NORMS MANUAL

for Severe Psychiatric Conditions

Department of Health of the
Republic of South Africa

FOREWORD

Mental health care provision in South Africa, like in other parts of the world, has come a long way. There is overwhelming evidence that mental health problems are amongst the major causes of morbidity worldwide and contribute very significantly to disease burden. Before 1994, mental health, like other health services, was characterised by racial segregation, inequitable resource allocation and limited access. Of additional concern for mental health was the secrecy from the public eye, human rights abuses, indefinite institutionalisation, and generally poor standards. Together with the Department of Health, I have promoted an integrated primary health care approach for the provision of mental health services with an emphasis on human rights. Whereas previously mental health was primarily custodial, the national policy is to have as many people living in community settings as possible.

This manual sets the framework for an approach which acknowledges the need for mental health hospital care in both psychiatric and general hospitals, but where community care and psychosocial rehabilitation are promoted. This manual has been designed to be easily utilised by both planners and practitioners at all levels of the health service. Armed with an ordinary calculator and following the very simple instructions in the manual, planners will be able to make critical decisions around issues such as how many psychiatric beds should be provided, what staff are required; what ratio there should be between hospital and community staff and so on. The manual also takes into account the huge disparities currently evident in psychiatric services and sets both baseline and target norms.

I am confident that this manual will assist in ensuring that the aims for our Health Sector Strategic Framework, which includes the improvement of mental health services, will be realised.

Dr Manto Tshabalala-Msimang
Minister of Health

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Preface

Who is this manual for?

This norms manual is designed to be read by provincial mental health coordinators, district health managers, hospital managers, and all those involved in the planning and management of public mental health services in South Africa.

Its goals are (1) to introduce a set of norms into mental health service planning and delivery, and (2) to assist provincial mental health coordinators, district health managers and hospital managers to assess, plan and monitor mental health services according to the proposed norms.

How to use this manual

This manual is designed as a practical, interactive tool. The main content is to be found in Chapter 3, which provides a step-by-step guide to assessing, planning and monitoring the mental health service in your province, region or district. By filling in the indicators from your own service as instructed, you will be able to compare mental health services in your area with the national baseline and target norms.

This manual is a user-friendly tool which allows you to compare local mental health services with the national baseline and target norms.

The introduction and first 2 chapters provide a background to understanding norms and their use. The introduction defines norms, standards and indicators, describes the scope of this manual and explains the use of baseline and target norms. Chapter 1 outlines the vision of mental health care in the post-apartheid era. Chapter 2 describes a model for estimating the services needed for people with severe psychiatric conditions and calculates target norms according to this model.

Background to the development of this manual

This manual was compiled as part of the project to develop Norms and Standards for the mental health care of people with severe psychiatric conditions (SPC). The project was commissioned by the Directorate: Mental Health and Substance Abuse of the Department of Health. It was undertaken by the Department of Psychiatry, University of Cape Town, in collaboration with the Centre for Health Policy at the University of the Witwatersrand.

This manual is a part of the Norms and Standards project, commissioned by the Directorate: Mental Health and Substance Abuse.

The project began with a thorough review of the international literature on norms and standards for mental health care. Researchers then distributed questionnaires to all provinces requesting information on existing public sector mental health services in South Africa. A first draft of the national standards for mental health care for SPC was sent to over 300 service planners, service providers, service users, academics and key role players in the field of mental health care nationwide. The questionnaires and drafts were followed up with visits to all 9 provinces. During these visits workshops were conducted with provincial mental health coordinators and key service providers and managers.

The final Norms and Standards report was handed to the Directorate: Mental Health and Substance. Thereafter, further need arose, i.e to develop a user-friendly norms manual to present the provisional norms in a more accessible way, and provide a tool for the implementation of these norms. The provisional format and draft for the manual were agreed upon with the national and provincial mental health coordinators before the final draft was completed.

This manual aims to provide mechanisms by which provincial, regional and district health managers can assess, plan and

monitor services for people with SPC.

Clearly, mental health service planning is complex and difficult, and a manual of this nature cannot cover all these complexities. For a more thorough, academic treatment of this material, please consult the full Norms and Standards report (1998) available at the Directorate: Mental Health and Substance Abuse, Department of Health.

Acknowledgements

ABBREVIATIONS

ALOS	Average Length of Stay or Average length of admission
CHC	Community Health Centre
CHP	Centre for Health Policy, University of the Witwatersrand
DPV	Daily Patient Visits
FTE	Full-time Equivalent
HSP	Hospital Strategy Project
MO	Medical Officer
NCS	National Comorbidity Survey
OPD	Outpatient Department
OT	Occupational Therapist
OTA	Occupational Therapy Assistant
PHC	Primary Health Care
PTSD	Posttraumatic Stress Disorder
SPC	Severe Psychiatric Conditions
UCT	University of Cape Town
WHO	World Health Organisation

INTRODUCTION

What are norms?

In this manual, **norms** are acceptable levels of mental health care. Using numbers, they describe a minimum acceptable level of health care for people with severe psychiatric conditions (SPC).

Norms are acceptable levels of mental health care.

There are various ways of measuring an acceptable level of care or rate of service provision. One example is the number of acute psychiatric beds available for the population being served. Others are the rate at which patients are admitted to psychiatric hospitals every year, or the rate at which they attend primary health care (PHC) clinics.

No single norm can assess whether the service is acceptable. For example, to state that there are enough psychiatric beds in a province does not imply that the service is adequate. A service also needs effective community-based care. It is therefore essential to ensure that a range of norms are in place to monitor a service in a holistic and effective way.

No single norm can assess the entire mental health service.

Norms refer to how the service should be delivered. But in order to be useful, norms need to be linked to the way in which services work in reality. In order to do this, it is necessary to find measures or **indicators** that describe how the mental health service actually works. Indicators are measured in the same way as norms, for example by working out the number of acute psychiatric beds which are available to serve a particular population, say the population of a province.

Indicators are measures of how the mental health service is working.

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The only difference between norms and indicators is that norms describe how the service *should b e* functioning, whereas indicators describe how it *is* functioning.

Figure 1 shows the relationship between norms, indicators and policy.

Figure 1.   Norms, indicators and service planning
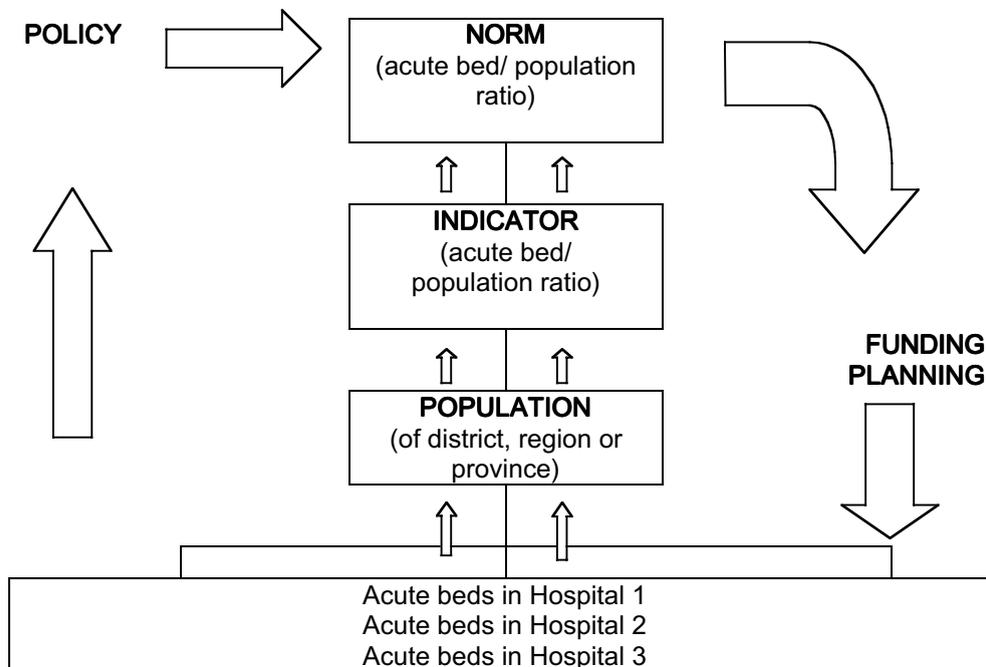
Norms and indicators: an illustration

Let's take an example which illustrates the relationship between norms and indicators. There are 7 acute psychiatric beds for every 100 000 people in the Northern Cape (55 beds for the whole province). This is a useful indicator of the available inpatient care for the people in that province. The Norms and Standards project recommended that there should be a baseline norm of 13 and a target norm of 28 acute beds per 100 000 population. This indicator shows how far acute inpatient mental health care in the Northern Cape falls below these norms.

Why do we need mental health norms?

Norms are helpful for the following reasons:

➢ Norms and indicators measure the extent to which a mental health service is achieving its *goals*
➢ If we link norms to indicators it is possible to *measure inequities* between communities, districts and provinces
➢ Norms make it possible to *estimate* what *resources* would be needed to redress existing inequities
➢ Norms and indicators promote the *efficient* use of resources
➢ Norms can be used to motivate for more appropriate *funding* for services for severe psychiatric conditions
➢ Norms and indicators are useful *management tools* which assist in decentralisation and empowerment of mental health managers

Scope of the norms

These norms are for the delivery of mental health services to people with *severe psychiatric conditions* (SPC). People with SPC are defined as having an "absolute need"[1] for care: "those who require hospitalisation or would require hospitalisation if adequate community services were not in place".[2] This includes:

- ➢ People with *severe chronic* psychiatric conditions such as schizophrenia and bipolar affective disorder. People with such conditions usually require short-term admission followed by ongoing support and management in the community. A small percentage of these patients require long term inpatient care.
- ➢ People who require short-term hospitalisation for the management of *acute* psychiatric problems such as suicide attempts, brief psychoses or panic attacks.

Research from various sources[2] indicates that this patient population constitutes approximately **3 %** of the general population of the country. Although this may appear to be a relatively small number of people, the intensive nature of the care required for these patients demands considerable resources and careful planning. Poorly planned services can lead to wastage of scarce resources and/or inhumane treatment of patients.

For the purposes of this manual, people with SPC do not include:
- ➢ People with mental handicap, substance abuse or forensic problems (except where there is a co-morbid severe psychiatric condition)
- ➢ Infants, children and adolescents below 15 years of age
- ➢ People receiving services in the private sector

What this manual is not

1. This manual **does not address standards of care**, which are statements about the quality of mental health care. The difference between norms and standards is that norms are quantitative (i.e. can be measured by numbers), and standards are qualitative (i.e. are described in words). To view the provisional National Standards of care for SPC, please consult the Norms and Standards report.

