

PLANNING AND BUDGETING TO DELIVER SERVICES FOR MENTAL HEALTH

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can help build effective mental health
services. Methods are now available
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**World Health
Organization**

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Technical information concerning this publication can be obtained from:

Dr Michelle Funk

Department of Mental Health and Substance Abuse

World Health Organization

20 Avenue Appia

CH-1211, Geneva 27

Switzerland

Tel : +41 22 791 3855

Fax : +41 22 791 4160

E-mail : funkm@who.int

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This module has been prepared by Dr Crick Lund, Department of Psychiatry and Mental Health, University of Cape Town, South Africa, Dr Michelle Funk, World Health Organization, Switzerland and Dr Andrew Green, Nuffield Centre for International Health and Development, University of Leeds, UK. Contributions were also received from Professor Alan J. Flisher, University of Cape Town, South Africa and Professor Martin Knapp, London School of Economics and Political Science, United Kingdom.

Editorial and technical coordination group:

Dr Michelle Funk, World Health Organization, Headquarters (WHO/HQ), Ms Natalie Drew, (WHO/HQ), Dr JoAnne Epping-Jordan, (WHO/HQ), Professor Alan J. Flisher, University of Cape Town, Observatory, Republic of South Africa, Professor Melvyn Freeman, Department of Health, Pretoria, South Africa, Dr Howard Goldman, National Association of State Mental Health Program Directors Research Institute and University of Maryland School of Medicine, USA, Dr Itzhak Levav, Mental Health Services, Ministry of Health, Jerusalem, Israel and Dr Benedetto Saraceno, (WHO/HQ).

Dr Crick Lund, University of Cape Town, Observatory, Republic of South Africa finalized the technical editing of this module.

Technical assistance:

Dr Jose Bertolote, World Health Organization, Headquarters (WHO/HQ), Dr Thomas Bornemann (WHO/HQ), Dr José Miguel Caldas de Almeida, WHO Regional Office for the Americas (AMRO), Dr Vijay Chandra, WHO Regional Office for South-East Asia (SEARO), Dr Custodia Mandlhate, WHO Regional Office for Africa (AFRO), Dr Claudio Miranda (AMRO), Dr Ahmed Mohit, WHO Regional Office for the Eastern Mediterranean, Dr Wolfgang Rutz, WHO Regional Office for Europe (EURO), Dr Erica Wheeler (WHO/HQ), Dr Derek Yach (WHO/HQ), and staff of the WHO Evidence and Information for Policy Cluster (WHO/HQ).

Administrative and secretarial support:

Ms Adeline Loo (WHO/HQ), Mrs Anne Yamada (WHO/HQ) and Mrs Razia Yaseen (WHO/HQ).

Layout and graphic design: 2S) graphicdesign
Editor: Walter Ryder

WHO also gratefully thanks the following people for their expert opinion and technical input to this module:

Dr Adel Hamid Afana	Director, Training and Education Department, Gaza Community Mental Health Programme
Dr Bassam Al Ashhab	Ministry of Health, Palestinian Authority, West Bank
Mrs Ella Amir	Ami Québec, Canada
Dr Julio Arboleda-Florez	Department of Psychiatry, Queen's University, Kingston, Ontario, Canada
Ms Jeannine Auger	Ministry of Health and Social Services, Québec, Canada
Dr Florence Baingana	World Bank, Washington DC, USA
Mrs Louise Blanchette	University of Montreal Certificate Programme in Mental Health, Montreal, Canada
Dr Susan Blyth	University of Cape Town, Cape Town, South Africa
Ms Nancy Breitenbach	Inclusion International, Ferney-Voltaire, France
Dr Anh Thu Bui	Ministry of Health, Koror, Republic of Palau
Dr Sylvia Caras	People Who Organization, Santa Cruz, California, USA
Dr Claudina Cayetano	Ministry of Health, Belmopan, Belize
Dr Chueh Chang	Taipei, Taiwan, China
Professor Yan Fang Chen	Shandong Mental Health Centre, Jinan, China
Dr Chantharavdy Choulamany	Mahosot General Hospital, Vientiane, Lao People's Democratic Republic
Dr Ellen Corin	Douglas Hospital Research Centre, Quebec, Canada
Dr Jim Crowe	President, World Fellowship for Schizophrenia and Allied Disorders, Dunedin, New Zealand
Dr Araba Sefa Dedeh	University of Ghana Medical School, Accra, Ghana
Dr Nimesh Desai	Professor of Psychiatry and Medical Superintendent, Institute of Human Behaviour and Allied Sciences, India
Dr M. Parameshvara Deva	Department of Psychiatry, Perak College of Medicine, Ipoh, Perak, Malaysia
Professor Saida Douki	President, Société Tunisienne de Psychiatrie, Tunis, Tunisia
Professor Ahmed Abou El-Azayem	Past President, World Federation for Mental Health, Cairo, Egypt
Dr Abra Fransch	WONCA, Harare, Zimbabwe
Dr Gregory Fricchione	Carter Center, Atlanta, USA
Dr Michael Friedman	Nathan S. Kline Institute for Psychiatric Research, Orangeburg, NY, USA
Mrs Diane Froggatt	Executive Director, World Fellowship for Schizophrenia and Allied Disorders, Toronto, Ontario, Canada
Mr Gary Furlong	Metro Local Community Health Centre, Montreal, Canada
Dr Vijay Ganju	National Association of State Mental Health Program Directors Research Institute, Alexandria, VA, USA
Mrs Reine Gobeil	Douglas Hospital, Quebec, Canada
Dr Nacanieli Goneyali	Ministry of Health, Suva, Fiji
Dr Gaston Harnois	Douglas Hospital Research Centre, WHO Collaborating Centre, Quebec, Canada
Mr Gary Haugland	Nathan S. Kline Institute for Psychiatric Research, Orangeburg, NY, USA
Dr Yanling He	Consultant, Ministry of Health, Beijing, China
Professor Helen Herrman	Department of Psychiatry, University of Melbourne, Australia

Mrs Karen Hetherington	WHO/PAHO Collaborating Centre, Canada
Professor Frederick Hickling	Section of Psychiatry, University of West Indies, Kingston, Jamaica
Dr Kim Hopper	Nathan S. Kline Institute for Psychiatric Research, Orangeburg, NY, USA
Dr Tae-Yeon Hwang	Director, Department of Psychiatric Rehabilitation and Community Psychiatry, Yongin City, Republic of Korea
Dr Alexander Janca	University of Western Australia, Perth, Australia
Dr Dale L. Johnson	World Fellowship for Schizophrenia and Allied Disorders, Taos, NM, USA
Dr Kristine Jones	Nathan S. Kline Institute for Psychiatric Research, Orangeburg, NY, USA
Dr David Musau Kiima	Director, Department of Mental Health, Ministry of Health, Nairobi, Kenya
Mr Todd Kriebel	Ministry of Health, Wellington, New Zealand
Mr John P. Kummer	Equilibrium, Unteraegeri, Switzerland
Professor Lourdes Ladrado-Ignacio	Department of Psychiatry and Behavioural Medicine, College of Medicine and Philippine General Hospital, Manila, Philippines
Dr Pirkko Lahti	Secretary-General/Chief Executive Officer, World Federation for Mental Health, and Executive Director, Finnish Association for Mental Health, Helsinki, Finland
Mr Eero Lahtinen,	Ministry of Social Affairs and Health, Helsinki, Finland
Dr Eugene M. Laska	Nathan S. Kline Institute for Psychiatric Research, Orangeburg, NY, USA
Dr Eric Latimer	Douglas Hospital Research Centre, Quebec, Canada
Dr Ian Lockhart	University of Cape Town, Observatory, Republic of South Africa
Dr Marcelino López	Research and Evaluation, Andalusian Foundation for Social Integration of the Mentally Ill, Seville, Spain
Ms Annabel Lyman	Behavioural Health Division, Ministry of Health, Koror, Republic of Palau
Dr Ma Hong	Consultant, Ministry of Health, Beijing, China
Dr George Mahy	University of the West Indies, St Michael, Barbados
Dr Joseph Mbatia	Ministry of Health, Dar es Salaam, Tanzania
Dr Céline Mercier	Douglas Hospital Research Centre, Quebec, Canada
Dr Leen Meulenbergs	Belgian Inter-University Centre for Research and Action, Health and Psychobiological and Psychosocial Factors, Brussels, Belgium
Dr Harry I. Minas	Centre for International Mental Health and Transcultural Psychiatry, St. Vincent's Hospital, Fitzroy, Victoria, Australia
Dr Alberto Minoletti	Ministry of Health, Santiago de Chile, Chile
Dr Paula Mogne	Ministry of Health, Mozambique
Dr Paul Morgan	SANE, South Melbourne, Victoria, Australia
Dr Driss Moussaoui	Université psychiatrique, Casablanca, Morocco
Dr Matt Muijen	The Sainsbury Centre for Mental Health, London, United Kingdom
Dr Carmine Munizza	Centro Studi e Ricerca in Psichiatria, Turin, Italy
Dr Shisram Narayan	St Giles Hospital, Suva, Fiji
Dr Sheila Ndyabangi	Ministry of Health, Kampala, Uganda
Dr Grayson Norquist	National Institute of Mental Health, Bethesda, MD, USA
Dr Frank Njenga	Chairman of Kenya Psychiatrists' Association, Nairobi, Kenya

Dr Angela Ofori-Atta	Clinical Psychology Unit, University of Ghana Medical School, Korle-Bu, Ghana
Professor Mehdi Paes	Arrazi University Psychiatric Hospital, Sale, Morocco
Dr Rampersad Parasram	Ministry of Health, Port of Spain, Trinidad and Tobago
Dr Vikram Patel	Sangath Centre, Goa, India
Dr Dixianne Penney	Nathan S. Kline Institute for Psychiatric Research, Orangeburg, NY, USA
Dr Yogan Pillay	Equity Project, Pretoria, Republic of South Africa
Dr M. Pohanka	Ministry of Health, Czech Republic
Dr Laura L. Post	Mariana Psychiatric Services, Saipan, USA
Dr Prema Ramachandran	Planning Commission, New Delhi, India
Dr Helmut Remschmidt	Department of Child and Adolescent Psychiatry, Marburg, Germany
Professor Brian Robertson	Department of Psychiatry, University of Cape Town, Republic of South Africa
Dr Julieta Rodriguez Rojas	Integrar a la Adolescencia, Costa Rica
Dr Agnes E. Rupp	Chief, Mental Health Economics Research Program, NIMH/NIH, USA
Dr Ayesh M. Sammour	Ministry of Health, Palestinian Authority, Gaza
Dr Aive Sarjas	Department of Social Welfare, Tallinn, Estonia
Dr Radha Shankar	AASHA (Hope), Chennai, India
Dr Carole Siegel	Nathan S. Kline Institute for Psychiatric Research, Orangeburg, NY, USA
Professor Michele Tansella	Department of Medicine and Public Health, University of Verona, Italy
Ms Mrinali Thalgodapitiya	Executive Director, NEST, Hendala, Watala, Gampaha District, Sri Lanka
Dr Graham Thornicroft	Director, PRISM, The Maudsley Institute of Psychiatry, London, United Kingdom
Dr Giuseppe Tibaldi	Centro Studi e Ricerca in Psichiatria, Turin, Italy
Ms Clare Townsend	Department of Psychiatry, University of Queensland, Toowoing Qld, Australia
Dr Gombodorjiin Tsetsegdary	Ministry of Health and Social Welfare, Mongolia
Dr Bogdana Tudorache	President, Romanian League for Mental Health, Bucharest, Romania
Ms Judy Turner-Crowson	Former Chair, World Association for Psychosocial Rehabilitation, WAPR Advocacy Committee, Hamburg, Germany
Mrs Pascale Van den Heede	Mental Health Europe, Brussels, Belgium
Ms Marianna Várfalvi-Bognarne	Ministry of Health, Hungary
Dr Uldis Veits	Riga Municipal Health Commission, Riga, Latvia
Mr Luc Vigneault	Association des Groupes de Défense des Droits en Santé Mentale du Québec, Canada
Dr Liwei Wang	Consultant, Ministry of Health, Beijing, China
Dr Xiangdong Wang	Acting Regional Adviser for Mental Health, WHO Regional Office for the Western Pacific, Manila, Philippines
Professor Harvey Whiteford	Department of Psychiatry, University of Queensland, Toowoing Qld, Australia
Dr Ray G. Xerri	Department of Health, Floriana, Malta
Dr Xie Bin	Consultant, Ministry of Health, Beijing, China
Dr Xin Yu	Consultant, Ministry of Health, Beijing, China
Professor Shen Yucun	Peking University Institute of Mental Health, People's Republic of China
Dr Taintor Zebulon	President, WAPR, Department of Psychiatry, New York University Medical Center, New York, USA

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This module is part of the WHO Mental Health Policy and Service guidance package, which provides practical information to assist countries to improve the mental health of their populations.

What is the purpose of the guidance package?

The purpose of the guidance package is to assist policy-makers and planners to:

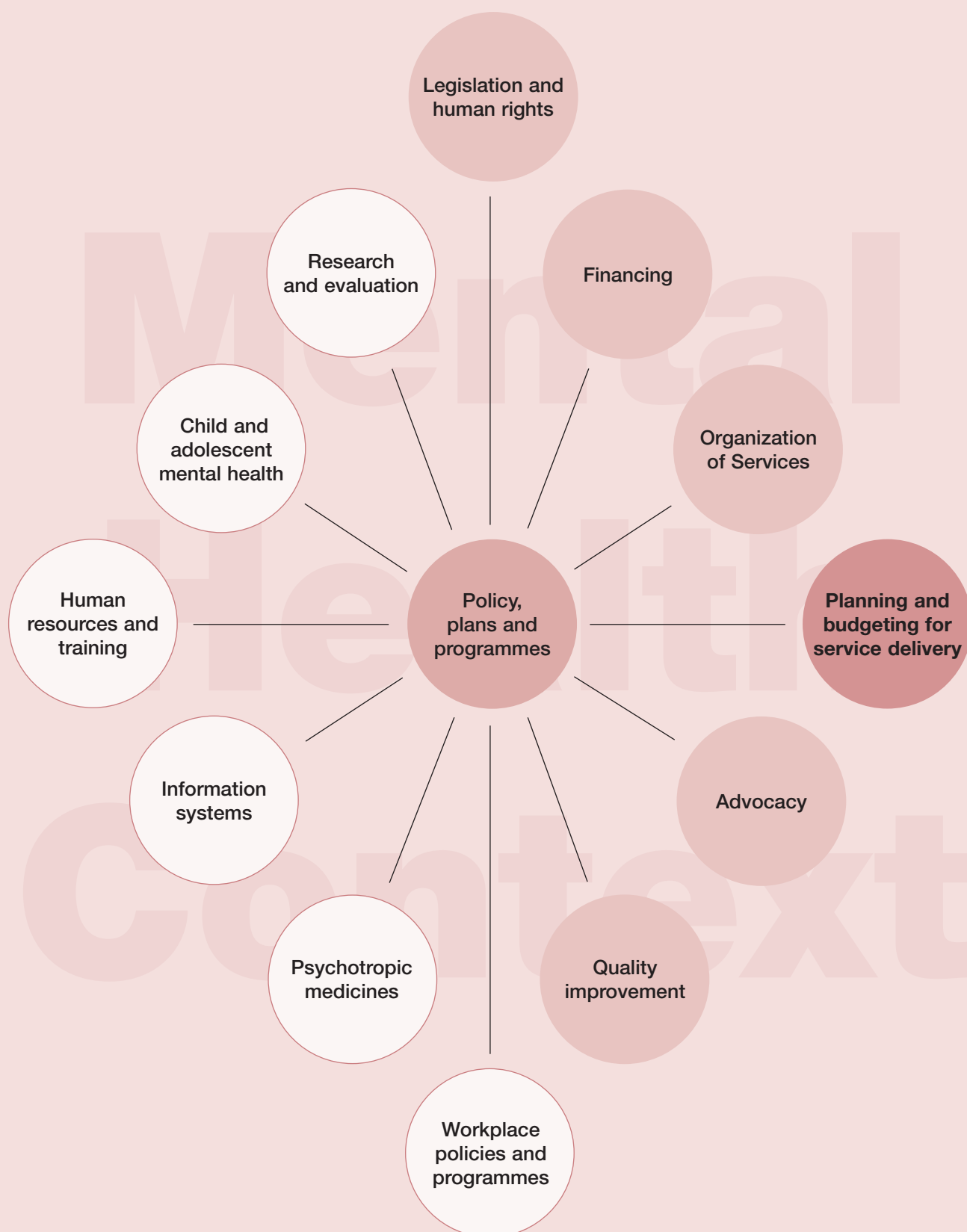
- develop policies and comprehensive strategies for improving the mental health of populations;
- use existing resources to achieve the greatest possible benefits;
- provide effective services to those in need;
- assist the reintegration of persons with mental disorders into all aspects of community life, thus improving their overall quality of life.

What is in the package?

The package consists of a series of interrelated user-friendly modules that are designed to address the wide variety of needs and priorities in policy development and service planning. The topic of each module represents a core aspect of mental health. The starting point is the module entitled The Mental Health Context, which outlines the global context of mental health and summarizes the content of all the modules. This module should give readers an understanding of the global context of mental health, and should enable them to select specific modules that will be useful to them in their own situations. Mental Health Policy, Plans and Programmes is a central module, providing detailed information about the process of developing policy and implementing it through plans and programmes. Following a reading of this module, countries may wish to focus on specific aspects of mental health covered in other modules.

The guidance package includes the following modules:

- > The Mental Health Context
- > Mental Health Policy, Plans and Programmes
- > Mental Health Financing
- > Mental Health Legislation and Human Rights
- > Advocacy for Mental Health
- > Organization of Services for Mental Health
- > Quality Improvement for Mental Health
- > Planning and Budgeting to Deliver Services for Mental Health



The following modules are not yet available but will be included in the final guidance package:

- > Improving Access and Use of Psychotropic Medicines
- > Mental Health Information Systems
- > Human Resources and Training for Mental Health
- > Child and Adolescent Mental Health
- > Research and Evaluation of Mental Health Policy and Services
- > Workplace Mental Health Policies and Programmes

Who is the guidance package for?

The modules will be of interest to:

- policy-makers and health planners;
- government departments at federal, state/regional and local levels;
- mental health professionals;
- groups representing people with mental disorders;
- representatives or associations of families and carers of people with mental disorders;
- advocacy organizations representing the interests of people with mental disorders and their relatives and families;
- nongovernmental organizations involved or interested in the provision of mental health services.

How to use the modules

- They can be used **individually or as a package**. They are cross-referenced with each other for ease of use. Countries may wish to go through each of the modules systematically or may use a specific module when the emphasis is on a particular area of mental health. For example, countries wishing to address mental health legislation may find the module entitled Mental Health Legislation and Human Rights useful for this purpose.
- They can be used as a **training package** for mental health policy-makers, planners and others involved in organizing, delivering and funding mental health services. They can be used as educational materials in university or college courses. Professional organizations may choose to use the package as an aid to training for persons working in mental health.
- They can be used as a framework for **technical consultancy** by a wide range of international and national organizations that provide support to countries wishing to reform their mental health policy and/or services.
- They can be used as **advocacy tools** by consumer, family and advocacy organizations. The modules contain useful information for public education and for increasing awareness among politicians, opinion-makers, other health professionals and the general public about mental disorders and mental health services.

Format of the modules

Each module clearly outlines its aims and the target audience for which it is intended. The modules are set out in a step-by-step format in order to assist countries to use and implement the guidance, which is not intended to be prescriptive or to be interpreted in a rigid way. Instead, countries are encouraged to adapt the material according to their own needs and circumstances. Practical examples from specific countries are used to illustrate particular aspects throughout the modules.

There is extensive cross-referencing between the modules. Readers of one module may need to consult another (as indicated in the text) should they wish further guidance.

All the modules should be read in the light of WHO's policy of providing most mental health care through general health services and community settings. Mental health is necessarily an intersectoral issue involving the fields of education, employment, housing, social services and the criminal justice system. Serious consultation with consumer and family organizations is essential in connection with the development of policy and the delivery of services.

Dr Michelle Funk

Dr Benedetto Saraceno

PLANNING
AND BUDGETING
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FOR MENTAL
HEALTH

Mental health service planners, managers and service providers are often faced with the following questions. What physical and human resources are required to deliver a mental health service? What facilities, staff and medication does a local mental health service need to provide care that is effective, efficient and of acceptable quality? How can mental health services be delivered when financial resources are limited, and how much money is needed for a mental health service?

Unfortunately, answering these questions is not easy. There are significant differences between countries in respect of the mental health resources available to them. Moreover, demands for services vary between countries and there are unique cultural expressions of need in some countries. The economic context of a country frequently shapes the mental health resources that are available.

For these reasons it is impossible to recommend a minimum level of care or a global norm, such as a minimum number of beds or staff. Apart from being inappropriate for countries' specific needs, recommending general figures is of limited value as these are often taken out of context.

Consequently, countries are faced with having to provide their own answers to these questions. This can be done through careful planning based on a thorough assessment of local needs and existing services.

The purpose of this module is to set out, in a clear, rational manner, a model for assessing a local population's mental health care needs and for planning services accordingly. In doing so the module aims to provide countries with a set of planning and budgeting tools that can assist with the delivery of mental health services. A pragmatic approach to service planning is presented, making use of the best available information. All relevant stakeholders are taken into account.

The tools are set out in a series of four planning steps, and examples from specific countries are given.

Step A: **Situation analysis** of current mental health services and service funding.

Step B: **Assessment of needs** for mental health services.

Step C: **Target-setting** for mental health services.

Step D: **Implementation** of service targets through budget management, monitoring and evaluation.

The planning and budgeting process is a cycle. As new information on service developments, utilization and outcomes emerges, changes can be made to the situation analysis, the needs assessment and the subsequent planning.

Step A. Situation analysis

Task 1. Identify the population to be served

- Mental health service planners or managers should begin by identifying the population or catchment area to be served by the mental health system.
- Specific characteristics of the population, such as age distribution, population density, level of social deprivation and presence of refugees should be indicated so that special needs can be anticipated.

Task 2. Review the *context* of mental health care

- > Mental health service managers or planners have to understand the local context of mental health care.
- > This may include a range of information, relating, for instance, to the history of mental health services in the area concerned, the current policy on mental health, the economic circumstances and the cultural background. Much of this information may be qualitative in nature.

Task 3. Consult with all relevant stakeholders

- > Consultation with all stakeholders in mental health is an essential part of planning.
- > Planners should identify the key stakeholders and ensure that they are consulted at the relevant stages of the planning process.
- > Consultation over differing service priorities and cultural interpretations of mental health problems is particularly important.
- > Involving stakeholders in both the design and implementation of service plans can lead to improved data quality, improved cooperation in the implementation of service plans, decision-making informed by reliable data, and increased public accountability.

Task 4. Identify responsibility for the mental health *budget and plan*

- > Mental health service managers should ascertain the extent of their own responsibility for the mental health budget and plan. This includes understanding the extent and limits of the available budget, such as its integration with general health and other sectors.
- > Where possible, changes should be made which enable effective planning and make the best use of available skills.
- > Other key stakeholders who authorize the size and deployment of the mental health budget should be identified.
- > It is important to identify key forums and targets for negotiation over the mental health budget with a view to future service development.

Task 5. Review current *public sector service resources*

- > The next task is to review the services that exist and the service resources that are currently available in the public sector.
- > This requires the use of service indicators to summarize information on current service resources, such as staff, beds, facilities and medications.
- > The review should cover all aspects of the provision of mental health services in the public sector, whether in specialist services or in services integrated into general health care, e.g. primary care.

Task 6. Review *other-sector service resources*

- > Mental health service managers should review the services that exist and the service resources that are currently available in other sectors, including nongovernmental organizations and private-for-profit providers.
- > This requires the use of service indicators in order to summarize information on current service resources in non-public sectors.
- > This review requires consultation and collaboration with service providers in other sectors.
- > Criteria should be developed for the acceptability of mental health service providers, including financial sustainability and quality of care.

Task 7. Review *current service utilization (demand) in all sectors*

- > Mental health service managers should review the way in which all mental health services are used in the local area concerned. This is a measure of the current demand for services.
- > This requires the use of service indicators in order to summarize information on current service utilization.
- > This review requires consultation and collaboration with service providers in other sectors.
- > The equity of current service utilization should be assessed.

Step B. Needs assessment

The next step is to establish the needs of the local population for mental health care.

Task 1. Establish *prevalence/incidence/severity of priority conditions*

- > Broad priorities should be established as to which conditions a service hopes to treat so that a needs assessment can be conducted.
- > Epidemiological data may be used as a proxy for needs. Annual prevalence data are particularly useful for calculating the service requirements of a local population during an average year.
- > Planners should choose the best available data that are appropriate. If local or national epidemiological data are not available, epidemiological data from other similar settings may have to be adapted and supplemented with local expert opinion.
- > Prevalence data can produce an overestimation of likely service utilization in some settings. For this reason they should be interpreted with caution and supplemented with information on local service needs, disability and the severity of conditions.

Task 2. *Adjust prevalence data*

- > Prevalence data should be adjusted in accordance with local population variables, such as age distribution, gender and social status.

Task 3. Identify the number of expected cases per year

- On the basis of consultation, priority-setting, prevalence figures and adjustment according to local population variables, it becomes possible to specify the expected number of cases per year for the target population.

Task 4. Estimate service resources for the identified needs

- The service items and components of care required for the identified cases during the specified year should be described.
- The service items and facilities required include outpatient services, day services, inpatient services, medications and staff. These provide a framework for essential mental health service needs, around which support systems can be developed in accordance with specific countries' capacities.
- The indicators for these services include daily patients' visits, day service places, beds, medications and staff numbers. They can be calculated from the estimated number of cases in the local area by means of the formulae provided.
- An outline of the likely resources required for mental health care in the local area can then be provided.

