Mental Health Services in 42 Low- and Middle-Income Countries: A WHO-AIMS Cross-National Analysis

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Objective: **The authors describe characteristics and capacities of mental health systems in low- and middle-income countries.** ***Methods:*** **The World Health Organization Assessment Instrument for Mental Health Systems was used to assess services in 42 countries (13 low-, 24 lower-middle, and five upper-middle income).** ***Results:*** **Of 36 countries with a mental health plan, 90% include the goal of developing community services. However, inpatient facilities are the main service providers, with less than one community contact (.70) for each inpatient day. Mental hospitals consume 80% of mental health budgets, and outpatient care is limited.** ***Conclusions:*** **Mental health services in participating countries are limited and often hospital based. (*Psychiatric Services* 62:123–125, 2011)**

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In 2001 the World Health Organization (WHO) recommended that countries develop community-based services for people with mental disorders (1). This recommendation has recently been strengthened by a call for action to scale up services for people with mental disorders (2) and by WHO's development of the Mental Health Global Action Programme (3). Initial data from the *WHO Mental Health Atlas* and other sources (4,5) have revealed that mental health services, especially in low- and middle-income countries, are highly insufficient and largely dominated by hospitals and that the available resources for mental health are scarce, inequitably distributed, and inefficiently utilized (6). The need for monitoring progress in the development of mental health services has been emphasized by the call for action of the Lancet Global Mental Health Group (2).

The aim of the study was to evaluate the characteristics and capacity of mental health services in low- and middle-income countries.

Methods

The WHO Assessment Instrument for Mental Health Systems (WHO-AIMS) (7) was used as the primary instrument. The development of this instrument has been described elsewhere (8). The instrument consists of 155 input and process indicators, covering six domains: policy and legislative framework, mental health services, mental health in primary care, human resources, public information and links with other sectors, and monitoring and research. The authors selected 44 indicators for this study on the basis of perceived reliability, ability to discriminate between countries, and ability to provide useful information about mental health services. The analysis focused on services for adults.

The data presented were derived from 42 low- and middle-income countries or regions that completed the WHO-AIMS assessment between February 2005 and February 2008. These countries were selected to complete the assessment on the basis of their ability to collect the required information and their willingness to participate. A list of the participating countries and basic indicators, such as health system indicators, is available in the WHO report *Mental Health Systems in Selected Low- and Middle-Income Countries: A WHO-AIMS Cross-National Analysis* (9). The sample included 38 WHO member states, two regions (a province of China and a state of India), and two territories (Kosovo and the West Bank and Gaza). All entities are referred to as countries in this report. It should be noted, however, that for the two assessments done at the regional level, results were not extrapolated to the country as a whole

and should not be considered representative of the entire country. Of the 42 countries, 13 are low income, 24 are lower-middle, and five are upper-middle according to World Bank July 2007 income-level criteria.

Data were collected by a local team headed by an in-country "focal point" according to clear definitions and explicit instructions developed as part of WHO-AIMS. In most cases the focal point was identified or approved by that country's ministry of health, but in a few cases the focal point was identified by WHO. Data were sent to WHO headquarters for review. Regional office staff and country office staff were also involved in reviewing the data. WHO staff identified data inconsistencies and errors and sent this feedback to the focal point. Data were triangulated with other data sources, such as the *WHO Mental Health Atlas 2005.* In many cases, several rounds of review of the data were necessary before they were finalized.

Results

All results presented here are summarized in tables on the WHO-AIMS Web site (www.who.int/mental_health/evidence/WHO-AIMS/en/index.html).

Thirty-six of the 42 countries (86%) had either a mental health policy or plan, and nine out of ten of these policies or plans included the goal of developing community mental health services. The goal of downsizing mental hospitals was present in policies or plans in only eight of the 13 low-income countries (62%), compared with 16 of the 24 lower-middle-income countries (67%) and all the upper-middle-income countries.

