

# Mental health system in Saudi Arabia: an overview

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**Background:** There is evidence that mapping mental health systems (MHSs) helps in planning and developing mental health care services for users, families, and other caregivers. The General Administration of Mental Health and Social Services of the Ministry of Health over the past 4 years has sought to streamline the delivery of mental health care services to health consumers in Saudi Arabia.

**Objective:** We overview here the outcome of a survey that assessed the Saudi MHS and suggest strategic steps for its further improvement.

**Method:** The World Health Organization Assessment Instrument for Mental Health Systems was used systematically to collect information on the Saudi MHS in 2009–2010, 4 years after a baseline assessment.

**Results:** Several mental health care milestones, especially provision of inpatient mental health services supported by a ratified Mental Health Act, were achieved during this period. However, community mental health care services are needed to match international trends evident in developed countries. Similarly, a larger well-trained mental health workforce is needed at all levels to meet the ever-increasing demand of Saudi society.

**Conclusion:** This updated MHS information, discussed in light of international data, will help guide further development of the MHS in Saudi Arabia in the future, and other countries in the Eastern Mediterranean region may also benefit from Saudi experience.

**Keywords:** Saudi Arabia, mental health system, organization, legal issues, research, training

## Introduction

The global scenario of mental health systems (MHSs) is in continuous flux, and includes the following nine interconnected components: “(1) mental health policies, plans and programs, (2) legislation and regulations governing mental health service organization and practice, (3) mental health financing and payment arrangements, (4) organization of service programs for detection and treatment of mental illness, including reliable supply of psychotropic medicines, and rehabilitation services, (5) systems for training of mental health practitioners from all relevant disciplines, (6) the mental health information systems that enable planning, monitoring and evaluation, (7) programs that are devoted to mental health promotion and illness prevention, (8) social arrangements that promote social participation including work and income support for people with mental illness, and (9) the political, sociocultural and economic environment in which all this occurs.”<sup>1</sup> Previously, we have described the MHS in Saudi Arabia (SA).<sup>2</sup> Subsequently, a project initiated by the World Health Organization (WHO) Eastern Mediterranean Regional Office (EMRO) was conducted to collect data systematically

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on the Saudi MHS using the WHO Assessment Instrument for Mental Health Systems (AIMS) 2.2.<sup>3</sup> This paper will briefly review the global landscape regarding MHSs, describe the current MHS in SA, and then discuss the findings based on what is known about MHSs in other countries.

## Literature search

We conducted a computer search of PubMed, Medline, Quertle, and Google Scholar using the keywords “mental health system,” “rights of patients and policy,” “primary care psychiatry,” “psychiatric training,” and “mental health research.” Many articles across the four websites were retrieved ( $n = 35,670$ ). First, we excluded those articles not relevant to the main topic of MHS ( $n = 33,430$ ). Then, we excluded articles not published in English peer-reviewed journals ( $n = 235$ ). Articles without abstracts ( $n = 540$ ) were also excluded. Articles overlapping across three websites were also excluded ( $n = 1,371$ ). Finally, only full papers ( $n = 94$ ) that focused on MHSs and were published in peer-reviewed English journals were retained for further intensive review. The retained papers included had randomized designs, and were original research papers, systematic reviews, meta-analyses, scientific reports, and publications on WHO websites.

## Global landscape of MHSs

The MHS in the US is a large industry that spends more than \$113 billion/year on mental health treatment, which makes up 5.6% of national health care spending.<sup>4</sup> The amount the US invests in its MHS is similar to that of other high-income countries, such as Australia, though according to a WHO report, Egypt leads the group of surveyed countries, spending 9% of its health care budget on MHSs.<sup>5</sup> Despite this large investment in MHSs, access to mental health professionals is limited in the US compared to other physician specialties, and millions of people live in mental health service-shortage areas.<sup>6</sup> Furthermore, many child and adult patients with mental health problems (up to 70%) and addictions (90%) do not get mental health care. Nearly one-half (46%) of patients with mental health problems give high costs as a barrier to treatment, though stigma against mental disorders also remains an important barrier to seeking psychiatric treatment.<sup>7</sup> Kazdin and Rabbitt have summarized the challenges the US MHS faces, discussing barriers to utilization of mental health services, and offering novel models of delivering psychological services to people most in need.<sup>8</sup> More or less similar trends in the prevalence of mental disorders, modes of service delivery, access to mental health care services,

focus on community services, costs, and challenges are reported by other Organisation for Economic Co-operation and Development countries.<sup>9</sup> Notably, six strategies have been suggested to improve the Canadian MHS, including one that focuses on achieving greater awareness, the workplace, children, youth, and seniors.<sup>10</sup> Olson compares the MHSs of four high-income countries: the UK, Norway, Canada, and the US.<sup>11</sup> Each system is described under five headings: overview, needs for MHSs, policies and programs, delivery systems and financing systems, and evaluation. Evaluation focuses on access and equity, quality and efficacy, cost and efficiency, financing and fairness, protection and participation, and population relevance.<sup>11</sup>

The quality of the MHS varies by country.<sup>12</sup> Improving MHSs and reforms is globally needed, but especially in low- and middle-income countries (LAMICs), including the Middle East. According to that review, resources needed for good mental health care are well articulated, and include appropriate policy and infrastructure support, an adequate range of MHSs, community resources, appropriate numbers of mental health professionals, and adequate funding. Scarcity of available resources, poor distribution, and inefficiencies are the three main obstacles to better mental health in LAMICs.<sup>13,14</sup> However, high-income countries are also facing these barriers and challenges, and their MHSs are often reported to be failing.<sup>15,16</sup> Most urgently, MHS reforms should include opening more clinics, updating existing clinics, changing public attitudes toward mental illness, educating the public regarding effective treatments, promoting wellness efforts to prevent mental health problems, integrating behavioral health care into primary health care (PHC), developing community mental health services, expanding access to mental health facilities, and generally raising standards for mental health care services.<sup>17,18</sup>

Information about MHSs is essential for developing a mental health care plan, a mental health care policy, and making decisions to reduce the burden of neuropsychiatric disorders. The majority of LAMICs lack this information compared to high-income countries.<sup>19</sup> This brief review of the global scenario of MHSs informs us that low-, middle-, and high-income countries are facing diverse mental health care challenges, MHSs are failing, and resources are needed to scale up mental health care services for mental patients, their families, and other caregivers.