Task 5. Cost resources for estimated services

- Mental health service managers and planners should cost the target service resources they have identified in Task 4.
- This can be done by identifying the service activities and resources, translating these resources into money terms, adding contingencies and adjusting for inflation.
- Certain considerations need to be kept in view when costing, including unit costs, cost relationships and the apportionment of joint costs.

Step C. Target-setting

In this crucial step all the information from the previous steps is collated so that future planning can take place.

Task 1. Set priorities - Identify the unmet need of highest priority from gaps between steps A and B

- On the basis of the information gathered from the situation analysis (step A) and the needs assessment (step B), priorities can be set for the local mental health service.
- The chief task of the planner at this stage is to reconcile the differences between current service realities and the estimates of need. A comparison of the data should highlight the most urgent service priorities.
- This task involves applying criteria for service priorities, including the magnitude of mental health problems, the perceived importance of conditions, the severity of conditions, susceptibility to management, and costs.

Task 2. Option appraisal

- Service planners and managers should appraise service options for the most urgent priorities.
- Criteria for considering options for service development include: technical, administrative and legal feasibility; financial and resource availability; long-term sustainability; acceptability; knock-on effects; equity and distributional effects; potential for transition from pilot project to service reality; and general health department criteria for option appraisal.
- Options for commissioning or contracting services may need to be considered by service managers at this stage.

Task 3. Set targets for service plans on a medium-term time scale of three to five years

- On the basis of the option appraisal, targets can proceed to specific plans for service delivery, with details of expected costs, activities and the time frame for implementation.
- Targets should be set in accordance with a specific time frame and may include: new service functions and necessary facilities; extending the capacity of current services; disinvesting from services of lower priority; and proposing the collection of new data necessary for the next planning cycle.
- A document outlining the plan for the mental health service should be produced, covering background, objectives, the strategies and timetable for implementation, and budget.
- Links should be made with national mental health plans and district general health plans.

Step D. Implementation

Task 1. Budget management

- Mental health service managers should familiarize themselves with the budgeting process and should clarify their own role in reviewing the previous budget. The service targets developed in step C should be used for negotiating the forthcoming budget.
- Financial management and accounting systems should be in place in order to allow for the effective management and monitoring of the mental health budget and those aspects of the general health budget which are pertinent to mental health.
- Monitoring systems should detect potential overspending or underspending at an early stage so that remedial action can be taken.

Task 2. Monitoring

- > Monitoring should take place on an ongoing basis, primarily through the development of information systems and quality improvement mechanisms.
- > Considerations in the ongoing management of mental health services include the need to develop both visible and invisible inputs, the balance between hospital and community services, and the balance between clinical services, clinical support services and non-clinical support services.

Task 3. Evaluation

- > The final step in planning and budgeting for mental health care is to evaluate the service. This completes the cycle of planning and budgeting. Evaluations should lead to a review of services and to planning for future budgets and service delivery.
- > The need for evaluation underlines a crucial conceptual cornerstone of mental health service planning. The purpose of planning is not only to ensure a set of service resources or inputs (such as a minimum budget or a minimum number of beds) but also to promote effective outcomes for people with mental disorders.
- > Mental health service managers should understand not only which mental health interventions are effective but also which are cost-effective.
- > Conducting economic evaluations can provide managers and planners with very relevant information on the likely costs and outcomes of service delivery.
- > Economic evaluations may use cost-effectiveness, cost-utility or cost-benefit analyses to appraise local mental health services. The results of these evaluations should be set alongside other data when decisions are being taken.
- > Economic evaluations complete the cycle of planning for mental health and should lead to target-setting for future mental health budgets and plans.

Recommendations and conclusions

This module provides a systematic approach to planning and budgeting for local mental health services. This can be done by assessing them (including resources and demand), estimating the need for mental health care, setting targets (based on priorities identified by a comparison of existing services and needs) and implementing them through ongoing service management, budgeting and evaluation.

This approach can be applied comprehensively to all aspects of a mental health service, including mental health promotion, the prevention of disorders, and treatment and rehabilitation.

In order to make full use of this module, countries should adapt the planning tools to their specific circumstances.

- > For countries with minimal or no mental health services the module provides guidance on assessing the local services that exist and the need for services. Targets can then be set for initial service priorities within existing budgetary constraints.

- > For countries with some general health services but few mental health services or none the module provides information on specific aspects of mental health service planning which might not be known to general health planners. This can facilitate the identification of mental health priorities within the general health service infrastructure.
- > For countries with the capacity to provide mental health services the module enables a detailed assessment of current resources and needs. Specific target-setting, budgeting and implementation should be possible on this basis.

Planning is not always a rational process and planners may encounter difficulties associated with political differences, personal power struggles and the conflicting needs of various stakeholders. The process of reforming a service may take time and may require the mobilization of political will to bring about substantial improvements. Notwithstanding these difficulties and the length of the process, the goal of improving mental health care and the mental health of local populations is undoubtedly attainable.

Aims and target audience

The purpose of this module is to set out a clear and rational model for assessing the needs of local populations for mental health care and for planning services accordingly.

The module aims to provide countries with a set of planning and budgeting tools that can assist with the delivery of mental health services in local areas. It presents a pragmatic approach to service planning, making use of the best available information and taking account of the views of all relevant stakeholders.

The tools are set out in the following series of planning steps.

Step A: **Situation analysis** of current mental health services and service funding.

Step B: **Assessment of needs** for mental health services.

Step C: **Target-setting** for mental health services.

Step D: **Implementation** of service targets through budget management, monitoring and evaluation.

In order to demonstrate how the model works a detailed **example** is presented for each step. This provides an illustration of how countries might calculate their own resources and budgets by using their own data. The data presented are examples and should not be interpreted as recommendations for the volume of services (e.g. quantities of beds, staff and medications).

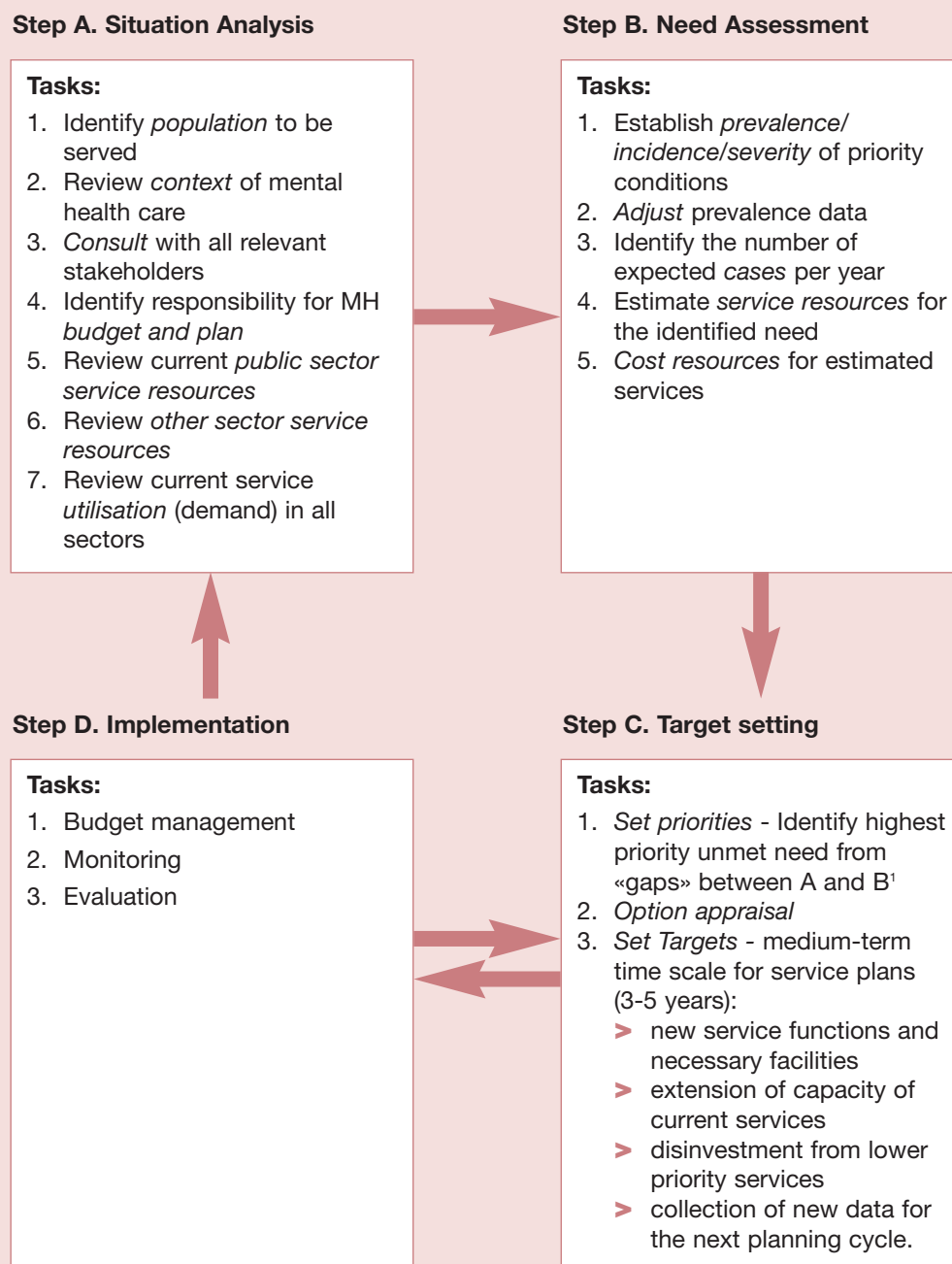
The planning and budgeting cycle

The planning and budgeting process is cyclic. As new information on service developments, utilization and outcomes emerges, changes can be made to the assessment of needs and subsequent planning. Figure 1, outlining the four-step planning model, illustrates the cyclical nature of the planning process.

This module aims to provide countries with a set of planning and budgeting tools that can assist with the delivery of mental health services in local areas.

The planning tools are set out in a series of four steps with examples from specific countries.

Figure 1 Steps in planning and budgeting for mental health services



How to use this planning module

Steps A to D are necessary for the systematic planning of an entire mental health service. Once targets are established from steps A and B, steps C and D can be cycled annually by using the rolling plan outlined below. In this way the overall objective is maintained and services are reviewed and monitored annually and budget adjustments are made in line with what is achieved. In order to update targets a more systematic review of services and service needs, again incorporating steps A and B, may be required at intervals of about five years.

In the top right-hand corner of each page the shading in a small diagram indicates where the reader is in the planning cycle. For example:



indicates that the reader is in step A.

These steps do not need to be followed rigidly, and countries can adapt them and change the order in accordance with their own needs and priorities. It should be emphasized that planning is an ongoing and lengthy process. Countries can begin planning and reform without needing to complete every step in this module. The module does not have to be followed exactly. It is intended to be a flexible tool that can be adapted to countries' specific needs and circumstances. For example, it may be desirable for some countries to establish the need for services (step B) before they review current resources and current demand (step A).

Time frame

Service needs are calculated for an **average year** in this planning model. This makes use of one-year prevalence data, enabling planners to estimate the need for services within a given one-year period and within an annual budget. Service utilization data such as admission rates and outpatient attendances are calculated accordingly, e.g. annual admission rates, annual outpatient attendances.

Planning for an average year needs to take place in the context of more long-term planning. A **rolling plan** offers the opportunity to convert longer-term targets, set for a period of three to five years, into annual budgets. Such a plan allows for changes according to needs, resources and demands, but not for deviations from the broad strategy or momentum that has been established. Every year the plan is rolled forward and more detailed planning is provided for what were previously years two and three (Figure 2).

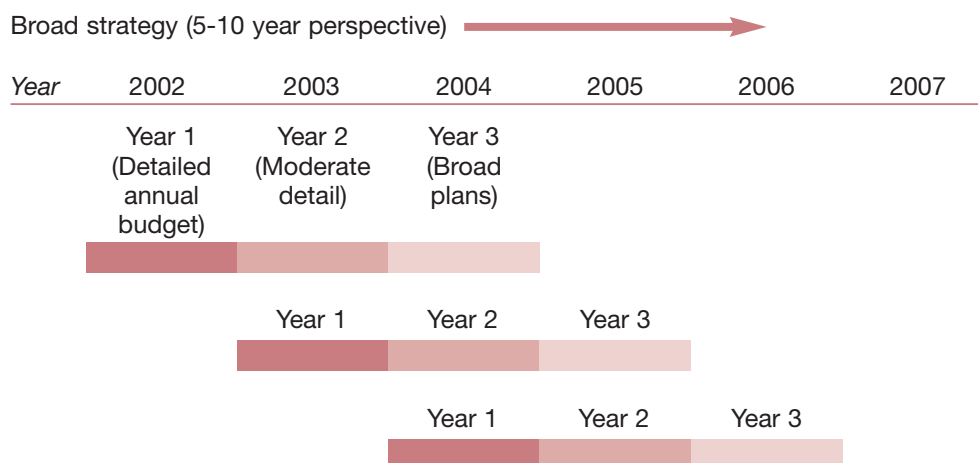
Three-year rolling plans set out service development goals in varying degrees of detail, depending on their closeness in time. Thus:

- > Year 3 is described in broad outlines, e.g. which long-stay psychiatric institutions will be reduced in size, and where funding will be redirected to community-based care.
- > Year 2 provides more detailed information, e.g. the number of beds that are to be removed from long-stay psychiatric institutions, and more precise indications of the funds that are to be redirected to particular services.
- > Year 1 is the most detailed, e.g. precise operational costs of deinstitutionalization, precise reallocation of funds from hospital to community services, dual running costs for institutions and community care, costs of training community staff, and dates for closing wards and opening community services.

In this planning model, service needs are calculated for an average year.

A rolling plan offers the opportunity to convert longer-term targets, set for a period of three to five years, into annual budgets.

Figure 2 Three-year rolling plan cycles



Source: Adapted from (Green, 1999)

Target audience

This module is written for **mental health service managers and planners** who are working mainly in the public sector. It is essential that mental health managers be well informed about the financial aspects of mental health service planning and delivery if they are to develop mental health service capacity, particularly within integrated general health services. This is why budgeting is included as an integral part of mental health service planning. For mental health service managers and planners who have little experience of budgeting the module therefore has an educational as well as a guidance function. No previous expertise in health economics is necessary in order to assimilate the contents of the module.

In this module, emphasis is placed on the provision of mental health services by a **public sector** or state-organized health service. It may be the role of public sector managers and planners to coordinate or regulate the mental health activities of other sectors, including the private sector, nongovernmental organizations and the informal sector. This role grows in importance as the boundaries between public and private become increasingly blurred.

Emphasis is also placed on mental health planning and budgeting in an **integrated general health service**, in which mental health care is only one component among a range of other health care services. As mental health services are frequently integrated into general health care there may be certain aspects of the mental health budget that are subsumed under the general health budget. For example, mental health nurses at the primary care level may be funded from the general health budget. However, it is assumed that some protection of specific mental health funds is necessary within an integrated service. (See *Mental Health Financing* for a more detailed discussion of the advantages and disadvantages of separate and integrated budgets.)

This module concentrates on planning and budgeting for mental health services at the **local** level. Some degree of decentralization of budgeting authority to this level is assumed. (See *Mental Health Financing* for a more detailed discussion of centralized vs. decentralized budgets.)

This module should be used in accordance with countries' specific circumstances. Within local services there may be a **variety of scenarios**, depending on the extent of service development.

This module is written for mental health service managers and planners.

Emphasis is placed on the responsibility of the public sector for the provision of mental health services.

Emphasis is placed on mental health planning and budgeting within an integrated general health service.

The emphasis is on the planning of services at the local level.

> Scenario A

A district may have no capacity to plan for either general or mental health services. For example, there are unlikely to be specific budgets for mental health or specific coordinators responsible for mental health planning at the district level.

For scenario A this module provides guidance on how to assess the local services that exist and the need for services. Among the questions that arise are the following. What services (if any) are available? Is there provision by the informal sector, e.g. by family members, religious organizations or traditional healers? Are any funds available for service development? What are the needs for services?

Planners may have to examine national or central policies and plans for guidance on the potential development of mental health services at the local level. The module therefore provides tools for making proposals and developing initial services at this level. It may not be feasible to pursue some details in some steps. This could be the case, for example, if the information available for assessing service utilization (demand) is limited.

> Scenario B

A district may have the capacity to plan for general health services but not for mental health services. There may be general district health planners who have knowledge of budgeting and local services but have no experience of planning for mental health services.

For scenario B the module provides information on specific aspects of mental health service planning which are not known to general health planners. The module fulfils an educational function for general health planners who have no experience in the field of mental health. Some of the aspects of budgeting may already be known to planners and therefore may not be relevant.

> Scenario C

A district may have or may wish to develop the capacity for planning general health services and mental health services. There are likely to be local planners with mental health planning and budgeting skills, as well as a specific mental health budget, part of which may be integrated with the general health budget.

For scenario C the module enables a detailed assessment of current resources and needs. Specific target-setting, budgeting and implementation should be possible on this basis.

Other contextual differences between countries may affect the ability to use this module. For example, in countries where there is political conflict or instability, long-term planning at the district level is much harder to cope with, irrespective of the degree of decentralization or development. On the other hand, countries with higher economic growth rates find planning for mental health care easier than is the case in countries with very clear resource constraints.

Because of these variations, not every country can undertake every task in this module. However, the steps give a general idea of what can be achieved and provide guidance that countries can adapt to their specific situations.

Not every country can undertake all the tasks.

The steps give a general idea of what can be achieved in a country and provide guidance that countries can adapt to their specific situations.

How long will it take to carry out the steps in this module?

It should take between six months and a year to carry out the first three steps (situation analysis, needs assessment and target-setting). The time required depends on the information that is available about existing services and on the extent of the consultation process. The fourth step (implementing, monitoring and evaluating) may take longer. Initial evaluation could be conducted after a year but substantial change is likely to take three to five years.

What human resources are needed in order to carry out the steps?

In a local district at least one person, or preferably a team of two or three people, could take primary responsibility for the planning and budgeting process. They need skills in information-gathering, report-writing and consultation. For a regional or national process a larger team is preferable, although some team members may take a less active role, being consulted occasionally at specific key stages of the planning and budgeting cycle.

1. Introduction

Mental health service planners, managers and service providers are often faced with the following questions. What physical and human resources are required to deliver a local mental health service? What facilities, staff and medications does such a service need in order to provide care that is effective, efficient and of acceptable quality? How can mental health services be delivered when financial resources are limited? How much money is needed for a mental health service?

Answering these questions is not easy. There are significant differences in the mental health resources available to countries. Countries encounter varying demands for services and unique cultural expressions of need. The economic context of a country frequently shapes the mental health resources that are available.

For these reasons it is impossible to recommend a minimum level of care or a global norm, such as a minimum number of beds or staff. Apart from being inappropriate for countries' specific needs, recommending general figures is of limited value as figures are often taken out of context.

Countries should provide their own answers to these questions. This can be done with careful planning, based on a thorough assessment of local needs and existing services. In order to help with the planning process this module provides a set of planning and budgeting tools that enable countries to plan their own mental health services in the most effective and efficient manner. The tools are not prescriptive but provide guidance that can assist countries to develop mental health services appropriate to their specific circumstances.

What physical and human resources are required to deliver a local mental health service?

Recommending a global norm is impossible.

This module provides countries with a set of planning and budgeting tools for mental health service delivery.

2. Planning and budgeting for mental health services: from situation analysis to implementation

Services can be planned rationally on the basis of a careful assessment of needs and available local resources. The following preliminary points about planning should be noted.

1. The participation of all the relevant stakeholders in as many of the relevant planning stages as possible is essential (Lesage, 1999). Mental health planning is not only a technical exercise but also a **political process** (Green, 1999). Many well-intentioned service plans experience setbacks because they do not have the necessary approval of local communities, people with mental disorders, carers, politicians, service providers and administrators. These groups frequently have diverging views on the need for mental health services. The exchange of information between the participants in a process of negotiation is essential. (See *Advocacy for Mental Health*.)

2. Planning should be conducted in a holistic fashion and should include mental health promotion, the prevention of disorders, and treatment and rehabilitation. Although the examples in this module tend to emphasize treatment and rehabilitation, the methodology can be adapted to planning for promotional and preventive programmes.

3. Planning is not always a rational process. Readers may find that the rational step-by-step approach that is set out here runs contrary to their experience of planning. Throughout the planning process, planners encounter irrationality in the form of political differences, personal power struggles and the conflicting needs of various stakeholders. In this context a rational approach to planning is a powerful tool and ally. An approach based on a rational appraisal of the current situation and the needs of the population provides a useful guide for planners. This approach is intended to reform patterns of past mental health service planning in which resources and budgets do not take account of the needs of communities or of evidence for the most effective care.

4. For this reason, service plans should be adapted to countries' specific circumstances in accordance with the best available information and the available resources (Thornicroft & Tansella, 1999). This requires information about local needs and the use of **evidence-based practices**.

5. Evidence is accumulating on the most cost-effective forms of mental health promotion, prevention of mental disorders, and treatment and rehabilitation. They are based on the concept of **community-based mental health care**. This module should be interpreted within the overall framework of community-based care, the integration of mental health services into general health care and the downscaling of institutions as community services are developed. It should therefore be read in conjunction with *Organization of Services for Mental Health*.

6. Planning for mental health services should take into account the wider health and social needs of the population concerned. This is particularly important for mental health services, which frequently need to collaborate with a range of social and health care agencies. Outcomes in mental health depend on wider factors, including the physical health of patients, social circumstances, employment and family relations (Glover, 1996; Thornicroft, De Salvia & Tansella, 1993).

Planning is not only a technical exercise but also a political process that should take into account the needs of all stakeholders in mental health.

Planning for mental health services should take into account the wider health and social needs of the population concerned.

7. Planning efforts in many countries are hampered by limited information. For this reason, planning should make use of simple indicators with an emphasis on **ease of data collection**. Throughout the planning process it is essential to specify and be consistent in the currency of service indicators used, e.g. adult acute psychiatric beds per unit of population, and numbers of full time equivalent staff (see Glossary).

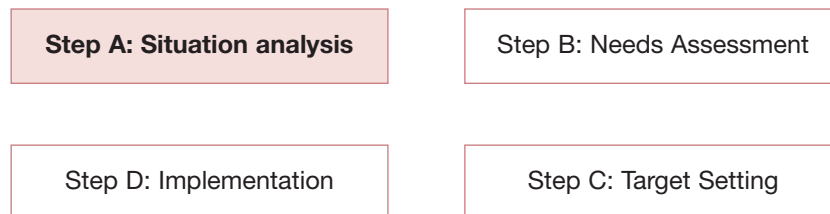
7. Effective planning requires **iteration and flexibility** in the setting and implementation of service targets. Iteration means that targets may have to be recalculated and priorities may have to be modified in the light of information that emerges later in the planning process, e.g. information on available resources (beds, staff, medications).

The four-step model combines a **population-based** and **service-based** approach with flexibility in accordance with the local data that are available and the services that exist. It therefore allows for adaptation according to the structure of country or local services. For example, if services are highly fragmented a population-based approach may be preferable in order to establish a general picture of need. If, however, services are highly centralized, data on service provision should be readily available and the gaps in services should be more apparent.

The stages outlined in the planning model (Figure 1) are described in more detail here after.

Where information is lacking, services should combine population-based and service-based information for the most effective planning and the most efficient use of scarce resources.

Step A. Situation analysis



Task 1. Identify the population to be served

The first task is to identify the population or catchment area to be served by the mental health system. The population identified may be at the country level or the local level (Thorncroft & Tansella, 1999). The target population should preferably:

- > fall within an authentic natural administrative area with definable geographical boundaries;
- > be large enough to promote economies of scale (hence improving cost-effectiveness) while providing a range and variety of services;
- > be small enough to be managed easily and to meet specific local needs;
- > be such that services are easily accessible to the entire population, which should have ready access to means of transport (World Health Organization, 1996).

In most countries the catchment area for mental health services is defined by existing infrastructures, particularly the general health care system. In some countries, different services may cover different areas. For example, primary care services may cover a smaller catchment area than that covered by specialist mental health services. Other sectors, e.g. social care, housing, education and criminal justice, may not be organized around exactly the same catchment area.

During this task it is essential to specify the characteristics of the target population, such as its size and age range. For example, a service may be planned for children and adolescents (aged 0 to 17 years), adults (aged 18 to 64 years) or older adults (aged 65 years and older). Whether the catchment area is rural or urban should also be specified and consideration should be given to the potential accessibility of services. It is important to consider other specific characteristics of the population in question, such as whether it is urban or rural, whether it includes refugees or migrants who may have specific mental health needs (Watters, 2002), and whether there are high levels of social deprivation, often associated with increased mental health needs (Glover, 1996; Hansson et al., 1998).

The detailed examples in this module focus on **services at the local level**. Because there is wide global variability in the degree of decentralization of health services the size of the local target population may vary considerably. See Table 1 for examples of sizes of populations covered by local mental health services.

The first task is to identify the population to be served by the mental health system.



Table 1. Examples of populations covered by local services

City or country	Population
Birmingham, United Kingdom	50 000 to 150 000 (Rosen, 1999)
Germany	150 000 (Rosen, 1999)
Ghana	130 000 to 200 000 (Orley, 2000)
Madison, Wisconsin, USA	100 000 to 150 000 (Rosen, 1999)
Oslo, Norway	30 000 (Rosen, 1999)
South Africa	100 000 to 180 000 (Rispel, Price & Cabral, 1996)
Sydney, Australia	110 000 to 230 000 (Rosen, 1999)
Verona, Italy	75 000 (Rosen, 1999)

Key points: Task 1

- Mental health service managers should identify the population or catchment area to be served by the mental health system.
- Specific characteristics of the population, such as age distribution, population density, level of social deprivation and presence of refugees should be indicated so that special needs can be anticipated.

