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In This Issue



This month's issue of the *Residents' Journal* addresses the topic of global mental health. The issue begins with an editorial by our Deputy Editor, Misty Richards, M.D., M.S., on the challenges and grand solutions in global mental health. Next, Sarah Ramirez, B.A., M.S., and Takeo Toyoshima, B.S., provide an enlightening discussion on the odds against psychiatrists in low- and middle-income countries, largely as a result of the "brain drain" phenomenon. Veronica Sloatsky, M.D., presents data on childhood posttraumatic stress disorder in a conflict zone in Israel. Hiwot Woldu, M.D., provides information on a novel curriculum for teaching mental health to primary care providers in low- and middle-income countries. Lastly, Elizabeth Vannucci, M.D., presents a case report of a Ghanaian adolescent girl with schizophrenia.

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Editorial

Global Mental Health: Challenges and Grand Solutions

Misty Richards, M.D., M.S.
Deputy Editor

There has never been a more innovative time for the field of global psychiatry. After the release of the 2010 Grand Challenges in Global Mental Health initiative, a surge in international efforts to address debilitating psychiatric conditions emerged. Through the efforts of powerhouse organizations, such as the National Institutes of Mental Health and the Global Alliance for Chronic Disease, the world is realizing the necessity of addressing psychiatric disorders, as they occupy 13% of the global burden of disease (1). In fact, by 2020, an estimated 1.5 million people will die each year by suicide, and roughly 30 million will make an attempt (2). To address this state of affairs, the Grand Challenges in Global Mental Health initiative was born to identify barriers in accessing psychiatric care. Similar to the Grand Challenges in both global health and chronic noncommunicable diseases, initiated in 2003 and 2007 (3), respectively, the aim is to identify specific goals that may be collectively addressed by mental health providers throughout the world.

An international panel consisting of over 400 mental health researchers, advocates, and clinicians from more than 60 countries was assembled to identify 25 grand challenges. These challenges were published in 2011 in a pivotal *Nature* article (4), officially starting the clock on targeted, global mental health interventions. The challenges capture several broad themes distilled into four areas of focus (4). The first area emphasizes conducting research using a “life-course approach,” which acknowledges the importance of identifying risk factors for mental illness. Additionally, efforts by clinicians can be poured into building mental capital—the cognitive and emotional resources that influence how well an individual is able to contribute to society—in order to mitigate the risk of debilitating, chronic mental illness. The second area of focus is on families and communities of patients,

since they are also affected. Considering this, mental health system-wide changes are critical, along with attention to social stigma and discrimination. Thirdly, the challenges underscore the importance of evidence-based medicine when identifying treatment interventions, which may

By working to implement... sustainable, long-term solutions, significant economic and quality-of-life benefits that far outweigh the initial investment will be reached.

ultimately affect clinicians, policy makers, and program planners. Finally, the panel’s responses emphasize the delicate balance between environmental exposure and organic mental illness. Extreme poverty, natural disasters, war, and consequent despair plague many developing countries, and their causality in the timing and manifestation of mental illness is not abundantly clear.

Specifically, five top challenges were identified, ranked by disease burden reduction, impact on equity, immediacy of impact, and feasibility of implementation (4). These five challenges are to 1) integrate screening and core packages of services into routine primary health care, 2) reduce the cost and improve the supply of effective medications, 3) provide effective and affordable community-based care and rehabilitation, 4) improve children’s access to evidence-based care by trained health providers in

low- and middle-income countries, and 5) strengthen the mental-health component in the training of all health care personnel. These five goals are concretely identified to serve as a starting point for clinicians, policy makers, and educators so that we may have measurable improvement within a decade. By working to implement these sustainable, long-term solutions, significant economic and quality-of-life benefits that far outweigh the initial investment will be reached (5). The time is now to change the world of global mental health.

Dr. Richards is a second-year resident at the University of California, Los Angeles, and Deputy Editor of the Residents’ Journal.

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One Psychiatrist, Millions of Patients: The Odds Against Psychiatrists in Low- and Middle-Income Countries

Sarah Ramirez, B.A., M.S.
Takeo Toyoshima, B.S.

Diseases affecting the body have historically taken precedence over mental illness, as though there were an imaginary line drawn between the mind and the body. This schism between mental health and physical health is most pronounced in a global context, in which communicable diseases have remained the priority (1). It is time that the priorities in global health begin to shift in light of the fact that by 2030, it is estimated that mental health disorders will be the greatest global cause of disability-adjusted life years, a metric equivalent to one lost year of “healthy” life (2). Depression alone accounts for 4.3% of the global burden of disease (3, 4). Patients suffering from major depression and schizophrenia have increased rates of mortality compared with the general population (3). Mental health disorders have an early age at onset, and without treatment, the most productive years of life are lost (2). A recent study of the economic effects of depression and anxiety disorders in South African adults estimated yearly lost earnings of \$3.6 billion (U.S.) (5).

The greatest burden falls on low- and middle-income countries with limited financial and human resources to invest in mental health (6). In these countries, four out of five people with mental illness do not receive any mental health services (6). In fact, a country like Chad is reported to have one psychiatrist for a population of 10 million, and war-torn Afghanistan has only two psychiatrists for a population of 25 million (7). The discrepancy in spending on mental health interventions is also significant: low-income countries can only allocate an annual average of \$0.20 (U.S.) per person on mental health, while high-income countries have the resources to spend, on average, \$44.84 (U.S.) per person (6, 7). However, most alarming is that between 2005 and 2011, the

number of psychiatrists in low- and middle-income countries decreased despite increasing numbers in high-income countries (8).

The present article focuses on the disturbing downward trend in the number of psychiatrists in low- and middle-income countries, specifically exploring the limited number of psychiatric residency training programs, lack of research, and the intellectual migration known as “brain drain” as potential precipitants.

Inadequate Psychiatric Training

There has been a long-standing shortage of psychiatric training programs in low- and middle-income countries. The World Health Organization (WHO) Atlas from 2005 and 2011 found psychiatric training programs to be absent in 57 of 192 member countries, with notable geographic and economic discrepancy: prevalence of training programs ranged from 47% in Africa to 94% in Europe (6, 9). This discrepancy directly translates to decreased output of psychiatrists, with African countries graduating a median of zero per 100,000 population in 2010, compared with European countries with 0.36 per 100,000 (9). Similarly, other low-income countries graduated a median of 0.01 psychiatrists per 100,000 in 2010, compared with 0.30 in high-income countries (9). This lack of training significantly contributes to the total mental health workforce deficit, now thought to exceed one million in low- and middle-income countries (10).