## Objective

The purpose of this project was to collect information on MHS changes in SA since a 4-year plan was developed as

part of the Saudi Arabian Mental and Social Health Atlas 2006 using the WHO-AIMS 2.2. A secondary aim was to document MHS areas in which further improvement is needed and evidence-based plans developed to bridge these gaps. A third objective was to compare collected data with international trends in MHSs of other countries.

## Methods

In response to a WHO EMRO project initiative, data on the Saudi MHS were collected from Ministry of Health (MOH) settings in 2009–2010 using the WHO-AIMS 2.2.<sup>3</sup> The WHO-AIMS questionnaire was provided by the WHO EMRO in Cairo. All items of WHO-AIMS under six domains including 28 facets and 156 items were completed by two authors (NAQ and AAAH). In this instrument, there is an option to address missing data by providing “the best estimate.” Based on responses from and discussion with our psychiatric consultants and other reliable sources, the best estimate was given for questions with missing data. The completed WHO-AIMS 2.2 questionnaire was emailed back to the regional advisor, Mental Health and Substance Abuse Unit, WHO-EMRO, Cairo, Egypt, for the purpose of review. The process of revisions and corrections of MHS information continued until all agreed to the final completed questionnaire, the data of which were entered into an Excel spreadsheet. Finally, these data were analyzed by a regional advisor at the WHO EMRO. Two of us (NAQ and AAAH), in coordination with the regional advisor, formed the results into a Saudi country report, which was also edited a number of times by the regional advisor at the WHO EMRO. The final Saudi country report was published on the WHO EMRO website (<http://www.emro.who.int>; a copy of this report is available upon request from AAAH).

The website contains only a country report. In this manuscript, we review and cite relevant literature, describe the WHO-AIMS 2.2, and comprehensively discuss and compare the findings of this survey to data collected from other countries. We also discuss the implications of the findings for delivery of services, establishing community mental health services, meeting human-resource needs, and developing necessary infrastructure, none of which are addressed in the country report. We also discuss the limitations of the data, and provide conclusions, research implications, and make recommendations for future actions.

## WHO-AIMS 2.2 version

Not all components of mental health assessment and monitoring questionnaires typically used in high-income countries are

relevant to LAMICs. The WHO has recently conceptualized and developed the WHO-AIMS 2.2 for this purpose.<sup>3</sup> This instrument for assessing MHSs is specifically designed for LAMICs. The WHO used an iterative process that included input from in-country and international experts on the clarity, content, validity, feasibility, and piloting of this instrument. The WHO-AIMS 2.2 assesses six domains, which are interdependent, conceptually connected, and overlapping: (1) policy and legislative framework, (2) mental health services, (3) mental health in primary care, (4) human resources, (5) public information and links with other sectors, and (6) monitoring and research. These six domains address the ten recommended areas in the *World Health Report 2001*. The consensus of experts was that all six domains of the WHO-AIMS 2.2 needed to be assessed to form a basic and broad picture of an MHS. The WHO-AIMS 2.2 collects essential information that is used for multiple purposes, including mental health policy, development of plans, monitoring of progress made, and service delivery. This instrument has been used in more than 40 LAMICs.<sup>20</sup> In addition, the WHO-AIMS 2.2 is relevant and applicable to resource-poor settings within high-income countries. Saxena et al provide further details on the development and benefits of the WHO-AIMS 2.2.<sup>19</sup> The sources of information collected using the WHO-AIM 2.2 in SA were the MOH annual reports, regional health directorate and mental hospital reports, and data provided by the ministries of education, finance, social affairs, and several independent health organizations. In addition, practicing psychiatrists were contacted to clarify and supplement this information.

## Data analysis

All data collected with the WHO-AIMS 2.2 questionnaire were entered into the WHO-AIMS Excel (v2.2, World Health Organization, Geneva, Switzerland) data program. Prior to entry, the data for each WHO-AIMS question was reviewed and clarified through inquiries to several psychiatric consultants, thus obtaining the most accurate and complete answers. This process was guided by the regional advisor of the Mental Health and Substance Abuse Unit, WHO EMRO, in Cairo, Egypt, who also reviewed the data.

## Results

As previously noted, the complete results from the project are available on the WHO-EMRO website. We summarize the main findings here (Table 1), and discuss them in light of world literature. We integrate our findings in SA with what has been discovered and learned in other countries and health care settings. The implications we propose for the

**Table I** Summary of results

Items	Remarks
Mental health expenditure	4% of total health budget
Expenditure for mental hospitals	22% on mental health hospitals
Beds in mental hospitals	12 beds/100,000
	Distribution: mental hospitals (90%), community facilities (10%)
Patients treated in mental health facilities (per 100,000 population)	Mental hospitals (40%) and 50% in outpatient facilities, 10% in other facilities
Female users treated in mental health facilities	Mental hospitals (46%), outpatient facilities (50%), and 4% other facilities
Diagnosis (inpatient versus outpatient)	Mood disorders (35% vs 20%), schizophrenia (13% vs 50%), neurotic disorders (36% vs 1%), drug abuse (9% vs 20%)
Length of stay in inpatient facilities	Mental hospitals, 45 days; community residential facilities, 30–60 days
PHC staff 2-day training in mental health in the last year	PHC doctors 60%, PHC nurses 65%
Total human resources in mental health setting	22/100,000 population: nurses, 13/100,000; psychiatrists, 2/100,000
Average number of staff per bed	In mental hospitals: nurses, 0.39; psychosocial, 0.21; psychiatrists, 0.09
Professionals who have graduated in mental health/100,000	Nurses, 1.8; psychiatrists, 0.4; psychologists, 0.19; social workers, 0.95
Mental health training of special staff	Up to 20% of police officers, and even a few judges and lawyers, have participated in mental health educational activities
Consumer organizations	Five consumer organizations, ie, people with mental health problems that advocate for mental health