    This manual does not cover standards of care.

2. This manual **does not provide specific instructions for the planning, budgeting and delivery of mental health services**. It provides a provisional set of national norms, and aims to highlight the existing inadequacies in services for mental health care, relative to this norm. Specific planning and budgeting can only be done based on a thorough assessment of local need and local services. Initiatives which train local service managers in these skills are well positioned to assist in this next vital step.[3]

    This manual does not provide detailed instructions for planning and budgeting, which must be done at a local level.

    The norms in this manual are therefore a **national guideline which should not be implemented rigidly, but must be adapted according to local need and available local budgets.** When you see the following in the planning tables in Chapter 3, this indicates that the next step of planning, budgeting and implementation should be taken by local services:

    ⇨ Budgeting, planning and implementation

Setting acceptable norm levels: baseline and target norms

It is impossible to set a single national norm for the entire country, because of the substantial differences in levels of mental health care in different areas. After a thorough process of consultation with provincial mental health coordinators and key mental health service role players, it was proposed that two levels be set: baseline norms and target norms.

It is important to understand that baseline and target norms are not only different levels of care, but are calculated using quite different methods.

1. Baseline norms

A baseline norm is, as a rule, guided by the **national average of existing service indicators** (for example the national average bed/population ratio). At a fundamental level, therefore, the goal of the baseline norm is the establishment of national *equity*. This implies that provinces with ratios below this level offer an unacceptably low level of service.

A baseline norm is guided by the national average and has the goal of establishing equity.

Where appropriate, baseline levels have been modified by qualitative observations during the provincial workshops and recommendations of provincial mental health coordinators for their provinces.

If a province falls above the baseline norm, **this does not imply that it is adequately serviced**. The findings of the norms and standards project show clearly that South African mental health services are grossly under-resourced in comparison to other countries with similar levels of economic development. The goal of the baseline norm is simply to highlight those provinces and districts which are extremely under-resourced.

If provincial services are above the baseline norm, this does not mean that the service is adequate.

2. Target norms

The first principle of target norms is that they are **estimations of *need***. It is clear from research[2] that the need for mental health services is not being met in this country. Target norms or benchmarks, are therefore necessary for the *development* of services towards the target of meeting the mental health needs of people with SPC.

In order to estimate the need for services, a computerised model has been developed which calculates various aspects of service delivery. This model, which is described in Chapter 2, generates all the target norms needed for this manual. The model is based on a model developed by the World Health Organisation (WHO) and adapted according to local needs.

As with baseline norms, target norms have also been influenced by current mental health policies[4] and by the recommendations of provincial mental health coordinators during the consultation phase of the norms and standards project.

Target norms are estimations of need, using the model (in Chapter 2) which calculates services for SPC.

Baseline and Target Norms: An illustration

In Figure 2, using acute bed/population ratios as an example, it is possible to see the enormous differences between levels of care in the 9 provinces. The bricked columns represent the Baseline Norm (or national average). The light columns in the front row show the existing levels of care (or indicators). It is clear that in relation to the Baseline, there are shortfalls in services in provinces 2,3,4 and 6. The Target Norms, represented by the dark columns, show how far all provinces need to develop to cover the needs of SPC patients for acute care.

Figure 2: An illustration of the relationship between existing service indicators for each province, and baseline and target norms.
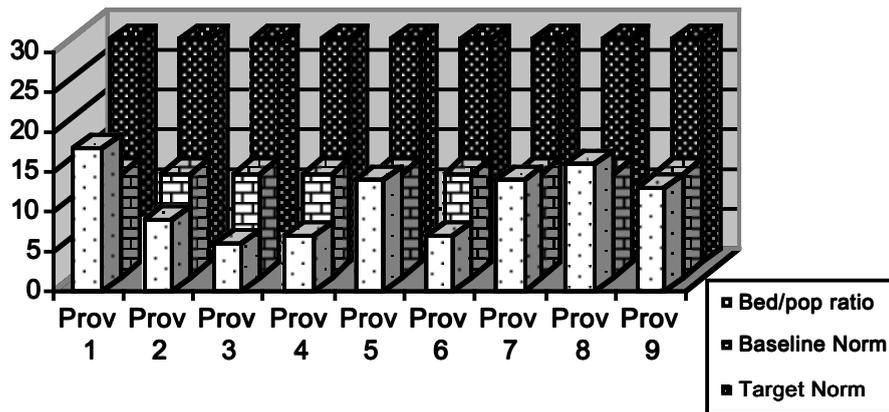
Chapter 1
A NEW VISION FOR MENTAL HEALTH CARE

During the apartheid era, mental health services suffered from poor planning, racial inequities, fragmentation and inadequate budgets. People with severe psychiatric conditions were frequently treated for long periods of time in large centralised institutions, and conditions were inhumane for many patients. Change is long overdue. The new constitution has enshrined the rights of all people in law, regardless of race, gender, age or disability. This requires the urgent transformation of mental health services in South Africa.

The vision for a new mental health service has been articulated in the *White paper for the transformation of the health system in South Africa*[4], which states: "a comprehensive and community-based mental health service should be planned and coordinated at the national, provincial, district and community levels, and integrated with other health services."

The vision for the transformation of the mental health system includes:

➢ a community-based service
➢ a comprehensive, integrated service
➢ a performance-driven service
➢ an affordable service
➢ adequate resources and decision-making power for those who plan and manage mental health services
➢ the need to monitor the quality of care in both hospitals and the community, associated with increased concern for the rights and needs of patients.

A community-based service means that although many patients with SPC may require hospital admission for short periods of time, the majority of care needs to be delivered in the community, with a strong emphasis on psychosocial rehabilitation.

These changes are consistent with changes in mental health care around the world. Since the 1950s, with improved pharmacotherapy for severe psychiatric conditions, and a growing demand to respect the rights and needs of people who suffer from these conditions, there has been large scale reduction in the size of psychiatric institutions. This movement, known as *deinstitutionalisation*, has shown that it is possible to care for patients in a more humane (and possibly more cost-effective) manner, by caring for them in the community.

But it has also shown that there is an **ongoing need for psychiatric beds**, both for the short term management of acute psychiatric conditions, and in certain unusual cases, for the long term care of people with SPC who are either a danger to themselves or a danger to others in the community.[2] And in order to ensure that the limited numbers of psychiatric beds in the service are not over-run, there is a **need for well trained, skilled primary care staff who can support and maintain patients in the community** in order to prevent unnecessary relapse and admission.

The implementation of a cost-effective, humane, community-based, integrated and comprehensive mental health service therefore requires a delicate balancing of limited resources between hospital and community care.

The following model was developed during the norms and standards project to calculated resource needs in keeping with this vision.

Chapter 2
A MODEL FOR CALCULATING NORMS AND REQUIRED HUMAN RESOURCES

1. Introduction

This model estimates the services needed for people with severe psychiatric conditions (SPC) in South Africa during an average year. The model provides the target norms used in chapter 3.

This model calculates the need for mental health services for SPC in South Africa in an average year.

There have been several international attempts in recent years to develop models to estimate mental health service needs and consequent human resource implications of a given population. Historically, the first such attempt was *The Tolkien Report: a description of a model mental health service* developed by Gavin Andrews in New South Wales, Australia.[5] The Tolkien report was written as a response to the successes of managing people with severe psychiatric conditions in community settings, and with a view to restructuring Australian mental health services in this light.

The World Health Organisation[6] has developed this method with the goal of calculating service needs for national mental health programmes, specifically for people with "severe mental disorders". Locally, the Centre for Health Policy (CHP) at the University of the Witwatersrand has developed *Guidelines for Primary Health Care Services*[7], which detail community mental health service needs at primary level. In parallel, the *Hospital Strategy Project*[8] (HSP) has estimated hospital service needs, including bed needs for "chronic care" under which have been included psychiatric care and service needs for tuberculosis. The following model for mental health service needs draws on the methodology of the WHO, the CHP and the HSP, adapting and improving on their shortcomings.

2.   The size and nature of the region/district

The modeling process begins with a hypothetical population. The WHO model sets out the following criteria for choosing the size and nature of the hypothetical population:

a) the population should lie in an authentic "natural" or administrative area;

b) the size should be big enough to make services cost effective while providing a range and variety of services;

c) the population should be small enough to be managed easily; and

d) the services should be easily accessible to all the population, with ease of transport a priority.

In this manual we will use a hypothetical population of **100 000** people for the following reasons.

a) The population of 500 000 used by the WHO is too large for areas in South Africa with low population densities where access to services and transport are limited (for example the entire population of the N.Cape is 746 000).

b) Preliminary guidelines for the catchment population of health services in South Africa recommend 10 000 for clinics and between 100 000 and 180 000 for major health centres providing 24 hour care.[7] Although exact sizes of districts vary considerably, the figure of 100 000 approximates a district in many instances, except in the Northern Cape, where regions form the smallest sub-division of health management

structures, and the population size of regions approximates districts in other provinces.

c) A population of 100 000 is large enough to make services cost effective and provide a range of services, with the possible exceptions of medium-long stay services.

d) Numerically the figure of 100 000 is easy to convert to exact district, regional and provincial figures.

e) Most of the literature on psychiatric bed needs and much of the literature on staffing and admission rates report figures per 100 000 population.

Taking a hypothetical population of 100 000, age breakdowns are the next important step. The population of 15 years and over is particularly important for severe psychiatric conditions since the peak age of onset for schizophrenia in males is 15-25 years.[9] In South Africa the October 1996 Household Survey[10] indicates that 36.35% of the population is below the age of 15. In the hypothetical population of 100 000, 36 350 people would be below the age of 15, and 63 650 would be 15 years and over.

3. Prevalence

The next step to ascertaining need is a reliable estimate of the prevalence of severe psychiatric conditions. This manual's norms are directed, like the WHO model, at providing care for patients with severe psychiatric conditions associated with severe functional impairment and disability. To date there have been no national psychiatric epidemiological studies conducted in South Africa, and other African studies have encountered problems with research instruments, procedures, study design, sampling strategy and sampling size.[11]

Furthermore, none of the existing studies report 12 month prevalence needed for the present modeling exercise.

The WHO model uses morbidity figures from the American National Co-morbidity Survey (NCS).[12] Several reasons may be found for using these figures in this model:

➢ the paucity of epidemiological data in South Africa;
➢ the WHO's recommendation of the NCS study in international settings;
➢ the fact that the NCS findings report 12-month prevalence rates;
➢ the fact that the NCS study was conducted relatively recently; and
➢ the quality of its methodology, including instrumentation, sampling strategy and sample size.