Even when training is available, quality is a concern, since programs are understaffed and underfunded and curricula are outdated or underdeveloped (9). For example, Nigeria’s psychiatric training program was started more than 25 years ago, but only one-half of the psychiatric

hospitals have enough psychiatrists to provide accredited training (8). Likewise, Syria started its psychiatric training program in 1998, with training based in two mental asylums, although the curriculum is notably underdeveloped, with no facilities for psychotherapy, social work, or quality research and no monitoring of teaching quality or licensing law (9). A lack of exposure and opportunities in subspecialties also interferes with advanced training: of 74 countries in the WHO Training Atlas, only 29 report training available in child psychiatry, 14 in drug addiction, and 15 in forensic psychiatry (9).

Stigma and a poverty of culturally specific research are also worth acknowledging. In many low- and middle-income countries, psychiatry has a perceived lower status than other medical specialties, and students are frequently discouraged by teachers, family, and friends from pursuing this field (8, 10, 11). In separate studies, 82% of Saudi and 52% of Romanian medical students endorsed a fear of such stigma as actively dissuading them from a career in psychiatry (11). Despite 75% of medical students with favorable attitudes toward psychiatry in Kenya, only 14% considered psychiatry as a career (8). Simultaneously, a lack of country-specific research and poor understanding of the epidemiology of most mental health disorders is a common theme throughout low- and middle-income countries (7). In fact, there are 37 low- and middle-income countries without a single publication on mental health disorders as of 2010 (7). Because policy makers are similarly affected by stigma or fail to understand the gravity of mental illnesses in their country, these factors inevitably affect appropriate resource allocation to mental health and, albeit indirectly, the training of psychiatrists in low- and middle-income countries (10).

TABLE 1. The Effect of “Brain Drain” on Various Low- and Middle-Income Countries Compared With High-Income Nations^a

Country of Origin	Population	Psychiatrists Per 100,000 Persons	Psychiatrists Per 100,000 Persons If No Brain Drain	Psychiatrists Remaining in Country	Psychiatrists Remaining in Country If No Brain Drain	Psychiatrists Working in the United States
Malawi	12,337,000	0.00	0.01	0	1	0
Bangladesh	149,665,000	0.05	0.15	75	224	134
Nigeria	127,117,000	0.09	0.39	114	498	167
Pakistan	157,315,000	0.20	0.94	315	1,473	972
India	1,081,000,000	0.20	0.63	2,162	6,849	3,293
Philippines	81,408,000	0.40	2.36	326	1,919	1,590
Egypt	73,389,000	0.90	1.56	661	1,145	382
Turkey	72,320,000	1.00	1.29	723	931	199
Dominican Republic	887,300	2.00	8.65	177	767	589
Mexico	104,931,000	2.70	3.45	2,833	3,625	792
United States ^b	295,753,000	14.50				
United Kingdom ^b	59,428,000	19.40				
Switzerland ^b	7,163,000	42.20				

^a The effect of brain drain was calculated based on the number of psychiatrists in the country and psychiatrists in the country registered in the United States, United Kingdom, Australia, and New Zealand, as described by Jenkins et al. (12).

^b Data were obtained from the Organisation for Economic Co-operation and Development indicators (14).

Mental Health Brain Drain

Another significant contributor to the lack of psychiatrists in low- and middle-income countries is the phenomenon known as brain drain. Brain drain occurs both within a country, from rural to urban, and from low- and middle-income countries to high-income countries (8, 12). In recent years, studies have investigated the precipitants of this intellectual migration. Promises of job openings with higher income, higher-quality medical and postgraduate training, various research opportunities with better infrastructure, and active recruitment have been identified as common “pull” factors. Conversely, low wages, inadequate and unsafe facilities and infrastructure, stigma, and often expectations or traditions within an institution or country to go abroad “push” psychiatrists and other health care professionals toward the United States and the United Kingdom (12). It is well known that many Filipino doctors first became nurses for the purpose of emigrating to the United States (12). Additionally, most doctors trained

outside of their country unfortunately never return (13).

India is a prime example of a nation suffering from a mental health brain drain. In 2005, the country had approximately 2,162 psychiatrists (0.20 per 100,000 population). If brain drain had been prevented, this number would have jumped to 6,849 psychiatrists (0.63 per 100,000) (12). Similarly, African countries such as Cameroon, Ethiopia, Ghana, Malawi, and Zimbabwe were all expected to have less than 20 psychiatrists for the entire nation, standing in stark contrast to the average of 15.4 per 100,000 in high-income countries (12,14). These numbers, as presented in Table 1, attest to how significantly brain drain compounds the pre-existing shortage of psychiatrists in these countries.

Brain drain, particularly in countries with a pre-existing shortage of psychiatrists and lacking established psychiatric training programs, heavily affects the practice, teaching, training, and research of psychiatry. Because psychiatrists are lost to high-income nations, the few left behind

are often overworked (12). Since personnel and resources are lost, many mental health facilities consequently have to close their doors, and research and training come to a halt, ultimately hindering efforts to boost the number of psychiatrists and perpetuating this shortage (9, 12). Many also cite the injustice of developed countries reaping the benefits of public funds that were invested to train foreign doctors: as mentioned earlier, while the number of psychiatrists in low- and middle-income countries have dipped lower and lower, countries such as the United Kingdom have seen rises from one psychiatrist per 100,000 in 1970 to 19.8 per 100,000 in 2010 (8, 12, 13).

Implications for the Mental Health Gap Action Program

The Mental Health Gap Action Program, first introduced by WHO in 2002, provides a compilation of evidence-based guidelines to improve mental health care in low- and middle-income countries (15). For these countries with higher

burden and fewer resources, deinstitutionalization and decentralization of mental health care is emphasized, with task shifting introduced as a means to maximize coverage and impact. A study conducted in Malawi highlights the promise of task shifting (16). Those well-versed in local tradition and culture, such as traditional healers, school teachers, and church ministers, are able to serve as health surveillance assistants in order to participate in mental health care (16). Most of these individuals have strong ties to the community and are less likely to be affected by brain drain (16, 17). However, while initially helpful, such a program may encounter problems in the long-run, given a lack of oversight and formal training. In fact, the only training that health surveillance assistants received in the Malawi study was from “psychiatric clinical officers, psychiatric nurses and one psychologist” over the course of 3 days, in a country with possibly zero psychiatrists per 100,000 population (12, 16). The sheer lack of psychiatrists will inevitably result in an efficacy-effectiveness gap, not just in Malawi but in any low- and middle-income country implementing task shifting.

