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EMPIRICAL REPORT

Growing the Psychiatry Workforce Through Expansion or Creation of Residencies and Fellowships: the Results of a Survey by the AADPRT Workforce Task Force

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Abstract

Objective The USA needs to produce more psychiatrists to meet projected workforce deficits. The American Association of Directors of Psychiatric Residency Training Directors (AADPRT) sought to examine opportunities for and obstacles to expanding or creating residencies and fellowships.

Methods In November 2019, the authors conducted a survey of residency and fellowship directors. The survey gathered information about new positions, new programs, participation in interprofessional education, and loss of residency or fellowship positions.

Results The survey was distributed to psychiatry residency (*N*=231) and fellowship (*N*=194) directors, with a response rate of 33.4%. One quarter of responding residencies and fellowships reported creating new programs; 24.7% of residency and 17.5% of fellowships reported expansion. The most common reason to develop or expand programs was the shortage of psychiatrists, with the local institution as the most common funding source. Fifty-seven percent reported that they had wanted to expand, but faced barriers, primarily lack of funding. Recruitment and retention of faculty are major challenges. Psychiatry departments frequently (87.5%) participate in interprofessional education, generally perceived as positive. Unfortunately, 15.7% of respondents reported loss of positions or closure of programs.

Conclusions Creating and expanding residencies and fellowships are common strategies for addressing the shortage of psychiatrists. Barriers include lack of funding and challenges recruiting/retaining faculty. The loss of residency/fellowship positions or closure of programs is a worrisome trend.

Keywords Psychiatrist · Workforce · Shortage · Residency or fellowship expansion · Residency or fellowship development

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The USA has a shortage of psychiatrists. From 1995 to 2014, the US population increased by 37% and the number of physicians increased by 45%, but the number of psychiatrists grew by only 12% [1]. Furthermore, in 2017, 61% of psychiatrists, compared with 44% of all physicians, were age 55 or older and thus likely to retire in the next 10–15 years [2]. A recent population analysis projected a shortage of between 14,280 and 31,091 psychiatrists by 2024 and it is unclear whether this deficit will resolve by 2050 [3]. The current psychiatric and mental health workforce is not meeting the nation's mental health needs. In 2017, the past year prevalence of a DSM 5 disorder (excluding substance use and developmental disorders) among US adults was 18.9%, but only 42.6% received any mental health services [4]. In the National Comorbidity Survey Replication study, only about 12% of adults with a mental health disorder in the USA saw a psychiatrist [5]. In a study of US counties, 77% had a severe

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shortage of any mental health providers and 96% had unmet need for psychiatric prescribers, with rural counties and those with lower per-capita income having the highest levels of unmet need [6]. The demand for psychiatric care is expected to increase further with mental health parity legislation and decreased stigma about seeking care.

Psychiatric subspecialists are also in short supply. One in six children or adolescents has a mental health disorder but only half of them receive treatment from any mental health provider [7]. Seventy percent of counties in the USA have no child and adolescent psychiatrist [8]. One in five people 65 years or older have mental health and/or substance use disorders; the number of older adults is increasing, yet the supply of geriatric psychiatrists is falling [9]. Similarly, there is a critical shortage of addiction psychiatrists, with only 1164 active board certificates in this subspecialty in the context of a nationwide opioid epidemic, about 25% of the population having an addiction, and the frequent overlap of substance use and other psychiatric disorders [9, 10].

Proposals to address the unmet needs for mental health care include training psychiatry residents and existing psychiatrists to work as consultants within primary care settings as part of integrated or collaborative care teams [11], having non-psychiatrist clinicians fill the gaps (through increased scope of practice for nurse practitioners, physician assistants, psychologists, and other health care professionals [12]), and using telepsychiatry and existing rural training tracks to address distribution issues. While these solutions may help with access to mental health care, none of these measures addresses the primary issue—the shortage of psychiatrists itself. Despite the need, the federal funding of residency programs has remained relatively stagnant [13]. At the same time, the pool of applicants has increased for a limited number of psychiatry positions [14–18]. In the 2020 Match, there were 2798 applicants for the 1858 psychiatry positions available [18], leaving numerous qualified physicians interested in psychiatry with limited ability to practice or to train.

