Report

Mental health care in Lebanon: policy, plans and programmes

L.M. Chahine[1] and Z. Chemali[2]

تقرير

رعاية الصحة النفسية في لبنان؛ السياسات، والخطط، والبرامج

لمى شاهين، زينة شمالي

الخلاصة: إن لبنان من الدول التي عانت من سنوات طويلة من الحرب الأهلية وتواصل فيها عدم الاستقرار السياسي والاجتماعي والاقتصادي؛ وليس فيه سياسة أو خطة للصحة النفسية، وقد استعرض الباحثان المنشورات وأجروا ترصُّداً للخدمات الحالية للصحة النفسية، كما أجروا مقابلات مع أطباء الرعاية الصحية الأولية وموظفي وزارة الصحة العامة ومنظمة الصحة العالمية، وتعرفوا بذلك على عدة عوائق تقف أمام إيتاء خدمات مثالية للصحة النفسية في لبنان، ومن هذه العوائق عوامل تتعلق بالحكومة وأخرى تتعلق بالأطباء وثالثة تتعلق بالمرضى. وتمسُّ الحاجة لوضع مبادرات جديدة على مستويات متعددة، ولاسيَّما في مواقع الرعاية الأولية. وقد تم توضيح هذه المبادرات على ضوء توصيات منظمة الصحة العالمية لعام 2001 حول خدمات الصحة النفسية.

ABSTRACT Lebanon is a developing country marred by several years of civil war and continuing political, social and economic instability. It has no mental health policy or plan. Through literature reviews, surveillance of current mental health services and interviews with primary care physicians and officials at the Ministry of Public Health and World Health Organization, we identified several barriers to the optimal delivery of mental health services in Lebanon. These include government-, physician-, and patient-related factors. New initiatives are necessary at several levels, particularly in the primary care setting. These are outlined in light of the 2001 WHO recommendations on mental health services.

Soins de santé mentale au Liban : politique, plans et programmes

RÉSUMÉ Le Liban est un pays en développement marqué par plusieurs années de guerre civile et par une instabilité politique, sociale et économique permanente. Il n'existe pas de politique ou de plan en matière de santé mentale dans ce pays. Grâce à l'examen de la littérature existante, à l'observation des services de santé mentale actuels et à des entretiens avec des médecins de soins de santé primaires et des responsables du ministère de la Santé publique et de l'Organisation mondiale de la Santé, nous avons recensé plusieurs obstacles à une prestation de services de santé mentale optimale au Liban. Ces obstacles sont liés à des facteurs relevant des pouvoirs publics, des médecins et des patients. Il est nécessaire de lancer de nouvelles initiatives à plusieurs niveaux, notamment dans le cadre des soins de santé primaires. Ces initiatives sont évoquées dans les recommandations de l'OMS de 2001 relatives aux services de santé mentale.

[1]Medical Centre, American University of Beirut, Beirut, Lebanon.
[2]Department of Neuropsychiatry, Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, United States of America (Correspondence to Z. Chemali: zelchemali@partners.org).
Received: 05/06/07; accepted: 30/12/07

Introduction

More than 25% of people are affected by mental and behavioural disorders at some point during their lives [*1*]. In 2000, neuropsychiatric disorders accounted for 12% of the total disability-adjusted life years (DALYs) due to all diseases and injuries, and this is projected to increase to 15% by the year 2020 [*2*].

Two decades of civil war in Lebanon in the last century affected the mental health of the majority of Lebanese people. Since the end of the war in 1991, sporadic bouts of violence, particularly bombings in civilian areas, and political and economic instability have continued to instil a sense of fear, anxiety and insecurity.

Mental illness, specifically depression, is consistently found in surveys to be associated with dysfunction in productive and social roles [*3*]. Unfortunately no reliable data have been collected from population-based studies in developing countries. Lebanon is no exception. The burden of disease affects everyone but can be particularly devastating among those in the lower socioeconomic strata. Preliminary analysis of data gathered in 2004 shows that 5% of Lebanese households live in extreme poverty and 19% in relative poverty [*4*]. Spending on health care in Lebanon is largely out-of-pocket (see below), and for patients and their families with low incomes, the burden of mental illness carries with it the burden of unaffordable costs. Because patients with mental illness in Lebanon often do not receive the care necessary to return to the community in a functional capacity, they suffer not only from the burden of disease itself but also loss of meaningful employment and loss of wages.

This article was written with the purpose of describing mental health services in Lebanon and reflecting on the reasons why even minor changes have not been instituted since the World Health Organization (WHO) recommendations about mental health set out in the *World health report* 2001 [*1*]. Specifically, inpatient and outpatient mental health services, with particular emphasis on mental health services in primary care, will be described. Barriers to the delivery of mental health services and cost-effective interventions to improve existing services and establish new ones in light of the WHO recommendations will be suggested. While all aspects of mental health and illness are of great importance, issues such as suicide prevention, domestic violence, substance abuse and childhood and adolescent mental health will be mentioned only in the context of how future directions need to be tailored for these special groups.

Information gathering and analysis

Information gathering

Data were gathered primarily from 3 sources. First, the literature was reviewed with keyword searches pertaining to burden of mental illness in Lebanon and WHO recommendations [*1*]. Second, surveillance of current mental health services was conducted in the field, with experiences and observations drawn from visiting various inpatient and outpatient settings. Finally, we interviewed primary care physicians (PCPs), officials at the Lebanese Ministry of Public Health (MoPH) and WHO officials.

Situation analysis

In gathering information regarding mental health services currently available in Lebanon, we focused specifically on the following areas: what mental health services were available at the time of the study; who delivered them; in what demographic settings were they available; who utilized these services; and the cost of pursuing interventions.

