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PERSPECTIVES

Budget and Financing of Mental Health Services: Baseline Information on 89 Countries from WHO's Project Atlas

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Abstract

Background: Very little information is available on budget and financing of mental health services in the world.
Aims of the Study: During year 2001, WHO collected information from all countries on resources available for mental health care as a part of Project Atlas. The present report seeks to describe the situation regarding federal budgets and financing of mental health care at the country level. It also examines the association between relative allocation of health budget to mental health and mental health policy, programme and resource indicators in 89 countries.
Method: The information was collected through a questionnaire (with an accompanying glossary) that was sent to the mental health focal point in the Ministry of Health of each country. Eighty nine countries provided information on their mental health budget as a proportion of health budget. In addition, information was obtained on policy, programme and mental health resource indicators (beds, personnel, services to special population and availability of drugs).
Results: The results showed that 32% of 191 countries did not have a specified budget for mental health. Of the 89 countries that supplied the requisite information 36% spent less than 1% of their total health budget on mental health. Many countries from Africa (79%) and the South East Asia (63%) were in this subgroup. Comparison with the Global Burden of Disease data showed a marked disparity between burden and resources. Lower income countries allocated a lesser proportion of their health budget on mental health in comparison to higher income countries. The primary method of financing mental health care in most countries was tax-based (60.2%), but many low-income countries depended on out-of-pocket expenditure (16.4%). The presence of mental health policies and programmes in general was not associated with the proportion of health budget allocated to mental health. Countries categorized based on the proportion of mental health budget to health budget, differed significantly in terms of policy on disability benefits and mental health resource indicators (beds, personnel, services for special populations and availability of drugs).
Discussion and Limitations: Federal allocation for mental health care in most countries is low compared to the burden of these disorders. There is also a large disparity among countries and regions. Limitations of the study were, an exclusive reliance on government sources and the difficulty some governments faced in providing accurate information on federal mental health budget as it was not identified separately.
Implications for Health Care Provision and Use: To use resources more efficiently and judiciously, countries should support integration of services, reallocation of mental health beds, training in mental health to providers and services for special populations.
Implications for Health Policies: Most countries need to increase their mental health budgets in order to provide necessary services. Countries with out-of-pocket payment as the primary method of mental health financing should seek to establish social insurance mechanisms.
Implications for Further Research: More research needs to be conducted to gather specific information on mental health financing in relation to policy and service planning.

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Introduction

Mental Health Needs

Recent epidemiological research has demonstrated that mental disorders cause considerable burden on individuals, communities and health services globally and it is projected that the burden will increase in the coming years.[1-5] Studies carried out in developing countries have likewise shown the disabling consequences and the considerable health care and other opportunity costs of severe and common mental disorders.[6-8]

Governments' Responsibility for Mental Health Care

Health and social markets do not function like business markets; the supply and demand fundamentals of the business world may actually threaten effective and equitable health care and may prove especially harmful to mentally ill patients with high degree of need and limited resources.[9-14] It is recognized that decisions on whether to spend public money and on how to spend it are ideally based on criteria related to economic efficiency, ethics and political considerations (e.g. demand by the populace). These criteria suggest that public funds should finance services that are (i) cost-effective and for which demand is inadequate; (ii) cost-effective interventions that preferentially benefit the poor; and (iii) catastrophically costly care, when contributory insurance will not work.[14] Some aspects of mental health care meet many of these requirements. Government funds would obviously be required for populations who reject care and who continue to behave in ways that the society finds objectionable (e.g. substance dependence, sociopathy, dangerousness).[15-16] Persons with severe mental illnesses are also among the most economically and socially disadvantaged groups.[17] And, mentally ill patients have complex need that involve coordination between medical, psychiatric and social service agencies, hence comprehensive care for mental illnesses can be prohibitively costly for individuals and families.[9] Hence, judicious use of public money on mental health seems necessary.