Recommendations

The need for intervention is urgent, given the climbing global burden of mental health disorders. The Mental Health Gap Action Program and its intervention guideline will greatly aid low- and middle-income countries in relieving the burden of mental illness but only with correction of lack of training, lack of research, and brain drain. Recommendations for achieving this goal are listed below.

1. Active involvement of the global psychiatric community in establishing training programs. One such example is the Toronto Addis Ababa Psychiatry Project, jointly established by Addis Ababa University and the University of Toronto in 2003 to become Ethiopia’s first psychiatric program (18). Consequently, the total number of psychiatrists in Ethiopia increased from 11 in 2003 to 34 by 2009, helping to spread awareness of mental health disorders. Such programs will emphasize a “bidirectional

internationalism” of mutual education, promote research, and ultimately shed light on psychiatry in various cultures.

2. Bolstering mental health literacy.

Through public awareness campaigns, mental health disorders can be demystified and treated as “illnesses” with known evidence-based interventions, as has been done successfully with HIV/AIDS (19). Such an approach should be collaborative with local governments and should be culture specific. This will ensure public discourse, reduce stigma, and provide the basis for appropriate resource allocation (19).

3. Policy and planning. Mental health is increasingly incorporated into national systems of primary care, but many countries fail to include psychiatrists’ perspectives into legislation. By increasing the number of psychiatrists committed to a nation’s mental well-being through programs such as the Toronto Addis Ababa Psychiatry Project, psychiatrists will take on increasingly important roles in deciding national mental health policies.

4. Justice and equality. The psychiatric communities of higher-income countries should actively discuss the topic of brain drain and its ramifications on global mental health. By working together with WHO and low- and middle-income countries, a solution can hopefully be achieved for local psychiatrists to remain in their home countries without limiting their earning, training, or research potentials.

Sarah Ramirez and Takeo Toyoshima contributed equally to this article.

Sarah Ramirez is a fourth-year medical student at Albert Einstein College of Medicine, Bronx, N.Y. Takeo Toyoshima is a fourth-year medical student at the David Geffen School of Medicine, University of California, Los Angeles.

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Psychiatric Services has published highly informative content on global mental health. For further information about mental health care in low-income countries, see the article by

Belkin et al. Also see the recent article by Tse et al. on mental health care reform in China.

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Integrated Care Systems

Psychiatric News features highly informative content on the emerging practice model of integrated care.

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The screenshot shows the homepage of Psychiatric News, dated September 20, 2013. The main article is "Integrated Care: What Does It Mean for You?". The article text includes: "Integrated care is everywhere—in theory, at least, and increasingly in practice. The concept is a feature of the delivery-system improvements in the new health care reform law, and policymakers and many clinicians have converged on the idea that general medical and behavioral health services should be brought together in a patient-centered manner. Today, a small but dedicated and growing cadre of psychiatrists is advancing the cause of integrated care and the participation of psychiatrists in collaborative care models."

Below the article, there is a section titled "Integrated care is the right thing to do to improve the care and quality of life for people we take care of." This section discusses the APA's initiatives in this area, mentioning the Work Group on Integrated Care of the Council on Healthcare Systems and Financing, chaired by Lori Ranney, M.D., and the Board of Trustees Health Care Reform Strategic Action Work Group, chaired by Howard Goldman, M.D.

At the bottom of the page, there is a section titled "Integrated care and collaborative care" which states: "Integrated care and collaborative care are often used interchangeably. However, for the purposes of this newsletter, the term 'integrated care' will be used."

Lessons About Childhood Posttraumatic Stress Disorder From a Conflict Zone in Israel

Veronica Sloatsky, M.D.

The rates of posttraumatic stress disorder (PTSD) in civilian populations exposed to chronic conflict are impressive. Specifically, PTSD has been diagnosed in up to 10%–20% of those living in major chronic conflict zones in the Middle East (1). An individual is more likely to develop PTSD after a traumatic event if exposed to previous and repeated traumatic events (2). Additionally, children are at higher risk for acquiring PTSD than adults because specific brain regions are particularly vulnerable to the effects of traumatic stress during development. Perhaps the most widely affected brain regions are the hippocampus and amygdala (3). Traumatized children often become traumatized adults with increased risk for many chronic illnesses later in life (4–6). These individuals are more likely to utilize medical systems due to both increased illness and psychosomatic complaints (7). In war-torn regions of the world, the duration of exposure, as well as culture, plays a critical role in the development of PTSD symptoms. Taking this into consideration, the prevention of trauma exposure and culturally specific treatment of PTSD in pediatric populations is of paramount importance.

One particular city in Israel, Sderot, a southern town of about 20,000 inhabitants, has been under constant mortar shelling and Qassam missile attacks from nearby Gaza for over a decade. The rocket attacks continue intermittently to this day (7). In Sderot, children practice frequent drills for what is called “Tzeva Adom,” or “Color Red.” Because of the proximity to Gaza, incoming Qassam rockets are detected by the emergency alarm system only 15 seconds before impact. Therefore, it is essential for children to participate in escape drills to a bomb shelter during times of safety. Most of the city’s residents are severely traumatized; in fact, one study found that 43.5% of seventh and eighth graders had a likely diagnosis of PTSD in 2008 (7), one of

the more conservative estimates found in the literature.

One million Israelis, roughly one-seventh of the country’s population, live in range of rocket fire from Gaza. Sderot is within range of heavy mortar fire from Gaza, which has a typical range of about 6 miles (8). Qassam rockets have a range of 11 miles and are able to hit both Sderot and the larger nearby city of Ashkelon (8). The large cities of Beersheva, Rehovot, and Ashdod are within the range of upgraded Grad rockets, which have a range of 30 miles (8).