In the process of identifying barriers to the delivery of mental health services in Lebanon, assessment occurred at 3 levels: institutional and government levels, health care providers, specifically PCPs, and patients. The goals of short- and long-term government involvement in mental health care, its delivery, potential funding sources and the most feasible funding allocation were examined. At the level of health care professionals, factors such as physician knowledge and attitudes regarding mental health care were appraised. Patient attitudes and perceptions from day-to-day practice and clinical experience were drawn upon.

Drawing on cost-effective implementations, the average cost per patient per estimated length of therapy of the most common psychiatric disorders (depression) and the most severe (schizophrenia and bipolar) was assessed. When accurate information could not be obtained, estimates about costs were based on the available data.

Burden of mental illness in Lebanon

While the wartime period led to an increase in all types of mental illnesses, active war and the deteriorating economic situation often prevented access to care [*5,6*].

A survey conducted in the Greater Beirut area in the early 1990s of 2220 children aged 3–16 years revealed that 96% of them had been exposed to at least 1 traumatic event [*7*]. Children exposed to such traumatic events exhibited a variety of behavioural and affective symptoms including nervousness, aggressiveness, symptoms of post-traumatic stress disorder, and depressive symptoms [*8,9*]. The 1-year prevalence for major depression and post-traumatic stress disorder were 33.3% and 10.3% respectively in 1991, 1 year after the end of the war [*10*].

Lebanon was found to have the 4th highest prevalence of any mental disorder among 15 countries surveyed. In 2002–03, the 12-month prevalence of mood and anxiety disorders in a Lebanese sample was 6.6% and 11.2% respectively [*11*]. Unfortunately, only 3.7% of subjects and only 14.6% of those with severe mental disorders received treatment, the lowest rates among 15 countries [*11*]. Other studies have confirmed that only a minority of Lebanese people with mental disorders receive appropriate treatment [*12*]. In addition, a recent study has shown psychological distress is highly prevalent among Lebanese women [*13*].

The DALY for neuropsychiatric disorders in Lebanon in 2002 was 99, with 34 for depression, 9 for bipolar, 11 for schizophrenia, and 4 for panic disorder [*14*]. Furthermore, mental disorders impose costs and burdens on caregivers as well as the patients that are not captured by the DALY.

Logistics of mental health services in Lebanon: what is currently available?

Inpatient services

At the time of the last survey, Lebanon had an estimated 3 psychiatric beds, 2 psychiatrists, 2 psychiatric nurses and 1 mental health psychologist per 100 000 population [*15*].

There are 3 dedicated mental hospitals in Lebanon. The largest inpatient psychiatric hospital has over 1200 beds providing acute and long-term care for patients of all ages with mental disorders, including psychiatric illnesses and mental retardation. The hospital is over-crowded and standards of care are suboptimal. The hospital does not have a clear policy on the use of restraints, and force is occasionally used by staff.

Patients insured through the national social security fund (NSSF) and under the MoPH are theoretically covered for psy-

chiatric admissions. However, the majority of hospitals in Lebanon that provide inpatient psychiatric care have not entered into agreements with the MoPH for financial reasons. Thus, MoPH coverage is largely limited to the provision of an annual fee to the large inpatient psychiatric hospital described above. The amount of the MoPH budget allocated to mental health services is unavailable, but would include a fee paid per patient to each hospital or most commonly an arbitrary lump sum paid by MoPH to the hospitals. Often the government fails to pay the hospital bills due to lack of budgeting or accuses the hospitals of falsifying their bills, thus augmenting the amount owed by the MoPH. Private insurance companies in Lebanon, which cover a large percentage of Lebanon's health care expenses [*16,17*], do not cover admissions for psychiatric illness.

Outpatient care and the primary care setting

There are over 10 000 physicians registered in the Lebanese Order of Physicians, of which 116 are family physicians and 977 are paediatricians. According to the Lebanese Psychiatric Society, 55 adult psychiatrists and 3 paediatric psychiatrists are currently practising in Lebanon. The number of psychiatric clinics in Lebanon is difficult to estimate, but, assuming that each adult psychiatrist in Lebanon has a clinic, is approximately 55 clinics. The cost of an initial clinic evaluation by a psychiatrist ranges on average from Lebanese pounds (LL) 50 000 to 150 000 (US$ 33–100) and follow-up fees from LL 30 000 to 120 000 (US$ 20–80). In rural areas, mental health care is provided by family physicians, internists or specialists, and while some physicians charge specialists fees, others may charge fees as low as LL 15 000 (US$ 10) per visit. Physician visits are largely paid for out-of-pocket in Lebanon [*18*].

Mental health services in the community

In the community, patients with mental disorders are largely cared for by untrained family members.

The MoPH has established 85 primary care centres in various regions of the country with the goal to establish more in coming years. These centres are staffed by various numbers of physicians and paraprofessionals. The staff members are offered training in various aspects of primary health care, with the emphasis on primary prevention, but not mental health care.

Otherwise, the few mental health services that are available are based on outpatient clinics and consultations. There are a few nursing services that provide home care, including companionship, assistance with activities of daily living and medication administration. These nurses are not specifically trained in psychiatry.

Human resources and training of mental health specialists

At the time of the study there were only 2 residency programmes in psychiatry in Lebanon, both based at tertiary care centres, though residents could rotate through separate inpatient psychiatric hospitals or general hospitals. Medical schools have incorporated a minimum amount of psychiatric training in their curricula through didactic lectures and clinical rotations. At the time of the study, 9 universities in the country offered degrees in psychology. Nurses are offered training in psychiatry by rotating in one of the psychiatric hospitals.