Despite the limits on federal funding, psychiatry programs have responded by increasing the number of residency positions approved by the Accreditation Council for Graduate Medical Education (ACGME) from 1384 in 2016 to 1858 in 2020 [18], an increase of 34%. While improved, there remain barriers to increasing the number of psychiatry residents.

To explore these barriers, in 2019, AADPRT convened a task force to study obstacles to increasing the psychiatrist workforce and the feasibility of potential strategies and solutions. As part of its work, the Task Force surveyed American Association of Directors of Psychiatric Residency Training (AADPRT) members who are residency or fellowship program directors about their experiences developing new programs, positions, or tracks; with loss of residency or fellowship positions; and with other workforce development activities such as training other healthcare professionals or adding clinical services or educational experiences. Here, we present results of that survey.

Methods

An online survey was developed by the AADPRT Workforce Task Force with input from the AADPRT Steering Committee. The survey was distributed using SurveyMonkey [19] to psychiatry residency directors and psychiatry subspecialty fellowship directors who were members of AADPRT in November 2019; after the initial request, three reminders were sent. The survey was anonymous, that is, the responses were not linked to respondents' names or email addresses. Descriptive statistical analysis was conducted using SurveyMonkey and major themes were extracted from narrative comments. This study was reviewed by the American Psychiatric Association (APA) Institutional Review Board and received exempt status.

Results

Four hundred and twenty-five surveys were distributed to AADPRT members who were psychiatry residency (n=231) and fellowship directors (n=194) (Fig. 1). One-hundred forty-two (33.4%) responded, of whom 89 (63.1%) were residency program directors (program directors; response rate 38.5%) and 52 (38.9%) were fellowship program directors (response rate 26.8%). Most fellowship program directors were from child and adolescent psychiatry (74.5%), with others representing addiction, geriatric, consultation liaison, forensic, and public psychiatry.

Expansion and New Programs

Twenty-four residency program directors (27.0%) and 12 fellowship program directors (23.5%) reported having started new ACGME-accredited programs within the previous 5 years (2014–2019). Additionally, 22 residency program directors (24.7%) and 9 fellowship program directors (17.6%) indicated that they had expanded their existing ACGME-accredited programs during this same timeframe. Of those who had started or expanded programs, 84.2% of residency program directors and 75.0% of fellowship program directors identified the shortage of psychiatrists or subspecialists in their geographic area as being the primary motivation for expansion. For residencies, additional reasons included wanting to add specific educational experiences (26.3%) and accommodating residents transitioning from closed programs (10.5%). In addition to helping address the shortage of subspecialists, other reasons for creating or expanding fellowships