The treatment of traumatized children who undergo chronic conflict, such as those living in Sderot, is complex. The main evidence-based treatment that is recommended for childhood PTSD is trauma-focused cognitive-behavioral therapy (CBT) (9). With regard to pharmacological treatment, unlike in adults, data supporting the use of psychotropic medications are limited (10). Sertraline, a drug found to be effective for adult PTSD, did not demonstrate efficacy when compared with placebo during a 10-week double-blind placebo-controlled trial for 131 children with PTSD (11).

Impact of the Duration of Conflict

While trauma-focused CBT is clearly established as the gold standard treatment for childhood PTSD, the identification of symptoms and consequent diagnosis of PTSD in zones of conflict have been more difficult to discern. One factor is the duration of conflict exposure, whether the trauma is acute or chronic. An Israeli study compared the relationship between stress reactions and coping resources of adolescents after an acute stressor, the relatively brief Second Lebanon War in 2006 in North Israel, with those of adolescents exposed to chronic war in the southern conflict zone, which included the city of Sderot. Essentially, adoles-

cents who experienced rocket attacks over the course of 1 month in the north were compared with teenagers who experienced daily rocket attacks for 6 years in the south (12).

During the course of the investigation, verbally reported anxiety state reactions and psychosomatic complaints—common symptoms in childhood PTSD—were compared between the two groups. Self-reported anxiety state scores were higher in teenagers experiencing acute stress in the north, while psychosomatic symptoms, such as fainting, headache, and stomachache, were higher in the Sderot adolescents under chronic stress in the south (12). Researchers hypothesized that anxiety was verbally reported with greater frequency in the acute stress state because of a possible “social permission” for verbal expressions of fear during an acute disaster, such as sudden war. In contrast, when a conflict situation becomes chronic, the social permission to verbally express fear may be reduced because civilians attempt to minimize anxiety in order to carry on with everyday life. Children under these chronic and severely stressful conditions suppress their anxiety, causing it to manifest in a psychosomatic, physical manner (12). Additionally, given that repeated trauma is more likely to cause PTSD than a single event, the finding of more frequent psychosomatic symptoms in the southern, chronic group may be a result of the greater vulnerability of this population to develop PTSD.

Researchers also analyzed whether coping resources played a role in both verbalized and psychosomatic expressions of anxiety in participants. Coping resources that were studied included a sense of coherence, defined as a view that recognizes the world as meaningful and predictable; a sense of family coherence, defined as a view that recognizes the family unit as stable; and a sense of community. The aim was to see whether coping resources attenuated anxiety in both groups and to

what magnitude. The study found that there was a greater variability in both verbally expressed anxiety and psychosomatic symptoms in the chronic conflict group, depending on the level of coping resources. In the acute stress state, there was less variability of symptoms in relation to the level of coping resources (12). In particular, the coping resource defined as sense of coherence had a significantly stronger effect in attenuating stress reactions in the chronic conflict group (12). Thus, the presence of strong coping resources played a greater role in the reduction of both reported and psychosomatically expressed anxiety in the chronic conflict group.

The most likely explanation for these findings is that in the acute state, coping resources are saturated for all children, even among those children with strong coping resources. Thus, based on this study, it seems critical to provide temporary, practical, and rapid solutions for children exposed to acute conflict, perhaps by moving them to safer locations. Under more chronic circumstances, on the other hand, it may be more important to strengthen coping mechanisms, such as personal and family resources, especially since it may not be possible for these children to return to safe circumstances after a temporary removal (12).

Impact of Culture

Another study examined two Israeli subcultures under rocket fire, which included the Jewish residents of southern towns such as Sderot compared with the Arab Muslim Bedouins living in separate but nearby areas in southern Israel. Jewish and Israeli Bedouin Arab adolescents were studied for 1 month in 2009, during an increase in rocket attacks. As in the study comparing northern Israel with southern Israel, the investigation measured reported anxiety and psychosomatic symptoms (13), as well as the role that coping resources played in accounting for symptoms. The level of sense of coherence played a large role in explaining anxiety among Jewish adolescents but did not explain levels of anxiety in the Arab adolescents (13).

It is possible that this difference occurred because of the different cultural experiences between the two groups. In the past 50 years, most Israeli Jews have adopted a Western cultural outlook, valuing individual rights and autonomy over the benefit of the group (13). Thus, a sense of control over one's environment would be very important to reduce anxiety in this group. On the other hand, the Bedouin of the Negev were nomadic until the past half-century, and about one-half have now been settled by the government (13). The sense of coherence was, in general, lower among the Bedouin adolescents, who until very recently were part of a nomadic society. The history of this society is defined by significant change outside of its control, contradicting the definition of sense of coherence (13).

Thus, given the differences noted in this study, an important conclusion may be drawn. When working with diverse cultures to reduce the effects of trauma and strengthen coping mechanisms, it is important to take into account culturally specific values, practices, and unique sources of strength when engaging in therapy.

Conclusions

In the end, the children of Sderot and other areas of chronic conflict are resilient. Despite the terror that pervades their lives, they continue to attend school, play, and grow. Many questions remain about how mental health professionals can assist in these kinds of situations, and addressing them in a culturally appropriate manner is crucial. It is also important to identify whether the conflict situation is acute or chronic in nature and adjust screening and interventions accordingly. It is important to note that in areas of chronic conflict, patients may not fully verbalize their anxiety and may need additional encouragement to do so openly in therapy. It is particularly important to screen for psychosomatic symptoms in groups that undergo chronic conflict in order to fully understand their level of anxiety. Identifying the most important coping resources of particular cultural groups before engaging in therapy may be helpful in structuring psychiatric interventions for these patients. This may be

achieved by studying the history and culture of the particular group and through the use of questionnaires to identify key coping resources that may be utilized during therapy.

Dr. Slootsky is a third-year resident in the Department of Psychiatry, George Washington University, Washington, DC.

The author thanks Drs. James Griffith, Lisa Catapano, Lorenzo Norris, Allen Dyer, Eindra Khin, Eliot Sorel, Amir Afkhami, Peter Polatin, and Julia Frank for guiding her professional development and nurturing her interest in global mental health.

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YOUR OPINION COUNTS!

To continue to improve the services and resources we provide to our members and the psychiatric community, APA is conducting a comprehensive **Needs Assessment Survey** designed to ascertain the needs of psychiatrists in training and in the early stages of their career. The survey is set to launch at the end of October, and we invite all of our current and former members who are currently in training or in the early stages of their career to participate. E-mail invitations will be sent out at the end of this month.

