WHO-AIMS

Mental health systems in selected low- and middle-income countries: a WHO-AIMS cross-national analysis

World Health Organization

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Abbreviated terms

AFR   WHO African Region
AMR   WHO Region of the Americas
DALYs   disability-adjusted life years
EMR   WHO Eastern Mediterranean Region
EUR   WHO European Region
LAMICs   low- and middle-income countries
LICs   low-income countries
LMICs   lower-middle-income countries
MICs   middle-income countries
NGO   nongovernmental organization
PHC   primary health care
SEAR   WHO South-East Asia Region
UMICs   upper-middle-income countries
WHO   World Health Organization
WHO-AIMS   World Health Organization Assessment Instrument for Mental Health Systems
WPR   WHO Western Pacific Region

Acknowledgements

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[1] See Table 1.2

Executive summary

Well functioning mental health systems are vital for reducing the high burden of mental disorders. However, essential information needed for planning in order to strengthen mental health systems in low- and middle-income countries (LAMICs) has been lacking. This report seeks to address this shortcoming. It summarizes descriptive data on the mental health systems of 42 LAMICs[2] using the World Health Organization Assessment Instrument for Mental Health Systems (WHO-AIMS).

Data on the essential building blocks of mental health systems, including mental health governance, financing, service delivery, human resources and information, are reported. For mental health planning, it is important to know not only the level of resources in these six areas, but also how those resources are being organized and utilized. Thus, data on efficiency, access, equity, linkages with other sectors and respect for human rights are reported as well.

The majority of participating countries were able to collect and report data for most of the WHO-AIMS indicators, suggesting that a systematic, quantitative assessment of mental health systems in LAMICs is possible. Results indicate that mental health systems in LAMICs are providing care to only a small proportion of all those who need it. The median treated prevalence rate of 0.67% of the population per year in this study is a small fraction of what would be expected based on community epidemiological studies. The corresponding treated prevalence rate for children and adolescents is even lower. While it is estimated that approximately 1 in 20 children has a severe mental disorder, the median treated prevalence rate of 0.16% of the child population per year reported in this study suggests that the overwhelming majority of children and adolescents with severe mental disorders in LAMICs receive no treatment.

Results confirm that mental health resources in LAMICs are scarce, inequitably distributed and inefficiently used. The median number of mental health professionals is 6 per 100 000 population, and mental health spending per capita is US$ 0.30 – a mere fraction of the US$ 3–4 suggested by WHO (2006a) for a basic package of care. The dearth of resources is particularly pronounced in low-income countries (LICs), resulting in a wide gap between LICs and upper-middle-income countries (UMICs): mental health spending per capita is 70 times higher in the reporting UMICs, there are 24 times more beds per 100 000 population in community-based inpatient units, 10 times more community outpatient contacts, and 8 times more mental health staff.

Available resources are inefficiently used: 8 psychiatric beds in 10 are located in mental hospitals, yet these facilities provide care for only 7% of all services users. These facilities also consume most or a disproportionately large share of the available finances. The median proportion of mental health finances spent on mental hospitals was 80%, thus depriving community services of much needed funds. In addition to being scarce and inefficiently used, resources for mental health systems tend to be inequitably distributed. The vast majority of mental health beds and staff are concentrated in the largest cities. Insufficient, inequitable and inefficient use of resources greatly impede access to mental health care: results indicate that only 1 in 3 people with schizophrenia are currently receiving treatment.

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[2] See Table 1.2

On a more positive note, the number of beds in mental hospitals in middle-income countries (MICs) is decreasing in favour of community care, which is more cost effective and has less scope for human rights abuses. However, for the majority of the participating countries, the transition to community care is slow: the number of beds in mental hospitals is not decreasing in LICs, and in lower-middle-income countries (LMICs) inpatient care is still predominant. Overall, there are still only 0.7 outpatient contacts for every day spent in inpatient care. Moreover, day treatment facilities and community residential facilities are scarce across all countries, but particularly among LICs and LMICs.

The data suggest that connections between mental health and other relevant components of the health system as well as non-health sectors are weak. Although the majority of countries reported formal collaboration between mental health care and primary health care (PHC) departments, in assessing mental health care activities within the primary care system, the data suggest that there is little, integration of mental health into PHC. For example, psychotropic medicines and assessment and treatment protocols are not widely available, and few PHC clinics make regular referrals to a higher level of care.

WHO-AIMS data show that in a number of countries there is scant attention to human rights. Mental health legislation exists in only half of the 42 reporting countries, human rights inspections and training are infrequent, and collection of data on involuntary admissions and physical restraint and seclusion is limited. Moreover, user and family associations, which are key allies in advocacy for the care and rights of people with mental disorders, are absent in approximately half of the countries.

There is an urgent need for improvement in the provision of mental health care in LAMICs. The saying "what gets measured gets done" summarizes the importance of monitoring and evaluation for mental health planning. Data from this report can help to better gauge the major challenges and obstacles that these countries are facing in providing care for their citizens with mental disorders. The systematic assessment of 42 LAMICs is an important initial step towards improvement. For many countries this is the first time that comprehensive information on their mental health system has been gathered and disseminated. Not only do the data provide baseline information that can be used to develop plans to strengthen or scale up services, but also the process of collecting the data has brought together key stakeholders within many countries. They are now in a stronger position to press ahead with the needed reforms. Indeed, follow-up data from the 42 countries indicate that many of these countries are already using the findings from this WHO-AIMS study to strengthen their mental health systems.

Chapter 1

INTRODUCTION

The global burden of neuropsychiatric disorders is substantial. When measured by years lived with disability and years lost due to premature death in disability-adjusted life years (DALYs), psychiatric and neurological conditions accounted for 13% of the global burden of disease in 2002 (WHO, 2004).

Despite the huge burden of mental illness, few human and financial resources are directed towards mental health care. Mental health spending in many countries of the world is less than 1% of the health budget, and the number of mental health professionals is grossly inadequate (WHO, 2005a). Resources for mental health are particularly scarce in low-income countries (LICs), and even these are often inefficiently used and inequitably distributed (Saxena et al., 2007b). As a result, it is not surprising that the majority of people with mental illness remain untreated, despite the fact that effective treatments exist. Estimates for untreated mental disorders in low- and middle-income countries (LAMICs) are as high as 78% for adults (Kohn et al., 2004). For children this figure is likely to be even higher.

The mission of WHO in the area of mental health is to reduce the burden associated with mental and neurological disorders, including substance abuse disorders, and to promote the mental health of the population worldwide. *The world health report 2001: Mental health: New understanding, new hope* provided scientific evidence of the huge burden of disease associated with mental illness. The report also outlined the need and rationale for building community-based mental health systems and services, and summarized in 10 recommendations the key components of mental health system development.

In 2008, the Director-General of WHO launched the WHO Mental Health Gap Action Programme (mhGAP) to provide a coherent strategy for closing the gap between what is urgently needed and what is currently available to reduce the burden of mental disorders worldwide (WHO, 2008a). This programme includes a Framework for Country Action, which outlines key steps that countries need to take in order to scale up interventions for mental, neurological and substance abuse disorders. One of the critical steps includes an assessment of needs and resources. This step is frequently neglected. Information is needed not only on the magnitude of the burden, but also on the availability of resources for the treatment of mental disorders.

Information on resources should provide a valid and reliable picture of a country's mental health system. A mental health system is defined as the structure and all the activities whose primary purpose is to promote, maintain or restore mental health. The mental health system includes all organizations and resources that focus on improving mental health. The WHO *Mental health atlas* reports that more than 24% of countries do not have a system for collecting and reporting even basic mental health information. Other countries have information systems, but these systems are typically neither comprehensive nor appropriate for mental health planning. Problems caused by a lack of information include an inability to undertake rational planning, impeded accountability and an inability to monitor changes resulting from mental health reforms.

1.1 The instrument

WHO produced the World Health Organization Assessment Instrument for Mental Health Systems (WHO-AIMS) as a tool to enable LAMICs to assess key components of their mental health systems, and thereby generate essential information that can be used to strengthen mental health policy and service delivery (WHO, 2005b; Saxena et al., 2007a).

WHO-AIMS enables a comprehensive assessment of a country's mental health system, as well as the services and support offered to people with mental disorders that are provided outside the psychiatric services sector (e.g. mental health in primary care). It consists of input and process indicators, given that in many LAMICs outcome data are extremely difficult to collect.

WHO-AIMS contains *quantitative items,* in which the measure is a number, a rate or a proportion, and *ordinal rating scale items,* in which the categories represent a numerical range (generally a percentage, such as A=0%, B=1–20%, C=21–50%). The latter are used when precise data are difficult to collect. The key focal point in each country was asked to use different sources for achieving an estimate on such items. Data sources that aided the key focal point in making a best estimate included focus groups, experts in the area, secondary data sources, surveys, or a committee of key informants.

With regard to the WHO-AIMS development process (Table 1.1), the 10 recommendations of *The world health report 2001* served as the foundation for the instrument, as they represent WHO's vision for mental health. These recommendations are: (1) providing treatment in primary care; (2) making psychotropic drugs available; (3) providing care in the community; (4) educating the public; (5) involving communities, families and consumers; (6) establishing national policies, programmes and legislation; (7) developing human resources; (8) linking with other sectors; (9) monitoring community mental health; and (10) supporting more research.

In order to operationalize the recommendations (*domains* of interest), a large number of items were generated and grouped together into a number of *facets* (sub-domains). For example, *The world health report*'s recommendation to establish national policies, programmes and legislation led to the development of a large number of items pertaining to a policy and legislative framework. These items were then grouped into sub-domains, including mental health policy, mental health plan, mental health legislation, monitoring of human rights and financing of mental health services. Experts and key focal points from resource-poor countries provided input through two consultations to ensure clarity, content validity and feasibility of the generated items. Based on this feedback, a pilot version of the instrument (version 1.0) was released and tested in 12 LAMICs: Albania, Barbados, Ecuador, India, Kenya, Latvia, Pakistan, the Republic of Moldova, Senegal, Sri Lanka, Tunisia and Viet Nam. The aim of the pilot study was to assess both the clarity and feasibility of the WHO-AIMS items and determine to what extent the information collected would be meaningful and useful. The results suggested that the set of indicators was useful for assessing the mental health services and systems in a comprehensive manner. However, the number of items needed to be reduced to improve the feasibility of the instrument.

The instrument was substantially revised and shortened based on data from the pilot study. Items that were problematic (e.g. those that had a very low response rate) were dropped. WHO staff members ranked all remaining items in terms of their importance for planning public

mental health action in LAMICs. Finally, each item was rated on a 3-point scale (low, medium, high) based on the extent to which it was considered meaningful, actionable and feasible. Other considerations included to what extent each item added value compared with other items, how sensitive each item was to change, and whether the items together were comprehensive enough to cover the whole mental health system.

All the information obtained through the procedures described above was utilized in producing a revised version of the instrument. The instrument (version 2.0) was then presented at a WHO meeting attended by 14 representatives from Albania, China, India, the Islamic Republic of Iran, Iraq, Latvia, Nigeria, Pakistan, Paraguay, the Republic of Moldova, Sri Lanka, The former Yugoslav Republic of Macedonia, Viet Nam and the West Bank and Gaza Strip, as well as key resource people from around the world. At this meeting several minor additions and revisions were recommended and were incorporated into a revised version, WHO-AIMS 2.1, which was released for use in country assessments in February 2005. Afterwards, several minor edits were necessary, resulting in the published version: WHO-AIMS 2.2.

WHO-AIMS 2.2 consists of 6 domains: (1) *policy and legislative framework,* (2) *mental health services,* (3) *mental health in primary care,* (4) *human resources,* (5) *public information and links with other sectors, and* (6) *monitoring and research.* These domains address the 10 recommendations of *The world health report 2001* through 28 facets and 155 items. An overview of the domains and facets of WHO-AIMS 2.2, along with sample items, is provided in Table 1.1. All six domains need to be assessed to form a basic, yet broad picture of a mental health system. The current version of the instrument includes supporting documentation (i.e. answers to frequently asked questions, guidance on data collection using WHO-AIMS, and definitions of some frequently used terms), a data entry programme and a template for writing country reports.

Table 1.1 Overview of WHO-AIMS domain, facets and examples of items

Domain 1: Policy and legislative framework	
Facet number and name	**Examples (item names only)**
1.1: Mental health policy	1.1.3: Psychotropic medicines on the essential medicines list.
1.2: Mental health plan	1.2.2: Contents of the mental health plan(s): (1) Access to mental health care, including access to the least restrictive care; (2) Rights of mental health service consumers, family members and other care givers; (3) Competency, capacity and guardianship issues for people with mental illness; (4) Voluntary and involuntary treatment; (5) Accreditation of professionals and facilities; (6) Law enforcement and other judicial system issues for people with mental illness; (7) Mechanisms to oversee involuntary admission and treatment practices; (8) Mechanisms to implement the provision of mental health legislation.

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Table 1.1 continued

1.3: Mental health legislation	1.3.1: Last version of the mental health legislation.
1.4: Monitoring human rights implementation	1.4.2: Inspecting human rights in mental hospitals.
1.5: Financing of mental health service	1.5.2: Expenditures on mental hospitals.
Domain 2: Mental health services	
Facet number and name	**Examples (item names only)**
2.1: Organizational integration of services	2.1.1: Existence and functions of a national or regional mental health authority.
2.2: Mental health outpatient facilities	2.2.1: Availability of mental health outpatient facilities.
2.3: Day treatment facilities	2.3.2: Users treated in day treatment facilities.
2.4: Community-based psychiatric inpatient units	2.4.2: Time spent in community-based psychiatric inpatient units.
2.5: Community residential facilities	2.5.4: Gender distribution of users treated in community residential facilities.
2.6: Mental hospitals	2.6.10: Long-stay patients in mental hospitals.
2.7: Forensic inpatient units	2.7.3: Long-stay patients in forensic units.
2.8: Other residential facilities	2.8.2: Number of places/beds in other residential facilities.
2.9: Availability of psychosocial treatment in mental health facilities	2.9.3: Availability of psychosocial interventions at mental health outpatient facilities.
2.10: Availability of psychotropic medicines	2.10.1: Availability of medicines in mental hospitals.
2.11: Equity of access to mental health services	2.11.4: Use of mental health outpatient services by ethnic and religious minority groups.
Domain 3: Mental health in primary health care	
Facet number and name	**Examples (item names only)**
3.1: Physician-based primary health care	3.1.2: Refresher training programmes for primary health care doctors
3.2: Non-physician-based primary health care	3.2.4: Refresher training programmes for non-doctor/non-nurse primary health care workers
3.3: Interaction with complementary/alternative/traditional practitioners	3.3.3: Interaction of mental health facilities with complementary/alternative/traditional practitioners

Table 1.1 continued

Domain 4: Human resources	
Facet number and name	**Examples (item names only)**
4.1: Number of human resources	4.1.1: Human resources in mental health facilities per 100 000 population: (1) psychiatrists, (2) other medical doctors not specialized in psychiatry, (3) nurses, (4) psychologists, (5) social workers, (6) occupational therapists, (7) other health or mental health workers.
4.2: Training professionals in mental health	4.2.2: Refresher training for mental health staff on the rational use of psychotropic drugs.
4.3: Consumer associations and family associations	4.3.3: Government economic support for user/consumer initiatives.
4.4: Activities of user/consumer associations and family associations and other NGOs involved in mental health	4.4.4: User/consumer associations' involvement in mental health policies, plans or legislation.
Domain 5: Public education and links with other sectors	
Facet number and name	**Examples (item names only)**
5.1: Public education and awareness campaigns on mental health	5.1.4: Professional groups targeted by specific education and awareness campaigns on mental health
5.2: Formal links with other sectors	5.2.1: Legislative provision for employment
5.3: Links with other sectors: activities	5.3.2: Primary and secondary schools with mental health professionals
Domain 6: Monitoring and research	
Facet number and name	**Examples (item names only)**
6.1: Monitoring and mental health services	6.1.6: Report on mental health services by the government health department.
6.2: Mental health research	6.2.2: Proportion of health research on mental health.

WHO-AIMS provides essential information for mental health policy and service delivery. It enables countries to develop information-based mental health policies and plans with clear baseline information and targets. Moreover, they will be able to monitor progress in implementing policy reforms, the provision of community services, and the involvement of consumers, families and other stakeholders in mental health promotion, prevention, care and rehabilitation.

1.2 The sample

Data presented in this report are based on 42 countries/territories that completed the WHO-AIMS assessment tool between February 2005 and February 2008. The sample mostly comprises selected WHO Member States as well as territories and provinces within countries. However, for the sake of convenience, all the participating entities are referred to as "countries" throughout this report.

All participating countries are LAMICs and were identified by WHO Regional Advisers as those for which a WHO-AIMS assessment would be beneficial. Seven other LAMICs started an assessment during this period but did not complete it. Table 1.2 shows the participating countries by WHO region and by income group level. As indicated in the table, 13 are low-income countries (LICs), 24 are lower-middle-income countries (LMICs), and 5 are upper-middle-income countries (UMICs), based on World Bank July 2007 criteria (World Bank, 2007). For the purposes of this study, available data from high-income countries were not included in the analysis, because the focus of the report is on LAMICs. The results are presented by income group level and by geographical region.

It is important to point out that the data and cross-national analyses presented in this report relate only to the sample of countries that reported on each item (participating countries) respectively, although this may not be stated explicitly every time. Since these countries constitute a relatively small and not necessarily representative sample, the results may not be easily generalized to other countries or considered applicable to the entire income group or region. Furthermore, given the difficulties in data collection in some settings with lower resources, there were some items for which the participating countries were unable to provide the relevant data. In those instances, the country sample was even smaller, which further limits the possibility for generalization of the results.

Participants in this study are listed in Tables 1.2 and 1.3.

Table 1.2 Participants[a] and income categories by WHO region

	Low	Lower-middle	Upper-middle	Total
African Region	Burundi, Eritrea, Ethiopia, Nigeria, Uganda	the Congo	South Africa	7
Region of the Americas	0	Dominican Republic, El Salvador, Guatemala, Nicaragua, Paraguay	Chile, Panama, Uruguay	8
South-East Asia Region	Bangladesh, India[b] (state of Uttarkhand), Nepal, Timor-Leste	Bhutan, Maldives, Sri Lanka, Thailand	0	8
European Region	Uzbekistan	Albania, Azerbaijan, Georgia, Republic of Moldova, Ukraine	Latvia	8
		Kosovo[c]		

Table 1.2 continued

Eastern Mediterranean Region	Afghanistan	Egypt, Iran (Islamic Republic of), Iraq, Morocco, Tunisia	0	7
		West Bank and Gaza Strip[d]		
Western Pacific Region	Mongolia, Viet Nam	China[e] (Hunan Province), the Philippines	0	4
Total	**13**	**24**	**5**	**42**

[a] The sample comprises mostly selected WHO Member States. See notes b, c, d, and e for exceptions.
[b] India, only the state of Uttarkhand took part
[c] Kosovo (in accordance with Security Council Resolution 1244 (1999))
[d] West Bank and Gaza Strip is a territory
[e] China, only Hunan province took part

Basic indicators for all countries in the sample are provided in Table 1.3.

Table 1.3 Basic indicators[a]

Participants	Income categories of countries	WHO region	Population, 2005 (x 1000)	Gross national income per capita (PPP Int.$) 2004	Population living below the poverty line (% with <$1 a day)	Adult literacy rate (%) 2000–2004	Health providers per 1000 population (physicians, nurses and midwives)	Percentage of DALYs by neuropsychiatric conditions out of total	Rate of DALYs by neuropsychiatric conditions (per 100 000 population)	Suicides (males per 100 000)	Suicides (females per 100 000)
Afghanistan	Low	EMR	29 863	–	–	–	0.4	5	3 712.12	–	–
Albania	Lower middle	EUR	3 130	5 070	<2.0	98.7	5.52	19.74	3 158.96	4.7	3.3
Azerbaijan	Lower middle	EUR	8 411	3 830	3.7	98.8	11.83	16.78	3 125.41	1.8	0.5
Bangladesh	Low	SEAR	141 822	1 980	36	41.1	0.57	12.09	3 108.76	–	–
Bhutan	Lower middle	SEAR	2 163	–	–	–	0.27	10.36	3 047.02	–	–
Burundi	Low	AFR	7 548	660	54.6	58.9	0.22	4.38	2 687.08	–	–
Chile	Upper middle	AMR	16 295	10 500	<2.0	95.7	1.72	30.46	4 268.58	17.8	3.1
China (Hunan province only)	Lower middle	WPR	1 323 345	5 530	16.6	90.9	2.14	17.45	2 683.88	13	14.8
Congo	Lower middle	AFR	3 999	750	–	82.8	1.16	6.34	2 621.32	–	–
Dominican Republic	Lower middle	AMR	8 895	6 750	<2.0	87.7	3.71	19.29	3 744.05	0	0

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Table 1.3 continued

Country	Income	Region									
Egypt	Lower middle	EMR	74 033	4 120	3.1	55.6	2.53	14.88	2 890.13	0.1	0
El Salvador	Lower middle	AMR	6 881	4 980	31.1	79.7	2.03	19.88	4 062.10	10.3	3.5
Eritrea	Low	AFR	4 401	1 050	–	–	0.63	6.88	2 553.40	–	–
Ethiopia	Low	AFR	77 431	810	23	41.5	0.25	4.76	2 506.02	–	–
Georgia	Lower middle	EUR	4 474	2 930	2.7	–	7.85	19.27	3 320.16	3.4	1.1
Guatemala	Lower middle	AMR	12 599	4 140	16	69.1	4.94	16.13	3 784.02	0.9	0.1
India (state of Uttarkhand only)	Low	SEAR	1 103 371	3 100	34.7	61	1.87	10.89	3 112.41	12.2	9.1
Iran (Islamic Republic of)	Lower middle	EMR	69 515	7 550	<2.0	77	1.83	18.71	3 484.17	0.3	0.1
Iraq	Lower middle	EMR	28 807	–	–	–	1.97	8.51	2 873.04	–	–
Latvia	Upper middle	EUR	2 307	11 850	<2.0	99.7	8.48	17.28	3 578.23	42	9.6
Maldives	Lower middle	SEAR	329	–	–	96.3	3.62	15.06	2 910.39	–	–
Mongolia	Low	WPR	2 646	2 020	27	97.8	6	13.02	2 952.21	–	–
Morocco	Lower middle	EMR	31 478	4 100	<2.0	50.7	1.3	15.99	2 763.59	–	–
Nepal	Low	SEAR	27 133	1 470	–	48.6	0.67	10.33	3 135.50	–	–
Nicaragua	Lower middle	AMR	5 487	3 300	45.1	76.7	1.45	20.77	3 715.52	11.1	3.3
Nigeria	Low	AFR	131 530	930	70.2	66.8	1.98	5.07	2 858.23	–	–
Panama	Upper middle	AMR	3 232	6 870	7.2	91.9	3.04	25.58	3 772.87	11.1	1.4
Paraguay	Lower middle	AMR	6 158	4 870	16.4	91.6	2.89	22.62	4 021.27	4.5	1.6
Philippines	Lower middle	WPR	83 054	4 890	15.5	92.6	2.72	16.07	3 065.21	2.5	1.7
Republic of Moldova	Lower middle	EUR	4 206	1 930	22	96.2	8.93	19.62	4 056.37	31.5	5.1
South Africa	Upper middle	AFR	47 432	10 960	10.7	82.4	4.85	6.78	3 116.32	–	–
Sri Lanka	Lower middle	SEAR	20 743	4 000	7.6	90.4	2.28	14.53	2 689.89	44.6	16.8
Thailand	Lower middle	SEAR	64 233	8 020	<2.0	92.6	3.2	15.71	3 222.38	12	3.8
Timor-Leste	Low	SEAR	947	–	–	–	2.29	0.98	202.72	–	–
Tunisia	Lower middle	EMR	10 102	7 310	<2.0	74.3	4.21	17.38	2 758.26	–	–
Uganda	Low	AFR	28 816	1 520	84.9	68.9	0.81	4.82	2 574.86	–	–
Ukraine	Lower middle	EUR	46 481	6 250	2.9	99.4	11.08	13.59	3 152.61	40.9	7
Uruguay	Upper middle	AMR	3 463	9 070	<2.0	97.7	4.5	24.67	4 060.59	24.5	6.4
Uzbekistan	Low	EUR	26 593	1 860	17.3	99.3	13.38	19.05	3 187.33	8.1	3
Viet Nam	Low	WPR	84 238	2 700	<2.0	90.3	1.28	16.43	2 734.34	–	–
Kosovo[b]	Lower middle	EUR									
West Bank and Gaza Strip	Lower middle	EMR									

Published reports for 35 of the 42 countries are available on the WHO-AIMS web site at: http://www.who.int/mental_health/who_aims_country_reports/en/index.html.

1.3 Terminology used in the report

Basic definitions are provided for the terms used in this report. However, the WHO-AIMS instrument should be consulted for more extensive definitions, including exclusion and inclusion criteria for each of the terms. Some terms used in WHO-AIMS have caused confusion among the users of the instrument. For example, a "community-based psychiatric inpatient unit" is defined as a psychiatric unit that provides inpatient care for the management of mental disorders within a community-based facility. Typically, these units are located within general hospitals. However, since the term general hospital is not used, some users of the instrument have reviewed all the facilities covered by the instrument and have concluded that psychiatric units in general hospitals are not covered by this assessment. Thus, it must be borne in mind that psychiatric care provided in general hospitals is covered under "community-based inpatient units". Other terms used in this instrument have fallen into disfavour. For example, mental retardation is more commonly referred to as "intellectual disability". However, since the term "mental retardation" was used when the instrument was drafted, we use this term in the report so that it is consistent with the terms used in WHO-AIMS. Terms that cause confusion, as well as terms that are no longer in popular usage will be revised in the next version of the instrument.

1.4 Methodology

Data for each of the 42 countries were collected by a local team. This team was headed by an in-country "focal point", which in most cases was identified and/or approved by that country's ministry of health. In some cases, the focal point was identified by the respective WHO country office, or by the regional office or WHO headquarters in Geneva, Switzerland.

After data were collected by the local team they 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 (e.g. the *Mental health atlas* 2005). In many cases, several rounds of review of the data were necessary before they were finalized, following which the local team then proceeded to write the WHO-AIMS country reports. Country reports were also sent to WHO headquarters for review, and data in the reports were cross-checked with the data file. A number of additional queries about the data were raised at this point. Several rounds

of reviews were often required to finalize the country reports. After this process, each report was sent to the relevant ministry of health for approval.[3,4,5,6,7]

Only countries whose data were finalized by February 2008 were included in the current analysis. Data were merged into a common file and descriptive statistics were run (mean, median and standard deviation). In order to present the distribution of data for each indicator, the following descriptive statistics were run: the minimum value, the 25th, 50th (median) and 75th percentiles, and maximum value. Complete statistics for all indicators are available on the following website: http://www.who.int/mental_health/evidence/WHO-AIMS/en/. In the figures and tables in this report only median values are reported unless otherwise stated. Outliers two standard deviations above or below the mean were identified. In many cases, the outliers were valid data and an explanation for the value was provided during the data collection process. If there was no explanation for the outlier, the country focal point was re-contacted to verify the value. In some cases, additional errors were discovered at this point in the process. The focal point either provided updated data, or, if data were not available, the questionable data were moved to the "unknown" code in the data file.

As mentioned previously, in some settings data were difficult to collect. In these cases, data were reported as missing, or at best, informed estimates were provided by the key focal point, particularly for ordinal rating scale items. Table 1.4 summarizes the response rates for the items. As the table indicates, there are no items that had a response rate of less than 25%. In other words, a quarter or more of the countries were able to provide data for all of the 155 WHO-AIMS items. Moreover, for 41 items the response rate was 100%, meaning that all 42 countries provided data for those items. For the vast majority of the items (95 or 61% of all WHO-AIMS items) the response rate was between 75% and 99%. Although overall the response rates to WHO-AIMS items were good, there are still a number of items (19 or 12% of the items) for which the response rate was lower than desirable. Thus, due to missing data, the sample size for some analyses was reduced. All sample sizes (signified by "n") are provided in the figures and tables in the report.

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[3] Ministries of health for 35 countries approved the data: Afghanistan, Albania, Azerbaijan, Bangladesh, Bhutan, Burundi, Chile, China (Hunan province only), Dominican Republic, Egypt, El Salvador, Eritrea, Ethiopia, Guatemala, India (state of Uttarkhand only), Iran (Islamic Republic of), Iraq, Latvia, Maldives, Mongolia, Nepal, Nicaragua, Nigeria, Panama, Paraguay, Philippines, Republic of Moldova, South Africa, Thailand, Tunisia, Uganda, Uruguay, Uzbekistan, Viet Nam.
[4] Approval of the data from the ministries of health of the Congo, Georgia, Sri Lanka, and Ukraine is awaited.
[5] Approval of the data from the Ministry of Health for Timor-Leste could not be obtained.
[6] Approval of the data for Kosovo (in accordance with Security Council Resolution 1244 (1999)) was approved by the Provisional Institutions of Self-Government (PISG), Ministry of Health.
[7] Approval of the data for the West Bank and Gaza was provided by the Ministry of Health of the Palestinian National Authority.

Table 1.4 Response rates for WHO-AIMS core indicators (total items n=155)

	Response rate 0%	Response rate 1–25%	Response rate 26–49%	Response rate 50–74%	Response rate 75–99%	Response rate 100%
Frequency of items	0	0	3	16	95	41
Proportion of items (%)	0	0	2	10	61	26

Data in the report contain standard indicators as they appear in WHO-AIMS. In addition, some of the indicators have been transformed into standardized measures to facilitate comparison with other countries. For example, in WHO-AIMS, information on the number of mental health facilities is collected. In the current analysis, the number of facilities was divided by the population of the country to indicate the number of facilities per population. Other indicators were summed up to form composite indicators. For example, the number of users treated at each of the different types of mental health facilities (e.g. outpatient facilities and day treatment facilities) was summed up to provide a total treated prevalence figure. In many cases, the samples sizes for the composite indicators are reduced because if a country was missing data on any of the items that comprise the composite indicator, a value for that composite was not calculated as no missing data were imputed.

Great care has been taken to ensure the accuracy of all the information contained in this report. However, the possibility of inaccuracies or mistakes exists; WHO welcomes all feedback on these. Please contact the Department of Mental Health and Substance Abuse (mnh@who.int). Any updates and/or corrections will be published on the following website - http://www.who.int/mental_health/evidence/WHO-AIMS/en/.

Chapter 2
BUILDING BLOCKS OF MENTAL
HEALTH SYSTEMS

Well functioning health systems are essential for increasing access to health care and reducing the burden of disease. In 2007, WHO published Everybody's business: Strengthening health systems to improve health outcomes, which proposes a framework for health systems (WHO, 2007a). This framework defines a discrete number of "building blocks" based on the functions of health systems proposed in The world health report 2000. These building blocks include: service delivery, health workforce, information, medical products, vaccines, technologies, financing and leadership/governance (WHO, 2000, 2007a). Improvement in all these areas is necessary to improve health outcomes. Mental health systems share many of the same core "building blocks" as general health systems (see Box 2.1). This report covers the primary building blocks of mental health systems assessed in WHO-AIMS: mental health governance, financing, information systems, service delivery, psychotropic drugs, mental health workforce, and user/consumer and family associations.

Box 2.1 Building blocks of mental health systems

BUILDING BLOCKS
GOVERNANCE
FINANCING
INFORMATION SYSTEMS
SERVICE DELIVERY
PSYCHOTROPIC DRUGS
MENTAL HEALTH WORKFORCE
USER/CONSUMER AND FAMILY ASSOCIATIONS

Source: Based on the WHO Health Systems Framework (WHO, 2007a)

2.1 Mental health governance

Mental health leadership and governance addresses the role of the government in guiding and overseeing the mental health system. It involves ensuring the existence of a strategic policy and legislative framework, combined with effective oversight and accountability mechanisms.

2.1.1 Mental health policy and plans

Good governance and leadership are partly implemented through well-defined mental health policies and plans. The existence of an explicit mental health policy and plan helps improve

the organization and quality of mental health service delivery, accessibility, community care, and the engagement of people with mental disorders as well as their families (WHO, 2005c). Mental health policy refers to an organized set of values, principles and objectives to improve mental health and reduce the burden of mental disorders in a population.[8] A mental health plan is a detailed scheme for action on mental health that usually includes setting principles for strategies and establishing timelines and resource requirements (WHO, 2005c).

WHO-AIMS assesses whether countries have an approved mental health policy and plan as well as the components of the policies/plans. Results shown in Figure 2.1 indicate that the majority of the 42 reporting countries have either a mental health policy or plan (86%). WHO-AIMS measures the existence of a policy (Item 1.1.1) and a plan (Item 1.2.1) separately. However, for the purpose of this analysis these two items were considered together. This is because in a number of countries there is not a clear distinction between these two documents, and in many cases the policy and plan are incorporated into the same document. Of the participating countries that have a policy or plan, the majority developed these within the past 10 years (Figure 2.1). There is no policy or plan in 23% of LICs and 13% of LMICs, whereas all the UMICs have either a policy or a plan.