The estimated total cost of training a physician (as tuition fees paid by students), from an undergraduate level through medical school, ranges from LL 2.34 million (US$ 15 000) in public universities to LL 456 million (US$ 300 000) in private universities in Lebanon. Training a specialist (through

residency) at a private university hospital, with costs paid to the trainee, would cost the employer an estimated additional LL 54.9 million (US$ 36 000). The cost of training a nurse can be estimated at LL 1.58 million (US$ 1000) in a public university and LL 89.7 million (US$ 58 000) in a private university. Additional costs to train nurses specialized in mental health are difficult to estimate. The cost of training a psychologist for a Bachelor's degree is estimated at a range of LL 6.15 million (US$ 4000) in public universities to LL 94.05 million (US$ 61 000) in private universities.

In 2004, Lebanese people constituted 1.3% of all international medical graduates in the United States [*19*]. Lebanon ranked 2nd among other foreign countries contributing to the physician workforce in the United States, after adjusting for country population, and 21st overall [*19*].

Education of the public and increasing awareness campaigns

Public education is achieved mostly through the media. Television and radio stations have, in recent years, become committed to broadcasting information on mental health related issues. Written material is available either through newspapers or pamphlets available in waiting rooms in several hospitals and clinics, written in English, Arabic and/or French, describing the symptoms, risk factors, course and treatment of a variety of psychiatric conditions.

According to the Director of Health Promotion at the MoPH, there are no programmes in place for the promotion of mental health in Lebanon. Though the division of health promotion in the MoPH is increasingly eager to promote mental health in Lebanon, a dedicated national mental health programme does not exist, and the MoPH has no budget for mental health at this time.

The cost of airing educational campaigns related to mental health in Lebanon is difficult to estimate. However, a media campaign for Arab Women's Rights [*20*], which involved public service announcements broadcast over a 9-month period from 3–6 times per day on 7 Arabic cable channels and 21 state-run Arab television stations was reported to include US$ 300 000 for production costs, US$ 3000 per television spot, and a total of US$ 10 million for the whole campaign [*20*]. Based on these values, if a campaign is conducted which airs adverts on mental health issues on 5 of the most commonly watched Lebanese television channels, with the adverts broadcast once per day during high-volume hours (such as during the evening news) over 3 months, the cost could be estimated at US$ 1.35 million.

Psychotropic medications in Lebanon

Lebanon has a therapeutic drug policy and imports all essential medications specified by the WHO. Availability is lacking because of the high cost of medication and there is a regular shortage of supply at the MoPH and NSSF, often due to corruption by customs officials and transport delays, leaving patients unmedicated for months, particularly for newer unpatented drugs.

What we have discussed so far shows the level at which mental health is delivered in Lebanon is basic at best and constrained by multiple system barriers to optimal care, minimal professional training, lack of human resources and poor funding. These issues are addressed in the next part of this paper.

Barriers to optimal mental health delivery in Lebanon

Lebanon has neither a mental health policy nor a truly active mental health programme

as defined by WHO [*1,15*]. It lags behind many Eastern Mediterranean countries in this respect [*15,21*]. The mental health problem in Lebanon has long been recognized and brought to the attention of officials at the MoPH [*22*]. In this section, we will present what we perceive are the barriers to the development of adequate mental health services and their optimal delivery in the primary care setting.

Government-related barriers

Funding

A lack of funding is perhaps the most important factor limiting the establishment of optimal mental health services in Lebanon. A key problem in the Lebanese health care system is not only the lack of resources but their misallocation. In the last decade, Lebanon was one of the few Arab countries that met the WHO recommendations for expenditure on health of 5% of gross domestic product (GDP) [*23*]. In 1998, total health expenditure was estimated at 11.6% of GDP [*1*] or approximately US$ 2 billion, and yet overall health performance lagged far behind [*24*].

In 2005, the Lebanese population was estimated at 3 577 000. That year, approximately LL 3.7 trillion (US$ 2.45 billion) was spent on health care [*25*]. Total expenditure on health was 11.2% of GDP [*25*]. This accounted for 10.4% of government expenditure that year. Social security funds accounted for 34.8% of government expenditures on health. Only 10% of the MoPH budget was spent on primary health care and public health [*4*].

The large majority of health care expenditure was from the private sector rather than the government, with the former contributing 71.7% of total health expenditure [*25*]. Of private sector expenditure on health, private households bore the brunt of the burden, contributing 82.1%.

In 1998 health expenditure accounted for 12.5% of GDP [*18*]. Of total public health expenditure, 62% was on hospital-based care, 10% on ambulatory care and 13% on pharmaceuticals; 71% of the MoPH budget was for hospital-based care. Primary health care services accounted for less than 5%. Of the MoPH's total reimbursements, 73% was on surgical care. Expenditure on mental health services was not specifically addressed in the report [*18*].

The administrative budget for the MoPH in 2007 was approximately LL 110 billion (US$ 73.33 million) according to the budget released by MoPH official. Approximately LL 55 billion (US$ 36 million) was allocated to equipment and building maintenance, MoPH employee salaries, fringes and benefits. Government funding was allotted LL 15 billion (US$ 10 million), pharmaceuticals LL 50 billion (approximately US$ 33 million), and vaccines/UNICEF products LL 50.3 billion (US$ 33.5 million). Non-profit organizations received LL 25 billion (US$ 16.7 million). No budget was specifically allocated to mental health services.

In 2007, LL 358 billion (approximately US$ 235 million) was spent on inpatient hospital stays for patients covered fully or in part by the MoPH. No significant amount of the MoPH administrative budget was allocated to research or development.

