducing barriers to behavioral health care, such as perceptions of stigma, time and cost constraints, and concerns of privacy, is vital to encourage medical trainees to engage in care they need. Overall, there remains an unmet need for mental health care among medical students; taking steps to repair culture in medical schools surrounding provider receipt of behavioral health care is a necessary step forward for both provider and patient well-being.

Declarations

Ethics approval and consent to participate

This project was approved by the University of Southern California's IRB (UP-21-00550). All participants provided written informed consent before participating.

Consent for publication

Consent for publication of deidentifed data was approved by the University of Southern California's IRB (UP-21-00550).

Author contributions

Jennifer Wang: conceptualization; data curation; formal analysis; funding acquisition; investigation; methodology; project administration; resources; software; supervision; validation; visualization; writing – original draft; writing – review & editing.
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Competing interests

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Availability of data and materials

Data may be made available upon request to the corresponding author. Analyses were conducted on complete cases only. Missing data were minimal and were generally due to participants not completing the items included in analyses (see page 6).

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Supplemental material

Supplemental material for this article is available online.

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