In addition, on the macro-level there is a broad legal and policy context in which health and social care needs of particular populations have to be assessed and decisions about allocation of resources have to be made. The organized care system has the capacity to plan and evaluate programmes, ability to respond to community needs, utilize manpower efficiently and create links with other human services.[18-20] Training of manpower, establishment of information management systems and academic training in health system management are also responsibilities of the public sector.[10]

Mental Health Resources

Though substantial information is available on the incidence, prevalence, course, diagnosis, classification, disability and burden of mental disorders, little information is available on the resources that exist to respond to this burden, particularly from developing countries. The information that does exist cannot be compared across countries because reports use varying definitions and units of measurement. Accurate information on existing resources is essential for developing policies and plans for improvement of mental health systems in order to meet current and future needs. To fill this crucial gap, the World Health Organization launched Project Atlas in 2000, which aimed to collect, compile and disseminate relevant information on mental health resources in the world.[21,22] We report here, information on aspects related to financing of mental health that was collected as a part of the project.

Methodology

A questionnaire was drafted to obtain relevant information from the member states of WHO. Consultations were held with Regional Offices of WHO to identify areas where there was a need to collect information. The draft questionnaire and the accompanying glossary were reviewed by selected experts. The questionnaire was piloted in one developed country and one developing country, and necessary changes made. The English questionnaire and glossary were then translated into four languages – Arabic, French, Russian and Spanish. The questionnaire and glossary were sent to the focal point for mental health in the Ministry of Health of all member states through the Regional Offices and WHO Country offices. The focal points were requested to complete the questionnaire based on all possible sources of information. They were requested to follow the glossary definitions closely to maintain uniformity and comparability and to supply supporting documents. The Atlas Project team responded to questions and requests for clarification. Countries providing incomplete information or information that appeared internally inconsistent were requested to provide clarification. Information from all 191 countries is now available. Data were referenced to common denominators (per unit population, US Dollars) to enhance comparability across regions. Frequency distributions and measures of central tendency (mean, medians and standard deviations) were computed as appropriate. Countries were categorised by WHO Regions and by World Bank income groups based on GNP per capita into higher- (greater than 9266 USD), higher middle- (USD 2996-9265), lower middle- (USD 756-2995) and low-income (lesser than USD 755) countries.[23] Population figures were taken from the World Health Report 2000.[24]

Definitions

The following definitions were used to gather information on financing.

Budget Line

The regular source of money available with the government and allocated for actions directed towards the achievement of mental health objectives.

Out-of-Pocket Payments

Payment made by the consumer or his family as the need arises.

Tax Based Funding

Money for mental health services is raised by taxation, either through general taxation, or through taxes that are earmarked specifically for mental health services.

Social Insurance

Everyone above a certain level of income is required to pay a fixed percentage of his/her income to a government-administered health insurance fund. In return, the government pays for part or all of consumers' mental health services, should it be needed.