**Abbreviations:** PHC, primary health care; vs, versus.

development of MHSs in SA are based on the findings and what we have discovered elsewhere in the world.<sup>2,19,20</sup>

## Discussion

### Policy and legislation

The Saudi government has recently passed a Mental Health Act (MHA) that focuses on the following areas: (1) improving access to mental health care generally, (2) ensuring the least restrictive level of care, (3) preserving the rights of patients, family members, and other caregivers, (4) streamlining competence, capacity, and guardianship issues, including voluntary and involuntary treatment, (5) ensuring the accreditation of professionals and facilities, (6) enforcing mental health laws and other legal issues, and (7) establishing mechanisms to implement these provisions. The MHA is important because it puts governmental authority behind the mental health policy guidelines developed in 2008 that followed the 2006 Saudi Arabian Mental and Social Health Atlas.<sup>2</sup> The latter sought to streamline the delivery of mental health care services to health consumers, families, and caregivers over the next 4 years. The MHA was developed after reviewing what other countries were doing globally over a period of 5 years. The MHA establishes the procedures and policies for safeguarding the rights of persons with mental illness (an MHA copy is available from AAAH upon request).<sup>21</sup>

### Financing mental health care services

The available finances for mental health care today are spent largely on the salaries of mental health professionals and paramedical personnel working in mental hospitals, on

infrastructure development, and on the training of mental health professionals. Four percent of the entire health care budget of the MOH is directed towards mental health care. Of all mental health expenditure, 78% goes to mental hospitals. Most of the population now has free access to psychotropic medications and nondrug psychological and social services. However, mental health financing needs further support from the Saudi government. According to a WHO report, “mental health financing is a powerful tool with which policy-makers can develop and shape quality MHSs. Without adequate financing, mental health policies and plans remain in the realm of rhetoric and good intentions.”<sup>5</sup>

### Human rights policies

A Saudi human rights committee made up of mental health experts has responsibility for overseeing inspections in mental health facilities and imposing sanctions on facilities that persistently violate patients’ rights. People with mental disorders around the world are exposed to a wide range of human rights violations.<sup>22</sup> They must deal with the stigma of their illness, are often ostracized from society, fail to receive necessary mental health care, and are subject to abuse and neglect. They also face discrimination in the fields of education, employment, and housing. The WHO has suggested several strategies to prevent such violations: (1) changing negative attitudes by raising awareness, (2) increasing attention on human rights in mental health facilities, (3) empowering mental health service users and families, (4) replacing long-term inpatient psychiatric hospitalization with community care, (5) increasing national expenditure for

mental health, and (6) adopting policies, laws and, services that promote human rights.<sup>22</sup>

This human rights committee is not permanent, but rather need-driven. Whenever there is a major problem in psychiatric hospitals, the committee is called to inspect and investigate the problem. Consequently, only 40% of mental hospitals in the country have had one or more review of human rights protections for patients, and only 10% of community-based psychiatric inpatient units and community residential facilities have had such a review. This committee also advises the government on mental health policies, legislation, service planning, monitoring, and quality assessment. In terms of training, an unknown percentage of staff at mental hospitals and psychiatric units at general hospitals had had 1 day or more of training on human rights issues at the time of the present survey. Training of mental health staff in human rights is now mandatory. Health authorities have established a patients' rights department at each psychiatric hospital in SA for monitoring, training, and supervising hospital staff to ensure that patients', families', and caregivers' rights are respected.

## Mental health organization and services

The MOH is the main provider of public mental health services. Under its umbrella, the General Administration for Mental Health and Social Services plans, implements, coordinates, evaluates, and monitors mental health-service delivery, and also follows the core themes of the WHO in developing mental health services. One of the main tasks of the MOH is to improve the integration of services through mental health action plans and policy development.<sup>23</sup> There is now a relatively good network of mental health facilities in SA, although there is need for a better balance between mental hospitals and community mental health services. Mental health services in SA are organized on a regional basis, each of which has a mental health hospital that delivers basic outpatient, inpatient, and emergency services. Child and adolescent services are delivered through mental health facilities in children and maternity hospitals, academic universities, and in specialized and general hospitals.<sup>24</sup> Private mental health services paid for out of pocket or through insurance also contribute substantially to mental health care services. Community mental health clinics and PHC centers provide additional outpatient services, all of which need further expansion and support by well-trained specialists and an allied workforce.<sup>25–27</sup> Community mental health facilities include inpatient and outpatient services, residential units, and services in PHC clinics.

There are still not enough hospital beds for providing inpatient services, and this gap could be bridged by reserving beds in general hospitals for psychiatric patients and by developing mobile crisis mental health teams that go out into the community. A number of studies have highlighted mental hospital bed metrics and other components of MHSs in at least 40 countries.<sup>2,19,20</sup> In a comprehensive review, Lipsitt discusses the global role of general hospitals in managing patients with acute and chronic psychiatric problems. He has encouraged the establishment of inpatient beds, outpatient clinics, emergency services, and psychosocial rehabilitation units in general hospitals, all supported by consultation–liaison psychiatrists.<sup>28</sup> This review stimulated ten commentaries that highlighted the pros and cons of general hospital psychiatry, though most supported the use of psychopharmacological and nondrug treatments in the management of psychiatric patients with substance abuse or geriatric, child, or adolescent disorders. Another study describes the use of crisis mental health teams to provide acute emergency care to those in crises at home, finding that such teams tend to reduce admission rates and decrease utilization of inpatient beds compared with standard care.<sup>29</sup> Inpatient and outpatient services for psychiatric patients, then, need to be integrated and expanded at all levels, including academic centers, specialized hospitals, general hospitals, and other health institutions, in order to improve the quality and cost of mental health care.