Figure 2.1 Percentage of countries with a mental health plan or policy, by country income group (Items 1.1.1 & 1.2.1)
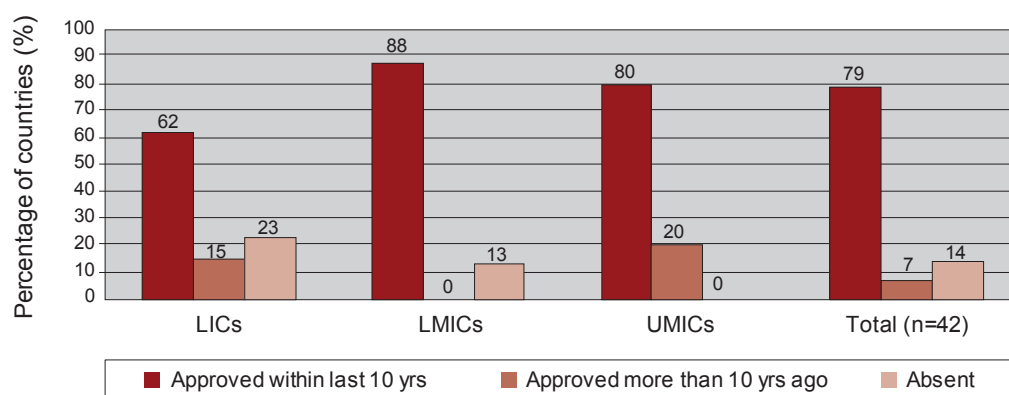
The presence of a mental health policy or plan varies by region. In the Americas, the Eastern Mediterranean and Western Pacific Regions all participating countries have either a mental health policy or plan, and in most cases these were developed within the last 10 years. A policy or plan is absent in 29% of the participating countries in the African Region and in 25% in the South-East Asia and European Regions.

WHO-AIMS also assesses whether countries have a disaster/emergency preparedness plan for mental health (Item 1.2.4). This refers to a detailed scheme for preparing for action on mental health in the context of a disaster/emergency. It usually sets priorities for strategies, and establishes timelines and resource requirements. More reporting LMICs have a disaster/emergency awareness plan (42%) than do LICs (23%) or UMICs (20%). There is some regional

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[8] For a complete list of WHO-AIMS definitions, see the WHO-AIMS instrument at:
http://www.who.int/mental_health/evidence/AIMS_WHO_2_2.pdf

variation among the participating countries: such plans are more prevalent in countries in the Americas (63% have a plan) and the Western Pacific (75% have a plan) than in countries in the other regions. None of the participating African countries have such a plan. Overall, 14 countries out of the sample of 42 have a disaster/emergency preparedness plan.

2.1.2 Mental health legislation

Mental health legislation is also a key component of governance. Such legislation refers to specific legal provisions that are primarily related to mental health. These provisions focus on one or more of the following issues: human rights protection, professional training, involuntary admission and treatment, guardianship and service structure. All participating UMICs have mental health legislation, but it exists in only 46% of LICs and LMICs.

The presence of mental health legislation varies by region, with approximately 88% of the participating countries in Europe and 71% in the Eastern Mediterranean having mental health legislation, compared with 50% in the Americas, 43% in the African Region, and only 25% in South-East Asia and the Western Pacific respectively (Figure 2.2).

Figure 2.2 Percentage of countries with mental health legislation, by WHO region (Item 1.3.1)
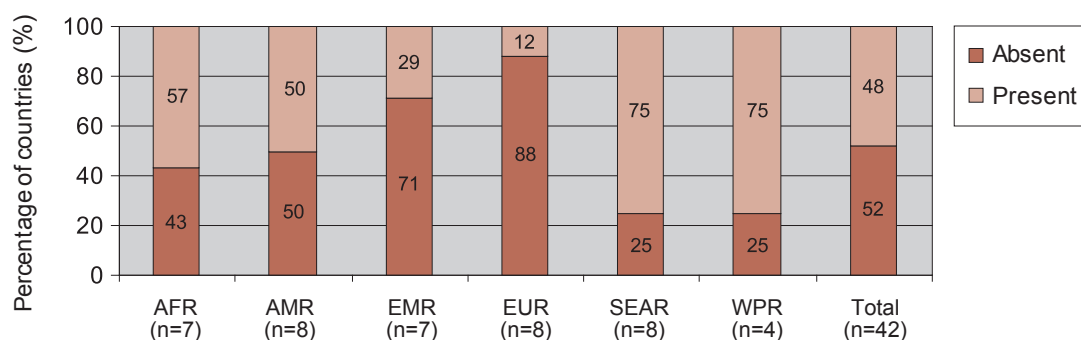
2.2 Financing

A good health financing system raises adequate funds for health in ways that ensure people can use needed services, and that they are protected from financial catastrophe or impoverishment associated with having to pay for such services.

2.2.1 Mental health spending

In terms of mental health spending per capita (US$) there is a clear trend by income group: government mental health spending in the reporting UMICs is 70 times higher than in the LICs and 14 times higher than in the LMICs (Figure 2.3).

Figure 2.3 Government mental health spending per capita, by country income group (US$) (n=38)
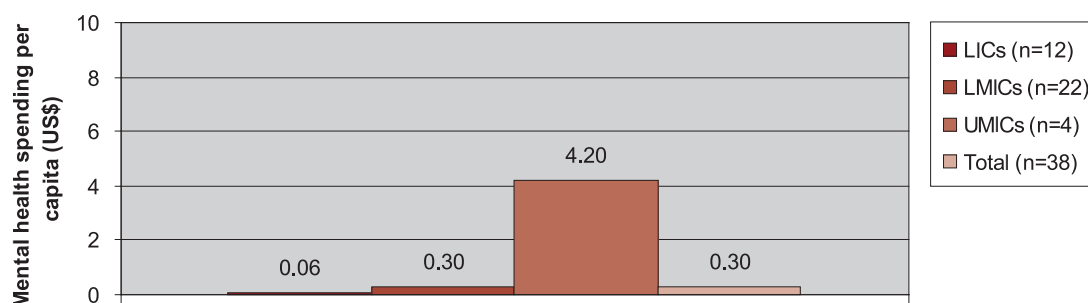
Per capita spending on mental health varies by region. It is the highest in participating European countries (with a median of US$ 0.90 per capita) and the lowest in African countries (with a median of US$ 0.01 per capita). The median rates for the other regions are US$ 0.14 (South-East Asia and the Western Pacific respectively), US$ 0.24 (the Americas), and US$ 0.23 (the Eastern Mediterranean).

Regarding mental health spending as a proportion of the health budget, reporting UMICs devote approximately 3% compared with 2% in LICs and LMICs. There is a wider variation in mental health spending by region (Figure 2.4). The proportion of the health budget allocated to mental health was the largest in the reporting countries of Europe (4%) and the smallest in those of South-East Asia and the Americas (1%).

Figure 2.4   Percentage of health budget spent on mental health, by WHO region (Item 1.5.1)
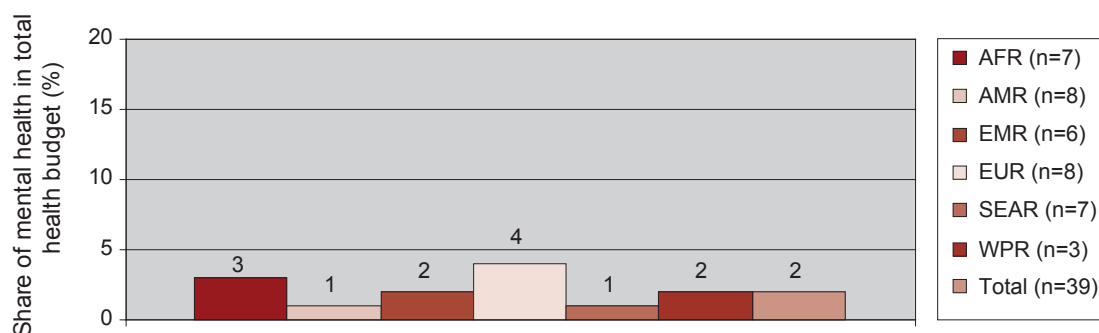
2.3 Mental health information systems

The mental health of communities should be monitored by including mental health indicators in health information and reporting systems. Such monitoring helps to determine trends and to detect mental health changes resulting from external events. It is a necessary means of assessing the effectiveness of mental health prevention and treatment programmes, and it strengthens arguments for the provision of more resources.

Countries were asked whether they have a formally defined list of data items that are required to be collected by all mental health facilities (Item 6.1.1). Information on the specific items

collected by each type of facility is provided later in this report. Most countries (76%) reported having such a system (Figure 2.5).
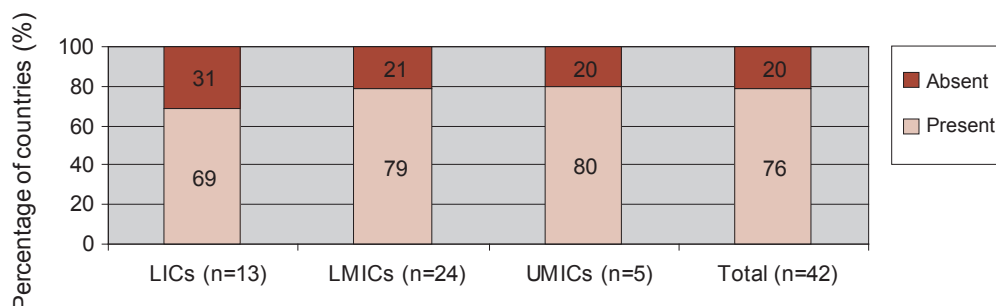
The presence of a monitoring system varies somewhat more by region. Monitoring systems exist in only 57% of the participating countries of Africa, compared with 88% of those in Europe and the Americas, 75% of the South-East Asian and Western Pacific countries respectively, and 71% of the Eastern Mediterranean countries.

WHO-AIMS also assesses whether government health departments publish a report covering mental health data (Item 6.1.6). Interestingly, more UMICs indicated that their government health departments did not publish a report on mental health (60%) than LMICs (46%) and LICs (39%). However, it should be noted that there are only five UMICs in the sample and this finding may not apply to other UMICs. Few countries across all income groups publish a report on mental health which contains comments on the data (Figure 2.6).

Figure 2.6   Percentage of countries with a report on mental health services published by the government health department, by country income group (Item 6.1.6)
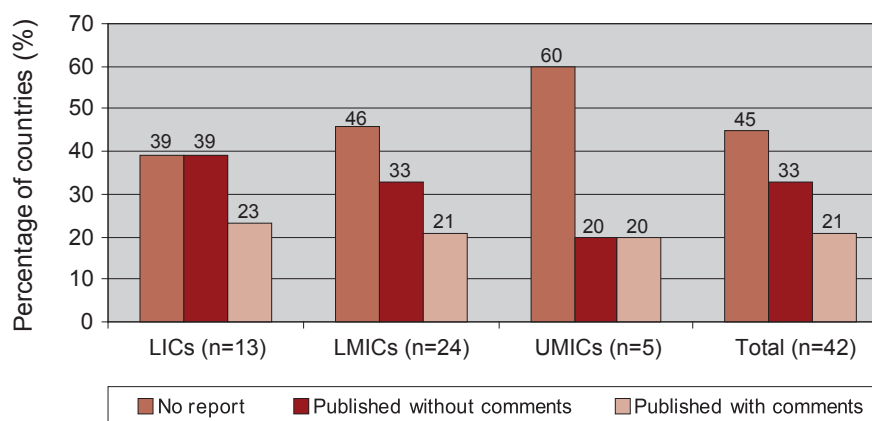
When considered by region, only 38% of reporting countries in Europe and the Americas publish a report compared with 43% of those in Africa. In contrast, 75% of countries in the Western Pacific and South-East Asia, and 72% in the Eastern Mediterranean Region publish a report by the government health department providing mental health data.

2.4 Service delivery

Mental health services are the means by which interventions for mental health are delivered (WHO, 2003a). Most countries provide mental health care within three different types of settings: (1) primary health care (PHC), (2) community-based mental health facilities, and (3) mental hospital/institutional facilities.

2.4.1 Mental health in primary health care

The management and treatment of mental disorders in primary health care (PHC) is a fundamental step which enables the largest number of people to get easier and earlier access to services (WHO, 2008a). WHO-AIMS contains a number of indicators assessing the extent to which mental health care is integrated into PHC systems. These items include whether laws allow psychotropic drugs to be prescribed by PHC staff, whether assessment and treatment protocols are available in PHC centres, the availability of medicines in PHC, and the extent to which referrals are made to a higher level of care from PHC facilities. In WHO-AIMS, care provided in two types of PHC centres is assessed: (1) PHC centres in which a medical doctor is part of the regular staff (physician-based PHC) and (2) PHC centres in which no medical doctor is part of the regular staff (non-physician-based PHC). In many countries, since the number of medical doctors is insufficient, PHC centres are staffed only by nurses or other health professionals.

2.4.2 Prescription of psychotropic medicines in primary care

For mental health to be successfully integrated into primary health care, PHC staff need to be allowed by law to prescribe psychotropic medicines. The WHO-AIMS study revealed that only one reporting country does not allow prescription of psychotropic medicines by PHC doctors (Figure 2.7). A total of 24% of the reporting countries allow prescription of such medicines by nurses, and more UMICs and LICs allow this than LMICs. Moreover, LICs have the highest percentage of nurses responsible for prescribing/continuing prescription of psychotropic medicines. With regard to other health workers (non-doctors/non-nurses), there is a clear trend by income, with more LICs allowing these professionals to prescribe compared with middle-income countries.

Figure 2.7 Percentage of countries that allow prescription of psychotropic medicines by PHC staff, by country income group (Items 3.1.6 & 3.2.8)
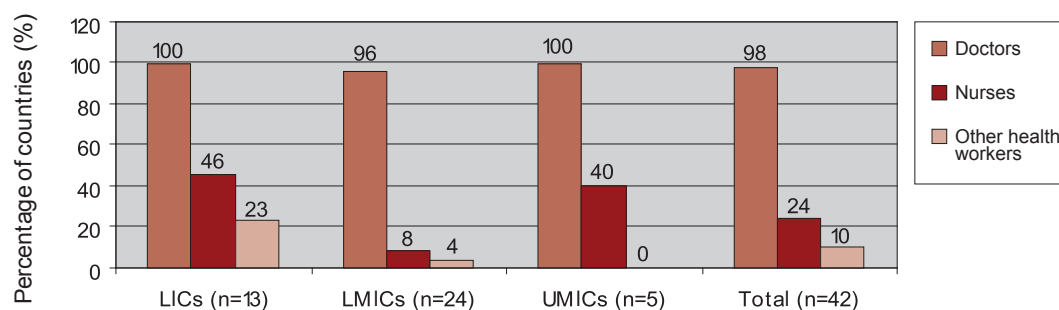
The results by regional breakdown show that only one European country does not allow prescription of psychotropic drugs by PHC doctors. All the countries in the other regions allow them to prescribe. As for prescription of such medicines by nurses, there appears to be substantial regional variation. They are allowed to prescribe in 71% of the reporting countries in Africa, in 38% of those in South-East Asia and in 25% of those in the Americas. In contrast, none of the reporting countries in the Eastern Mediterranean, European and Western Pacific Regions allow prescription by nurses. The fact that the majority of the participating African countries allow nurses to prescribe such medicines is probably due to the shortage of doctors available in these countries. Only in two regions are non-doctor/non-nurse professionals allowed to prescribe: Africa (29% of reporting countries) and South-East Asia (25% of reporting countries).

2.4.3 Availability of assessment and treatment protocols in primary care

Approximately half of all participating countries do not have assessment or treatment protocols available in any physician-based PHC clinics and two thirds do not have these tools available in any non-physician-based PHC clinics (i.e. those that do not have a doctor on their staff). Moreover, only 14% of countries have assessment or treatment protocols available in all or almost all (81–100%) of their physician-based PHC clinics, and only 5% have such tools available in all or almost all (81–00%) of their non-physician-based PHC clinics. Assessment and treatment protocols include guidelines, manuals, or videos on mental health for PHC staff. They also include referral and back-referral procedures between PHC clinics and mental health services.

The data show little variation among income groups in terms of the availability of assessment and treatment protocols: only 15% of the participating LICs have such protocols available in all or almost all physician-based PHC clinics compared with 13% of LMICs and 20% of UMICs. The availability of protocols in non-physician-based PHC clinics is more limited than in physician-based ones.

There is greater variation in terms of availability of protocols by region (Figure 2.8). No participating European country has assessment or treatment protocols in any of their physician-based or non-physician-based PHC clinics. In contrast, all countries in the Western Pacific have assessment or treatment protocols in at least some of their physician-based PHC clinics.

Figure 2.8 Percentage of countries that have no assessment and treatment protocols in their PHC clinics, by WHO region (Items 3.1.3 & 3.2.5)
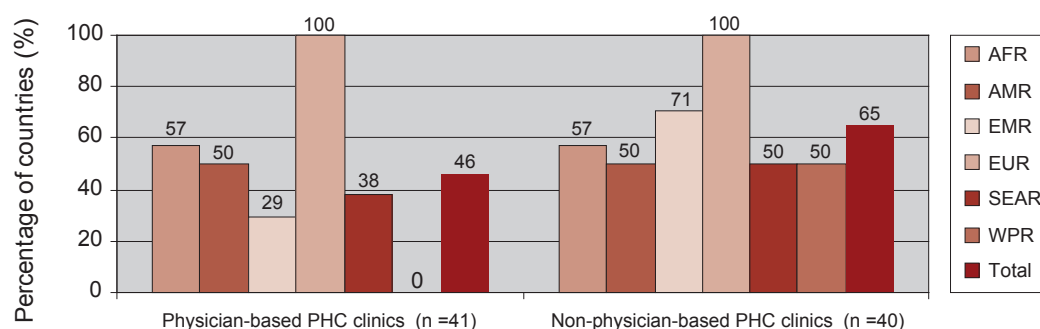
2.4.4 Referrals between primary care and mental health facilities

Effective links between different levels of care are necessary for the provision of mental health care. WHO-AIMS assessed these links by asking whether PHC centres made at least one referral a month to a higher level of care. No participating LICs reported having all or almost all PHC centres making at least one monthly referral to a higher level of care. On the other hand, in 3 LMICs (i.e. 14% of all reporting LMICs) all or almost all PHC centres make a monthly referral and in 1 UMIC (20% of all reporting UMICs) all PHC centres make such a referral (Figure 2.9). It is important to note that 1 monthly referral to a higher level of care may not be sufficient, depending on the case load.

Figure 2.9 Percentage of countries where all physician-based PHC centres make at least one monthly referral to a higher level of care, by country income group (Item 3.1.4)
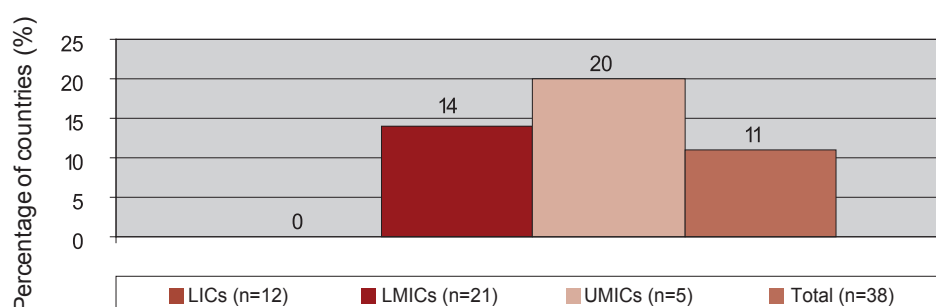
There is substantial variation by region with regard to referrals in physician-based PHC clinics. In 3 regions there are no countries where all or almost all of the PHC centres make a referral to a higher level of care. The Eastern Mediterranean Region has the highest rate of referrals: 2 of the 7 participating countries reported that all or almost all PHC facilities make at least one mental health referral per month.

WHO-AIMS also assesses whether there is formal collaboration between the government mental health department and the department responsible for PHC (Item 5.2.5.1). A formal link was defined as a programme that involves (a) a written agreement of collaboration and/or (b) a joint activity or publication. Of all the participating countries, 83% reported having such a link. There was no substantial variation by income level. In terms of regional differences, collaboration with PHC was very common in the Americas and the Western Pacific. All of the participating countries in these two regions had a formal link with the PHC department. In contrast, only 57% of participating European countries had such a link. Rates for other regions ranged from 71% to 88%.

2.5 Organizational integration of services and mental health facilities

2.5.1 Organizational integration of services

A mental health authority is an organizational entity responsible for mental health care. Approximately three quarters of the countries participating in this project reported having such an entity, with no substantial difference between countries of different income levels. However, there are differences by region: such an authority is present in all the reporting countries of the Western Pacific and Eastern Mediterranean Regions, in 88% in the Americas, in 86% of

countries in the African Region, in 38% in the European Region and in about a half in the South-East Asia Region.

WHO-AIMS also assesses whether countries organize services according to catchment areas. A catchment area (or services area) is a defined geographical area whose residents have access to basic mental health services from assigned facilities. A larger proportion of reporting middle-income countries appear to organize services by catchment areas compared with LICs: 88% of LMICs and 100% of UMICs compared with 39% of LICs. There are also some differences by geographical region. In all of the participating countries of the Americas, Europe and Western Pacific, services are organized by catchment areas; two thirds of participating Eastern Mediterranean countries, half of the South-East Asian countries and one third of the participating African countries utilize catchments areas.

2.5.2 Mental health facilities

(a) Outpatient facilities

An outpatient facility is a mental health facility that focuses on the management of mental disorders, and the clinical and social problems related to them, on an outpatient basis. All the reporting countries have at least one outpatient facility, but the availability is dramatically different for countries of different income levels: the rate of facilities per 100 000 population is 20 times higher in UMICs than in LICs. There is an even wider gap between LICs and UMICs in terms of the availability of facilities for children and adolescents, the rate being 37 times higher in UMICs than in LICs (see Table 2.1).

The availability of outpatient facilities varies widely among countries in different geographical regions. The number of people served by one facility is highest in the participating countries in the African Region (1 outpatient facility per 2 479 245 population). Intermediate ratios are found in countries of the Eastern Mediterranean (1/614 685), the Western Pacific (1/590 676) and South-East Asia (1/426 634), while each facility serves a much smaller number of people in reporting countries in the Americas (1/147 051) and Europe (1/92 386). Regarding children and adolescents, each outpatient facility in the European countries serves a much smaller population (1/212 333 children and adolescents) than such facilities in the other regions. Intermediate ratios are found in the reporting countries in the Americas (1/930 800) and in the Eastern Mediterranean (1/1 771 420), while each outpatient facility serves a much larger population in the reporting countries of South-East Asia (1/ 2 354 902) and the Western Pacific (1/8 406 414). Only one of the participating African countries reported having facilities for children and adolescents (1/316 926).

In terms of the total number of users treated, the number of outpatients treated in UMICs is double that in LMICs and close to seven times more than that in LICs (Figure 2.10).

Figure 2.10 Patients treated in outpatient facilities, by country income group (median rate per 100 000 population)
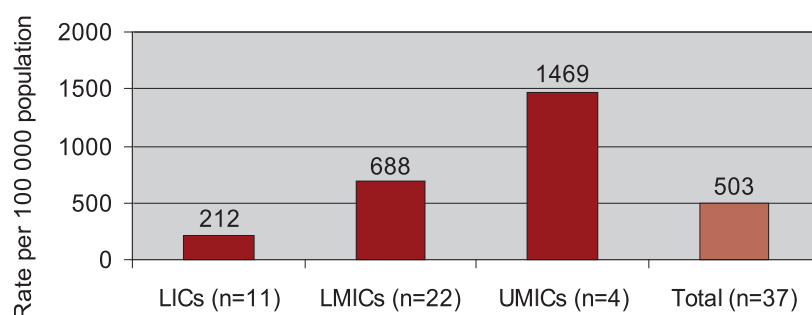
By region, the median rate of users in the participating countries of Europe (1605 patients per 100 000 population) is more than double that in the countries of the Americas (607 per 100 000) and the Eastern Mediterranean (707 per 100 000), about 5 times that in South-East Asian and Western Pacific countries (289 per 100 000 in each of these two regions) and 20 times that in African countries (86 per 100 000).

On the whole, the average proportion of women served in outpatient facilities is 46%. It is about 10 percentage points higher in UMICs than in LMICs and LICs (Table 2.1). There are some disparities among reporting countries by WHO region in terms of the percentage of female outpatients: the Americas: 55%, the Eastern Mediterranean: 49%, South-East Asia: 49%, Africa: 47%, the Western Pacific: 44%, and Europe: 41%.

The percentage of children treated in outpatient facilities in UMICs is twice as high as in LMICs and LICs (Table 2.1). The percentage of children and adolescents treated in mental health outpatient services is relatively low in the participating countries of South-East Asia (8%) and the Western Pacific (9%), intermediate in those of Africa (14%), Europe (14%) and the Eastern Mediterranean (15%), and the highest in the Americas (24%).

An outpatient contact is an interaction (e.g. an intake interview, a treatment session, a follow-up visit) involving a user and a staff member on an outpatient basis. The rate per 100 000 outpatient contacts in UMICs is more than double that in LMICs and 17 times that in LICs (see Figure 2.11). The median number of outpatient contacts per patient is slightly higher in LICs than in the middle-income countries (see Table 2.1).

Figure 2.11 Outpatient contacts, by country income group (median rate per 100 000 population)
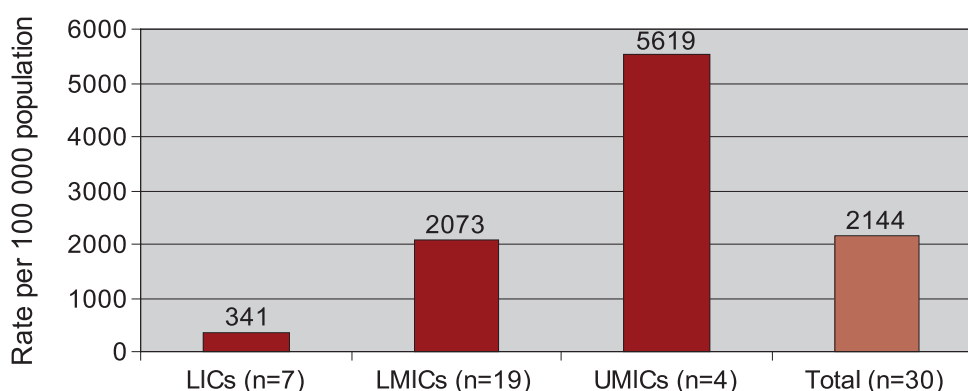
At the regional level, rates of outpatient contacts per 100 000 population are lower in the participating countries in South-East Asia (114), Africa (341), and the Western Pacific (909), intermediate in those of the Eastern Mediterranean (2983) and the Americas (1466), and the highest in the European countries (6269). In terms of outpatient contacts per patient, relatively higher median rates are reported by countries of the Western Pacific region (5.1), intermediate rates are reported by countries of the Eastern Mediterranean (4.0), Africa (3.8), the Americas (3.3) and Europe (3.4), and the lowest rates are reported by the South-East Asian countries (2.8).

A mental health mobile team is an outpatient team that provides regular clinics in different places to address the problem of inadequate physical access to mental health facilities. There are very few such teams in any of the participating countries. The provision of follow-up community care is more prevalent in UMICs than in LICs (Table 2.1). Follow-up community care refers to care provided outside the premises of the facility (e.g. follow-up home care to check medication adherence).

At the regional level, mobile clinic teams are present in one third of the participating Western Pacific countries (32%), but there are very few in European countries (1%). The median rate for all other regions is 0%, implying that the majority of participating countries in those regions reported having no mobile clinic teams. The provision of follow-up community care is relatively high in the reporting countries of the Western Pacific (39%) and Europe (38%), followed by countries in Africa (25%), South-East Asia (21%) and the Americas (17%). It is absent in almost all the participating countries of the Eastern Mediterranean (2%).

Table 2.1 Summary of outpatient facility indicators, by country income group (median)

Income group		LICs	LMICs	UMICs	Total
Number of facilities per 100 000 population	n	13	24	4	41
	median	0.07	0.33	1.42	0.32
Population served by 1 facility	n	13	24	4	41
	median	1 377 614	299 200	76 635	308 920
Number of children/adolescents served by 1 facility	n	2	19	4	25
	median	12 363 437	1 434 225	334 434	1 052 965
Percentage of women users (Item 2.2.3)	n	10	19	3	32
	median	45%	46%	55%	46%
Percentage of children/adolescents treated (Item 2.2.6)	n	8	19	4	31
	median	12%	12%	24%	12%
Contacts per patient (Item 2.2.5)	n	7	20	4	31
	median	4	3.1	3.9	3.5
Percentage of facilities with mental health mobile clinic teams (Item 2.2.9)	n	12	24	4	40
	median	0%	0%	1%	0%
Percentage of facilities with follow-up community care (Item 2.2.8)	n	12	24	4	40
	median	34%	17%	86%	18%
Percentage of facilities for children and adolescents only (Item 2.2.7)	n	12	24	4	40
	median	0%	6%	2%	3%

Note: 'n' in this table refers to the number of countries that were able to provide data for that particular item.

Regarding diagnostic patterns in outpatient facilities, about one quarter of patients are diagnosed with "other disorders" (e.g. epilepsy, organic mental disorders, mental retardation, behavioural and emotional disorder with onset in childhood and adolescence, and psychological development disorders), while one fifth of the outpatients are diagnosed with neurotic and mood disorders and schizophrenia (Table 2.2). From a diagnostic point of view, there are few differences between the diagnostic case mix for countries at the three levels of income, with the following exceptions: from LICs to UMICs there is an increase in the percentages of neurotic and mood disorders treated in outpatient facilities and a decrease of schizophrenia.

Table 2.2 Summary of outpatient diagnostic patterns, by country income group (median %)

	Substance use disorders	Schizophrenia	Mood disorders	Neurotic disorders	Personality disorders	Other
LICs (n=8)	3	19	18	10	1	31
LMICs (n=17)	4	19	19	24	3	21
UMICs (n=3)	4	13	23	23	3	32
Total (n=28)	4	19	19	20	2	25

Mental health staff working in outpatient facilities

Regarding staffing, nurses constitute the largest number of professionals in outpatient facilities in LICs (Figure 2.12). The presence of psychiatrists and psychosocial staff (psychologists, social workers, occupational therapists) increases with income level: there are very few of these professionals in reporting LICs, slightly more in LMICs, and even more in UMICs. The number of general doctors working in outpatient facilities is low in all the income groups and the number of nurses remains somewhat constant.

Figure 2.12 Staff working in outpatient facilities, by country income group (median rates per 100 000 population) (Item 4.1.4)
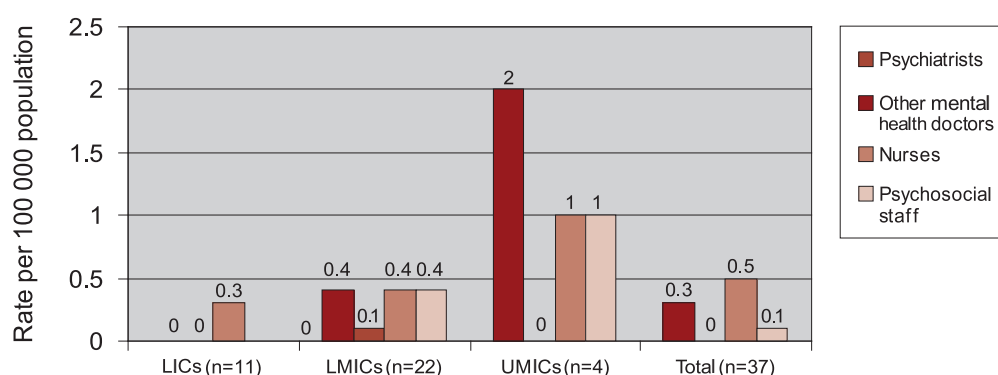
Results for staffing in mental health outpatient facilities by region suggest that participating European countries have the highest number of psychiatrists and nurses, while countries in the Americas have the highest number of psychosocial professionals. Western Pacific countries have the highest number of other medical doctors in such facilities. In general, the number of human resources working in outpatient facilities in African countries and South-East Asian

countries is low. Outpatient facilities in African countries and Western Pacific countries are mainly staffed by nurses and psychosocial professionals, while those in the Americas are mainly staffed by psychosocial professionals and psychiatrists. Outpatient facilities in European and Eastern Mediterranean countries are mainly staffed by nurses and psychiatrists, and in South-East Asian countries they are mainly staffed by nurses, as there are few other professionals working in them.

Mental health monitoring systems in outpatient facilities

Collection of mental health information in outpatient facilities was assessed by measuring the proportion of facilities that collect three different types of information: user contacts, users treated and diagnoses. Median rates for the collection of information on user contacts and diagnoses are 100% for all income groups. This suggests that in the majority of participating countries information on users and diagnoses is collected from all outpatient facilities. Regarding users treated, rates are 100% for LICs and UMICs, and 90% for LMICs.

Results by region suggest that there is regular data collection in outpatient facilities in all of the regions, particularly for users treated (Table 2.3). Regarding collection of diagnostic information, again outpatient facilities in the majority of reporting countries collect this information. Slightly lower rates are reported by participating countries in the Eastern Mediterranean. Collection of information on user contacts varies the most across the regions, with slightly lower rates reported by countries in the African, Eastern Mediterranean and South-East Asia Regions.