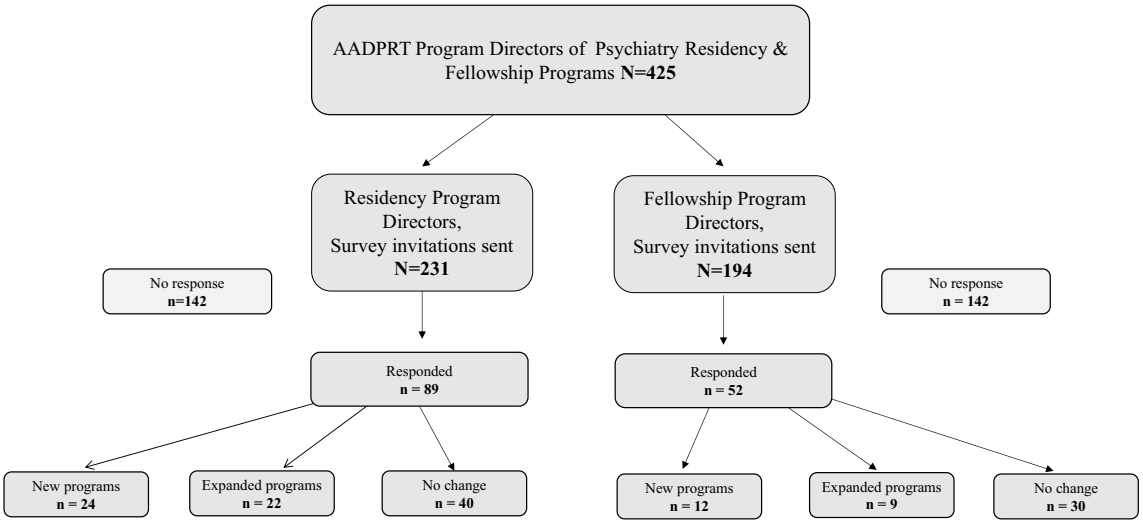


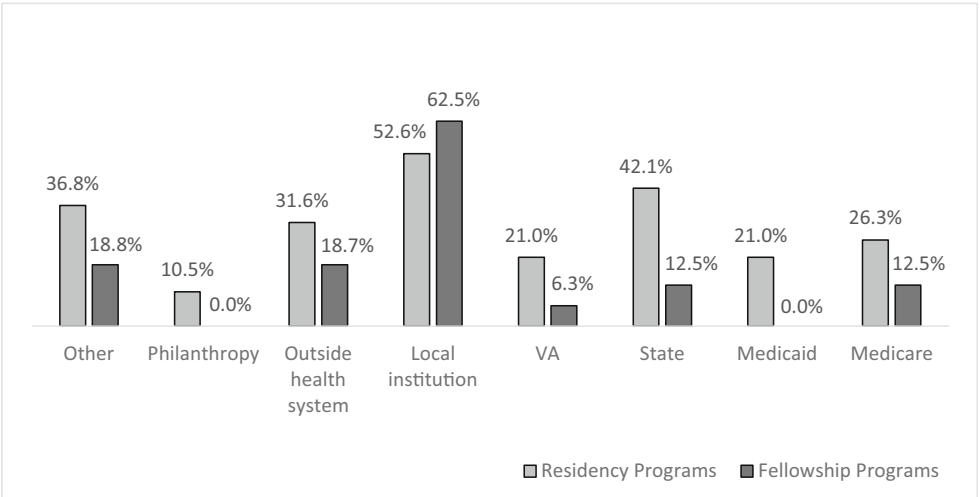
Fig. 1 Participant flow diagram

included wanting to create a specific track (e.g., rural or research; 12.5%) or adding specific educational experiences (e.g., integrated care, eating disorders; 43.8%).

Most of the funding for new positions in both residencies and fellowships came from the respondent's own institution (52.6% of residency program directors, 62.5% of fellowship program directors) (Fig. 2). For residency programs, other major sources of funding were the state (42.1%), followed by outside health systems (31.6%). Medicare, Medicaid, Department of Veterans Affairs (VA), and others were also sources of funding for programs. In some cases, philanthropy and grants helped subsidize development or expansion. In addition to their own institution, fellowships relied on outside health systems (18.8%), followed by Medicare (12.5%), state funds (12.5%), and community partners (6.25%). Thirty-five percent of residency funding and 12.5% of fellowship funding was time-limited (1–5 years) or required regular renewal.