Using the NCS figures in South Africa, one can calculate the number of people with selected disorders among the 63 650 people who are 15 years of age and over in a hypothetical population of 100 000 (Table 2.1).

Using this analysis, it would be expected that in a region/district of 100 000 people, mental health services for severe psychiatric conditions should be available to at least **3004** people (or **3%** of the population) during any given year.

It should be stressed that NCS figures do not include substance-induced psychotic disorder, brief psychotic disorder, mental disorders due to a general medical condition or severe cases of posttraumatic stress disorder (PTSD). The 3% prevalence calculated here is therefore an *under-estimate* of the likely prevalence of severe psychiatric conditions. Nevertheless, this figure is in keeping with international findings which report prevalence of severe psychiatric disorder at 1-3% of the general population.[13]

Table 2.1   Expected severe psychiatric conditions, using population 15 years and over.

Disorders	One year prevalence (%)	Total number expected in population	Expected percentage of severe cases[a]	Expected number of severe cases
Non-affective psychosis[b]	0.5	318	100	318
Bipolar Affective Disorder[c]	1.3	828	100	828
Major depression[d]	10.3	6 556	20	1 311
Anxiety disorder[e]	17.2	10 948	5	547
Total	**29.3**	**18 650**	**-**	**3 004**

[a] Although not all cases of non-affective psychosis and bipolar affective disorder are severe in the formal sense, they are considered severe psychiatric conditions in terms of this manual's definition, ie they would need care from mental health services.

[b] Nonaffective psychosis includes schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder, and atypical psychosis.

[c] The figure reported here indicates the prevalence of a manic episode.

[d] The figure reported indicates the prevalence of a major depressive episode.

[e] This includes panic disorder, agoraphobia without panic disorder, social phobia, simple phobia, and generalised anxiety disorder.

24.   Service needs

Having estimated that 3004 people of the 100 000 population are likely to have severe psychiatric conditions, the next step is to calculate service needs.

A crucial component in the calculation of service needs is affordability. Although this model does not include costing of services, an attempt to develop flexible recommendations to allow for varying levels of care and resources is necessary. To this end, two levels of service delivery are recommended in this model. In keeping with the recommendations of the guidelines for PHC services in South Africa,[7] these are pitched according to levels of coverage at **30%** (a minimum level, below which services would be unacceptable) and **100%** (a goal towards which services should develop). Note that 30% coverage is <u>not</u> the same as the baseline norm. The baseline norm is the average of existing South African services, and does not use this modeling process. **Coverage of 30% and 100% are percentages of the target norm only, ie 100% = the target norm**. For details of the rationale for baseline and target norms, see the Introduction.

4.1   Ambulatory or outpatient services needed

This model assumes that most patients with severe psychiatric conditions will have the bulk of their contact with mental health services at ambulatory care facilities.[f,14] Three important figures are necessary to

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[f] This does not necessarily mean contact at primary care level (PHC). For example, current estimations of the spread of patients with severe psychiatric conditions across levels of care in Gauteng are: 15% at level 1, 75% at level 2, and 10% at level 3 (see reference). At level 1, services should be prepared to detect severe psychiatric conditions, manage these where appropriate, and refer them to "higher" levels of care if there are insufficient facilities or skills to manage the patient at primary level. At level 2, services should provide specialist care which is able to contain, treat and manage the majority of severe psychiatric conditions. At level 3, services should

provide indicators of ambulatory care service needs for the 3004 people with severe psychiatric conditions:
- ➤ annual ambulatory care visits,
- ➤ utilisation rates, and
- ➤ daily patient visits (DPV).

Annual ambulatory care visits

The WHO model provides estimates of ambulatory care contacts, but relative to South African research on mental health needs in ambulatory care, these figures are somewhat inflated.[9] Guidelines for PHC services in South Africa use the following formula to ascertain annual attendances at ambulatory care facilities:

Annual visits =	prevalence ➤ target pop ➤ coverage ➤ min. annual visits/person[h]

Using the above prevalence and population figures, the following numbers of annual visits can be calculated for 2 levels of coverage:

No. of visits = $0.03 \times 63\,650 \times 0.3 \times 12 =$ **6 874** (30% coverage)
No. of visits = $0.03 \times 63\,650 \times 1.0 \times 12 =$ **22 914** (100% coverage)

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provide care within psychiatric specialities such as forensics and child/adolescent psychiatry. Because of the current lack of national research into specific levels of care for people with severe psychiatric conditions, these specifications are not possible in this model. Instead global estimations of ambulatory care need are made.
[9] The WHO model's proposed attendances at ambulatory care facilities are approximately double those estimated by the South African literature.
[h] Rispel et al (1995) recommend monthly visits for "chronic psychiatry" patients, ie 12 visits per annum.

Utilisation rates

Using the following formula developed by the Guidelines for PHC services, a utilisation rate per person per year for ambulatory care services can be calculated:

Utilisation rate per person per year =	total ambulatory care visits per year _____ Total population

Using this formula, utilisation rates of **0.07** (30%) and **0.23** (100%) can be calculated for the population of 100 000 people.

Daily Patient Visits (DPV)

The total annual attendances can be converted to the number of Daily Patient Visits (DPV), namely the average number of patients who make use of an ambulatory care service per day. This is possible by using the following formula:

Daily Patient Visits (DPV) =	Total annual visits ----------------------------- Working days per year

From this formula, a DPV of **26** (30%) and **87** (100%) can be calculated, assuming that there are 264 working days per year. This implies that in the population of 100 000 people, an average of 26 people will use ambulatory care services in one day (at 30% coverage) and 87 people will use ambulatory care services in one day (at 100% coverage). DPV will be used below to calculate ambulatory care human resource needs.

4.2　Beds needed

We assume that most patients spend most of their lives outside hospital. However, some hospital beds are needed. In keeping with the WHO model, inpatient services are divided into acute beds (with admission length of up to 3 months) and medium-long stay beds (with longer admissions). Acute beds are designed for short term management of patients in a state of crisis or relapse, with a view to stabilising the patient to a point where treatment can be continued on an outpatient basis. In keeping with the findings in the literature it is assumed that a limited number of medium-long stay psychiatric beds will always be needed for management of severe chronic conditions.[2]

At this stage no specialist rehabilitation facilities are considered. The short term goal of this model is the calculation of an essential number of inpatient beds and concerted community-based ambulatory care rehabilitation programmes. (The norms in chapter 3 do, however, include community-based residential care).

The WHO model uses the following equation to calculate beds for the 3004 people with severe psychiatric conditions:

Beds =	no. of severe cases
	➤ (% needing hospitalisation)[i]
	➤ (ALOS[j]÷365)
	➤ rotation factor[k]

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Acute beds

From this formula, using the prevalence estimates of 3004 people with SPC for every 100 000 South Africans, the following bed numbers can be calculated for acute care (see Table 2.2). The WHO model concedes that the percentage of patients who will require hospitalisation during a year can be adjusted according to local findings, and do not give a source for their own figures. However, these figures are broadly consistent with the Epidemiologic Catchment Area (ECA) prospective 1-year prevalence rates of disorders and services[15] which reported that 1% of the population had an inpatient stay for mental health reasons. As with other variables, if valid and reliable data are reported in South Africa, these may be substituted for the figures used here.

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[i] The percentage of people with each condition who need hospitalisation in a year is derived from the estimates in the WHO model.
[j] ALOS = Average Length of Stay, calculated as the median days of admission. ALOS estimates provided in Table 2.2 are derived from the WHO model.
[k] The rotation factor allows for a period when the bed is unoccupied between discharge and a new admission. The WHO model recommends a rotation factor of 1.15 for acute beds, which implies an 85% bed occupancy rate.

Table 2.2   Beds needed for acute psychiatric care per 100 000 population

Condition	Expected number of severe cases	Percentage in need of acute hospitalisation per year (%)	ALOS (Average length of stay in days)	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**

Medium-long stay beds

The WHO model assumes that 5% of patients suffering from schizophrenia will need medium-long stay beds with an average length of stay of 180 days. To this may be added 0.5% of bipolar patients.[i] The rotation factor is taken to be lower at 5% (1.05), reflecting a higher bed occupancy rate.

Using the same formula as for acute beds, the following numbers of medium-long stay beds are needed for schizophrenic and bipolar patients alone among chronic psychiatric conditions (Table 2.3).

Total beds

Combining estimated beds for acute and medium-long stay facilities gives a total of **38 beds per 100 000 population** for patients with severe psychiatric conditions. (30% coverage of these bed numbers yields figures of 3 medium-long stay beds, 8 acute beds and a total of 11 beds per 100 000 population).

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[i] The estimated prevalence of 0.5% of bipolar patients is inserted partly in order to add bipolar patients to the picture of medium-long stay care, and partly to do so within estimates in the literature of the percentage of chronic patients who require ongoing long term care. See the Norms and Standards report for a more thorough discussion of research on "new long stay" patients, who continue to require chronic care in spite of the efforts of deinstitutionalisation.

Table 2.3   Beds needed for medium-long stay psychiatric care per 100 000 population

Condition	Expected number of severe cases	Percentage in need of medium-long hospitalisation per year	ALOS (Average length of stay in days)	Rotation factor	Beds
Non-affective psychosis	318	5	180	1.05	8
Bipolar affective disorder	828	0.5	180	1.05	2
Total	-	-	180[m]	-	**10**

[m] Present long term care in South Africa generally involves a much longer average length of stay (ALOS) than that recommended by the WHO. This norm (which informs the target norm in chapter 3) may need to be adjusted as mental health services and information systems develop in South Africa.

5   Human resource requirements

Having calculated service needs, the final step is to calculate the human resources required to provide the necessary mental health care.

In keeping with the WHO model, human resource calculations refer only to clinical mental health staff. Maintenance, kitchen, laundry, cleaning and administrative staff should be added to the recommended figures.

In the context of an integrated system of health care in South Africa, mental health services will frequently be delivered by a general health worker. To this end, human resources are calculated according to **Full-Time Equivalent (FTE)** staff. The number of FTE staff can be calculated by working out the percentage of time each staff member spends with mental health. For example, if a nurse spends 20% of her/his time in mental health work (including time spent seeing patients, making referrals, writing case notes, consulting with colleagues), then, for our purposes, s/he is 0.2 of a FTE mental health nurse. It would take 5 such nurses to make up 1 FTE mental health nurse.

Full-Time Equivalent (FTE) staff = the number of staff who work full-time in mental health care and includes percentages of those staff who spend only some of their time in mental health care.