Task 1. Example: Identify the population to be served

To begin the detailed example of a local population of 100 000 is used, which falls within the range of most countries and is easy to convert to exact local population numbers, particularly in instances of less decentralization. This population is used in the detailed examples throughout the four steps of the planning cycle.

Task 2. What is the context of mental health planning?

Before planning can begin it is important to understand the context of mental health care in the local area. Planning and budgeting do not happen in a vacuum but in a specific political, economic and cultural context.

In order to understand the context it is necessary to gather a range of information on the history of mental health services (if there are any) and on who is responsible for providing them. It is also important to understand the political and economic context of mental health care. What are the current policies on mental health care, both centrally and locally? Is the policy environment conducive or obstructive to the development of mental health services? Do policies include the promotion of mental health, the prevention of mental disorders, and treatment and rehabilitation?

The cultural context of mental health planning also has to be understood. How are mental health services perceived by the local community? What are the cultural or religious views of mental disorders? For example, if someone were diagnosed with schizophrenia on the basis of International Classification of Diseases 10 (ICD-10), what would be the local cultural explanation of the person's behaviour? Furthermore, what is the extent of local community involvement in the planning and delivery of mental health services?

Before planning can begin it is important to understand the context of mental health care in the local area.



Qualitative information on current services or programmes is also important. For example, what is the current mood of staff working in the field? Is the workforce motivated and innovative, or is it burnt out by excessive demands and inadequate resources? What is the quality of mental health care?

Much of this information is qualitative in nature and may be difficult to measure. Some of it may be gathered directly, for example by enquiry, interviews or formal research. Other information may be gathered indirectly, for example by listening closely to the way in which staff describe their work during meetings, or by observing the responses of key stakeholders when reform or service change is suggested.

Much of this information is qualitative. It may be gathered by various means.

Key points: Task 2

- Mental health service managers or planners have to understand the local context of mental health care.
- This may require a range of information concerning, for example, the history of mental health services in the area in question, current policy on mental health, economic circumstances and culture. Much of this information may be qualitative in nature.

Task 2. Example: Understanding the context of mental health care

In the hypothetical local population of 100 000 there are only minimal mental health services. There may have been discussions at central government level on developing a new mental health policy but the effects have not yet been noticed in the local area. There is minimal mental health service provision in primary care. It largely involves the monitoring and maintenance of people with severe mental disorders. The local general hospital accepts psychiatric admissions but beds are in short supply and discharges are often premature. There are no programmes for the promotion of mental health or the prevention of mental disorders.

Cultural perceptions of mental disorder vary in the local community. Psychotic disorders are frequently perceived as involving possession by spirits. People with mental disorders are often stigmatized in the community and this appears to prevent their use of services. Nevertheless, families of people with mental disorders have often proved resourceful and cooperative. There are no quality improvement mechanisms in services, and staff morale is low. Information systems are generally inadequate: some information on staff activity and patient attendance in primary care is gathered alongside general health data, and this makes it difficult to separate and analyse data that are specific to mental health.

Task 3. Consult all relevant stakeholders

Once some understanding of the context of mental health care has been gained the next task is to identify all the relevant stakeholders in mental health in the local population. **Consultation is important throughout the planning cycle, and may happen at various stages.** Some health planners have argued that service planning is in large measure a political process that has to take into account the needs and concerns of the full range of stakeholders in mental health (Green, 1999). Table 2 outlines who may be involved and the stages of the planning process at which this may occur.

The next task is to identify and consult all the relevant stakeholders in mental health in the population.



Table 2. Who should be involved in the service planning process?

Group	Consultation on service guidelines	Involvement in core planning group	Endorsement of final service plan
Health service managers	R	R	R
Mental health workers	R	R	R
Administrators	R		
Service users and their representatives	R	R	R
Contract managers	D/S		
Social services	R	R	
Voluntary agencies	D	R	D
General practitioners/PHC nurses	R	R	R
Housing department staff	R		D
Politicians/local community leaders		S	S
Nongovernmental organizations	R	S	D
External advisers/academics	S	S	

R = required; D = desirable; S = invited in connection with specific issues; PHC = primary health care. Source: Thornicroft & Tansella, 1999.

Several studies have shown that involving stakeholders in both the design and implementation of service plans can lead to improved data quality, decision-making based on reliable data, and increased public accountability (Rouse, Toprac & MacCabe, 1998). In the Marshall Islands, for example, the management committee of a suicide prevention and mental health promotion programme included representatives of the Ministry of Health and the Environment, the Department of Women's Affairs and Youth Services, the Ministry of Education and the Ministry of Justice, members of a non-governmental organization (Youth to Youth in Health) and the President of the Council of Pastors (representing the United Church of Christ and the Catholic Church) (World Health Organization, 2000b). The involvement of people with mental disorders is particularly important because many of their representatives state that mental health services do not consider their needs (McCubbin & Cohen, 1996).

Consultation is especially important in culturally diverse settings and in cultural settings where Western psychiatric constructions of mental health and mental illness may not be seen as appropriate. Various strategies have been suggested for overcoming these barriers. They include:

- > changing the role of Western-trained clinicians to that of consultants to local service providers who have a greater understanding of local cultures (Barlow & Walkup, 1998);
- > collaboration with traditional healers;
- > acknowledging diversity in the way in which patients understand their conditions (Lund & Swartz, 1998);
- > avoiding polarization between the universalist view (i.e. mental disorders are fundamentally the same everywhere) and the cultural relativist view (i.e. mental disorders are so influenced by culture that common areas between cultures cannot be identified), and developing a health systems approach that takes account of a range of biological, cultural, social, political and economic factors in order to plan services for local needs (Patel, 2000);

Mental health planning is not simply a technical exercise but is also a political process involving careful consultation with all stakeholders.



- > offering services only in respect of the more severe conditions for which assistance has not been obtained from traditional or established health systems. (Somasundaram et al., 1999);
- > acknowledging that, in some instances, mental health interventions which were developed elsewhere are inappropriate and that local interventions should be developed.

Key points: Task 3

- Consultation with all stakeholders in mental health is an essential part of planning.
- Planners should identify the key stakeholders and ensure that they are consulted at the relevant stages of the planning process.
- Particular importance is attached to consultation over differing service priorities and to cultural interpretations of mental health problems.
- Involving stakeholders in both the design and implementation of service plans can lead to improved data quality, decision-making informed by reliable data, increased public accountability and improved implementation.

Task 3. Example: Consultation with mental health stakeholders

In the Norms and Standards Project in South Africa, researchers under contract to the national Department of Health consulted widely with some 300 stakeholders in mental health care, including service providers, managers, service users, carers and academics, by distributing questionnaires on service resources, visiting the nine provinces, conducting consultations and running focus groups for the formulation of service norms and standards. The process was completed in an eight-month period. The historical context of inequitable fragmented services required the development of national norms and standards to redress past injustices. These norms and standards formed a guide for adaptation by provincial and local services (Fisher et al., 1998).

An example of consultation in settings where Western psychiatric constructions of mental health may not be appropriate comes from Cambodia, where rural mental health services have been developed in accordance with local cultural belief systems and local health services. The mental health services offer treatment only for the more severe symptoms or illnesses for which help has not been obtained from local services (whether traditional or public sector health care). Where possible, culturally appropriate psychosocial interventions were used for conditions that would be identified as anxiety and Post Traumatic Stress Disorder (PTSD) by Western psychiatric nosologies. An attempt was made to avoid the category fallacy (Kleinman, 1980) whereby indigenous diagnoses are overlooked and replaced with Western categories that have no cultural validity (Somasundaram et al., 1999).



Task 4. Identify who is responsible for the mental health plan and budget

The next task is to identify who is responsible for planning and the mental health budget. This is necessary for technical reasons, allowing the mental health service manager to become aware of the appropriate channels and procedures when securing funding, monitoring expenditure and ensuring accountability.

It is also important for political reasons. As mentioned earlier, planning is not only a technical process but also a political one in which managers and planners have to mobilize financial resources for the development of mental health services. An awareness of who is responsible for budgeting and planning and of the extent of the mental health service manager's budgeting and planning responsibility is crucial in connection with subsequent funding, target-setting and budgeting.

This module attributes the main **planning** responsibility to service planners and managers working in the public sector. In this context it is important for planners and managers to identify who has the principal responsibility for the planning of mental health services and who all the stakeholders are in mental health service planning in the local area in question. This requires an understanding of the decision-making authorities and processes governing mental health service planning. In order for effective planning to proceed it is essential to identify a planning group that can take responsibility for all aspects of the planning cycle (steps A to D).

When identifying who is responsible for the mental health **budget**, mental health service managers may encounter a variety of scenarios.

- > In many instances the budget is the responsibility of an accounts section within the general health budget. This may mean that there are incremental increases (or cuts) based on expenditure levels rather than on mental health priorities.
- > In some instances one individual, who may or may not be aware of mental health issues, tightly controls the budget. This is not ideal: just as consultation and participation are an essential part of planning, the involvement of key stakeholders in the management of the mental health budget is essential in order to ensure accountability and appropriateness.
- > In other instances a budgeting committee may be so large as to be unwieldy with the result that effective decision-making is inhibited.

Where possible, changes to the organization of responsibility for the mental health budget should be made in a way that best facilitates effective planning and the use of relevant expertise. As both financial and mental health expertise are essential to mental health budgeting, some shared responsibility for budgeting among a number of parties is preferable. For example, a financial management or budgeting committee may be formed (Green, 1999). It could include:

- > a mental health service manager;
- > an accountant (or financial officer) who may have responsibility for other areas of the general health sector budget;
- > a general health service manager (who may have been trained as a clinician or administrator and may not have received specialist training in mental health);
- > a mental health professional or clinician (who may be one of the above).

Identifying who is responsible for the mental health budget and plan is important for technical and political reasons.

The mental health service planner or manager should identify who is responsible for planning mental health care in the local area.

A variety of scenarios may be encountered when service managers are identifying who is responsible for the mental health budget.



It is necessary to clarify the decision-making authority for the budget and the organizational context of budgeting..

Once the person or persons chiefly responsible for the budget have been identified, the next step is to establish the **decision-making authority** held by the individual or group in question regarding the size of the mental health budget and the deployment of funds to the various functions of the mental health service.

The decision-making authority for mental health budgeting varies between countries. Countries have a variety of views on the boundaries of mental health services and where they overlap with general health services and other sectors, such as social care, education, housing and criminal justice. (See *Organization of Services for Mental Health*.) Two factors that influence the extent of decision-making authority are:

- > the extent of service **decentralization**;
- > the extent to which the mental health budget is **integrated** into the general health budget.

Decentralization means that local mental health services may have varying responsibility for the size and management of their local budgets. It often happens that managers tend to have more responsibility for the way a budget is managed than for the size of the budget.

Equally important is the extent to which mental health services are integrated within the general health budget and the extent to which mental health budgets are separated or protected exclusively for mental health. For countries with little current investment in mental health services, protected budgets may be useful for indicating the priority of mental health and for kick-starting a mental health programme (World Health Organization, 2001). There are several other advantages in assigning separate global budgets to mental health care where line items are not specified (whether to specific facilities or to purchasing agencies which then contract out services). These include administrative simplicity; the facilitation of multiagency decision-making; budgeting according to end use (outputs and outcomes) rather than inputs; the stability of mental health resources over time; and the encouragement of innovation through financial flexibility, e.g. incentives for primary care providers to collaborate with mental health care providers and give care at the primary level.

Once mental health services and continued funding for those services are established, a more integrated approach to budgeting may be advantageous in the long term. A moderate degree of decentralization and some protection of mental health budgets are assumed in this module. (See *Mental Health Financing*.)

Mental health service managers with responsibility for budgets at the local level should therefore identify:

- > the extent to which budgeting responsibility is decentralized to the local level;
- > the extent to which mental health budgets are integrated within general health budgets or protected for use in mental health care;
- > who is chiefly responsible for authorizing the overall size of the local mental health budget;
- > any constraints on spending;
- > to whom the mental health service manager is accountable for budget approval.



In some countries there may be no designated mental health budget.

In some countries there may be no specifically designated mental health budget. In Tanzania, for example, authority and responsibility for planning is in the hands of district councils with the support of their health management teams. These general health management teams may have very little knowledge of mental health. In this circumstance, health managers should identify how funding is made available for any form of mental health care. Thus general health nurses may administer antipsychotic medications in primary care clinics, funded by a primary care budget. In this instance, health managers should ascertain which departments or individuals are responsible for authorizing the funding for these services. In-service training of health managers in mental health should be given if at all possible.

In all instances, key forums and targets for negotiation over budgets for mental health care should be identified with a view to the future development of services.

Key points: Task 4

- Mental health service managers should ascertain the extent of their own responsibility for mental health budgets and plans.
- This includes understanding the extent and limits of the available budget, such as its integration with general health and other sectors.
- Where possible, changes should be made which enable effective planning and make the best use of available skills.
- Other key stakeholders who authorize the size and deployment of the mental health budget should be identified.
- Key forums and targets for negotiation over the mental health budget should be identified with a view to future service development.

Task 4. Example: Identifying who is responsible for the mental health budget and plan

Mrs X is the mental health coordinator for Y province in a developing country. She has quarterly budget committee meetings with an accountant from the provincial Department of Health, a general health service manager responsible for primary care, and the superintendent of the local psychiatric hospital. A fixed budget is received annually from central government for the general health service in the province, of which mental health receives 0.8%. Some mental health functions, for example the monitoring of medications for patients with chronic conditions, are carried out in primary care settings and funded by the general primary care budget. The allocation to mental health is recommended at national level and is distributed through the budgeting structures of provincial health departments. The budget is developed incrementally on the basis of a review of the previous year's budget. Local mental health managers have a relative degree of autonomy over how these funds are deployed and are accountable to the accounts section of the provincial general health department for the use of funds.

This information is useful to Mrs X, because: (1) it assists her to identify where key discussions are to be held on the mental health budget; (2) in subsequent planning and target-setting she will be aware of the likely constraints on spending and of how realistic her target proposals should be; (3) she knows that she has some autonomy in the deployment of funds and that there are therefore potential opportunities for the development or reform of certain aspects of the service.



Task 5. Review current public sector service resources

The next task is to review the services that exist and the service resources that are currently available in the public sector.

The goal of this review should be very specific: **how many beds and staff and what service facilities and medications are currently available?** A review of existing services should preferably use service indicators to summarize information on the services that are available (Figure 3). For example, the number of beds available for mental health care should be added and grouped in accordance with the kind of facility, e.g. acute psychiatry, longer-term residential care. The Glossary provides a list of service indicators and the formulae needed to calculate them.

The review should cover services dedicated to mental health care, whether at the primary, secondary or tertiary level. It should also cover integrated primary care services where possible, i.e. the mental health services (staff, facilities and medications) that are currently available in the primary care service, even if they are measured as a proportion of the working time of general health workers. If the focus of planning is on health promotion or the prevention of disorders, the review should cover the services that already exist for these activities.

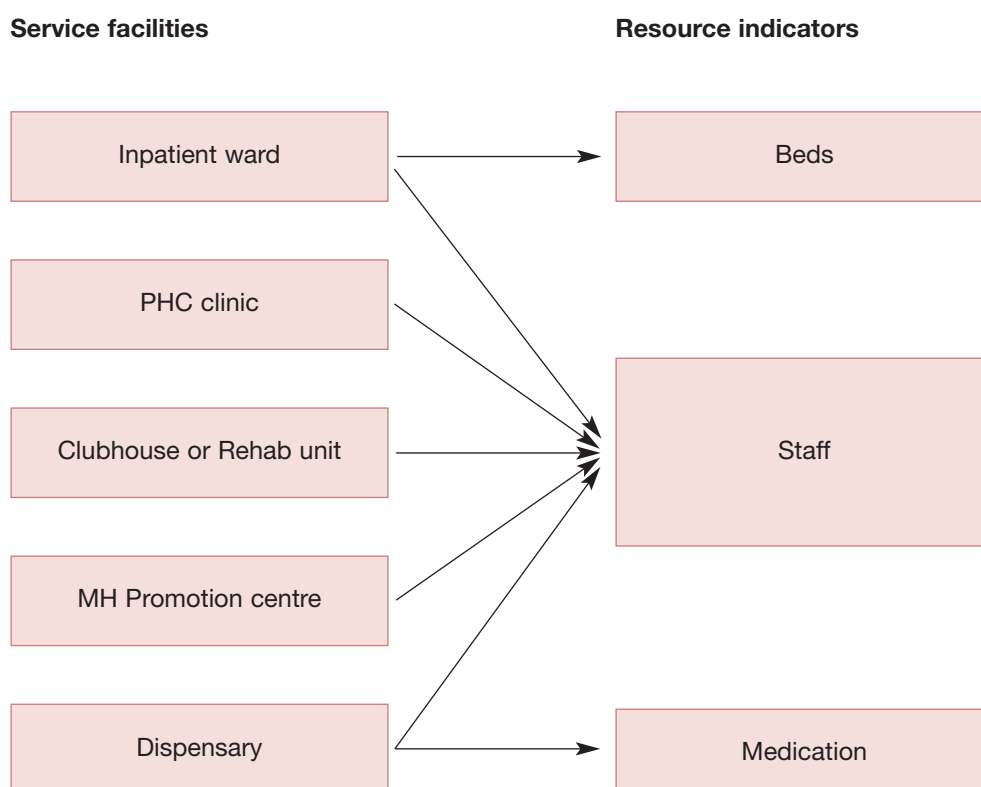
This information may be available as a result of routine information-gathering if adequate information systems are in place. If the information is not available routinely a survey may have to be conducted in order to gather data on beds, staff, medications and facilities.

If these services do not exist, information on even minimal services is essential so that an assessment can be made of the current situation.

What beds, staff, facilities and medications are currently available?

The Glossary provides a list of service indicators and the formulae needed to calculate them.

Figure 3. Reviewing current service resources





Key points: Task 5

- Mental health service managers should review the services that exist and the service resources that are currently available in the public sector.
- This requires the use of service indicators to summarize information on current service resources.
- The review should cover all aspects of mental health service provision in the public sector, whether in specialist services or in services integrated into general health care.

Task 5. Example: Review of current public sector mental health service resources

A survey of local mental health services can be conducted. Even relatively simple information can be extremely valuable. Local sources of information can be used to gather data on beds (for acute and longer-term residential settings), staff (in respect of professional categories and community or hospital settings) and the population of the area served. This provides an overview of the resources available in the local mental health service. On the basis of this information the formulae given in the Glossary can be used to develop the following indicators of existing service resources:

- > bed/population ratio;
- > staff/population ratio (full-time equivalent staff);
- > staff/bed ratio;
- > staff/daily patient visits ratio;
- > community/hospital ratio (staff).

Table 3 provides an example from a review of mental health services in South Africa (Flisher et al., 1998).

Table 3. Example: Current public sector mental health service resource indicators in South Africa

Indicator	National means (provincial ranges)
Bed/population ratio per 100 000 population	Acute: 13 (6-18) Medium-stay to long-stay: 35 (0-83)
Staff/population ratio per 100 000 population (clinical staff only)	Total nurses: 15.6 (4.4-28.4) Total staff: 19.5 (11.3-31.5)
Staff/bed ratio (clinical staff only)	Total nurses: 0.25 (0.17-0.69) Total staff: 0.41 (0.3-1.15)
Staff/daily patient visits ratio (clinical staff only)	Total nurses: 0.4 (0.1-2.4) Total staff: 0.6 (0.1-4.0)
Community/hospital ratio (staff)	13% (2-52%)



Task 6. Review other-sector service resources

The next task is to assess the services provided by a range of agencies outside the public health sector (religious organizations, schools, international aid agencies, public sector social services, private-for-profit services).

The goal of this step is to establish the extent to which other-sector services are meeting the need for mental health care and whether they could continue or even expand this role. The mental health service manager should contact all agencies providing mental health services and arrange meetings to review their services with a view to coordinating and regulating care in the local area. This step would also include the investigation of the availability of non-health sector services for cross-referral, and ongoing support or management of patients to absorb some of the service load.

Countries may need to develop specific criteria on the suitability of agencies as providers. These would include the capacity of the organization in question for service delivery, its stability over time, its future financial security and its willingness to liaise with other providers in its work. Accreditation plays a crucial role in this regard. (See *Quality Improvement for Mental Health*.) Conclusions from this assessment may lead to public sector services assisting, coordinating and regulating existing services, rather than to the development of new services that might duplicate or conflict with established programmes outside the public sector.

Several studies have indicated the importance of drawing on traditional support systems as an adjunct to formal psychiatric care. Where possible, countries should capitalize on such systems in order to develop mental health care. In Jamaica, for example, the deinstitutionalization process has had to rely on extended families acting as responsible case managers and providing supervised community housing (Hickling, 1994). In a study of 226 patients in a long-term care unit in Nigeria the discontinuation of visits from members of extended families contributed to long or indefinite patient stays (Jegede, Williams & Sijuwola, 1985). In the development of an integrated and comprehensive public mental health programme in Guinea-Bissau from 1983 to 1994, 850 primary care workers provided most of the services, and alliances were formed with local healers in connection with the development of services (De Jong, 1996). In Cambodia, efforts have been made to coordinate a community mental health programme with the activities of local traditional healers (Somasundaram et al., 1999).

What mental health services are currently being provided by other sectors?

Conclusions from this assessment may lead to public sector services assisting, coordinating and regulating existing services rather than developing new services that might duplicate or conflict with established programmes outside the public sector.

Collaborative work with other sectors, e.g. traditional support systems, religious organizations and families should be undertaken where possible.

Key points: Task 6

- Health service managers should review the services that exist and the service resources that are available in other sectors, including nongovernmental organizations and private-for-profit providers.
- This requires the use of service indicators to summarize information on service resources in non-public sectors.
- This review requires consultation and collaboration with service providers in other sectors.
- Criteria should be developed for the acceptability of mental health service providers, including financial sustainability and the quality of care.



Task 6. Example: Role of a local nongovernmental organization in mental health service provision

The mental health services may be aware that a nongovernmental organization, with the assistance of foreign funding, delivers care to people suffering from psychological trauma as a result of exposure to violence or torture. In this circumstance, mental health planners would have to meet with the nongovernmental organization in order to assess what its capacity might be, including its current staffing resources and facilities, bearing in mind the hypothetical local population of 100 000.

There may also be evidence of mental health promotion activities in local schools, e.g. lifestyle and guidance classes. Teachers and planners responsible for these programmes could be contacted with a view to examining areas of common interest and future development.

Task 7. Review current service utilization in all sectors

The next task is to review the extent to which services are being used both within and beyond the public sector. This is an important measure of the **demand** for local mental health services, defined as the overall requirement that members of a population have for mental health services, usually expressed as the utilization of services.

A local survey can be conducted in order to establish the extent of existing service utilization (Figure 4). The emphasis is on simple data and ease of collection. This information can be gathered at the same time as that for the review of public sector services (task 5) and other sectors (task 6).

Useful indicators of service utilization include:

- > admissions;
- > bed occupancy;
- > average length of stay or admission;
- > outpatient attendances (annual and average daily patient visits);
- > patients or users on case registers;
- > filled day-service places;
- > numbers of people participating in programmes for the prevention of mental disorders or the promotion of mental health.

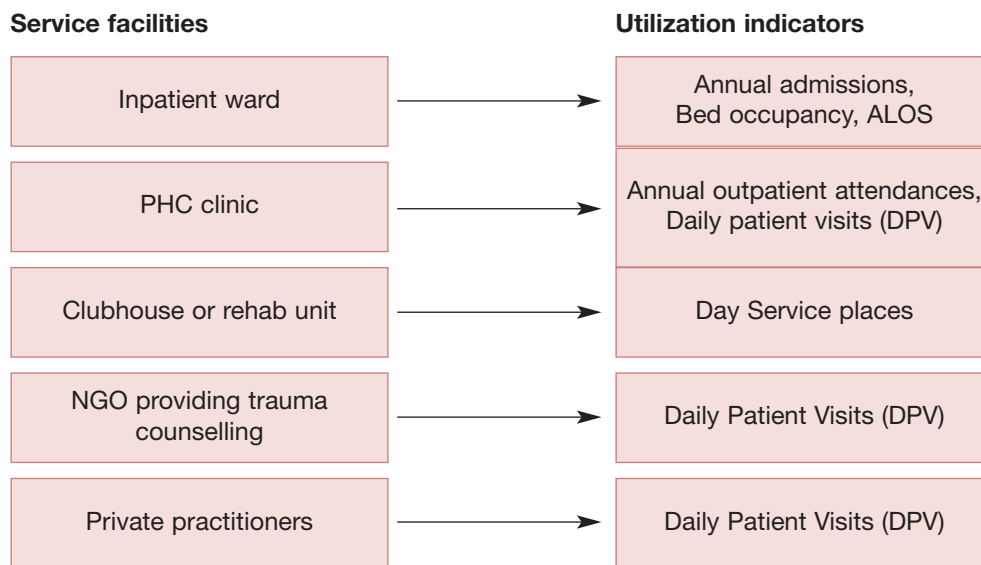
If more sophisticated information systems are available, episodes of care and episodes of illness may be added (Thornicroft & Tansella, 1999). See Annex 1 for a more detailed discussion of indicators of service utilization and some of the factors associated with increased utilization.

Checking for **equity** in service utilization is crucial. For example, low utilization of services in certain areas may indicate problems of access (both financial and geographical) or inadequate service provision.

What is the demand for local mental health services?