This is your chance to have your opinion heard. Tell APA what can be done to better serve you!

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To show our gratitude for those who complete the survey, APA will enter each name into a prize drawing.

Don't miss out on this opportunity to tell APA what we can do to be a better organization.

Curriculum for Teaching Mental Health to Primary Care Providers in Low- and Middle-Income Countries: an Adaptation of WHO's Mental Health Gap Intervention Guide

Hiwot Woldu, M.D.

Disorders in mental health are prevalent worldwide. Although comprehensive estimates vary and systematic studies are few, neuropsychiatric disorders are estimated to account for 14% of the overall global burden of disease (1). World Health Organization (WHO) projections list unipolar depressive disorders as the second leading cause of burden of disease worldwide by the year 2030 (2). Lost productivity costs exceed the direct costs of mental health care and treatment by as much as six- to sevenfold (3).

The 12-month prevalence of mental disorders is 30% globally, and only one-third of those affected receive treatment, even in developed countries (4). Limited resources, distribution inequality, and inefficiencies in the use of available resources are some of the obstacles to improved mental health care, particularly in developing countries (5).

One such developing country is Saint Vincent and the Grenadines. Saint Vincent and the Grenadines is a group of islands with a population of almost 110,000, located in the Lesser Antilles Chain of the Caribbean Sea. There is one psychiatrist in the country. She and a medical officer (a medical school graduate with no formal psychiatric training) cover all of the outpatient, inpatient, and consultation psychiatry services. There is a significant unmet need for more mental health providers in this country.

Scaling up of services through training community health workers (6) and primary care providers in basic psychiatric diagnosis and treatment, as well as integrating mental health services into primary care (7–10), are some of the methods that have proven viable in creating sustainable improvements in mental health care for low-income regions.

The goal of the present study was to develop an education curriculum for training primary care providers in basic psychiatric diagnosis and treatment as a means to instituting sustainable mental health services in low-resource regions.

Method

Assessment

In late 2010, the Mount Sinai Program in Global Mental Health traveled to Saint Vincent and the Grenadines to conduct a needs assessment for mental health services at the request of the Saint Vincent and the Grenadines Health Ministry. The goal was to ascertain how the program might help improve the limited mental health care infrastructure of this developing country. The outcome was a plan to work with nurses and primary care doctors who staff the nearly 40 district health clinics around the country.

Recommendations

Following internationally accepted recommendations for addressing mental health needs through primary care, the Global Mental Health Program's aim was to train providers in the diagnosis and basic treatment of disorders such as major depression and schizophrenia. However, an extensive literature search was unable to locate any mental health training materials targeted toward primary care providers in developing countries. We therefore set out to devise a novel multiday training program relevant to our target population.

Curriculum Development

We adapted WHO's Mental Health Gap Intervention Guide for Low Resource Regions into a slide program, along with videos, practice cases, and group discussion questions from various sources. The curriculum developed

consists of eight modules on major psychiatric diagnoses, including depression, psychosis, dementia, and substance use disorders.

Curriculum Evaluation

Mastery of the material for participants was assessed through discussions and questionnaires before and after the training. Participants were also provided with multiple opportunities to provide feedback both through open discussion and anonymous written responses to questions addressing various aspects of the training. Five-point rating scales were used to evaluate trainees' self-reported level of confidence in the diagnosis and treatment of mental disorders pre- and posttraining, as well as their opinion on the quality and usefulness of the curriculum.

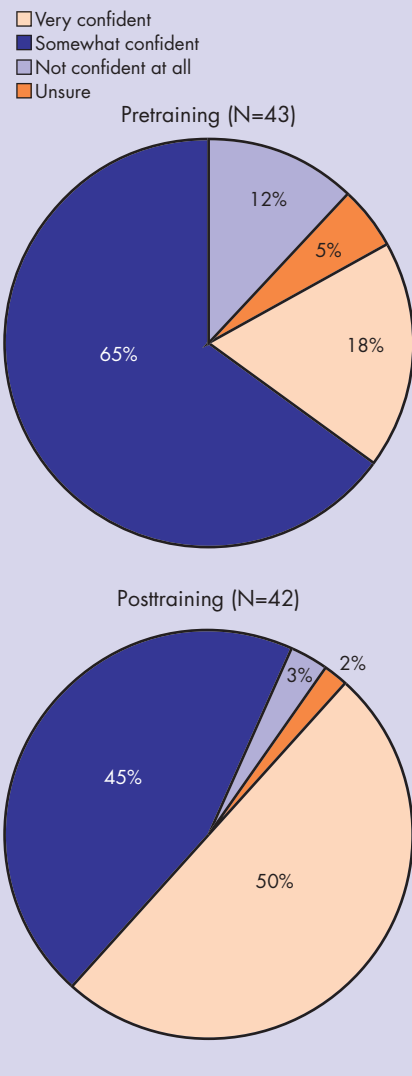
Results

The material created was organized into a multiday curriculum that permitted faculty members from Mount Sinai and Case Western Reserve School of Medicine to travel to Saint Vincent and the Grenadines and successfully conduct a first phase of training. Participants included all 50 nurses who run the country's district health clinics, plus 20 physicians and nurse practitioners representing different districts as selected by the country's Ministry of Health.

Level of Self-Confidence in Detection or Diagnosis of Mental Disorders

Pre- and posttraining surveys yielded improved confidence in diagnosing mental illness (pretraining [N=43] to posttraining [N=42] results: unsure,

FIGURE 1. Level of Self-Confidence in Detection or Diagnosis of Mental Disorders



from 5% to 2%; not confident at all, from 12% to 3%; somewhat confident, from 65% to 45%; very confident, from 18% to 50%) (Figure 1).

Level of Self-Confidence in Ability to Treat Mental Disorders

Participants reported increased level of confidence in their ability to treat mental disorders (pretraining [N=41] to posttraining [N=40]: unsure, from 7% to 0%; not confident at all, from 15% to 3%; somewhat confident, from 68% to 57%; very confident, from 10% to 40%) (Figure 2).

Quality and Usefulness of Training

Pre- and posttraining surveys showed overall high ratings on the quality of the training and trainers (quality of teaching [N=41]: outstanding, 40%; very good, 52%; good, 5%; fair, 3%; poor, 0% and usefulness of training [N=41]: outstanding, 34%; very good, 57%; good, 9%; fair, 0%; poor, 0%) (Figure 3).