Nursing categories are described in terms of function in this manual, according to whether nurses render a psychiatric service or a general nursing service. Unfortunately at this stage the model was not able to provide precise details of nurse staff categories, for example ratios of enrolled nurses to professional nurses. The South African Nursing Council is in the process of developing norms using an accreditation system. In the interim, details of the implications of the norms in this manual need to be worked out according to available local nursing resources and needs.

Nursing categories are defined by their function in this manual.

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5.1 Human resources for ambulatory care

For ambulatory care services, human resources can be calculated using the following formula:

FTE staff =	DPV × staff working days per year

	Consultations per day × actual working days per year

FTE = (26×225) ÷ (11 ×264) = 2.78 (30% coverage)
FTE = (87×225) ÷ (11 ×264) = 9.27 (100% coverage)

Figures for these calculations are drawn from South African workload studies at PHC.[7] Staff working days per year were calculated after holidays and sick leave. Consultations per day were calculated using an assumption of 44.3% of staff time 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 time without specific activity. The figure of 11 consultations per day is comparable to the national mean DPV per 100 000 (of 13), reported in the Norms and Standards report.[2] Note that this figure refers to all ambulatory staff, including those who are not in direct contact with patients – on duty staff may well see more than 11 patients on an average day.

These estimations of the number of staff required to care for ambulatory care 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 with an emphasis on rehabilitation of patients with severe psychiatric conditions. It is estimated that an

additional 2.5 staff should be provided to fulfill this function for the catchment population. This gives a total of **12 ambulatory care staff** to cover the ambulatory care needs of the 3004 people with severe psychiatric conditions (30% coverage: 4 ambulatory care staff).

Ambulatory care staff breakdown

The following breakdown of the 12 ambulatory care staff according to professions is guided by the recommendations of the WHO model:

- ❑ 2 psychiatric nurses
- ❑ 5 general nurses
- ❑ 0.5 OT
- ❑ 1.5 OTA
- ❑ 1 social worker
- ❑ 1 psychologist
- ❑ 0.25 psychiatrists
- ❑ 0.75 registrars/MOs

5.2 Human resources for acute beds

We have calculated that 28 acute beds are needed (see Table 2.2). This could be considered as a single 28 bed unit. Using the WHO model as a guide, the following staff are needed to staff an acute 28 bed unit (with around 10 admissions per week, each with an average stay of 17 days):

- ❑ 1 head of unit (psychiatrist)
- ❑ 1 psychiatric registrar/MO
- ❑ 0.5 social worker + 0.5 psychologist or 1 social worker if no psychologist is available
- ❑ 14 nurses (nurse/bed ratio: 0.5)

5.3   Human resources for medium-long stay beds

The WHO model makes human resource recommendations for a 45 bed medium-long stay unit. The 10 medium-long stay beds per 100 000 calculated earlier could not be served in isolation, since it is important to conceptualise staffing in terms of functional units. The low numbers of medium-long stay beds required for 100 000 people would make it necessary to combine the bed needs of several districts/regions. One scenario could be combining the needs of 5 such districts or regions to make a 50 bed medium-long stay unit. Adjusting the figures from the WHO model accordingly, a total of 21 clinical staff would be needed for such a unit serving 500 000 people, constituted as follows:

- ❑   0.5 head of unit (psychiatrist)
- ❑   1 Reg/MO
- ❑   1 Psychologist
- ❑   1 Social Worker
- ❑   0.5 OTs
- ❑   2 OTAs
- ❑   16 nurses (nurse/bed ratio: 0.3)

Converted to FTE staff per 100 000 population, this would require staff numbers constituted as follows:

- ❑   0.1 head of unit (psychiatrist)
- ❑   0.2 Reg/MO
- ❑   0.2 Psychologist
- ❑   0.2 Social Worker
- ❑   0.1 OTs
- ❑   0.4 OTAs
- ❑   3.1 nurses (nurse/bed ratio: 0.3)

5.4 Managerial requirements for the region/district

The WHO model's recommendations for managerial staff for a population of 500 000 can be adapted to a population of 100 000 as follows:

- ❑ 0.2 chief regional mental health professional (of any relevant profession)
- ❑ 1 nurse
- ❑ 0.2 quality assurance professional (of any relevant profession)
- ❑ 1 coordinator of mental health information (of any relevant profession)
- ❑ Administrative support

Although a quality assurance professional is designated by this model, this does not imply that other personnel should not be involved in quality assurance. Quality assurance remains the responsibility of all mental health personnel, including clinical, administrative and maintenance personnel.

The coordinator of mental health information would fulfill a dual function of assisting in data collection, service planning and monitoring on one hand, as well as education and mental health promotion on the other.

5.5 Total human resources needed for a district/region of 100 000 people

Table 2.5   *Total human resources needed for a district/region of 100 000 people*

| Type of professional	Inpatient		Ambulatory care	Managerial	Total
	Acute	Med-long			
Nurses	14	3.1	7	1	25.1
Occupational Therapists	-	0.1	0.5	-	0.6
OTA	-	0.4	1.5	-	1.9
Social workers	1	0.2	1	-	2.2
Clinical Psychologists	-	0.2	1	-	1.2
Psychiatrists	1	0.1	0.25	0.2	1.55
Registrars/MO	1	0.2	0.75	-	1.95
Education/info	-	-	-	0.5	0.5
Ombudsperson	-	-	-	0.2	0.2
Total	**17**	**4.3**	**12**	**1.9**	**35**

Chapter 3
A STEP-BY-STEP GUIDE TO ASSESSING, PLANNING AND MONITORING THE MENTAL HEALTH SERVICE USING NORMS

Having outlined a model mental health service in chapter 2, the next stage is to apply the norms to the planning and monitoring of mental health services at district, regional and provincial level. This chapter provides a step-by-step guide to assessing, planning and monitoring the mental health service using norms. The chapter is written in an interactive way and allows you, as a health service manager, to enter information from your own services and plan accordingly.

Step 1: Monitoring the service as a whole

The norms in this manual are linked and dependent on each other. For example, it is not possible to change the number of acute beds needed for every 100 000 people without changing the number of staff needed, the number of admissions expected, the length of admissions, the number of readmissions, the number of patients seen daily in clinics and OPDs, etc.

The norms in this manual are linked, requiring a holistic approach to service planning.

For this reason, it is essential that health service planners and managers view their service as a *whole* from the outset. The following flow diagram (figure 3) illustrates the path taken through health services by patients with SPC. The diagram also illustrates the value of the norms and indicators for monitoring the services at various points. In planning service norms, health managers should ensure that each norm is adjusted according to other norms. **Step 6**, below, provides forms and an example of how this may be achieved.
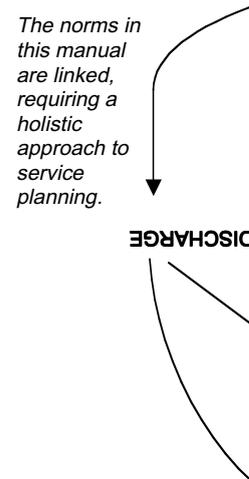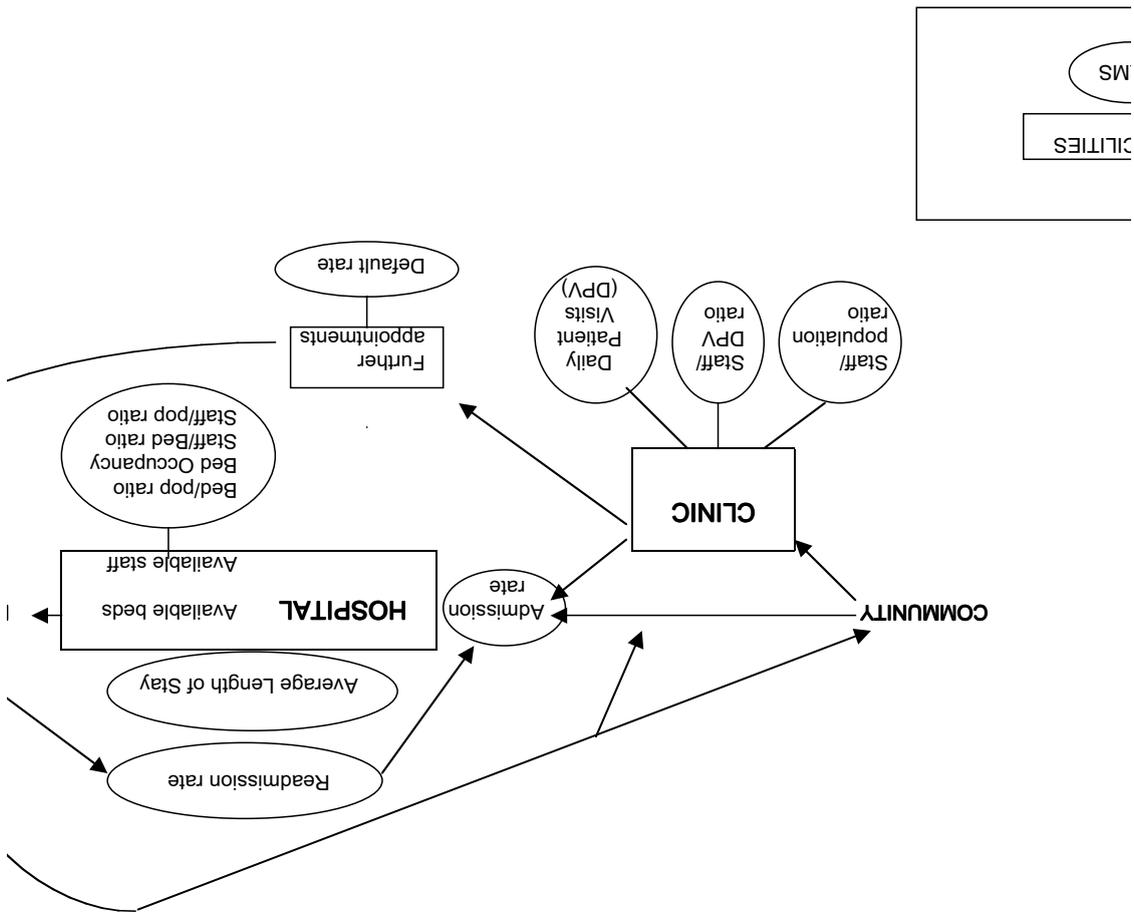
Step 2: Planning for beds

The number of beds available per unit of population is an important basic indicator of the level of inpatient mental health care in a community. Although it has its limitations[16] and must be considered alongside acceptable standards (or quality) of care and other norms (especially staffing), it is an important first step in planning care for patients with SPC.