Lack of action by the MoPH and WHO

Interviews with officials at the MoPH revealed that the MoPH has no division within it to address mental health issues. It lacks both funding and staff. Rather than creating a unit within the Ministry that can deal with mental health issues, MoPH outsources by consulting psychiatrists as needed and has delegated government needs for mental health research to the Institute for Development Research, Advocacy, and Applied Care (IDRAAC), a non-profit organiza-

tion [*26*]. The members of IDRAC include psychiatrists, psychologists and epidemiologists who carry out research addressing various aspects of mental health in Lebanon, with funding primarily provided by the United Nations.

The WHO atlas of mental health resources in the world indicates that Lebanon has a national mental health programme [*15*]. This, according to a WHO official, is based on the fact that a certain amount of the WHO budget is dedicated to the funding of mental health research. Otherwise, no specific programme is currently being implemented by WHO in Lebanon to improve mental health services or promote mental health.

Problems in the primary care setting

Government role in delivery of care

At the time of the study no efforts to improve or promote mental health services could be identified within the MoPH or Ministry of Social Affairs (MoSA). Although the MoPH acknowledges the importance of mental health care, mental health remains absent from the Ministry's agenda. Several reasons for this are cited by officials (Table 1).

Barriers to the delivery of mental health care

The barriers to the delivery of mental health care are multiple. Based on the literature and interviews conducted with MoPH and several PCPs practising in urban and rural areas, the barriers we have identified can be divided into government-, physician-, patient- and cost-related factors (Table 1).

Physicians and the community as a whole face multiple factors that highly impact mental health and its delivery: stigma, somatization, lack of human resources and

Table 1 **Barriers to the delivery of mental health care in the primary care setting in Lebanon**

Government-related factors

- Absence of mental health care on the MoPH agenda.
- No sharing of a common vision among MoPH, WHO and mental health professionals.
- What WHO has "on paper" is different from what is happening "on the ground".
- Conflicts of interest among mental health professionals and PCPs hinders action.
- Lack of training of PCPs to identify and treat mental disorders.
- Lack of expert input by psychiatrists into the organization of mental health care on the public health level.
- No funding to train PCPs.
- Time constraints limit the curriculum in mental health care in medical and nursing schools.

Patient-related factors

- Patients lack the necessary knowledge to understand that their symptoms are psychiatric.
- Patients fear to seek treatment because of stigma.

Physician-related factors

- Stigma is rampant and physicians hold negative attitudes towards patients with mental disorders.
- Lack of knowledge to treat complicated psychiatric disorders such as psychotic disorders and bipolar disorder.
- Lack of adequate time to treat mental health disorders and offer therapy in the primary care setting.
- Lack of financial compensation for the amount of time spent with patients with psychiatric disorders.
- Lack of identification of mental disorders in patients presenting with somatic complaints.

cost of care. Stigma leads to discrimination and contributes to patients not seeking treatment for psychiatric symptoms [*27–31*]. While the stigma attached to mental disorders in Lebanon is widespread, the factors leading to it have not been well-defined. Somatization and stigma are interrelated [*32*]. Studies have found that somatization is more prevalent in non-Western countries [*33,34*], and its prevalence may be as high as 80% among Arab patients [*32*].

Suggestions for the development of mental health services in Lebanon

In Table 2 we have summarized suggestions and practical ways to implement sustainable future policies and programmes based on the 10 recommendations made by WHO [*1*]. Some points are further discussed below. We will end by noting if/when these recommendations are cost-effective and why it makes sense to choose one intervention over the other and how policy is affected by economic impact.

Creating an infrastructure for mental health services

Decentralization

A key factor to the successful implementation of mental health programmes in Lebanon is decentralization. It is of great importance that this occurs not at the expense of central elements but rather complementary to them. A district-based approach would be an ideal way to institute and maintain decentralization in Lebanon. This would serve several purposes, the most important being accessibility and regional programme specificity [*35*]. Having said this, decentralization comes with its own set of problems. Ensuring that funding is sustained, that the available services are being delivered to those in true need, and that the system is not being abused are of utmost importance [*11*].

Lebanon is divided into 25 districts, or *kada'a*, which fall under 6 larger regions called *muhafazat*. Based on our knowledge of the dynamics of the country, and particularly on the constraints placed on any type of health care reform by political instability, unnecessary bureaucracy, and several other factors, we propose that mental health programmes should be organized either at the level of municipalities and/or the *kada'a*, depending on the level of complexity of the programme. A designated team for the implementation of mental health programmes within a *kada'a* should be appointed, and should meet regularly. This team will be referred to as the kada'a unit. A representative from each of these teams would constitute the team representing the *muhafaza*, and the latter would be the direct contact with the MoPH. This division is necessary and seems feasible for several reasons. First, each *kada'a* has its own needs. Second, national political issues would interfere less with the local success of projects. Third, training, when given to several small groups individually, would be more beneficial than attempts to train a few people to then train many, or to train many people at once.

Funding and cost of treatment

Funding will be necessary at all levels of mental health care reform in Lebanon. As alluded to above, the problem in Lebanon is not the absence of health care expenditure but rather its misallocation. Lebanon spends a disproportionate amount on health care relative to its population, and yet the quality of health care that is available to the majority of people is far from optimal. One step towards the proper allocation of funding is determining national priorities for health care. Given the extensive burden of mental illness in Lebanon, and its impact

Table 2 **World Health Organization recommendations for action on mental health [*1*] and means of addressing them in Lebanon**

1. Provide treatment in primary care

Place mental health services in primary care on the national agenda for primary care.

- Train primary care providers and other staff to:
  Search for symptoms of psychiatric illness
  Recognize somatization
  Encourage patients to discuss mental health issues
  Treat and follow-up psychiatric illnesses
  Recognize the need for referral.
  Ensure the availability of mental health services in private and public outpatient departments.

2. Make psychotropic drugs available

Ensure continuous supply of psychotropic medications at the MoPH.