In particular, mental health services also need to be integrated into PHC settings. The WHO and the World Organization of Family Doctors have developed a comprehensive report that describes how to integrate mental health into PHC.<sup>30</sup> This report highlights successful integration projects in several countries and discusses ten strategies for improving mental health integration:<sup>30</sup> (1) developing policy to incorporate mental health care into PHC, (2) improving advocacy to improve attitudes and behavior regarding mental health care, (3) training of PHC workers in screening for mental disorders, (4) limiting PHC tasks to those that are doable, (5) having mental health specialists and facilities readily available to support PHC physicians, (6) providing PHC physicians access to essential psychotropic medications, (7) focusing on integration over time (not a single event), (8) assigning a mental health-service coordinator in PHC clinics, (9) collaborating with other government nonhealth sectors, nongovernmental organizations, village and community health workers, and volunteers, and (10) adequate funding for necessary staff and mental health specialists.



PHC physicians across SA need comprehensive initial and then continuing training in clinical psychiatry to increase their knowledge and clinical skills.<sup>31–33</sup> Most importantly, following mental health training, PHC physicians should be given clinical responsibilities to apply the knowledge learned. Clinical responsibilities include referring patients with mental health problems to psychiatric hospitals, prescribing psychotropic drugs when necessary, and consulting with psychiatrists affiliated with psychiatric hospitals.<sup>32,33</sup> Based on the hybrid model, mental health clinics are beginning to be developed in existing PHCs in SA. Already established are two or more such clinics in all 13 regions of SA. In the US, integrating psychiatry into PHC has improved the acceptability of mental health services and has increased treatment engagement in low-income populations.<sup>34</sup> Other benefits of integrating mental health into PHC include reduction in stigma, better access to care, and better mental health outcomes overall.<sup>35</sup>

### Public outpatient facilities

The MOH now supports approximately 94 public outpatient mental health facilities. Twenty of these for children and women are located in specialized children and maternity hospitals. Outpatient clinics treat 1,846 users per 100,000 population per year. Females comprise about 50% of patients seen in outpatient settings, and they are more likely to utilize mental health care services than males.<sup>36</sup> Six percent of those seen in outpatient settings are children and adolescents. Patients treated in outpatient facilities are most likely to be diagnosed with mood disorders (35%), neurotic, stress-related, or somatoform disorders (36%), schizophrenia (13%), substance abuse (9%), personality disorders (2%), and others (5%). In the US National Comorbidity Survey, a study that assessed a representative sample of the population, Kessler et al estimated lifetime and 12-month prevalence of 14 *Diagnostic and Statistical Manual of Mental Disorders* III-R conditions. Major depressive episodes, substance-use disorders, social phobia, and simple phobia were the most common disorders, and more than 50% of all lifetime disorders occurred in 14% of the population, many with a history of three or more comorbid disorders. Those with comorbid disorders included the vast majority of people with severe disorders as well. Furthermore, women had elevated rates of affective and anxiety disorders compared to men, who had elevated rates of substance-use and antisocial personality disorders.<sup>37</sup> Data on lifetime psychiatric disorders in the community is not yet available for SA, although there is now a national

community-based survey in the field that is systematically collecting such information.

The average number of outpatient visits for those with an identified psychiatric problem in SA is 2.5 per year. About one in five (19%) outpatient facilities provides follow-up care in the community, while an unknown percentage has mobile mental health teams. In terms of available treatments, 21%–50% of psychiatric outpatients in the past year received one or more psychosocial interventions. Almost all facilities (100%) have at least one psychotropic medicine available onsite from each major drug class (ie, antipsychotics, antidepressants, mood stabilizers, anxiolytic drugs, and mood-stabilizing antiepileptics). Kessler et al also reported that less than 40% of those with a lifetime disorder had ever received professional treatment, and less than 20% of those with a recent disorder had been in treatment during the past 12 months.<sup>37</sup> The types of psychiatric disorder seen in outpatient and inpatient settings are similar in the US and SA.

There are only three day-treatment facilities in SA, which serve a variety of patients with acute and chronic mental disorders. The goal is to minimize admissions and to optimize independent living skills and vocational rehabilitation, and to provide support in the recovery process by emphasizing the development of healthy coping skills in the community. A multidisciplinary team provides comprehensive, needed services that include case management, group therapies, individual support, occupational services, leisure assessment and counseling, and medication monitoring and administration.<sup>38–40</sup> Adequately staffed day-treatment facilities and programs need to be expanded in the Saudi setting.

### Inpatient facilities

Patients with severe mental health problems are hospitalized in community-based psychiatric inpatient facilities, residential units, mental hospitals, and forensic or other residential facilities. Unlike in high-income countries, where deinstitutionalization has resulted in a variety of outreach, vocational and psychosocial rehabilitation programs, psychoeducational efforts, and diversified housing programs,<sup>41</sup> most inpatient services in SA and most other Middle Eastern countries are currently provided by traditional mental health hospitals.