Existing numbers of psychiatric inpatient beds in South Africa fall well below international norms.[2] This is in spite of the fact that most developed countries have undergone a thorough process of deinstitutionalisation and presently have a fraction of the number of beds which were available 30-40 years ago. There is therefore an urgent need to improve inpatient care for patients with SPC, while developing community-based care in line with current policies.[17,4]

Existing bed numbers in South Africa fall well below international norms.

In this manual:

➢ Bed/population ratios refer to numbers of *available* beds, not numbers of occupied beds.
➢ Bed/population norms are recommended for *acute* and *medium-long* stay facilities. Acute facilities are defined by admission lengths of up to 3 months. Medium-long stay facilities admit patients for longer periods.[18]
➢ Because of the variation between provinces, particularly in the level of integration of mental health services into general health care, it is impossible to stipulate the setting of the psychiatric beds. Bed/population ratios are therefore calculated across levels of service delivery. For example, acute psychiatric beds may be present in wards of general hospitals (district or regional) or in dedicated psychiatric institutions. These general recommendations therefore need to be adapted according to local needs.

In this manual, bed norms are provided for all service levels. These general norms need to be adapted according to local needs.

➢ The model (see chapter 2) only provides estimates of care for medium-long stay beds in hospitals. It does not

Until residential

estimate care needed in residential care facilities, which are crucial to the long term care of patients with SPC in the community.[19,20] On the suggestion of the national meeting of provincial mental health coordinators, 20 community residential care beds per 100 000 should be added to the model's recommendation of 10 beds.[n] It was also suggested that if community residential care facilities are not yet available, hospital beds should be used. In other words, **as an interim measure, 30 medium-long stay beds are required, regardless of whether they are in hospitals or residential care**. Once residential care facilities are developed, hospital bed numbers can be reduced accordingly.

care facilities are developed, at target level 30 medium-long stay beds are required in either hospital or residential care facilities.

Tables 2.1 and 2.2 assist you to calculate indicators for acute and medium-long stay psychiatric beds in your district, region or province. It is then possible to compare your indicator with the national baseline and target norms. The table is designed to highlight shortfalls in service provision within existing district, regional and provincial services and to stress the importance of careful planning and budgeting for severe psychiatric conditions.

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[n] The figure proposed by the National meeting of mental health coordinators correlates broadly with proportions of community-based residential care in the UK where medium-long stay hospital beds make up approximately one quarter of the total number of medium-long stay beds in hospitals and community residential care settings.

2.1 Calculating indicators and setting service objectives: Acute Psychiatric Beds

Step 1: Calculating the existing service indicator

How many acute psychiatric beds are there in your district, region or province?

What is the total population of your district, region or province?

$\div$ [ ] = [ ] $\times$ 100 000

= [ ]   This is your indicator (acute bed/population ratio per 100 000 people)

Step 2: Comparing the indicator with the norm

13	28
National Baseline Norm	National Target Norm

Does the indicator for your district, region or province meet the Baseline norm? (tick)   Yes [ ]   No [ ]

IF NO: THIS SHORTFALL REQUIRES URGENT ATTENTION

What is the shortfall in relation to the Baseline norm?

What is the total population of your district, region or province?

[ ] $\times$ [ ] $\div$ 100 000

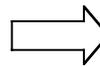= [ ]   This is your actual shortfall in acute beds

What are reasonable objectives for increasing bed numbers to make up this shortfall within current budgetary constraints? (Estimate possible increases within the following time periods)

2 years
5 years
10 years

The next step is to identify how finance and resources could be secured within current budget constraints.

→ Budgeting, planning and implementation

IF YES: Does the indicator for your district, region or province meet the Target norm? (tick)

Yes ☐   No ☐

IF NO:

What is the shortfall in relation to the Target norm?

What is the total population of your district, region or province?

☐ **×** ☐ **÷** 100 000

= ☐ This is your actual shortfall in acute beds in relation to the Target norm

What are reasonable objectives for making up this shortfall during the following time periods, within current budgetary constraints?

2 years
5 years
10 years

The next step is to identify how finance and resources could be secured within current budget constraints.

→ Budgeting, planning and implementation

IF YES: Move on to 2.2.

2.2 Calculating indicators and setting service objectives: Medium-Long Stay Psychiatric Beds

Step 1: Calculating the existing service indicator

How many med-long psychiatric beds are there in your district, region or province?

What is the total population of your district, region or province?

$$\boxed{} \div \boxed{} = \boxed{} \times \boxed{100\ 000}$$

$$= \boxed{}$$ This is your indicator (med-long stay bed/population ratio per 100 000 people)

Step 2: Comparing the indicator with the norm

35 (State:16 + Life Care:19)	30 [*]
National Baseline Norm	National Target Norm

Does the indicator for your district, region or province meet the Baseline norm? (tick)   Yes ☐   No ☐

IF NO: | THIS SHORTFALL REQUIRES URGENT ATTENTION |

What is the shortfall in relation to the Baseline norm?

What is the total population of your district, region or province?

$$\boxed{} \times \boxed{} \div \boxed{100\ 000}$$

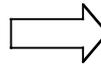$$= \boxed{}$$ This is your actual shortfall in med-long beds

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[*] Ideally this should consist of 10 hospital and 20 community residential beds

What are reasonable objectives for increasing bed numbers to make up this shortfall within current budgetary constraints? (Estimate possible increases within the following time periods)

2 years
5 years
10 years

The next step is to identify how finance and resources could be secured within current budget constraints.

⟹ Budgeting, planning and implementation

IF YES: Does the indicator for your district, region or province meet the Target norm? (tick)

Yes ☐   No ☐

IF NO:

What is the shortfall in relation to the Target norm?

What is the total population of your district, region or province?

☐ **×** ☐ **÷** 100 000

= ☐ This is your actual shortfall in med-long beds in relation to the Target norm

What are reasonable objectives for making up this shortfall during the following time periods within current budgetary constraints?

2 years
5 years
10 years

The next step is to identify how finance and resources could be secured within current budget constraints.

⟹ Budgeting, planning and implementation

IF YES: Move on to Step 3.

Step 3: Planning for Staff

One of the major findings of the Norms and Standards project was that South African mental health services are severely understaffed. Staff and management reported high levels of burnout and stress across all provinces. There is an urgent need for improved staff resources for mental health care, and training of those general health workers who are expected to provide mental health care within an integrated framework. This needs to be planned carefully, within current budgetary constraints.

This manual uses 3 norms to measure staffing: staff/population norms, which provide a global figure of the number of staff available to serve a given population; staff/bed norms which indicate the number of staff available per bed unit in inpatient settings; and staff/DPV ratios which indicate the number of staff available for the patients who visit ambulatory care services on a daily basis.

3.1 Staff/population norms

Staff/population ratios are a useful indicator of the number of staff available to meet the mental health needs of a given population. As with bed/population ratios they need to be supplemented by other indicators and information about the quality of care (or service standards).

Norms are recommended for the following staff categories in this manual:

➢ Total Nurses
➢ Psychiatric Nurses
➢ Occupational Therapists (OT)
➢ Occupational Therapy Assistants (OTA)
➢ Social Workers
➢ Psychologists
➢ Psychiatrists
➢ Psychiatric Registrars
➢ Medical Officers (MO)

As stated in chapter 2, in order to calculate the number of staff working in mental health, it is essential to calculate the **Full-Time Equivalent (FTE)** staff. This is because, within an integrated service, many health workers spend only part of their time delivering mental health care. The number of FTE staff can be calculated by working out the percentage of time each staff member spends with mental health. For example if a nurse spends 20% of her/his time in mental health work (including time spent seeing patients, making referrals, writing case notes, consulting with colleagues), then, for our purposes, s/he is 0.2 of a FTE mental health nurse. It would take 5 such nurses to make up 1 FTE mental health nurse.

Full-Time Equivalent (FTE) staff = the number of staff who work full-time in mental health care and includes percentages of those staff who spend only some of their time in mental health care.

As stated in chapter 2, nursing categories are described by their function in this manual, according to whether nurses render a psychiatric service or a general nursing service. Unfortunately at this stage the model was not able to provide precise details of nurse staff categories, for example ratios of enrolled nurses to professional nurses. The South African Nursing Council is in the process of developing norms using an accreditation system. In the interim, details of the implications of the norms in this manual need to be worked out according to available local nursing resources and needs.

In Table 3.1 you can enter the number of FTE mental health workers in your district, region or province. Then you can calculate the staff/population ratio (your indicator) and compare this with the national norm for each staff category.

3.1 Calculating indicators and setting service objectives: Staff/population ratios per 100 000

How many FTE mental health staff are there in your district, region or province?

What is the population of your district, region or province?

This is your indicator, which you can compare with the national baseline and target norms

Profession	FTE		Population		Staff/pop ratio	Baseline Norm	Target Norm
Total Nurse		× 100 000 ÷		=		16	25.6
Psych Nurse		× 100 000 ÷		=		8	n/a
OT		× 100 000 ÷		=		0.4	0.6
OTA		× 100 000 ÷		=		0.9	1.9
Soc Worker		× 100 000 ÷		=		0.7	2.2
Psychologist		× 100 000 ÷		=		0.3	1.2
Psychiatrist		× 100 000 ÷		=		0.3	1
Registrar		× 100 000 ÷		=		0.4	2
MO		× 100 000 ÷		=		0.4	1.4
Total clinical staff		× 100 000 ÷		=		20.1	35.9

	Which staff categories fall below the Baseline Norm? (tick)	Which staff categories fall below the Target Norm? (tick)	What are reasonable increases in staffing within current budgetary constraints in the following time periods?		
			2 years	5 years	10 years
Total Nurse					
Psych Nurse					
OT					
OTA					
Soc Worker					
Psychologist					
Psychiatrist					
Registrar					
MO					
Total clinical staff					

⇨ ⇨ ⇨

Budgeting, planning and implementation

3.2 Staff/bed Norms

Staff/bed norms allow one to make a more specific assessment of the number of staff available per inpatient bed unit. As with bed/population and staff/population norms, they do not tell the whole story, but must be reported alongside other norms, and information about the quality of care which is delivered (standards).

The same staff categories are used for staff/bed norms as for staff/population norms. And once again the principle of calculating staff according to Full-Time Equivalents (FTE) is used.

In the following table you can enter the number of FTE mental health workers in inpatient mental health services in your district, region or province. Then you can calculate the staff/bed ratio (your indicator) and compare this with the national norm for each staff category.

3.2 Calculating indicators and setting service objectives: Staff/bed ratios

How many inpatient FTE mental health staff are there in your district, region or province?