Table 2.3 Collection of mental health information from outpatient facilities, by WHO region (median %) (Item 6.1.4)

	User contacts	Users treated	Diagnoses
AFR (n=6)	67	100	100
AMR (n=8)	100	100	97
EMR (n=6)	80	100	60
EUR (n=8)	100	100	100
SEAR (n=7)	0	100	100
WPR (n=4)	86	97	96

(b) Day treatment facilities

A day-care facility is a mental health facility that typically provides care for users during the day (WHO, 2005b, Salvador-Carulla et al., 2000). The facilities generally: (i) are available to groups of users at the same time (rather than delivering services to individuals one at a time), (ii) expect users to stay at the facilities beyond the periods during which they have face-to-face contact with staff (i.e. the service is not simply based on users leaving immediately after consultation with staff), and (iii) involve attendance that lasts half or one full day. Day treatment facilities are rarely found in LICs and LMICs: 11 countries (one third of reporting LICs and LMICs) do not have this type of facility. In contrast, all UMICs have day treatment facilities. The facility/population ratio is 51 times higher in UMICs than in LICs.

Differences across the participating countries in the different geographical regions are equally large: day treatment facilities exist in 60% of the participating countries of Africa, the Eastern Mediterranean and South-East Asia; in 75% or more of the countries of the Western Pacific and the Americas; and in all the European countries. The facility/population ratio is considerably lower in the Eastern Mediterranean (1/14 921 740), African (1/25 634 741) and Western Pacific countries (1/21 060 335) than in the countries of South-East Asia (1/1 497 076), the Americas (1/1 125 298) and Europe (1/ 929 402).

Concerning day treatment facilities that specialize in treating children and adolescents, these are available only in one third of the reporting countries. There are no such facilities in 85% of the participating LICs, in 71% of the LMICs and in 80% of the UMICs. By region, they are reported to exist in about 20% of the countries in the Eastern Mediterranean, South-East Asia, the Western Pacific and the Americas, and in two thirds or more of the African and European countries.

The rate of users treated in day treatment facilities appears to be related to the country income level: it is roughly eight times higher in UMICs than in LICs (Figure 2.13). The rates per 100 000 population are lower in participating countries of Africa (0.9), intermediate in South-East Asia (5.2), the Eastern Mediterranean (5.5) and Western Pacific (4.4), and higher in those of the Americas (16.6) and Europe (27.6).

Figure 2.13 Users treated in day treatment facilities, by country income group (median rate per 100 000 population)
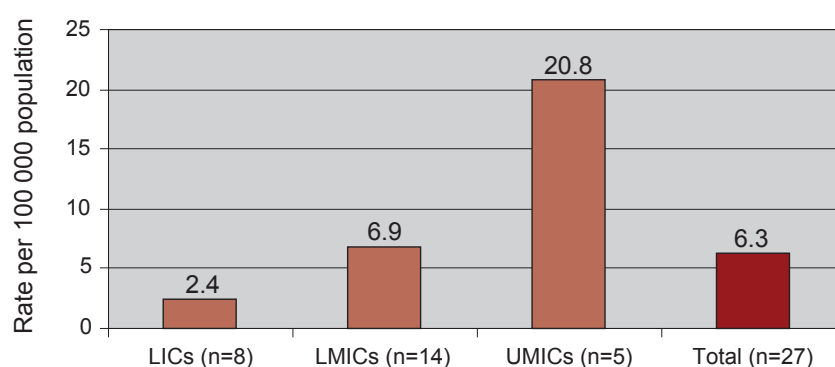
Concerning the demographics of users in day treatment facilities, the proportions of both women and children and adolescents treated in day treatment facilities are higher in reporting LICs and LMICs compared with UMICs (Table 2.4).

The percentage of women treated in day treatment facilities is higher in European countries (58%), while for the other geographical regions the values are in the range of 44–48%. The percentage of children and adolescents treated in these facilities is relatively higher in the participating countries of South-East Asia (47%) and the Eastern Mediterranean (53%), where some facilities are reserved for children and adolescents. In the other countries where specialized facilities for children and adolescents are not available, the median percentage of children treated is between 0% and 7%.

The rate of attendance in day treatment facilities in reporting UMICs is about seven times higher than in LICs, and twice as high as in LMICs (Figure 2.14). Day care attendance refers

to the number of days users spend in day care facilities per 100 000 population. The differences by WHO region are substantial: the lowest rates per 100 000 population are reported in the countries of the Americas (219), the Eastern Mediterranean (197) and the Western Pacific (148), intermediate rates in the countries of the African Region (462), and the highest rates in countries of the European (834) and South-East Asia (781) Regions.

Figure 2.14 Day care attendance, by country income group (median rate per 100 000 population)
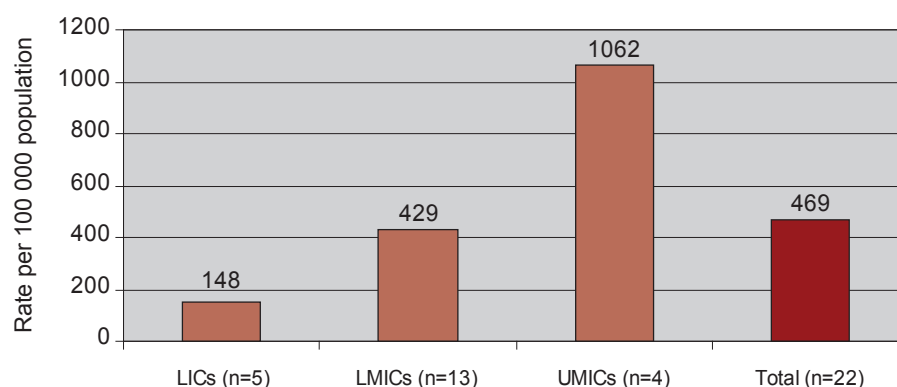
Day treatment facilities usually provide many days of treatment for each patient. Results indicate that the average number of days spent in day treatment facilities per patient in a year is higher, and the care more intensive, in participating UMICs compared with the countries in the other income groups (Table 2.4). In the participating African and South-East Asian countries the average number of days spent in day treatment facilities is considerably higher (259 days and 150 days respectively) than the average days spent in the participating countries of the Americas (51), the Eastern Mediterranean (28), the Western Pacific (40) and Europe (38).

Table 2.4 Summary of mental health day treatment facilities and indicators, by country income group (median)

Income group of countries		LICs	LMICs	UMICs	Total
Number of facilities per 100 000 population	n	13	24	5	42
	median	0	0.02	0.21	0.01
Population served by 1 facility	n	9	17	5	31
	median	24 000 000	1 687 280	469 153	1 687 280
Number of children/adolescents served by1 facility	n	2	6	1	9
	median	9 683 788	2 229 535	993 238	2 324 661
Percentage of women users (Item 2.3.3)	n	7	14	4	25
	median	48%	49%	41%	47%
Percentage of children and adolescents treated (Item 2.3.5)	n	7	13	5	25
	median	6%	7%	0%	5%
Average number of days spent in facilities (Item 2.3.4)	n	5	12	4	21
	median	40	41	48.2	40
Percentage of facilities for children and adolescents only (Item 2.3.6)	n	10	24	5	39
	median	0%	0%	0%	0%

Note: 'n' in this table refers to the number of countries that were able to provide information on each item.

(c) Community-based psychiatric inpatient units

A community-based psychiatric inpatient unit is a psychiatric unit that provides inpatient care for the management of mental disorders within a community-based facility. These units are usually located within general hospitals (e.g. acute care units), they provide care to users with acute problems, and the period of stay is usually short (weeks to months). Of the entire sample of 42 countries, 7 reported having no such units: 4 are LICs and 3 are LMICs.

The rate of beds per 100 000 population shows a direct relationship with the country income level: the figure for UMICs is 24 times higher than that for LICs (Figure 2.15). The highest rate of beds in community-based inpatient units are in the participating countries of the European (2.22) and Western Pacific (1.59) Regions, intermediate rates are in South-East Asian (0.79) and Eastern Mediterranean countries (0.93), while the lowest rates are in the participating countries of the Americas (0.61) and Africa (0.45).

Figure 2.15 Beds in community-based psychiatric inpatient units, by country income group (median rate per 100 000 population)
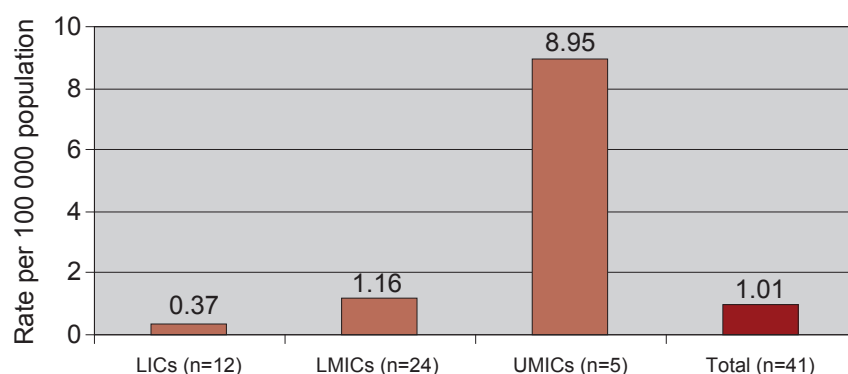
The rate of admission in community-based inpatient units in UMICs is five times higher than that in LICs (Figure 2.16). The highest rates of admissions in community-based inpatient units were reported by countries in Europe (39.9), followed by the Americas (29.5), intermediate rates were reported by the countries of the Eastern Mediterranean (18.9) and South-East Asia (17.7), and the lowest rates by the participating countries of the Western Pacific (10.0) and Africa (7.3).

Figure 2.16 Admission rates in community-based psychiatric inpatient units, by country income group (median rate per 100 000 population)
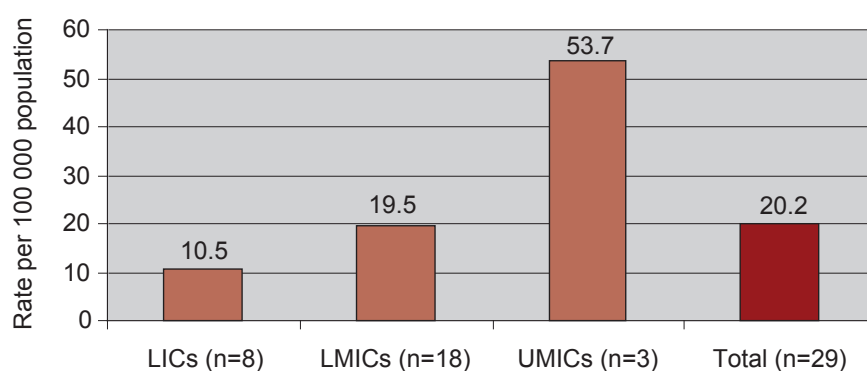
The proportion of women patients in community-based psychiatric inpatient units is about 40% in LICs and LMICs, and more than 50% in UMICs (Table 2.5). By WHO region, the proportion is relatively higher in the participating countries of the Americas (60%), intermediate in the Western Pacific (50%), Europe (46%) and South-East Asia (42%), and lower in the Eastern Mediterranean (33%) and Africa (38%).

Use of these facilities by children and adolescents is low: 1 patient in 50 in LMICs and less than 1 in 10 in LICs and UMICs (Table 2.5). By region, a slightly higher use of these facilities by children and adolescents was reported by countries in the Western Pacific (8%) and a lower rate was reported by countries in the Eastern Mediterranean (1%). In all other participating countries children or adolescents comprise about 5% of all patients in community-based inpatient units.

The rate (per 100 000 population) of days spent per year in community-based psychiatric inpatient units is three times higher in UMICs than in LMICs, and it is seven times higher than in LICs (Figure 2.17). Rates vary even more widely by region, with lower rates prevailing in countries in Africa (19), the Americas (80) and South-East Asia (186), intermediate rates in countries in the Eastern Mediterranean (475) and Western Pacific (464), and higher rates in European countries (711).

Figure 2.17 Days spent in community-based psychiatric inpatient units, by country income group (median rate per 100 000 population)
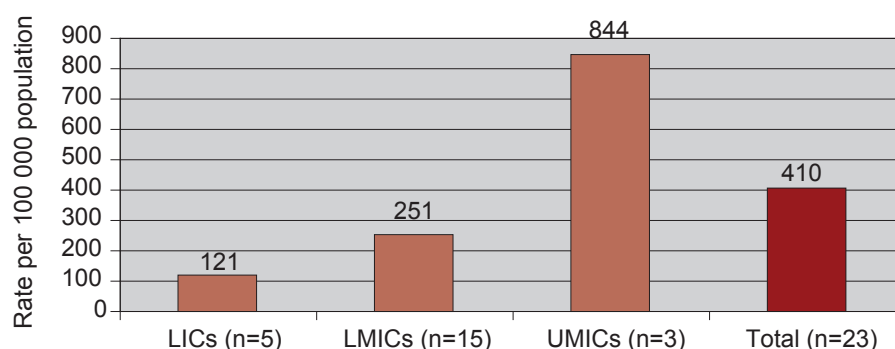
The average number of days spent per patient in community-based inpatient units is 21.0 days, and it is longer in LICs compared to the other two groups (table 2.5). Viewed by WHO region, the length of stay is shorter in the participating countries of Africa (17.2 days) and the Americas (15.0), intermediate in those of South-East Asia (21.0) and Europe (23.3), and longer in countries of the Western Pacific (28.8) and Eastern Mediterranean (28.0).

Table 2.5 Summary of indicators for community-based psychiatric inpatient units by country income group (median)

		LICs	LMICs	UMICs	Total
Number of units per 100 000 population	n	13	24	5	42
	median	0.02	0.04	0.25	0.04
Population served by 1 facility	n	9	21	5	35
	median	4 045 100	1 875 497	396 545	1 744 493
Percentage of beds for children and adolescents only (Item 2.4.9)	n	13	21	5	39
	median	0%	0%	4%	0%

Continues...

Table 2.5 continued

		LICs	LMICs	UMICs	Total
Percentage of female patients (Item 2.4.3)	n	9	16	3	28
	median	42%	40%	52%	42%
Percentage of child/adolescent admissions (Item 2.4.8)	n	6	15	3	24
	median	7%	2%	8%	6%
Average number of days per patient (Item 2.4.6)	n	4	15	3	22
	median	23.1	21	15.7	21
Percentage of involuntary admissions (Item 2.4.5).	n	3	11	1	15
	median	51%	14%	4%	25%

About half of the participating countries did not provide data on involuntary admissions in community-based inpatient units. In those countries that provided data, involuntary admissions constitute about half of the admissions in community-based inpatient units in LICs, more than one tenth in LMICs and one twentieth in UMICs (Table 2.5). By region, involuntary admissions constitute about two thirds of all admissions in the reporting countries of Africa (65%), about half in the countries of the Western Pacific (43%) and South-East Asia (40%), and approximately a quarter in the countries of the Eastern Mediterranean (25%). Participating countries of Europe and the Americas reported lower median rates: 4% and 5% respectively.

Data on physical restraint and seclusion in inpatient units were collected by only half of the reporting countries. Those countries that provided data, reported that more than 5% of the patients were secluded or restrained during a year in 40% of the LICs, 33% of the LMICs and 100% of the UMICs.

Regarding diagnostic patterns in community-based psychiatric inpatient units, more than a third of users of such units are diagnosed with schizophrenia, while about one fifth are diagnosed with mood disorders (Table 2.6). Substance abuse, neurotic disorders and "other" diagnoses (e.g. epilepsy, organic mental disorders, mental retardation, behavioural and emotional disorder with onset in childhood and adolescence, and psychological development disorders) account for approximately one third of the whole. There does not seem to be any clear linkage of the diagnoses of patients admitted to these facilities with the income level of the reporting country. However some patterns are discernible. In reporting LICs and LMICs a higher percentage of admitted patients have schizophrenia and a lower percentage have mood disorders. In addition, "other" diagnoses increase by country income level, while neurotic disorders decrease. Personality disorders are not treated in these facilities in LICs and LMICs, while they represent a tenth of admissions in UMICs.

Table 2.6 Summary of diagnostic patterns in community-based inpatient units, by country income group (median %) (Item 2.4.4)

	Substance use disorders	Schizophrenia	Mood disorders	Neurotic disorders	Personality disorders	Other
LICs (n=8)	7	28	23	22	2	11
LMICs (n=17)	7	36	16	6	2	13
UMICs (n=3)	5	21	28	6	8	18
Total (n=28)	6	34	18	12	2	14

Staff in community-based psychiatric inpatient units

Nurses constitute the largest proportion of the staff in community-based psychiatric inpatient facilities in both LICs and LMICs, whereas in UMICs there are approximately equal numbers of psychiatrists, nurses and psychosocial staff (Figure 2.18). The number of "other medical doctors" declines as income level increases. The trend is the opposite for psychosocial staff, whose number increases in the wealthier countries.

Figure 2.18 Ratio of staff to beds in community-based psychiatric units, by country income group (Item 4.1.5) (n=29)
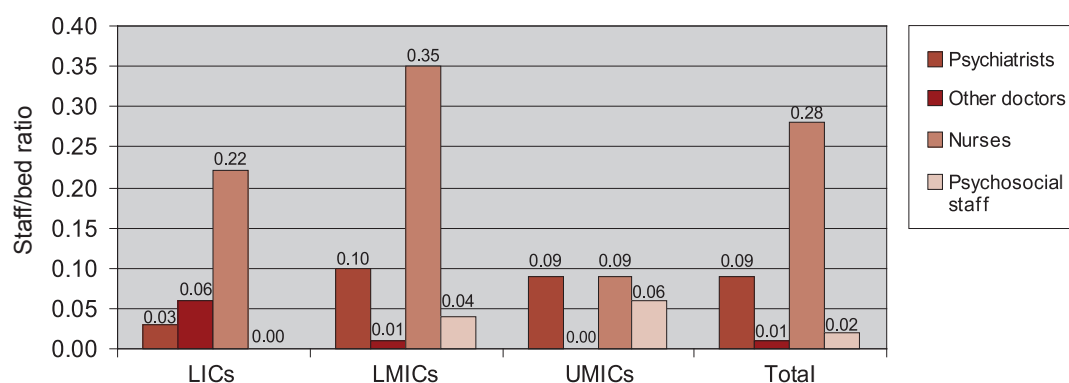
Regarding ratio of staff to beds, results of the sample by region suggest that community-based psychiatric units in reporting countries in the Americas have the highest median rate per bed of psychiatrists (0.11, i.e. 1 psychiatrist to 9 beds) and psychosocial staff (0.07, i.e. 1 psychosocial staff to 14 beds), while community-based psychiatric units in African countries have the highest median rate per bed of other medical doctors (0.10) and nurses (0.39). The high rate of nurses in Africa may be partly explained by the fact that there are few other professionals. Community-based psychiatric units in African countries are staffed mainly by nurses and other medical doctors, while in all the other countries they are staffed primarily by nurses and psychiatrists.

Monitoring systems in community-based psychiatric inpatient units

The proportion of community-based inpatient units that collect basic mental health information (i.e. number of beds, admissions, days spent, diagnoses, number of involuntary admissions, number of users restrained or secluded) was assessed (Item 6.1.3). There is very little difference among the country income groups regarding the collection of information on beds, admissions and diagnoses (Table 2.7). Median rates for all income groups are close to 100% (the lowest median rate is for the collection of data on diagnoses in UMICs). However, there appears to be a substantial difference between income groups regarding the collection of information on involuntary admissions and rates of physical restraint and seclusion. The median rate of data collection for this variable is 0% in facilities in LICs and in LMICs, respectively, compared with 17% in UMICs.

Table 2.7 Percentage of community-based inpatient units that collect basic mental health information, by country income group (Item 6.1.3)

	Beds	Admissions	Diagnoses	Days	Involuntary admissions	Restraint and seclusion
LICs (n=8)	93	100	93	0	0	0
LMICs (n=17)	100	100	100	100	0	0
UMICs (n=4)	100	100	70	100	17	17

The median rate of data collection on beds and admissions is 100% in all regions (Table 2.8), except in the Western Pacific, where the median rate is 86%. In other words, in most countries this information is collected from all community-based psychiatric inpatient facilities. Data collection on other items varies more. Regarding information on the number of days spent in community-based inpatient units, the median rate for reporting countries in Africa is 0%, meaning that most of the countries in this region do not collect this information from any of their facilities. The rates for the other regions are higher than 70%. Regarding the collection of information on diagnoses, the majority of Eastern Mediterranean, European and South-East Asian countries collect this information in all their facilities (median 100%), while fewer do so in Africa, the Americas and the Western Pacific. For information on involuntary admissions, only three regions had median collection rates of over 0%: the Eastern Mediterranean (median rate of collection of 74% of facilities), Europe (median rate of collection of 50% of facilities) and the Western Pacific (median rate of collection of 21% of facilities). Collection of information on physical restraint and seclusion is even less common. Most countries do not collect this information from any of their facilities.

Table 2.8 Percentage of community-based inpatient units that collect basic mental health information, by WHO region (Item 6.1.3)

	Beds	Admissions	Diagnoses	Involuntaryadmissions	Restraint and seclusion
AFR (n=5)	100	100	20	0	0
AMR (n=8)	100	100	54	0	0
EMR (n=6)	100	100	100	74	0
EUR (n=8)	100	100	100	50	50
SEAR (n=7)	100	100	100	0	0
WPR (n=4)	86	86	69	21	5

(d) Mental hospitals

A mental hospital is a specialized hospital that provides inpatient care and long-stay residential services for people with mental disorders. Usually these facilities are independent and standalone, although they may have some links with the rest of the health-care system. Three LICs and four LMICs reported not having a mental hospital.

The median rate of beds for the total sample is 5.90 per 100 000 population, with clear differences by income group: the median rate for the UMIC group is 20 times the rate for the LIC group (Figure 2.19).

Figure 2.19 Beds in mental hospitals, by country income group (median rate per 100 000 population)
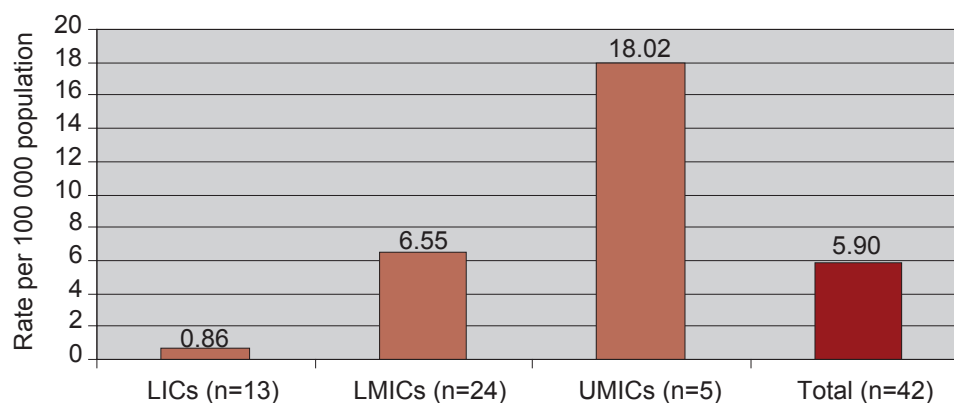
By region, mental hospitals exist in all the reporting countries except 1 European country, 4 South-East Asian countries and 1 African country. The number of beds per 100 000 population is higher in the participating countries of Europe (39.1), intermediate in the Americas (6.3), the Eastern Mediterranean (5.7) and the Western Pacific (6.5), and lower in the participating countries of Africa (1.8) and South-East Asia (0.1).

In the past five years, the number of mental hospital beds has not changed in LMICs, there was a slight increase in LICs (1%), while there was a decrease in UMICs (22%) (Table 2.9). The main decrease in the number of beds occurred in the reporting countries of Europe (-13%) and the Americas (-15%). There was no change in the African countries, some increase in the South-East Asian (3%) and Western Pacific countries (4%), and a greater increase in the Eastern Mediterranean countries (7%).

Mental hospitals are organizationally integrated with outpatient facilities more frequently in LICs and LMICs than in UMICs (Table 2.9). Facilities are organizationally integrated if both of the following two conditions exist: (1) a referral system between the two types of facilities is utilized to facilitate continuity of care, (2) mental hospitals and mental health outpatient facilities work in a coordinated manner. The rate of organizational integration of outpatient facilities with mental hospitals is high in most of the regions (median of 100%), except for Europe, which has a median value of 56%.

The rates of users of mental hospitals in LICs are approximately one fourth of those in LMICs and one third of those in UMICs (Figure 2.20). By region, the highest rates of users were reported by the participating countries in Europe (210.1 per 100 000 population), while countries in the other regions reported the following significantly lower rates of users per 100 000 population: 10.3 in South-East Asia, 10.6 in Africa, 31.9 in the Eastern Mediterranean countries, 33.9 in the Americas and 51.4 in the Western Pacific.

Figure 2.20 Patients treated in mental hospitals, by country income group (median rate per 100 000 population)
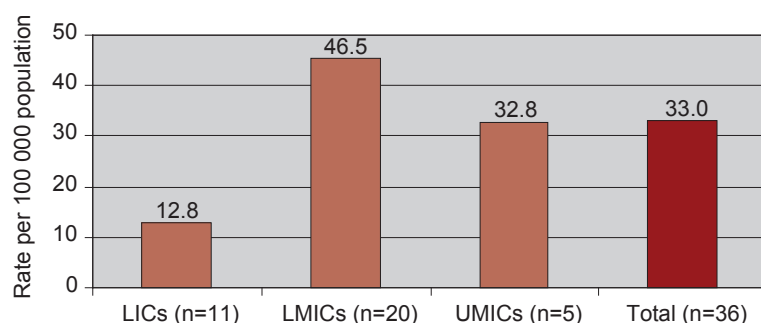
The admission rate of women to mental hospitals is higher in UMICs than in other countries, while the percentage of children and adolescents treated in mental hospitals remains low: from 3% to 6% (Table 2.9). By WHO region, there are only moderate differences in the percentage of women treated in mental hospitals: the percentage is higher in the reporting countries of the Western Pacific (45%) and lower in those of Europe and the Eastern Mediterranean (35% in each). Children and adolescents represent 7% of the patients treated in mental hospitals in the Western Pacific countries, 5% in African and European countries, 3% in countries in the Americas and South-East Asia, and less than 1% in Eastern Mediterranean countries.

The number of days spent in mental hospitals per 100 000 population is almost six times higher in UMICs than in LICs (Figure 2.21). By region, the gap is even wider: the number of days spent are lower in reporting countries in Africa (449 days) and South-East Asia (93 days), intermediate in countries of the Eastern Mediterranean (1457 days), the Americas (1329 days) and the Western Pacific (2116 days) and the highest in Europe (9793 days).

Figure 2.21 Days spent in mental hospitals, by country income group (median per 100 000 population)
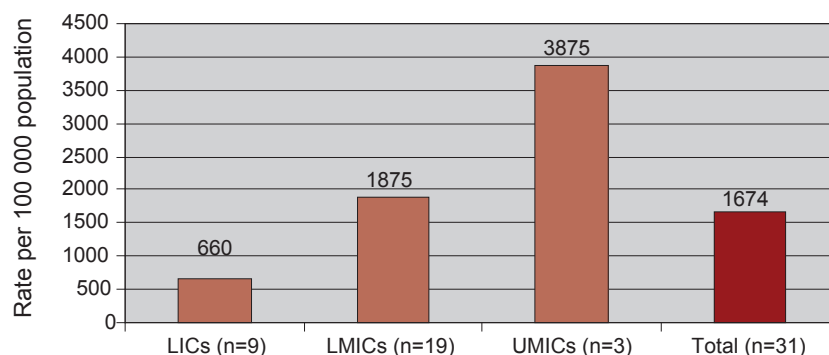
The average number of days spent in mental hospitals differs greatly by income groups of the reporting countries, increasing significantly from LICs to UMICs (Table 2.9). The number of days spent in mental hospitals per patient during a year is highest in the participating countries of South-East Asia (137), intermediate in the countries of the Americas (70), Europe (65) the Eastern Mediterranean (47) and Africa (50), and lowest in the Western Pacific (38).

The level of occupancy in mental hospitals is higher in UMICs than in the other income groups. Viewed by region, the level of occupancy is relatively higher in the participating countries of the Americas (85%) and Europe (83%), intermediate in Africa (80%), the Western Pacific (86%) and South-East Asia (72%), and lowest in the Eastern Mediterranean (60%).

Looking at the whole picture, two thirds of patients treated in mental hospitals stay less than 1 year, and one tenth stay longer than 5 years (Table 2.9). The main difference between the varying levels of income is the percentage of long-stay patients in mental hospitals: about 1 in 20 inpatients in LICs and about 1 in 10 in LMICs stay longer than 5 years, whereas in UMICs about a half of all inpatients stay longer than 5 years.

Viewed by region, participating African countries reported that 92% of the patients stay in mental hospitals for less than 1 year. Corresponding rates for the other regions are as follows: the Americas 59%, Europe 68%, South-East Asia 65%, the Western Pacific 59% and the Eastern Mediterranean 33%. On the other hand, long-stay patients (i.e. those staying in mental hospitals for more than 5 years) represent 37% of patients in the participating countries of the Americas, 18% in the Eastern Mediterranean, 20% in the Western Pacific, 9% in the European, 7% in the South-East Asia and 4% in the African Regions.

Table 2.9 Summary of indicators for mental hospitals, by country income group (median)

Income group		LICs	LMICs	UMICs	Total
Number of mental hospitals per 100 000 population	n	13	24	5	42
	median	0	0.02	0.05	0.03
Percentage of mental hospitals organizationally integrated with mental health outpatient facilities (Item 2.1.3)	n	11	20	5	36
	median	100%	100%	80%	100%
Population served by 1 mental hospital	n	11	20	5	36
	median	7 600 000	3 349 980	2 060 473	3 349 980
Number of beds per 100 000 population (Item 2.6.2)	n	13	24	5	42
	median	0.86	6.55	18.02	5.94
Change in beds in the last 5 years (%) (Item 2.6.3)	n	11	20	5	36
	median	1%	0%	-22%	0%
Percentage of beds for children and adolescents only (Item 2.6.12)	n	13	24	5	42
	median	0%	0%	1%	0%
Percentage of child/adolescent patients (Item 2.6.11)	n	11	18	4	33
	median	6%	3%	4%	4%
Percentage of women patients (Item 2.6.4)	n	10	18	4	32
	median	38%	37%	41%	38%
Average no. of days spent in mental hospitals (Item 2.6.8)	n	9	19	3	31
	median	42.1	64.5	72.9	61.1
Occupancy rate (%) (Item 2.6.9)	n	9	19	4	32
	median	80%	71%	90%	80%
Percentage of patients staying less than 1 year (%) (Item 2.6.7.4)	n	8	16	4	28
	median	93%	65%	39%	66%
Percentage of patients staying 1–4 years (Item 2.6.7.3)	n	8	16	4	28
	median	4%	18%	4%	7%
Percentage of patients staying 5–10 years (Item 2.6.7.2)	n	8	16	4	28
	median	2%	7%	10%	7%
Percentage of patients staying more than 10 years (Item 2.6.7.1)	n	8	16	4	28
	median	2%	5%	45%	5%
Percentage of involuntary admissions (Item 2.6.6)	n	8	13	3	24
	median	19%	40%	5%	36%

In the 24 countries that reported data on involuntary admissions, about one in three admissions in mental hospitals are involuntary, with clear differences between LICs, LMICs and UMICs: 19%, 40% and 5%, respectively, of total admissions (Table 2.9). From a regional perspective, involuntary admissions represent 93% of total admissions in the participating countries of South-East Asia, 36% in Africa, 40% in the Eastern Mediterranean, 35% in the Americas and 17% in the Western Pacific, while in European countries the median value hovers at 0% (though there is a high degree of variability among countries within that region). In South-East Asia, the relatively high percentage of involuntary admissions is based on information from three countries, two of which report that 100% of admissions to mental hospitals are involuntary.

Data on physical restraint and seclusion in mental hospitals are not collected by one fifth of the countries. Among the remaining countries, 37% reported that seclusion and physical restraint are applied to 5% or less of the patients, while 63% of the countries reported that these are applied to more than 5% of the patients.

About half of the patients staying in mental hospitals suffer from schizophrenia, one fifth from mood disorders and one tenth from "other" disorders (Table 2.10). The "other disorder" category includes the following disorders: epilepsy, organic mental disorders, mental retardation, behavioural and emotional disorder with onset in childhood and adolescence, and psychological development disorders. It appears that in the higher-income country groups, there is an increase in the use of mental hospitals by patients with substance abuse and "other" disorders, while there is less use of these hospitals by those with schizophrenic, mood and neurotic disorders.

Table 2.10 Percentage of disorders treated in mental hospitals, by country income group (median %)

	Substance use disorders	Schizophrenia	Mood disorders	Neurotic disorders	Personality disorders	Other
LICs (n=8)	5	48	21	4	2	8
LMICs (n=17)	5	50	15	2	1	9
UMICs (n=3)	10	40	16	2	5	20
Total (n=31)	5	46	18	2	2	11

Staff working in mental hospitals

Nurses constitute the largest proportion of professional staff working in mental hospitals in all the reporting countries (Figure 2.22). However, in LICs and LMICs there are far more nurses than any other category of professional, whereas in UMICs, the different categories of professionals are more evenly balanced.