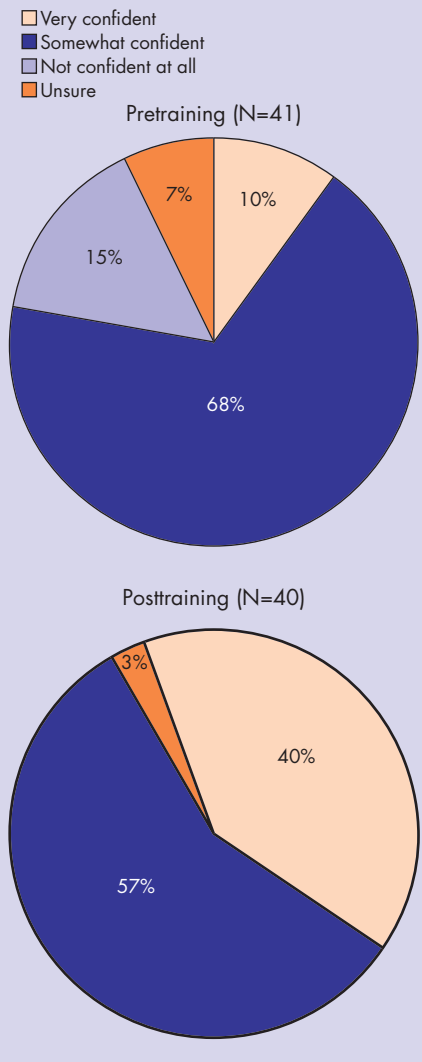
Roughly 85% of the participants reported improved level of confidence in both diagnosis and treatment of mental disorders, except for one participant who reported “not confident at all” both pre- and posttraining. The remaining 15% who reported an unchanged level of confidence pre- and posttraining reported feeling “very confident” or “somewhat confident” in detecting and treating mental disorders.

Discussion

In low-resource settings with minimal to no psychiatric services, teaching primary care providers basic diagnosis and treatment of mental illnesses is an effective way of setting up sustainable mental health resources for the community.

A multiday educational curriculum, based on WHO’s Mental Health Gap Intervention Guide for Low Resource Regions, was successfully utilized by U.S. faculty members traveling to Saint Vincent and the Grenadines. Participants gave overall high ratings for both the curriculum and trainers. They also reported increased level of confidence in the diagnosis and treatment of mental disorders.

FIGURE 2. Level of Self-Confidence in Ability to Treat Mental Disorders



The training program is designed to be applied in diverse settings and will be used in the various developing countries served by the Mount Sinai Program in

FIGURE 3. Quality and Usefulness of Training (N=41)



Global Mental Health. We continue to work on making improvements to the materials and their presentation based on feedback from trainees as well as trainers.

In addition to the currently used surveys, discussions, and posttraining tests to assess understanding of the material, future goals include examining knowledge around the diagnosis and treatment of specific mental disorders and gauging the sustainability of all gains in confidence and knowledge. Guided by these findings, we also anticipate conducting follow-up training and supervision at the clinic level in the participating countries. Eventual evaluation of this labor-intensive program's long-term usefulness will entail monitoring primary care clinic trends in psychiatric diagnosis, referral for counseling/psychotherapy, and psychotropic medication prescriptions.

Dr. Woldu is a fifth-year fellow in the Department of Psychiatry, Columbia Uni-

versity College of Physicians and Surgeons, New York.

The author thanks Dr. Craig Katz for his mentorship and guidance. Dr. Katz is the principal investigator for this study.

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CALL FOR PAPERS

Submissions for Psychiatric News Sought

Would you like the opportunity to have your work appear in *Psychiatric News*? Here's your chance! *Psychiatric News* is inviting members-in-training to participate in a new feature focusing on renowned psychiatrists who are well established in the field or coming to the end of their careers, as well as psychiatrists who have served as outstanding mentors to residents. The articles should capture the essence of the subject (that of a personal perspective of the subject), along with information about the subject's career and his or her accomplishments. The format can vary—for example, it can be written in paragraph form and incorporate quotes from the subject, or it can be written in a Q&A format. The length of each submission should be about 750 words.

This opportunity is being offered to readers of the *Residents' Journal* only. If you are interested in participating in this series, please contact Cathy Brown at *Psychiatric News* at cbrown@psych.org.

We look forward to sharing our pages with psychiatry's newest members and getting them involved in a project that will help educate fellow members about individuals who have truly made a difference in the lives of patients and trainees.

Case Report

Challenges in the Treatment of a Ghanaian Adolescent With Schizophrenia

Elizabeth Vannucci, M.D.

Childhood-onset schizophrenia is a rare condition defined by symptoms of psychosis before age 13, with generally poor outcomes (1). Symptoms commonly include delusions, hallucinations, and disorganized speech and behavior. The prevalence of schizophrenia in children and adolescents is low, with estimates varying between 1 in 10,000 to 1 in 30,000 (2). There is little epidemiological data regarding psychiatric diagnoses in developing countries (3), with few studies completed in African countries such as Ghana (4, 5). However, one study found that rates of mental health disorders identified in children in resource-poor countries were no different from those in industrialized nations (3). During my first year of training in child and adolescent psychiatry, I treated a 13-year-old adolescent who traveled from Ghana, West Africa, for psychiatric treatment. The present report describes the complexities encountered in this case, including the challenges of being culturally sensitive, choosing efficacious and readily available medications, and developing an appropriate treatment plan despite the long distance and intense time constraints.

Case

“Sally” is a 13-year-old girl from Ghana who travelled with her mother to the United States for psychiatric treatment. She was admitted to a general children’s hospital for medical and neurological workups, which were ultimately found to be negative. She was initially seen by the psychiatry consult service and then followed with weekly appointments in the outpatient psychiatry clinic.

Her symptoms manifested at age 12 and involved visual and command auditory hallucinations. She had poor hygiene despite spending hours in the bathroom, using this protected time to respond to

internal stimuli. She struggled to develop friendships, had difficulty concentrating in school, with consequent decline in academic performance, and had significant sleep disturbance, receiving an average of 4–5 hours of sleep per night. She was a hurried and messy eater due to concerns that someone was trying to take her food. Generally, her mood was okay, but she had periods of sadness and crying spells over concerns that her peers were talking about her. In Africa, she was initially diagnosed by her primary care doctor, and later by a consulting psychiatrist, with obsessive-compulsive disorder and depression. Her treatment included psychotherapy centered on religion and prayer and medication trials of sertraline, risperidone, fluoxetine, and lithium. There was no history of abuse. She denied use of alcohol, tobacco, or drugs. She was not sexually active.