How many psychiatric beds are there in your district, region or province?

This is your indicator, which you can compare with the national baseline and target norms

Profession	FTE	÷	Beds	=	Staff/bed ratio	Baseline Norm	Target Norm
Total Nurse		÷		=		0.25	0.45
Psych Nurse		÷		=		0.12	0.21
OT		÷		=		0.01	0.01
OTA		÷		=		0.02	0.04
Soc Worker		÷		=		0.01	0.03
Psychologist		÷		=		0.01	0.02
Psychiatrist		÷		=		0.01	0.03
Registrar		÷		=		0.01	0.02
MO		÷		=		0.01	0.02
Total clinical staff		÷		=		0.36	0.56

Staff category	Which staff categories fall below the Baseline Norm? (tick)	Which staff categories fall below the Target Norm? (tick)	What are reasonable increases in staffing within current budgetary constraints in the following time periods?		
			2 years	5 years	10 years
Total Nurse					
Psych Nurse					
OT					
OTA					
Soc Worker					
Psychologist					
Psychiatrist					
Registrar					
MO					
Total clinical staff					

Budgeting, planning and implementation

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3.3 Staff/DPV Norms

Staff/DPV norms allow for specific monitoring of staffing in outpatient or ambulatory care settings. DPV = Daily Patient Visits, i.e. the number of outpatients who use the service on an average working day.

DPV = Daily Patient Visits, ie the number of outpatients who use the service on an average working day.

In order to calculate this ratio, we need information about ambulatory care staff, and the numbers of patients who use the service on a daily basis. Ambulatory care staff are once again counted using the principle of Full-Time Equivalents (FTE). DPV can be calculated using the average of the daily attendances. If only monthly figures are available, take the monthly attendance figures and divide them by the number of working days in the month.

In the following table (Table 3.3) you can enter the number of FTE mental health workers (including general health workers who provide mental health care) in outpatient mental health services in your district, region or province. Then enter the number of patients who used the service on an average day (DPV). From these you can calculate the staff/DPV ratio (your indicator) and compare this with the national norm for each staff category.

3.3 Calculating indicators and setting service objectives: Staff/DPV ratios

How many outpatient FTE mental health staff are there in your district, region or province?

How many outpatients use the service on an average day in your district, region or province?

This is your indicator, which you can compare with the national baseline and target norms

Profession	FTE		DPV		Staff/DPV ratio	Baseline Norm	Target Norm
Total Nurse		÷		=		0.2	0.54
Psych Nurse		÷		=		0.1	n/a
OT		÷		=		0.01	0.04
OTA		÷		=		0.01	0.11
Soc Worker		÷		=		0.01	0.08
Psychologist		÷		=		0.01	0.08
Psychiatrist		÷		=		0.01	0.02
Registrar		÷		=		0.01	0.03
MO		÷		=		0.02	0.03
Total clinical staff		÷		=		0.32	0.93

	Which staff categories fall below the Baseline Norm? (tick)	Which staff categories fall below the Target Norm? (tick)	What are reasonable increases in staffing within current budgetary constraints in the following time periods?		
			2 years	5 years	10 years
Total Nurse					
Psych Nurse					
OT					
OTA					
Soc Worker					
Psychologist					
Psychiatrist					
Registrar					
MO					
Total clinical staff					

Budgeting, planning and implementation

Step 4: Community/Hospital Norms

In the process of planning and managing a mental health service, it is essential to balance the needs of hospital and community services. Patients spend most of their lives in the community. It is therefore essential that they are managed carefully in community settings to prevent unnecessary relapse and overrunning of limited hospital services. At the same time hospital services need to have enough resources to prevent premature discharge of patients who cannot be managed in the community.

Effective mental health services need to strike a balance between hospital and community-based care.

We therefore need norms to monitor the balance between hospital and community services – to ensure that if there are reductions in bed numbers, these resources are reallocated to community services. The failure to keep this balance has been seen as one of the major failings of deinstitutionalisation in other countries. For example, it has been stated:

Community/ hospital norms are designed to monitor the balance between hospital and community-based care.

> "A common criticism of the deinstitutionalisation effort in the US is that the dollars did not follow as patients left state hospitals for community settings".[21]

In order to monitor community and hospital services, we focus on two factors: staff and patients.

4.1 Community/hospital norms for staff

Community/hospital norms for staff are measured by simply dividing the number of FTE staff working in community settings by the total FTE staff (community and hospital) working in the mental health service. This gives the proportion of staff working in community settings, as a percentage (see Table 4.1). This figure is useful in two ways:

Community/ Hospital norms for staff are measured by dividing the number of community staff by the total staff.

➢ We can use it to compare provinces, regions or districts, in order to see which has a stronger emphasis on community or hospital services.
➢ We can use it to measure change in the service over time. For example if, as in the case of Mpumalanga, there is a need to increase the number of staff delivering care in hospital settings, then improvements in this situation can be measured through annual reporting of the community/hospital ratio for staff.

The Norms and Standards project uncovered some debate about exactly what "community" and "hospital" services are for staff. We therefore used two definitions to accommodate all parties:

Definition 1: Outpatient services (OPD) at hospitals are included as hospital services.[o]

Definition 2: Outpatient services (OPD) at hospitals are included as community services.[p]

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[o] Those who supported this definition argued that it is unusual for community services to include hospital facilities of any kind, and that OPD staff are usually included on hospital establishments.
[p] Those who supported this definition argued that OPDs should be seen as part of community services in order to monitor progress towards deinstitutionalisation. If this were not the case, reduction in bed numbers, and consequent treatment of patients in OPD would not be measurable.

Using both definitions is helpful because it enables a careful analysis of the distribution of staff between Hospital Inpatient facilities, Hospital OPDs and Clinics or Community Health Centres (CHCs) (see Table 4.1).

The Norms and Standards project found that provinces' community/hospital ratios were polarised. On the one hand, certain provinces with limited hospital services had extremely high community/hospital ratios, while on the other hand provinces with well developed hospital services and limited community services had low community/hospital ratios. For this reason, two Baseline Norms were proposed:

➢ A "Low Community" Baseline Norm aimed at those provinces who had well developed hospitals but under-developed community services (such as the Western Cape, Eastern Cape and KwaZulu-Natal). These provinces need to develop community services towards an achievable Baseline which serves as a stepping stone to the Target Norm.
➢ A "High Community" Norm aimed at those provinces who had under-developed hospital services (such as Mpumalanga and North West). These provinces need to develop hospital services towards an achievable Baseline which serves as a stepping stone to the Target Norm.

In both cases, the Target Norm, located between these two extremes, remains the same.

Table 4.1a and 4.1b on the next pages allow you to enter numbers of FTE staff in hospital inpatient, OPD, clinic and CHC settings. The table then assists in the calculation of community/hospital ratios for your district, region or province, which you can compare with the national Baseline and Target Norms. Remember that the Baseline norm is taken from the current average of South African services, and the Target norm is taken from the model in chapter 2.

4.1a Calculating indicators and setting service objectives: Community/hospital norms for Staff

Step 1: How many FTE mental health staff are employed in each of the following settings in your province, region, or district?
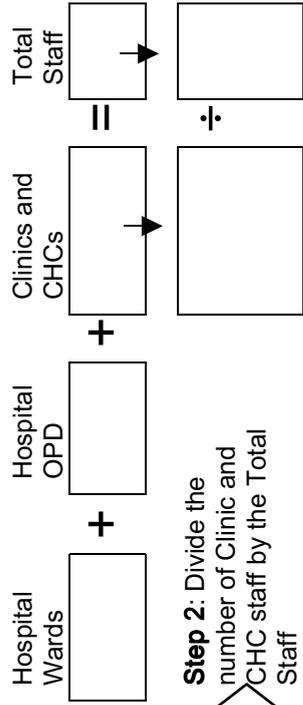
Hospital Wards + Hospital OPD + Clinics and CHCs = Total Staff
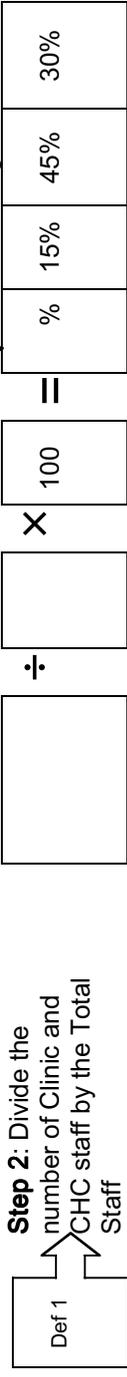
Step 2: Divide the number of Clinic and CHC staff by the Total Staff

Def 1

This is your indicator (comm/hospital ratio) which you can compare with the Baseline and Target Norms.

[Clinics and CHCs] ÷ [Total Staff] × 100 = [%]

	Baseline Norm		Target Norm
	Low	High	
%	15%	45%	30%

(Step 3 on next page)

4.1b Calculating indicators and setting service objectives: Community/hospital norms for Staff (continued)

Step 3: Add the FTE OPD and Clinic staff and divide by the total number of staff

Hospital OPD staff + Clinic and CHC staff = [ ] ÷ Total Staff × 100 = %

This is your indicator (comm/hospital ratio) which you can compare with the Baseline and Target Norms.

Remember that the total staff includes staff on hospital wards, OPDs, clinics and CHCs.