In developing or expanding programs, residencies identified the lack of resources (52.6%) as the primary challenge (Fig. 3). Other obstacles included lack of faculty support (31.6%) and concern about meeting all the ACGME requirements (31.6%). Some programs (15.8%) cited concern about being able to recruit residents into new positions. Other barriers mentioned included lack of institutional/leadership support, obstacles from local graduate medical education (GME) leadership, or finding a hospital that was under the Medicare cap. Fellowships had similar concerns, with 43.8% noting a lack of resources. Recruitment into new positions (37.5%) was more of a concern for fellowships than for residencies and 25.0% of fellowships noted barriers from local GME. Other obstacles for fellowships included limited support from faculty (12.5%) or institutional leadership (12.5%). Only one fellowship program (6.3%) voiced concern about meeting ACGME requirements.

Fig. 2 Sources of funding for new residency and fellowship positions



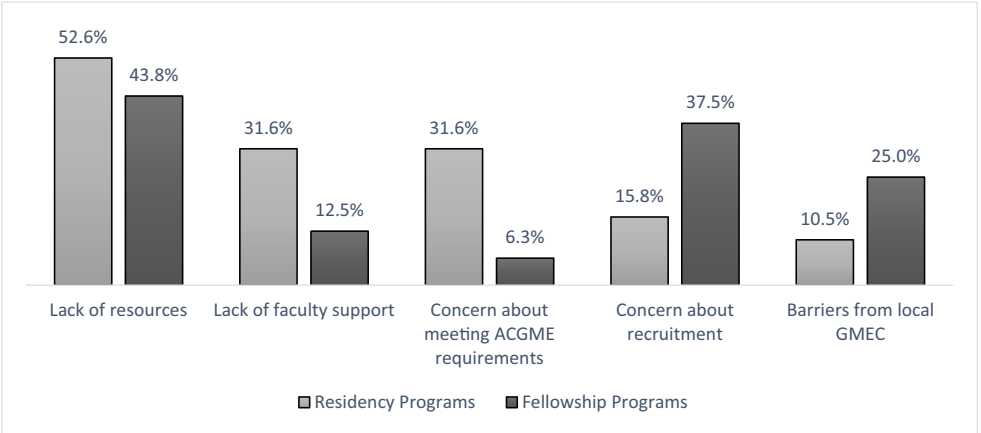


Fig. 3 Barriers to developing or expanding programs

Resources

Of those who created new programs or increased the number of positions, 84.2% of residency program directors and 80% of fellowship program directors reported that the most readily available resource was consultation and expertise from their local GME office. Residency directors also identified AADPRT (including the Virtual Training Office [VTO]; 47.4%), other program directors at their local institution (42.1%), and other GME consultants or experts (26.3%). Of fellowship program director respondents, 46.5% sought guidance from other program directors at their local institution, primarily their general psychiatry residency program directors. Other resources, including AADPRT (20%), departmental or hospital leadership (20%), and GME consultant (13.3%), were used less often by fellowship directors.

Programs were also asked about what resources they wished had been available. Of residency program directors, 33.7% would have liked access to AADPRT and its resources. Fewer respondents identified a GME consultant (28.6%), healthcare consultant/expert (28.6%), ACGME (28.6%), GME leadership (21.4%), other program directors at their institution (14.3%), and other professional medical associations (14.3%) as potentially useful resources. Of fellowship program directors, 43.8% indicated that they thought access to a GME consultant would have been helpful. Other potentially useful resources included ACGME (25.0%), AADPRT resources (18.8%), government agencies (12.5%), or local GME leadership (6.25%). One respondent remarked that a model or templated application for new programs would have been helpful.

Barriers

Survey respondents were asked whether their department had wished to create or expand a residency or fellowship department but could not. Of those who answered this question (n=121), 69 (57%) said they would have liked to but faced some barriers. The main obstacle was lack of funding (81.2%). Other barriers included lack of other resources (office space, coordinator time, supervisors, program director time; 23.2%) and lack of support from the local GME (21.7%), departmental or institutional leadership (23.2%), or faculty (15.9%). About 16% of programs were concerned about recruiting residents and fellows, and two respondents cited worry about being able to meet ACGME requirements.