Results of her mental status examination were notable for appearing distracted and preoccupied, although she was able to refocus and answer questions when prompted. Her speech was low in volume; she covered her mouth, making it difficult to understand her. At times, she appeared to be responding to internal stimuli by talking to unseen people, gesturing her arms in the air, biting her lip, grunting, and making poor eye contact. Her thought process was notable for thought blocking and preoccupation. Her mood was euthymic with blunted affect. She endorsed visual and auditory hallucinations, although she denied suicidal and homicidal ideation.

While a patient in the United States, she was diagnosed with childhood-onset schizophrenia. Following this diagnosis, medication trials included aripiprazole, olanzapine, quetiapine, and valproic acid as adjunctive therapy. In addition, she also received trazodone, as needed, for sleep and lorazepam, as needed, for agitation. Initially, her symptoms improved

with each antipsychotic medication tried, although over the course of a few weeks, her symptoms would return, with daily episodes of hallucinations and intermittent agitation. She also experienced side effects from many of the medications, including acute dystonic reaction with aripiprazole, weight gain, menstrual irregularities, and prolactin elevation with risperidone and olanzapine, and neutropenia with valproic acid. Her case was accepted for a National Institute of Mental Health study on childhood-onset schizophrenia, although her family did not pursue this option. The patient completed her school placement examination and is currently in high school. Most of the time, she has been able to attend classes without major incidents. Her current condition is described as “on and off,” with some periods of calmness in which she is at relative peace and others in which she is agitated and shouts at unseen people.

Discussion

There were many challenges in treating the above patient’s debilitating childhood-onset schizophrenia. Because the patient would ultimately return to Ghana to resume her mental health care, finding an appropriate medication was difficult due to availability, time constraints, side effects, and costs. While there are few studies addressing the treatment of childhood-onset schizophrenia, atypical antipsychotics are the mainstay of treatment (1). Side effects were a problem in the present case, which is not uncommon, since children and adolescents are more prone to side effects from antipsychotics (6). An important consideration was the cost and availability of medications because the patient’s family would be paying the full cost. In low-income countries, mental health treatment for children and adolescents are often paid out-of-pocket (3). For the present patient,

samples of medications were used in the United States, and her family then sent her prescriptions to a Canadian pharmacy because they were cost-prohibitive in the United States. Clozapine was considered for her treatment-refractory schizophrenia but was not started because of the need for weekly laboratory monitoring and lack of close supervision. Collaboration with a local psychiatrist would have been ideal, but there is a shortage of psychiatrists in low- and middle-income countries (7), with only 10 psychiatrists for a population of more than 24 million in Ghana (8). One contributing factor to this shortage is the "brain drain," which occurs when health professionals migrate from low- and middle-income countries to developed countries (9). This has led to critical physician shortages in many African countries, including Ghana, and will require collaboration among countries to counteract the physician migration (9). The World Health Organization has developed The Global Code of Practice on International Recruitment of Health Personnel, with principles focused on developing and supporting sustainable health systems in low- and middle-income countries by providing technical and financial assistance (9). In addition, there are currently changes under way in mental health delivery in Ghana, since the Mental Health Act Law was passed in March 2012 (8). Goals of the Mental Health Act Law include increasing the quality

of mental health care and protecting the human rights of those with mental illness by promoting a community-oriented approach to mental health care, establishing a fund to provide care for those with mental disorders, and inspecting mental health facilities. Furthermore, since there are many functional mobile phones in Ghana, the idea of mobile-based telepsychiatry as a treatment option for the mentally ill has been proposed (8). In the above case, telepsychiatry was considered, although ultimately rejected because of privacy and liability concerns. However, in the future, there may be a role for telepsychiatry in which extensively trained psychiatrists collaborate with foreign primary care physicians or psychiatrists on complicated cases. Currently, the University of Tennessee has such a telepsychiatry relationship with the University of Jimma in Ethiopia and has served as consultants to the psychiatrists there for challenging cases. Perhaps such a model could be expanded to other developing countries with shortages in psychiatrists while more sustainable options are developed, such as generating more local psychiatrists and training generalists in the diagnosis and treatment of mental illness.

At the time this article was accepted for publication, Dr. Vannucci was a fifth-year resident in the Department of Child and Adolescent Psychiatry, University of Tennessee Health Science Center, Memphis.

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Book Review

Clinical Manual of Psychosomatic Medicine: A Guide to Consultation-Liaison Psychiatry, Second Edition

David Hsu, M.D.

Psychiatrists working in all areas of the health care system, from the general hospital to medical homes, can benefit from this manual. The editors' note states that, "The physician who finds the collision—or collusion—of medical, surgical, and psychiatric difficulties fascinating, fun, and challenging will find a friend in this volume (p. xix)." This clinical manual stands out among the rest in that the editors speak openly to the internist and the family physician who commonly see patients with mental illness in their daily practice and who may benefit from the manual.

This second edition of the *Clinical Manual of Psychosomatic Medicine* is 200 pages longer than the first edition, by Wise and Rundell. The manual is organized into four parts: 1) general considerations, 2) syndromes, 3) treatments, and 4) unique issues in psychosomatic medicine settings. There are also 39 tables and figures to help navigate the reader through the text.

The text begins by focusing on how to be an effective psychiatric consultant. In addition to consultation-liaison models in the hospital, the editors review outpatient consultation models for integrated practice and how a psychiatrist can implement them in the community. The sections on mental status examinations, suicidality, and patients' responses to physical illness are particularly well written and helpful in their descriptions.

The next section of the book targets more specific syndromes, such as anxiety, mood disorders, and dementia. The authors review the validated screening

Clinical Manual of Psychosomatic Medicine

A Guide to Consultation-Liaison Psychiatry

SECOND EDITION

Kemuel L. Philbrick, M.D.
James R. Rundell, M.D.
Pamela J. Netzel, M.D.
James L. Levenson, M.D.

edited by Kemuel L. Philbrick, M.D., James R. Rundell, M.D., Pamela J. Netzel, M.D., and James L. Levenson, M.D. Washington, DC, American Psychiatric Publishing, 2012, 564 pp., \$68.00 (paper).

instruments for detecting many of these syndromes, and the student or teacher could use any one of these as educational tools when seeing patients in the hospital. The discussion of the above syndromes also appropriately highlights the overlap of psychiatric diagnoses with medical presentations.