Figure 4. Reviewing current service utilization



Key points: Task 7

- Mental health service managers should review the way in which all mental health services are used in the local area.
- This requires the use of service indicators to summarize information on current service utilization.
- This review requires consultation and collaboration with service providers in other sectors.
- The equity of current service utilization should be assessed.



Task 7. Example: Review current service utilization

Table 4 provides an example from a review of public sector mental health services in South Africa (Flisher et al., 1998). Definitions and formulae for these indicators are provided in the Glossary.

Table 4. Example: Indicators of current mental health service utilization in the public sector in South Africa

Indicator	National mean (provincial range)
Annual admission rate per 100 000 population	150 (33-300)
Bed occupancy rate*	83% (63-109%)
Average length of admission (days) (or average length of stay)	Psychiatric hospitals: 219 (60-3650) Regional general hospitals: 11 (1.5-28) District general hospitals: 7 (1.5-14)
Annual outpatient attendances per 100 000 population	3427 (1215-5490)
Daily patient visits per 100 000	13 (5-21)
Community/hospital ratio (service utilization)	66% (44-93%)

**Without separation of acute and long-stay facilities.*

In addition, mental health planners and managers have to meet with the local non-governmental organization providing trauma counselling in order to ascertain how many people are currently receiving such counselling and to discuss possibilities for the coordination of services. If possible, meetings with private-for-profit service providers should also be arranged in order to assess the extent to which their services are utilized by the local population.

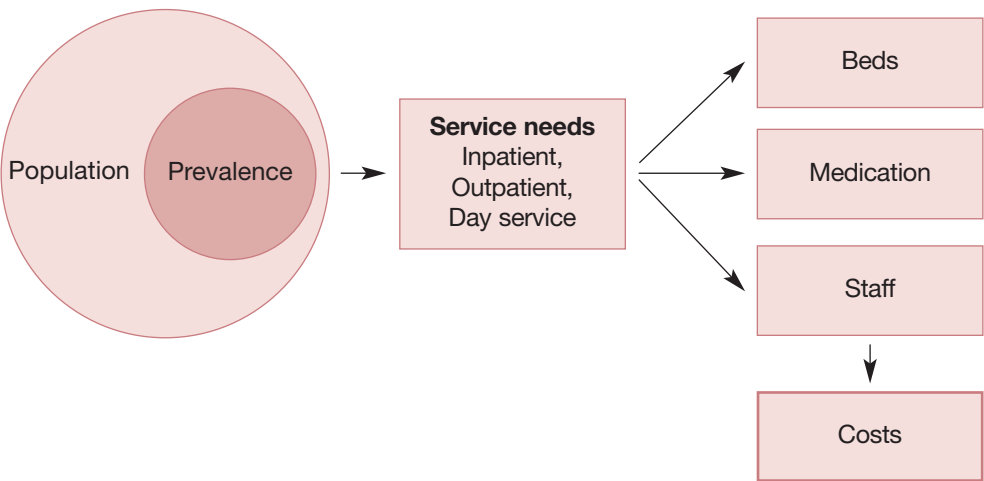
Step B. Needs assessment



The next step is to establish the needs of the local population for mental health care. This can be done by identifying the subset (or group) in the local population who need services and estimating the services and resources they would require on the basis of the best available information. Figure 5 provides an illustration of step B in which prevalence data from the local population are used (tasks 1 to 3) to calculate the requirement for service resources for the provision of a mental health service (task 4) and their costs (task 5).

The aim of this step is to establish the needs of the local population for mental health care.

Figure 5. Needs assessment: converting prevalence data into requirements for service resources

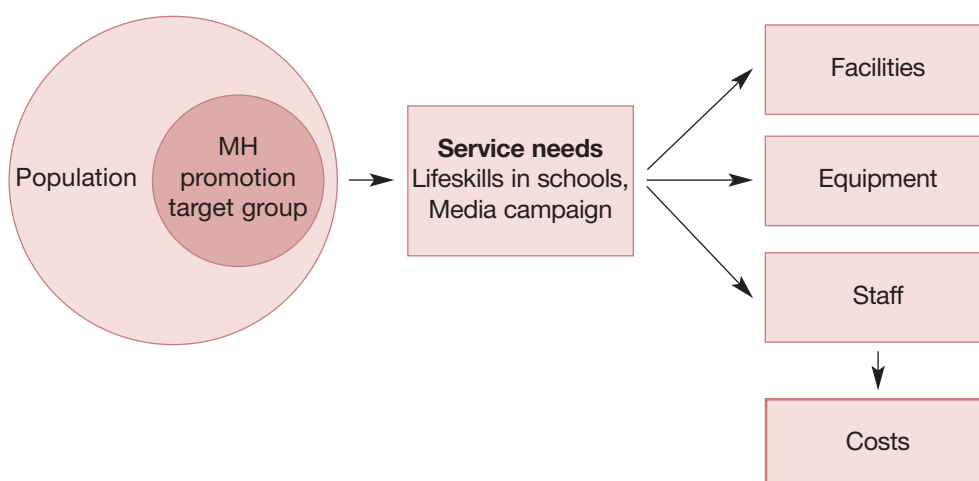


As an alternative scenario to the example of prevalence, planners may wish to conduct a needs assessment for mental health promotion or the prevention of mental disorders. The same methodology can be used in respect of a population subset that is the target group for such a programme. This is illustrated in Figure 6.

Needs assessments can also be conducted in respect of programmes for mental health promotion.



Figure 6. Needs assessment: converting mental health promotion targets into requirements for service resources



Why is needs assessment necessary?

The purpose of a needs assessment is to identify the requirement for services in the general population (the staff, beds and medications needed to care for the number of people in the population estimated to have mental disorders). In mental health provision the supply and demand for services (step A) is frequently insufficient to meet the needs of the population because many mental health needs are hidden. For example, many people who are depressed neither identify themselves as such nor attend mental health services (Goldberg & Gater, 1996). They are frequently afraid to use such services because of the stigma of doing so, or they may present to general health services with somatic complaints or may engage in risk-taking or antisocial behaviour. All of these things have costly social and financial consequences. In order to provide comprehensive mental health cover, planning is required in accordance with need as well as demand as measured in step A.

A needs assessment is necessary because many mental health needs are hidden and undetected by the current demand for services (measured in step A).

Setting broad priorities: which conditions?

In order to identify which conditions the service should care for it is necessary to establish some initial broad priorities. They may be modified later in the light of service and budgeting realities, but some preliminary decisions about service priorities should be established for the purpose of generating an epidemiological profile. (See Mental Health Policy, Plans and Programmes.)

Which conditions does the service hope to treat and who will be excluded?

At this stage it is essential for planners to have open discussions on the principles and priorities of their service, whether at the local or country level. In short: who is in most urgent need of care?

Various approaches have been adopted for determining service priorities.

- > Several countries have decided to prioritize the most disabled group of patients, referred to as having severe mental illness (Thornicroft & Tansella, 1999), severe and enduring mental illness (Scottish Office, 1997) or severe psychiatric conditions (Lund et al., 1998).
- > Some countries prioritize mental health issues in general health, targeting, for example, depression in adolescence in order to reduce risk behaviour and thus preventing the spread of HIV/AIDS (Fisher et al., 2000).



- Some countries consider that the prevention of mental disorders and the promotion of mental health are of primary importance (World Health Organization, 2000b). Prevention may be planned in accordance with universal interventions, i.e. targeting entire populations, selected interventions, i.e. targeting individuals at risk, or indicated interventions, i.e. targeting individuals at high risk or with the early features of disorder (Thornicroft & Tansella, 1999).
- Another approach is to target particular segments of a population, e.g. women, children and the elderly, rather than focusing on particular diagnostic groups (Green, 1999).

Planners should neither assume that there is unspoken agreement nor avoid potential disagreement about service priorities through fear of conflict or of wasting time. This is usually a political issue, an integral and essential part of the planning process. Differences that are not addressed early in the planning process invariably surface at a later stage when value differences become noticed in operational aspects of the service. Decisions about service priorities are frequently informed by the constraints of available local resources and the need to balance the interests of the various stakeholders involved in mental health (Hansson et al., 1998). Some information on these matters may have emerged from the situation analysis (step A). The service priorities may have already been set out nationally in policy. (See Mental Health Policy, Plans and Programmes.)

While setting priorities is an essential starting point for the assessment of needs it should not be interpreted as a neutral or objective process. It is inevitably influenced by the value judgements of the various stakeholders. Needs assessment should involve a mix of people with different backgrounds in the planning team, including, for example, people with mental disorders. Each of the stakeholders is likely to interpret needs differently. One of the challenges for planners is to arbitrate between the various views expressed.

In the later stages of the planning cycle, these priorities may have to be modified in the light of epidemiological data and available budgets. In this sense, the planning process is iterative, i.e. service targets may have to be recalculated and priorities may have to be modified in response to information that emerges later in the planning process. For example, epidemiological data may reveal a greater need for the management of psychosis than current budgets can afford, and this may mean that priorities have to be reset.

Priority-setting may require considerable political negotiation to balance the interests of the varying stakeholders in mental health.

Needs assessment is not a neutral process. It reflects the value judgements of the people who conduct it.

The planning cycle is iterative, i.e. priorities set at this stage may have to be modified in the light of new information.

Example: Setting broad priorities

If services only have capacity for severe mental illness, other conditions have to be excluded and definitions of what constitute severe cases should be specified. In Tanzania, for example, following a review of mental health services in 1980 (involving the use of key informants and case vignettes), a decision was taken to determine the most important target conditions in the community and to train primary care workers in their detection and management (Kilonzo & Simmons, 1998). The identified conditions were:

- acute and chronic psychosis;
- drug and alcohol abuse;
- depression;
- epilepsy.

After a three-year pilot programme in two regions the estimated numbers of people in need gained access to services, the programme was cost-effective and a dramatic reduction occurred in admissions to local psychiatric units as a result of effective management of the targeted patients in the community.



The goal of this step is to establish how many people with specified conditions will require care during an average year.

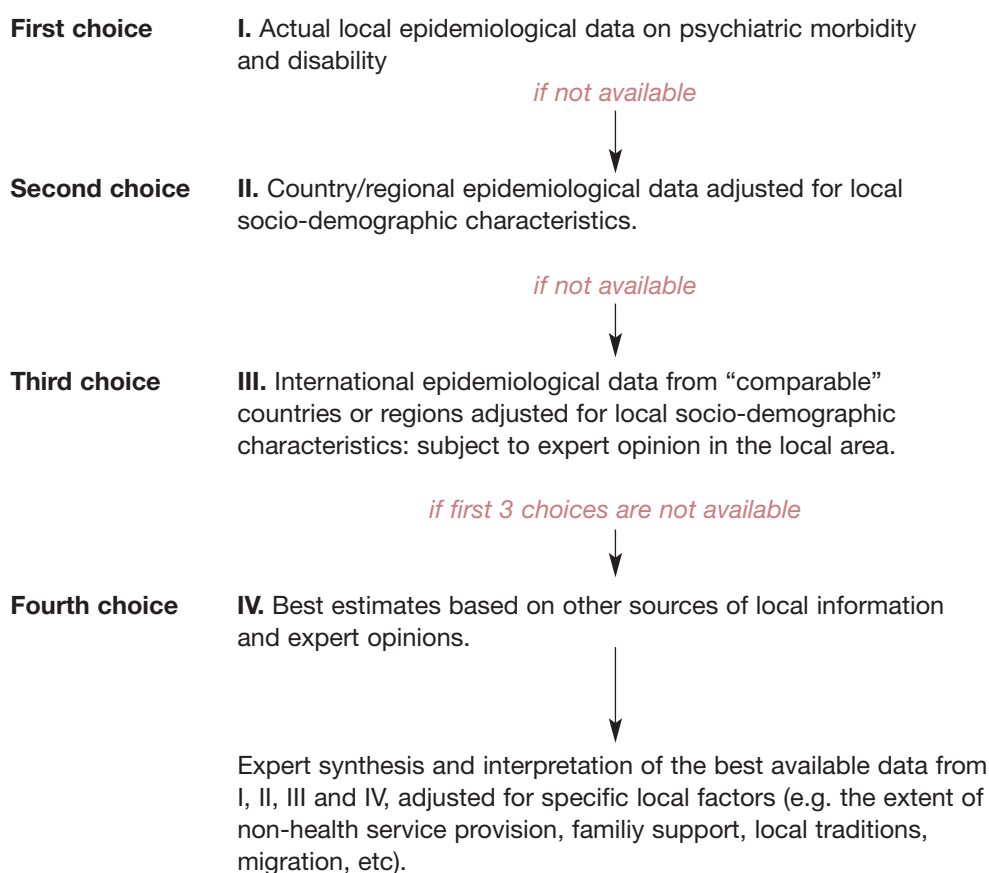
Note: This is an example, and not an endorsement of the selection of severe mental illness by WHO. An alternative example might be to identify targets for preventive and promotional work, such as schools, clinics and prisons.

Task 1. Establish prevalence or incidence of priority conditions

Prevalence may be defined as the number of people with a specific condition in a given population at a particular time (Kaplan, Sadock & Grebb, 1994). The annual prevalence is therefore the number with a specific condition in a given population during a year. This is required in order to establish the need for mental health services in a given year. For less severe conditions, incidence may be a more accurate measure. It can be converted to the expected number of cases per year.

In order to establish the prevalence of targeted conditions, information on local annual prevalence would preferably be used. Because this is not normally available, however, other sources may be sought in order to make use of the best available information. Table 5 outlines the decision-making process for identifying appropriate sources of data on expected needs for care.

Table 5. Making practical choices about the most feasible source of epidemiological data



Source: adapted from (Thorncroft & Tansella, 1999)



Choice 3 is used in the example below. In Annex 2, an example is provided from Chile, in which a combination of choice 2 and choice 4 were used (emphasizing the opinions of local experts and stakeholders).

The following epidemiological studies and disability screens may be used as a resource for countries.

- > American National Comorbidity Survey (Kessler et al., 1994)
- > WMH 2000 Survey (Kessler, 1999)
- > WHODAS II (World Health Organization Disability Assessment Schedule) (www.who.int/icidh/whodas)
- > Epidemiological studies in Puerto Rico (Canino et al., 1997)
- > Australian National Psychiatric Morbidity Survey (Henderson, Andrews & Hall, 2000)
- > Australian National Mental Health and Well-being Survey for Alcohol Use Disorders (Teesson et al., 2000)
- > Prevalence of ICD-10 mental disorders in a catchment area of São Paulo, Brazil (Andrade et al., 2002)
- > Child and adolescent component of the Australian National Mental Health and Well-being Survey (Sawyer et al., 2000)
- > National Health Interview Survey data on Disabling Mental Conditions in US Children (Halfon & Newacheck, 1999)
- > Prevalence of Disruptive Behaviour Disorder among 10-year-old children in Valencia, Spain (Andres, Catala & Gomez-Beneyto, 1999)
- > Camberwell Needs for Care Survey, which translates ICD-10 1-year prevalence rates into estimates of need for services (Bebbington, Marsden & Brewin, 1997)
- > MECA study of the prevalence of childhood psychiatric disorders in the USA (Shaffer et al., 1996)
- > WHO study of mental disorders in primary health care in 15 centres across the world (Üstün & Sartorius, 1995)
- > WHO World Health Survey Programme, providing information to assist countries to monitor health trends and plan accordingly (http://www.who.int/health-systems-performance/current_work/cw_surveyprog.htm)



Task 1. Example: Establishing the prevalence of priority conditions

Table 6 provides an example of the adaptation of National Comorbidity Survey data (Kessler et al., 1994) to estimate the number of severe mental illness cases in an adult population of 100 000 (an example of “choice 3” from table 6). The definition of severe cases can be made by identifying what percentage of specific conditions (for example depression and anxiety), the service can realistically be expected to cover, as decided in broad priority setting e.g. 20% of major depression and 5% of anxiety disorders. The following formula can be used to calculate the number of severe cases for each identified condition in an average year:

No. of severe cases = one year prevalence (%) x population x expected percentage of severe cases

Table 6. Example: Expected severe psychiatric conditions in an adult population of 100 000

Disorders	One year prevalence (%)	Population	Total number expected in population	Expected percentage of severe cases ⁴ (%)	Expected number of severe cases
Non-affective psychosis ⁵	0.5	100 000	500	100	500
Bipolar affective disorder ⁶	1.3	100 000	1 300	100	1 300
Major depression ⁷	10.3	100 000	10 300	20	2 060
Anxiety disorder ⁸	17.2	100 000	17 200	5	860
Total	29.3	100 000	29 300	16	4 720

Using this method yields 4 720 severe cases, approximately **4.7%** of the adult population. It needs to be stressed that this is not a global prevalence, but an example, using a specific data set

⁴ Although not all cases of non-affective psychosis and bipolar affective disorder are severe in the formal sense, if they warrant a diagnosis with associated impairment in functioning, they are considered severe enough to require care from mental health services.

⁵ Non-affective psychosis includes schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder and atypical psychosis.

⁶ The figure reported here indicates the prevalence of a manic episode.

⁷ The figure reported indicates the prevalence of a major depressive episode.

⁸ This includes panic disorder, agoraphobia without panic disorder, social phobia, simple phobia and generalised anxiety disorder.



Where possible, priorities for service provision should not be restricted in a simplistic fashion by diagnostic classification (typically to psychoses and major depression) (Rosen, 1999). Other indicators of severity may be used, such as degree, duration, distress, disability, disorganization, danger, isolation and reduced social support.

Indeed, as there are limited diagnostic skills in the developing world (particularly in primary care) and limitations on research methodologies (Parry, 1996), assessing severity and the level of functioning may be more important than diagnosis for establishing priorities. The Global Burden of Disease study has developed measures based on disability-adjusted life-years (DALYs) (Murray & Lopez, 1996). DALYs can be defined as the sum of years of life lost because of premature mortality, plus the years of life lived with disability, adjusted for the severity of disability. More recently, WHO has developed screens such as WHODAS II (WHO Disability Assessment Schedule), which provides a measure for assessing the level of disability attributable to illness in communities. Data from the World Mental Health Survey 2000 should make it possible to map diagnosis to functional level (i.e. disability) in order to provide more specific assessments of the need for services in populations.

It is also important to note that there may be significant variability in local areas. As a supplement to national data, local needs assessments can provide useful information even if formal diagnostic classification is not available. This is particularly true if culturally sensitive local services are to be developed (Evaneshko, 1999). For example, a mental health needs assessment of off-reservation Native Americans in northern Arizona revealed high levels of depression, alcohol and substance abuse, suicidality and physical abuse together with low levels of service utilization (Chester, Mahalish & Davis, 1999).

In addition, the interpretation of epidemiological prevalence as an indication of the need for mental health services should proceed with caution. In an analysis of the Baltimore Epidemiological Catchment Area data, Regier et al. (1984) found that 84% of people with mental disorders did not seek outpatient treatment during the six-month period of the study. In a more recent survey of mental health and well-being in Australia, some 60% of those who met the criteria for an ICD-10 disorder did not obtain professional help from either a general practitioner or a mental health specialist (Andrews, 2000). In many instances, there is a poor correlation between diagnosed conditions and the demand for services. The demand may be low because services are non-existent, geographically inaccessible, of poor quality or unaffordable. Stigma may lead to reluctance to use mental health services. Mental disorders may not be detected when people present at general primary care services. Furthermore, some people who fulfil the criteria for a psychiatric disorder may not experience disability of sufficient severity for them to seek assistance from mental health services (Andrews, 2000). There is also the issue of comorbidity, which is not accounted for by the prevalence rates of single disorders.

More research is needed on unmet need (Andrews & Henderson, 2000) and the criteria for allocating scarce mental health resources. See Annex 1 for a more detailed discussion of some of the complex issues involved in the interpretation of epidemiological data, including comorbidity.

Whether one uses the prevalence of psychiatric disorders, incidence, the level of functioning, DALYs or estimates of the need for prevention or mental health promotion, this step aims to establish the need for mental health services and thereby to allow adaptation of the data to local population variables in task 2.

Estimates of need should not be restricted to rates of psychiatric disorders. Other indicators, particularly disability, are important measures of need.

Prevalence may provide an overestimate of need and may have to be adjusted in the later stages of the planning cycle.

More research is needed unmet need and the criteria for allocating scarce mental health resources.



Key points: Task 1

- Broad priorities should be established regarding the conditions that a service hopes to treat so that a needs assessment can be conducted.
- Epidemiological data may be used as a proxy for needs. In this module, annual prevalence data are used as an example to calculate the service requirements of people with severe mental disorders in a local population during an average year.
- However, prevalence data produce an overestimation of likely service utilization. They should therefore be interpreted with caution and supplemented with information on local service needs, disability and the severity of conditions.

Task 2. Adjustments based on local population variables

The next task is to adjust the prevalence figures obtained in task 1 in accordance with specific local census information, which may include data on gender and age distribution, marital status, levels of unemployment, social conflict/trauma, ethnic minority status and dependency ratio (% of people aged under 15 and 65 and over in relation to the population aged 15 - 64) (Thornicroft, De Salvia & Tansella, 1993). Each of these variables is likely to have an effect on the expected prevalence and severity of conditions.

In most countries, not all of this information is available. Countries or local services should therefore make use of the best possible information, and, more specifically, that which is most important for their specific service priorities. Where this information is available to local services it should be included in an estimation of local needs.

Several population factors may be associated with increased mental health service utilization, higher prevalence or negative outcome. See Annex 1 for such factors that have been identified in recent research.

Prevalence figures from task 1 have to be adjusted in accordance with local population variables.



Key point: Task 2

- Prevalence data should be adjusted according to local population variables, such as age distribution, gender and social status.

Task 2. Example: Adjust prevalence data to local realities

In many countries, detailed local census data are not available. In these instances the best available information should be used. In Table 7 an example is provided of the adjustment of the prevalence data from Task 1. Age distribution data relating to South Africa are used to calculate prevalence in the population aged 15 years and over (63.65% of the total population). This would yield a true prevalence among a total population of 100 000 adults and children.

It is also estimated that there would be a greater prevalence of Post Traumatic Stress Disorder cases attributable to local social conflict and the presence of refugees from neighbouring countries. Hypothetically, a local study may have indicated a need for mental health trauma services among 0.5% of the local adult population.

Table 7. Example: Expected severe psychiatric conditions adjusted in accordance with local population variables

Disorders	One year prevalence (%)	Adult Population	Total number expected in population ⁹	Expected percentage of severe cases (%)	Expected number of severe cases
Non-affective psychosis	0.5	63 650	318	100	318
Bipolar affective disorder	1.3	63 650	828	100	828
Major depression	10.3	63 650	6 556	20	1 311
Anxiety disorder	17.2	63 650	10 948	5	547
PTSD	0.5	63 650	318	100	318
Total	29.8	63 650	18 968	17.5	3 322

The adjustment of the earlier prevalence data therefore yields a more accurate annual prevalence of **3.3%** or **3 322 severe cases** in the total population of 100 000

⁹ Using census data from South Africa in this example, the age group of 15 years and over comprised 63.65% of the population (Central Statistic Services (CSS), 1997). In a population of 100 000, the target adult population would therefore be 63 650 people.



Task 3. Identify the expected number of cases per year

Based on the consultation, priority-setting, prevalence figures and adjustment according to local population variables it is now possible to specify the expected number of cases per year for the target population.

The expected number of cases per year can now be specified.

Task 3. Example: Identify the expected number of cases per year

On the basis of the data in Table 7 the expected number of cases per year would amount to 3.3% of the population of 100 000, i.e. 3 322 cases. The numbers of specific cases for the various diagnostic classifications are provided in Table 7.

Task 4. Estimate the services required for the identified need

The next task is to describe the service items and components of care required for the identified cases during the specified year. Discussion of service items and facilities should focus on outpatient visits, day services, beds, medications and staff. These resources provide a framework for essential mental health service needs, around which support systems can be developed in accordance with specific countries' capacities. Unfortunately, specifications for facilities such as rooms for outpatient consulting, transport, administrative systems, laundry, maintenance, repairs and catering vary significantly between countries. The present document therefore cannot provide the required degree of detail. Some indications as to how this infrastructure may be costed are given below (task 5).

The next task is to estimate the services that are required for the identified cases during the specified year.

1. Outpatient and community services

This planning model recommends that most people with mental disorders have the bulk of their contact with mental health services in outpatient facilities, i.e. they live in the community. The focus of outpatient services for this group is the management of clinical symptoms, the monitoring of medication, family education and outreach. In the majority of cases in developing countries, this means contact at the primary care level and at least some integration of mental health services into primary care. However, because of the diversity of service organization globally, the following calculations are formulated for outpatient services provided in primary, secondary or tertiary care settings in clinics or hospitals.

Outpatient services are required to manage clinical symptoms and monitor medication.

Two important figures are necessary as indicators of outpatient service needs for identified cases:

- > annual outpatient visits;
- > daily patient visits.

Annual outpatient visits and daily patient visits are indicators of the volume of outpatient services required.

Annual outpatient visits

Annual outpatient visits can be calculated by means of the following formula.

Annual visits = expected number of annual cases x average annual visits per person.



Daily patient visits

The total annual attendances can be converted to the number of daily patient visits, i.e. the average number of patients who make use of an outpatient service per day, by means of the following formula.

$$\text{Daily patient visits (DPV)} = \frac{\text{total annual visits}}{\text{working days per year}}$$

Task 4. Example: Outpatient services

By using the estimated annual number of severe cases from task 3 and assuming that there are 264 working days per year it is possible to calculate the daily patient visits (Table 8).