Fellowship Recruitment

For fellowships in general, recruitment challenges were a concern. Of responding fellowship program directors, 39.1% had filled all their spots over the last 5 years, 37% had filled between 75 and 99% of their spots, 17.4% had filled 50–75%, and 6.5% had filled less than 50%. However, for fellowship program directors who had expanded or developed new programs, only 12.5% filled less than 75% of their positions during this same time.

When asked whether they had challenges with fellowship recruitment, 95.6% of fellowship program directors specifically commented on their challenges. Three themes emerged. First, fellowship program directors stated that fewer residents had applied for fellowships over the last several years. Some suggested that this decrease was perhaps related to significant medical student debt and lack of salary incentives for completing fellowship. Fellowship program directors also described difficulties with the Match process, noting that not all programs participate in the Match. Some interviewed candidates would withdraw from the Match to accept a position outside of the Match, decreasing the depth of program rank lists. Finally, fellowship program directors noted issues of cost of living and program location, with potential fellows possibly being hesitant to relocate for just 1 or 2 years.

Faculty Recruitment and Retention

Both residency program directors (76.2%) and fellowship program directors (68.9%) cited difficulty with recruitment and retention of faculty. Most comments discussed difficulty in recruiting faculty, with a prominent theme of noncompetitive academic salaries compared to the private sector. Some also commented that this was a barrier in retaining faculty. Additional themes in faculty recruitment and retention included workload, non-compensated teaching time, location, and chronic short staffing.

New Clinical Services or Program Tracks

Most respondents (71.5%) reported that their department had developed new clinical services in the last 5 years. The most common services developed were telepsychiatry (38.2%), followed by collaborative care (33.3%), and other integrated primary care/behavioral health care (30.9%). Additional services developed included community psychiatry, neuromodulation, women's mental health, psychotherapy clinic, gender and sexuality clinics, ketamine, and addiction clinics.

When asked whether they had started new tracks using existing positions (i.e., without expanding the program), 22 of 120 respondents (18.3%) indicated developing new tracks, including tracks in child and adolescent psychiatry, integrated care, integrative psychiatry, clinician educator, interventional psychiatry, research, leadership, psychotherapy, consultation liaison psychiatry, public psychiatry, women's mental health, intellectual and developmental disorders, and college mental health.

Other Trainees

In addition to training medical students, psychiatry residents, and psychiatry subspecialty fellows, 87.5% of respondents reported training other learners. Most commonly (84.8%), they reported training residents and fellows from other departments. The second largest group of other trainees (78.1%) was psychology students, interns, and residents. Half of respondents (50.5%) reported training advanced practice nurses (APNs) or APN students. Additionally, programs helped to train physician assistants (PAs) or PA students (44.8%), social work students (44.8%), nursing students (40%), and pharmacy students or residents (34.3%). Respondents perceived the impact of interdisciplinary training on their residents or fellows as largely positive (70.5% "very positive" or "positive," 27.6% neutral, and 1.9% "somewhat negative"). Positive comments centered around the benefit of better understanding the role and scope of other professions. Some respondents expressed concern about losing faculty supervision time to other trainees. Sixty-five of 104 (62.5%) respondents who reported training other learners also reported providing training for their residents or fellows in how to work with clinicians from other disciplines. In most cases, this training was informal or experiential, consisting of working with other clinicians in clinical settings. Some program directors reported more formal training through didactics, interdisciplinary care reviews, collaborative care team education, and faculty development.

Some respondents (29.5%; n=31) stated that their department had started or expanded one or more educational programs for trainees from other disciplines. New or expanded programs were for psychology (45.2%), APN (38.7%), PA (25.8%), social work (22.6%), and pharmacy (3.2%) trainees. The impact of these new or expanded training programs on residents or fellows was rated positively overall (53% "very positive" or "positive," 28% "neutral," 18.8% "somewhat negative"), although less positively than the ratings of the general impact of interdisciplinary training reported above.