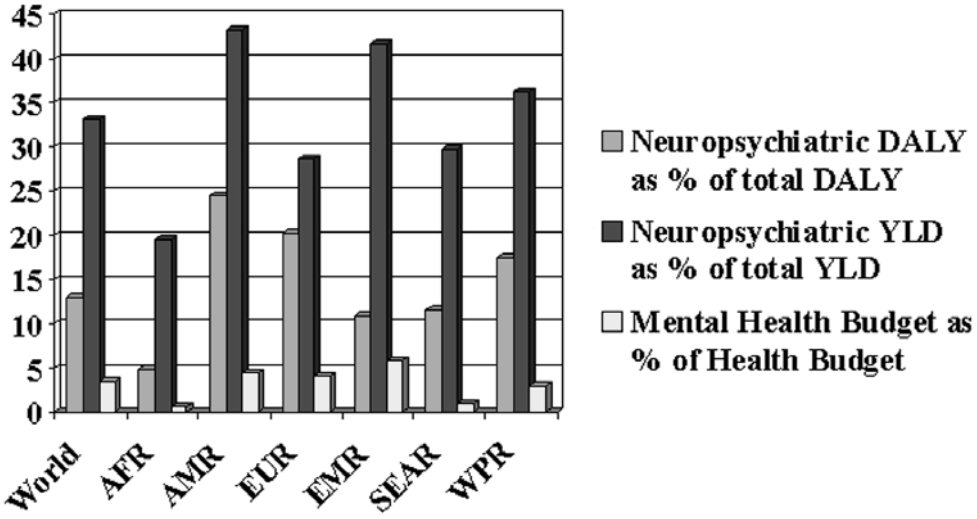

Figure 1. Burden of Neuropsychiatric Disorders and Federal Mental Health Budget by WHO Regions

Note: DALY: Disability Adjusted Life Years, YLD: Years Lived with Disability, AFR: African Region, AMR: Region of the Americas, EMR: Eastern Mediterranean Region, EUR: European Region, SEAR: South-East Asia Region, WPR: Western Pacific Region

Private Insurance

The health care consumer voluntarily pays a premium to a private insurance company. In return, the insurance company pays for part or all of the consumer's mental health services, should it be needed.

Public Disability Benefits

Benefits that are payable, as part of legal right, from public funds in cases of mental illness which reduces the person's capacity to function.

For this publication, the reference variable is mental health budget of a country as a proportion of its total health budget. This figure was available for 89 countries. Global Burden of Disease data[4,5] were used to show contrasts between burden and resource allocation in **Figure 1**.

Data Analytic Procedure

Countries were categorized into three groups: those spending less than 1%, those spending 1%-5% and those spending more than 5% of their health budget on mental health. These categories were compared on those policy, programme and resource indicators on which relevant information was available for more than 90% of these 89 countries (**Table 1** and **Table 2**). Policy and programme related variables were categorical in nature, while resource variable were reported in terms of real numbers (transformed if required to per unit structure) or on scales with range of 6 to 12 points. For dichotomous variables, no response was coded as 'not present', while the case was excluded from analysis for other variables. So, the total number of countries for which analyses were carried out varies somewhat for non-dichotomous variables. Statistical tests applied for three-group comparisons were chi-square test, one-way analysis of variance (for variables with normal distribution) and Kruskal-Wallis analysis of variance (for variables without normal distribution). For significant results on three-group comparisons, post-hoc two-group comparisons were done by 2X2 chi-square test, least mean square difference (LSD) test, and Mann Whitney U test, respectively.

Results

Thirty two percent of the countries in the complete data set of 191 countries, did not have a specified federal budget for mental health. Out of the 89 countries that could give information on the federal mental health budget, 36% spent less than 1% of their total health budget on mental health. These countries had more than 2 billion people living in them. There was a marked regional variation in mental health budgets. In the African and the South East Asia regions 79% and 63% of countries, respectively, spent less than 1% of their health budget on mental health. On the other hand more than 54% of the countries in the European region spent more than 5% of their health budget on mental health.

The most common method of financing mental health care was tax-based (60.2%), followed by social insurance (18.7%), out-of-pocket payments (16.4%), external grants (2.9%) and private insurance (1.9%). Out-of-pocket payment, the least satisfactory method, was used as the primary method of financing health care in 35.9% and 30% of countries, respectively, in the African and the South-East Asia regions. No country in the European region used this method as the primary method of financing mental health care. Social insurance was the primary method of financing mental health care in 50% of countries in the European region, while none of the countries in the African, South-East Asia and the Western Pacific regions used social insurance as the primary method of financing mental health care.