Table 8. Example: Expected annual and daily patient visits to outpatient services

Disorders	Number of severe cases	Minimum annual visits per person ¹⁰	Total annual visits	Working days per year	Daily Patient Visits (DPV)
Non-affective psychosis	318	12	3 816	264	15
Bipolar affective disorder	828	12	9 936	264	38
Major depression	1 311	6	7 866	264	30
Anxiety disorder	547	6	3 282	264	12
PTSD	318	6	1 908	264	7
Total	3 322	–	26 808	264	102

This implies that in the population of 100 000 people, an average of **102 people** will use outpatient mental health services in an average working day. The number of daily patient visits will be used to calculate outpatient staff needs below.

¹⁰ Rispel et al (1995) recommend monthly visits for “chronic psychiatry” patients in South Africa., i.e., 12 visits per year. However, Andrews (2000) notes that 12-month prevalence does not imply the need for services throughout the year and remission is usually underestimated. For this reason, estimations of 6 visits are made for depression, anxiety and PTSD, which may be less intractable.



2. Day services

Day services provide rehabilitation for patients/users who, as a result of their conditions, find it difficult to integrate into the community. Nevertheless, it is anticipated that these people would live in the community, staying with their families or living in some form of supported accommodation. Day services may include a range of interventions, some of which may be relatively inexpensive (e.g. social contact for isolated individuals, self-help and user groups, cooperative work schemes, respite for family carers, clubhouses) while others may be relatively costly (e.g. psychosocial interventions, life skills programmes, sheltered workshops, supervised work placements, advocacy services, training courses, transitional employment schemes).

The following formula can be used to calculate the expected number of day-service places.

$$\text{Day service places} = \frac{(\text{expected number of annual cases} \times \% \text{ requiring day care})}{\text{number of programmes during the year.}}$$

Day services provide rehabilitation for patients/users who, as a result of their conditions, find it difficult to integrate into the community.

Local services have to estimate the expected number of day service places.

Task 4. Example: Day services

The resources required for these services vary substantially, depending on the existing services and local needs. Using the above prevalence example it may be anticipated that 20% of non-affective psychosis cases, 10% of bipolar affective disorder cases and 5% of major depression cases would benefit from some form of day service during the specified year. Within these figures it might be anticipated that day services run three-month rolling programmes (e.g. social skills / education programmes), working collaboratively with and training families or other social agencies. After this the patients might be discharged into the long-term care of the family/agency. This would imply that four such programmes could be run during the year and therefore that each patient/user could be offered a quarter of a placement during the year. On this basis the required places are set out in Table 9. (Note: some people may require ongoing programmes rather than the time-limited rolling programmes illustrated here.)

During the year the required number of places in day services would be as indicated below.

Table 9. Example: Expected places required in day services

Disorders	Number of severe cases	Percentage requiring Day Care	Programmes during the year	Places required per programme
Non-affective psychosis	318	20	4	16
Bipolar affective disorder	828	10	4	21
Major depression	1 311	5	4	16
Total	2 457	–	4	53



Innovations in rehabilitation, e.g. clubhouses and agricultural rehabilitation villages, provide creative solutions in situations with minimal mental health resources.

How many beds are required to serve the local population?

Examples of best practice in day services such as the use of clubhouses in Pakistan (Chaudhry, 1987) and the USA (Warner, Huxley & Berg, 1999), the use of nomads' tents in Mongolia (World Health Organization, 2000a), and the development of agricultural rehabilitation villages in Tanzania (Kilonzo & Simmons, 1998), illustrate possibilities for creative solutions in situations with minimal mental health resources. (See Organization of Services for Mental Health.)

3. Inpatient facilities

The inpatient facilities that are required in order to provide these services are described. It is assumed that most patients spend most of their time outside hospital. Nevertheless, some hospital beds are necessary. WHO recommends that most hospital facilities be located in general hospital or community settings. Beds are required for acute inpatient services (with admissions lasting up to three months) and longer-term residential services (with admissions for longer periods).

The following equation can be used to calculate bed numbers.

$$\text{Beds} = \frac{\text{number of cases} \times (\% \text{ needing hospitalization}) \times (\text{average length of stay in days})}{365 \times \text{rotation factor}}^{11}$$

Acute inpatient services

Acute beds are designed for the short-term management of patients in a state of crisis or relapse with a view to stabilizing them to a point where treatment can be continued on an outpatient basis.

¹¹ The rotation factor allows for periods when beds are unoccupied between discharges and new admissions. A previous study (World Health Organization, 1996) recommended a rotation factor of 1.15 for acute beds, corresponding to an 85% bed occupancy rate.



Task 4. Example: Acute inpatient beds

For the earlier prevalence example of 3 322 people with severe conditions in a population of 100 000, of whom 3 004 may require hospitalization during the year, the following bed numbers can be calculated for acute care by means of the formula (see Table 10). Previous WHO documentation (World Health Organization, 1996) indicates that the percentage of patients who require hospitalization during a year can be adjusted according to local findings. As with other variables, if valid and reliable data are reported in the country concerned they should be substituted for the figures used here.

Table 10. Example: Beds needed for acute psychiatric care per 100 000 population

Condition	Expected number of severe cases	Percentage in need of acute hospitalisation per year (%) ¹²	ALOS (average length of stay in days) ¹³	Rotation factor	Beds
Non-affective psychosis	318	50	21	1.15	11
Bipolar affective disorder	828	30	14	1.15	11
Major depression	1 311	5	30	1.15	6
Anxiety disorder	547	5	2	1.15	0
Total	3 004	–	17	–	28

¹² The percentage of people with each condition who need hospitalisation in a year is derived from the estimates in an earlier WHO study (WHO, 1996).

¹³ ALOS = Average Length of Stay, calculated as the median days of admission. ALOS estimates provided in Table 3.13 are derived from an earlier WHO study (WHO, 1996).



Longer-term residential services

In keeping with the findings in the literature (Lelliott & Wing, 1994) it is assumed that a limited number of longer-stay psychiatric beds is necessary for the care of severe and enduring conditions. These beds may be located in a variety of settings, including hospitals, group homes and supported and unsupported accommodation. Within this model, community-based residential care is preferable but the precise facilities in which the beds are located has to be specified by the country concerned in accordance with the level of community service development.

It is important to distinguish the function of these services from that of mental hospitals. Longer-term residential services give special attention to the importance of contact between the patient/user and the community and of reintegration into the community wherever possible. Opportunities for patients to reside with families should be sought if this is possible and clinically appropriate.

A limited number of longer-stay beds is needed.

Task 4. Example: Longer-term residential beds

In an earlier study (World Health Organization, 1996) it was assumed that 5% of patients suffering from schizophrenia needed longer-term residential care beds with an average length of stay of 180 days. An additional 0.5% of bipolar patients is inserted partly in order to add such patients to the picture of longer-term residential care and partly to do so within estimates in the literature of the percentage of chronic patients who require ongoing long-term care. The rotation factor is taken to be lower, i.e. 5% (1.05), reflecting a higher bed occupancy rate.

On the basis of the formula used for acute beds the following numbers of longer-term residential care beds would be needed for non-affective psychosis and bipolar affective disorder patients alone among severe psychiatric conditions (Table 11).

Table 11. Example: Beds needed for longer-term residential services per 100 000 population

Condition	Expected number of severe cases	Percentage in need of acute hospitalisation per year (%) ¹²	ALOS (average length of stay in days) ¹³	Rotation factor	Beds
Non-affective psychosis	318	5	180	1.05	8
Bipolar affective disorder	828	0.5	180	1.05	4
Total	–	–	180	–	12

¹² The percentage of people with each condition who need hospitalisation in a year is derived from the estimates in an earlier WHO study (WHO, 1996).

¹³ ALOS = Average Length of Stay, calculated as the median days of admission. ALOS estimates provided in Table 3.13 are derived from an earlier WHO study (WHO, 1996).



4. Medication

WHO has provided an essential drugs list for use in psychiatry (World Health Organization, 1993). It can be used to plan the psychiatric medication needs of a local population. As the demand for psychiatric medication varies significantly with local factors a global norm for the volume of medications required for a local population cannot be provided. Countries should therefore calculate their own requirements.

In attempting to assess the volume of medications likely to be required for psychiatric treatment during an average year, countries may adopt either of the following two approaches.

1. Information on existing drug use in the local area may be used to assess future drug needs. If services are to be expanded, projections of future need can be based on the volume of medications and on prescribing policies currently being used, with adjustments reflecting anticipated changes.
2. A committee of experts and clinicians can be formed in order to estimate the required volume of medications on the basis of information concerning the numbers of patients/users to be treated and their likely requirements for medications.

In order to assist with either of these approaches the WHO essential drugs list provides details of doses and pharmacological treatment guidelines for the major psychiatric conditions. Volumes of medications can be estimated by means of the following formula.

Medication required (mg) (per year) = number of people to be treated
x number of days per year on which treatment
is required
x average dose (mg) per patient per day.

In order to calculate the number of tablets required for the population, the amount in mg should be divided by the amount per tablet. The total cost is calculated by multiplying the cost per tablet by the number of tablets required for the population. If available, data on the cost-effectiveness of medications would be of value in connection with decision-making.

The following box contains examples of how these requirements for medications may be calculated on the basis of earlier research (World Health Organization, 1996). In countries that use psychiatric medications as a cost recovery tool to subsidize other aspects of the service, care should be taken that financial considerations do not override clinical needs when medication resources are being planned.

Global norms for the required volume of psychiatric medication are impossible to calculate.

Countries can calculate their own requirements for medications by using the methods and formulae provided.



Task 4. Example: Medication needs

The following calculations take into account the needs of the 3 322 cases identified in the local population of 100 000 people. Countries can substitute their own data if these are suitable. A hypothetical currency, viz. the money unit (MU), is used. **These examples serve chiefly as illustrations of a method for calculating medication needs and are not WHO recommendations.**

Antidepressants

Of the 1 311 annual cases of major depression, it can be assumed that:

10% are treated 365 days per year
20% are treated 180 days per year
20% are treated 90 days per year
50% are untreated

Using a standard dose of 150 mg tricyclics, the annual need for antidepressant medication is:

$$1\,311 \times ((0.1 \times 365) + (0.2 \times 180) + (0.2 \times 90)) \times 150 = 17\,796\,825 \text{ mg}$$

$$\text{in 25 mg tablets} = 17\,796\,825 \div 25 = 711\,873 \text{ tablets}$$

Assuming that amitriptyline costs MU 6 per 1000 tablets of 25 mg, the cost of antidepressants for the region can be estimated as:

$$\frac{711\,873 \times 6}{1\,000} = \text{MU } 4271 \text{ per year}$$

Antipsychotic drugs

The following estimations can be made, assuming that 70% of the patient population would use an oral preparation (average 10 mg haloperidol per day) and 30% a sustained release preparation (25 mg per 3 weeks fluphenazine decanoate).

The total number of people suffering from psychosis is 1 146. Assuming that 80% are on antipsychotic drugs throughout the year, the number treated would be 917 for a full year. Assuming that the cost of haloperidol is MU 7 per 1 000 tablets of 5 mg and the cost of 25 mg vials of fluphenazine decanoate is MU 0.8, the following calculations can be made:

Number of 5 mg haloperidol tablets needed:

$$917 \times 0.7 \times \frac{10}{5} \times 365 = 468\,567 \text{ tablets}$$

Estimated cost of haloperidol:

$$468\,587 \times \frac{7}{1\,000} = \text{MU } 3\,280$$

Number of 25 mg vials of fluphenazine decanoate needed:

$$917 \times 0.3 \times \frac{365}{21} = 4\,782 \text{ vials}$$

$$\text{Estimated cost of fluphenazine decanoate: } 4\,782 \times 0.8 = \text{MU } 3\,826$$

$$\text{Total estimated cost for antipsychotics} = \text{MU } 7\,106 \text{ per year}$$



Antiparkinsonian drugs (for use only in conjunction with antipsychotics)

Assuming that 50% of patients on antipsychotics would need antiparkinson medication, that the average dose is 10 mg daily, and that the cost of biperiden is MU 5.30 per 1 000 tablets of 5 mg, the following calculations can be made:

Number of 5 mg tablets of biperiden needed per year:

$$917 \times 0.5 \times \frac{10}{5} \times 365 = 334\,705$$

Estimated cost of antiparkinsonian drugs:

$$334\,705 \times \frac{5.3}{1\,000} = \textbf{MU 1\,774 per year}$$

Mood stabilising drugs

Assuming that 70% of the 828 people with bipolar affective disorder (i.e. 580) are on lithium carbonate, that an average dose is 1 200 mg per day, and that the cost of 60 tablets of lithium carbonate at 300 mg per tablet is MU 4, the following calculations can be made:

Number of 300 mg tablets needed per year:

$$580 \times \frac{1\,200}{300} \times 365 = 846\,800 \text{ tablets}$$

Estimated cost of mood stabilising drugs:

$$846\,800 \times \frac{4}{60} = \textbf{MU 56\,453 per year}$$

Given the relatively high cost (approximately MU 100 per patient per year) and the need to monitor blood serum levels, careful consideration should be given to the use of lithium carbonate when resources are scarce.

Total cost

The total annual cost of psychiatric medication for the local area of 100 000 people is:

Antidepressants	MU 4 271
Antipsychotics	MU 7 106
Antiparkinsonian	MU 1 774
Mood stabilisers	MU 56 453

Total	MU 69 604
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This would mean a cost of MU 0.70 per person in the local population per year.



5. Staff

The next step is to describe the staff or human resources needed to provide the services. Human resources play a central role in the ongoing functioning of a mental health service. Mental health services rely on human resources to a much greater degree than other medical and health disciplines (Thornicroft & Tansella, 1999). In financial terms, by far the largest cost in mental health care is that of payment of staff salaries. The importance of staff for mental health care is often poorly understood by general health managers.

The nature of the contact with psychiatric patients/service users places great strain on mental health staff and frequently leads to burnout. For this reason, a distinction may be drawn between the primary goals of a mental health service (to treat, care for and assist patients) and the secondary goals, i.e. meeting the needs of staff (Thornicroft & Tansella, 1999). The secondary goals should never override the primary goals but they are essential both for ethical reasons and the long-term sustainability of the service.

Workloads for mental health staffing have been calculated by some researchers in accordance with standard time estimates for specific treatment procedures (Faulkner & Goldman, 1997). Because of limited information systems, however, this approach is not feasible in developing countries. In the present document, calculation in accordance with the volume of services, i.e., the numbers of beds covered and the numbers of patients seen in outpatient services, is used instead (Rispel, Price & Cabral, 1996). Staff calculations are made only for clinical mental health staff. Maintenance, kitchen, laundry, cleaning and administrative staff should be added to the figures given in the example.

In the context of an integrated system of health care, general health workers frequently deliver mental health services. For this reason, human resources are calculated in terms of full-time equivalent staff. The number of such staff can be calculated by working out the percentage of time each staff member spends on mental health care. For example, if a nurse spends 20% of her/his time on mental health work (including time spent seeing patients, making referrals, writing case notes and consulting colleagues), this represents 0.2 of a full-time equivalent mental health nurse. It would take five such nurses to make up one such mental health nurse.

5.1 Outpatient and community service staff

Staff numbers required in outpatient services can be calculated by means of the following formula.

$$\text{Full-time equivalent (FTE) staff} = \frac{\text{Daily patient visits} \times \text{actual working days per year}}{\text{Current consultations per day} \times \text{staff working days per year}}$$

How many people are required to staff the local mental health service?

Full-time equivalent staff are the number of staff who work full-time on mental health care plus percentages of those staff who spend only some of their time on such care.



Task 4. Example: Outpatient and community staff

On the basis of the estimate of 102 daily patient visits in outpatient services, calculated earlier, an example of estimated outpatient full-time equivalent staff would be as follows.

$$\text{Full-time equivalent staff} = \frac{(102 \times 264)}{(11 \times 225)} = 10.9$$

Data for these calculations are drawn from South African workload studies in primary care (Rispel, Price & Cabral, 1996). Staff working days per year were calculated after allowing for holidays and sick leave. Consultations per day were calculated on the assumption that 44.3% of staff time was spent in direct patient contact, based on observations of work patterns. The remainder of the time is spent on administration, preparation, meetings, continuing education, tea/lunch and unspecified activities. The figure of 11 consultations per day refers to all outpatient staff, including those who are not in direct contact with patients. Staff who are on duty may well see more than 11 patients during an average day. Significant variations between countries can be expected. Countries should substitute their own data, or look for appropriate alternatives, within the limits of appropriate mental health care of satisfactory quality. Quality would be significantly compromised if sufficient staff were not available for outpatient care.

These estimates of the number of staff required to care for outpatient services for 100 000 people do not cover home visits, follow-ups of missed appointments or outreach. This work is essential within the framework of community-based care where there is an emphasis on the rehabilitation of patients with severe psychiatric conditions. Although many staff members could be employed to fulfil this role, the establishment of at least one post to develop outreach and possibly to coordinate the activities of volunteer or carer organizations may be considered essential. The figures indicate that 12 outpatient and community clinical staff are required to cover outpatient care for 3 322 people with severe conditions.

Outpatient and community service staff breakdown

The following breakdown of the 12 outpatient staff by professions is based on recommendations made in connection with earlier research (World Health Organization, 1996):

- > 2 psychiatric nurses;
- > 5 general nurses;
- > 0.5 occupational therapist;
- > 1.5 occupational therapy assistants;
- > 1 social worker;
- > 1 psychologist;
- > 0.25 psychiatrist;
- > 0.75 registrar/medical officer/junior doctor.

This breakdown may not be appropriate for countries with minimal mental health resources. An alternative scenario for a mental health service integrated into primary care, serving a population of 100 000, might be as follows:

- > 7 community health workers with some psychiatric training;
- > 1 general nurse;
- > 1 general nurse with some psychiatric training;
- > 2 community rehabilitation workers;
- > 1 medical doctor with some psychiatric training.



5.2 Inpatient/residential care staff

The staff required to serve the estimated number of beds can be calculated by using staff/bed ratios that are thought to be acceptable for local services. Total staff numbers should also be calculated according to functioning units in order to ensure that the required range of skills is available for the particular inpatient or residential setting. Inpatient staff are normally expected to provide medical care, psychiatric assessment, psychiatric treatment, maintenance of patient records, general support and care for patients, rehabilitation and liaison with other services and families.

Staff/bed ratios are a useful indicator of the number of staff required to serve an inpatient unit.

Task 4. Example: Acute inpatient staff

From the calculations of bed numbers it has been estimated that 28 acute beds are needed (Table 10). This could be considered as a single 28-bed unit. With an earlier study as a guide (World Health Organization, 1996) the following staff distribution may be arranged to staff an acute 28-bed unit (with around 10 admissions per week and an average stay of 17 days):

- > 0.5 psychiatrist;
- > 1 psychiatric registrar/medical officer;
- > 0.5 social worker + 0.5 psychologist or
1 social worker if no psychologist is available;
- > 14 nurses (nurse/bed ratio: 0.5).

Task 4. Example: Longer-term residential care staff

For the estimated 12 longer-term residential care beds it is estimated that 4.8 clinical staff would be required on the basis of staff/patient ratios adapted from an earlier study (World Health Organization, 1996). They could be allocated as follows:

- > 0.1 psychiatrist;
- > 0.2 registrar/medical officer;
- > 0.2 psychologist;
- > 0.2 social worker;
- > 0.1 occupational therapist;
- > 0.4 occupational therapy assistant;
- > 3.6 nurses (nurse/bed ratio: 0.3).

5.3 Day service staff

The staff required to care for the 53 day places in the rolling programme can be calculated on the basis of local services' experience in staffing needs for day care. The figures given below are illustrative and do not represent a recommendation for exact staffing requirements.

5.4 Managerial requirements

In addition to staff who are directly responsible for the care of people with mental disorders, managerial staff are required for the local catchment area.



Task 4. Example: Managerial staff

The recommendations on managerial staff made in connection with an earlier study relating to a population of 500 000 (World Health Organization, 1996) can be adapted to a population of 100 000 as follows:

- > 0.2 chief regional mental health professional (any relevant profession);
- > 1 nurse manager;
- > 0.2 quality improvement professional (any relevant profession);
- > 0.5 coordinator of mental health information (any relevant profession).

Although there is a designated quality improvement professional this does not imply that other personnel should not be involved in quality improvement. Quality improvement remains the responsibility of all mental health personnel, including clinical, administrative and maintenance personnel. The coordinator of mental health information could fulfil a dual function by assisting both with data collection, service planning and monitoring and with education and mental health promotion.

Task 4. Example: Total staff required for a local area serving 100 000 people

Combining the estimated staff required for outpatient, community, inpatient and residential care settings provides the total estimate indicated in Table 12. These are not WHO recommendations but examples of how staffing needs can be calculated.

Table 12. Total human resources needed for a local area of 100 000 people

Type of professional	Residential		Ambulatory care	Day Service	Managerial	Total
	Acute Inpt	Longer Term				
Nurses	14	3.6	7	8	1	33.6
Occupational Therapists	–	0.1	0.5	1	–	1.6
OTA	–	0.4	1.5	2	–	3.9
Social workers	1	0.2	1	0.5	–	2.7
Clinical Psychologists	–	0.2	1	0.5	–	1.7
Psychiatrists	0.5	0.1	0.25	–	0.2	1.05
Registrars/MO/ Junior Doctors	1	0.2	0.75	–	–	1.95
Education /info	–	–	–	–	0.5	0.5
Ombudsperson	–	–	–	–	0.2	0.2
Total	16.5	4.8	12	12	1.9	47.2



Countries may wish to substitute their own professional categories for those provided.

Because of the variability in professional resources and skill levels across international settings these staff categories may not be appropriate. In this event, countries could substitute their own staff categories to cover the estimated need for care. Indeed, a diverse range of professions can provide the necessary services. In developing countries, community mental health workers and family welfare educators are well positioned to assume roles of care in the community, e.g. in Argentina (Neuquen Province) Botswana, Cambodia, and Tanzania. (See Organization of Services for Mental Health.) In the United Kingdom and several other developed countries, staff fulfil a range of generic psychotherapy and rehabilitation roles, whether they are trained as psychologists, social workers, nurses or occupational therapists. In the USA it is being argued that clinical psychologists, clinical social workers and nurses are increasingly fulfilling the role traditionally reserved for physicians because fewer of the latter are choosing to specialize in psychiatry (Ivey, Scheffler & Zazzali, 1998).

In estimating staff numbers it is important to note that there is seldom a constant throughput. There are peaks and troughs of staff activity and of staff availability for recruitment.

In order to manage human resources it is essential to plan training requirements for future service development. If, for example, there is an increased expectation that primary care providers such as general practitioners and nurses are to play a future role in mental health care, training curricula should take this into account (Cole et al., 1995).

Key points: Task 4

- The service items and components of care required for identified cases during a specified year should be described.
- The required service items and facilities include outpatient services, day services, inpatient services, medications and staff. They provide a framework for essential mental health service needs around which support systems can be developed in accordance with countries' specific capacities.
- Indicators for these services include daily patient visits, day service places, beds, medications and staff numbers. By means of the formulae provided these indicators can be derived from the estimated number of cases in the local area.
- An outline of the resources that are likely to be required for mental health care in the local area can then be provided.



Task 5. Cost the resources for the estimated services

The next task is to cost the services that have been estimated as necessary for the identified priority cases in the local population. The result can then be used in determining the target funding required. Costing is an essential concluding task in this step, enabling priority-setting, option appraisal and target-setting in the next step.

Costs represent the resources given up in a particular situation in order to carry out an activity (Green, 1999). These are usually expressed in terms of money, although costs are not the same as prices, which simply reflect a market exchange rate.

When costing any course of action it is necessary to identify all the costs that arise and on whom they fall. This is particularly important for the public sector mental health manager, who may have to assess the full range of costs to society which a service can be expected to incur. For example, providing a community-based mental health service for psychosis may incur costs for:

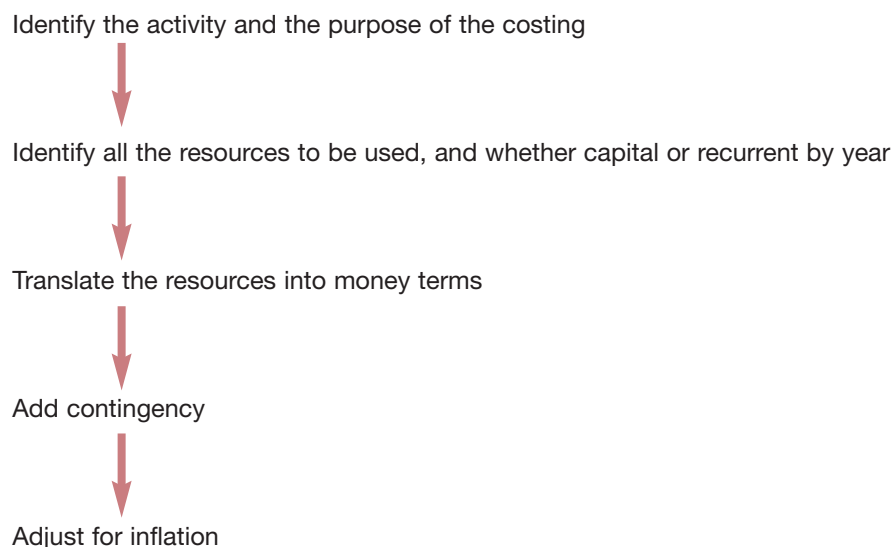
- > the health service (drugs, personnel, transport);
- > patients (charges, accommodation, transport, time, including lost working time);
- > patients' families (spending time caring for patients instead of working);
- > other-sector services, such as social services, criminal justice and housing.

Planners should be aware of the potential dangers of double counting in connection with these categories.

A basic approach to costing, adopted in many settings, is known as bottom-up costing (Creese & Parker, 1994; Green, 1999) (Fig. 7).

What level of funding is needed for mental health care?