### Community-based facilities

These are rented facilities similar to halfway houses for chronic patients whose care is managed by nursing staff, other support personnel, and on-call psychiatrists. There are five community-based psychiatric inpatient units in SA for

a total of 0.41 beds per 100,000 population, with an average length of stay of 30 days. No beds are reserved for children or adolescents, since inpatient admission is generally discouraged and if admission is required, it is done regardless of bed availability and only briefly. Diagnoses of admitted patients are unknown, but in general tend to be schizophrenia, bipolar disorder, and organic psychoses. About one-quarter to one-half of these patients had received at least one psychosocial intervention in the past year, and all patients had received at least one psychotropic medication in terms of antipsychotics, antidepressants, mood stabilizers, or anxiolytic drugs. Regarding patients living in halfway houses and supported housing, the primary goal of many developed nations has been to move these individuals to independent housing, along with keeping them stable and increasing their living skills. In one UK study, two clusters of patients emerged: those with no stated goals or with the aim of staying healthy (often with lower quality of life and more psychopathology), and those with an aim to move to independent housing (with better quality of life and less psychopathology). This study suggested that besides better training of staff, more conceptual and practical efforts were needed to manage the transformation of these settings from homes for life to transitional facilities where residents receive specific interventions.<sup>42</sup>

### Community-based residential facilities

There are only two community residential facilities in SA, and there is need for more. The average length of stay is 60 days. No beds are reserved for children or adolescents with psychiatric problems. If children or adolescents need long-term, residential care, they stay in facilities for the mentally handicapped that are supervised by the Ministry of Social Affairs. Although community-based services focus on providing mental health services in the least restrictive setting, children with severe psychiatric or behavioral problems often require inpatient care. Consequently, there is a range of mental health services in community or outpatient settings to manage young people with serious mental health problems who are at risk for admission to an inpatient unit. In a systematic review of seven randomized controlled trials with a total of 799 participants, researchers evaluated four models of care: multisystemic therapy at home, specialist outpatient services, intensive home treatment, and intensive home-based crisis intervention. Young people showed some improvement with multisystemic therapy at home, although quality of care was equivocal.<sup>43</sup> Two other systematic reviews further supported alternative treatment options, especially “admission avoidance hospital at home” care for reducing admission

of adolescents to inpatient units.<sup>44,45</sup> In another systematic review, it was concluded that community-based residential crisis services may provide a feasible and acceptable alternative to hospital admission that may be cost-effective and enhance patient satisfaction.<sup>46</sup>

### Mental health hospitals

Twenty-one mental hospitals in SA provide twelve beds per 100,000 population, a number that has remained roughly the same between 2005 and 2010. All have outpatient facilities. Japan has the highest rate of psychiatric beds per 100,000 people in the world. The total number of beds for the mentally ill in Japan is approximately 340,000, ie, 35.2 beds per 100,000 population, of which general hospitals have only about 20,000 (5.8% of beds). Thus, like SA, inpatient mental health care in Japan is mostly provided in mental hospitals.<sup>47</sup> In SA, mental hospitals treat 1.92 users per 100,000 per year. The primary diagnoses of patients admitted to these facilities are schizophrenia, mood disorders, and substance-use disorders, similar to psychiatric inpatients in the US.<sup>48</sup>

The average length of inpatient stay in SA is 45 days, and most patients (70%) spend less than 1 year in these facilities. The rest spend 1–10 or more years. Across the world, the average length of inpatient stay in mental hospitals is on the decrease compared to hospital stays for physical disorders.<sup>49</sup> This has been attributed to managed care, the development of innovative community and home mental health care services, the freedom to leave against medical advice, and prospective payment systems.<sup>47,49,50</sup> Hospital-at-home services can provide a safe, effective alternative to inpatient care for patients appropriate for this level of care. Furthermore, home treatment has the potential to reduce costs, reduce pressure on inpatient services, and provide care that is acceptable to patients and their families.<sup>50,51</sup>

### Forensic and other residential facilities

There are 50 additional beds in forensic inpatient units and an unknown number of beds in other residential facilities, such as homes for the mentally retarded, inpatient facilities for drug or alcohol abuse/dependence, and homes for the destitute in SA. Fifty percent of patients spend less than 12 months in forensic units, 25% of patients spend 1–4 years, and the rest spend from 5–10 or more years. Between 51% and 80% of Saudi prisons have at least one prisoner per month in treatment with a mental health professional. The Saudi forensic units do not work like European forensic units, which have three levels of security: high, medium, and low. Security has been viewed as a therapeutic modality, and mapping of

forensic mental health services by risk stratification is needed to transfer in a timely fashion the patients at higher risk and minimize unnecessary incarceration.<sup>52</sup> Globally, the time spent in forensic units depends on an individual's recovery and progress towards rehabilitation. A mental patient who has committed a minor crime should not be imprisoned, since the mental condition tends to worsen in prison and this increases the risk of self-harm.<sup>53</sup> In addition, researchers have recommended several treatment strategies for mentally ill offenders that include development of more and better community services, timely referral to psychiatric services, and an increased role for family members<sup>54</sup> in meeting challenges to prevent the inappropriate arrest and incarceration of persons with severe mental disorders.<sup>55</sup> Improved MHS services also reduce children and adolescent involvement in the juvenile justice system.<sup>56</sup>

### Outpatient and inpatient diagnoses

While the majority of patients seen in outpatient settings have neurotic (36%) or mood disorders (35%), those admitted to inpatient mental hospitals are more likely to suffer from schizophrenia (50%), substance-abuse disorders (20%), and mood disorders (20%). In a retrospective Saudi study from the mental hospital in Taif, schizophrenia (89%) and drug addictions (61%) were the most common inpatient diagnoses, followed by mental retardation (18%), personality disorders (4%), and epilepsy (2%).<sup>57</sup> The distribution of diagnoses in SA settings is consistent with the pattern of psychiatric disorders reported in noninstitutionalized populations in the US.<sup>37</sup>

### Human rights and equity

The percentage of involuntary admissions to community-based inpatient units or mental hospitals in SA is unknown, as is the percentage of patients who are restrained or secluded. Determining rates and types of involuntary treatment is needed for proper monitoring. Most psychiatry inpatient facilities are located in or near large cities, often limiting their access by those from rural areas. There is also evidence that persons residing in rural areas are generally in poorer health and receive less health care compared to those living in urban areas.<sup>58</sup> This suggests that more focus should be on developing mental health care services in rural areas. Unlike in SA, lack/variation of access to specialist mental health services due to linguistic, ethnic, religious, or other minority issues is a major problem in high-income countries.<sup>59</sup> Regarding female psychiatric patients, about 50% are seen in psychiatric outpatient settings, 46% are admitted to mental hospitals, and the rest receive care in different community facilities.