- Create mechanisms to protect imports from border control corruption and transport delays.
- Import generic drugs as they become available.
- Enforce price-control laws on all medications.

3. Give care in the community

Establish district-based mental health care action teams and programmes.

- Provide venues for vocational rehabilitation.
- Ensure enforcement of antidiscrimination laws in the workplace.
- Train counsellors in each municipality for acute stress debriefing.
- Promote the role of municipalities in developing and sustaining mental health services.

4. Educate the public

Address stigma.

- Increase awareness of the causes and symptoms of mental disorders through media campaigns (including television, radio, and newspapers to ensure sufficient access by all communities including rural areas) and school-based programmes.

5. Involve communities, families and consumers

Recruit people with mental disorders and their families to advocate for mental illness.
Encourage communities to participate in the assessment of community needs.

6. Establish national policies, programmes and legislation

Create a division for mental health issues in the MoPH to:

- Oversee the medical branch of mental health services throughout the country, ensuring that the quality of acute and long-term care provided to patients is optimal, and ensuring the availability of necessary medications, etc..

Establish an independent sister organization, a national institute of mental health, and secure its funding from the national budget to:

- Carry out or delegate nationwide research projects under direct supervision with frequent independent statistical analysis and surveillance
- Create and implement a mental health policy
- Formulate and pass legislation on various aspects of mental health, including the rights of patients with mental disorders.

7. Develop human resources

Increase the number of PCPs, psychiatrists, psychologists and mental health nurses.
Provide incentives for mental health professionals and paraprofessionals to practise in rural areas.
Establish training for lay mental health personnel
Increase psychiatric education in medical school curricula.
Establish psychiatry training programmes for nurses.
Promote involvement of social workers in mental health.

Table 2 **World Health Organization recommendations for action on mental health [*1*] and means of addressing them in Lebanon** (*concluded*)

8. Link with other sectors

Promote intersectoral action at the national and district level.

Promote coperation between nongovernmental organizations, MoPH, MoSA, Lebanese Order of Physicians and academic institutions.

Compile and mass distribute national directory describing available mental health services.

9. Monitor community mental health

Establish a national institute of mental health.

Obtain feedback from community services on a regular basis and establish watchdog organizations.

10. Support more research

Gather data on prevalence, incidence, demographics and risk factors for mental disorders in various settings including the community, primary care and among different age groups.

Increase research in under-served and under-studied areas including poverty-stricken northern and southern regions of the country.

Conduct cost–effectiveness studies in different areas of interventions and with different patient groups.

Investigate what contributes to stigma and how to best target it based on cultural and religious trends in various regions.

Ensure high-quality research designs and integrity of data through independent evaluation of studies and data analysis by professional groups in developing and sustaining mental health services.

as an independent risk factor to other medical issues such as cardiovascular diseases, recurrence of cancer, stroke, diabetes and other common chronic diseases, funding for mental health care services should be prioritized. As the financial burden cannot be carried solely by the government, offering incentives such as tax exemption to private financiers in the health care sector to invest in mental health services would be useful.

The government of Lebanon has plans to further develop an existing programme to improve maternal and infant health care by conducting health campaigns including screening, medical testing and education [*4*]. The costs are projected at US$ 6 million. Incorporation of mental health education and screening for mental illness in mothers and their infants would not significantly increase these costs [*4*]. Similarly, the government has plans to improve school health programmes at an estimated cost of US$ 3 million [*4*]. Training school nurses or other professionals involved in these programmes day-to-day to identify and address mental illness would require an initial cost, with additional costs for continuing education, but this small investment will be magnified to benefit an extensive population.

In the Middle East, hospital-based care for a patient with schizophrenia or bipolar disorder, using an older antipsychotic medical plus psychosocial treatment has been estimated to cost US$ 2.56 million per year per 1 million population [*36*]. The most cost-effective method of treatment for schizophrenia and bipolar disorder in the community is use of an older antipsychotic or mood-stabilizer respectively combined with psychosocial treatment [*36*]. Using this treatment, the cost of averting 1 DALY would be US$ 4431 for schizophrenia and US$ 3359 for bipolar disorder per patient [*36*].

For depression and panic disorder, care is largely community-based. The most cost-effective method of treatment is an older tricyclic antidepressant for episodes of depression [*36*]; however, with the availability of the generic form of selective serotonin

reuptake inhibitors (SSRIs), which are safer, there are alternatives. Maintenance would include psychosocial treatment and an antidepressant. Estimates are similar for panic disorder.

If it assumed that the average cost of maintenance psychosocial treatment in Lebanon is LL 75 000 (US$ 50) per session, with 1 session per week, the cost of treatment of 1 episode in a patient with depression bipolar disorder, or schizophrenia, is shown in Table 3. As demonstrated, the cost of treatment with an older, conventional medication combined with psychosocial treatment is far more cost-effective that treatment with newer drugs still under patent. It has been estimated that in the Middle East and North Africa, the cost–effectiveness of using an older drug plus psychosocial treatment would be US$ 4431 per DALY averted for the treatment of schizophrenia, US$ 3359 for the treatment of bipolar disorder and US$ 1533 for depression [*36*]. The cost–effectiveness of using a newer antidepressant drug (such as a generic SSRI) for the treatment of panic disorder would be US$ 741 per DALY averted [*36*].

When setting up mental health services in the community, particularly when training PCPs who will prescribe medications for the majority of patients, this difference in price will be important to emphasize. While the tolerability profile of newer psychotropic medications may be better than older ones, in terms of efficacy there is not a marked difference, further arguing for the use of the more cost-effective medication.