Figure 7. Bottom-up costing





1. Identify the activity

In the first stage it is important to specify the service activity to be conducted and the purpose of costing it. For example, costing for the purpose of option appraisal would yield a very different result to costing for the purpose of establishing a budget. Option appraisal requires identification of the wider costs to the community, whereas budgeting only requires identification of the specific costs of running a service.

Task 5. Example: Identify the activity

In this case the activity is assumed to be that of costing the budget for a local mental health service. The purpose of the costing is to provide care for the mental health needs of the local population, in particular those people with severe conditions as identified in broad priority-setting (above).

2. Identify the resources

In the second stage the resources required to conduct the activity are identified. It is important to distinguish between capital costs and recurrent costs. Capital costs are one-off costs that usually occur when a particular activity or service is being established. Recurrent costs continue to occur as a result of the continued operation of the activity and are usually calculated annually. Unlike capital items, recurrent items sometimes require replacement at intervals of less than a year. Distinguishing between capital costs and recurrent costs is important because it enables increased accuracy in the prediction of future costs. Usually the general health service within which mental health care functions has its own rules and costing procedures for items and activities.

The resources identified in task 4 only included beds, staff and medications specific to mental health care. The infrastructure needed to make these services available also has to be identified for the purpose of costing. In addition, if option appraisal is required, the costs to the community of the service have to be identified. The task of the local mental health service manager or planner is to identify all resources of relevance to the costing of the mental health service. A checklist is provided to assist in the costing of the service as a whole (Table 13).

When identifying resources a distinction should be made between capital costs and recurrent costs.

**Table 13. Checklist for costing items**

Item	Capital	Recurrent
1. Buildings	Construction costs, land purchase	Maintenance, small buildings, rent, rates, depreciation
2. Equipment and furnishings	Purchase of large new items	Maintenance, replacement, hire, depreciation, small equipment items
3. Transport and travel	New vehicles	Maintenance, replacement, fuel, hire
4. Communications	Radio, telephone (including installation)	Maintenance, operating costs
5. Power	Generator, energy panels, connection to electricity grid	Solar fuels, electricity, petrol, oil
6. Water, sanitation, waste disposal	Installation, building costs	Maintenance
7. Food equipment	Kitchen	Food costs for staff/patients
8. Housekeeping	Equipment and buildings	Housekeeping supplies
9. Medical and laboratory supplies and equipment (see 1, 2)	Laboratory equipment	Medications for outpatients, inpatients, clinics
10. General administration	Computers, typewriters, office equipment	Stationery, record system software, maintenance
11. Staff	Training	Salaries and on-costs (pensions, statutory payments) post-qualification training
12. Consultancy services	Project preparation	Specialist services

Source: adapted from Green, 1999.

In order to cost, these items the required level or volume has to be specified, e.g. the number of staff to cover outpatient clinics for severe psychiatric conditions in the area. Methods for calculating the volume of the items specific to a mental health service have been discussed in task 4 (above). Information on the level of infrastructure requirements shared by the general health service should be available from the general health department concerned (e.g. catering, transport, general administration, housekeeping, communications, shared building facilities).

If an activity is completely new the resources required have to be estimated from a description of the activity (e.g. the training of rehabilitation staff in community self-help schemes).

In order to cost service inputs the required level or volume has to be specified.



Example: Identify the resources required for mental health services for the local population of 100 000 during the year

Table 14. Resources required for mental health services for the local population of 100 000 during the year

	Item	Capital	Recurrent
1.	Buildings	Conversion of long stay, facilities to acute wards	Maintenance, rent, rates, depreciation
2.	Equipment and furnishings	No purchase of large new items	Maintenance, replacement, depreciation, small equipment items
3.	Transport and travel	One new vehicle for community visits	Maintenance, replacement, fuel, (increase with new vehicle and increased travel)
4.	Communications	Installation of new telephone lines (2)	Maintenance, operating costs
5.	Power	No expenses (connexion already exists)	Electricity, petrol, oil
6.	Water, sanitation, waste disposal	Installation of new sanitation facilities	Maintenance
7.	Food equipment	Replacement of some kitchen equipment	Food costs for staff/patients
8.	Housekeeping	No additional housekeeping equipment required	Housekeeping supplies
9.	Medical and laboratory supplies and equipment (see 1, 2)	No new laboratory equipment required	Medications for outpatients, inpatients, clinics
10.	General administration	New Computers (2), office equipment for info system	Stationery, record system software, maintenance
11.	Staff	Training of community staff in rehabilitation	Salaries and on-costs (pensions, statutory payments) post-qualification training
12.	Consultancy services	Project preparation for planned deinstitutionalisation	Specialist services consultation with stakeholders re deinstitutionalisation

Identified bed, staff resources and medication from Task 4, above, for the local population of 100 000:

Indicator	Need (Task 4)
Beds per 100 000 population	Acute: 28 Longer stay: 12
Staff per 100 000 population	Nurses: 33.6 Total staff: 47.2
Medication:	
Antidepressants	711 873 x 25 mg amitriptyline tablets
Antipsychotics	468 587 x 5 mg haloperidol tablets
Antiparkinsonian	334 705 x 5 mg biperiden tablets
Mood stabiliser	846 800 x 300 mg lithium carbonate tablets



3. Translate into money terms

The next stage is to translate each of the identified resources into money terms (Table 15). There are various sources of information for this purpose. In health departments where budgeting and accounting systems exist, much of the information should be available. For example, wages offices have information on the cost of staffing, pharmacy departments should have information on the cost of drugs, hospital budgets should have information on running costs that can be converted to costs per bed per year, and expenditure records kept in accounting systems may be useful in this connection. Building costs may be provided by private contractors or by government departments.

The next stage is to translate the identified resources into money terms.

Example. Translate the resources required for mental health services for the local population of 100 000 during the year into money terms

Table 15. Converting resources into money terms*

Item	Capital	Money Unit (MU)
1. Buildings	Conversion of long stay facilities to acute wards	440 000
2. Equipment and furnishings	No purchase of large new items	0
3. Transport and travel	One new vehicle for community visits	39 000
4. Communications	Installation of new telephone lines (2)	150
5. Power	No expenses (connexion already exists)	0
6. Water, sanitation, waste disposal	Installation of new sanitation facilities	36 000
7. Food equipment	Replacement of some kitchen equipment	5 000
8. Housekeeping	No additional housekeeping equipment required	0
9. Medical and laboratory supplies and equipment (see 1, 2)	No new laboratory equipment required	0
10. General administration	New Computers (2), office equipment for info system	5 000
11. Staff	Training or community staff in rehabilitation	55 000
12. Consultancy services	Project preparation for planned deinstitutionalisation	15 000
Total		595 150
Grand Total (Capital + Recurrent)		

* Once again a fictitious currency of Money Units (MU) is used.



Recurrent	Money Unit (MU)
Maintenance, rent, rates, depreciation (Beds: 28 acute, 12 long stay)	916 000
Maintenance, replacement, depreciation, small equipment items	45 000
Maintenance, replacement, fuel, (increase with new vehicle and increased travel)	8 000
Maintenance, operating costs	600
Electricity, petrol, oil	1 900
Maintenance	12 000
Food costs for staff/patients	40 000
Housekeeping supplies	800
Medications for outpatients, inpatients, clinics (see Meds example, task 4)	69 604
Stationery, record system software, maintenance	1 500
Salaries and on-costs (pensions, statutory payments) post-qualification training (total staff: 47.2)	1 218 000
Specialist services consultation with stakeholders re deinstitutionalisation	26 000
	2 339 404
	2 934 554



4. Add contingencies

Contingencies are added to cover for the unexpected, and usually vary between 5% and 10% of the total sum, depending on the accuracy of the costing. Contingencies should not be used simply to cover for lazy or inaccurate costing.

Example: Add contingencies

Grand total	MU 2 934 554
Contingencies (7%)	MU 205 419
Grand total (including contingencies)	MU 3 139 973

5. Inflation

Until this stage, costs have been calculated at current prices. If an activity is to continue for a few years it is necessary to take possible price increases into account. Differential inflation may have to be considered, i.e. inflation may vary between specific inputs into a mental health system. For example, inflation may not be the same for drugs and staff (Green, 1999).

For the projection of costs in the future, adjustments have to be made in order to allow for inflation.

Example: Add inflation

In this example, inflation is added for one year only on the assumption that the estimated cost is for implementation in the following financial year. For the purpose of illustration, differential inflation is not used and the inflation rate is estimated at 8%. In reality, inflation varies markedly between countries, and these figures are used only for illustrative purposes.

Grand total	MU 3 139 973
Inflation (8%)	MU 251 198
Grand total (including inflation)	MU 3 391 171

Considerations in costing

1. Unit costs

In general it is useful to develop unit costs so as to avoid repeating earlier work (Green, 1999). Examples of unit costs include:

- > cost of an outpatient attendance;
- > cost of an inpatient day;
- > cost per square metre of a building.

From the above figures, for example, the recurrent costs for all items involved in acute inpatient care, e.g. acute inpatient buildings and equipment and furnishings in acute inpatient facilities, can be totalled and divided by the number of acute inpatient beds in order to obtain a unit cost per acute inpatient bed.

It is useful to develop unit costs when services are being costed.



Care should be taken when using unit costs, as the exact unit cost depends on a number of variables, including the type and level of activity. For example, an outpatient attendance at a specialist psychiatry clinic staffed by a psychiatrist does not cost the same as an outpatient attendance at a primary care clinic. Similarly, a busy clinic has different unit costs to one that is quiet.

2. Cost relationships

The total costs of any activity can be divided into fixed costs and variable costs (Green, 1999). Fixed costs remain constant within a range of activity levels. Variable costs change according to the activity level. In an inpatient ward, for example, the costs of the staff and buildings are fixed and do not change with the number of occupied beds, but the costs of food and medications are variable and do change. As more patients are admitted to the ward the total costs increase but the cost per patient (the average unit cost) decreases. This means that the ward becomes more cost-effective if outcomes remain the same. After a certain point, however, the ward becomes full and a new ward has to be opened. This is accompanied by increases in the fixed costs and a reduction in efficiency. Planners and managers should be aware of such costs and should determine the most efficient level of activity.

The total costs of any activity can be divided into fixed costs and variable costs.

Marginal costs refer to the cost, at a particular level of activity, of one further unit of activity. If there were 20 patients in a ward, for example, the marginal cost would reflect the cost implications of introducing a twenty-first patient into the ward. Marginal costs represent a useful planning concept, because decisions often have to be made on whether to increase the level of activity of a particular service. For example, if the target for a local mental health service is to increase the capacity of a psychiatric ward in a district general hospital, planners need to know what the cost would be of introducing one extra patient into the ward. Marginal costs are also important for longer-term planning in relation to assessing the consequences of increased or decreased activity levels. The advantage of marginal costs is that they exclude fixed costs, which are usually included if consideration is being given only to unit costs.

Marginal costs refer to the cost, at a particular level of activity, of one further unit of activity.

Unit costs and marginal costs are particularly useful when estimates are being made of the cost of targets for the development of mental health services. For example, if it is known that a primary care nurse with mental health training costs a certain amount per day in the current mental health service, estimates of the cost of increasing the numbers of such nurses can be made.

3. Apportionment of joint costs

Costs are frequently shared by more than one activity, and this raises the question of how to apportion costs. For example, a community mental health team may use a primary care clinic to see patients, and the costs of maintaining the building therefore have to be shared with the general health budget. Clearly, how this is arranged depends on the organization of budgeting in particular countries. For example, a mental health programme may receive a distinct budget to fund staffing and medication on the understanding that general health building facilities are to be used in certain settings, e.g. general hospital outpatient clinics. Other countries may require mental health budgets to contribute to maintenance and other shared costs. Still others may have no separate budget for mental health.

Methods for apportioning joint costs between mental health services and other health services should be developed.

Methods for the apportionment of joint costs have included: (1) apportioning costs according to the proportion of the available time for which a facility is used; (2) sharing costs proportionally according to budget, for example if mental health services at the primary care level have a budget that is 5% of the total primary care budget, mental health contributes 5% of the joint costs.



Key points. Task 5: Cost the resources required for services

- Mental health service managers and planners have to cost the target service resources they have identified in task 4.
- This can be done by identifying the service activities and resources, translating these resources into money terms, adding contingencies and adjusting for inflation.
- Certain considerations should be kept in view when costing is taking place, including unit costs, cost relationships and the apportionment of joint costs.

Step C. Target-setting



Task 1. Set priorities

The next step is to gather information provided by the situation analysis (step A) and needs assessment (step B) in order to set priorities for the service. This is chiefly done by making comparisons between current service realities and estimates of need (Figure 8). The gaps or unmet needs that emerge should focus planners on the most urgent priorities. The goal of this task is to set priorities for the service so that they can be appraised (task 2) and targets can be set (task 3).

At the country level these priorities may have been established in national policy or guidelines for interpretation at the local level. Among the criteria suggested for determining priorities in the planning of mental health services at the local level are:

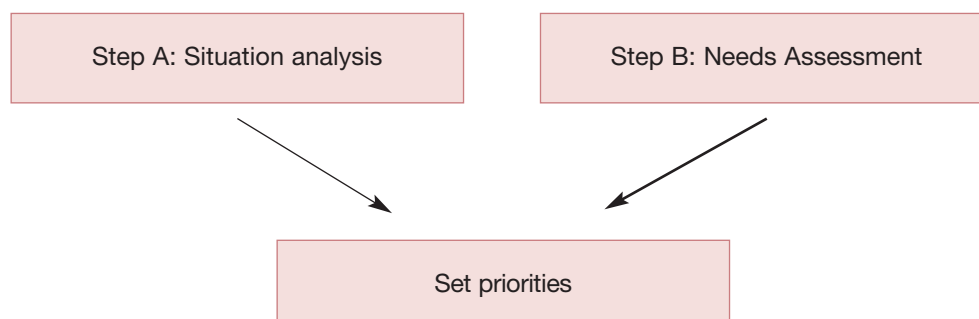
- > the magnitude of mental health problems;
- > the perceived importance of the condition in question (according to various stakeholders);
- > the severity of the condition;
- > its susceptibility to management;
- > costs.

(See Mental Health Policy, Plans and Programmes.)

The information required for this purpose should be available from steps A and B, and priorities can now be set (Figure 8).

The comparison of data from steps A and B is now needed in order to focus planners' attention on the most urgent priorities.

Figure 8. Combining information to set priorities





The information on current mental health services which should be available from step A include data on the current context of mental health care (qualitative information), current funding levels, current mental health resources (beds, staff, medications, facilities) and current service utilization or demand (number of patients who currently attend outpatient facilities per year, number of admissions per year).

Data on estimates of services required, arising from step B, cover the costing of estimated service levels, estimates of mental health resources (beds, staff, medications, facilities), and estimates of service utilization (number of patients attending outpatient facilities per year, number of admissions per year). The exact indicators to be used depend on the local information systems and the available data.

Step A is likely to have revealed some shortfalls in the current provision of mental health services. Such shortfalls vary between countries, depending on the demand for services, i.e. the extent of current service utilization. In high-income countries the demand for mental health services is higher than in low-income ones. In Australia, for example, the percentage of the population demanding mental health care was calculated to be 38% (Commonwealth Department of Health and Family Services, 1998) and in Chile the corresponding figure lies between 10% and 25% (Ministry of Health, Chile, 2000) (See Mental Health Policy, Plans and Programmes.) These differences are at least partly attributable to the unavailability of mental health services in developing countries and to different cultural frameworks for understanding mental illnesses.

It is likely that step B will have produced an estimate of required service resources. Evidence from the literature on mental health service planning indicates that prevalence usually provides an overestimate of the demand for mental health services, even in countries where services are affordable and accessible (Andrews et al., 2000).

The chief task of the planner at this stage is to reconcile the differences between current service realities and the estimates of need. In the process of doing so the data should highlight areas of unmet need and should therefore allow planners to set priorities. These can be used to draw conclusions about the mental health service and to recommend some general goals for service development (see example below).

Step A is likely to have revealed shortfalls in current service provision.

Step B is likely to provide an overestimate of the need for services.

The next task is to reconcile these differences and set priorities for possible service development.

Key points. Task 1: Set priorities

- On the basis of the information gathered from the situation analysis (step A) and the needs assessment (step B), priorities can be set for the local mental health service.
- The chief task of the planner at this stage is to reconcile the differences between current service realities and the estimates of need. Data comparisons should highlight the most urgent service priorities.
- To assist with this task, criteria for service priorities include the magnitude of mental health problems, the perceived importance of the conditions in question, the severity of the conditions, susceptibility to management, and costs.



Task 1. Example: Identifying the gaps in services through comparisons of current service realities and needs

A comparison of current service realities (step A) with estimates of need (step B) can now be made, using the earlier data sets taken from a review of mental health services in South Africa (Table 16).

Table 16. Comparison of current service realities and needs estimates

Indicator	Current services (step A)	Needs (step B)
Bed/population ratio per 100 000 population	Acute: 13 Longer-stay: 35	Acute: 28 Longer-stay: 12
Staff/population ratio per 100 000 population	Nurses: 15.6 Total staff: 19.5	Nurses: 33.6 Total staff: 47.2
Staff/bed ratio	Total: 0.25 nurse*	Acute: 0.5 nurse* Longer-term: 0.3 nurse
Community/hospital ratio (staff)	13%	33%
Daily patient visits per 100 000 population	13 + 12 Post Traumatic Stress Disorder cases seen by nongovernmental organization = 25	93
Annual admission rate per 100 000 population	150	223
Community/hospital ratio (utilization)	8%	29%

** Data are missing because of inadequate information systems – an area for action (see general goals and recommendations below).*

This comparison can lead to the following conclusions about current mental health services in the local population of 100 000.

1. There is overprovision of longer-term beds and underprovision of acute beds relative to needs. This may indicate overemphasis on long-term custodial care in institutions and a need to develop more community-based mental health care with improved short-term inpatient services.
2. The global indicators of staff/population ratios suggest that there is a general shortage of mental health staff relative to need.
3. The community/hospital ratio for staff indicates that too many staff are still employed in hospitals, while there is a need for them to deliver care in the community.
4. The low rate of daily patient visits may reflect poor detection of mental health problems in the outpatient services, lack of referral, staff shortages or stigma (within general health settings or the community). This may indicate a need to train primary care staff in the detection of mental health problems.
5. In keeping with the bed/population ratios the low admission rate may indicate that patients are admitted less frequently and for longer periods than is necessary.



6. The community/hospital ratio for service utilization also indicates that patients tend to make greater use of hospital services than community services relative to need.

The review of existing services may show a shortage of staff in both hospital and community-based services. However, the service may choose to prioritize community-based care in order to reduce the demand for beds and develop more appropriate, cost-effective and humane care. Studies that have shown the cost-effectiveness of community-based services (Knapp et al., 1994) may be used to support this decision. A service development priority in this case would involve the allocation of resources to training and developing community-based staff to deliver outpatient and day services. The purpose of increasing community-based staff would be to manage patients more appropriately in the community and thus to reduce admission rates and the demand for hospital-based care. Countries may choose to reinvest hospital resources in primary-level and secondary-level community care programmes, for example by retraining staff. This decision may be influenced by the qualitative data gathered in step A in respect of the local political, economic and cultural context.

On the basis of these conclusions the following general goals and recommendations emerge in relation to setting priorities for service development

1. The numbers of long-stay hospital beds should be reduced over a five-year period, and individual assessments should be made of long-stay patients who may be better managed in the community.
2. Funds should be redirected from long-stay hospital services to community care. This might involve investing in home visits for people with mental illness and in appropriate training of staff. In addition there may be a requirement for training general primary care staff in the detection and management of mental health problems in clinics and for the development of secondary mental health staff to support primary care.
3. New funds should be established for community residential facilities where community care can be provided.
4. The shortfall in general staffing relative to the identified need should be used to advocate for an increase in funding for mental health services from the general health budget.
5. The mental health information system should be improved, given the gaps in current information about the service (e.g. the lack of information on staff/bed ratios disaggregated to acute and longer-term facilities).



Task 2. Option appraisal

Having identified the gaps in the service and arrived at some general goals and recommendations, mental health managers should appraise the **options** for the most urgent service priorities. Some priorities have already been set. The task now is to refine them in the light of feasibility and affordability.

When options for service development are being considered it is important to take the following criteria into account (Green, 1999).

1. Technical, administrative and legal feasibility

An important first criterion for a service development or activity is whether it will operate as expected. For example, do the staff have the necessary training to deliver the service? If not, is it feasible to train the required staff? Is there sufficient administrative and financial expertise within the ministry of health to carry out the plan? In addition, the legal environment of the society in question should permit the planned activity to take place. For example, there should be legislation on the risks of maintaining forensic psychiatric patients in the community once they have been discharged from institutions.

1. Availability of funds and resources

A mental health programme or service development is only possible if the financial resources are available to fund it. It is essential to consider the availability of funds and mental health resources such as facilities, staff and medications when appraising possible options for service development.

These options have to be costed. This can be done by using the methods described in step B. If an economic evaluation of the service activity's cost in comparison with its outcomes is required, methods such as cost-effectiveness analysis may be used, as described in step D, task 3.

3. Long-term sustainability

Activities may be cost-effective in the short term but not sustainable in the long term. When planning a particular service development, mental health managers should therefore assess whether it is sustainable. For example, if it relies on funding from a foreign donor, will that funding be sustained in the long term?

4. Acceptability

In order to be implemented a programme must be acceptable to the community and to the mental health workers who will implement it. Consultation with all relevant stakeholders is therefore essential when appraising the options for service development. For example, the shifting of staff roles from hospital care to community-based care depends at least partly on the willingness of staff to change and to develop new skills.

5. Knock-on effects

Knock-on effects are the secondary or indirect consequences of a service plan. They should be taken into consideration when options are being appraised. For example, if family members are expected to care for patients with severe psychiatric conditions at home, what are the implications for the family income?

Planners and mental health service managers should consider various factors when appraising options for service development.



6. Distributional and equity effects

The effects of particular service developments on equity and the distribution of service resources should be considered. For example, if user fees are to be increased in order to fund a service adequately, will this make mental health services inaccessible to poorer members of the community?

7. Expansion from pilot projects to service reality

Projects are frequently developed in pilot form before implementation in area-wide services. This is a useful and necessary step but care should be taken when assessing the outcomes of a pilot project. What is feasible, affordable, acceptable and cost-effective at the pilot level may not be so on the larger scale. The factors that lead to the success of a pilot project (such as staff motivation) should be carefully evaluated so that their feasibility in area-wide service can be assessed.

8. General health department criteria for option appraisal

Managers of mental health services may wish to make use of any available criteria or checklists that have been developed in the general department of health in order to appraise an option for service development. Such criteria vary between countries, depending on local procedures and circumstances.

9. Commissioning and contracting of services

Options for commissioning or contracting services may have to be considered by service managers at this stage. Contracting may involve outside private-for-profit service providers who take on a particular aspect of service delivery, e.g. the management of an inpatient psychiatry unit. Or it may involve inside public sector units that take responsibility for service delivery and manage their own budgets for that task. See Mental Health Financing for more details on commissioning and contracting.

Possibilities for the commissioning or contracting of services may have to be considered by mental health managers.



Key points. Task 2: Option appraisal

- Mental health service planners and managers have to appraise options for the most urgent service priorities.
- Criteria for considering options for service development include: technical, administrative and legal feasibility; financial and resource availability; long-term sustainability; acceptability; knock-on effects; equity and distributional effects; potential for translation from pilot project to service reality; general health department criteria for option appraisal.
- Considerations of options for commissioning or contracting services may have to be considered by service managers at this stage.

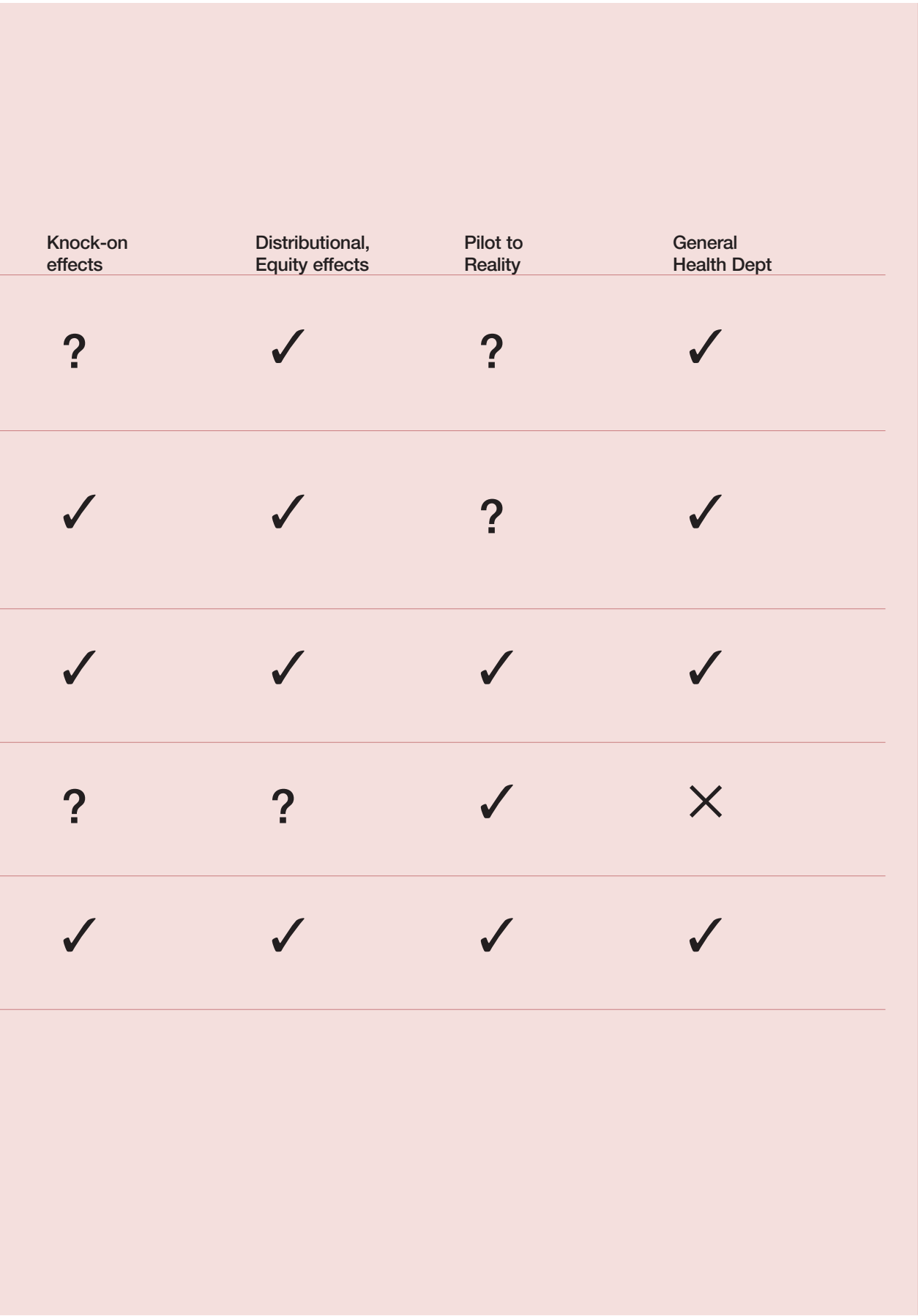
Task 2. Example: Option appraisal

In Table 17 the conclusions from the example in task 1 are listed and assessed according to whether they fulfil each of the option appraisal criteria. A tick (✓) indicates that a criterion is met, a cross (X) that it is not, and a question mark (?) that further investigation is needed.