Across all 42 countries, spending on psychiatric hospitals accounted for about 80% of all governmental financial resources for mental health. Rates of psychiatric hospital spending were fairly consistent across the income categories, ranging from 72% in the upper-middle-income countries to 86% in the low-income countries. At the administrative level, 31 countries (74%) had a mental health authority—that is, an organizational entity responsible at the government level for mental health care. In 17 lower-middle-income countries (70%) and four upper-middle-income countries (80%), mental health services were organized in terms of catchment areas (that is, geographical areas whose residents have access to basic mental health services from assigned facilities); however, eight of the participating low-income countries (62%) did not organize services by catchment areas.

All 42 countries had at least one outpatient facility, but a wide range in availability was found—from one facility per 30,800 population to one facility per 8,479,562 population. The median rate of staff in outpatient facilities was 1.1 professionals per 100,000 population, of which .46 were nurses and .31 were psychiatrists. In middle-income countries, the number of professional staff was 20 times higher than in lower-income countries. Day treatment facilities were rare in both lower-income and lower-middle-income countries but were available in all upper-middle-income countries. On the whole, 6.3 patients per 100,000 were treated in day treatment, with an eightfold difference between upper-middle-income countries and lower-middle-income countries.

Overall, general hospital psychiatric units had one bed per 100,000 population, and a 24-fold difference was found between upper-middle-income countries and lower-income countries. The median length of stay in these units was 21 days. There were .3 professional staff per 100,000 population in these facilities. Nurses were the most prevalent staff in hospitals in both lower-income countries and lower-middle-income countries. However, hospitals in upper-middle-income countries had approximately equal numbers of psychiatrists, nurses, psychosocial staff, and other health workers in hospitals.

Community residential facilities were present in six of the 13 low-income countries, eight of the 24 lower-middle-income countries, and three of the five upper-middle-income countries. Even in countries that had such facilities, they were able to serve only one person per 100,000 population. They were long-stay facilities (median length of stay 333 days per year).

Three low-income countries and four lower-middle-income countries did not have a psychiatric hospital. Among all countries with a psychiatric hospital, the median rate of beds was 5.9 per 100,000 population; however, the rate in the upper-middle-income group was 20 times that in the lower-income group. Overall, the number of psychiatric hospital beds had not changed substantially in the five years before the study in the lower- and lower-middle-income countries. In upper-middle-income countries, the number decreased by 22% over that period.

The median time spent by a patient in a psychiatric hospital was 61 days; however, length of stay differed greatly among income groups, increasing substantially from low-income countries to upper-middle-income countries. Across the 42 countries, two-thirds of patients treated in psychiatric hospitals stayed less than one year, and one-tenth of patients stayed more than five years. The main differences between countries of different income levels was the percentage of long-stay patients in psychiatric hospitals: about one in 20 inpatients in low-income countries and about one in ten in lower-middle-income countries stayed more than five years, whereas in upper-middle-income countries about half of inpatients stayed more than five years.

The available information on involuntary admissions showed that about one in three admissions to psychiatric hospitals were involuntary, with a higher percentage in lower-middle-income countries. The number of psychiatric hospital professionals per capita in upper-middle-income countries was 20 times higher than in lower-income countries. Of all patients treated in mental health facilities, the proportion admitted to psychiatric hospitals was 10% in lower-middle-income countries and 3% in both low-income and upper-middle-income countries. Across the 42 countries, there was less than one community service contact (.70) per one day spent in inpatient facilities.

Discussion and conclusions

A systematic objective assessment of a country's mental health services is an essential prerequisite to improving these services. There are several advantages to using WHO-AIMS for this objective assessment. WHO-AIMS provides a comprehensive assessment of all major aspects of a country's mental health services. Also, the WHO-

AIMS reporting format and review process enhances the reliability of information and enables comparison of information across countries. As shown in this report, it also makes it possible to analyze data from several countries to identify trends in mental health system development and to examine the relationship between current services and the developmental stage of these countries.

Nevertheless, it is important to point out that the data and cross-national analyses presented here pertain only to the countries that reported on each item. Because the 42 countries constitute a relatively small and not necessarily representative sample, the results may not be easily generalized to other countries and should not be considered applicable to the entire income group. Moreover, in some cases the information was not based on "hard" data but on the "best estimate" of the in-country research team. Data sources for best estimates included focus groups, experts in the area, secondary data sources, surveys, or a committee of key informants.