In an ecological analysis of involuntary admission and bed availability for those with mental illness in the UK, the National Health Service concluded that the increased rate of bed closures seen there would increase the number of involuntary admissions.<sup>60</sup> Despite the introduction of alternative community services in the UK, the rate of involuntary admission is indeed on the rise. Bed closures/closure of mental hospitals have been associated with a decrease in voluntary admissions.<sup>61</sup> In LAMICs including Saudi Arabia, both developing community mental health care services based on innovative health care models and closing beds in traditional hospitals are extremely challenging tasks.

### Mental health in primary care

Many patients with mental health problems in SA are first seen by primary care physicians,<sup>62,63</sup> which is different than in such countries as Japan, where patients first seek care in mental health facilities, general hospitals, or hospitals in the private sector.<sup>64</sup> Thus, information on the training of PHC staff with regard to mental health screening and psychiatric referral in SA is essential.<sup>25–27,32,33</sup>

### PHC medical clinics

PHC clinics in SA are physician-based, and only 20% use assessment and treatment protocols for mental health conditions. About 20% of these clinics refer one or more patients per month to a mental health professional. In terms of interaction of PHC staff with mental health professionals, only a small percentage had had such contact in the last year. No physician-based PHC clinic staff or mental health care facility staff had interacted in the past year with complementary and alternative medicine (CAM) practitioner, despite the fact that as many as 90% of Saudi patients use some form of CAM treatment, at least those with cancer.<sup>65</sup> There are several reasons for this. First, the National Center for Complementary and Alternative Medicine under the umbrella of the MOH in SA is purely administrative and has not yet established outpatient clinics that offer clinical CAM services. Second, patients either frequently use CAM therapies themselves or consult CAM practitioners in the private sector. However, it is a challenging task to integrate CAM into psychiatric/general hospitals and PHC clinics in SA due to the way the current system is set up. Elsewhere, the benefits of the integration of complementary therapies into community mental-health practice have been realized as CAM therapies (massage, acupuncture, reiki, and healing touch) hold the promise of enhancing mental health outcomes and improving quality of life for long-term users of mental health services.<sup>66</sup> A review



of literature also provides evidence for the effectiveness of CAM therapies in the treatment of mood disorders.<sup>67</sup>

Thus, there is a need to establish community mental health centers and/or psychosocial care centers in PHC in Saudi Arabia, because these facilities will reduce the burden on mental health hospitals, reduce the rate of admission and improve outcomes, provide comprehensive care for users and families in crisis, reduce the health care cost, improve academic partnerships, and increase patient satisfaction by improving access to mental health care and early detection and treatment of mental problems.<sup>68–71</sup>

### Treatment options in PHC settings

Allied PHC workers such as nurses, pharmacists and psychologists are not allowed to prescribe psychotropic medications under any circumstances, even in emergencies. PHC and family physicians can prescribe, but with some restrictions. Although they can prescribe oral antidepressants, they are not allowed to prescribe antipsychotic drugs and anxiolytics, except for patients with acute emergencies who are agitated or violent. For the latter, medical physicians can give intravenous diazepam 5–10 mg or intramuscular chlorpromazine 25–50 mg before transferring them to a secondary psychiatric care hospital. PHC physicians are also allowed to refill prescriptions for chronic psychotic patients referred from psychiatric hospitals for follow-up at PHCs. Only about 20% of PHC clinics have one or more psychotropic medications in each therapeutic category (antipsychotics, antidepressants, mood stabilizers, and anxiolytics) available year-round. This is rapidly changing, however, and health authorities are now ensuring that essential psychotropic drugs are available at all PHCs across the country. In some high-income countries, physicians, psychiatric nurses and prescribing psychologists who are trained and licensed are allowed to prescribe nonpsychotropic and psychotropic medications,<sup>72</sup> although this issue is still highly controversial. There are other nonphysicians, including pharmacists, naturopaths, certified midwives, and others, who have also been allowed to write drug prescriptions in some countries.<sup>73</sup>

### Training of PHC staff

Very little PHC physician training is devoted to mental health care in SA. The situation is the same for nurses and even more so for other PHC staff, including pharmacists. About 1% of PHC physicians or nurses had received 2 days or more of continuing education on mental health during the past year, and almost no training was received by other PHC staff. Thus, while continuing-education programs exist for mental

health staff, such programs for PHC staff are infrequent or nonexistent, despite the high prevalence of mental disorders seen in patients at PHC centers.<sup>25–27</sup> Furthermore, many of these disorders remain unrecognized by PHC physicians, with detection rates varying from 30% to 60%. In a Brazilian study of mental disorder detection by PHC physicians, being female, married, having medically unexplained symptoms, and frequent service use predicted higher rates of detection. The high frequency of mental disorders in PHC highlights the need for improving physician and other staff training so that they may accurately recognize and treat psychological problems in these patients.<sup>74</sup>

## Human resources

### Mental health care workforce

The total number of psychiatrists, medical physicians, nurses, psychologists, social workers, occupational therapists, and other workers in mental health facilities and private psychiatric practice in SA is 22 per 100,000 population. By profession, this breaks down to three psychiatrists, 13 nurses, two psychologists, three social workers, and one other mental health worker (auxiliary staff, occupational therapists, health assistants, medical physicians, medical assistants, professional and paraprofessional counselors). For comparison of these rates with those in other countries, the reader is referred to other sources on mental health workforce metrics and mental health system human resources.<sup>2,19,20</sup> The majority of psychiatrists (80%) work in public mental health facilities, whereas others work in private practice or for-profit mental health facilities. Slightly more than two-thirds of psychosocial staff, which includes psychologists, social workers, nurses, and occupational therapists, work in government facilities.