Figure 2.22 Staff/bed ratio of different professional staff in mental hospitals, by country income group (Item 4.1.6) (n=35)
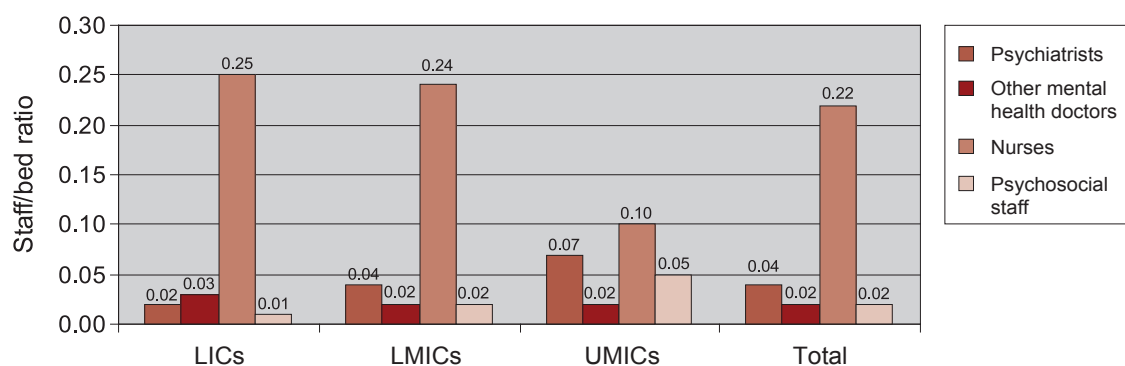
Results by region suggest that mental hospitals in participating countries in the Americas have the highest median ratio of psychiatrists to beds (0.07, i.e. 1 psychiatrist to 14 beds) and psychosocial staff to beds (0.05, i.e. 1 staff to 20 beds), while mental hospitals in the African and Eastern Mediterranean reporting countries have the highest median ratio of nurses to beds (0.31, i.e. 1 nurse to 3 beds). In the African countries and South-East Asian countries, mental hospitals are staffed mainly by nurses and other medical doctors, while in all the other countries mental hospitals are staffed mainly by nurses and psychiatrists.

Monitoring systems in mental hospitals

Basic mental health information on the number of beds, admissions, diagnoses and days spent in the hospital is collected from all mental hospitals in the majority of countries across all income groups (median rate=100%). However, median rates for collection of information on involuntary admissions are 0% for LICs and LMICs, and 30% for UMICs (Table 2.11), while those for the collection of information on physical restraint and seclusion are 0% for all income groups. Thus, in the majority of countries, little information is collected on involuntary admissions or on physical restraint and seclusion.

Table 2.11   Information collection in mental hospitals, by country income group (median %) (Item 6.1.2)

	Beds	Admissions	Diagnoses	Days	Involuntary admissions	Restraint and seclusion
LICs (n=11)	100	100	100	100	0	0
LMICs (n=18)	100	100	100	100	0	0
UMICs (n=4)	100	100	100	100	30	0

Basic mental health information is collected by most mental hospitals in the majority of reporting countries. Median rates of data collection for beds, days spent in mental hospitals and diagnoses are 100% for the Americas, the Eastern Mediterranean, Europe, South-East Asia and the Western Pacific. Participating countries in Africa reported slightly lower median rates of data collection for these items: beds (98%), days spent (91%) and diagnoses (93%) (Table 2.12). However, data on involuntary admissions appear to be collected rather infrequently in most regions, except in the reporting countries in Europe and the Western Pacific, where the median rates were 100% and 31% respectively. Similarly, median rates of data collection on

physical restraint and seclusion were above 0 in only two regions: the Eastern Mediterranean and the Western Pacific, where the rates were 17% and 25% respectively.

Table 2.12 Data collection in mental hospitals by WHO region (median %) (Item 6.1.2)

	Beds	Admissions	Diagnoses	Days	Involuntary admissions	Restraint and seclusion
AFR (n=6)	98	100	93	91	0	0
AMR (n=7)	100	100	100	100	0	0
EMR (n=6)	100	100	100	100	100	17
EUR (n=6)	100	100	100	100	0	0
SEAR (n=4)	100	100	100	100	0	0
WPR (n=4)	100	100	100	100	31	25

(e) Community residential facilities

A community residential facility is a non-hospital, community-based mental health facility that provides overnight residence for people with mental disorders. Usually these facilities serve users with relatively stable mental disorders who do not require intensive medical interventions. Community residential facilities are not common in reporting low- and middle-income countries: 7 LICs and 16 LMICs do not have such facilities in their mental health network compared with only 2 of the reporting UMICs. Concerning the rate of beds, the median value ranges from 0 per 100 000 population in LICs and LMICs to 1.8 in UMICs, highlighting the extreme scarcity of these facilities. Viewed by region, only in the Western Pacific Region is the rate of beds per 100 000 population appreciable (1.33 per 100 000 population).

The rate of users appears to be related to income level, but the figures are very low in comparison to other mental health facilities (Figure 2.23). At a regional level, the rates of users per 100 000 population are higher in the participating countries of the Eastern Mediterranean (3.01), the Western Pacific (2.21) and Europe (2.37) than in those of South-East Asia (0.53), Africa (1.20) and the Americas (1.06).

Figure 2.23 Patients treated in community residential facilities, by country income group (median rate per 100 000 population)
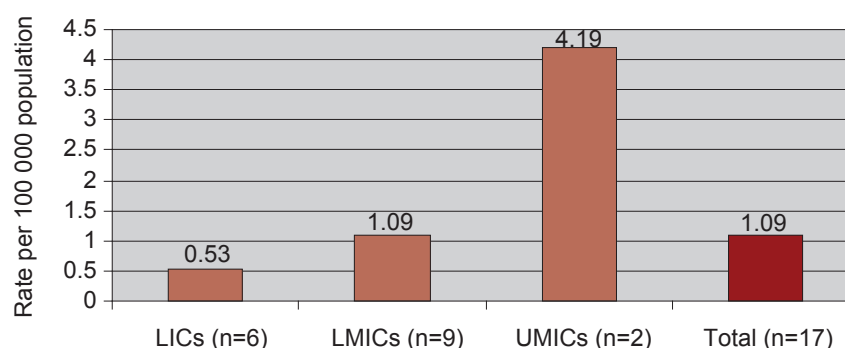
Community residential facilities are clearly committed to long-stay patients, as evidenced by the average number of days spent per patient. There appear to be no differences by country income level (Table 2.13). At the regional level, the average length of time spent in community

residential facilities is less than 300 days only in the reporting countries of South-East Asia (177) and the Western Pacific (158).

In contrast to the average number of days per patient, the average number of days spent in community residential facilities per 100 000 population appears to be closely associated with country income level, as the rate in UMICs (1446) is eight times higher than in LICs (187). However, it should be noted that only 13 out of the 42 countries provided data on this item. Many countries did not respond to this item because they do not have community residential facilities. Thus the results should be interpreted with caution. There are also variations across regions: the rates are lower in South-East Asian countries (149), intermediate in the countries of Europe (449) and the Western Pacific (412), and higher in the countries of Africa (801), the Eastern Mediterranean (998) and the Americas (1022).

While women constitute the majority of patients in the total of all the income groups, there are hardly any child/adolescent users (Table 2.13). Again, these data should be interpreted with caution due to the low response rate for these items.

Table 2.13 Summary of indicators on community residential facilities (median)

Income group		LICs	LMICs	UMICs	Total
Number of residential facilities per 100 000 population	n	12	22	4	38
	median	0	0	0.07	0
Population served by 1 facility	n	5	8	2	15
	median	3 600 000	3 357 879	453 572	1 563 681
Number of beds/places per 100 000 population (Item 2.5.2)	n	12	22	4	38
	median	0	0	1.82	0
Percentage of beds/places for children/adolescents only (Item 2.5.7)	n	12	22	4	38
	median	0%	0%	0%	0%
Percentage of women users (Item 2.5.4)	n	5	6	2	13
	median	71%	53%	46%	51%
Percentage of child/adolescent users (Item 2.5.6)	n	5	7	2	14
	median	1%	0%	0%	0%
Average days spent per 100 000 population	n	4	7	2	13
	median	187	289	1 446	298
Average length of stay (Item 2.5.5)	n	4	6	2	12
	median	357.35	316.92	350.95	333.27

(f) Forensic inpatient units

A forensic inpatient unit is a psychiatric inpatient unit that is maintained exclusively for the evaluation or treatment of people with mental disorders who are involved with the criminal justice system. These units can be located in mental hospitals, general hospitals or elsewhere.

Of the reporting countries, there are 6 LICs, 7 LMICs and 1 UMIC that do not have any forensic units. The median rate of beds in forensic units in UMICs (3.54 beds per 100 000 population) is six times the median rate in LMICs (0.59 beds per 100 000). In LICs, forensic beds are extremely rare (0.01 beds per 100 000). In all three income groups, almost all forensic beds are

located in mental hospitals or in special units inside these facilities. On a regional basis, the rate of beds per 100 000 population is higher in the reporting countries of Europe (3.53) than in those of the Americas (0.45), the Eastern Mediterranean (0.61) and the Western Pacific (0.42). There are virtually no beds in forensic units in the reporting countries of South-East Asia (0.10) and Africa (0.02).

Length of stay is related to country income level (Figure 2.24): in LICs, two thirds of the inpatients stay for less than one year, while in LMICs and in UMICs a higher percentage of patients stay for longer periods. However, it should be noted that only two UMICs provided data for this item. The percentage of patients staying in forensic units for less than one year varies widely by region: South-East Asia (98%), Africa (11%), Western Pacific (49%), Europe (55%), the Americas (21%), and the Eastern Mediterranean (30%).

Figure 2.24 Length of stay in forensic facilities, by country income group (median %) (Item 2.7.3)
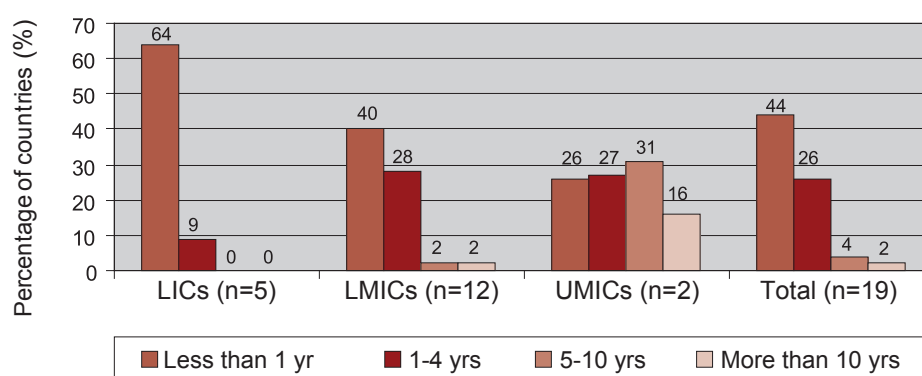
(g) Other residential facilities

Other residential facilities refers to facilities that house people with mental disorders but that do not meet the WHO-AIMS definition for community residential facility or any other mental health facility. WHO-AIMS assesses other residential facilities for specific disorders (mental retardation, substance abuse and dementia), as well as general facilities where the majority of users have diagnosable mental disorders but which are not formal mental health facilities.

There is a clear increase in the total rate of beds in other residential facilities by income group. In LICs virtually no beds in such facilities were reported (Figure 2.25). Moreover, the rate of beds in these facilities for specific disorders also appears to be related to country income level, except for those specifically intended for patients with dementia, which are infrequent across all income groups (a median rate of 0 beds for all income groups). In addition, LMICs have the highest rate of beds for youth (17 years and younger): 0.17 beds per 100 000 population, compared with a median rate of 0 in the other income groups. The rate of beds for substance abuse patients is also the highest in LMICs: 0.77 beds per 100 000, compared with 0.04 in LICs and 0.02 in UMICs.

**Figure 2.25   Beds in other residential facilities, by country income group
(median rate per 100 000 population)**
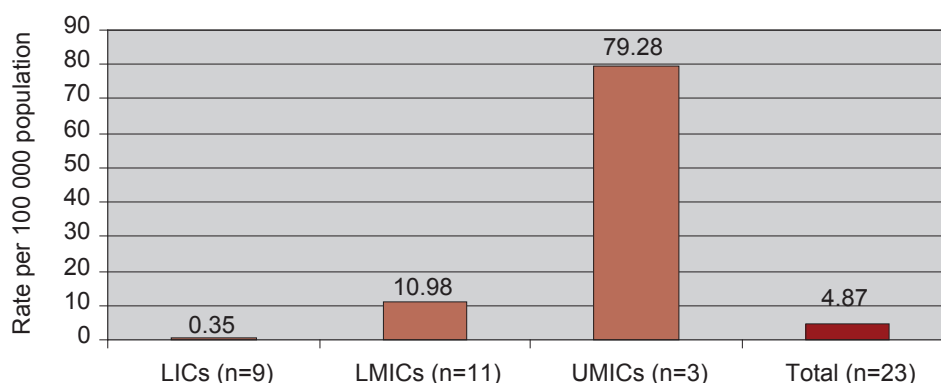
Viewed by region, in the Americas the median rate of beds for patients with mental retardation is 0.44 per 100 000 population and for substance abuse it is 6.23 per 100 000; for beds in facilities that are not mental health facilities but where, nevertheless, the majority of people have diagnosable mental disorders is 19.71 per 100 000. In the Eastern Mediterranean countries participating in the assessment, the only facility where the median rate of beds is above 0 is for substance abuse (0.10 beds per 100 000 population). In European countries the vast majority of beds (27.8 per 100 000) are in facilities that are not mental health facilities, but where, nevertheless, the majority of people have diagnosable mental disorders. However, there are also some beds available for youth (aged 17 years and younger) with mental retardation (5.5 per 100 000) and beds for people of all ages with mental retardation (0.67 beds per 100 000). In South-East Asian countries, there are beds specifically intended for people (of all ages) with mental retardation (0.04 per 100 000) and for those with substance abuse problems (0.50 per 100 000). In Western Pacific countries most of the beds are in facilities that are not mental health facilities but where, nevertheless, the majority of people have diagnosable mental disorders (4.74 per 100 000). In the Western Pacific there is a median rate of 0.32 beds per 100 000 population for people (of all ages) with mental retardation and 1.13 beds per 100 000 for substance abuse. It should be noted, however, that only a small number of reporting countries in the Western Pacific provided these data, thus the findings may not necessarily be representative.

2.6 Psychotropic drugs

Psychotropic drugs are an important medical product within the mental health system. They can be used for treating the symptoms of mental disorders, and can help reduce disability and prevent relapse (WHO, 2005d). In their drug policies (Item 1.1.3), almost all countries include at least one psychotropic medicine in each of the five categories (antipsychotics, anxiolytics, antidepressants, mood stabilizers and antiepileptic drugs) on the country's essential medicines list. Only in one LIC and one LMIC are mood stabilizers not included on the essential medicines list.

2.6.1 Availability of psychotropic medicines in the primary health care system

Data on the availability of medicines in primary care show an increase by income level, suggesting a greater integration of mental health into primary care at higher income levels. Only 15% of the participating LICs have essential psychotropic medicines available in all PHC facilities, compared with 40% of UMICs (Figure 2.26).

Figure 2.26 Percentage of countries with psychotropic medicines available in all physician-based PHC facilities, by country income group (Item 3.1.7)
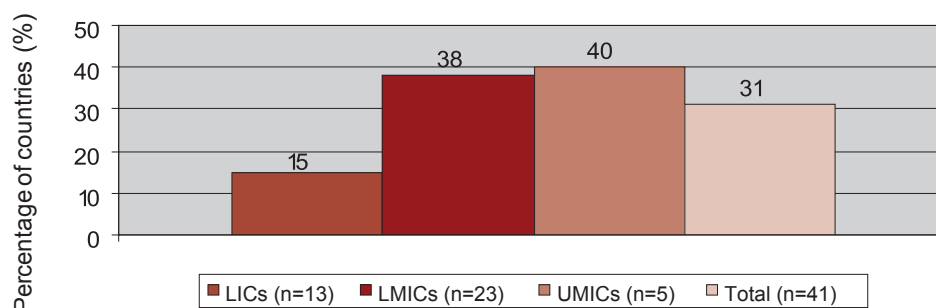
The different regions show substantial variation in the availability of drugs in physician-based PHC clinics (Figure 2.27). The region with the greatest availability of medicines among participating countries is South-East Asia (medicines available in 63% of all or almost all physician-based PHC facilities), followed by the Eastern Mediterranean with a median rate of 43%. Intermediate rates of coverage were reported in Europe (25%) and the Americas (25%), and the lowest rates in Africa (14%) and the Western Pacific (0%).

Figure 2.27 Percentage of countries with psychotropic medicines available in all physician-based PHC centres, by WHO region (Item 3.1.7)
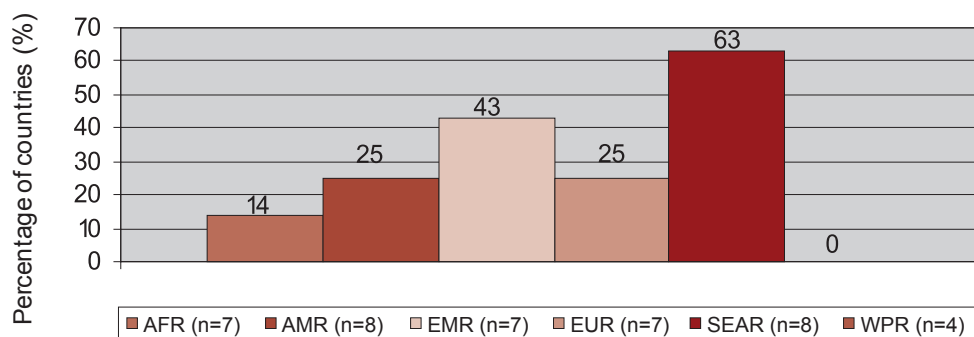
2.6.2 *Availability of psychotropic medicines in community-based inpatient units (general hospitals) and specialist mental health services*

In contrast to the limited availability of medicines within the PHC system, psychotropic medicines appear to be more readily available within dedicated mental health facilities. For all income groups, the median rate for availability of psychotropic medicines within mental hospitals and community-based inpatient units is 100%. This means that in half, or more, of all the participating countries, all mental hospitals and all community-based inpatient units have at least one psychotropic medicine of each therapeutic class available in the facility or in a nearby pharmacy throughout the year. For outpatient facilities, the median rates for availability are: LICs (100%), LMICs (95%) and UMICs (89%). Thus, although the availability of psychotropic medicines appears to be lower in outpatient facilities, the median rates are still quite high.

By region, the median rate of availability of medicines in mental hospitals is 100% for all regional groups. For community-based inpatient units, only two regions – the Eastern Mediterranean and the Western Pacific – have median rates below 100% (Figure 2.28). In outpatient facilities,

the median rate is less than 100% in three regions: the Americas, the Eastern Mediterranean and the Western Pacific. This result is explained by the fact that two countries in the Americas reported not having any medicines available in their outpatient facilities, whereas one Eastern Mediterranean country reported having medicines available in only 41% of its 855 facilities. In the Western Pacific Region, one country also reported less than full availability (91%). Overall, the data suggest that availability of psychotropic medicines is greatest in mental hospitals, followed by community-based inpatient units and then outpatient facilities.

Figure 2.28 Median rates of availability of psychotropic drugs in mental health facilities, by WHO region (Items 2.10.2 & 2.10.3)
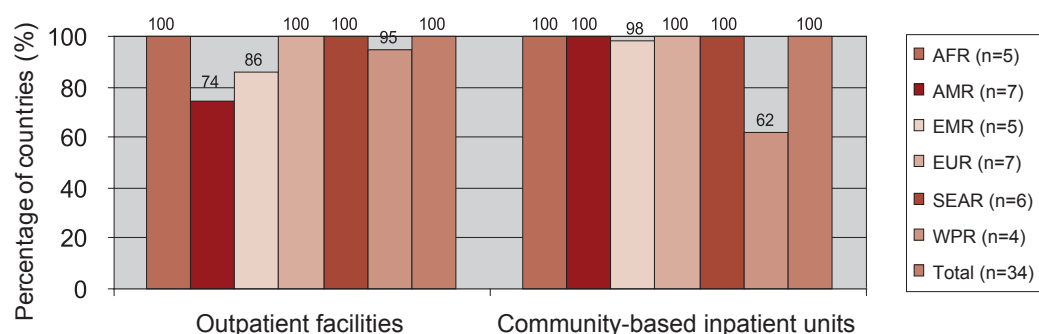
2.7 Mental health workforce

Health workers are people engaged in actions whose primary purpose is to protect and improve health (WHO, 2007a). They may work in the private or public sector and include both lay and professional cadres. Adequate and well trained human resources are needed both in primary care and at the specialist level. There is a strong relationship between the density of health professionals, service coverage and health outcomes (WHO, 2007a).

2.7.1 Primary health care staff

Primary care is a common setting for initial care for people with mental disorders. Thus, it is critical that PHC staff be trained to diagnose and treat mental disorders. WHO-AIMS results suggest that little undergraduate training on mental health is provided to PHC professionals. As a proportion of total training hours, the median rate of hours devoted to mental health is 2% for doctors and 4% for nurses across the participating countries (Figure 2.29). Regarding undergraduate training for doctors, there is no substantial variation across income groups (Figure 2.29). However, for nurses there is a clear increase by income level: median rates of training for nurses are higher in UMICS.

Figure 2.29 Percentage of undergraduate training hours devoted to mental health, by country income group (Item 3.1.1)
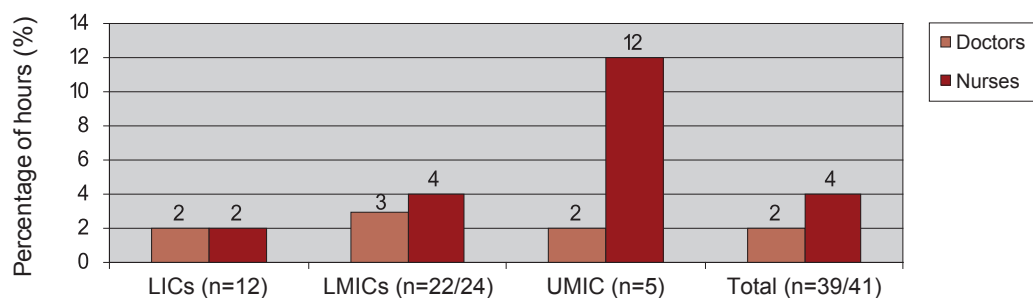
In participating countries of most regions, nurses receive more training in mental health than medical doctors (Figure 2.30). The exceptions are in South-East Asia and the Western Pacific. The greater number of training hours for nurses in most regions may be due to the fact that many nurse training programmes include classes on applied social and behavioural sciences, as nurses are often required to deal with behavioural issues and problems regardless of their area of speciality. For example, nursing programmes often have seminars focused on how to talk and provide support to patients. Thus it is unclear whether the greater number of training hours devoted to mental health for nurses reflects specific training on helping people with mental disorders or broader psychosocial training. Doctors receive the most mental health training in South-East Asian countries and the least in the participating countries of Africa, the Americas, and Europe. Nurses receive the highest proportion of training in mental health in the Americas and the lowest proportion in the Western Pacific.

Figure 2.30 Percentage of undergraduate training hours devoted to mental health, by WHO region (Item 3.1.1)
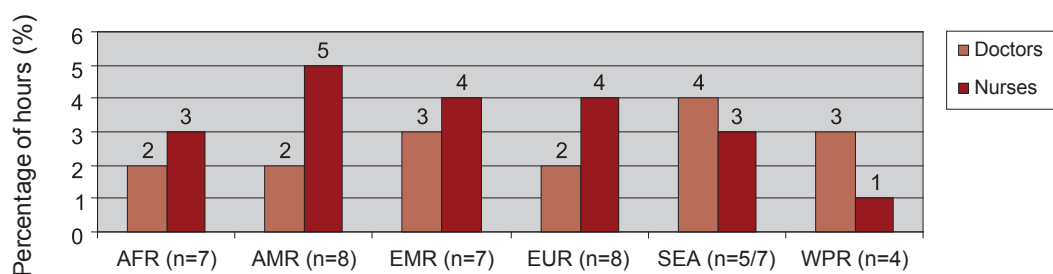
Few doctors and nurses have received recent refresher training. Refresher training is defined as two days – 16 hours – of in-service training provided by facilities, as well as continuing education credits provided by professional organizations on specific topics. Although doctors receive less training in mental health than nurses at the undergraduate level, they receive more refresher training. Refresher training is training that occurs after university (or vocational school) degree training. The median rate of refresher training (i.e. at least two days of training within the past year) for doctors in all the reporting countries was 4% in comparison to 1% for nurses (Figure 2.31). There is a notable variation by income groups: doctors in the middle-income countries appear to receive more refresher training than those in LICs. Median rates of refresher training for nurses are very limited across all income groups, ranging from 0% to 2%.

Figure 2.31 Percentage of medical doctors and nurses that received two days of refresher training in mental health, by country income group (Item 3.1.2)
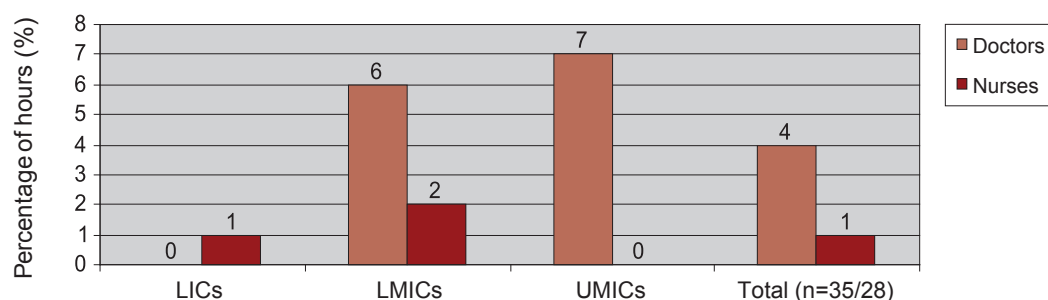
The extent to which refresher training is provided to doctors varies substantially by region (Figure 2.32). The rate is slightly higher for doctors in the countries of Europe and the Americas. There appears to be more training for nurses in the participating countries of South-East Asia and Europe.

Figure 2.32 Percentage of medical doctors and nurses that received two days of refresher training in mental health, by WHO region (Item 3.1.2)
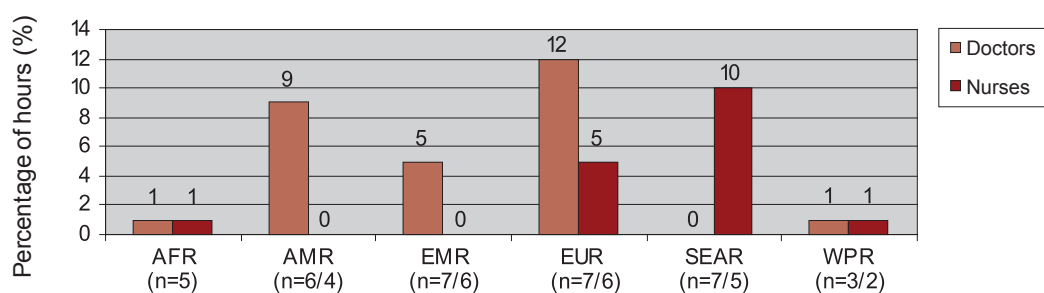
2.7.2 Mental health care staff

Mental health teams should, ideally, include medical and non-medical professionals such as psychiatrists, clinical psychologists, nurses, social workers and occupational therapists.

2.7.3 Number of human resources

The median rate of mental health professionals per 100 000 population that work in mental health facilities is 6.0 (Figure 2.33). This includes mental health staff working in government-administered, and for-profit and private mental health facilities, as well as those run by nongovernmental organizations (NGOs). There appears to be a correlation between income level of the countries and total number of professionals (psychiatrists, other doctors not specialized in mental health, nurses, psychologists, occupational therapists and social workers) working in mental health facilities (Figure 2.33): the participating UMICs have 17 times more professionals per 100 000 population than the LICs.

Figure 2.33 Total number of mental health professionals working in mental health facilities, by country income group (median rate per 100 000 population)
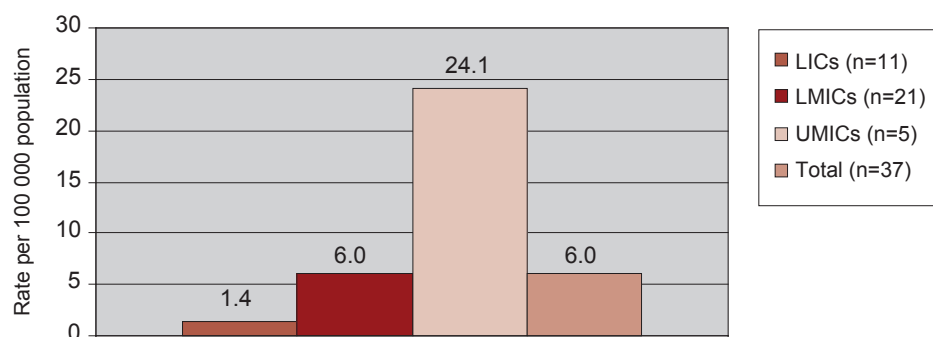
Human resources also vary by region (Figure 2.34). The participating countries from the European region have the highest rate of mental health professionals (11.7 per 100 000 population), while those from the African Region have the lowest rate (1.3 per 100 000 population).

Figure 2.34 Mental health professionals working in mental health facilities, by WHO region (median rate per 100 000 population)
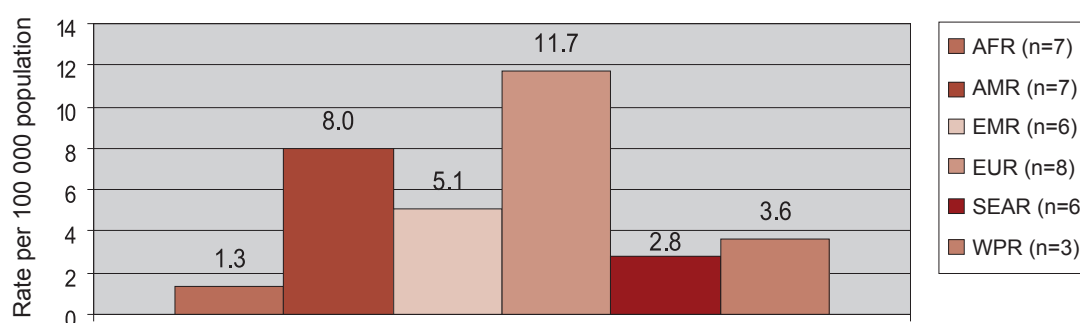
The distribution of the different categories of mental health professionals follows the same trend: it shows a much higher rate of every kind of professional in the middle-income countries compared to the LICs. Median rates for each professional category per 100 000 population in LICs are as follows: 0.1 psychiatrists, 0.0 psychologists, social workers and occupational therapists, and 0.2 other mental health workers. In contrast, the rates in UMICs per 100 000 population are: 4.7 psychiatrists, 3.0 psychologists, 1.4 social workers, 0.1 occupational therapists and 5.8 other mental health workers.

Viewed by region, participating European countries have the highest rates per 100 000 population of psychiatrists (5.0), other medical doctors (1.2), nurses (8.6), social workers (0.3) and other mental health workers (16.4). Regarding psychologists, the highest rates per 100 000 population are found in the Americas and Europe (3.0), followed by the Eastern Mediterranean. Occupational therapists have the highest rates in the countries of Europe, the Americas and the Eastern Mediterranean (0.1 per 100 000 population). Nurses are the backbone of the mental health services in the reporting countries of Africa (0.7 per 100 000 population), the Eastern Mediterranean (2.6 per 100 000 population), South-East Asia (1.5 per 100 000 population) and the Western Pacific (2.6 per 100 000 population).

In addition to the total number of professionals, WHO-AIMS assessed the sectors in which they work: public, private, or a combination of the two. In LICs and LMICs there are more psychiatrists working in the public sector (median: 71% and 30% respectively), compared to the private sector (median: 8% and 17% respectively) (Figure 2.35). However, it should be noted that the number of professionals working in the private sector may be underrepresented, as it is difficult to collect information on staff working in this sector. In UMICs there are more psychiatrists working in both sectors (median: 76%). The majority of other professionals (psychologists, social workers, nurses and occupational therapists) in all countries work only in the public sector.

Figure 2.35 Percentage of psychiatrists working in various mental health sectors, by country income group (Item 4.1.2)
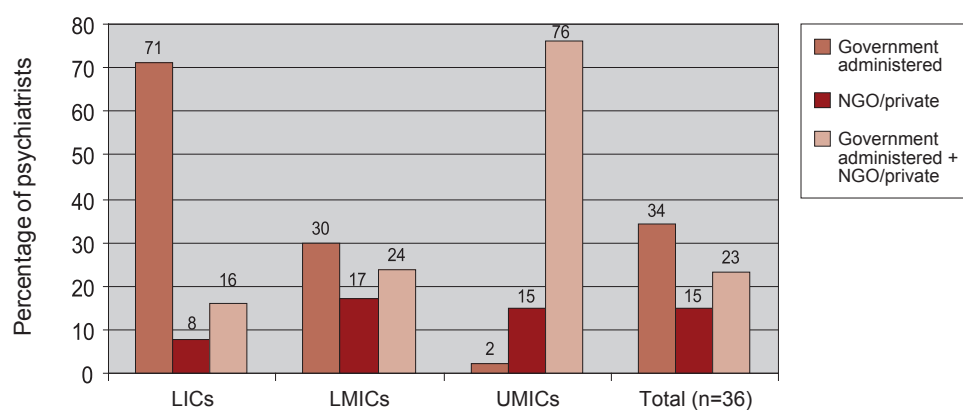
The proportion of all mental health professionals working in or for the private sector compared to the public sector varies consistently across regions (Figure 2.36). The proportion of psychiatrists working both in the private sector and in government administered facilities is higher in the participating countries from the African, the Americas and Eastern Mediterranean Regions (median rates of 33%, 51% and 53% respectively) than that in the European, South-East Asia and Western Pacific Regions. In these latter three regions, mental health professionals work predominately in the public sector (median rates of 90%, 57%, 76% respectively). The majority of other professionals (psychologists, nurses, social workers, occupational therapists) in all regions work only in government administered facilities.