Figure 1 shows the contribution of neuropsychiatric diseases/disorders to the global burden of diseases.[4,5] The

Table 1. Association of Federal Mental Health (MH) Budget as a Percentage of Total Health Budget (HB) with Policy and Programme Related Indicators (n = 89)

Variables	Federal MH Budget as % of Total HB			$\chi 2$ value (df = 2)
	Category I 0-1% (n = 33)	Category II 1.01%-5% (n = 32)	Category III > 5% (n = 24)	
Mental health policy				
Present	22	19	18	1.502
Absent	11	13	06	
Substance abuse policy				
Present	21	20	20	3.345
Absent	12	12	04	
National mental health programme				
Present	28	25	17	1.634
Absent	05	07	07	
Mental health legislation				
Present	21	24	21	
Absent	12	08	03	4.147
Policy on disability benefits				
Present	22	22	23	7.497*
Absent	11	10	01	III > I, II [#]
Policy on therapeutic drugs				
Present	29	28	21	–
Absent	04	04	03	
Mental health in primary health care				
Present	30	29	23	–
Absent	03	03	01	
Mental health training at primary health care level				
Present	24	19	17	1.493
Absent	09	13	07	
Support for community mental health				
Present	23	22	19	0.864
Absent	10	10	05	
Availability of three classes of psychotropics				
Present	25	27	22	2.563
Absent	08	05	02	

* $p < 0.05$, [#] 2X2 $\chi 2$ test ($p < 0.05$)

contribution is 13.04% in terms of disability adjusted life years (DALY) and 32.98% in terms of years lived with disability (YLD). In comparison, on an average, federal governments (of 89 countries) allocated only 3.47% of their health budgets to mental health. The disparity between burden and resource allocation is obvious, though it has to be kept in mind that the GBD data was obtained from projected estimates for all countries, while the resources data refer specifically to 89 countries that were distributed in the relevant regions. Relative under-budgeting for neuropsychiatric diseases/disorders is most gross in the African and South-East Asia regions.

In general, the presence or absence of policies and programmes were not associated with the level of mental health financing (**Table 1**), with the exception of policy on disability benefits, which was associated with categorization of countries based on proportion of mental health budget to health budget ($\chi 2 = 7.497$, df = 2, $p < 0.05$).

Lower-income countries (World Bank classification) spent a lower proportion of their health budget on mental health in comparison to higher-income countries ($F = 15.302$, df = 2,86,88, $p < 0.001$, LSD III > I, II) (**Table 2**). However, the situation in high-income countries was not uniformly satisfactory; many spent less than 5% of their health budget on mental health (data not shown in the table). Categorization of countries based on federal mental health budget as a proportion of health budget was associated with the resources available for mental health service indicators in these countries in terms of total mental hospital beds (Kruskal-Wallis $\chi 2 = 36.103$, df = 2, $p < 0.001$, III > II > I),

Table 2. Comparison of Resource Indicators between Countries Categorized Based on Federal Mental Health (MH) Budget as a Percentage of Total Health Budget (HB) (n = 89)

Variables	Federal MH Budget as % of Total HB			F value (df = 2,86,88) /$\chi 2^{K}$ (df = 2), post-hoc LSD[#]/MWU
	Category I 0-1% (n = 33) mean (SD)/ mean rank	Category II 1.01%-5% (n = 32) mean (SD)/ mean rank	Category III > 5% (n = 24) mean (SD)/ mean rank	
World Bank Income Group	1.85 (1.00)	2.25 (0.84)	3.25 (1.03)	15.302*** III > I,II
Mental health beds[K]				
Total Beds	25.09	50.08	65.60	36.103*** III > II > I
Mental hospital[§]	23.98	49.03	61.07	32.868*** III > II > I
General hospital[§]	30.58	43.10	59.79	18.328*** III > II > I
Other settings[$]	42.56	41.10	48.30	1.337
Mental health professionals[K]				
Psychiatrists[£]	26.94	45.69	66.33	32.757*** III > II > I
Psychologists[@]	25.81	39.50	62.43	22.426*** III > II,I
Nurses[¢]	30.09	34.63	58.80	32.075*** III > II > I
Services for special populations	2.94 (1.78)	2.84 (1.61)	4.38 (2.39)	5.302** III > I, II
Availability of drugs				
Antiepileptics	4.76 (1.06)	4.94 (0.95)	5.42 (1.18)	2.798
Psychotropics	5.76 (1.28)	6.31 (1.00)	6.54 (1.25)	3.464* III > I
Antiparkinsonians	2.27 (1.18)	2.44 (1.16)	3.13 (1.23)	3.860* III > I, II