Program Closure or Position Loss

Finally, program directors were asked about residency or fellowship closure or loss of positions. Nineteen respondents had experience with closure or position loss, representing a total loss of 85 residency and fellowship positions. Fifty-five percent of these respondents were able to retain positions through transfer to another program or new funding from different clinical sites. For fellowships, the primary reasons for closing or losing positions included merger, difficulty recruiting a program director, and change in direction (to prioritize a different psychiatry subspecialty fellowship). For residencies, lack or loss of funding (46.7%) was the primary reason for closing or losing positions, followed by loss of faculty (26.7%) and difficulty recruiting trainees (26.7%). Loss of clinical services (6.7%) and lack of institutional support (6.7%) had relatively little impact on closures.

Discussion

To address the shortage of psychiatrists, there needs to be an increase in the number of psychiatry residency and fellowship programs and positions. While the number of psychiatry positions has expanded since 2016 [18], there remain challenges, which our survey sought to clarify. Limitations of this study include the 33.4% response rate and the fact that only program directors who were AADPRT members were surveyed. Thus, responses do not reflect the experience of all new or expanded programs. Responses were anonymous, respondents were not asked their institution, and it is possible that some residency program director and fellowship program director respondents were from the same department. This may have resulted in duplication in some department-level responses, for example

about faculty recruitment and retention or interprofessional training programs. Respondents were also asked about the most available resources for creating or expanding programs, rather than the resources they found most valuable.

The major challenge reported both by those who developed or expanded programs, and by respondents who reported not doing so despite wanting to, was finding funding. Major sources of funding for new and expanded residencies and fellowships were local institutions and other health care systems, as well as state funds, consistent perhaps with a recognition by these funders of local and regional workforce needs. The fact that some of these funds were time-limited raises concerns about sustainability of these programs and positions and the ability to train all matched applicants, especially in multi-year programs.

The main resource available to respondents developing or expanding programs was local GME leadership and staff. Many would have liked access to national resources, for example through GME consultants, ACGME, and AADPRT, whose resources are available only to members. Our survey results raise the general question of how to best support individuals and departments wanting to create or expand psychiatry programs, for example by ensuring that GME leadership is aware of AADPRT resources and that AADPRT resources and consultation about starting new programs are accessible to non-members.

With the increasing interest in psychiatry residency over the past 5 years, we would expect sufficient demand for newly created residency positions. Indeed, the number of psychiatry PGY-1 positions filled in the Match has increased 34% from 2016 to 2020 and in the 2020 Match there were 2798 applicants for 1858 positions [18]. Recruitment into subspecialty fellowships has been more challenging. Fewer than half of geriatric psychiatry positions fill each year, other subspecialty fellowships have reported fill rates between 56 and 86%, and concerns about recruitment have led to proposals to incorporate fellowship training or provide tracks or "mini-fellowships" within the 4 years of psychiatry residency [20–22]. Our results are consistent with these concerns, with only 39.1% of fellowship program director respondents reporting that they had filled all positions in the past five years and 95.6% commenting about specific recruitment challenges. Those programs that had expanded were more likely to have a track record of successfully filling their positions, but even so 37.5% of those who did create or expand fellowship programs endorsed concerns about recruitment as a barrier. Addressing psychiatric subspecialty workforce issues is likely to require measures beyond merely increasing the number of programs and positions.

New or expanded programs require additional faculty and teaching time. The shortage of psychiatrists makes it difficult to recruit faculty and the increasing financial challenges faced by academic psychiatry departments adversely affect faculty recruitment and retention, work satisfaction, teaching time, and the ability to fund GME programs [23]. Psychiatric educators report lack of protected time and salaries as major concerns [24]. Consistent with these trends, most respondents to the current survey endorsed difficulty recruiting and retaining faculty, with the major issue being salaries that are not competitive with the private sector. Other issues, such as workload and uncompensated teaching time, may explain why some programs found lack of faculty support to be an obstacle to adding resident or fellow positions.