Table 17. Option appraisal

Options	Feasibility	Financial availability	Long term sustainability	Acceptability
1. Reduce long stay beds, discharge patients	✓	✓	✓	?
2. Redirect funds from long-stay to community (including training)	✓	✓	✓	✓
3. New funds for community care	✓	?	✓	✓
4. Motivate for funding from general health	✓	×	?	×
5. Improve information system	✓	✓	✓	✓

The conclusions from the table indicate a strong case for options 2 and 5, with some unresolved questions regarding options 1 and 3, and some definite obstacles to option 4. Whether option 2 can be taken, will depend at least partially on option 1. In the next task (Target setting), the practical details of the timing of these options is addressed.





Task 3. Target-setting

Targets for service delivery can be set on the basis of the option appraisal in the previous task. They should be mapped out with specific time frames:

- > short-term objectives;
- > long-term objectives.

Some of these targets may include:

- (1) new service functions and necessary facilities;
- (2) extending the capacity of current services;
- (3) disinvesting from services of lower priority;
- (4) proposing the collection of new data necessary for the next planning cycle.
(Thornicroft & Tansella, 1999.)

Targets should set out specific plans for service delivery, with details of expected costs, activities and the time frame for implementation. The level of detail depends on the proximity in time of the proposed service as illustrated in the rolling plan (see Introduction). For example, longer-term service targets are described in less detail than short-term targets.

Planning document

A formal planning document for the mental health service is, along with the mental health budget, an essential output of the planning process. Now that targets are identified a plan can be set out. It may include:

- > Background (conclusions from the situation analysis (step A) and needs assessment (step B));
- > objectives of the service;
- > strategies and timetable for implementation;
- > budget.

This plan should link with national mental health service planning documents. (See *Mental Health Policy, Plans and Programmes*.) It should also have links with district-level or local-level plans in general health. For example, the mental health plan may form a chapter in the planning document produced by the district general health service. Similarly, consistency between the aims of the local and national mental health plans can be pointed out in order to add weight to proposals.

Fuller details of implementation are discussed in step D.

Targets for service delivery can be set on the basis of the option appraisal.



Key points. Task 3: Target-setting

- On the basis of the option appraisal, targets should indicate specific plans for service delivery, with details of expected costs, activities and the timeframe for implementation.
- The targets should be set in accordance with a specific time frame and may include: new service functions and necessary facilities; extending the capacity of current services; disinvesting from lower-priority services; proposing the collection of new data necessary for the next planning cycle.
- A document outlining the plan for the mental health service should be produced, including: background; objectives of the service; strategies and timetable for implementation; budget.
- Links should be made with national mental health plans and district general health plans.



Task 3. Example: Target-setting

On the basis of the appraisal of the five options, specific targets should be set for the preferred ones. Although the best one seems to be option 2 (redirecting funds from long-stay hospital services to community care), its commencement is contingent on option 1 (reducing long-stay beds over a five-year period, and deinstitutionalizing patients). Careful planning is needed as the funds derived from reducing long-stay beds may be minimal because these beds are associated with low staff-intensiveness.

Specific targets for **options 1 and 2** might include the following.

1. Short-term targets (years 1 and 2)

- > Budget approval for option 1 (including possible dual running costs for hospital and community services; this means that new funding is needed in order to establish community services (option 3)).
- > Individual assessments of long-stay patients for discharge to community settings.
- > Commencement of training of community staff to manage rehabilitation and programmes of care in the community.
- > Commencement of education and training of families for care of people with mental disorders.

2. Medium-term targets (years 3 to 5)

- > Funds released from long-stay beds to be used to develop acute care (i.e. commencement of option 2).
- > Further development of community-based rehabilitation and support staff.
- > Strengthening ties with family and community support organizations and traditional healers for the development of low-cost community resources.

As work progresses towards the targets for options 1 and 2 there may be a need for **iteration**, i.e. a recalculation of costs and reviewing of plans in the light of further developments, obstacles and successes. The setting and modification of targets is seldom a straightforward process, usually requiring flexibility and adaptability by managers and service providers.

Step D. Implementation

Step A: Situation analysis

Step B: Needs Assessment

Step D: Implementation

Step C: Target Setting



Task 1. Budget management

The next task is to implement the longer-term targets in the form of annual budgets. It focuses on budgeting in the public sector. A discussion of the commissioning and contracting of services can be found in *Mental Health Financing*.

The budgeting process

The following stages in the annual budgeting process refer to the management of a protected mental health budget. Some elements of mental health funding are integrated into general health funding. A possible timetable for the stages in the annual budget is given in Table 18, in which a deconcentrated model is used as an example. Each country should create its own budget cycle in accordance with its financial structures and service organization.

The next task is to implement the longer-term targets in the form of annual budgets.

Countries should adapt the details of this section in accordance with their own budgeting practices.

Table 18. Example: Annual budget cycle

Month	Activity
1	Financial year begins.
5	Health ministry receives provisional allocation for following year from central government, together with any special constraints or conditions.
6	Health ministry issues broad resource allocation guidance to regions ^a on the basis of the provisional allocation.
7	Regions issue broad allocations to districts on a similar basis.
8 >	Budget holders (e.g. mental health service managers) develop and return proposals showing: > review of service targets in line with plan; > estimated expenditure for previous year; > estimated expenditure out-turn for current year; > reasons for underspending or overspending; > budget proposals for following year, costed and showing how they will meet planned service targets;
8	Budgets are totalled and reconciled at regional level and then in the health ministry.
9	Adjustments are made: > to reflect national policy; > to reconcile with other budget proposals; > to reflect constraints; > to reconcile with central government^b allocations.
9 >	Discussions with central government ^b
10	Adjustments agreed with service managers (including mental health service managers).
11	Informal approval.
12	Government approves budget.
13	Budgets issued to budget-holders.

^a Organization and designation of regions and districts may vary between countries.

^b Or the next level up in the administrative organization where applicable.

> Points where local mental health service managers are required to take specific action.

Source: adapted from Green (1999)



1. Review of previous year's budget

The first stage in the annual budgeting process involves reviewing the previous year's budget. The review normally takes place before the end of the financial year. This monitoring role is an integral part of financial planning. The review should consider the levels of expenditure of all the different aspects of the mental health service and should examine how they relate to the service delivery targets that were previously set.

It therefore offers the opportunity to assess the forthcoming year in the light of the previous budget's achievement of target indicators. The extent to which this is possible depends on a number of factors, including (1) the explicitness of the previous target indicators, (2) whether there have been changes in the budgeting system, and (3) the accuracy of the available information. Key questions are indicated below.

- > Is the current year's expenditure likely to exceed or fall short of what was budgeted? If so, why?
- > Are the objectives of the mental health service currently being met? If not, is this attributable to budget, external constraints or poor management? (Green, 1999.)

2. Review of service objectives and targets

The service objectives and targets (as developed in step C) have to be reviewed and adopted as part of the budgeting plan for the year ahead. This involves arrangements for the detailed implementation of annual budget plans that had previously been broadly defined in the rolling plan.

3. Guidance from central government on resources

At a relatively early stage in the budgeting process, central government ministries should provide guidelines on the likely level of the budget for the health department as a whole and for the mental health service in particular (in those instances where budgets are separate). If this is not provided an estimate of the likely ceiling should be made at local level. This should provide financial regulations and ceilings on certain areas of expenditure, e.g. a limit on anticipated spending on human resources. It is also desirable that central ministries provide an indication of likely inflation rates and of how these should be included in budgeting.

On the basis of likely resource levels the central health ministry determines regional and district allocations. A combination of allocation formulae and assessment of local needs should guide this process. (See *Mental Health Financing*.)

4. Discussions and negotiations between different levels

The next stage involves negotiation between managers of various aspects of the service over the amounts of individual budgets. In order to be able to negotiate effectively, mental health service managers should have a clear understanding of their requirements for mental health service development. Negotiations on the balance between hospital services and community-based care are particularly important. Negotiations between various fund-holders are also important because, for instance, primary care may have no dedicated mental health budget but may have a significant role in caring for patients in the community. Budgets for the training of primary care workers in mental health skills are essential.

Proposals should be in line with service targets, and, as far as possible, should allow for their attainment. In this way the budgeting process is tied closely to the planning process. Four key elements of these proposals are listed here after (Green, 1999).

Reviewing the previous year's budget is the first stage in annual budgeting.

Service targets have to be reviewed and adopted as part of the budgeting plan for the year ahead.

Central government should provide guidelines on the likely level of the forthcoming budget.

Negotiations over the mental health budget are an essential stage in budgeting for mental health service managers.



- > A description of service changes (e.g. the development of community-based mental health workers) and their expected effects on targets in the service plan.
- > Any human resource implications (e.g. the need to employ extra nurses).
- > Implications for recurrent budgets (e.g. the employment of extra nurses means an increase in the recurrent budget for human resources).
- > Implications for capital or development budgets (e.g. the closure of a mental hospital ward and the opening of a staffed residential home in the community has a bearing on the capital budget).

It is important to emphasize that significant changes can occur not only through the increase in available resources but also through the redeployment of current resources. The budgeting process allows these considerations to be made explicit.

5. Setting of draft budget

After discussion with service managers, provisional agreement on the budget proposals becomes possible. This should allow for the drafting of a budget closely in accord with central government guidelines. Flexibility over this negotiation process varies significantly between countries.

6. Setting of final budget by central government

The last stage involves the approval of the budget by central government (or the next level up) and the political level of government. This approval provides the authority for budget-holders to commit expenditure in accordance with the agreed budget.

Task 1. Example: The budgeting process

The earlier short-term targets have to be costed and presented for budget approval.

Budget implications of option 1 (year 1):

- > recurrent costs of dual running of hospital and community services (obtainable from previous budget and from costing of service needs in step B, task 5);
- > capital costs of opening a staffed residential care home in the community;
- > costs of clinical duties required for individual assessment of long-stay patients for discharge to community settings;
- > costs of training community staff;
- > costs of training trainers.

These costs should be drawn up and presented for budget negotiations in keeping with central government guidance on resources. Information gathered earlier in the planning cycle, e.g. on who is responsible for mental health budgeting and who carries decision-making authority, is crucial at this stage. Ultimately the draft budget that is approved by government for the following financial year is a compromise between the interests of the varying parties involved in negotiation and the realities of budgetary constraints.



Financial management and accounting

Once budgets are established, monitoring systems are required so that mental health managers can be kept informed throughout the financial year (Green, 1999). Information should be made available on the current situation and the likely end-of-year position or out-turn. This information is essential for the planning and management of the mental health service. The accuracy of this monitoring depends on the following factors.

- > An understanding of the **budget profile**, or how the budget is expected to be spent over the financial year.
- > The **accounting system**, which provides information on the amount spent or committed to expenditure. There are three main accounting systems: cash accounting, accrual accounting and commitment accounting. The distinction between these systems depends on the point at which a decision to spend is reflected in the accounts (Green, 1999).

Regular budget management statements, such as that presented in Table 19, are one way of monitoring expenditure. They allow comparison of real or committed expenditure with expected expenditure at the end of each month. In their simplest form such statements assume that spending is equally spread over the 12 months of the year. For example, they assume that 25% of the budget will have been spent at the end of the third month. In reality this is unlikely for the following reasons: there may be above-average spending at the beginning of the year; there may be delays in recruitment that cause underspending on human resources; items of equipment are often not divisible and can only be purchased by the expenditure of a large lump sum (Green, 1999). If patterns of spending are predictable a more sophisticated and accurate profile of spending can be built into the monitoring system.

Efficient accounting systems are essential in order to allow ongoing monitoring of the budget

Table 19. Example: Monthly budget management statement

The table below shows a monthly management statement after 3 months of the year. The budget-to-date column shows what might be expected to have been spent one quarter of the way through the year. It is assumed here that spending will be equal each month (which is unlikely); more sophisticated estimates could be made. The variance columns show the relative (not actual) over or under spending. Once again, the fictitious currency of Money Unit (MU) is used.

Item	Budget	Expenditure to date	Budget to date	Variance (+ under,-over)		Projected year-end Expenditure	Variance
	MU 000	MU 000	MU 000	MU 000	%	MU 000	%
Personnel	120	10 ^a	30	+20	+ 66	40	+ 66
Drugs	80	40 ^b	20	-20	-100	160	-100
Transport	40	20 ^c	10	-10	-100	80	-100
Utilities	12	1 ^d	3	+ 2	+ 66	4	+ 66
	252	71	63	-8	-13	284	-13

Possible reasons for variance:

^a Recruitment slow with new posts at beginning of year.

^b Early stock-taking.

^c Overspend due to petrol price increase.

^d Water company strike: no bill received.

Source: (Green, 1999)



Monitoring systems allow for early detection of deviation from the budget.

The value of monitoring systems is that deviation from the budget can be detected early enough to allow remedial action to be taken. This is essential in order to ensure that the budget is not exceeded and that remedial action is consistent with the service plan and does not compromise the objectives of the service.

There are two possible variations from the set budget, viz. **overspending** and **underspending**, which may be caused by:

- > poor initial estimation;
- > initial misallocation between budget items;
- > unplanned change in the volume of activity;
- > unexpected change in prices;
- > change in efficiency levels.

(Green, 1999.)

Actions that can be taken in situations of overspending or underspending depend on the cause. It is therefore essential that mental health service managers understand the cause of any deviation from the set budget. It is desirable that managers discourage inefficiency and unplanned changes in activity levels. End-of-year spending up, i.e. the rapid spending of budget residues that cannot be carried forward to the following year's budget, and budgets that are based on the previous year's expenditure, should also be discouraged because of their inefficiency.

The following **corrective financial actions** can be taken in cases of overspending or underspending (Green, 1999):

- (1) line item control involves the control of spending within existing line budgets;
- (2) virement involves transferring funds from one budget line to another;
- (3) requests can be made for supplementary funds from the next level up in the health department;
- (4) efficiency can be improved so that the same level of activity can be provided with the same quality and outcomes for fewer resources;
- (5) activity levels can be reduced.

The advantages and disadvantages of each of these actions are detailed in Green (1999).

There are several corrective actions that can be taken in cases of overspending or underspending.

Key points. Task 1: Budget management

- Mental health service managers should familiarize themselves with the budgeting process and should clarify their own role in reviewing the previous budget. The service targets developed in step C should be used for negotiating the forthcoming budget.
- Financial management and accounting systems should be in place to allow for the effective management and monitoring of the mental health budget and those aspects of the general health budget which are pertinent to mental health.
- Monitoring systems should detect potential overspending or underspending at an early stage so that remedial action can be taken.



Task 2. Monitoring

Just as monitoring of the budget is essential for financial planning, monitoring of the service as a whole is essential for ensuring the implementation of service plans. Monitoring also facilitates the reviewing of service targets and the identification of further areas of development for the next planning cycle.

Monitoring should take place on an ongoing basis, primarily through the development of **information systems** that provide mental health service managers with data on the functioning of the service. More detail on this subject will be provided in *Mental Health Information Systems* (to be developed by WHO). The resources required for monitoring and reviewing services via information systems should be built into budgeting and planning.

Monitoring should also involve careful assessment of the quality of mental health care. It is essential that a service be monitored, not only in the interest of curtailing expenditure but also to ensure satisfactory standards. (See *Quality Improvement for Mental Health*.)

Considerations in the ongoing monitoring and management of mental health services

Apart from the monitoring of mental health services through information systems, several considerations should be kept in mind in relation to the ongoing management of these services.

Broadly, three areas warrant special consideration: the need to develop both visible and invisible inputs; the balance between hospital and community services; and the balance between clinical services, clinical support services and non-clinical support services.

1. Visible and invisible inputs

In the management of resources (inputs) it is important to consider the distinction between **visible** and **invisible inputs** (Thornicroft & Tansella, 1999). **Visible inputs** are mainly staff and facilities. **Invisible inputs** provide the potential for the effective working of the service and are often neglected in service planning. They include: good working relationships between specialist health services and general health services and between health services and social services; the experience, qualifications and training of staff; the legal and policy framework within which the service is authorized to function; and the organizational arrangement whereby the process of care takes place (Table 20).

Historically, many evaluations of mental health service provision have been reduced to counting the numbers of available beds. This is inadequate. It is important that the functioning of a mental health system be evaluated and developed by taking into account all visible and invisible inputs.

Monitoring is essential for ensuring the implementation of service plans and reviewing targets for the next planning cycle.

More detail on mental health information systems will be provided in a module on this subject (to be developed by WHO).

Several considerations should be kept in mind in relation to the ongoing management of mental health services.

Invisible inputs, which provide the potential for the effective working of a service, should be developed.



Table 20. Visible and invisible inputs: maintaining the balance

Visible inputs	Invisible inputs
Budget (absolute allocation for mental health)	Good working relationships
Staff	> Mental and general health
> Number	> Health and social services
> Distribution	Staff
> Discipline mix	> Experience
Buildings and facilities	> Qualifications
Transport	> Training
Medications	Legal and policy framework
Supplies	Organizational arrangement
Equipment	Treatment protocols and guidelines
Investigations	Support of family carers
	Costs to family carers

Source: adapted from Thornicroft & Tansella, 1999.

2. Hospital and community services

At the local level, a balance between **hospital and community services** is essential. In economically developed countries, during the last 25 years there has been a general trend of reallocating budgets from hospital to community services. In these instances, it is important to allow for transitional double running costs while community services are being established and before savings accrue from bed reductions. In these countries, health service planners have to ensure that funds follow patients in order to prevent inadequate care in the community and the overloading of diminished hospital services by patients in crisis with no community support. There is also the danger that finances leak from mental health budgets into other areas of medical care. One solution is to raise the awareness of primary care staff and train them in the importance of mental health issues.

The balance between hospital and community services is important in the management of resources. A reduction in the number of available beds is likely to lead to a reduction in the length of admission (Nielsen & Aagaard, 1998). In turn this may lead to an increased admission rate and bed occupancy rate, i.e. a revolving-door pattern of care (Geller, 1992), if adequate community services are not in place to support patients out of hospital.

3. Clinical services, clinical support services and non-clinical support services

The balance between clinical services, clinical support services and non-clinical support services is also important (Table 21) (Thornicroft & Tansella 1999). The infrastructure for mental health services, e.g. clinical and non-clinical support, is often provided within the general health service.

During the era of asylums all these services were located on one site (Thornicroft & Tansella, 1999). Now, in the era of community services, these functions have to be coordinated in the community so as to ensure the continuity and comprehensiveness of care. This important logistical task has to be taken into account in planning.

At the local level a balance between hospital and community services is essential.

A balance between clinical services, clinical support services and non-clinical support services is essential.



Table 21. Maintaining the balance between clinical services, clinical support services and non-clinical support services

Direct clinical services	Clinical support services	Non-clinical support services
Inpatient services	Pharmacy <i>Providing medications, advice and related supplies to the direct clinical services</i>	Information technology and computing <i>Providing routine service activity data and support for computers and software</i>
Outpatient services	Pathology and laboratory sciences <i>Providing analysis of physical investigations for mental health services</i>	Medical records <i>Usually centralized archives of patients' clinical case notes</i>
Day care services	Radiology, electroencephalography and neurophysiology	Transport and portering
Community mental health and home treatment services	Patient advocacy and legal advice <i>Providing legal services to patients, relatives and staff on involuntary treatment, informed consent, etc.</i>	Catering
Residential services in the community	Residential placement services <i>Arranging accommodation to facilitate discharge</i>	Cleaning
		Works and building
		Supplies
		Quality and clinical audit
		Continuing education
		Planning
		Staffing

Source: Thornicroft & Tansella, 1999.

Key points. Task 2: Monitoring

- Monitoring should take place on a continuing basis, primarily through the development of information systems and quality improvement mechanisms.
- Considerations in the continuing management of mental health services include: the need to develop both visible and invisible inputs; the balance between hospital and community services and the balance between clinical services, clinical support services and non-clinical support services.



Task 2. Example: Monitoring

A local mental health service has to monitor its activities. Some examples of indicators that can be used for this purpose are given in Table 22.

Table 22. Example: Indicators for monitoring local service activities

Indicator

Quality improvement measures in place	V
Hospital meeting quality improvement standards	X
Primary care clinics meeting quality improvement standards	V
Day care centres meeting quality improvement standards	V
Daily patient visits per 100 000 population	33
Annual admissions per 100 000 population	180

V indicates that an indicator is being met.

X indicates that an indicator is not being met.

In addition, qualitative measures may indicate high levels of staff burnout and some dissatisfaction over recent changes in service organization. High staff burnout is inefficient, leading to high turnover rates, constant training and increased long-term costs. This may indicate a need for consultation with dissatisfied staff, the training of existing staff and new staff in community-based mental health care, and the introduction of formal supervision and continuing professional development. It may also be necessary to hold formal meetings with representatives of family carers in order to develop mutually beneficial and supportive relationships.



Task 3. Evaluation

The final step in planning and budgeting for mental health care is to evaluate the service. This step completes the cycle of planning and budgeting. Evaluations should lead to a review of services and planning for future budgets and service delivery.

Many aspects of the service can be evaluated at this stage. For the purposes of this module, two aspects are particularly important:

- (1) outcomes;
- (2) economic evaluation (mainly cost-effectiveness analysis).

1. Outcomes

The purpose of planning is not only to ensure a set of service resources or inputs (such as a budget or a specified number of beds) but also to promote effective outcomes for people with mental disorders. An increase in an allocated budget for mental health does not necessarily lead to an improvement in the mental health of a local population. It is the translation of this budget into effective interventions which leads to benefits for the population. For this reason, the evaluation of the effectiveness (outcomes) of mental health services is a crucial aspect of service planning.

Outcomes are the changes in functioning, morbidity and mortality in the patient or user population which result from a service intervention. Outcomes can be measured in a variety of ways. This module does not provide details of outcome evaluations. More information on this matter is given in *Quality Improvement for Mental Health and Mental Health Information Systems* (the latter module to be developed by WHO).

2. Economic evaluation

Outcomes also have to be evaluated in the light of the **cost** of delivering the service. This is the chief purpose of **economic evaluation**. Current evidence indicates that many mental health service interventions are cost-effective (World Health Organization, 2001). In order to develop the evidence base for mental health interventions further it is useful for countries to conduct economic evaluations of their own mental health services. In part this arises because the cost-effectiveness of mental health services has to be demonstrated in countries' specific situations. However, economic evaluations are also useful as a **planning tool** for evaluating mental health services and assessing options for future service development.

For example, there is evidence that community-based mental health care is not as costly and is more effective than institutionally based custodial care in particular settings and particular conditions (Knapp et al., 1994). This information is crucial for the allocation of scarce resources in mental health care. Decisions about the use of local mental health services should be based on information about the least costly and most effective interventions available.

Clearly, an economic evaluation cannot be performed every time a policy decision has to be taken or a service development plan has to be approved. It is strongly recommended, however, that information relating to economic evaluation be sought in the interest of service planning. This could mean using the results from a cost-effectiveness evaluation carried out in another country, updating a previous study or carrying out a modest but nevertheless informative new analysis for the particular context under consideration. Learning to read and interpret economic evaluations that have been conducted in other settings is an important skill that should be developed by mental health service managers and planners.

The purpose of planning is to bring about improved outcomes for people with mental disorders. For this reason the evaluation of mental health services is a crucial final stage in planning.

Plans for local mental health services should be based on information about the least costly and most effective interventions that are available.

If local economic evaluations cannot be conducted, learning to read and interpret economic evaluations that have been conducted in other settings is an important skill that should be developed by mental health service managers and planners.



Generalized cost-effectiveness analysis: tools for planning

In order to assist planners, WHO is developing generalized cost-effectiveness analysis through the Choosing Interventions that are Cost-Effective (WHO CHOICE) project. This project aims to generate regional databases of cost-effective mental health interventions so as to allow planners to choose the most effective and least costly interventions for their specific settings. Generalized cost-effectiveness analysis compares a range of mental health interventions and their associated costs with the null hypothesis (no intervention or the natural course of a disorder) (Murray et al., 2000). The WHO CHOICE method offers the opportunity for planners to select a set of interventions that maximize the health benefits of a population within a given set of resource constraints. Further information is available from the WHO CHOICE website (www.who.int/evidence/cea).