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$,
[K] Kruskal-Wallis, [#] Least mean square difference test, MWU - Mann Whitney U test, post-hoc tests - significance level $p < 0.05$
[§] (n = 32,32,21), [$](n = 33,31,22), [£](n = 32,32,24), [@](n = 29,27,23), [¢](n = 31,27,22)

beds in mental health sector (Kruskal-Wallis $\chi 2 = 32.868$, df = 2, $p < 0.001$, III > II > I), mental health beds in the general health sector (Kruskal-Wallis $\chi 2 = 18.328$, df = 2, $p < 0.001$, III > II > I), number of psychiatrists (Kruskal-Wallis $\chi 2 = 32.757$, df = 2, $p < 0.001$, III > II > I), number of psychologists (Kruskal-Wallis $\chi 2 = 22.426$, df = 2, $p < 0.001$, III > II, I), number of nurses in the mental health field (Kruskal-Wallis $\chi 2 = 32.075$, df = 2, $p < 0.001$, III > II > I), services for special populations like minorities, refugees etc. (F = 5.302, df = 2, 86, 88, $p < 0.01$, III > I, II), availability of psychotropics (F = 3.464, df = 2, 86, 88, $p < 0.05$, III > I) and the availability of antiparkinsonian drugs (F = 3.860, df = 2, 86, 88, $p < 0.05$, III > I, II).

Discussion

Imbalances between Budget for Health Care and Mental Health Care

The results of the present study indicate that government budgets for mental health care in most countries are very low compared to the extent of burden of these disorders. Hu[25] came to this conclusion independently for China. The low priority given to mental health care is illustrated by the fact that some countries reduced the funding for mental health in recent years.[19,26] There is also a large disparity between countries and regions.

Perceived importance of physical health as opposed to mental health as a priority in developing societies serves to restrain the growth of mental health systems.[27] Perhaps, it is related to standards for assessing health status in developing societies in terms of infant mortality, control of infectious disorders and population growth rather than in terms of disability and psychological well-being.[2,28] However a relative neglect of mental health systems also occurs in developed societies.[9,19,29] Societies have taken time to accept that mental disorders have public health importance.[30]

Only the most favoured groups in the society find their needs on the national agenda. And in that competition, the needs of other segments command greater public appeal than the problems of the mentally ill.[19] Mentally disabled people are also the least likely to protest.[9]

The Gap between Policy and Financing

This study shows that the presence of mental health policies is not enough to ensure resource allocation. Popescu *et al.*[31] illustrated that there is often a disparity between a mental health policy and its implementation in relation to a legislation concerning protection of people suffering from mental illness at the work place. Policies can only be expected to begin a process of change. Political will and leadership are needed for their proper implementation.[10,32,33]

High income group countries that are allocating adequate resources to mental health should be concerned with issues like organizational and institutional barriers, lack of accountability, budgeting based on non-medical objectives etc.[10] Other countries in this income group will have to increase the funding for mental health. **Table 1** and **Table 2** suggest that an increase in mental health budget from less than 1% of health budget to 1%-5% level leads to improvement in mental health care resources in terms of beds (total, mental hospital, general hospital psychiatric), number of psychiatrists and nurses involved in mental health care, and an increase in mental health budget to above 5% of the health budget leads to improvement in mental health care resources in terms of disability benefits, services for special populations, number of psychologists and availability of drugs (psychotropics and antiparkinsonian agents).