25%	55%	40%
Low	High	**Target Norm**
Baseline Norm		
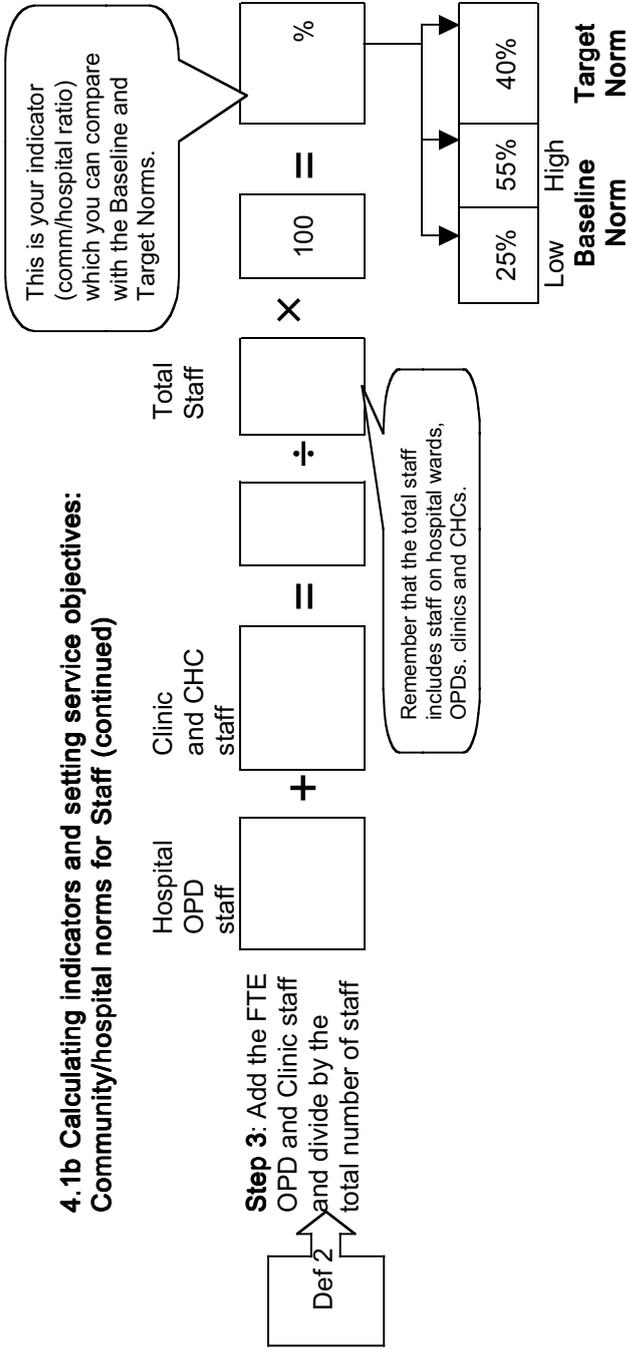
Step 4: If your indicators fall below the Low Baseline Norms (for definition 1 or 2), this indicates a need for the development of staff in community services in your province, region or district.
If your indicators fall above the High Baseline Norms (for definition 1 or 2), this indicates a need for the development of staff in hospital services in your province, region or district.

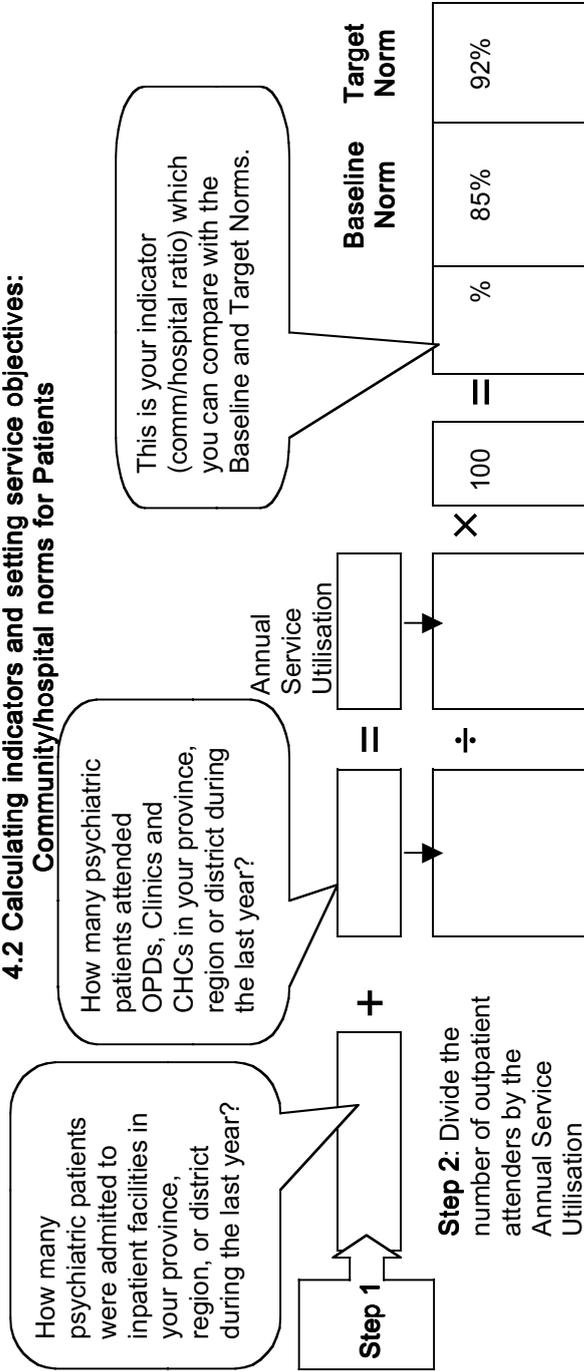## 4.2 Community/hospital norms for patients

Community/hospital norms for patients or service users are measured by monitoring the way in which patients <u>use</u> services. This can be done by counting the number of admissions in hospital services in a year and comparing this with the number of outpatient or ambulatory care attendances during a year (see Table 4.2). Once again this figure can be helpful in two ways:

➢ We can measure the way in which patients use services and compare this across provinces, regions or districts.
➢ We can measure change in the way patients use the services over time.

In table 4.2 you can enter the number of admissions in hospital services in a year and the number of outpatient attendances in a year and calculate the community/hospital ratio for patients – the indicator for your district, region or province. You can then compare this with the national Baseline and Target norms.

4.2 Calculating indicators and setting service objectives:
Community/hospital norms for Patients

How many psychiatric patients were admitted to inpatient facilities in your province, region, or district during the last year?

How many psychiatric patients attended OPDs, Clinics and CHCs in your province, region or district during the last year?

Annual Service Utilisation

This is your indicator (comm/hospital ratio) which you can compare with the Baseline and Target Norms.

Step 1

Step 2: Divide the number of outpatient attenders by the Annual Service Utilisation

× 100

	Baseline Norm	Target Norm
%	85%	92%

Step 3: If your indicator falls below the Baseline Norm, this indicates a need for the development of community services in your province, region or district. Low community service utilisation may be a consequence of poor detection of SPC patients; poor information systems which report patients' community service utilisation; or patients kept unnecessarily in long term custodial care.

Step 5: Output Norms

Up to this point we have worked with *input* norms – those norms which monitor the way in which resources are invested in the mental health service.

However, it is also important to use *output* norms – those norms which monitor the way in which the mental health service is delivered to the community. In this manual we will focus on four output norms: bed occupancy, admission rates, average length of stay (ALOS), and default rates in ambulatory care.

Output norms measure the way in which the service is delivered to the patient population.

5.1 Bed Occupancy Norms

Bed occupancy rates are a gross but essential measure of bed utilisation in hospitals. They measure the extent to which the available psychiatric beds are occupied at any given time.

In South Africa, there is an urgent need for the development of normative bed occupancy rates. Historically there has been little monitoring of bed occupancy in psychiatric institutions, and there have been significant infringements of patients' rights through overcrowding of these facilities.[22] Similarly in the UK, concern has been expressed that reduced bed numbers have led to unacceptably high bed occupancy rates in acute psychiatric units.[23,24]

As bed numbers in long stay custodial care institutions are reduced in South Africa, it is essential that bed occupancy rates are monitored. There is a need for a balance between the most effective use of limited hospital resources, and the protection of patients' rights to good quality care.

In the following tables (Table 5.1a and 5.1b) you can enter the average number of occupied beds for acute and medium-long stay care, and calculate the bed occupancy rate. This can then be compared with the Baseline and Target Norms.

The Hospital Strategy Project[8] recommends the following formula for the calculation of bed occupancy: percentage bed occupancy = (inpatient days ÷ available bed days) × 100. *Inpatient days* per month are defined as the midnight count of patients for the month plus total deaths and discharges for the month. *Available bed days* are defined as the number of available beds multiplied by the time period specified (for example the number of days in the month). This formula is used in Tables 5.1a and 5.1b.

Bed occupancy measures the average number of beds that are occupied, expressed as a percentage.

5.1a Calculating indicators and setting service objectives: Bed Occupancy rates for acute psychiatric care
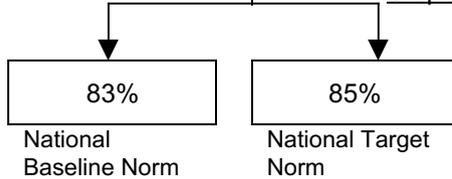
Step 1: Calculating the existing service indicator

What is the average number of inpatient days per month in acute care in your district, region or province?

How many available acute psychiatric bed days per month are there in your district, region or province?

$$\boxed{} \div \boxed{} = \boxed{} \times \boxed{100}$$

$$= \boxed{ \%}$$ This is your indicator (bed occupancy rate for acute psychiatric beds)

Step 2: Comparing the indicator with the norm

83%	85%
National Baseline Norm	National Target Norm

Does the indicator for your district, region or province fall below the Baseline norm? (tick)   Yes ☐   No ☐

IF YES: It is possible to make more efficient use of your acute inpatient facilities by either increasing your admissions, increasing your ALOS or reducing the number of available beds. ⟹ Budgeting, planning and implementation

Does the indicator for your district, region or province fall above the Target norm? (tick)   Yes ☐   No ☐

IF YES: It is necessary to reduce levels of overcrowding in these facilities by either increasing the numbers of available beds, reducing admissions, reducing ALOS, or increasing community level staffing for more effective management of patients in the community. ⟹ Budgeting, planning and implementation

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5.1b Calculating indicators and setting service objectives: Bed Occupancy rates for Medium-Long stay care

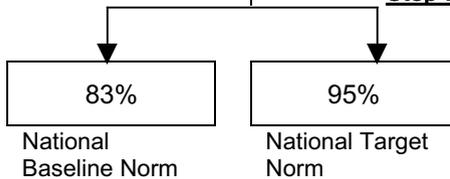<u>Step 1: Calculating the existing service indicator</u>

> What is the average number of inpatient days per month in med-long stay care in your district, region or province?

> How many available med-long stay psychiatric bed days per month are there in your district, region or province?

[ ] ÷ [ ] = [ ] × 100

= [ ] % This is your indicator (bed occupancy rate for med-long stay psychiatric beds)

Step 2: Comparing the indicator with the norm

83%	95%
National Baseline Norm	National Target Norm

Does the indicator for your district, region or province fall below the Baseline norm? (tick)   Yes [ ]   No [ ]

IF YES: It is possible to make more efficient use of your med-long inpatient facilities by either increasing your admissions, increasing your ALOS or reducing the number of available beds. ⟹ Budgeting, planning and implementation

Does the indicator for your district, region or province fall above the Target norm? (tick)   Yes [ ]   No [ ]

IF YES: It is necessary to reduce levels of overcrowding in these facilities by either increasing the numbers of available beds, reducing admissions, reducing ALOS, or increasing community level staffing for more effective management of patients in the community. ⟹ Budgeting, planning and implementation

5.2 Admission Rate Norms

Admission rates are an important indicator of the rate at which patients are admitted to psychiatric inpatient facilities. They are an important supplement to information on the number of available beds in a particular community, because they provide a measure of how those beds are used. Sharp increases in admission rates are likely to indicate that deinstitutionalisation is proceeding too rapidly, and that patients are not being effectively managed in the community.