The cost of inpatient care is difficult to estimate but some private hospitals

Table 3 **Comparison of cost of maintenance therapy for an episode of depression, schizophrenia or bipolar disorder using various drugs, combined with psychosocial treatment**

Type of mental illness	Older medications		Newer medications	
	Drugs	Cost of treatment[a]	Drugs	Cost of treatment[a]
Depression	Episodic treatment with clomipramine 150 mg, oral, 1× day, for 12 weeks (LL 109 980/US$ 72.2)	LL 1 million (US$ 663)	Episodic treatment with Prozac® (fluoxetine) 20 mg, oral, 1× day, for 12 weeks (LL 256 872/US$ 168.5)[b]	LL 1.16 million (US$ 759)
Bipolar disorder	Maintenance therapy with lithium 400 mg, oral, 3× day, for 6 months (LL 75 600/ US$ 49.6)	LL 1.88 million (US$ 1230)	Maintenance therapy with Depakote® (divalproex sodium) 500 mg, oral, 2× day, for 6 months (LL 102 271/US$ 68.2)	LL 1.9 million (US$ 1248)
Schizophrenia	Maintenance therapy with haloperidol depot injection 50 mg/month for 6 months (LL 98 184/ US$ 64.4)	LL 1.9 million (US$ 1245)[c]	Maintenance therapy with Risperdal® (risperidone) 2 mg, oral, 2× day, for 6 months (LL 399 094/US$ 261.9)	LL 2.2 million (US$ 1443)

[a]1 session of psychosocial treatment, estimated cost per week: LL 75 000 (US$ 50) plus drugs (2007 prices); [b]Iternative: generic fluoxetine 20 mg, 1× day for 12 weeks: LL 128 571 (US$ 84.4); [c]Alternative: chlorpromazine 100 mg, oral, 3× day, for 6 months: LL 54 000 (US$ 35).
LL = Lebanese pound; US$ = United States dollars.

in Lebanon request down-payments of US$ 1000 before admission.

Promoting mental health in the community

While in the short term, creating mental health services in the community may require extensive funding, in the long term, providing the bulk of mental health care in the community is expected to be cost-effective in Lebanon. While the treatment of acute psychiatric conditions requires brief hospitalization for medication adjustment, and to ensure the safety of the patient and his/her family, treating patients with chronic mental disorders such as schizophrenia in the community will allow that patient to continue receiving care while also leading a productive life.

Preventing mental disorders

The risk factors for mental disorders which, in our opinion, are of greatest importance in Lebanon include lack of education, poor social circumstances and social disadvantage, particularly in the case of women [*1,37,38*], poverty, war, violence and insecurity, work stress and unemployment. Preventing mental disorders would be the ultimate aim of any mental health care system. This is best approached by initiating specifically designed programmes that are tailored to different age groups and at-risk populations, including the elderly [*39*], employees, children, expectant and new parents and women [*1,31,40–44*].

Treating mental illness

PCP education and training of professional staff

The benefit of treatment by a PCP includes continuity of care and the fact that PCPs would be able, through their longer-lasting and closer relationship to their patients, to address the social factors contributing to the mental disorder and more closely involve the family. Primary care mental services are accessible at lower prices, and would reserve referral to specialty care for specific cases. The education of PCPs does not need to be time-consuming or costly. An education programme conducted at the *kada'a* unit level and modelled on that successfully implemented on the Swedish island of Gotland [*45,46*] is ideal for a country like Lebanon.

There is accumulating evidence that in many circumstances appropriately-trained nurses can assume the roles traditionally assumed by physicians in the primary care setting [*36*]. Training nurses to offer mental health care in the community would be beneficial. The role of nurses could include house visits, care for patients in community health centres, and attendance at adult day care centres. Organization of community services involving trained volunteers and led by nurses could provide daily care for patients with mental illness living in the community.

Approximately 40% of graduates of Lebanese medical school from 1978–2004 are currently active physicians in the United States [*19*]. Lebanon is not lacking in physicians *per se* but rather is lacking in PCPs and psychiatrists, particularly those practising in rural areas. Increasing the number of PCPs that can offer mental health services and increasing the number of psychiatrists in Lebanon will require the creation of financial and other career incentives to encourage physicians to practise in Lebanon, and particularly in rural areas [*36*]. As demonstrated above, tuition fees in private universities in Lebanon far surpass tuitions in public universities. One possible means of increasing the number of physicians practising primary care or psychiatry in under-served areas

would be for the government to sponsor their tuition in public universities in return for an agreement from these physicians to practise in a rural area for a preset time period following completion of his/her education.

Community-based care

The goals of community care in a country such as Lebanon would ensure sustainable accessibility to mental health services [*1*], as well as housing, vocational rehabilitation, employment and social support networks for people with mental disorders. Assertive community treatment "consists of a multidisciplinary group of mental health professionals who work as a team to provide intensive services to patients with severe mental illness" [*47*]. The implementation of the 11 principles of the original assertive community treatment model would allow for the delivery of organized and efficient care to people with severe mental disorders living in the community.

Although the conventional assertive community treatment programme may not work as such in Lebanon, some valid points can be piloted in the Lebanese community, tailored to its specific needs and available ways of successful implementation. The authors are fully aware that mental health programmes, especially in rural areas, must be tailored to specific cultural patterns and the issues of accessibility and availability are of particular importance [*48*].

Social services, volunteers and the role of the community

In the planning of community-based mental health services, "emphasis should be given to the development of programmes through dialogue with the community", the so called "bottom-up planning", "rather than using a top-down approach, whereby communities are expected to implement projects that have been developed at higher levels" [*35*]. Community-based support groups can supplement any government initiatives and participate in the assessment of needs and identification of community health priorities [*35*]. This is particularly important in times of acute stress such as sporadic outbreaks of violence in the country, as mental health issues are abundant and often go untreated under such circumstances [*49*].