Developing countries should also examine why their mental health care systems are growing so slowly. The overall poverty of the society may be a reason but it cannot be dismissed as the entire explanation for the underdevelopment of these systems. Tausig and Subedi[28] argue that in many developing societies, at least in part, the modern mental health system serves a symbolic rather than functional purpose (it legitimizes the efforts of the developing society in the eyes of the developed world and consequently within the populace), and hence it is not expected to develop in parallel with general material development. If this is felt to be the case, corrective steps should be initiated.

Can Public Funds be Used Efficiently for Mental Health Care?

The mental health budget as a proportion of health budget was associated with the World Bank categorization of countries according to income levels. In a within-country analysis in Greece, Madianos *et al.*[33] found an association between general index of development and extramural psychiatric beds, rehabilitation places and availability of mental health professionals. This suggests that low and lower-middle income countries would be hard pressed in their efforts to expand their mental health budgets. Constructive ways of harnessing existing local resources must be given consideration. Integration with primary care would be useful. Integrated services aimed at factors which determine health are superior (effective and less expensive) when compared to individual, fragmented, disease-oriented and focused approach to care.[34,35] Savings and gains in efficiency can be achieved through substitution among services that have integration among preventive, primary and advanced level of care. Efficiency in finance and provision of care could free resources for a higher level of care.[10]

Another approach would be the utilization of sound cost effectiveness principles in prioritization. It has been suggested that there is a shortage of economic data, particularly from developing countries, to support discussions on mental health policy and resource allocation at national and international level.[7,36] This situation has changed considerably with the WHO-CHOICE study, which showed that at a specified coverage rate (50% for depression and panic disorder and 80% for schizophrenia and bipolar disorder) interventions avert between 8% and 33% of current burden of diseases attributed to specific disorders. In terms of cost-effectiveness the cost per DALY averted ranged from below I$ 1000 for primary care pharmacotherapy with older antidepressants in low-income subregions to over I$ 10,000 for outpatient based intensive treatment for schizophrenia in industrialized subregions. The study also showed that cost-effective interventions for psychiatric disorders exist in all sub-regions. The data can be validated at the local level in order to guide national level policy makers concerning priority setting and resource allocation.[37] With proper planning and implementation higher quality care can be achieved without an increase in cost.[38]

Method of Financing

Out-of-pocket payments as the primary means for financing mental health care leads to denial of access and a two-tiered system of care where higher socioeconomic groups and more therapeutically promising patients are served by the private sector and the lower socioeconomic groups and patients and families requiring multisectoral interventions are served by the public sector.

The gap between mental health need and utilization is marked. Just over half of a sampled population at a rural site in India had contacted services.[7] In USA, the nationally representative Health Care for Communities (HCC) survey revealed that three fifths of persons with severe mental illness

had not received speciality mental health care.[17] Numerous studies have shown that insurance increases access to mental health care.[12,17,39-41] Countries that depend primarily on out-of- pocket payments to finance mental health care, should provide some form of social insurance. Plans that differ in terms of comprehensiveness, nature of funding, degree of federal control, involvement of the insurance agencies and the degree of cost sharing between the individual and the insurer could be considered. This would increase access to care and a more equitable distribution of services.

Reallocation of Beds

The present study showed that low-and low middle-income countries had fewer mental health beds in comparison to higher middle- and high-income countries. While the rationale for increasing general hospital beds in low- and lower middle-income countries is clear, the ground for decreasing mental health beds in the mental hospital setting in these countries should be treated more cautiously.