Admission rates are an indicator of the rate at which patients are admitted to hospitals.

As with bed occupancy rate, an admission rate norm can help to ensure that the limited available resources are used in a way which is both cost-effective and appropriate for the needs of patients with SPC.

Table 5.2 enables you to calculate admission rates for your particular district, region or province. It then facilitates comparison with the national Baseline and Target Norms. As a reminder, the baseline norm is based on the current national average. The target norm is adjusted down from the WHO model's estimated admission rate, following the recommendations of provincial mental health coordinators.

As with bed occupancy norms, indicators which fall significantly above or below the norm may be due to a range of factors. A careful, locally conducted situation analysis can provide details of adjustments which are needed.

5.2 Calculating indicators and setting service objectives: Admission rates

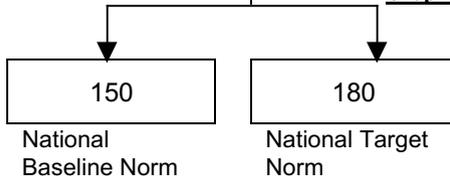### Step 1: Calculating the existing service indicator

How many psychiatric patients are admitted to hospitals in your district, region or province during a year?

What is the total population of your district, region or province?

[　　　　　] ÷ [　　　　　] = [　　] × [100 000]

= [　　　　　　] This is your indicator (annual admission rate per 100 000 people)

Step 2: Comparing the indicator with the norm

150	180
National Baseline Norm	National Target Norm

Does the indicator for your district, region or province fall <u>below</u> the Baseline norm? (tick)　　Yes [　]　　No [　]

IF YES: It may be possible to increase your admission rate by improving access and referral routes to inpatient services, increasing the number of acute beds and reducing numbers of medium-long stay beds, or decreasing the ALOS.　⟹　Budgeting, planning and implementation

Does the indicator for your district, region or province fall <u>above</u> the Target norm? (tick)　　Yes [　]　　No [　]

IF YES: It may be possible to decrease your admission rate through more effective management of patients in community settings, reducing admissions from other provinces, or more effective short term management of patients in regional hospitals.　⟹　Budgeting, planning and implementation

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5.3 Average Length of Stay (ALOS)

ALOS is the average length of time a patient spends in a hospital before discharge, and is usually measured in days. Alongside bed occupancy and admission rate, it is an extremely useful indicator of the way in which hospital services are used.

ALOS = the average length of time (in days) that a patient spends in a hospital before discharge.

Reductions of the ALOS have been as much a feature of deinstitutionalisation as reduced bed numbers. During the last 30-40 years in developed countries, as patients have been managed more effectively in community settings, they have been admitted for shorter and shorter time periods. However, many studies[2] have shown that these reductions should be planned carefully, that there remains a need for long term care for a small percentage of SPC patients, and that ALOS should depend on the particular clinical goals and treatment programmes of particular units.

Table 5.3 enables you to calculate the ALOS for acute and medium-long stay psychiatric inpatient care for your district, region or province. It is then possible to compare this indicator with the national Baseline and Target norms.

Because it is important to adapt ALOS to the specific setting in which patients are treated, the Norms and Standards report provided recommendations for a range of facilities:
➢ Psychiatric Hospitals (acute)
➢ Psychiatric Hospitals (med-long)
➢ General Hospitals (with dedicated psychiatric acute wards)
➢ General Hospitals (without dedicated psychiatric acute wards)
➢ District Hospitals (acute)

No Baseline ALOS was proposed for med-long stay care for several reasons: the data of existing services in the provinces was inadequate to draw clear conclusions; there was extreme diversity across the provinces; several provinces reported a cohort of patients who had remained in custodial care for many years, and who could not be humanely discharged by applying a blanket policy of reducing ALOS.

5.3 Calculating indicators and setting service objectives: Average Length of Stay (ALOS)

> **Step 1**: What is the average length of time (in days) that SPC patients spend in each of these facilities in your district, region or province?

> This is your indicator, which you can compare with the national baseline and target norms

| Type of Facility	ALOS	Baseline Norm	Target Norm
Psychiatric Hospitals (acute)		14	17
Psychiatric Hospitals (med-long)		-	180
General Hospitals (dedicated acute wards)		14	17
General Hospitals (non-dedicated acute wards)		5	8
District Hospitals (acute)		3	5

Step 2: If your ALOS for acute care falls below the Baseline Norm, this may be due to insufficient inpatient facilities (beds and staff), and the need to prematurely discharge patients. It may also be due to inadequate community services to manage patients outside of hospital services.

Step 3: If your ALOS for acute care is above the Target Norm this may indicate that patients are being kept for too long in hospital settings and could be more effectively managed in the community.

⇨ ⇨ ⇨ Budgeting, planning and implementation

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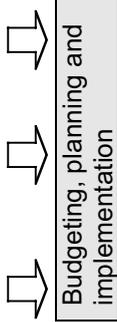
5.4 Default Rate Norms

Patients who default from psychiatric care interfere with treatment programmes, disrupt efficient utilisation of staff time, and are costly to the mental health service. Problems of defaulting are widespread in community psychiatry, appear at varying stages, and present a constant challenge to the treatment team. They are particularly prevalent in patients with SPC.[2]

Defaults can take a variety of forms – from missed appointments, to aftercare dropouts, to non-compliance with medication. In this manual we focus exclusively on missed appointments in outpatients (OPD), clinics and community health centres (CHC). Default rate is defined as the percentage of patients who miss appointments.

Default rates may be indicators of several factors:
➢ the extent to which patients receive the intended treatment
➢ wastage of staff time
➢ inadequate referral procedures
➢ poor communication with patients

Researchers have argued that some default is inevitable, especially in treatment of acute patients and that defaulting does not always lead to readmission.[25] It is therefore useful to establish a norm which caters for an acceptable level of default which is not regarded as costly or a risk factor.

Some level of default is inevitable with SPC patients.

In Table 5.4 you can enter the numbers of missed appointments in OPDs, clinics or CHCs in your district, region or province and calculate the default rate. This can then be compared with the national Baseline and Target Norms. As the model does not recommend default rates, the Target norm was based on recommendations of the provincial mental health coordinators during the norms and standards project.

5.4 Calculating indicators and setting service objectives: Default rates

### Step 1: Calculating the existing service indicator

What is the average number of patients who fail to keep outpatient appointments in your district, region or province during a month?		How many psychiatric patients are seen at OPDs, clinics and CHCs in your district, region or province during a month?		
	÷		✕	100

= [   ]   This is your indicator
            (default rate)

Step 2: Comparing the indicator with the norm

11%	8%
National Baseline Norm	National Target Norm
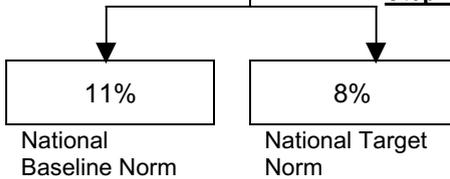
Is the default rate for your district, region or province higher than the Baseline norm? (tick)   Yes [ ]   No [ ]

IF YES: This may be due to poor communication with patients, inadequate referral routes, long waiting periods for patients or morale and stress problems among treatment staff.   ⟹   Budgeting, planning and implementation

Is the default rate for your district, region or province lower than the Target norm? (tick)   Yes [ ]   No [ ]

IF YES: A low default rate is usually an indicator of an effective service. However, this default should be continually reviewed to ensure that it is not due to poor information systems or under-reporting of defaults.   ⟹   Budgeting, planning and implementation

Step 6: Maintaining the balance

Having reviewed the service using each norm, it is necessary, as a final step, to ensure that a balance is maintained between all aspects of the mental health services.

In Table 6 you can enter each of the indicators calculated in the tables so far. These can then be compared with the Baseline and Target Norms.

This table provides a clear overview of the gaps in the service. It also shows the need to balance different aspects of the service, and that each aspect is dependent on others. For example changes in bed numbers have effects on staffing, community/hospital ratios, bed occupancy, admission rates, ALOS and default rate. Conversely, changes in the average length of admission (ALOS) will have effects on the numbers of available beds, on admission rates, on community/hospital ratios, bed occupancy, staffing, the number of patients who are seen in ambulatory care settings, and in turn, default rates.

In order for the service to continue to function effectively it is essential that the service is monitored as a whole in an ongoing way.

At this stage the norms proposed in this manual are provisional and should be reviewed annually as services are transformed. Ultimately the norms framework needs to be modified according to the needs and priorities of local services, informed by appropriate budgeting, planning and implementation.

As a final step you can relate each of the indicators calculated in this manual, in order to monitor the service as a whole.

The norms in this manual are provisional and should be reviewed annually.

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intaining the balance: Summary of service indicators and norms

> Enter the indicators from the tables calculated earlier in this chapter.

Definition	Indicators	Norms	
		Baseline	Target
on (Beds ÷ total population) X100 000		Acute: 13 Med-long + Comm res: 35	Acute: 28 Med-long + Comm
ion (Staff ÷ total population) X100 000		Total nurses: 16 Total staff: 20.1	Total nurses: 25.6 Total staff: 35.9
y Staff ÷ beds		Total nurses: 0.25 Total staff: 0.36	Total nurses: 0.45 Total staff: 0.56
y Staff ÷ DPV (Daily Patient Visits) (ambulatory care only)		Total nurses: 0.2 Total staff: 0.32	Total nurses: 0.54 Total staff: 0.93
1. Community staff ÷ (hospital + comm staff)		1. Ratio 1: 15%-45% Ratio 2: 25%-55%	1. Ratio 1: 30% Ratio 2: 40%
2. Attendance rate ÷ (admission rate + attendance rate)		2. 85%	2. 92%
cy (Inpatient days ÷ Available bed days) X100 000		Acute: 83% Med-long: 83%	Acute: 85% Med-long: 95%
tes Annual admissions per 100 000 population		150	180
y Median length of admission (days)		Psychiatric hospitals (acute): 14 General hospitals (dedicate wards): 14 (non-dedicated wards): 5 District hospitals: 3	Psychiatric hospita (acute): 17 (med-long): 180 General hospitals (dedicated wards): (non-dedicated wa District hospitals: 5
Defaulters ÷ Appointments		11%	8%

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