Even with these limitations, the data from the 42 countries show that most had the basic components of mental health services. However, services were often not available to everyone in low-income countries, and the availability of outpatient services in particular was quite limited. More people were served in the community in the participating upper-middle-income countries than in the lower-middle-income countries, and more were served in the lower-middle-income countries than in the low-income countries. Participating countries with higher levels of outpatient care provided services to a higher proportion of the population. Countries with higher rates of inpatient treatment have only slightly higher overall service accessibility. Thus increasing outpatient care appears to be a more effective way of increasing service accessibility.

Day treatment facilities and community residential facilities were particularly scarce in the 42 countries. In 11 countries (26%) day treatment facilities did not exist, and in 25 countries (59%) community residential facilities did not exist. On average, less than 1% of all mental health service users received care in day treatment facilities. Again, use of residential facilities in upper-middle-income countries was higher than in lower-income countries.

There appear to be more acute beds in general hospital psychiatric units in countries with more outpatient mental health services. However, seven of the 42 countries had no psychiatric beds in community hospitals.

Results suggest that psychiatric hospitals are used differently in the low-income countries than in upper-middle-income countries. In the former, only one-tenth of the patients stayed for more than one year, and for most patients the length of stay was relatively short (very similar to the short length of stay in community-based psychiatric inpatient units). In participating upper-middle-income countries, about half of the patients stayed longer than one year. In other words, in the low-income countries psychiatric hospitals functioned more often as acute wards, whereas in the upper-middle-income countries these hospitals more often functioned as a residential unit for long-stay patients. This information should help in developing plans for downsizing mental hospitals in both low-income and upper-middle-income countries. In low-income countries, there may be a greater need to develop community-based inpatient units, whereas in upper-middle-income countries the focus may need to be on developing community residential facilities.

Finally, downsizing psychiatric hospitals is still a slow process. In low-income and lower-middle-income countries, the number of beds in psychiatric hospitals had not changed in the past five years. Across the 42 countries, 80% of government spending on mental health care was absorbed by psychiatric hospitals, and about four mental health professionals in ten were still working in psychiatric hospitals.

Results from WHO-AIMS are consistent with those of previous studies and reports that have suggested that resources for mental health in low- and middle-income countries are scarce, inequitably distributed, and inefficiently used (6). Saraceno and colleagues (10) have described barriers to the improvement of mental health services and strategies to overcome them. Although the results from WHO-AIMS confirm previous findings, the WHO initiative goes beyond previous research, collecting more extensive data and using more well-defined indicators, which yields a more in-depth understanding of mental health systems and provides an objective and reliable baseline for improving mental health services in these countries. This information is of critical importance in preparing plans for reorganizing services and scaling up mental health care in these countries.

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References

1. The World Health Report 2001: Mental Health: New Understanding, New Hope. Geneva, World Health Organization, 2001
2. Series on Global Mental Health. London, TheLancet.com, Sept 2007. Available at www.thelancet.com/series/global-mental-health
3. Mental Health Global Action Programme (mhGAP). Geneva, World Health Organization, 2008
4. Mental Health Atlas 2005. Geneva, World Health Organization, 2005
5. Jacob KS, Sharan P, Mirza I, et al: Mental health systems in countries: where are we now? Lancet 370:1061–1077, 2007
6. Saxena S, Thornicroft G, Knapp M, et al: Resources for mental health: scarcity, inequity, and inefficiency. Lancet 370:878–889, 2007
7. World Health Organization Assessment Instrument for Mental Health Systems (WHO-AIMS). Geneva, World Health Organization, 2005. Available at www.who.int/mental_health/evidence/WHO-AIMS/en/index.html
8. Saxena S, Lora A, van Ommeren M, et al: WHO's assessment instrument for mental health systems: collecting essential information for policy and service delivery. Psychiatric Services 58:816–821, 2007
9. Mental Health Systems in Selected Low- and Middle-Income Countries: A WHO-AIMS Cross-National Analysis. Geneva, World Health Organization, 2009
10. Saraceno B, van Ommeren M, Batniji R, et al: Barriers to improvement of mental health services in low-income and middle-income countries. Lancet 370:1164–1174, 2007