Figure 2.36 Percentage of psychiatrists working in various mental health sectors, by WHO region (Item 4.1.2) (n=36)
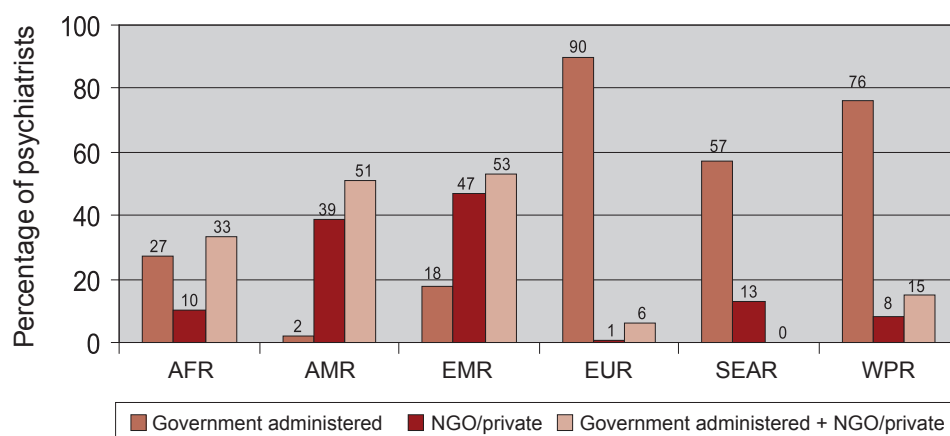
2.7.4 Training of mental health professionals

There appears to be a correlation between income level and the number of mental health professionals (i.e. medical doctors, nurses, psychiatrists and psychologists) graduating each year (Figure 2.37). Data from LICs on the total number of professionals graduating in the mental health sector in the year prior to the reporting period was 4.5 per 100 000 population, compared with 8.5 and 14.5 in LMICs and UMICs respectively. Among the different professional categories, there seems to be a large gap in the training of psychosocial staff in LICs and LMICs. Finally, it should be pointed out that two countries reported having no medical colleges, and consequently offered no psychiatric training.

Figure 2.37 Median number of mental health professionals graduating in the last year in academic and educational institutions per 100 000 population, by country income group (Item 4.2.1)
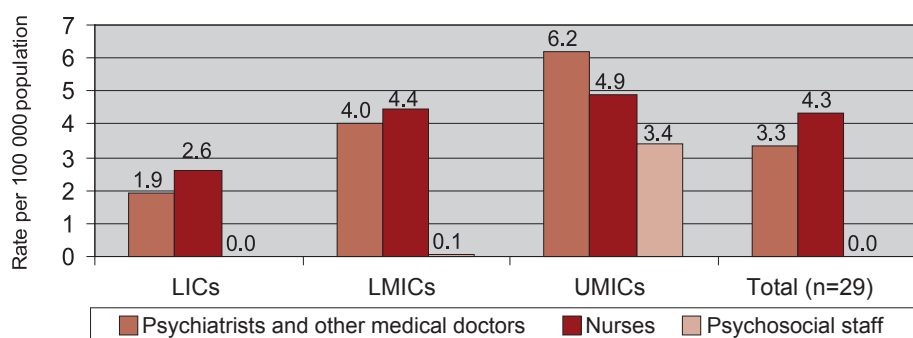
Viewed by region, there appears to be an enormous gap between Europe and the other regions (Figure 2.38). The participating countries in Europe reported the largest number of professionals graduating in the year prior to the reporting period: 42.2 per 100 000 population. In contrast, the lowest rates per 100 000 population were reported by countries in South-East Asia (4.1), the Eastern Mediterranean (5.1) and Africa (4.8). Intermediate rates are in the Americas (12.3) and the Western Pacific (11.7). The rate of graduating doctors is the lowest in the participating

countries of the African Region (0.6 per 100 000 population) and the highest in those of the European Region (8.5 per 100 000 population).

Figure 2.38   Number of mental health professionals graduating in the last year from academic and educational institutions per 100 000 population, by WHO region (Item 4.2.1) (n=29)
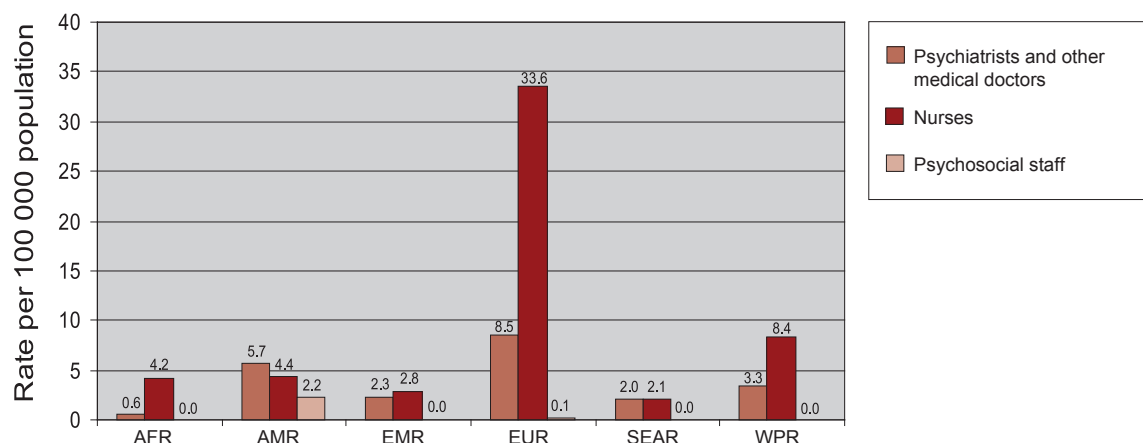
The proportion of mental health staff who received refresher training in the year prior to the reporting period is very low. The median rates of refresher training for mental health professionals range between 0% and 18%. Regarding the different topics, 6% of professionals had refresher training on psychotropic drugs, 7% on psychosocial interventions and 0% on child and adolescent issues (Figure 2.39). By country income groups, mental health professionals in UMICs appeared to receive more refresher training than those in LICs and LMICs.

Figure 2.39   Refresher training for mental health staff, by country income group (median %) (Items 4.2.2, 4.2.3 & 4.2.4)
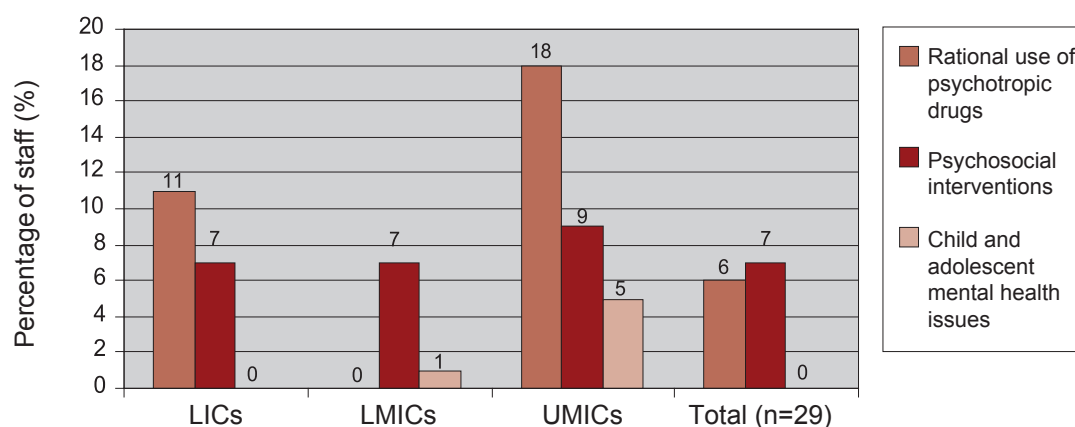
Results by region show considerable variation in the proportion of mental health professionals receiving refresher training (Figure 2.40). Participating African, Eastern Mediterranean and Western Pacific countries seem to provide the most refresher training. The majority of reporting countries in the Americas do not seem to provide any refresher training at all.

**Figure 2.40 Refresher training for mental health staff, by WHO region (median %)
             (Items 4.2.2, 4.2.3 & 4.2.4) (n=29)**
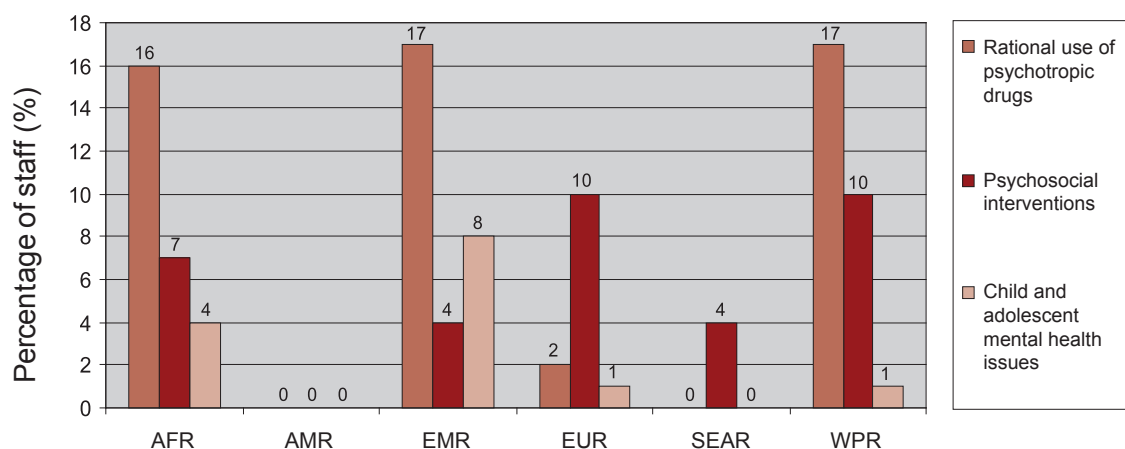
2.8 User/consumer and family associations

Of the 42 reporting countries, 34 reported data on user/consumer and family associations. Of these, 19 (8 LICs, 10 LMICs and 1 UMIC) reported not having user/consumer associations, and 16 (9 LICs, 6 LMICs and 1 UMIC) reported not having any family associations. The presence or absence of user and family associations could not be determined for the remaining 8 countries.

Viewed by region, in the majority of the participating countries from Europe and the Americas, both user and family associations are present (Figure 2.41). User associations exist in Eastern Mediterranean countries, but family associations are less common. In the reporting countries of the Western Pacific there are neither user nor family associations. However, it should be noted that only 1 Western Pacific country responded to the question about the presence of user associations and only 2 countries of the Western Pacific responded to the question concerning family associations.

**Figure 2.41 Percentage of countries with user/consumer and family associations,
             by WHO region**
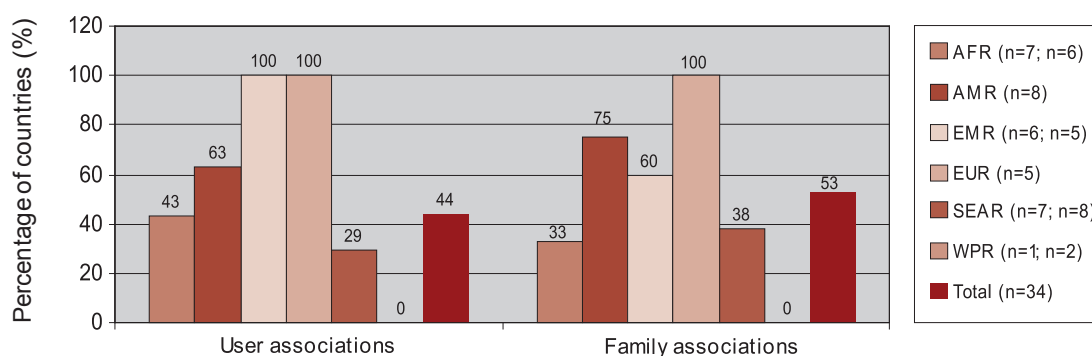
 Not only is there a shortage of family and user associations in most countries, but among those that do exist, few are involved in community and individual assistance activities. Out of 29

reporting countries, 8 have user/consumer associations that provide community and individual assistance, and 9 out of 35 reporting countries have family associations that provide community and individual assistance.

Regarding the presence of NGOs, countries reported a median of 4 NGOs involved in policies, legislation or mental health advocacy, and a median of 5 NGOs involved in community and individual assistance activities. Overall, UMICs have the largest number of NGOs and the participating African countries have the lowest number. Participating South-East Asian countries have the largest number of NGOs involved in community and individual assistance, and European countries have the largest number of NGOs involved in policies, legislation and mental health advocacy.

Chapter 3

DESIRABLE ATTRIBUTES OF
MENTAL HEALTH SYSTEMS

Mental health systems, in addition to the building blocks discussed, should possess certain desirable attributes in order to function well (WHO, 2007a). The WHO Health Systems Framework identifies these attributes as access, coverage, quality and safety. Such attributes are equally relevant for mental health systems. However, as WHO-AIMS is designed to collect data mainly on process and structural indicators (Saxena et al., 2007a), our data do not provide much information on quality and safety (Morris & Saxena, 2008). In addition, there are other attributes that are very important for mental health systems that are not covered in the WHO Health Systems Framework. For example, a well functioning mental health system needs to have strong links or connections with other health and non-health systems, such as the PHC system and the social welfare system. Thus this report addresses the desirable attributes of access and coverage listed in the WHO-AIMS Framework of Health Systems as well as other desirable attributes of the mental health system (presented in Box 3.1).

Box 3.1 Important attributes of a mental health system

ATTRIBUTES
EFFICIENCY
COVERAGE
ACCESS & EQUITY
MENTAL HEALTH
SYSTEM LINKAGES
HUMAN RIGHTS

3.1 Efficiency

In assessing efficiency (i.e. cost-effective use of resources), one of the most important factors to consider is the extent to which services are community-based (WHO, 2006c). A number of WHO-AIMS items and indices based on WHO-AIMS items have been developed to assess the extent to which mental health resources are directed towards community-based mental health facilities or mental hospitals. In this report, in addition to using some standard WHO-AIMS indicators, other WHO-AIMS indicators have been transformed or aggregated to create standardized measures for facilitating comparisons among countries (e.g. the Lund Flisher parameter – the ratio of outpatient contacts to number of days spent in hospital – has been developed to provide an estimate of the extent to which a mental health system is community- or hospital-based).

3.1.1 Distribution of resources between community-based and institutional settings

(a) Financial resources

WHO-AIMS assessed the proportion of mental health finances that are directed towards mental hospitals. By far the largest proportion of such finances are concentrated in institutional settings (Figure 3.1). Mental health expenditures on mental hospitals are greatest in LICs (median=86%), followed by LMICs (median=80%) and then UMICs (median=72%).

Figure 3.1 Percentage of the mental health budget spent on mental hospitals (Item 1.5.2) (n=34)
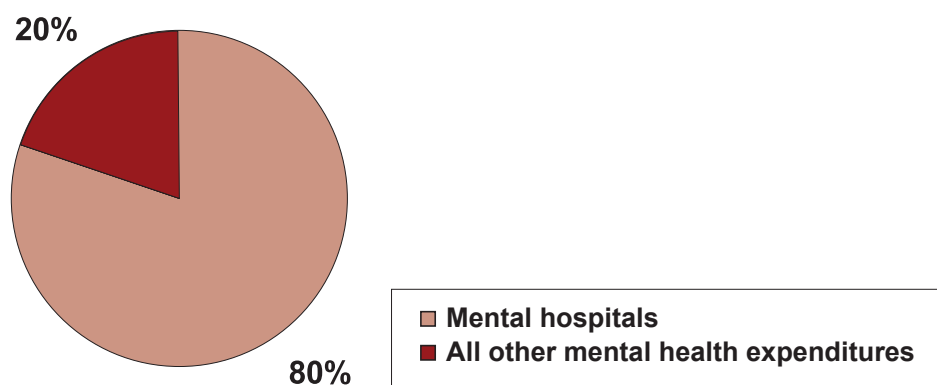
In almost all regions, the majority of mental health expenditures are directed towards mental hospitals. The largest proportions allocated to mental hospitals are in the reporting countries of the African and European Regions, with median rates of 89% and 87% respectively. Intermediate rates are to be found in the participating countries of the Americas (78%), South-East Asia (74%) and the Western-Pacific (64%), and the lowest rate is in the reporting countries of the Eastern Mediterranean (50%).

(b) Mental health services

The distribution of beds between mental hospitals and other facilities is also important. Of the total number of all beds in the mental health system, the proportion located in mental hospitals is extremely high: on average about 8 beds in 10 (Figure 3.2). However, there are large differences by country income group: in LICs 67% of beds are located in mental hospitals, while the corresponding proportions in LMICs and UMICs are 90% and 40% respectively.

Out of all the users in all mental health facilities, only 7% are treated in mental hospitals (Figure 3.2). Again, by income group, LMICs treat a larger proportion of users in mental hospitals than do LICs and UMICs. Taking the information on beds and patients together, results indicate that while the vast majority of beds are located in mental hospitals, these beds account for care provided to only a small proportion of total users of all mental health facilities.

Figure 3.2 Percentage of beds in mental hospitals to total beds and percentage of users treated in mental hospitals to total users treated, by country income group
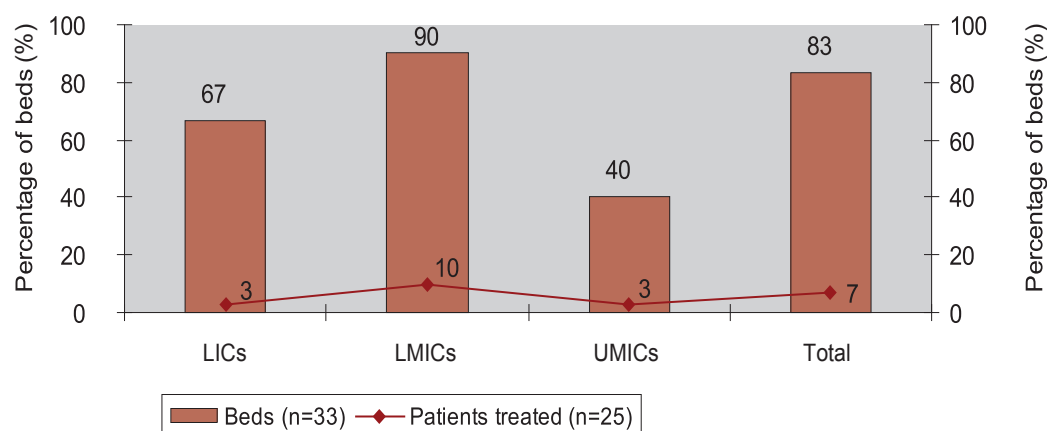
By WHO region, about 9 beds in 10 are located in mental hospitals in participating countries in the Americas (86%) and Europe (98%), 8 in 10 in South-East Asia (83%), and about two thirds in the Western Pacific (62%), Africa (66%) and the Eastern Mediterranean (66%). The percentage of patients admitted to mental hospitals out of all users treated in all mental health facilities is highest in reporting countries of the Western Pacific (13%) followed by Europe and the Eastern Mediterranean (8%), the Americas (6%), Africa (4%) and South-East Asia (2%).

Figure 3.3 shows two key indicators for mental health system evaluation: (a) the total rate of beds per 100 000 population in mental hospitals, community-based inpatient units and community residential facilities; and (b) the rate of outpatient and day treatment facilities per 100 000 population. The median rates for all the participating countries are 8.2 beds per 100 000 and 0.4 outpatient and day treatment facilities per 100 000. There are wide variations by income group: the total rate of beds in LICs is about one third of that in LMICs and one tenth of that in UMICs; and for outpatient and day treatment facilities, the rate in LICs is one fifth of that in LMICs and one twentieth of that in UMICs (Figure 3.3). The ratio between the rate of beds in mental health services and the rate of outpatient and day treatment facilities can be seen as a rough indicator of the balance between inpatient and outpatient facilities at the system level. The study reveals that the number of beds for every outpatient and day treatment facility is: 23 beds in LICs, 23 in LMICs and 21 in UMICs.

Figure 3.3 Ratios of beds and outpatient and day treatment facilities per 100 000 population, by country income group (median)
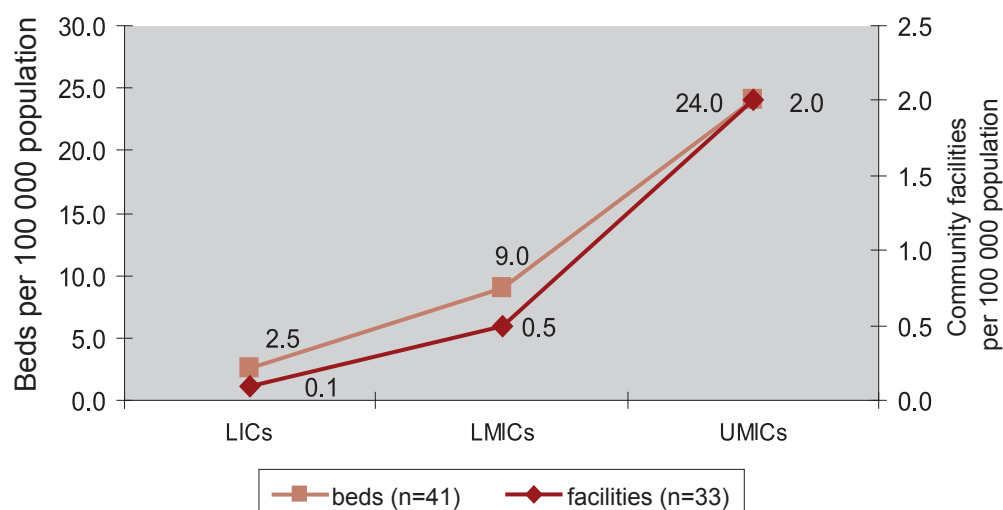
The rate of beds per 100 000 population is highest in the reporting European countries (30.8), intermediate in the Western Pacific (9.3), Eastern Mediterranean (7.6) and the Americas (6.3) and lowest in South-East Asia (1.9) and Africa (3.2). The rate of community facilities (outpatient and day treatment facilities) per 100 000 population is highest in the reporting European countries (1.2), intermediate in those of the Western Pacific (0.4) and the Americas (0.7) and lowest in the Eastern Mediterranean (0.2), South-East Asia (0.3) and Africa (0.1). The ratio of beds to community facilities is highest in the reporting countries of the Western Pacific (67 beds per community facility), Europe (52 beds) and the Eastern Mediterranean (44 beds), intermediate in Africa (32 beds), and lowest in the Americas (9 beds) and South-East Asia (8 beds).

Another indicator that assesses the extent of community care is the ratio between (a) outpatient plus day care contacts, and (b) days spent in all inpatient facilities (mental hospitals, residential facilities and general hospital units) (Lund & Flisher, 2003). Results for the total sample suggest that inpatient care is still more common than outpatient care, as there is less than one community contact (0.7) per day spent in inpatient facilities. This ratio is influenced by income level (Figure 3.4): the ratio is higher in UMICs, where there are 1.1 community contacts per day spent in inpatient facilities, than in LMICs (0.6 community contacts per inpatient day) and LICs (0.7 community contacts per inpatient day).

Figure 3.4 Lund and Flisher indicator, by country income group
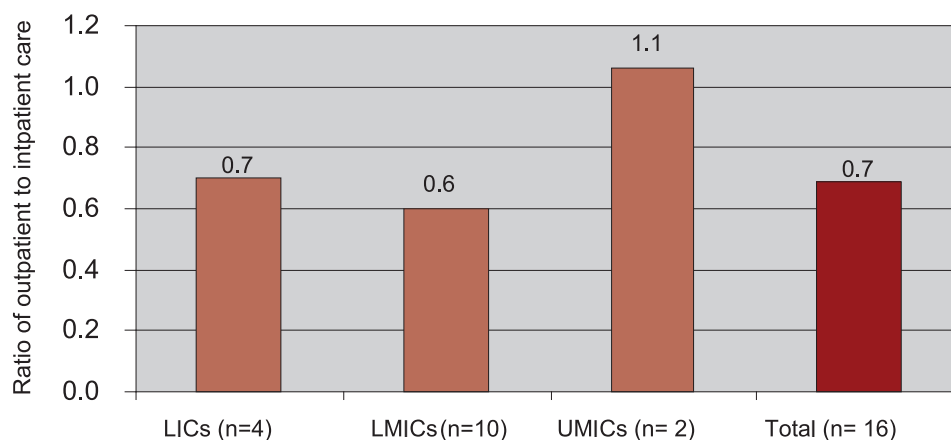
The results by region show that inpatient care is the predominant form of care in most of the regions. Among the reporting countries grouped by region, the ratio of contacts per inpatient day is the lowest in South-East Asia (0.2) and the highest in the Americas (1.1).

Figure 3.5 Lund and Flisher indicator, by WHO region
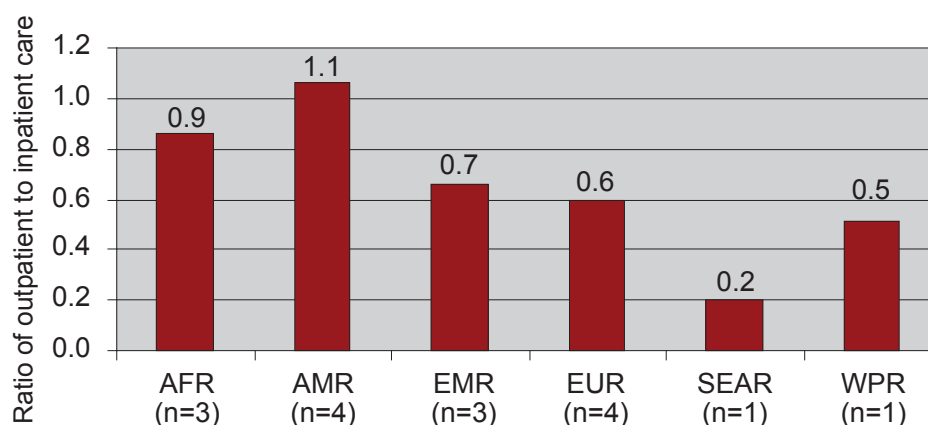
(c) Human resources

In addition to service resources, it is important to consider the extent to which human resources are concentrated in community-based facilities versus institutional settings. Taking all the reporting countries together, 37% of human resources are concentrated in mental hospitals. This means that in a typical participating country, over one third of all available mental health staff are concentrated in mental hospitals, leaving the other two thirds to staff all the remaining facilities (outpatient and community-based inpatient units) (Figure 3.6). There are large variations by income group of reporting countries: human resources are more concentrated in mental hospitals in participating LMICs (58%) compared with LICs (29%) and UMICs (24%).

Figure 3.6 Percentage of human resources working in mental hospitals compared to those working in outpatient facilities and community-based inpatient units, by country income group
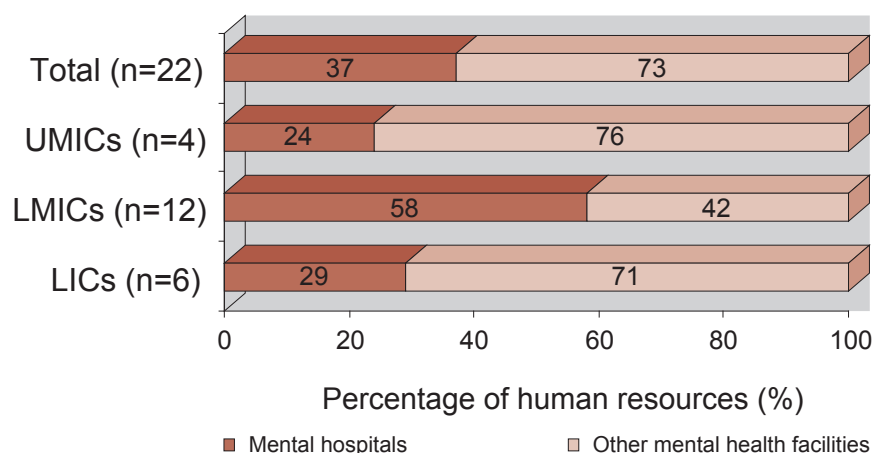
The proportion of human resources working in mental hospitals seems to vary by region (Figure 3.7): the highest concentration appears to be in the reporting countries of the Eastern Mediterranean (52%) and the European (55%) Regions, while the lowest concentration is in the reporting countries of South-East Asia (18%). However, data for this composite indicator were available for only 22 of the 42 countries.

Figure 3.7 Percentage of human resources working in mental hospitals compared to those working in outpatient facilities and community-based inpatient units, by WHO region
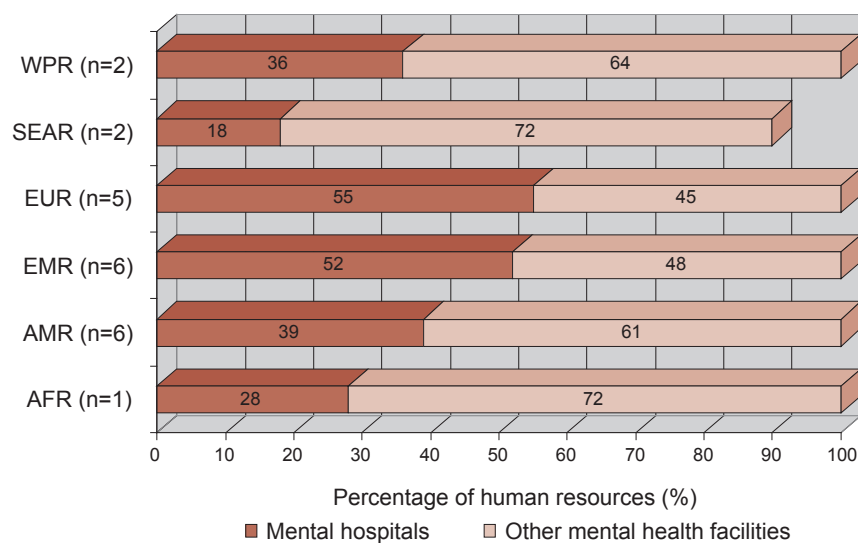
3.2 Coverage

Treated prevalence (i.e. coverage) pertains to the total number of people with mental disorders served within the mental health system.

3.2.1 Treated prevalence in mental health services

The sum of the patients served by the different types of mental health facilities (outpatient facilities, day treatment facilities, community-based psychiatric inpatient units, community residential facilities and mental hospitals) may be considered a proxy for the treated prevalence in mental health services. However some bias is present, and these figures are probably overestimates, because some patients may have been treated in more than one setting (e.g. a patient may be treated in both a community-based inpatient unit and an outpatient clinic within the same year) and therefore they may have been counted more than once. In any case, the treated prevalence rate – which across the reporting countries is less than 1% – is low compared to the worldwide median rates for severe mental disorder (2–3%), and mild and moderate mental disorder (10%) (WHO World Mental Health Survey Consortium, 2004). There is a clear relationship between treated prevalence rate and country income level: the rate for UMICs is five times higher than that for LICs (Figure. 3.8).

Figure 3.8 Treated prevalence rate, by country income group (median rate per 100 000 population)
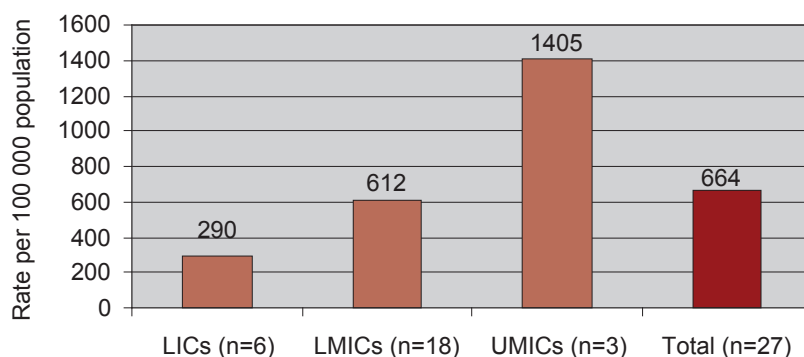
Some differences in treated prevalence rates are observed by region: the rates are lower in the reporting countries of Africa (101 per 100 000) and South-East Asia (60)[9], intermediate in the countries of the Eastern Mediterranean (434), the Americas (670) and the Western Pacific (507), and higher in those of Europe (1801).

The treated prevalence rate for children and adolescents is even lower. For all participating countries, the median rate of children treated per 100 000 child/adolescent population is 159. However, a clear trend by income can be observed: in LICs, the rate is 43 per 100 000, in LMICs it is 205 and in UMICs it is 1432. Viewed by region, the lowest rate is found among the participating African countries (26 treated per 100 000 population), and the highest rates are for the participating countries of Europe (392 per 100 000 population) and the Americas (387 per 100 000 child population). Values for the other regions range from 116 to 183.

3.2.2 Treated prevalence rate and coverage of schizophrenic disorders

The median rate of patients with schizophrenia treated in mental health services in LICs is approximately half the rate found in lower- and upper-middle-income countries (Figure 3.9).

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[9] Results for South-East Asia are based on n=2.