Regarding location of employment, 380 psychiatrists are employed in outpatient facilities and 263 in mental hospitals. Approximately 145 medical physicians work in mental health outpatient facilities and 165 in mental hospitals. Regarding other providers, 1,980 nurses work in mental health outpatient facilities and 1,176 in mental hospitals, and 515 psychosocial allied staff work in outpatient facilities and 611 in mental hospitals. In terms of the staffing of mental hospitals, there are 0.09 psychiatrists per hospital bed, 0.39 nurses, and 0.21 other mental health care staff, including psychologists and social workers.

Despite challenges in access to mental hospitals, the distribution of human mental health resources between urban and rural areas is nearly equal. The density of psychiatrists in moderate-to-large cities is only 0.19 per 100,000 lower than

the density of psychiatrists in the entire country (although 80% of the population of SA is urban). Likewise, the density of nurses is only 1.16 per 100,000 lower in large cities than in the rest of the country. In terms of support for child and adolescent mental health, 15% of primary and secondary schools have either part-time or full-time school counselors, and many schools (between 51% and 80%) have activities to promote mental health and prevent mental disorders. According to Stephan et al, school mental health education helps in reducing stigma, enhancing access to mental health services, and preventing mental disorders. They suggest a variety of strategies for expanding mental health in schools.<sup>75</sup>

There is a mental health care workforce gap around the world, although it is more obvious in LAMICs, and Saudi Arabia is no exception. Bruckner et al and Patel addressed this important issue, suggesting strategies for efficient use of existing mental health human resources, shared competencies, substitution between health professions, multiple tasking, and task-shifting, which rationally redistributes tasks among teams.<sup>76,77</sup> These strategies may compensate for shortages of specialist mental health professionals in many countries. In an important development realized worldwide, mental health consumers and carers employed in identified and unidentified positions in the mental health sector and in the broader community may facilitate the recovery of those suffering from psychosocial problems.<sup>78</sup> The WHO Europe regional office further highlighted the importance of empowerment of users/carers in mental health and focused on the removal of formal or informal barriers and the transformation of power relations between individuals, communities, services, and governments.<sup>79</sup>

### Training of mental health care workforce

The number of professionals graduating from academic institutions in SA per 100,000 per year is as follows: 0.4 psychiatrists, 3.8 other medical doctors, 1.8 nurses, 0.2 psychologists, 1.0 social workers, and an unknown number of occupational therapists. A number of these psychiatrists emigrate to other countries within 5 years of completing their training in SA, often in order to obtain advanced training. With regard to continuing education in mental health, nearly all psychiatrists in the past year had attended training on rational use of drugs, half (51%) said they had had a course on psychosocial interventions, and one in five (19%) had taken a course on child mental health. Among general medical doctors in psychiatric hospitals working full-time managing comorbid physical conditions in psychiatric patients, less than one in five

had had a course on rational use of psychotropic medicines, 32% on psychosocial interventions, and 19% on child mental health issues. Among psychiatric nurses, only 4% had had training on rational use of drugs, 11% on psychosocial interventions, and 1% on child mental health. Dramatic changes have been occurring in the delivery of mental health care services, and hence educational programs and reforms need to be tailored to keep pace with these changes. Hoge et al identified 16 recommended “best practices.”<sup>80</sup> These include that professional training should instill an understanding of the competing paradigms of service delivery and the diverse scientific, professional, economic, and social forces that shape health care and teaching methods. These should be used in combination and need to be evidence-based (interactive, academic detailing, audit and feedback, reminders, opinion leaders, and consumer-mediated interventions). This will help guide efforts to improve workforce education and training in the field of behavioral health.

## Consumer advocacy groups and public awareness

### Consumer and family associations

There are now at least five active consumer organizations, ie, people with mental health problems who advocate for mental health, now in SA. In addition, there are also now family organizations being developed. Because the General Administration for Mental Health and Social Services feels that more consumers should be involved in the formulation and implementation of mental health policies, plans, and legislation, the government provides support, including financial funding for such groups. Although the amount of interaction between mental health facilities and consumer associations is increasing, the role of consumer groups like those in Western countries<sup>81</sup> needs to be greatly expanded in SA. In addition to consumer associations, there are a number of nongovernmental organizations that provide individual assistance such as counseling, housing, or other support for people with mental health problems, including those with mental retardation, cerebral palsy, autism, or attention deficit/hyperactivity disorder. Saxena et al have identified other roles of nongovernmental organizations in LAMICs, including the achievement of access to mental health care for all who need it.<sup>13</sup>

### Financial support

Some mental health facilities in SA have programs that provide outside employment for persons with mental disorders.

Severe mental disability also makes one eligible for social welfare benefits. Saudi laws require employers to hire a certain percentage of employees who are disabled, including mental disability, and give people with mental disorders priority in obtaining state housing and subsidized housing. Fortunately, these laws are beginning to be applied across the nation. In the US, the Social Security Disability Insurance program provides financial assistance to mental patients. As a result, millions of people who are receiving social security disability benefits in the US have been diagnosed with a mood disorder. Mental illness has become the second-commonest diagnostic category for beneficiaries, behind musculoskeletal system disorders and connective tissue disease.<sup>82</sup>

### Public education and awareness

Public education for enhancing mental health literacy has become a priority, since this will improve early detection, early help-seeking, and treatment intervention by those with mental problems.<sup>83</sup> There is an urgent need to partner with the public school system so that young people can become knowledgeable about mental health issues, as well as to partner with the criminal justice system, so that prisoners can get the mental health care they need.<sup>52–56,75</sup> Government agencies, professional organizations, and international health groups in SA have promoted public education and awareness campaigns during the past 4 years. These campaigns have targeted the general public, children, and adolescents. There have also been campaigns targeting professional groups: teachers, leaders, politicians, social service staff, psychologists, and health care providers. Only about 20% of police officers, and even a few judges and lawyers, have participated in educational activities related to mental health in the past 4 years. In high-income countries, cost-effective programs based on new models of learning are tailored to train police officers in order to expand further proper interactions between police and mental patients,<sup>84</sup> and LAMICs can learn tremendously from their experience.