Levels of care in prevention and treatment

Ultimately, the organization of services for the prevention and treatment of mental illness in Lebanon could be made available through various levels of care depending on necessity.

In the community, prevention of mental illness and promotion of mental health could, for example, be carried out by teachers in the classroom setting and municipal organizations through community activities. This does not cost much and yet has high impact as it reaches a large population of different age groups. For individuals at high risk for mental illness, provision of services may be by physicians or nurses in clinics. These programmes should be budgeted for at a municipality level (i.e. per 10 000 people).

For the treatment of mental illnesses, a similar model would be in place. For patients with mental illness treatable by a PCP, both treatment and follow-up may be offered locally. More complex cases may be evaluated in secondary or tertiary centres depending on need. The cost of inpatient versus outpatient treatment in Lebanon is in the ratio of 10:1.

Conversely, severe mental illness would drain resources at multiple levels and may be more cost-effective to be managed in specialized neuropsychiatric settings (chronic hospital or day-treatment are viable, less costly interventions for people with more severe mental illnesses).

Finally we need to put in perspective why treatment of mental illness is important nationwide. Besides achieving its goal at the individual level, treating mental illness, a risk factor for other conditions such as cardiovascular disease, substance abuse and poor diabetic control to name a few, would lead to lowering the direct and indirect burden of these diseases worldwide. In addition, treated patients will be able to function again in society and be productive, adding to the bigger picture of economic growth and higher GDP.

Conclusion

Mental illness is a worldwide problem with implications at the individual and national levels. In the light of expected increases in mental illness and its burden worldwide, WHO has set forth recommendations to combat this public health concern [*1*]. Through our surveillance of available services in Lebanon, interviews with MoPH officials, WHO officials and PCPs, it is apparent that mental health services are inadequate and are not given the attention they require. We demonstrated why it is cost-effective to treat mental illness in Lebanon. Research is absolutely needed to fill in those gaps and to advance the delivery of quality health care at the lowest possible cost.

The goals of any mental health service ought to include prevention of mental illness, increasing awareness of the public towards these issues, providing services in the community in a way easily accessible to those most at need and treatment by qualified mental health professionals. In order to implement the changes outlined in Table 3, the following components are needed: greater funding and budgeting, manpower, accessible programmes to populations at risk, medication availability, cost–effectiveness studies and analysis in delivering the standard of care, and a policy change based on all the previous components, the sustainability of which is protected by the passing of legislation.

Since 1975, WHO has repeatedly made recommendations to integrate mental health services into primary care settings. Thirty years later, these recommendations continue to be proposed. While complete fulfilment of the 10 WHO recommendations will require extensive funding and expertise, as demonstrated above, certain cost-effective measures in the treatment of mental illness in Lebanon can be initiated, and when adopted, are expected to lead to a healthier and more productive society. Indeed certain steps can be undertaken without delay to ensure the promotion of mental health to the forefront of the national agenda.

References

1. *New understanding, new hope. The world health report 2001*. Geneva, World Health Organization, 2001.
2. Lopez AD, Murray C. The global burden of disease, 1990–2020. *Nature medicine*, 1998, 4(11):1241–3.
3. Kessler KC et al. Depression in the workplace: effects on short-term disability. *Health affairs*, 1999, 18(5):163–71.
4. *Social action plan 2007. Towards strengthening social safety nets and access to basic social services.* Beirut, Lebanon Ministry of Economy and Trade, 2007 (http://www.economy.gov.lb/MOET/English/Navigation/News/SocialActionPlan2007.htm, accessed 24 January 2009).
5. Farhood L, Chaaya M, Madi-Skaff J. Patterns of mental illness from psychiatrists'

caseloads in different war time periods. *Arab journal of psychiatry*, 1997, 8(2):87–98.

6. Yaktin US, Labban S. Traumatic war. Stress and schizophrenia. J*ournal of psychosocial nursing and mental health services*, 1992, 30(6):29–33.

7. Macksoud MS. Assessing war trauma in children: a case study of Lebanese children. *Journal of refugee studies*, 1992, 5(1):1–15.

8. Chimienti G, Nasr JA, Khalifeh I. Children's reactions to war-Related stress. Affective symptoms and behaviour problems. *Social psychiatry and psychiatric epidemiology*, 1989, 24:282–7.

9. Macksoud M, Aber L. The war experiences and psychosocial development of children in Lebanon. *Child development*, 1996, 67:70–88.

10. Karam EG. *Post traumatic stress disorder. The Lebanon wars*. United Nations Development Programme and the United Nations Department of Humanitarian Affairs (undated).

11. WHO World Mental Health Survey Consortium. Prevalence, severity, and unmet need for treatment of mental disorders in the World Health Organization World Mental Health Surveys. *Journal of the American Medical Association*, 2004, 291:2581–90.

12. Karam EG et al. Prevalence and treatment of mental disorders in Lebanon: a national epidemiological survey. *Lancet*, 2006, 367:1000–6.

13. Saab B et al. Psychological distress among marginalized women in the outskirts of Beirut: determinants and association with health perception. *Journal of urban health*, 2005, 82(4):653–65.

14. *Burden of disease statistics*. World Health Organization [website] (http://www.who.int/healthinfo/global_burden_disease/en, accessed 24 January 2009).

15. *Atlas. Country profiles of mental health resources 2001.* Geneva, World Health Organization, 2001.

16. *Human development report 2005. International cooperation at a crossroads: aid, trade and security in an unequal world*. New York, United Nations Development Programme, 2005.

17. Kronfol N. *Older population and health system: a profile of Lebanon. INTRA I project description*. World Health Organization [online document] (http://www.who.int/ageing/projects/intra/phase_one/alc_intra1_cp_lebanon.pdf, accessed 24 January 2009).