Figure 3.9 Treated prevalence rate of schizophrenic disorders, by country income group (median rate per 100 000 population)
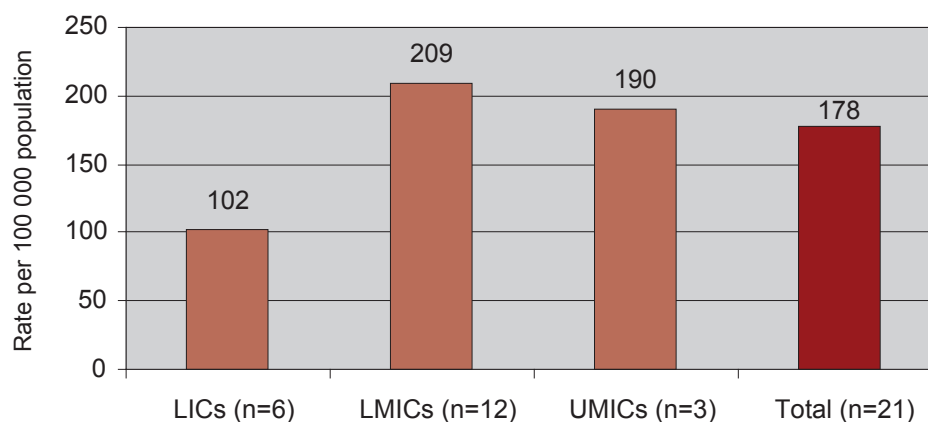
Concerning patterns of care (i.e. the types of facilities where patients with schizophrenia are most frequently treated), in the total sample, a median of 79% of patients with schizophrenic disorders are treated in outpatient facilities, without major differences by income level. However there are some variations by country income level with regard to inpatient care (community-based inpatient units and mental hospitals): 17% in LICs, 14% in LMICs and 23% in UMICs (Figure 3.10).

Figure 3.10 Percentage of people with schizophrenic disorders treated in each facility as a proportion of all schizophrenic disorders treated, by country income group (median %)
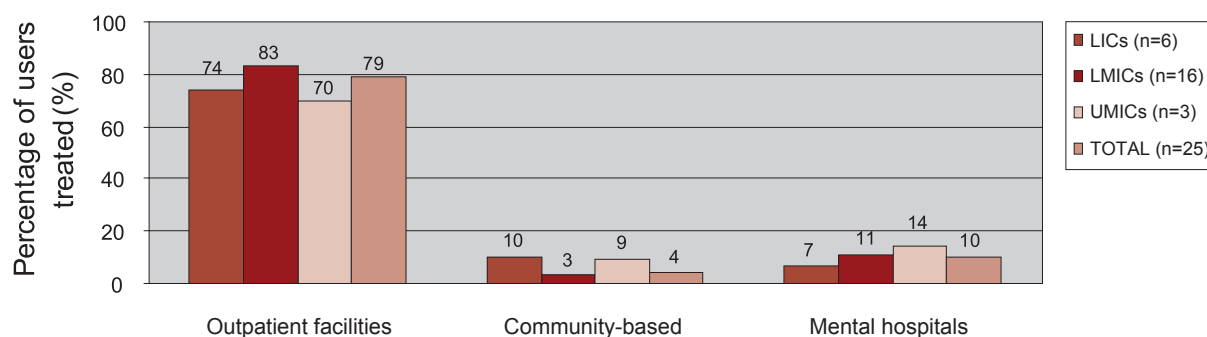
Although most of the reporting countries treat the majority of patients with schizophrenia in outpatient facilities, some differences can be observed by region (Figure 3.11). In the participating countries from the African, South-East Asia and Western Pacific Regions, more than 80% of patients with schizophrenia are treated in outpatient facilities. In the European countries more than a quarter of patients are treated in mental hospitals.

Figure 3.11   Percentage of people with schizophrenic disorders treated in each facility as a proportion of all schizophrenic disorders treated, by WHO region (median %).
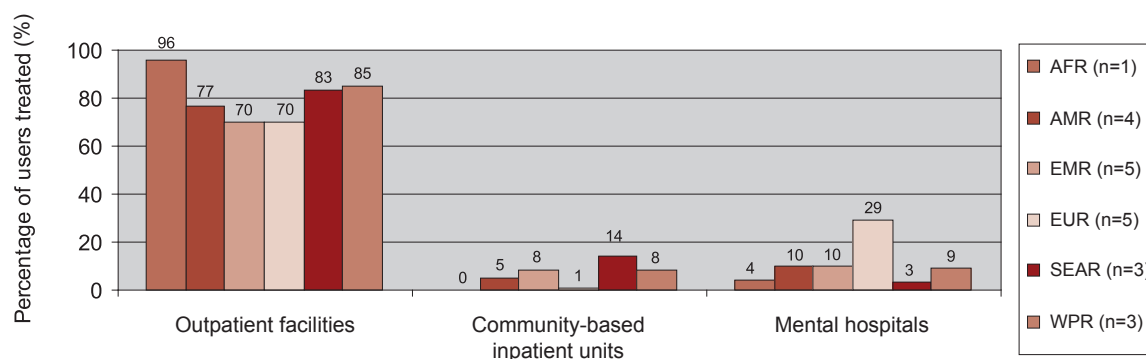
The median rates (per 100 000 population) of outpatients diagnosed with schizophrenia in UMICs is approximately five times that in LICs, while the median rates of patients diagnosed with schizophrenia who are treated in community-based psychiatric units are four times higher in UMICs than in LICs. Consistent with the higher number of beds in LMICs (noted earlier), this income group also has the highest rate of patients with schizophrenia who are admitted into mental hospitals: the rate is about four times higher than in LICs and almost twice as high as in UMICs (Figure 3.12).

Figure 3.12   People with schizophrenic disorders treated in mental health facilities, by country income group (median rates per 100 000 population)

A variable was created to assess the treatment gap for schizophrenia in the participating countries. The treatment prevalence rate for schizophrenia across all mental health facilities was calculated and compared with subregional prevalence estimates for schizophrenia based on the Global burden of disease 2002 (WHO, 2004). Subregional estimates for schizophrenia range from a low of 0.47% of the population in Africa subregion D to a high of 0.68% of the population in European subregion B. For further information on how these estimates were made, please refer to the Global burden of disease 2002 (WHO, 2004). The subregional estimates of the percentage of people with schizophrenia were transformed into a rate per 100 000 by multiplying the global burden of disease prevalence figure by the population of the country and then dividing by 100 000. This figure was compared with the treated prevalence rate for schizophrenia (Figure 3.9) obtained by this WHO-AIMS study.

For all participating countries, the median value for this indicator is 0.30, suggesting that approximately only 30% of people with schizophrenia are receiving treatment. This is a conservative estimate, as patients may have been counted more than once if they were treated in more than one mental health facility (e.g. a mental hospital as well as a community residential facility). Treatment coverage for schizophrenia was particularly poor among the participating LICs (18%) compared to LMICs (34%) and UMICs (30%).

There is substantial variation in median treatment coverage rates across regions, ranging from lower rates in South-East Asia (8% coverage), the Americas (16%) and the Eastern Mediterranean (16%), to higher rates in Africa (38%), the Western Pacific (28%) and Europe (50%). However, it should be noted that the coverage rate in Africa is based on data from only one reporting country.

3.2.3 Treated prevalence rate and coverage of mood disorders

With regard to mood disorders, the median rate of patients treated in mental health services in LICs is approximately one fifth the rate found in UMICs (Figure 3.13).

Figure 3.13   Treated prevalence rate of mood disorders, by country income group (median rate per 100 000 population)
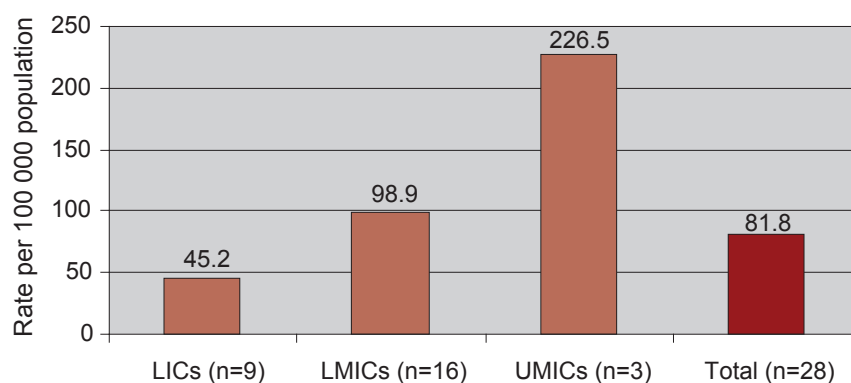
More than 9 out of 10 patients with mood disorders receive treatment in outpatient facilities, but the rate is slightly lower in UMICs: 8 out of 10 patients. Concerning inpatient care, overall, about 1 in 20 patients receive inpatient care both in community-based inpatient units and in mental hospitals. This figure increases to 1 in 10 in UMICs (Figure 3.14).

Figure 3.14   Percentage of people with mood disorders treated in each facility as a proportion of all mood disorders treated, by country income group (median %)
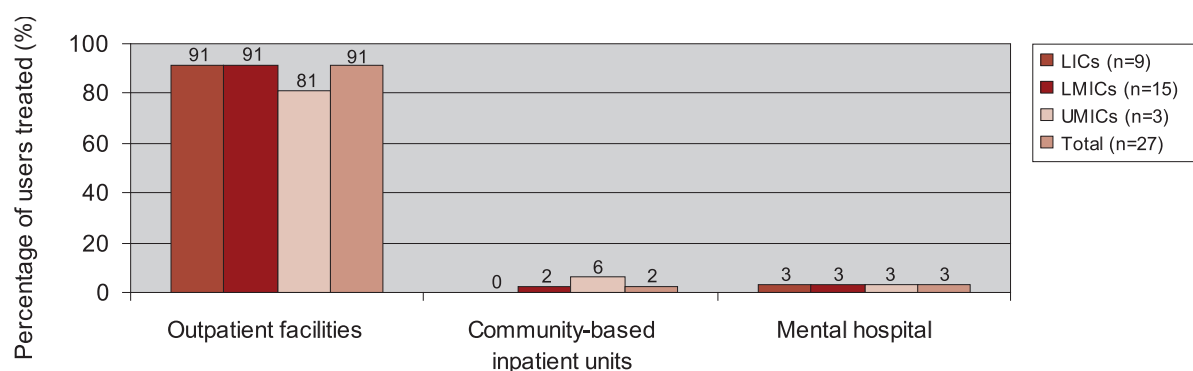
Although most countries treat the majority of patients with mood disorders in outpatient facilities, some differences are observed by region (Figure 3.15). In the participating countries of the Eastern Mediterranean Region, 95% of patients with mood disorders are treated in outpatient facilities. In the reporting countries of the African and Western Pacific Regions, approximately 2 out of 10 patients with mood disorders are treated in mental hospitals.

Figure 3.15 Percentage of people with mood disorders treated in each facility as a proportion of all mood disorders treated by WHO region (median %)
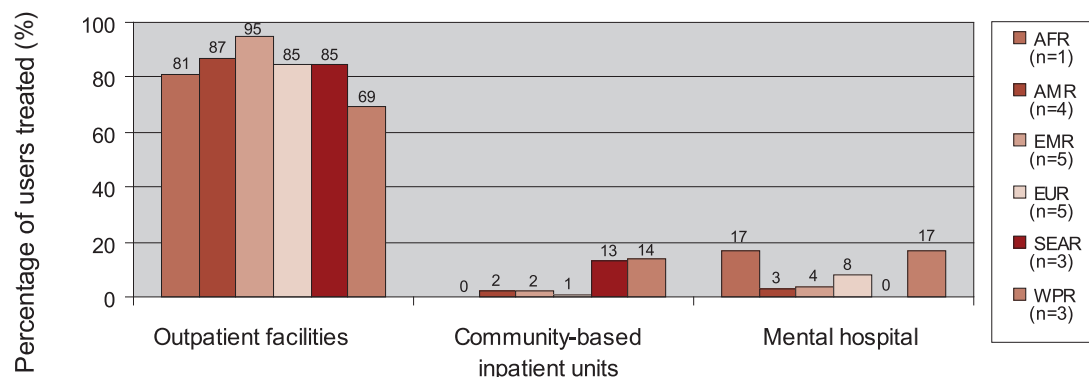
The median rate (per 100 000 population) of outpatients treated for mood disorders in mental health outpatient facilities in UMICs is about seven times higher than that in LICs and double that in LMICs (Figure 3.16).

Figure 3.16 People with mood disorders treated in mental health facilities, by country income group (median rates per 100 000 population)
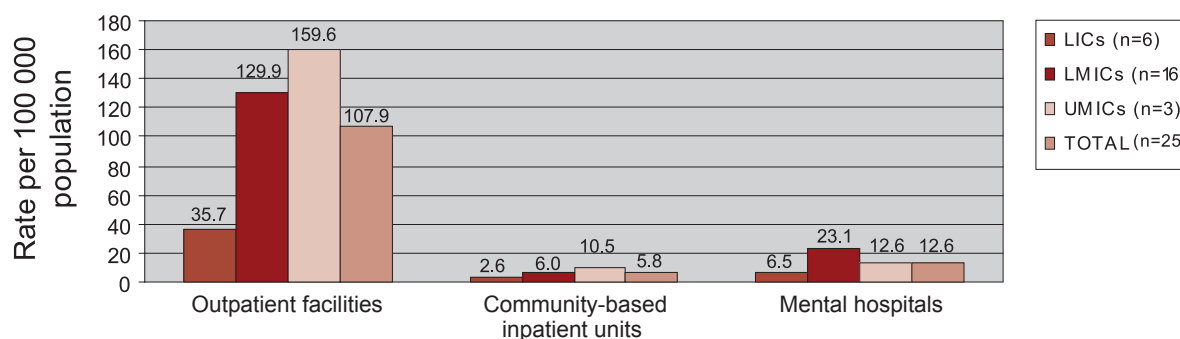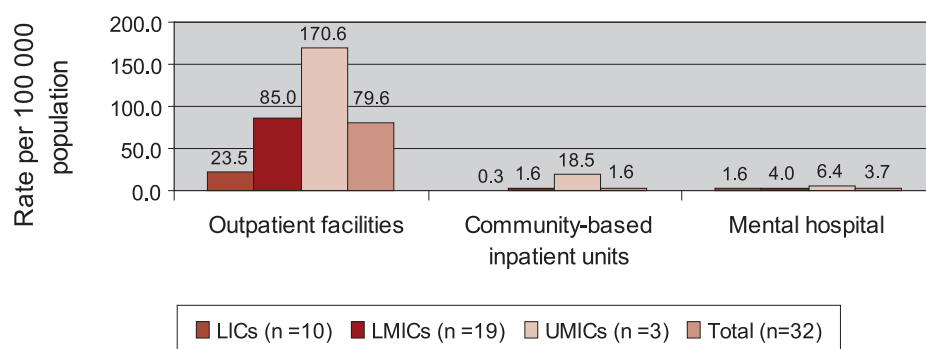

The treated prevalence rate for mood disorders across all mental health facilities was calculated and compared with subregional treated prevalence rate estimates for mood disorders based on the Global burden of disease 2002 (WHO, 2004). The subregional estimates ranged from 3.79% of the population in South-East Asia subregion B to 4.56% of the population in the Americas subregion B. Estimates for unipolar and bipolar depressions were summed to form a total estimated prevalence for mood disorders. For further information on how these estimates were made, please refer to the Global burden of disease 2002 (WHO, 2004). The subregional estimates of the percentage of people with mood disorders were transformed into a rate per 100 000 by multiplying the global burden of disease prevalence figure by the population of the country and then dividing the result by 100 000. This figure was compared with the treated prevalence rate for mood disorders obtained in this WHO-AIMS study (as shown in Figure 3.13).

The median value of this indicator for all participating countries is 0.02, suggesting that approximately only 2% of people with mood disorders are receiving treatment in the mental health system. There are a few possible explanations for the particularly low coverage rate found: (i) many countries reported that mood disorders tend to be under-diagnosed in their countries; (ii) users with mild and moderate forms of mood disorders may receive treatment in the PHC system which is not covered by this item; and (iii) not all people with mild forms of mood disorders necessarily require treatment (NICE, 2004). Treatment coverage is low in all the income groups of reporting countries: LICs (0.01), LMICs (0.02), and UMICs (0.05).

There is no substantial variation in median treatment coverage rates across regions. The figures are relatively low for the reporting countries in Africa (0.01 coverage), the Western Pacific (0.01), South-East Asia (0.02) and the Eastern Mediterranean (0.02), while the figures are relatively higher in the Americas (0.04) and Europe (0.04).

3.3 Access and equity

Certain groups within a country typically have greater access to mental health services than other groups. Groups with less access are usually rural populations, minority groups and the poor.

Psychiatric beds are generally concentrated in or near the largest city, which limits access to mental health services by rural users. The density of beds per 100 000 population in the largest city was compared with the density of beds per 100 000 population for the entire country. The median value for this indicator for all participating countries is 2.9. This suggests that in most countries the density of beds in the largest city is almost three times greater than the density of beds in the entire country (Figure 3.17). LICs have an even less equitable distribution of beds (with a bed density 6.4 times greater in the largest city) than LMICs (2.9 times greater) and UMICs (1.3 times greater). Such inequitable distributions imply lower access to treatment for those who live outside the main cities.

Figure 3.17   Ratio of psychiatric beds located in or near the largest city to beds in the entire country, by country income group (median) (Item 2.11.1)
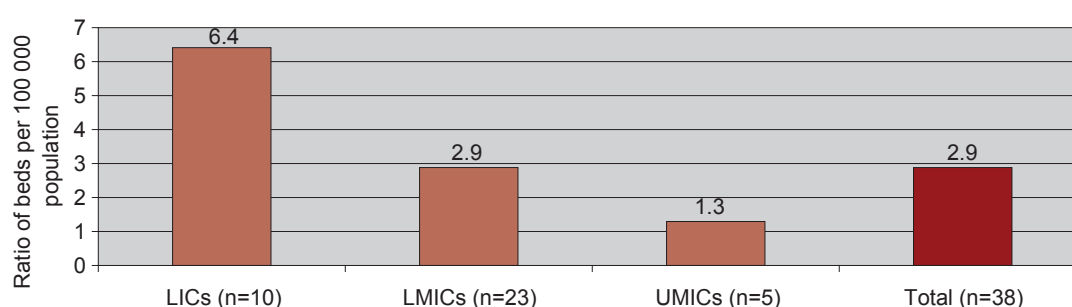
Viewed by region, the gap between the main city and the rest of the country is very high in the participating countries of South-East Asia (5.6), Africa (4.4) and the Eastern Mediterranean (4.4), it is moderate in the reporting countries of the Americas (2.6), and more equitable in those of the Western Pacific (1.9) and Europe (1.5).

Across countries, the rate of psychiatrists and nurses working in the largest city is more than double that of psychiatrists and nurses working in the entire country. This value was calculated by comparing the rate of staff per 100 000 population in the largest city to the rate for the entire country. There appears to be a negative relationship between the income level of a country and the concentration of psychiatrists and nurses in urban areas (Figure 3.18), with even higher concentrations of psychiatrists and nurses in the large cities in the lower-income countries.

Figure 3.18 Ratio of psychiatrists and nurses working in or near the largest city to those working in the entire country, by country income group (Items 4.1.7 & 4.1.8)
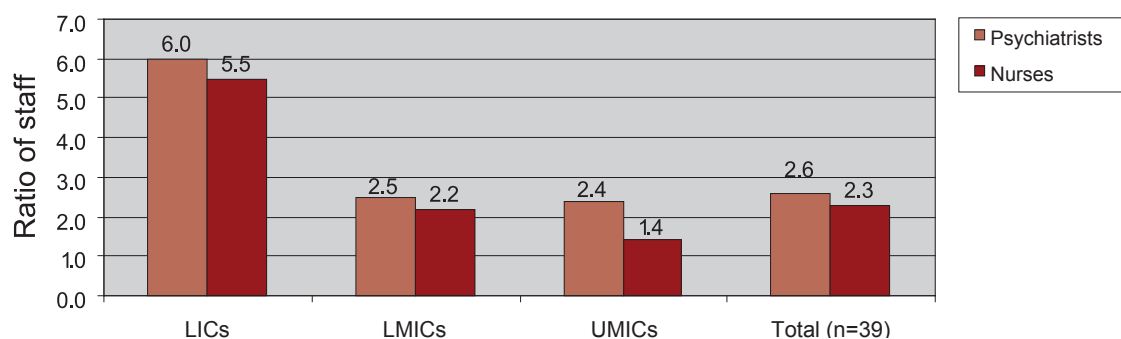
By region, professionals are particularly concentrated in urban areas in the participating countries of the African and South-East Asia Regions (Figure 3.19).

Figure 3.19 Ratio of psychiatrists and nurses working in or near the largest city to those working in the entire country, by WHO region (Items 4.1.7 & 4.1.8) (n=39)
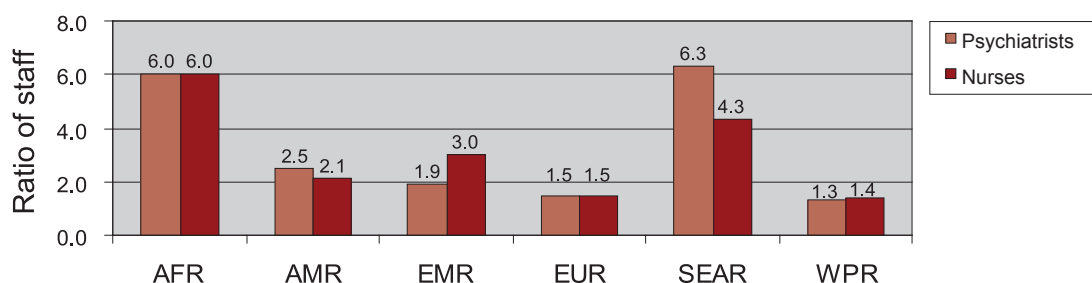
3.3.1 Affordability of mental health care

Another factor influencing the extent to which mental health care is accessible is the affordability of care. If mental health care is unaffordable to a proportion of the population, the result is inequitable access to mental health care for those users. One source of funding that facilitates access to care is social insurance schemes. A social insurance scheme is a source of funding in which those earning above a certain level of income are required to transfer a fixed percentage of their income to a government- administered health fund. In return, the government pays for a part or all of mental health care. Coverage of mental disorders within social insurance schemes varies considerably by income level (Table 3.1). In most LICs there is no social insurance scheme available in the country, or mental disorders are not covered by the scheme. Thus, it is likely that a higher percentage of costs for mental health care in LICs is paid by the users. In contrast most of the reporting UMICs have a social insurance scheme, and it covers all mental

disorders as well as all mental health problems of clinical concern. The one exception is one UMIC which reported having no social insurance scheme. The overall result is a paradox: where there is more poverty, people are more likely to pay for mental health care out of their own pockets.

Table 3.1 Percentage of reporting countries providing social insurance coverage for mental disorders, by country income group (Item 1.5.3)

Income group	Number of reporting countries	No social insurance scheme	No mental disorders are covered by social insurance scheme	Only (some) severe mental disorders are covered by social insurance schemes	All severe and some mild mental disorders are covered	All mental disorders are covered	All mental disorders and all mental health problems of clinical concern are covered
LICs	13	31	31	8	8	0	23
LMICs	24	17	21	25	13	8	17
UMICs	5	20	0	0	0	0	80
Total	42	21	21	17	10	5	26

The results by region show that all participating countries in the Western Pacific have social insurance schemes, while 57% of African countries and 25% of South-East Asian countries do not. Rates of coverage for all mental disorders (total of last three columns of Table 3.2) are lowest in the participating countries of Africa, South-East Asia and the Western Pacific, and highest in the countries of the Americas and the Eastern Mediterranean.

Table 3.2 Percentage of reporting countries providing social insurance coverage for mental disorders, by WHO region (Item 1.5.3)

WHO regions	Number of reporting countries	No social insurance scheme	No mental disorders are covered by social insurance scheme	Only (some) severe mental disorders are covered by social insurance schemes	All severe and some mild mental disorders are covered	All mental disorders are covered	All mental disorders and all mental health problems of clinical concern are covered
AFR	7	57	14	0	0	0	29
AMR	8	13	13	13	0	0	63
EMR	7	14	14	14	14	14	29
EUR	8	13	25	25	13	0	25
SEAR	8	25	50	0	13	13	0
WPR	4	0	0	75	25	0	0
Total	42	21	17	10	5	26	21

In addition to the existence of social insurance schemes, the extent to which the population has free access (at least 80% of the cost covered) to essential psychotropic medications was assessed. A greater proportion of people have free access to essential psychotropic medicines in LMICs (median=80%) than in LICs (median=50%) or in UMICs (median=61%). There is considerable regional variation: from relatively low in the participating countries of the Western Pacific (median=25%) to relatively high in those of South-East Asia (median=100%). The median for the total sample is 61% (Figure 3.20). It should be noted that many countries had particular difficulty providing precise figures for this item, leading a number of them to base their data on a "best estimate". These findings should therefore be interpreted with extra caution.

Figure 3.20 Percentage of the population with free access to essential psychotropic medicines, by WHO region (Item 1.5.4)
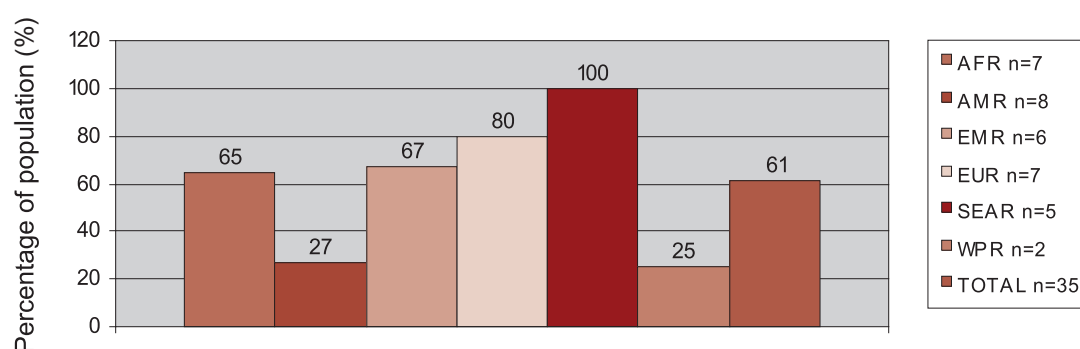
 a Note: At least 80% of costs covered.

Affordability of medications was also assessed (Items 1.55 & 1.5.6). The nine countries whose entire population has access to free psychotropic medicines were not asked to provide information on these items.[10] Affordability of medicines was measured by asking for the proportion of the daily minimum wage needed to pay for one day of medication, without any reimbursement, using the cheapest available medicines. Both antipsychotic and antidepressant medicines are more expensive in LICs (where the median for antipsychotic medicines is 9% of the minimum daily wage and for antidepressants it is 7%), than in UMICs (where the median for antipsychotic and antidepressants is 2%) (Figure 3.21).

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[10] This is due to the structure of the instrument. This may be changed in a future revision of the instrument, so that all countries may be asked to provide data on affordability of psychotropic medicines.

Figure 3.21   Percentage of the daily minimum wage needed to purchase antipsychotic and antidepressant medication, by country income group (Items 1.5.5 & 1.5.6)
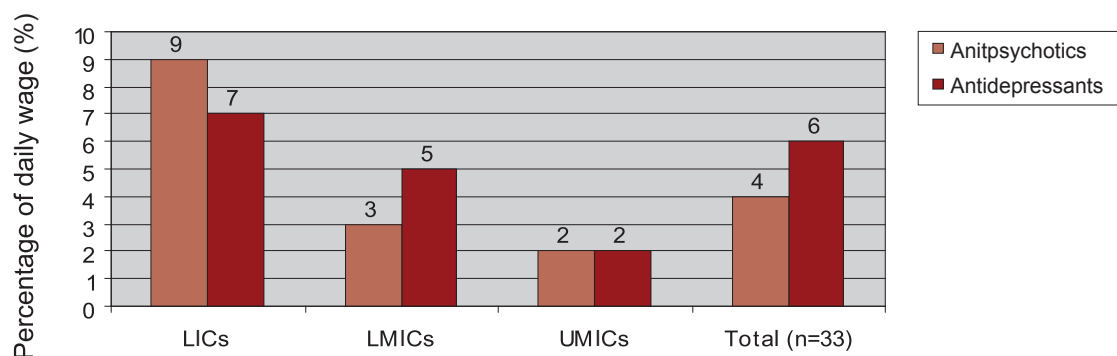
The cost of psychotropic medicines varies substantially by region (Figure 3.22). Antipsychotic medication is the most expensive in the participating countries in Africa (median of 12% of the daily minimum wage), and antidepressant medication is the most expensive in the participating countries of the Western Pacific (median of 9% of the minimum daily wage). Psychotropic medicines are the least expensive in South-East Asia and Europe.

Figure 3.22   Percentage of the daily minimum wage needed to purchase antipsychotic and antidepressant medication, by WHO region (n=33) (Items 1.5.5 & 1.5.6)
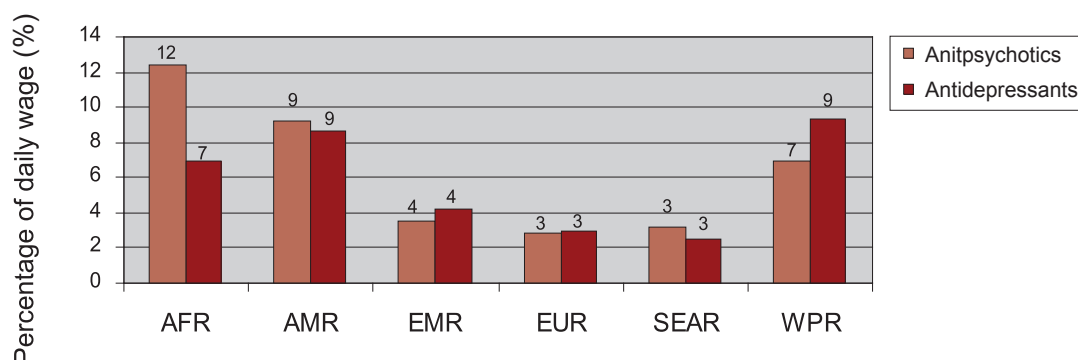
3.4 Mental health system linkages

Collaborative links with other relevant health and non-health sectors are important for preventing and treating mental disorders. In the WHO-AIMS study, countries were asked to report on whether they have a formal collaborative programme with various health and non-health agencies/departments. A formal link is defined as involving: (a) a written agreement of collaboration, and/or (b) a joint activity or publication. The results show that LICs have fewer collaborative links between the central government's department of mental health and other departments than the middle-income countries (Table 3.3).

Table 3.3   Percentage of countries with formal collaborative programmes between mental health and other health and non-health agencies, by country income group (Item 5.2.5)

	HIV (n=42)	Reproductive health (n=42)	Child health (n=41)	Substance abuse (n=42)	Child protection (n=41)	Elderly care (n=41)
LICs	39	31	46	54	46	31
LMICs	71	67	70	88	65	65
UMICs	40	60	80	80	60	60

There is considerable variation by region: reporting countries in the Western Pacific and the Americas seem to have the greatest links with other departments relative to countries in other regions (Table 3.4).

Table 3.4 Percentage of countries with formal collaborative programmes with other health and non-health agencies, by WHO region (Item 5.2.5)

	HIV (n=42)	Reproductive health (n=42)	Child health (n=41)	Substance abuse (n=42)	Child protection (n=41)	Elderly care (n=41)
AFR	57	43	43	43	57	43
AMR	63	63	88	100	75	63
EMR	43	57	57	71	57	43
EUR	75	50	43	75	43	71
SEAR	38	50	63	75	38	25
WPR	75	75	100	100	100	75

3.4.1 Links with the education sector

Links between the department of mental health and the department of education are found in more reporting countries in UMICs (60%) and LMICs (74%) than in LICs (54%). From a regional perspective, all Western Pacific countries' mental health departments have a collaborative link with the department of education and 50% or more countries in the other regions have such a link, compared with only 43% of the reporting African countries.

The extent of collaboration between the mental health and education sectors was also assessed through an item measuring the proportion of schools that have a part-time or full-time mental health professional on the staff. The presence of such staff in schools appears to be correlated with income level, as a higher proportion of schools in UMICs have mental health professionals. The median rate is 0% for LICs, 8% for LMICs and 16% for UMICs. Many LICs commented that mental health professionals are only available in international or private schools.

By region, participating countries in Europe are more likely to have mental health professionals working in schools than countries in any other region. The median proportion for Europe is 70%, compared with 0% for the reporting African, South-East Asian and the Western Pacific countries. Participating countries in both the Americas and the Eastern Mediterranean Regions had a median rate of 7%.

The extent to which promotion and prevention activities are provided in schools was also assessed. These include all organized activities aimed at promoting mental health and/or

preventing the occurrence as well as the progression of mental disorders. Examples of such activities include social skills, emotional communication, stress management and coping skills. Schools in LICs are less likely to have promotion and prevention activities. Four LICs (36%) reported that they had no such activities in schools and in seven countries (64%) promotion and prevention activities were organized in only a few schools (1–20% of schools). No countries in any of the regions reported having promotion or prevention activities in all or almost all schools (i.e. in over 80% of schools) (Figure 3.23).