If local resources do not permit a full economic evaluation to be conducted the following **general considerations** should be kept in view when assessing the cost-effectiveness of a planned or existing mental health service.

- > Have **all relevant costs** been taken into account? There are many and various inputs to a mental health system and it is important that the cost of each be included in the analysis or its discussion. Social costs should be included if they are relevant.
- > Are all the dimensions of **effectiveness** or **outcomes** taken into account? Good mental health care is not just about tackling the symptoms of illness but also about improving the ability of individuals to function (e.g. to return to work) and promoting quality of life.
- > Are **sensible comparisons** made between service or treatment options? For example, is the right measure chosen when seeking to establish whether a new service arrangement is cost-effective?



Economic evaluation: principles, techniques and stages

1. Principles

Two principles of good practice can be identified for conducting economic evaluations of mental health care (Drummond, 1980; Knapp & Beecham, 1990; Knapp, 1995).

1. Comprehensiveness: does the economic evaluation cover all relevant costs and outcomes?
2. Like-with-like comparisons: when comparing the costs and outcomes of two different interventions, are other factors kept the same wherever possible? (See *Mental Health Financing*.)

2. Techniques

In broad terms there are four major economic evaluation techniques of particular value in relation to the planning of mental health services:

- cost-effectiveness analysis;
 - cost-utility analysis;
 - cost-benefit analysis;
 - cost-offset analysis.
- (Knapp, 1995; Green, 1999; Chisholm et al., 2001.)

For the purposes of mental health services the first three techniques are the most relevant. The fourth assumes that outcomes are the same, which is seldom true in mental health care. The first three techniques all compare the cost of an activity with its outcomes or benefits. They differ in respect of their measurement of outcomes. More detail on these techniques can be found in the references cited and in *Research and Evaluation of Mental Health Policy and Services* (to be developed by WHO).

3. Stages

An economic evaluation can be conducted in the following stages (Chisholm et al., 2001; Green, 1999).

1. Identify the purpose and scope of the evaluation.
2. Define the alternative interventions to be evaluated (design).
3. Identify the costs and outcomes to be included in the study.
4. Gather data on the identified costs and outcomes.
5. Compare costs and outcomes.
6. Revise findings in the light of risk, uncertainty and sensitivity.
7. Adjust service plans in the light of findings.

More detail on economic evaluation is provided in *Research and Evaluation of Mental Health Policy and Services* (to be developed by WHO).



Key points. Task 3: Evaluation

- The final step in planning and budgeting for mental health care is to evaluate the service. Evaluation should lead to a review of services and planning for future budgets and service delivery.
- The need for evaluation underlines a crucial conceptual cornerstone of the planning of mental health services: the purpose of planning is not only to ensure a set of service resources or inputs (such as a minimum budget or a minimum number of beds) but also to promote effective outcomes for people with mental disorders.
- Mental health service managers have to understand not only which mental health interventions are effective but also which are cost-effective.
- Economic evaluation can provide managers and planners with vital information on the likely costs and outcomes of service delivery.
- Economic evaluation may involve cost-effectiveness, cost-utility or cost-benefit analysis in the appraisal of local mental health services. The results should be set alongside other data when decisions are being taken.
- Evaluation completes the cycle of planning for mental health and should lead to target-setting for future mental health budgets and plans.

Task 3. Example: Evaluation

A local mental health service has to evaluate the outcomes of its care. Some examples of indicators that could be used to measure outcomes are provided in Table 23.

Table 23. Examples of outcome indicators

Indicator

Annual suicide rate per 100 000 population*

Satisfaction with services

% of patients who have contact with services and report a reduction in symptoms

Quality of life (WHO quality of life assessment instrument)

Global functioning (global assessment of functioning scale)

Cost-effectiveness ratios

**For example, the suicide rate in England was reported to be 11 per 100 000 in 1990. A target was set to reduce this by at least 15%, i.e. to no more than 9.4 by 2000 (Department of Health, UK, 1993).*

3. Recommendations and conclusions

This module provides a systematic approach to planning and budgeting for local mental health services. Planning and budgeting can be performed by assessing local mental health services (including resources and demand), estimating the need for mental health care, setting targets (based on priorities identified by a comparison between existing services and needs) and implementing them through ongoing service management, budgeting and evaluation.

This approach can be applied comprehensively to all aspects of a mental health service, including mental health promotion, the prevention of disorders, and treatment and rehabilitation.

In order to make full use of this module, countries should adapt the planning tools to their specific circumstances.

1. For countries with minimal or no mental health services this module provides guidance on how to assess the local services that exist and the need for services. Targets can then be set for initial service priorities within existing budget constraints. It may not be possible to achieve all the details in all the steps but the module offers a framework for situation analysis, needs assessment and initial target-setting.

2. For countries with some general health services but few or no mental health services the module provides information on specific aspects of mental health service planning which may not be known to general health planners. For example, guidance is provided on how to conduct a needs assessment for mental health. This enables planners to identify mental health priorities within the general health service infrastructure.

3. For countries with a capacity for mental health services the module enables a detailed assessment of current resources and needs. Specific target-setting, budgeting and implementation should be possible on this basis.

Planning is not always a rational process and planners may encounter difficulties in the form of political differences, personal power struggles and the conflicting needs of various stakeholders. The process of reforming a service may take time and may require the mobilization of political will if substantial improvements are to be achieved.

In spite of these difficulties and the length of the process, the goal of providing better mental health care and improving the mental health of local populations can be achieved. Mental health service planners are uniquely positioned to influence the way in which care is delivered and its impact on people with mental disorders and the wider population.

This module offers a systematic approach to planning and budgeting.

Countries should adapt the contents of the module to their specific circumstances.

Planning does not always proceed in a rational manner and changes in service delivery may not be seen for some time.

Service reform and improvements in the mental health of populations are possible. Planners are uniquely positioned to influence this process.

4. Barriers and solutions

Barriers	Solutions
1. Planning is irrational The module sets out a rational process for planning and budgeting. However, things do not always proceed in this rational way. Power struggles occur, people do not listen to proposals, and there is a continual struggle with bureaucracy.	- It is one of the tasks of planners to bring a rational approach to something that is disorganized and irrational. It is therefore essential that planners focus on what they are trying to achieve at any particular stage of the planning process. The step-by-step approach in this module provides a useful framework for the process. - In dealing with power struggles and political processes it may take time to bring about desired reforms. It is necessary to develop strategic alliances, build evidence in support of one's case, and mobilize political will. For example, alliances with advocacy organizations may help to create a groundswell of community demand for improved mental health care. The support of key individuals in influential positions within health ministries can be extremely valuable. - In dealing with bureaucracy, one of the ongoing functions of planners is to reform procedures so that tasks can be undertaken with the fewest possible complications, the greatest possible effectiveness and minimal cost. Where possible, planners should seek ways of changing bureaucratic procedures so as to improve efficiency and effectiveness.
2. There is no mental health budget Mental health services are provided in an area but there is no separate budget for mental health.	- Even if there is no specific mental health budget it is still possible to plan mental health services under a general health budget. As set out in step A, task 4, it is important to identify who is responsible for those items in the general health budget which have a bearing on mental health. How are decisions made? On what basis is any funding allocated to mental health? - It is then important to use evidence from the needs assessment (step B) to demonstrate to fund-holders why mental health is important and what cost-effective interventions are available. This may assist in the allocation of more appropriate funds to mental health services (within the general health budget). - Where possible it may be useful to build mental health services into general health activities, e.g. counselling skills training for HIV/AIDS. - If it is possible to advocate for change in the way in which budgets are structured, it may be of value to propose the establishment of a separate mental health budget for at least some activities. This is particularly useful for kick-starting a mental health programme. It can also provide useful information when a programme is being evaluated, as it will be easier to identify more precisely the costs of the mental health component and therefore to develop a cost-effectiveness analysis.

3. There are not enough resources for mental health

There are no financial resources with which to expand mental health services.

- Even in situations of minimal resources it is extremely valuable to conduct a review of existing services (step A). This often highlights areas where existing resources can be used more efficiently (producing more services for the same cost).
- A needs assessment (step B) also highlights ways in which the service could develop even if the budget remains static. This allows priorities to be set so that less efficient or outdated forms of treatment can be replaced with more appropriate care.
- If there is no new funding a review of the allocation of current resources can help to make more efficient and effective use of what is available.

4. Poor information systems

There are no computers with which to conduct a sophisticated analysis of mental health services. Furthermore, information is only collected as part of general health care.

- It is possible to gather very valuable information without the aid of computers. It is important to decide which information is most useful for planning purposes and whether it can be gathered practically under the current system. A few items of information gathered consistently and accurately are far more valuable than large amounts of information which are of poor quality and have no clear purpose. For example, it is extremely useful to determine the numbers of: staff working in mental health; available beds; people with mental disorders attending outpatient clinics per year; and admissions per year. Such information provides a foundation for planning. It can be compared with information generated by the needs assessment for target-setting. If information is gathered regularly the possibility arises of analysing trends in service use by local populations and of adjusting services accordingly.
- It may be useful to meet the people responsible for gathering information for general health in order to discuss (1) ways in which current general health information might be useful for mental health planning and (2) ways in which new items of information (specific to mental health) might be included in routine general health information systems. For example, it may be possible for nurses in primary care to record the numbers of people with mental disorders who attend clinics during an average day.

Annex 1. Additional notes for selected planning steps

1. Issues in measuring service utilization (step A)

Thornicroft & Tansella (1999) described four categories of data on service utilization:

- (1) event-based information for a given service component (e.g. annual number or rate of admissions);
- (2) individual-based information for a given service component (e.g. annual number or rate of different patients who receive outpatient services);
- (3) individual-based information on episodes of illness from onset to recovery (e.g. annual number or rate of episodes of depression treated by a particular service);
- (4) individual-based information on episodes of care (e.g. annual number or rate of episodes of treatment for anorexia).

Useful aggregations of service utilization data include visits or admissions by source or setting of the service, or by type of care provided, or by episodes. It is useful to distinguish between an episode of illness (including the number of events during the time between onset/relapse and recovery/remission) and an episode of care (including the number of events in a specified period), as the former is based on the mental health status of the individual whereas the latter is based on patterns of service use over a certain period (Thornicroft & Tansella, 1999).

Data types 1, 2 and 3 (above) can be collected in many routine information systems but type 4 requires more sophisticated data management, e.g. a case register. A WHO working group defined a psychiatric case register as a patient-centred longitudinal record of contacts with a defined set of psychiatric services, originating from a defined population (World Health Organization, 1983). Thornicroft & Tansella (1999) advocated the use of case registers where possible. However, case registers have limitations: they should not be used to extrapolate service use over time; they cannot always account for the geographical mobility of a population of patients; and they may not include less severe conditions (Thornicroft & Tansella, 1999).

Several studies show that the factors affecting service utilization are complex. In Canada, for example, factors associated with the use of services by people with alcohol-related disorders and other substance-related disorders include the severity of illness, disability, attitudes and predisposing or enabling variables (Ross, Lin & Cunningham, 1999).

Some studies have provided crude rates of service utilization:

- in a follow-up to the Baltimore Epidemiological Catchment Area study a crude service utilization rate of 11.7% in general medical and specialist mental health settings was reported among African-Americans and Whites (Cooper-Patrick et al., 1999);
- in Ontario, Canada, lower rates of service utilization relative to need (identified as mental disorders, reported disability and self-rated mental health) were reported for males, adolescents and people living in less urbanized areas (Lin, Chan & Goering, 1998).

2. Issues in interpreting epidemiological data (step B)

It is important for countries to anticipate changes in psychiatric morbidity. For example, in developed countries it is anticipated that the prevalence of dementia will almost double by 2016 (Bland, 1998). Changes in the age distributions of populations are a major factor in the increase in prevalence of certain conditions (Häfner, 1985). This is not restricted

to Western countries: China's elderly population is increasing rapidly and prevalence rates of dementia are approaching those in the West (Ineichen, 1998). It is anticipated that, by 2020, unipolar depression will be the second most prevalent medical condition globally after ischaemic heart disease (Murray & Lopez., 1996). Increased prevalence of depression, particularly among the elderly, has been reported both in developed countries such as the United Kingdom and the USA and in developing countries such as Mexico (Wagner, Gallo & Delva, 1999).

Comorbidity complicates the interpretation of prevalence data for estimating service needs. For example, in a WHO study of primary care clinics in 15 countries, 62% of depressive cases also suffered from at least one other current mental disorder, and the primary reason for patients' visits was seldom of a psychological nature: the majority of attenders complained of somatic symptoms (41%), pains (37%) and fatigue and sleep problems (12%) (Wittchen et al., 1999). In addition, comorbidity of certain conditions is likely to lead to increased service utilization. Thus people with comorbid psychiatric and alcohol-related disorders in the American National Comorbidity Survey showed higher levels of service utilization than people with exclusively psychiatric or alcohol-related conditions (Wu, Kouzis & Leaf, 1999). A further complication is that service utilization varies between specific diagnostic conditions (Bijl & Ravelli, 2000). For example, people with alcohol-use disorders (Teesson et al., 2000) and agoraphobia are less likely to use mental health services than people with panic disorder. Elderly patients with bipolar disorder used almost four times the volume of service and had four times as many admissions during a six-month period than unipolar depressed elderly patients (Bartels et al., 2000). Low-prevalence psychotic disorders that may have a one-month prevalence as low as 4 per 1000 present a complex public health problem with a range of social, residential and treatment needs requiring multisectorial management (Jablensky et al., 2000).

3. Population factors associated with increased service utilization, higher prevalence, higher incidence, need for services or negative outcome (step B)

Population factors	Source
Material poverty is a risk factor for negative outcome among mentally ill people.	Saraceno & Barbui, 1997
In England and Wales, factors correlating with increased service utilization include: unemployment; no car; single, widowed or divorced; registered as permanently disabled; household not self-contained; non-permanent accommodation.	Glover, 1996
Deprived urban areas in Nordic countries show higher prevalence of functional psychosis.	Hansson et al., 1998
In London, unemployment and Jarman-8 scores indicated the need for increased service resources in deprived inner-city areas.	Harvey et al., 1996
Among homeless people in Los Angeles, high prevalence of chronic mental health problems and substance abuse have been reported although utilization rates appear to remain low.	Koegel et al., 1999
People receiving social welfare benefits in France had an elevated prevalence of psychiatric disorders but a reduced rate of mental health service utilization, often attributable to poor detection.	Kovess et al., 1999
Among children in the USA the prevalence of disabling mental conditions has been associated with older children, males, children from	

low-income, single parent families, and children with a comparatively low educational level.	Halfon & Newacheck, 1999
In France, increased consultation by adolescents with mental health professionals has been associated with multiple problems, functional physical disorders, separated parents, increased consultation with other doctors, and confiding in teachers and youth group advisers.	Gasquet et al., 1999
In the USA there is a high incidence of psychopathology among children in out-of-home care.	Schneiderman et al., 1998
Low socioeconomic status of children and adolescents was strongly associated with poor service utilization and unmet need.	Cunningham & Freiman, 1996
The presence of refugee communities may increase the need for services.	Chow, Jaffee & Choi, 1999
War veterans have been shown to have higher prevalences of depression, PTSD and mental health service utilization than similar patients in primary care in the private sector.	Hankin et al., 1999a
Trauma victims, specifically sexual assault victims, have an increased likelihood of experiencing depression and misusing alcohol.	Hankin et al., 1999b
Ethnicity was a factor affecting service utilization (specifically, access to care) in communities in London, where mental health symptoms in Black patients were frequently unrecognized by primary care general practitioners.	Commander et al., 1997
Native Americans were at higher risk for mental health problems than other ethnic groups in the USA.	King, 1999
Somatization can frequently lead to misdiagnosis or failure to recognize serious psychiatric symptomatology among minority Asian communities in North America by Western-trained clinicians.	Hsu, 1999

The research findings reported in this table should be interpreted with caution for the following reasons.

> There is not a linear relationship between social deprivation and the need for services (Croudace et al., 2000). Indeed, in developing countries with greater levels of social deprivation, outcomes for schizophrenia have been better than in developed countries (Sartorius et al., 1996). For this reason, local assessment of service needs should proceed cautiously and should take into account a variety of factors, including unmet need. There is always a danger that gaps in knowledge about the requirements for mental health care can lead to a belief in uniform needs across populations. This can result in the needs of the people with the most severe conditions being neglected (Mechanic & McAlpine, 1999).

> In countries with a recent history of war or with continuing military conflict the development of mental health trauma services may be necessary. However, it is advisable to proceed with caution in this matter because there is evidence that interventions such as debriefing may be inappropriate and may cause further trauma in survivors who have developed their own methods for coping with trauma (Bracken, Giller & Kabaganda, 1992).

Annex 2. Country example

Applying the step-by-step method to data from Chile

In Chile a new Mental Health Plan was formulated in 1999 and implemented in 2000 (Minoletti, personal communication, 2002). Although these data apply to a country, rather than to a local area, they provide an illustration of the application of the step-by-step method. In particular, they illustrate the way in which expert opinion can be used to supplement epidemiological measures of need and to plan services accordingly.

Step A. Situation analysis

- > The people to be served comprise the 62% of the population affiliated to the public health insurance system (compulsory contributions through 7% of salary and taxes) who are in the lower socioeconomic category (about 9 000 000 people).
- > Responsibility for the mental health plan and budget rests with the professionals in charge of mental health in the Ministry of Health and the 28 health districts, who consult with the main stakeholders.
- > However, only 30% of the mental health budget is effectively under the control of these professionals. The other 70% is integrated into the general health budget and is mainly for general and mental hospitals.
- > Some indicators of mental health resources for 1999 are presented in Box 1.

Box 1. Mental health resources and needs, Chile, 1999

Indicators	Current services (per 10 000 population)	Needs (per 10 000 population)
1. Primary care psychologists	0.13	1.50
2. Psychiatrists	0.46	0.60
3. Day hospital places	0.13	0.7 - 1
4. Acute psychiatric beds in general hospitals	0.37	1.4 - 2
5. Acute beds in psychiatric hospitals	0.62	0
6. Medium-stay psychiatric beds	0	0.4
7. Long-stay psychiatric beds	1.88	0
8. Community rehabilitation places	0.81	4.21
9. Sheltered home places	0.22	4.8

Qualitative features

- > There are more than 8 000 psychologists in the country who are willing to work in primary care in all regions.
- > Psychiatrists tend to be concentrated in the 12 largest cities and it is difficult to recruit psychiatrists to the public sector in small remote cities.
- > The length of stay in hospital is prolonged in many cases because of a lack of sheltered accommodation and intensive community care.
- > People who cannot be discharged from acute wards in psychiatric hospitals are moved to long-stay wards with minimal staff and care.
- > The Government is not sensitized to mental health as such but is motivated to invest in the rehabilitation of people with drug addiction and in forensic psychiatry whereby people in jails can be acquitted because of mental illness.

Step B. Needs assessment

- > Box 2 shows estimates of the prevalence of the mental health problems that have been set as priorities. These estimates were made on the basis of epidemiological information derived from studies conducted in certain cities on the general population and students in the last 10 years.
- > Box 2 also shows estimates of need in relation to these problems with respect to both primary care and specialized treatment. These estimates were based on a local study of service utilization, international studies and the opinions of experts.
- > On the basis of the estimates of need in Box 2, calculations of mental health resources were made and are presented as needs for some indicators in the third column of Box 1.
- > The total cost of treating the needs in Box 2 during one year was calculated as approximately US\$ 100 000 000. The total mental health budget for 1999, including hospitals, amounted to only \$25 000 000.

Box 2. Mental health priorities in Chile: estimates of prevalence and need based on expert opinion, 1999

Programme priorities	Prevalence (x 1000)	Primary care need (x 1000)	Specialist need (x 1000)
Promotion and prevention		100	10
Child abuse	500	50	10
Battered women	336	60	12
Victims of political repression	53	0	5
Attention deficit and hyperactivity	62	12	2
Depression	75	30	6
Schizophrenia	5	1	2
Alcohol and drug abuse	150	15	5
Dementia	100	50	6

Step C. Target-setting

The information in Box 1 allowed planners to identify the main gaps and set the following targets.

1. To initiate treatment of depression in primary care by improving the supply of medications, training staff and incorporating psychologists.
2. To increase the number of places in day hospitals, community rehabilitation programmes (day centres and social clubs) and sheltered homes, to decrease the number of people in long-stay wards and to decrease the length of stay in acute wards.
3. To open medium-stay beds for the intensive treatment of people with mental disorders or with severe disability who cannot be treated on an outpatient basis.

Step D. Implementation

- > The budget for mental health increased by 7% in both 2000 and 2001, allowing for investment in respect of the first two targets.
- > The evaluation of the first two years of implementation of the plan is presented in Box 3. The depression programme reached 71 primary care centres and 16 000 people. Twenty-eight day hospitals and many sheltered homes and social clubs were opened throughout the country.
- > The skills of primary care staff in treating depression were greater than expected. Only 7% of the people treated were referred to specialists, whereas it had been hypothesized that 20% would be referred.
- > The evaluation of sheltered homes showed that people living in them had a higher quality of life and greater social roles than people in long-stay wards in psychiatric hospitals.

Box 3. Evaluation of the national plan for mental health and psychiatry, Chile, December 2001

Indicators	Services in 1999 (per 10 000)	Services in 2001 (per 10 000)
1. Primary care psychologists	0.13	0.27
2. Psychiatrists	0.46	0.48
3. Day hospital places	0.13	0.60
4. Acute psychiatric beds in general hospitals	0.37	0.38
5. Acute beds in psychiatric hospitals	0.62	0.55
6. Medium-stay psychiatric beds	0	0.08
7. Long-stay psychiatric beds	1.88	1.30
8. Community rehabilitation places	0.81	1.76
9. Sheltered home places	0.22	0.50

Qualitative features

- > Psychologists were incorporated into primary care to support physicians and general health teams in the treatment of people with depression.
- > The length of stay in hospital was reduced with the help of day hospitals and community rehabilitation programmes.
- > Psychiatric hospitals reassigned some time for psychiatrists and other professionals to form community mental health teams and to visit primary care facilities regularly (at least once a month) in order to see or discuss cases with general health teams.
- > Two medium-stay units (with a total of 74 beds) were opened in one of the mental hospitals with intensive pharmacological and psychosocial treatment (using the regular budget of the hospital).
- > The Government invested only in drug addiction and forensic psychiatry but was convinced that both problems required the development of wider mental health services.

Definitions of Terms

Demand / The overall requirement that members of a population have for mental health services, usually expressed through their utilization of services.

Economy of scale / A proportionate saving in costs, achieved through increased production.

Epidemiology / The study of the distribution, incidence, prevalence and duration of disease (Kaplan et al., 1994).

Full-time equivalent staff / The equivalent of a full-time mental health staff member. For example, if a general health worker spends 20% of her/his time in mental health work (including time spent seeing patients, making referrals, writing case notes, consulting with colleagues), for the purposes of mental health care she or he is 0.2 of a full-time equivalent mental health worker. It would take five such general health workers to make up one full-time equivalent mental health worker.

Input / The resources that are put in to the mental health care system. The terms “inputs” and “resources” are used interchangeably in this document.

Integrated general health service / A general health service in which mental health care is only one component within a comprehensive range of other health care services. In this sense, mental health care is integrated into the general health care infrastructure.

Needs / A population’s requirements for mental health care, as identified by epidemiological measures, e.g. the prevalence and incidence of mental disorders in the community.

Outcomes / The changes in functioning, morbidity and mortality in the patient/user population as a result of service intervention.

Process / The way in which mental health services are delivered, i.e. the activities that deliver mental health services (Thorncroft & Tansella, 1999), including the way in which inputs are used.

Resource allocation / The distribution and provision of resources.

Resources / Elements that are put into the mental health service, e.g. beds, facilities, staff (often called human resources), medications and vehicles.

Utilization / The use of treatment and services by individuals in a population.

Definitions of Service Indicators

Indicators	Definitions	Formulae
Bed/population ratio	Number of beds per unit of population, e.g. beds per 100 000 population.	$(Beds \div population) \times 100\,000$
Staff/population ratio	Number of staff per unit of population, e.g. staff per 100 000 population.	$(Staff \div population) \times 100\,000$
Staff/patient ratio	Number of staff per patient.	$Staff \div patients$
Staff/bed ratio	Number of staff per available bed.	$Staff \div available\ beds$
Staff/daily patient visit ratio	Number of staff per daily patient visits.	$Staff \div daily\ patient\ visits$
Annual admission rate	Number of admissions per year per unit of population, e.g. annual admissions per 100 000 population.	$(Annual\ admissions \div population) \times 100\,000$
Bed occupancy rate	Percentage of beds occupied during a given time, e.g. per day.	$(Daily\ occupied\ beds \div daily\ available\ beds) \times 100$
Average length of admission or average length of stay	Average number of days that a patient spends in inpatient hospital care.	<i>Mean days of admission</i>
Annual outpatient attendance rate	Number of attendances per year per unit of population, e.g. annual attendances per 100 000 population.	$(Annual\ attendances \div population) \times 100\,000$
Daily patient visits	Number of visits by patients to outpatient services per day.	<i>Total annual visits $\div$ working days per year or mean number of visits by patients (per working day)</i>
Community/hospital ratio (staff)	Number of community staff per total staff, expressed as a percentage.	$(Community\ staff \div (community + hospital\ staff)) \times 100$
Community/hospital ratio (service utilization)	Outpatient attendances per total service contacts (attendances plus hospital admissions), expressed as a percentage.	$(Annual\ attendances \div (annual\ attendances + annual\ admissions)) \times 100$

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