Some respondents reported program closures or loss of positions, which is concerning given the workforce shortage, and echoes concerns about stability of funding and sponsoring health systems, as well as having sufficient and appropriate teaching faculty.

Other approaches to address unmet mental health needs include leveraging psychiatrist time through integrated and collaborative care models, training more non-psychiatrist mental health professionals, and correcting maldistribution and increasing the reach of psychiatrists through telepsychiatry. Interestingly, almost 40% of survey respondents had already added clinical services and rotations in telepsychiatry as of November 2019, prior to the COVID-19 pandemic. About 30% had added training in each of collaborative care and/or integrated care and a similar percentage had added or expanded training in other mental health disciplines. Thus, many programs and departments are already adopting different approaches to increasing the mental health workforce.

Based on this survey, many psychiatry departments provide training to residents from other departments and to learners from other mental health disciplines. Overall, respondents viewed the impact of this training on psychiatry residents and fellows positively, especially in giving them a better understanding of the contributions and scope of practice of other professionals. Concerns about competition for faculty supervision time and lack of clarity about scope of practice and expectations of trainees in different disciplines are important to consider in overall educational program planning. Responses appeared more positive when discussing trainees in disciplines with distinctly different scopes of practice (e.g., psychology, social work) than those with a scope of practice that was unclear or potentially overlapping with psychiatry (e.g., APNs). Increasingly, psychiatrists work in interdisciplinary teams. The high and increasing prevalence of training programs for other mental health learners within psychiatry departments affords the opportunity for psychiatry residents and fellows to gain a better understanding of the skills, training, and scope of practice of other disciplines and to learn to practice effectively in teams that maximize the unique contributions of different members.

Despite the limitations, we believe that these survey results shed light on some major issues, obstacles, possible resources,

and approaches for addressing the shortage of psychiatrists and meeting unmet mental health needs.

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Declarations

Disclosures Dr. Aggarwal serves as Deputy Editor of *Academic Psychiatry*. Manuscripts that are authored by an editor undergo the same editorial review process applied to all manuscripts, including double-blinded peer review. On behalf of the remaining authors, the corresponding author states that there is no conflict of interest.