Figure 3.23 Percentage of countries offering promotion and prevention activities in schools, by country income group (Item 5.3.3)

	LICs (n=11)	LMICs (n=22)	UMICs (n=5)	TOTAL (n=38)
■ All or almost all (81–100%)	0%	0%	0%	0%
□ Majority (51–80%)	0%	18%	0%	11%
▩ Some (21–50%)	0%	14%	20%	11%
■ A few (1–20%)	64%	59%	80%	63%
▩ None (0%)	36%	9%	0%	16%
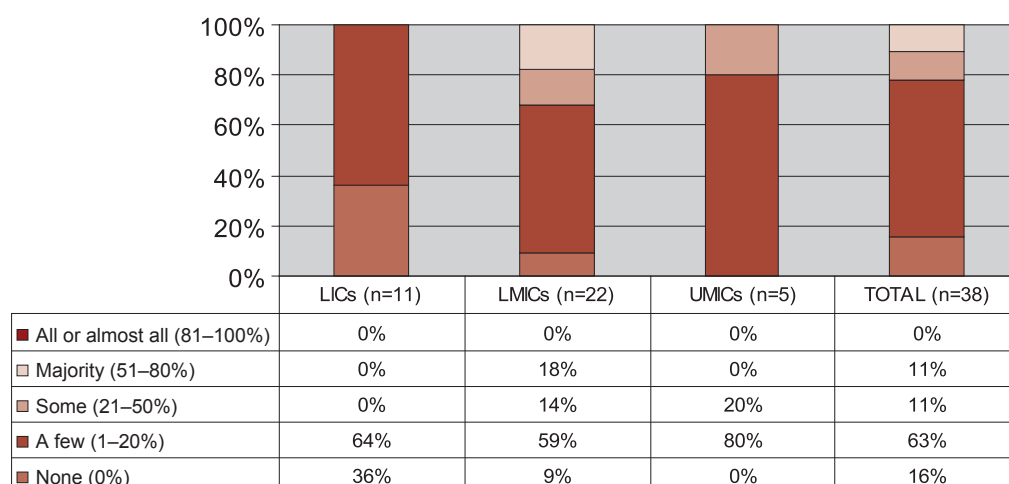
By region, very few schools in participating countries in Africa and Europe have promotion or prevention activities. The situation varies in other regions: some countries have no or only a few schools offering such activities while others within the same region report that the majority of their schools provide prevention or promotion activities (Figure 3.24).

Figure 3.24 Percentage of countries offering promotion and prevention activities in schools, by WHO region (Item 5.3.3)

	AFR (n=5)	AMR (n=8)	EMR (n=7)	EUR (n=7)	SEAR (n=7)	WPR (n=4)
■ All or almost all (81–100%)	0%	0%	0%	0%	0%	0%
□ Majority (51–80%)	0%	13%	14%	0%	29%	0%
▩ Some (21–50%)	0%	13%	29%	0%	0%	25%
■ A few (1–20%)	100%	75%	43%	71%	43%	50%
▩ None (0%)	0%	0%	14%	29%	29%	25%
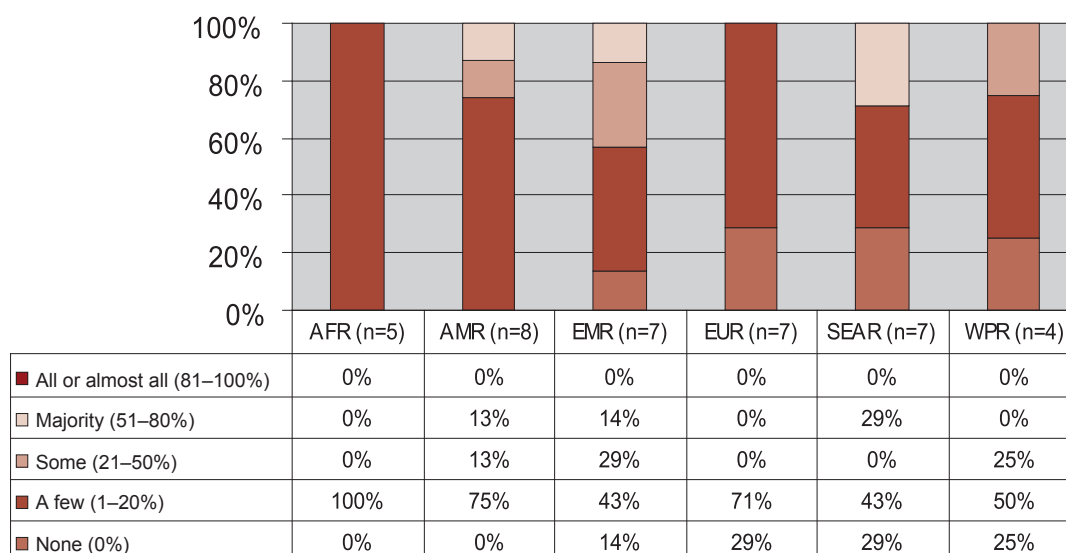
3.4.2 Links with the social welfare and employment sectors

Formal links between mental health departments and departments of employment are weak across all income groups in the sample: they exist in 42% of LICs compared with 36% of LMICs and 20% of UMICs. There is substantial variation across the regions: in only 17% of participating Eastern Mediterranean countries do formal links exist, compared with 100% in the Western Pacific countries. In all other regions, 50% or fewer of the reporting countries' mental health departments have collaborative links with the employment sectors.

The WHO-AIMS study assessed whether countries have legislation that protects patients from discrimination (e.g. dismissal or lower wages) solely on account of their having a mental disorder. Of the participating countries, 57% do not have any legislative provisions at all, 33% have provisions but they are not enforced, and only in 10% do the provisions exist and are enforced. These provisions are more prevalent in UMICs (80%) than in LMICs (42%) and LICs (30%). From a regional perspective, there are fewer participating countries in the South-East Asia, African and Eastern Mediterranean Regions with legislative provisions against discrimination at work than those in the Americas and Europe.

Regarding legislative provisions for employment (i.e. whether there is a legal obligation for employers to hire a certain percentage of disabled persons), 55% of the participating countries do not have such provisions, 40% have the provisions but they are not enforced, and in only 5% do provisions exist and are enforced. By income group, a larger proportion of UMIC have such a provision (60%) than LMICs (46%) and LICs (38%). From a regional perspective, such a legislative provision is less common in the participating countries of South-East Asia, Africa and the Eastern Mediterranean than in those of the Western Pacific, the Americas and Europe.

Equity in the distribution of welfare benefits was assessed by calculating the number of people receiving welfare benefits because of a disability due to a mental disorder as a proportion of the number of people receiving benefits due to any disability. Five countries reported that social welfare benefits are not available in their country. A further 17 countries were not able to provide data on this item. For the countries that were able to provide data, there is a clear trend by income, with a median percentage of 25% in UMICs compared to 6% in LICs. Social welfare benefits due to mental disorder are provided to more people in the participating countries in the Americas and the Eastern Mediterranean than in the participating countries in the other regions (Figure 3.25).

Figure 3.25 Provision of social welfare benefits due to mental disorder, by WHO region (Item 5.3.9)
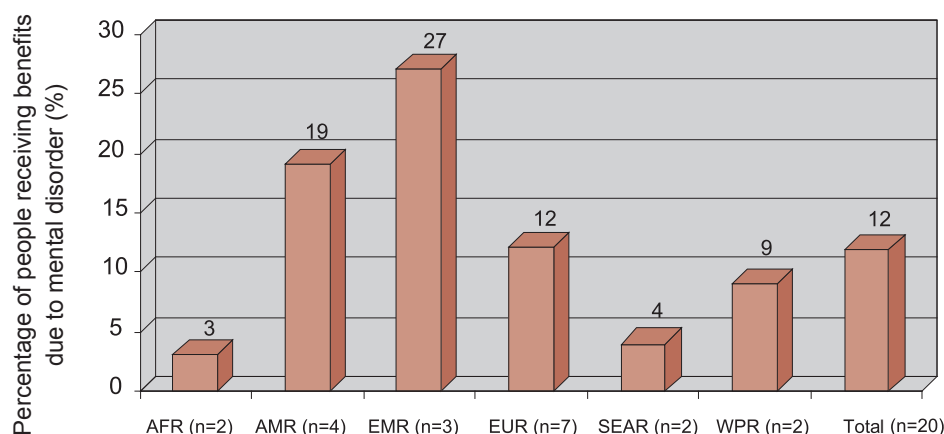
3.4.3 Links with the housing sector

Links with the housing sector appear to be weak across all income groups and regions. In LICs and LMICs only 23% of the participating countries have a formal link with the housing sector. From a regional perspective, countries in the Western Pacific appear to have the strongest links, but even in this region only 50% of participating countries reported a link. As for links with welfare departments, 100% of Western Pacific countries reported having such a link compared with 43% of African countries.

One third of countries have legislative or financial provisions for housing, but only in 50% of these countries are such provisions enforced. These provisions seem to exist in more reporting UMICs (40%) and LICs (38%) than in LMICs (13%). From a regional perspective, no participating country in the East Mediterranean reported having legislative or financial provisions for housing. The largest number of countries that have such provisions are from the European (62%) followed by the Western Pacific (50%) region, while there were fewer from Africa (14%), the Americas (12%) and South-East Asia (12%).

Legislative or financial provisions against discrimination in housing exist in only 14% of the sample of countries. These provisions are more prevalent in the LICs (23%) and UMICs (20%) than in the LMICs (8%). From a regional perspective, no participating country in the East Mediterranean, Africa and the Americas reported having a legislative or financial provision against discrimination in housing. These provisions are more commonly found in the participating countries of Europe (50%) than in those of the Western Pacific (25%) and South-East Asia (12%).

3.4.4 Links with the criminal justice system

Two thirds or more of the participating countries from all of the income groups reported that their mental health departments have formal collaboration with their criminal justice systems (Figure 3.26). Viewed by region, formal links appear to be more common in the participating countries of the Western Pacific (100%), Europe (75%) and the Americas (75%) than in those of South-East Asia (63%), the Eastern Mediterranean (57%) and Africa (43%).

With regard to educational activities on mental health conducted within the criminal justice system, most countries (26 or 65%) have conducted such activities for only a few police officers, lawyers and judges (1–20%) within the last five years. No countries have conducted such educational activities for all or almost all (81–100%) criminal justice personnel. There is no substantial variation by region. Similar to the finding for income level, the category most frequently endorsed was the "few" category, suggesting that in most regions educational activities in the criminal justice system involve only 1–20% of the staff.

Figure 3.26 Percentage of countries offering educational activities on mental health to criminal justice personnel, by country income group (Items 5.3.4 & 5.3.5)

	LICs (n=12)	LMICs (n=23)	UMICs (n=5)	Total (n=40)
None (0%)	17%	26%	0%	20%
A few (1–20%)	75%	61%	60%	65%
Some (21–50%)	0%	13%	40%	13%
Majority (51–80%)	8%	0%	0%	3%
All or almost all (81–100%)	0%	0%	0%	0%
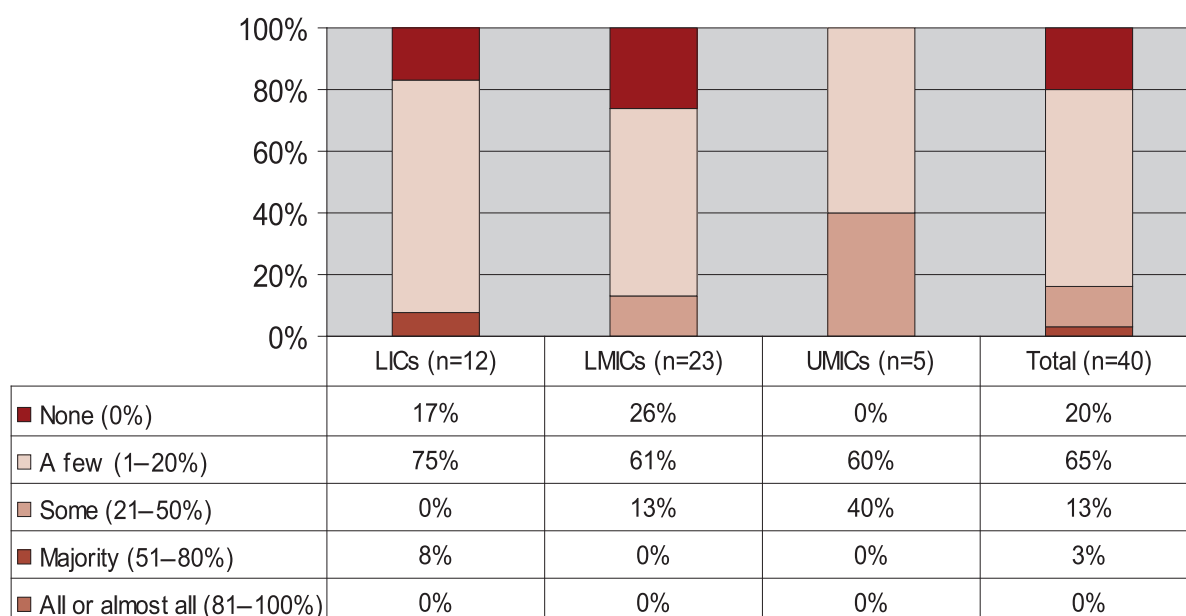
With regard to mental health care for prisoners, 40% of the UMICs reported that all prison facilities have at least one prisoner in contact with a mental health professional per month compared with 22% of LMICs and 0% of LICs. There is substantial variation by region: in three regions (Africa, South-East Asia and the Western Pacific) there are no participating countries in which all prisons have at least one prisoner in contact with a mental health professional. By contrast, the proportions of participating countries in the other regions are: 57% in Europe, 25% in the Americas and 20% in the Eastern Mediterranean. Not having a single prisoner in contact with a mental health professional per month can be considered an indicator of the absence of a link with the mental health services. However, even having one prisoner in contact with a mental health professional per month is not enough to conclude that there is a strong link between prisons and the mental health system.

Concerning the percentage of prisoners with psychosis or mental retardation, the majority of all the countries across income groups estimated that less than 5% of prisoners have one of these disorders. One low-income European country estimated the rate to be between 11% and 15%, and one middle-income European country estimated the rate to be greater than 15%.

3.5 Human rights in mental health

There are a number of items in WHO-AIMS for assessing the extent to which the human rights of patients/users are protected. Their protection involves addressing the following issues: providing the least restrictive care, ensuring informed consent to treatment, respecting confidentiality, avoiding physical restraint and seclusion when possible, establishing voluntary and involuntary admission procedures, providing complaints and appeals processes, and ensuring protection against abuse by staff and protection of user property.

3.5.1 Human rights in mental health

Countries were asked whether they have a human rights review body. In WHO-AIMS, a human rights review body refers to a national or regional level body that assesses the human rights protection of users in mental health services. Of the participating countries, 76% reported having such a review body, though among these there were fewer LICs than middle-income countries (Figure 3.27).

Figure 3.27   Presence of a human rights review body, by country income group (Item 1.4.1)
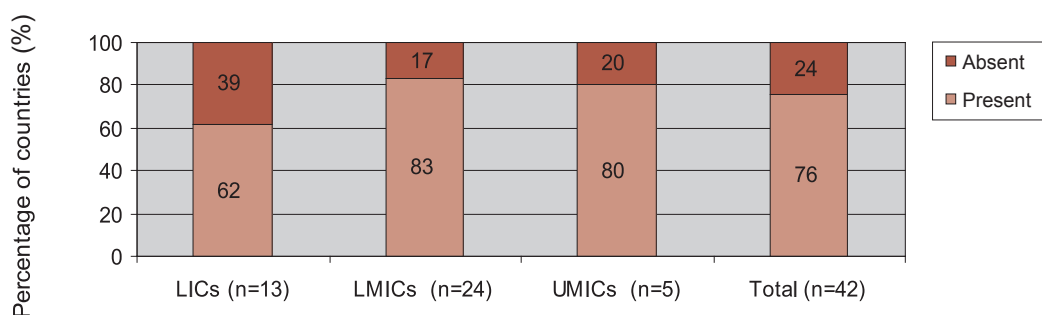
By region, all of the participating countries of the Americas and the Western Pacific reported have a human rights review body, followed by 75% in Europe, 71% in the Eastern Mediterranean and 63% in South-East Asia, compared with only 57% of the participating countries in the African region.

The functions of the human rights review body were assessed for the 32 countries that reported having such a body (Figure 3.28). For three functions (overseeing inspections, reviewing involuntary admission procedures and reviewing complaints) there appears to be a clear trend by income. The higher-income countries tend to give more authority to their human rights review bodies than do the lower-income countries. That is, the higher-income countries allow these review bodies to review complaints, oversee involuntary admissions procedures and oversee inspections to a greater extent than the lower-income countries. No difference was found by income group in terms of whether the review body was able to impose sanctions. Only about 26% of countries in all income groups reported allowing their review body to impose sanctions on facilities that consistently violate human rights. Thus, while the majority of countries have a human rights review body, only in a small minority of countries (8) does this body have the authority to impose sanctions.

Figure 3.28 Percentage of countries that authorize their human rights review bodies to perform various functions, by country income group (Item 1.4.1)

	LICs (n=8)	LMICs (n=20)	UMICs (n=4)	Total (n=32)
☐ Impose sanctions	25%	26%	25%	26%
☐ Review complaints	50%	65%	100%	66%
■ Review involuntary admissions	38%	50%	50%	47%
■ Oversee inspections	38%	53%	100%	55%
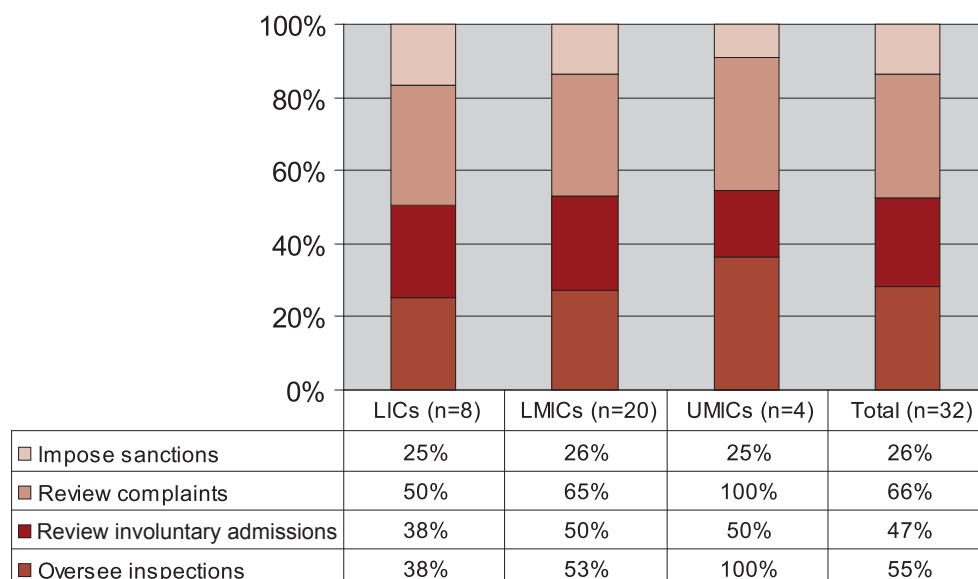
The authority given to human rights review bodies to oversee inspections and review involuntary admissions varies from region to region (Figure 3.29).

Figure 3.29 Percentage of countries that authorize their human rights review bodies to perform various functions, by WHO region (Item 1.4.1)

	AFR (n=4)	AMR (n=8)	EMR (n=5)	EUR (n=6)	SEAR (n=5)	WPR (n=4)
■ Impose sanctions	25%	13%	40%	33%	20%	25%
☐ Review complaints	50%	75%	80%	68%	60%	50%
■ Review involuntary admissions	25%	38%	80%	68%	60%	0%
■ Oversee inspections	25%	63%	80%	68%	40%	33%
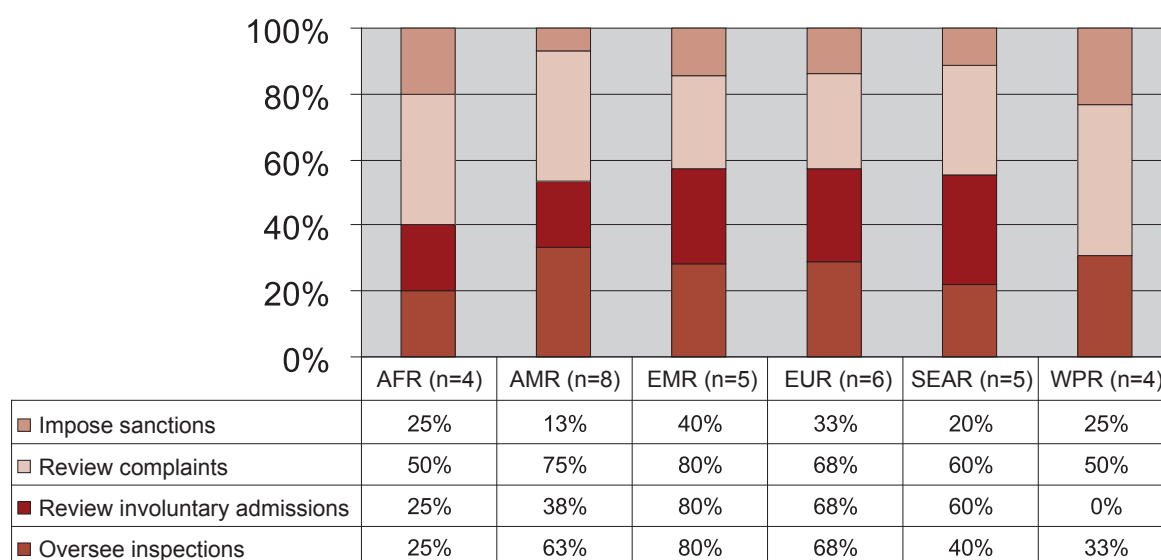
The WHO-AIMS study also sought to assess whether an annual human rights inspection by an external body occurs in mental health facilities (mental hospitals, community-based inpatient units and community-residential facilities). The median rate for all the participating countries is 0%, indicating that in the majority of countries there are no human rights inspections.

There is less consistency regarding the rate of inspections by region. Very few such inspections occur in participating countries of Africa, the Americas and South-East Asia (median rate of 0%), and in the Eastern Mediterranean the rate is 6%. In contrast, the median rate of inspections in European mental health facilities is 78%, while the rate in the Western Pacific is 36%.

Training on human rights issues for mental health staff was also assessed. Overall, human rights training appears to be more prevalent than inspections. Training refers to the provision of at least one-day training, meeting, or other type of working session on the human rights protection of patients in the past two years. Median rates of training for mental health staff are higher in the participating UMICs (25%) than in the LMICs (3%) or LICs (12%). However, it should be noted that there is considerable variation in training rates, particularly among the LICs and LMICs. There is also wide variation by region: the median rate of training is higher in European countries (median rate of 100%) and the lowest in the reporting countries of the Eastern Mediterranean and South-East Asia Regions (median rate of 0%). Median rates for the other regions are lower than 25%.

Chapter 4
HOW COUNTRIES HAVE USED THE RESULTS OF THE WHO-AIMS ASSESSMENT

The purpose of the WHO-AIMS project is to enable countries to collect baseline information on mental health that can be used to strengthen mental health systems. To determine whether countries that completed a WHO-AIMS assessment have used the information collected for this purpose, focal points in all 42 countries were re-contacted and asked to respond to five questions: (1) Have WHO-AIMS results been presented at a national workshop? (2) Have WHO-AIMS results been used to develop or revise a mental health policy or plan? (3) Have WHO-AIMS results been used for another planning purpose? (4) Has a scientific article been published using WHO-AIMS results? (5) Has WHO-AIMS been used to improve the mental health information monitoring system?

The majority of countries that completed the WHO-AIMS assessment did undertake some follow-up activity (Table 4.1). Of the 42 countries, 31 (or 74%) have presented WHO-AIMS results to relevant stakeholders at a national workshop, and almost half of all the countries have used WHO-AIMS to develop or revise a mental health policy or plan, and an additional 8 countries (or 19%) are either in the process of, or are planning to use the WHO-AIMS assessment for this purpose. The results have been used for other planning purposes by 55% of the countries, and 24% have published a scientific article using the results. Finally, 12 countries out of the 42 (or 29%) have used WHO-AIMS indicators to improve their mental health monitoring system.

Table 4.1 Follow-up to the WHO-AIMS assessment (n=42)

	Presented in a national workshop	Used to develop a policy or plan	Used for another planning purpose	Scientific article published	Used to improve the mental health monitoring system
Yes	31 (74%)	18 (43%)	23 (55%)	10 (24%)	12 (29%)
No	10 (24%)	16 (38%)	17 (41%)	24 (57%)	24 (57%)
Planned/in progress	1 (1%)	8 (19%)	2 (5%)	7 (17%)	6 (14%)

Countries that responded "yes" to any of the five questions were asked to provide a brief written response explaining how WHO-AIMS had been used for the specific purpose. Selected responses from countries to the question "Has WHO-AIMS been used to develop a policy or plan?" are provided in Box 4.1, and selected responses to the question "Has WHO-AIMS been used for other planning purposes?" are provided in Box 4.2.

Box 4.1 Selected responses on how WHO-AIMS has been used in policy/plan development

- WHO-AIMS was used to develop the Mental Health Policy and Mental Health Strategic Action Plan in **Azerbaijan**. The rationale for mental health policy was based on WHO-AIMS and it was included as an introduction to this document.

- When mental health was incorporated for the first time in 2005 into the national health plan in **Ethiopia**, WHO-AIMS findings were used to convince the authorities. Previously, the Ministry of Health had excluded mental health from its plan.

- WHO-AIMS was used for the development of the new mental health strategy for **Kosovo** (in accordance with Security Council resolution 1244 (1999)), 2008–2013, which was approved by the Ministry of Health. Some WHO-AIMS indicators have been crucial for revising the strategy and drafting the new one, especially in the field of community mental health services.

- WHO-AIMS was used as one of the main sources of reference in developing the very first national mental health policy of the **Maldives**.

- Recommendations from the national workshop concerning WHO-AIMS results [were essential] to a revision of the strategy [for] mental health and drug abuse in **Morocco**, which was elaborated in the beginning of 2007.

- WHO-AIMS was used for the development of the Mental Health Strategy in **Mongolia** in 2008 as well as the Strategic Action Plan of the National Mental Health Centre.

The sample responses in Box 4.1, show how WHO-AIMS has been instrumental in either the development or revision of mental health policies or plans in a number of countries. Moreover, selected responses to the question "Has WHO-AIMS been used for any other planning purpose?" (Box 4.2) indicate that WHO-AIMS results have been used in multiple ways to inform mental health planning.

Box 4.2 Selected responses showing how the WHO-AIMS study has been used for mental health planning

- In **Chile**, WHO-AIMS results have been used for the past three years to improve the implementation of the 2000 National Mental Health Plan, both from a national and local perspective. For example, the finding that only a low percentage of primary care professionals and mental health staff were receiving refresher training in mental health every year prompted the Ministry of Health to establish special funding to reinforce this training. In addition, based on WHO-AIMS results, several proposals have been developed to improve mental health services for children and adolescents, and to include the protection of human rights of people with mental disorders in two laws that are in their last stage of approval by Parliament.

- WHO-AIMS was used to develop technical cooperation among countries (**Guatemala**, **Nicaragua** and **El Salvador**) in primary care, and for mental health for indigenous populations in **Guatemala** and **Panama.**

- In **Thailand**, WHO-AIMS has been used for human resource development planning purposes, especially for occupational therapists and nurses.

- In the **Philippines**, some of the "next steps" for mental health planning identified in the report have already started: (1) push for legislation of a mental health act; (2) build a link with other sectors to strengthen school and workplace mental health programmes; (3) establish community mental health in one region as a model; (4) develop a training manual (with financial assistance from WHO) for the promotion of mental health in the community; (5) develop, print and distribute information, education and communication (IEC) materials regarding mental health promotion and prevention of mental disorders; and (6) provide seminars to the community regarding mental health to reduce stigma.

- In **Bangladesh**, community mental health activities in four model subdistricts around Dhaka are being implemented using information from WHO-AIMS.

- In **Iraq**, WHO-AIMS has provided guidance in ensuring that mental health is streamlined in various health activities and interventions, such as in community-based initiatives, school health, and maternal and child health.

- In **Burundi**, WHO-AIMS has been used in the elaboration of mental health indicators, to be included in the performance-based financing framework. Results have also been used in the planning and elaboration of contracts between NGOs and the Ministry of Health for the integration of mental health into PHC. AIMS results have also supported the planning of training to be done at national level for the purpose of a full decentralization of mental health care.

Overall, the results of the follow-up survey of countries that completed a WHO-AIMS assessment suggest that there is some validity to the saying, "what gets measured, gets done". Many of the countries have used the information collected to strengthen their mental health systems. Follow-up activities have been led by the ministries of health, NGOs and other partners, with support provided by WHO headquarters and the regional, and country offices.

Chapter 5
DISCUSSION

This chapter contains comments on WHO-AIMS findings from the 42 countries relating to the six building blocks and the five desirable attributes of mental health systems. The objective of these comments is to provide a context for the findings and to enhance understanding of mental health systems in LAMICs. The eventual aim is to use this information and understanding to improve mental health systems in LAMICs.

5.1 Governance

Results indicate that a framework for mental health action exists in most of the participating countries, as the vast majority of them have either a mental health policy or plan (86%). However, the presence of a policy or plan does not necessarily ensure good governance and leadership for mental health. The present analysis does not take into account how well-conceived the policies or plans are, or whether they have been implemented. Thus, even though a country may have a policy or plan, any benefits might fail to reach the population due to poor implementation of the plan. In contrast to the high rates found for the presence of a policy or plan, fewer countries have mental health legislation. Overall, only 52% of the participating countries reported having legislation. This rate is considerably lower than the global rate of 78% reported in the *Mental health atlas* (WHO, 2005a), which may be due to the size and characteristics of the sample of countries in the WHO-AIMS study. As mental health legislation is necessary to help protect the rights of people with mental disorders (WHO, 2003c), the fact that only approximately half of all the participating countries have such legislation implies that people with mental disorders living in these countries are vulnerable to abuse of their rights. Of course, the existence of mental health legislation does not necessarily guarantee the protection of the human rights of people with mental disorders, and in some cases such legislation even contains provisions that could lead to the violation of their human rights. Consequently, further analysis of the contents of mental health legislation in those countries where it exists is necessary before it can be concluded that their legislation contributes to the protection of the human rights of people with mental disorders.

5.2 Financing

The median level of mental health spending per capita in the reporting countries is US$ 0.30, whereas the estimated level of spending needed to cover common mental disorders is considered to be US$ 3–4 per capita (WHO, 2006c). This translates into countries allocating, on average, 2% of the government health budget to mental health. Not surprisingly, UMICs allocate a larger proportion of their budget to mental health than do LICs and LMICs. Similarly, mental health spending per capita in UMICs is 70 times higher than that in LICs. In terms of regional results, a greater proportion of the health budget is spent on mental health in the participating countries of Europe and the Western Pacific than in those of South-East Asia and the Americas. In terms of where mental health funds are directed, the largest proportion goes to mental hospitals (the median for all countries being 80%). Relatively less spending is directed towards mental hospitals in the participating UMICs and Eastern Mediterranean countries. The lack of funds

available for mental health adversely affects the development of the mental health system. Without adequate financing, good mental health policies and plans remain only in the realm of good intentions (WHO, 2003b).

5.3 Information systems

About three out of four participating countries (76%) have a mental health information monitoring system. This finding is fully consistent with that reported in the *Mental health atlas*, which reported a global rate of 76% (WHO, 2005a). Fewer LICs have such a system (69%) than LMICs (79%) or UMICs (80%). Again these figures are very similar to those found in the *Mental health atlas*. Monitoring systems are more prevalent in the participating countries of Europe and Americas (88%) than in African countries (57%). Although the majority of countries have a mental health monitoring system, only a little over half of them (55%) publish the data. The lack of publication of the data is a concern. The primary purpose of a mental health information collection system is not simply to gather data but to enable decision-making that will lead to service improvement (WHO, 2005e). Without the dissemination of the data, there is little likelihood of this information being used to improve service development. In terms of the collection of mental health information by various mental health facilities, high rates of collection were generally found in all types of facilities (outpatient facilities, community-based inpatient units, and mental hospitals) on basic indicators such as number of users, beds and diagnoses. However, collection of information on the number of involuntary admissions and use of physical restraint and seclusion was poor across all country income groups and regions. Increased rates of collection of information on involuntary admissions and physical restraint and seclusion would be an important step towards protecting the human rights of people within the participating countries.

5.4 Service delivery

The integration of mental health into PHC has been a core recommendation of WHO for more than 30 years, but it appears that the majority of countries are struggling to accomplish this goal. Although 83% of the participating countries reported a formal link between their mental health departments and their PHC departments within the ministry of health, this collaboration is not evident from other available data. Of the participating countries, 49% reported not having assessment and treatment protocols available in any PHC settings, and only 11% of the countries (4 countries) reported that all, or almost all, of PHC doctors make at least one referral per month to a higher level of care.

The availability of psychotropic medicines is also limited: only 1 in 3 countries (32%) reported that these medicines are available in all or almost all PHC clinics. The finding of the WHO-AIMS study of the poor integration of mental health into PHC is consistent with the global situation described in the WHO-WONCA report on integrating mental health into PHC (WHO-WONCA, 2008). The lack of integration is a major obstacle to scaling up services in LAMICs.

In terms of the organization of mental health services, 3 out of 4 reporting countries have a mental health authority. Lack of such an authority, as in most of the participating European and South-East Asian countries, is likely to hamper the development of mental health services.

The organization of mental health services in catchment areas was reported by approximately three quarters of the participating countries, and particularly those countries with a higher level of income. It is lacking in one third of participating Eastern Mediterranean countries, in half of South-East Asian countries and in almost two thirds of the African countries. It is possible that countries are utilizing different definitions of catchment areas, and that not all function equally well. Consequently, the organization of the catchment area needs to be assessed in more detail in various countries before a conclusion can be reached that this important building block of community care is working.