18. Ammar W et al. Lebanon national health accounts. Geneva, World Health Organization, 2000 (draft) (http://www.who.int/nha/docs/en/Lebanon_NHA_report_english.pdf. accessed 24 January 2009).

19. Akl EA et al. Graduates of Lebanese medical schools in the United States: an observational study of international migration of physicians. *BMC health services research*, 2007, 7:49.

20. Arab Media Network for Human Development [website] (http://www.ammannet.net/static/gender/EnFile/02%20Arab%20Media%20Network%20for%20Human%20Development-Jordan.ppt, accessed 24 January 2009).

21. *Country profiles. Eastern Mediterranean Region*. World Health Organization [website] (http://www.emro.who.int/mnh/whd/CountryProfile.htm, accessed 24 January 2009).

22. Murr G et al. A report, with recommendations. In: *Proceedings of a symposium on the Impact of War on the Mental Health of the Lebanese*. Beirut, Lebanon, Ministry of Health and Social Affairs, 1983.

23. Okasha A, Karam E. mental health services and research in the Arab world. *Acta psychiatrica scandinavica*, 1998, 98:406–13.

24. Ammar W, Karam N. Health systems performance assessment. *Journal medical libanaise*, 2001, 49:121–2.

25. *National health accounts. Lebanon*. World Health Organization [website] (http://www.emro.who.int/emrinfo/index.asp?Ctry=leb, accessed 24 January 2009).

26. Institute for Development Research, Advocacy, and Applied Care [website]. www.idraac.org.lb, accessed 24 January 2009).

27. Der-Karabetian et al. Attitudes toward mental illness in Lebanon: an initial report. *Journal medical libanaise*, 1975, 28(2):297–306.

28. Wrigley S et al. Role of stigma and attitudes toward help-seeking from a general practitioner for mental health problems in a rural town. *Australasian and New Zealand journal of psychiatry*, 2005, 39:514–21.

29. Docherty J. Barriers to the diagnosis of depression in primary care. *Journal of clinical psychiatry*, 1997, 58(Suppl. 1):5–10.

30. Isett KR et al. The state policy context of implementation issues for evidence-based practices in mental health. *Psychiatric services*, 2007, 58:914–21.

31. Al-Krenawi A, Graham JR, Kandah J. Gendered utilization differences of mental health services in Jordan. *Community mental health journal*, 2000, 36(5):501–11.

32. Okasha A, Karam E. Mental health services and research in the Arab world. *Acta psychiatrica scandinavica*, 1998, 98:406–13.

33. Simon GE et al. An international study of the relation between somatic symptoms and depression. *New England journal of medicine*, 1999, 341(14):1329–35.

34. Okasha A. Mental health in the Middle East: an Egyptian perspective. *Clinical psychology reviews*, 1999, 19(8):917–33.

35. Tarimo E. *Towards a healthy district: organizing and managing district health systems based on primary health care*. Geneva, World Health Organization, 1991.

36. Jamison DT et al., eds. *Disease control priorities in developing countries*, 2nd ed. New York, World Bank Group, 2006.

37. *Organization of services for mental health. (Mental health policy and service guidance package.)* Geneva, World Health Organization, 2003.

38. Weissman MM et al. Cross-national epidemiology of major depression and bipolar disorder. *Journal of the American Medical Association*, 1996, 276:293–9.

39. Chahine LM et al. Dementia and depression among nursing home residents in Lebanon: a pilot study. *International journal of geriatric psychiatry*, 2007, 22(4):283–5.

40. Lesene C, Kennedy C. Starting early: promoting the mental health of women and girls throughout the lifespan. *Journal of women's health*, 2005, 14(9):754–63.

41. Saxena S, Garrison PJ, eds. *Mental health promotion case studies from countries.* Geneva, World Health Organization/World Federation for Mental Health 2004.

42. *Mental health policy, plans, and programmes. (Mental health policy and service guidance package.)* Geneva, World Health Organization, 2004.

43. *Mental health and work: impact, issues, and good practice*. Geneva, World Health Organization/International Labour Organization, 2000 (WHO/MSD/MPS/00.2).

44. Chaaya M et al. Postpartum depression: prevalence and determinants in Lebanon. *Archives of women's mental health*, 2002, 5:65–72.

45. Rutz W et al. An educational program on depressive disorders for general practitioners on Gotland: background and evaluation. *Acta psychiatrica scandinavica*, 1989, 79:19–26.

46. Rutz W et al. Cost–benefit analysis of an education program for general practitioners by the Swedish Committee for the Prevention and Treatment of Depression. *Acta psychiatrica scandinavica*, 1992, 85:457–64.

47. Bond GR et al. Assertive community treatment for people with severe mental illness: critical ingredients and impact on patients. *Disease management and health outcomes*, 2001, 9(3):141–59.

48. Fekete D et al. Rural assertive community treatment: a field experiment. *Psychiatric rehabilitation journal*, 1998, 21(4):371–9.

49. *Prevention of mental disorders: effective interventions and policy options*. Geneva, World Health Organization, 2003.

Occupational health

Protecting workers health in a climate of change – from policy to action The Eighth Meeting of the Global Network of WHO Collaborating Centres for Occupational Health was held in Geneva in October 2009. The meeting agreed on a package of priority initiatives, projects and deliverables to advance the implementation of the WHO Global Plan of Action on Workers' Health in the period 2009–2012.

The most recent issue of the Global Occupational Health Network (GOHNET) newsletter (available at: http://www.who.int/occupational_health/gohnet_newsletter_16.pdf) deals with the ongoing activities by collaborators and other institutions around the world with respect to the second objective of the WHO Global Plan of Action on Workers' Health (2008–2017): "Promoting and Protecting Health at the Workplace":