References

1. Sederer L. Where have all the psychiatrists gone? Doctors are struggling to meet the growing demand for psychiatric help across the U.S. US News and World Report, September 15, 2015. Available at: https://www.usnews.com/opinion/blogs/policy-dose/2015/09/15/the-us-needs-more-psychiatrists-to-meet-mental-health-demands. Accessed 10 Aug 2020.
2. Association of American Medical Colleges. Active physicians by age and specialty, 2017. Available at: https://www.aamc.org/data-reports/workforce/interactive-data/active-physicians-age-and-specialty-2017. Accessed 10 Aug 2020.
3. Satiani A, Niedermier J, Satiani B, Svendsen DP. Projected workforce of psychiatrists in the United States: a population analysis. Psychiatr Serv. 2018;69:710–3.
4. Substance Abuse and Mental Health Services Administration. Key substance use and mental health indicators in the United States: results from the 2017 National Survey on Drug Use and Health (HHS Publication No. SMA 18-5068, NSUDH Series H-53). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. 2018. Available at: https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHFFR2017/NSDUHFFR2017.pdf. Accessed 10 Aug 2020.
5. Wang PS, Lane M, Olfson M, Pincus HA, Wells KB, Kessler RC. Twelve-month use of mental health services in the United States: results from the National Comorbidity Survey Replication. Arch Gen Psychiatry. 2005;62(6):629–40.
6. Thomas KC, Ellis AR, Konrad TR, Holzer CE, Morrissey JP. County-level estimates of mental health professional shortage in the United States. Psychiatr Serv. 2009;60:1323–8.
7. Whitney DG, Peterson MD. US national and state-level prevalence of mental health disorders and disparities of mental health care use in children. JAMA Pediatr. 2019;173:389–91.
8. McBain RK, Kofner A, Stein BD, Cantor JH, Vogt WB, Yu H. Growth and distribution of child psychiatrists in the United States: 2007-2016. Pediatrics. 2019;144(6):e20191576.
9. American Board of Psychiatry and Neurology, Inc. 2019 annual report. Available at: https://www.abpn.com/wp-content/uploads/2020/05/ABPN_2019_Annual_Report.pdf . Accessed 24 April 2021.
10. Chambers RA. The addiction psychiatrist as dual diagnosis physician: a profession in great need and greatly needed. J Dual Diagn. 2013;9(3). https://doi.org/10.1080/15504263.2013.807072.
11. Cowley D, Dunaway K, Forstein M, Frosch E, Han J, Joseph R, et al. Teaching psychiatry residents to work at the interface of mental health and primary care. Acad Psychiatry. 2014;38:398–404.
12. Miller JG, Peterson DJ. Employing nurse practitioners and physician assistants to provide access to care as the psychiatrist shortage continues. Acad Psychiatry. 2015;39:685–6.
13. Inglehart JK. Medicare, graduate medical education, and new policy directions. N Engl J Med. 2008;359:643–50. https://doi.org/10.1056/NEJMhpr0803754.
14. National Resident Matching Program. Results and data: 2016 Main Residency Match. https://mk0nrmp3oyqui6wqfm.kinstacdn.com/wp-content/uploads/2016/04/Main-Match-Results-and-Data-2016.pdf. Accessed 19 June 2021.
15. National Resident Matching Program. Results and data: 2017 Main Residency Match. https://mk0nrmp3oyqui6wqfm.kinstacdn.com/wp-content/uploads/2017/06/Main-Match-Results-and-Data-2017.pdf. Accessed 19 June 2021.
16. National Resident Matching Program. Results and data: 2018 Main Residency Match. https://mk0nrmp3oyqui6wqfm.kinstacdn.com/wp-content/uploads/2018/04/Main-Match-Result-and-Data-2018.pdf. Accessed 19 June 2021.
17. National Resident Matching Program. Results and data: 2019 Main Residency Match. https://mk0nrmp3oyqui6wqfm.kinstacdn.com/wp-content/uploads/2019/04/NRMP-Results-and-Data-2019_04112019_final.pdf. Accessed 19 June 2021.
18. National Resident Matching Program. Results and data: 2020 Main Residency Match. https://mk0nrmp3oyqui6wqfm.kinstacdn.com/wp-content/uploads/2020/06/MM_Results_and-Data_2020-1.pdf. Accessed 12 Sept 2020.
19. SurveyMonkey Inc. San Mateo, California, USA. www.surveymonkey.com. Accessed 10 Jan 2020.
20. Juul D, Colenda CC, Lyness JM, Dunn LB, Hargrave R, Faulkner LR. Subspecialty training in geriatric psychiatry: a 25-year overview. Am J Geriatr Psychiatry. 2017;25:445–53.
21. Harris JC. Meeting the workforce shortage: toward 4-year board certification in child and adolescent psychiatry. J Am Acad Child Adolesc Psychiatry. 2018;57:722–4.
22. Duffy S, Schultz SK, Maixner S, Gad H, Chechotka K, Williams N. Meeting residents halfway: the geriatric psychiatry residency track. Acad Psychiatry. 2019;43:142–3.
23. Magen J, Rapaport MH. Psychiatry departments under constrained funding mechanisms or what is a chairperson to do? Acad Psychiatry. 2016;40:869–73.
24. De Golia SG, Cagande CC, Ahn MS, Cullins LM, Walaszek A, Cowley DS. Faculty development for teaching faculty in psychiatry: where we are and what we need. Acad Psychiatry. 2019;43:184–90.