It has been argued that downsizing big mental hospitals and developing community services would be more cost efficient and humane.[9,32,42] However, policies like deinstitutionalization can be effective only if they have a clear rationale, and a successful transfer of support function to the community and co-ordination of service systems that serve mentally ill clientele actually occurs.[12,43,44] Reductions in inpatient care in the aftermath of the deinstitutionalization movement were not balanced by comparable increase in community care even in developed countries.[13,17,20,45,46] This has resulted in a paradoxical situation particularly for people with chronic mental illnesses, who sometimes fare worse than before.[20] Deinstitutionalization has led to transinstitutionalization into boarding and nursing homes (or even worse in jails), to the revolving door syndrome, and to homelessness in many societies.[9,17,19,47] Nursing and boarding homes often offer poor quality of care (understaffing, overuse of psychotropic drugs, brutality) and have been described to have become present day 'back wards'.[9] The failure to engage and maintain persons with severe mental illness in mental health treatment increases risks for emergency treatment, hospitalization, and poor social and clinical functioning; all of which have economic costs.[17] And institutionalization in jails is just an exercise in cost shifting between different agencies with separate budgets offering substitutive treatments.[47]

However, reduction in mental hospital beds could generate resources for community programmes for resource poor countries. An innovative method in this regard could be mutual interchange of beds between mental hospitals and general hospitals. Large portions of the mental hospitals could be converted into general wards and wards in the general hospitals could be turned into acute stay beds for mentally ill patients. Since mental hospitals often have large bed strengths, the exchange could be effected for general hospitals over a large region.

Human Resources

A case can certainly be made for training to increase the manpower for mental health care. It is important to note that in developing countries a significant category of mental health care cost is on consultation with local general or traditional practitioners, neither of whom are trained or qualified to detect or treat psychiatric morbidity. Thus, while significant amount of money is spent on seeking help for mental disorders, appropriate care is often not provided.[6,7] Simple mental health training for local private providers might represent an effective means of improving the detection, referral and management of common mental disorders.[7] Economic incentives and organizational arrangements will need to be aligned to support these changes. Absence of a policy for engaging other professionals and healers would affect the viability of community mental health care system because the initial providers typically exhaust a patients limited economic resources, increasing the burden on public agencies.[6,12] Okasha *et al.*[48] showed that training of general practitioners led to cost-economic benefits.

Making Interventions Available at the Level of Primary Care

Suitable drugs and cost-effective and simple psychosocial (preferably group) interventions should be made available at the primary care level. Establishment of an essential drug list for mental disorders is likely to represent a policy consideration in many low-income countries.[7] Where essential drug list for mental disorders exist, their implementation should be taken up on a priority basis.

Services for Special Populations

Services for special populations need specific policies[49] and mobilization of additional resources.[50] Equity in health care is a cornerstone for public financing, so it can hardly be overemphasized that special populations deserve attention of policy makers and that resources should be earmarked for services to these populations.

Limitations

While all attempts have been made to obtain the required information from all countries, some countries were not able to give information on certain themes, often because such data simply do not exist within the countries. It is hoped that these information gaps will be filled in the future. Regarding definition of terms, a balance was sought between the most appropriate definition and those that the countries use currently to get a common denominator.

The proportion of mental health to health budget at the federal level was used as a rough indicator for funds available to the mental health field, in part because mental health care is integrated with primary health care in some countries and health is a state rather than a federal subject in

others. Zimmerman and McAdams[51] have shown that there is significant local commitment to publicly supported health care services than is estimated in national health spending data and that this should be taken into account during policy decisions.

The private sector is an important provider of mental health services to the population. The present study underrepresents information on private sector (beds, professionals, etc.) as data were obtained only from Governmental sources. Difficulties in gathering information about the private sector has been noted by others.[32]

Recommendations

- In view of the burden of mental disorders, most countries should seriously consider an increase in their mental health budgets to provide for necessary services, training and research.
- More research/information on financing of mental health care is needed to guide policy and service planning.
- Countries with emphasis on out-of-pocket payment as the primary method of financing mental health care should consider the possibility of providing social insurance as a means of financing mental health care.
- Mental health care should be provided in the community rather than in restrictive environments. In resource poor countries, one option of generating finance for community programmes could be through a reduction in mental hospital beds.

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