### Quality control

The General Administration for Mental Health and Social Services of the MOH in SA receives yearly data from all mental hospitals, community-based psychiatric inpatient units, and outpatient mental health facilities in the country. Outpatient clinics report the number of patients seen and patient diagnoses. Inpatient and residential facilities report information on number of beds, admissions, lengths of stay, and patient diagnoses. However, no data are collected on

number of involuntary admissions or number of patients restrained, though such information is always available in patients' medical records. A yearly report that also includes mental health data is published by the MOH based on data from all regional health directorates, although it is not clear who actually reviews this report. A mental health-information system supported by advanced health-information technology needs to be in place to address gaps in the Saudi MHS. According to the WHO, "A mental health information system is a system for action: it should exist not simply for the purpose of gathering data, but also for enabling well-informed decision-making in all aspects of the mental health system."<sup>85</sup>

### Mental health research and monitoring

In terms of academic research, only a small percentage of peer-reviewed journal publications from SA are on mental health, although that percentage is likely to increase as more funds are now being reserved for health research in this country. This has resulted in a higher number of research publications in open-access journals, though several barriers still need to be overcome.<sup>86,87</sup> Papers published so far have primarily focused on hospital-based epidemiology of mental disorders and health-services research. There remains a large gap in mental health research, and filling that gap needs to become a health-system priority. The Saudi MOH has begun to encourage research across all regions of SA by allocating a budget for researchers and further grant support is now available from the King Abdulaziz City for Science and Technology in Riyadh. In order to build capacity for psychiatric research, the MOH is also providing funds for continuing training of psychiatric nurses, social workers, psychologists, and other psychiatric staff. There is evidence accumulating that research in SA can help to transform the understanding and treatment of mental illness, as has been the vision of the National Institute of Mental Health (NIMH) in the US.<sup>88</sup> High-priority research at the NIMH that is relevant to LAMICs includes: (1) identifying trends and gaps in mental health disparities, women's mental health, and global mental health to guide priority-setting for research funding; (2) monitoring research efforts involving nondomestic institutions and domestic grants with foreign components; and (3) supporting capacity-building, research-infrastructure development, and research mentoring in order to develop a multidisciplinary mental health research workforce.<sup>88</sup> The MOH needs to collaborate with the NIMH and other partners in order to develop a multidisciplinary research workforce in SA.

## Limitations

We have summarized only some of the findings from this study in Table 1, since detailed results are readily available on the WHO EMRO website. The strength of this paper is that we have discussed our findings in light of international trends in MHSs in other nations. Another limitation of this project is that although information was collected from multiple sources for completing the WHO-AIMS questionnaire, some sources may have been missed that could have led to bias in our findings. However, the information collected here on the Saudi MHS has been reviewed by a variety of experts, including the WHO EMRO regional advisor. Regardless, the WHO-AIMS 2.2 questionnaire has identified a number of strengths and weaknesses of Saudi MHS in a comprehensive fashion that can now be addressed.

## Recommendations and conclusion

Over the past 4 years, there have been many advances in the Saudi MHS. All of these changes have positively impacted the delivery of mental health services in this country. The MHS in SA provides outpatient, inpatient, and residential services to consumers and their families. These services are supplemented by a growing private mental health sector. Almost all facilities now have access to essential psychotropic drugs on their premises. Although human rights review bodies exist that regularly visit mental health treatment facilities, a more streamlined system is needed to guarantee patients' rights in all treatment settings, especially those related to involuntary admissions and restraining of patients. The new MHA recently passed by the Saudi government will help to enforce patient rights at the local and national level. Most finances for mental health are now spent on salaries of medical and paramedical personnel working in mental hospitals, mental hospital infrastructure, and training of mental health staff. Greater diversification of funding streams is needed to implement the next steps proposed here. There is also a need to increase mental health research through public policy changes, development of research guidelines, and establishing a national mental health research institute similar to that in the US.<sup>89</sup> Improving mental health care services and treatment outcomes needs to become a priority in strategic planning, implementation of targeted programs, and systematic evaluation, as echoed in a WHO report.<sup>90</sup>

The assessment of the Saudi MHS presented in this report is the first of its kind, and provides a baseline against which progress in the MHS can be compared in the future. The MHS

has made relatively good progress across the six domains described here during the past 4 years, especially compared to where it was 30 years ago.<sup>91</sup> Based on this information, a number of strategic steps need to be taken to strengthen the MHS in SA. These include the (1) enforcement of the recently passed MHA, which protects the rights and safety of mentally ill persons in all treatment and nontreatment settings; (2) expansion and strengthening of community-based facilities, PHC psychiatry clinics, community-based psychiatric inpatient units, day-care centers, community mental health centers, and residential facilities (following the WHO recommendations<sup>92</sup>); (3) expansion of mental health training and continuing education programs for mental health staff, PHC staff, nurses, school teachers, police officers, and criminal justice staff; (4) increasing the number of competent, well-trained psychosocial staff; (5) improvement of information systems and data-collection procedures that monitor services provided, ensure quality control, and identify facilities that do not follow national policies and procedures; (6) building up of capacity for conducting research on mental health, since many topics need systematic examination to improve the recognition and treatment of mental disorders; (7) regular evaluation of training programs that educate mental health professionals, PHC physicians and staff, and other professionals about mental illness; (8) development of strategies to increase the involvement of families and consumers in policy development and implementation; (9) development of programs to enhance public education on mental health and improve the mental health literacy of children, adolescents, and adults, as done elsewhere in the world;<sup>93</sup> (10) improvement of interactions between mental health professionals, health professionals in complementary and alternative medicine, and traditional practitioners; (11) emphasis on the detection and treatment of those with emotional or mental illness in PHC settings by training primary care physicians; and (12) development of partnerships with international health organizations such as the WHO and the US National Institutes of Mental Health to help improve the delivery of clinical services, mental health training, systematic research, and the formulating of health policies and planning.

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