In terms of service provision, 8 patients in 10 are treated in outpatient facilities. However, the availability and accessibility of outpatient care varies considerably by country income level and by region. The gap between LICs and UMICs is 18-fold in terms of availability of facilities, 6-fold for patients treated, and 17-fold for outpatient contacts. At the regional level, the participating South-East Asian, Western Pacific and African countries reported lower rates of both users treated and outpatient contacts. There are also enormous differences in the availability of specific outpatient facilities for treating children and adolescents: UMICs have 36 times more of these outpatient facilities than LICs. In outpatient services, the lack of follow-up care in both LICs and LMICs is a crucial issue. Without follow-up care it is difficult to transfer mental health care from mental hospitals to community settings for patients with severe mental illness.

Day treatment facilities in all the countries except the UMICs are scarce. In about a quarter of the reporting countries these kinds of facilities do not exist at all, but also where they are present, they are very limited. On average, less than 1% of all users are treated by such facilities. However, while day treatment facilities play an important role in Western countries and in cities in LAMICs, they may not be common in rural settings in LAMICs. In a WHO paper (2007b) that reported on the opinions of a number of experts about barriers and facilitating factors for the implementation of current mental health knowledge in mental health services, one of the experts noted that day-care facilities are often not effective in rural areas, as families are reluctant to send sick family members to them. According to this expert, families believe that the tangible gains their sick family members receive working in a sheltered workshop (essentially an urban model) are minimal, and that it is easier to look after them at home. Unlike crowded urban environments, there is usually a greater tolerance of the behaviours of people with serious mental illness in rural areas.

A marker of the development of community care is the increase in beds for patients with acute conditions in general hospitals (community-based psychiatric inpatient units). The lack of such beds in seven LAMICs indicates a priority need in planning. There is a wide gap between LICs, LMICs and UMICs in terms of beds, admissions and days spent. The length of stay in general hospitals (community-based inpatient units) is short (2–3 weeks), and it decreases from low- to upper-middle-income countries.

In some mainly low-income countries, mental hospitals do not exist in the network of mental health facilities. Two LICs and four LMICs do not have such a hospital. The lack of mental hospitals may represent an advantage for the system, because resources will not be centralized in psychiatric institutions and it may therefore be easier to work towards community care (Saraceno et al., 2007).

The rate of beds in mental hospitals increases by income group: the rate in LMICs and UMICs is more than three times that in LICs. In the total sample, the number of beds in mental hospitals has not changed in the past five years. However, in the UMICs there is a clear decrease. The rate of users and days spent in mental hospitals is approximately four times higher in MICs than in LICs. The rates of beds, users and days spent are similar in LMICs and UMICs, despite differences in the level of resources.

Use of mental hospitals is radically different between LICs and UMICs. In LICs, only one tenth of the patients stay in a mental hospital for more than one year, and the length of stay is relatively short and very similar to the length of stay in community-based psychiatric inpatient units. In UMICs, on the other hand, about half of the patients stay for more than one year (long-stay). In other words, in LICs mental hospitals may function more often as acute mental health wards, whereas in UMICs they may function more often as residential units for long-stay patients. This difference provides information for planning of downsizing mental hospitals. In general, in LICs the planners may need to focus on developing community-based inpatient units, while in UMICs the focus may need to be on developing community residential facilities.

Half of all patients are diagnosed with schizophrenia and about one fifth with mood disorders. However, in UMICs the "other" diagnostic category (e.g. epilepsy, organic mental disorders, mental retardation, behavioural and emotional disorder with onset in childhood and adolescence, and psychological development disorders) is substantial. This issue raises the possibility that mental hospitals may be utilizing a significant proportion of their beds for patients with organic mental disorders.

In comparing diagnostic patterns between community-based psychiatric inpatient units and mental hospitals, the figures relating to substance abuse, mood disorders and personality disorders are very similar. However in community-based inpatient units there is a lower percentage of patients with schizophrenia, and a higher percentage of those with neurotic disorders. From this it would appear that community beds in general hospitals are more accessible to a wider range of patients.

The availability of community residential facilities is scarce among the reporting countries: 7 LICs, 16 LMICs and 2 UMICs do not have such facilities. For those countries where such facilities are available, utilization (days spent) appears to be closely related to income group, with much higher levels of utilization found in UMICs compared with LICs. Also, participating countries in some regions (e.g. the Eastern Mediterranean and the Americas) use residential facilities more frequently. Nevertheless, in order to better understand the importance of these facilities at the system level, more information is needed on their use. For example, if these facilities are not well integrated into the community mental health service network, they may function as small mental hospitals.

Almost all the forensic beds are located in mental hospitals or in specialized forensic units within mental hospitals, while it is very rare to find these beds in prisons. The majority of the patients stay in these units for less than one year, and long-term stay is frequent only in the middle-income countries. In one third of the reporting countries there are no forensic beds available. Where forensic beds are not available, it is possible that patients with mental disorders are placed in jails and prisons without access to appropriate care and with the prospect of potential abuse by other prisoners. However, the fact that most of the forensic beds available are located

in mental hospitals is also a cause for concern, particularly in the middle-income countries where long-stay is more frequent. Often people who commit a crime end up staying longer in forensic beds in mental hospitals than they would if they served their jail term.

The availability of beds in "other" residential facilities (i.e. residential facilities outside the mental health system) is heavily influenced by country income level (i.e. with more beds in UMICs), and presumably by the extent of development of the social welfare system.

5.5 Psychotropic drugs

At least one psychotropic drug is included in the essential medicines list of most of the participating countries. One LIC and one LMIC do not include mood stabilizers on their essential medicines list. The availability of psychotropic medicines within the PHC system is limited. On a more positive note, results suggest that psychotropic medicines are widely available in mental health facilities in most of the participating countries. However, it should be pointed out that although the medicines may be available, they may not be accessible to all patients because they may not be affordable. In LICs the vast majority of the population does not have access to free, or almost free, psychotropic medicines. For those that have to pay out of their own pockets, the costs can be high: in LICs the median cost for antipsychotic medication is 9% of the daily minimum wage and for antidepressants it is 7%. In addition, people often have to pay for the clinical consultations and transport to facilities. As a result, poor people often pay more than 10% of their income on mental health care. Health care costs that exceed more than 10% of income are considered to be "catastrophic" and can push people into greater poverty (Ranson, 2002; Xu et al., 2003).

5.6 Mental health workforce

Results of the WHO-AIMS study show that the majority of the countries lack adequate numbers of mental health professionals, most notably the LICs. From a regional perspective, the participating countries with the lowest rate of professionals are in Africa and those with the highest rate are in Europe. However, it should be noted that although participating European countries have the highest rate of mental health professionals, they reported few staff that are primarily responsible for psychosocial interventions (psychologists, social workers, occupational therapists). Human resources are the most valuable resource within the mental health system (WHO, 2005f), and the lack of a sufficient number of mental health professionals within LAMICs is a major obstacle to providing care for people with mental disorders. Although PHC staff can and should also provide them with care, thus increasing the number of professionals available to care for people with mental disorders, adequate numbers of specialized mental health professionals are still essential.

A high proportion of professionals work in mental hospitals (37%), and they are concentrated in urban areas, particularly in LICs. Their uneven distribution may limit access to mental health care for people living in rural areas.

Training on community mental health should be delivered during undergraduate training, but data show that the time devoted to mental health within professional training programmes is very limited (2–4% of total training hours). Moreover, it has already been established that the existing training programmes for doctors and nurses are not adequately focused on community

mental health care (WHO, 2005a). This makes it difficult to scale up mental health services within the PHC system (WHO, 2008a).

There is also a shortage in the number of mental health professionals graduating, particularly in LICs and in the participating countries of the African and South-East Asia Regions. Moreover, only a very small proportion of professionals received refresher training in the year prior to reporting of the data. The median ranged from 0% (training on child and adolescents issues) to 7% (training on psychosocial interventions). Regular refresher training is critical to ensure appropriate care for people with mental disorders. The lack of sufficient refresher training for mental health professionals in LAMICs raises the possibility that patients within these countries are receiving substandard care, as they are not benefiting from the latest advances and knowledge in the field.

5.7 User/consumer and family organizations

Almost half of reporting countries have no family or user associations. The medium-income countries are more likely than the low-income countries to have associations that are involved in mental health policy formulation and in assistance activities, including interaction with mental health services. Families and user associations are important allies in fighting for the care and rights of people with mental disorders. Unfortunately, this network is still underdeveloped, particularly in the lower-income countries. However, even in the upper-middle income countries these associations have only few members, and their interactions with the mental health services are limited.

5.8 Efficiency

In considering distribution of mental health resources between community and institutional settings, it is clear that the vast majority of resources are concentrated in mental hospitals: 80% of financial resources, 83% of beds and 37% of mental health professionals. Mental health care is also more frequently provided in inpatient settings (hospitals, residential facilities) than outpatient settings (day treatment facilities, outpatient facilities). Across participating countries, there is less than one outpatient contact (0.7) for every day spent in inpatient facilities. Thus, despite the call for the downsizing of mental hospitals and the provision of community care (WHO, 2001), limited progress has been made. Given that mental health care provided in the community is more cost effective than institutional care, the current pattern of distribution of resources in most countries is inefficient and impedes a country's ability to increase treatment coverage.

5.9 Coverage

The treated prevalence rate in mental health services reported in this WHO-AIMS study is likely to be higher than the actual rate, because patients may be treated in more than one facility (e.g. day treatment facility and community-based inpatient unit), resulting in double counting in the reporting countries. The figures indicate a clear progression in terms of coverage in LICs, LMICs and UMICs, particularly for community-based facilities (outpatient and day treatment). Children appear to be particularly underrepresented within the mental health system: the median rate of children treated per 100 000 child population is 159, whereas the prevalence estimate for severe mental disorders in children is approximately 1 in 5 (Remschmidt & Belfer, 2005).

Looking at severe mental disorders, the overall coverage rates for schizophrenia in LICs are 50% lower than those in MICs. The low proportion of outpatients in LICs largely accounts for these differences. However it is important to highlight that even in those LICs where the network of community mental health services is not so well developed, the majority of patients with schizophrenic disorders are treated in the community through outpatient services. This point is worth emphasizing as it suggests that community care is present in almost all the reporting countries. However, treatment coverage in LICs is poor: at most only one fifth of patients suffering from schizophrenia receive psychiatric care.

The treated prevalence rate for mood disorders increases sharply from LICs to UMICs, but despite this increase, the level of coverage is extremely low. The low rates of coverage may be partly explained by the fact that many patients with mood disorders are treated in the PHC system, and that people with milder forms of depression do not always require or seek health care. Nevertheless, it is a matter of concern that, according to the data, only 1 in 50 people with mood disorders receive treatment in mental health facilities. Moreover, according to the Global Burden of Disease Project, it is estimated that 1 in 4 people with depression have severe depression. This means that a significant percentage of people with severe forms of mood disorders do not have any access to specialized care. The level of coverage of mood disorders, unlike that for schizophrenia, does not improve substantially from LICs to UMICs. This suggests that the burden of depression is insufficiently addressed by mental health systems in LAMICs. Concerning patterns of care, about 9 in 10 people with mood disorders receive treatment in outpatient facilities, confirming the crucial role of these facilities in treating such disorders.

This WHO-AIMS study reveals a large treatment gap. Indeed, it appears to be wider than that reported in previous analyses (Kohn et al., 2004). However, it should be mentioned that the treated prevalence rates reported in the WHO-AIMS assessment are limited to mental health services and do not cover PHC. Nevertheless, the wide gap should cause serious concern among service planners. For schizophrenic disorders, the data suggest that only one third of patients receive treatment in mental health services, while Kohn et al. (2004) assessed that two thirds of patients receive treatment in those services. The data on mood disorders are particularly disconcerting. Only 2% of the patients with mood disorders (including bipolar disorders and severe depression) are cared for within mental health facilities.

5.10 Access/equity

Inequity in access to care for certain groups (e.g. children, rural users, the poor) is a serious issue in LAMICs. Inequity in the distribution of beds and community facilities between the largest city and the rest of the country is also an important issue for planners and politicians. The natural growth of the mental health system does not guarantee an equal distribution of resources between rural and urban areas. Data from WHO-AIMS confirm this: in most countries the density of resources (beds and professionals) is substantially greater in the largest city than in the rest of the country. The data also suggest that children and adolescents have very limited access to mental health care. The percentage of children served in outpatient facilities in UMICs is double that in LMICs and LICs, and yet in UMICs they remain an underserved population. The financial costs of mental health care may also limit access for poor patients. Coverage of mental disorders by social insurance schemes is weaker in LICs than in UMICs, while antidepressant and antipsychotic drugs are considerably more expensive in LICs than in LMICs or in UMICs.

5.11 Linkages

Results suggest that links between mental health and other relevant health and non-health sectors are weak. Many reporting countries indicated the existence of formal links between mental health and substance abuse (76% of countries), and mental health and primary care (83% of countries). However, very few countries (20%) reported the existence of formal links between the mental health sector and housing, and only 36% reported links between the mental health and employment sectors. Without greater coordination between the mental health and employment and housing sectors, rehabilitation of patients in the community will be difficult.

5.12 Human rights in mental health

Perhaps partly due to the lack of implementation of updated mental health legislation, human rights activities are very limited in LAMICs. The majority of the countries participating in the WHO-AIMS study reported having no inspections in any of their mental hospitals or community-based inpatient units. Based on the small amount of available data, involuntary admissions in community-based inpatient units are widespread in LICs (half of all admissions), while in LMICs and UMICs they represent respectively one seventh and one twentieth of admissions. However, it should be noted that over half of the countries did not provide data on involuntary admissions and physical restraint and seclusion in community-based inpatient units, which is a concern. The lack of information on these issues could imply a lack of attention to human rights. Moreover, the lack of data on these issues hampers the chance of implementing reforms in this area. Involuntary admissions to mental hospitals are more frequent than to community-based inpatient units. Data on physical restraint and seclusion in mental hospitals indicate a more frequent use of coercion in mental hospitals than in community-based inpatient units. The frequent use of physical restraint and seclusion and the high percentage of involuntary admissions indicate a potentially serious problem in terms of respect for and protection of human rights in these facilities.

5.13 Use of WHO-AIMS in countries

Responses to a five-question survey that assessed whether WHO-AIMS has been used for mental health planning suggest that the majority of responding countries have made use of it to strengthen their mental health systems. The most frequent use of WHO-AIMS information has been for advocacy. Thirty-one or 74% of the participating countries reported that they had held a national workshop with relevant stakeholders to present WHO-AIMS results. The second most frequent use was for mental health planning. Over half of the responding countries (55%) reported using WHO-AIMS to plan specific activities to strengthen their mental health systems. Written responses to the survey questionnaire indicated that the results from WHO-AIMS had prompted many countries to undertake activities related to integrating mental health into PHC and to strengthening community mental health services. In addition, 18 countries (43%) reported developing or revising a mental health policy or plan based on WHO-AIMS results. Finally, 24% of countries have used WHO-AIMS results to publish a scientific article and 29% to improve their mental health information system. Taken together, the results of the survey indicate that there is some validity to the saying "what gets measured, gets done" – a WHO-AIMS assessment appears to have prompted countries to improve their mental health systems.

Chapter 6
CONCLUSIONS

This report summarizes data on mental health systems of 42 low- and middle-income countries (LAMICs), which was collected using the WHO-AIMS instrument. A summary of the key findings of this report are summarized in Box 6.1.

Box 6.1 Key findings

Summary of the key findings of this report

Based on data collected from 42 low- and middle-income countries/territories that participated in this project, the following are the main findings:

- *A systematic, quantitative assessment of mental health systems in low- and middle-income countries is possible.* The majority of the countries participating in the study were able to collect and report data for most of the WHO-AIMS indicators. Moreover, WHO-AIMS data were seen to be relevant for evaluating strengths and weaknesses of mental health systems and for planning their further development.

- *The gap between low-income countries and upper-middle-income countries is enormous.* Spending per capita on mental health is 70 times higher in the upper-middle-income countries, the ratio of beds in community-based inpatient units is 24 times higher, there are 10 times more outpatient contacts, and 8 times more mental health staff.

- *Mental health systems are providing care to only a small proportion of all who need care.* The median treated prevalence rate of 0.67% of the population per year in this study is a small fraction of what would be expected from community epidemiological studies. The corresponding rate for children is even lower – 0.16% of the population. Moreover, the data suggest that 7 out of 10 people with schizophrenia are not receiving treatment.

- *The move from institutional to community care is slow and uneven.* Inpatient care is predominant in the majority of the reporting countries with 0.7 outpatient contacts per day spent in inpatient care. Day treatment and community residential facilities are scarce.

- *Mental health resources are scarce.* The median number of mental health professionals per 100 000 population is 6 – a mere fraction of the number required for the provision of basic care. The median mental health spending for all the participating countries is US$ 0.30 per capita, whereas estimates for a cost-effective package of treatment for common mental disorders is estimated to be US$ 3–4 per capita for low-income countries.

- *Mental health resources are inefficiently used.* Of psychiatric beds, 8 in 10 are located in mental hospitals, yet these facilities treat only about 7% of all service users. The median proportion of mental health finances spent on mental hospitals is 80%, leaving little money for community care.

- *Mental health resources are inequitably distributed.* Services and human resources are concentrated in and around urban areas, which limits access for rural users. Controlling for population density, approximately three times the number of psychiatric beds are available in the largest city in comparison with the rest of the country. Psychiatrists and nurses are also much more heavily concentrated in the largest city.

- *The mental health system is not well connected to other relevant services in the health system, including primary care,* or with other non-health sectors. In only 11% of the participating countries did all primary health care (PHC) clinics make at least one monthly referral to mental health services. Training and support to primary care providers in mental health care is insufficient to meet the large needs.

- *Few mechanisms are presently in place to protect the human rights of people with mental disorders.* In the vast majority of countries no inspections are conducted on the human rights protection of service users, and there is no systematic collection of information on involuntary admissions to mental health facilities.

- *Participation of family or user organizations in mental health systems is weak.* Less than half of the countries reported having user/consumer organizations, and only slightly more than half reported having family organizations. Moreover, where these exist, they are seldom involved in policy and service organization.

Three primary conclusions can be drawn from this report: (i) a systematic assessment of mental health systems is possible in LAMICs; (ii) information provided through WHO-AIMS enables a greater understanding of mental health systems in the countries concerned; and (iii) information gathered through WHO-AIMS can be used to strengthen mental health systems.

6.1 Assessment of mental health systems in LAMICs

WHO-AIMS is the first comprehensive mental health system assessment designed for LAMICs. It is unique in that both the conceptual foundation for the instrument (The world health report 2001) and the development process emphasized the needs of low-resource countries. The active involvement of in-country collaborators from LAMICs at every stage of the development process of the instrument helped to ensure the relevance, feasibility and usefulness of the instrument in low-resource settings. The fact that most countries were able to provide data on the vast majority of the indicators provides some evidence for the feasibility of the instrument. The response rate for 41 out of the 155 WHO-AIMS items was 100%, meaning that all 42 participating countries provided data for those items. For most of the items (95, or 61% of all WHO-AIMS items) the response rate was between 75% and 99%. Only for 3 items (2% of all WHO-AIMS items) was the response rate less than 50%.

For the first time, comprehensive information has become available on countries which previously had been neglected by epidemiological evaluations. Previous analyses of mental health systems in LAMICs were based mainly on qualitative data due to the perceived scarcity and low quality of the available quantitative data. Moreover collection of quantitative data was considered unfeasible. The Atlas project (WHO, 2005a) and now WHO-AIMS have demonstrated that it is possible to obtain quantitative data concerning LAMICs. However,

compared with the Atlas, WHO-AIMS contains more and better- defined indicators, allowing a more in-depth understanding of the mental health system. For example, whereas the Atlas contains a few indicators on community care (e.g. total number of beds, number of mental health professionals), WHO-AIMS provides information on the entire network of community mental health facilities. More importantly, WHO-AIMS provides information on treated prevalence, on patterns of care and on the amount of care delivered. Thus it is now possible to have figures on coverage for schizophrenic and mood disorders and to monitor the development of community care through specific indicators (e.g. the ratio between outpatient/day-care contacts and days spent in inpatient facilities). Many previous reports have focused on only one or two aspects of the mental health system. Through WHO-AIMS it is possible to understand how various aspects of the system relate to one another, and how weakness in one area contributes to weaknesses in other areas. WHO-AIMS data are also likely to be more reliable and accurate because the in-country teams collected data directly from the relevant sources rather than relying solely on secondary data collection methods.

6.2 Current state of mental health systems in LAMICs

6.2.1 Mental health resources are scarce, inequitably distributed and inefficiently used

The comprehensive and detailed information gathered through WHO-AIMS enables a better understanding of mental health systems in LAMICs. Many of the findings outlined in this report are consistent with information available from other sources. For example, the descriptive findings of the 42 countries in this report are consistent with the Lancet findings (Saxena et al., 2007b) that in LAMICs mental health resources and activities are scarce, inequitably distributed and inefficiently used. Scarcity, inequity and inefficiency show a gradient of severity related to income, which affects LICs the most.

Scarcity of resources deeply affects LICs. There is a wide gap between LICs and UMICs in a number of areas: for example, mental health spending per capita is 70 times higher in UMICs than in LICs, UMICs have 24 times more beds in community-based inpatient units, the population served by outpatient facilities is four times higher, and there are 10 times more community outpatient contacts and 8 times more mental health staff. Without a minimum level of resources (i.e. mental health facilities and staff), it is difficult to provide community care. Moreover, the scarce resources are inequitably distributed, resulting in greatly restricted access to mental health care for certain groups, such as children, the poor and rural patients. For example, controlling for population density, the number of psychiatric beds is six times higher in the largest city than in the rest of the country in LICs. Overall, in LAMICs, resources for mental health are not distributed efficiently: 80% of financial resources and over one third of all available mental health staff are concentrated in mental hospitals, and they serve only 7% of all patients. Decentralization of resources is needed to increase the coverage rate for mental disorders in LAMICs.

The level of scarcity, inequity and inefficiency does not vary only in relation to income; there are also marked differences by WHO region. Multivariate analyses are needed to separate the effects of income from those of geographical region, and to understand better the predictors of these phenomena.

6.2.2 Community-based mental health services are underdeveloped

The basic building blocks of mental health systems (e.g. mental health services, human resources) exist in most countries, though in many LICs they are rudimentary. Nevertheless, most countries, regardless of income group, have at least one of each type of facility. It is encouraging that community care is expanding in LAMICs in terms of facilities, staff and treated patients. However, progress is slow and there is still a long way to go: the number of mental hospital beds is not decreasing in LICs, and in LMICs inpatient care is still the predominant form of care. Outpatient care is an effective means of increasing the coverage of the mental health system. There is a clear progression between LICs, LMICs and UMICs in terms of accessibility of mental health services, measured in terms of the increasing rates of outpatients. It is important to remember that inpatient mental health facilities, whether placed in general hospitals or in mental hospitals, only slightly contribute to overall service accessibility. Only community care has the potential to reduce the gap between needs in the population and supply of services.

Two elements of the network of mental health facilities are particularly scarce in LAMICs: day treatment facilities and community residential facilities. Further analyses are needed to determine whether this gap is related only to a lack of resources or to different needs of the mental health system specific to LAMICs.

In UMICs, the need for developing community residential beds is clear, as policy-makers have started to close mental hospitals and chronically ill patients discharged from mental hospitals will need to be able to live somewhere in dignity (e.g. in residential units in the community).

Overall, there appears to be a scarcity of general hospital beds. Therefore, encouraging the development of general hospital beds in more districts should become a top priority. These beds are needed not only to supply inpatient treatments for acute cases in the population, but also in order to help the process of deinstitutionalization. In addition, acute inpatient units can form the backbone for supporting mental health in PHC at the district level (Saraceno et al., 2007). Particularly in LICs, but also in LMICs, mental hospitals often function as acute wards, and it is not possible to decentralize their resources without increasing general hospital units in districts. The absence of mental hospitals in four LICs and two LMICs opens an interesting possibility for the development of community care in these countries. Without a large amount of resources in mental hospitals, the budget can be directed to community facilities and staff.

6.2.3 Mental health systems often are not well linked to other relevant sectors

It is crucial to connect the mental health sector to the rest of the health sector, to the welfare system and, more generally, to civil society. This is important not only for achieving a better functioning of the mental health system, but also for reducing stigma, which is more prevalent when mental health care is isolated. Linkages of the mental health system with other sectors are generally weak in LAMICs, and they are weaker in LICs than in UMICs.

There are many possible reasons for the isolation of the mental health sector: the predominance of mental hospitals, which are often "stand-alone" institutions disconnected from the rest of (mental) health services, poor functioning of the referral and back-referral system between mental health services and PHC (virtually absent in LICs and severely limited in UMICs);

and limited and poorly structured links with other health and non-health sectors, such as social welfare, education and the workplace.

The lack of integration of mental health care into PHC system deserves special mention. Such integration is a core recommendation of *The world health report 2001* (WHO, 2001), yet in most countries it is very limited. There are contrasting data: on the one hand the high rate of prescription privileges for doctors and nurses in primary care is a positive step in the provision of community care for people with mental disorders; but on the other hand, the low rates of initial training and refresher training for PHC staff hamper the quality of diagnoses and psychopharmacological treatment. The weak integration between PHC and mental health services, highlighted by WHO-AIMS data, is one of the major obstacles to bridging the treatment gap for mental disorders. Without strengthening this integration, the development of a mental health component in PHC will remain only a hope, not a reality (WHO-WONCA, 2008).

6.2.4 Human rights are given insufficient attention

Results of the WHO-AIMS study show that scant attention is being paid to human rights. Mental health legislation exists in only half of the participating countries, inspections of inpatient facilities are infrequent, there is little training on human rights, and collection of data on involuntary admissions and on physical restraint and seclusion is poor. All these results highlight the need for urgent action in this area. The poor attention to human rights is an example of how some deficiencies in mental health systems are not entirely due to a shortage of resources; frequently they may be due to an organizational or cultural problem that hampers the quality of care.

6.3 Limitations of WHO-AIMS

Although WHO-AIMS is a useful assessment tool for LAMICs, it has some limitations. One of the most notable limitations involves the lack of psychometric approaches employed during the development process. Although the development of the instrument was systematic and involved mechanisms to assess face and content validity, it was not possible to conduct traditional quantitative psychometric analyses (e.g. item analysis, factor analysis) to establish other types of validity and reliability of the instrument due to the low sample size of the pilot study. The difficulty in obtaining a sample size large enough to conduct traditional psychometric analyses is not unusual in the programme evaluation field in which the unit of assessment is programmes rather than individuals.

A number of items in WHO-AIMS (25% of all items) consist of ordinal ranking scale items rather than a precisely measured numerator and denominator. These items were used when it was believed that precise data would be difficult to collect. For example, equity of access to mental health services for minority groups is a significant issue in most countries of the world, as most mental health resources in countries are disproportionately used by urban, affluent members of the ethnic (or religious) majority population. However, it is very difficult to operationalize quantitative items that assess this issue. Thus ordinal rank scale items were used when it was considered that the provision of a "best estimate" was better than not measuring the phenomenon at all (Morris & Saxena, 2008). However, the reliability and thus the validity of the information provided is limited, particularly when the data processes used for constructing a best estimate are not systematic and transparently reported. WHO-AIMS will need to strengthen this area through the implementation of structured assessment methods, such as Delphi rounds.

In addition, the validity of many of the quantitative indicators is not established. For example, the diagnostic data provided in WHO-AIMS are based on administrative data and may be of low quality. However, the grouping of ICD-10 diagnoses into large diagnostic classes, as has been done in WHO-AIMS, may increase their validity. This is because differentiating between classes of disorders (schizophrenia versus depression) is perhaps easier than differentiating within classes of disorders. Finally, despite the comprehensiveness of WHO-AIMS in assessing mental health systems for assisting people with mental disorders, the instrument is limited in its ability to assess mental health promotion activities, including the measurement of community support systems for those in distress. Despite these limitations, however, WHO-AIMS data are able to highlight many central aspects of mental health systems in developing countries.

Although useful information on mental health systems has been provided through WHO-AIMS, the instrument needs to be further developed and refined. Future revisions based on ongoing data collection should serve to strengthen the instrument. This ongoing process should not only improve the instrument, but also provide the necessary information to help build policy and service delivery for people with mental disorders around the world. The data collection in the countries was carried out using primarily local resources, with a small amount of external assistance. This was a deliberate choice in order to enhance local ownership of the data. However, low levels of external resources somewhat limited the extent to which data could be checked for reliability through triangulation of the data.

6.4 Use of WHO-AIMS information to strengthen mental health systems: "what gets measured, gets done"

Despite the limitations of WHO-AIMS, the high response rate on the majority of the indicators, as well as the fact that much of the information gathered is consistent with reports from other sources, attests to the feasibility and usefulness of the instrument. Many of the findings presented in this report will not come as a surprise to knowledgeable readers, but by making these findings explicit they become a powerful tool for advocacy, programme planning and evaluation. Previous studies and reports have suggested that resources are scarce, inequitably distributed and inefficiently used (Saxena et al., 2007b), and that integration of mental health care into PHC is poor (WHO-WONCA, 2008). The WHO-AIMS study, through carefully defined indicators, provides more accurate and reliable baseline information. It is now possible to quantify the weaknesses in community mental health services, the poor level of integration of mental health care into PHC, and the extent to which human rights concerns are neglected within the mental health system.

The role and importance of information is often underestimated in mental health systems, not only in LAMICs but also in high-income countries (Pincus et al., 2007). For many countries, this is the first time that comprehensive information on their mental health systems has become available. Yet, as the saying goes, "what gets measured, gets done". There are a number of ways that information gathered through WHO-AIMS can be and is being used to strengthen mental health systems. First, WHO-AIMS assesses the essential building blocks of mental health systems, thus providing a useful and accurate portrait of countries' mental health systems. This information, in turn, can be used for scaling up mental health care. Scaling up is the deliberate effort to increase the impact of health service interventions that have been successfully tested in pilot projects so that they can benefit more people and foster sustainable policy and programme

development (WHO 2008a). But without good information, a rational use of resources is not possible and the scaling up of services would be limited. The information provided by WHO-AIMS is thus an essential element in helping countries to fulfil the objectives of the Mental Health Gap Action Programme (mhGAP) of WHO.

In addition, information provided in this report can be an effective advocacy tool. Reform of the mental health system is not only a matter of resources; it also implies a cultural and scientific change of mentality among the key stakeholders, such as service users, mental health professionals, health managers and politicians. When WHO-AIMS evidence shows that 80% of the mental health budget's financial resources are directed to mental hospitals and that a shift towards community care is necessary to bridge the treatment gap, this information should help countries to prioritize their mental health agenda in addition to enriching the scientific debate on mental health systems.

The collection and dissemination of information can also bring key stakeholders together to tackle major weaknesses in the system. Results from the follow-up survey indicate that 74% of the participating countries (31 countries) have held national workshops with relevant stakeholders to report and discuss WHO-AIMS results. WHO-AIMS country reports have been disseminated and have helped build a network of stakeholders who can plan and contribute to continuous improvements in the mental health system.

With baseline information now available, and a network of stakeholders assembled, participating countries are in a much better position to develop plans to strengthen their mental health systems. Some countries that have completed a WHO-AIMS assessment have already started this process: 15 of them have developed a specific plan to strengthen their mental health systems based on WHO-AIMS results. Summaries of these plans are available online at: http://en.cittadinanza.org/progetti/primo-meeting-internazionale-su-oms-aims-rafforzare-i-sistemi-di-salute-mentale-nei-paesi-a-basso-e-medio-reddito/project-proposals/. Moreover, results from the follow-up survey indicate that 23 countries (55%) have used WHO-AIMS results to plan specific mental health activities, primarily in the area of integration of mental health care into PHC and for the development of community mental health services. Eighteen countries (43%) have used WHO-AIMS results to develop or revise their mental health policies or plans.

Once plans have been developed and implemented, information is needed to monitor changes in the mental health system. It is thus important for countries to develop efficient and sustainable mental health information systems, and to use and disseminate the collected information. Twelve countries (29%) have reported that they have used WHO-AIMS to help strengthen their mental health monitoring systems.

In summary, this report provides basic information on mental health systems in selected LAMICs. The report highlights the urgent need for additional resources and the importance of ensuring that the limited resources available should be used in better ways: they should be more equitably distributed and resources concentrated in mental hospitals should be diverted to community care. The information derived from WHO-AIMS can be used to develop plans for strengthening community care and scaling up services to reduce the treatment gap.

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Well functioning mental health systems are essential for reducing the heavy burden of mental disorders. This report summarizes descriptive data on mental health systems of selected low- and middle-income countries (LAMICs) using the *World Health Organization Assessment Instrument for Mental Health Systems (WHO-AIMS)*.

Results suggest that a systematic assessment of mental health systems is possible in LAMICs. The comprehensive and detailed information gathered through WHO-AIMS and summarized in this report provides a better understanding of mental health systems in these countries. Results indicate that mental health resources and activities are scarce, inequitably distributed and inefficiently used; community-based mental health services are underdeveloped; mental health systems are often not well connected to other relevant sectors, such as the primary health care system; and that insufficient attention is given to human rights.

This report highlights the urgent need for additional resources, and the importance of ensuring better use of the limited resources available: they need to be more equitably distributed and resources concentrated in mental hospitals should be diverted to community care. The information derived from this WHO-AIMS study is being used to develop plans for strengthening community care and scaling up services for people with mental disorders, hence contributing to the objectives of the Mental Health Gap Action Programme (mhGAP) of the World Health Organization.