Part 3 focuses on specific biological and psychosocial treatments. Examples of biological treatments include safe medi-

cations for patients with liver or kidney disease, as well as those who are taking medications with possible drug-drug interactions. The editors are also proponents of psychotherapy, as evidenced by their statement that, "Psychotherapy involves a relationship and the psychiatrist's effort to see the world through the patient's eyes" (p. 311).

The final section of the text emphasizes the unique aspects of psychosomatic medicine practice, especially in different medical settings and in transplantation. The transplantation chapter is my favorite, given its narrative approach to the transplantation process. However, several areas of psychosomatic medicine were left out of this section, including neurology and neurosurgery, pain, renal disease, toxicology, pediatrics, and hematology. The reader may want to pursue Levenson's main textbook for further insight into these respective conditions.

Psychiatrists working in community or academic medical centers will find this manual to be up-to-date and evidence based. This text can also serve as an introductory text for medical students or residents who have started to see patients in hospitals. Finally, this clinical manual may be the first manual in psychosomatics that could be recommended for general practitioners in hospitals or clinics who are interested in collaborative care or who work closely with psychiatrists in seeing mentally ill patients.

Dr. Hsu is a fellow in geriatric psychiatry at Massachusetts General Hospital/McLean/Harvard, Boston, and Associate Editor of the Residents' Journal.

TEST YOUR KNOWLEDGE

In preparation for the PRITE and ABPN Board examinations, test your knowledge with the following questions.
(answers will appear in the next issue)

This month's questions are courtesy of David Hsu, M.D., a fellow in geriatric psychiatry at Massachusetts General Hospital/McLean/Harvard, Boston, and Associate Editor of the Residents' Journal.

Question 1

What is true about suicide?

- A. The number of homicides exceeds the number of suicides in the United States.
- B. Men commit suicide at least four times more often than women.
- C. Older persons account for only 5% of all suicides.
- D. The Protestant and Jewish populations have a lower suicide rate than Roman Catholics.
- E. Suicides increase during winter months and holidays.

Question 2

What is the mechanism of mirtazapine?

- A. Selective serotonin reuptake inhibitor
- B. Monoamine oxidase inhibitor
- C. Alpha 2 adrenergic receptor antagonist
- D. Selective-serotonin norepinephrine reuptake inhibitor
- E. Inhibitor of dopamine and norepinephrine

ANSWERS TO SEPTEMBER QUESTIONS

Question #1

Answer: A. The removal of symptoms by recovery and verbalization of associated feelings that have been suppressed.

Questions on the history of psychiatry continue to appear on PRITE examinations, and psychiatry residents will need to be prepared to answer questions from patients about the history of their field. Freud remains a central figure in the history of psychiatry. Many of his terms are still in use today. "Abreaction" is a technique in psychotherapy of relieving symptoms by bringing to awareness their connections to underlying feelings and emotions.

Reference

1. Sadock BJ, Sadock VA: Kaplan and Sadock's Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry, 10th ed. Philadelphia, Lippincott Williams and Wilkins, p 192

Question #2

Answer: C. Psychiatric symptoms may include visual hallucinations, paranoia, and depression.

The psychiatric consultant works at the interface of medicine and psychiatry, and it is important for him or her to be familiar with common medical syndromes that can present with psychiatric symptoms. Acute intermittent porphyria is a rare syndrome but has a textbook presentation of abdominal pain, neuropathy, and psychosis.

Reference

1. Sadock BJ, Sadock VA: Kaplan and Sadock's Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry, 10th ed. Philadelphia, Lippincott Williams and Wilkins, p 833

We are currently seeking residents who are interested in submitting Board-style questions to appear in the Test Your Knowledge feature. Selected residents will receive acknowledgment in the issue in which their questions are featured.

Submissions should include the following:

1. Two to three Board review-style questions with four to five answer choices.
 2. Answers should be complete and include detailed explanations with references from pertinent peer-reviewed journals, textbooks, or reference manuals.
- *Please direct all inquiries and submissions to Dr. Hsu: davidhsu222@gmail.com.**

Author Information for *The Residents' Journal* Submissions

The Residents' Journal accepts manuscripts authored by medical students, resident physicians, and fellows; manuscripts authored by members of faculty cannot be accepted. To submit a manuscript, please visit <http://mc.manuscriptcentral.com/appi-ajp>, and select "Residents" in the manuscript type field.

- 1. Commentary:** Generally includes descriptions of recent events, opinion pieces, or narratives. Limited to 500 words and five references.
- 2. Treatment in Psychiatry:** This article type begins with a brief, common clinical vignette and involves a description of the evaluation and management of a clinical scenario that house officers frequently encounter. This article type should also include 2-4 multiple choice questions based on the article's content. Limited to 1,500 words, 15 references, and one figure.
- 3. Clinical Case Conference:** A presentation and discussion of an unusual clinical event. Limited to 1,250 words, 10 references, and one figure.
- 4. Original Research:** Reports of novel observations and research. Limited to 1,250 words, 10 references, and two figures.
- 5. Review Article:** A clinically relevant review focused on educating the resident physician. Limited to 1,500 words, 20 references, and one figure.
- 6. Letters to the Editor:** Limited to 250 words (including 3 references) and three authors. Comments on articles published in *The Residents' Journal* will be considered for publication if received within 1 month of publication of the original article.
- 7. Book Review:** Limited to 500 words and 3 references.

Abstracts: Articles should not include an abstract.

Upcoming Themes

Please note that we will consider articles outside of the theme.

Forensic Psychiatry

If you have a submission related to this theme, contact the Section Editor, Tobias Wasser, M.D. (tobias.wasser@yale.edu).

Integrated Care and Psychiatry

If you have a submission related to this theme, contact the Section Editor, David Hsu, M.D. (dhsu2@partners.org).

Mental Health Disparities

If you have a submission related to this theme, contact the Section Editor, Ijeoma Chukwu, M.D. (ichukwu@uci.edu).