

AFR/ORH/05.1

Writing Oral Health Policy

**A Manual for Oral Health Managers
in the WHO African Region**



WORLD HEALTH ORGANIZATION
Regional Office for Africa
Brazzaville

Writing Oral Health Policy:
A Manual for Oral Health Managers
in the WHO African Region



WORLD HEALTH ORGANIZATION
Regional Office for Africa
Brazzaville • 2005

(c) WHO Regional Office for Africa
(2005)

Publications of the World Health Organization enjoy copyright protection in accordance with the provisions of Protocol 2 of the Universal Copyright Convention. All rights reserved.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities or concerning the delimitation of its frontiers or boundaries.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

Printed in the Republic of South Africa

CONTENTS

List of figures and tables	iv
Glossary of terms used	v
Preface	vii
Acknowledgements	viii

SECTIONS

Section 1	The need for oral health policy	1
Section 2	A framework for oral health policy	6
Section 3	Contents of a national oral health policy	9
Section 4	Sustaining the policy process	14
Section 5	Concluding comments	17

WORKSHEETS

Worksheet 1	Examples of outcomes, guiding principles and regional and national responsibilities	19
Worksheet 2	Assessing the oral health of a community	21
Worksheet 3	Priority oral conditions and determinants	23
Worksheet 4	Oral health resource assessment	25
Worksheet 5	Decision tables to match oral diseases with best interventions and available resources	26
Worksheet 6	Evidence-based dental practices	32
Worksheet 7	Core competencies for dental personnel	33
Worksheet 8	Monitoring and evaluation	35
Worksheet 9	Example of a national oral health policy	37
Worksheet 10	List of additional resources	40

List of figures and tables

FIGURES		Page
Figure 1	Flowchart describing the need for oral health policy	2
Figure 2	Key attributes of health policy	3
Figure 3	Flowchart: Getting the policy-writing process started	4
Figure 4	Composition of oral health policy	7
Figure 5	Flowchart for selecting intervention strategies	10
Figure 6	Flowchart for sustaining the oral health policy process	15
Figure 7	Flowchart of dynamic oral health policy process	18
TABLES		
Table 1	The prevalence of oral diseases among low socioeconomic groups in Africa	1
Table 2	Oral pain	11
Table 3	Dental caries	12
Table 4	Oral HIV	12

Glossary of terms used

Core competencies

The term “competence” refers to a combination of skills, attitudes and knowledge which provide the oral health worker with sufficient skills to undertake a specific oral health task for an individual or a community. “Core competencies” are the minimum competencies required for the safe and appropriate practice of oral health care. These competencies represent the lowest common denominator of oral health training and should be expanded in the future as the situation in Africa improves and patterns of disease change.

District

Here we use “district” to denote the intermediate sub-unit of a region. Each region may have more than one district. The population served by health services in a district may vary between 50 000 and 300 000 people. Most typically, districts cover populations of between 50 000 and 100 000 people. In some countries there are even smaller administrative sub-units within districts, which typically are the level at which community-based services are provided.

Evidence-based dentistry

This is a recent term used to describe the principle that all clinical and management decisions in health care should be based on the evidence of effectiveness of those decisions. This evidence is being constantly accumulated by means of systematic reviews.

Health gain

“Health gain” means a demonstrable improvement in key indicators of a population’s health status resulting from an intervention.

Health policy

A “health policy” consists of a selection of non-contradictory means or methods by which clearly identified improvements in people’s health can be achieved over the medium to long term. It involves a process of

development in which many people play a part. Health policy embraces courses of action that affect the set of institutions, organizations, services and funding arrangements of the health care system. It goes beyond health services, however, and includes actions or intended actions by public, private and voluntary organizations that have an impact on health.

Meta-analysis

It is a statistical procedure that interprets the results of several independent studies considered to be “combinable”. It is regarded as an observational study of the evidence, and allows a more objective appraisal of the evidence than traditional narrative reviews.

National office of oral health

In this manual we use the term “national office of oral health” to denote the administrative department or area that is responsible for the development of the national-level policy for oral health. It may well be that your ministry or department of health has a chief dental officer who is located in a particular division or department within the ministry. But many countries in the Region do not have a chief dental officer as such, but rather a person with responsibility for oral health among other areas of responsibility. The term we use is intended to include all these variants.

Policy process

The “policy process” consists of the way in which a particular country, or administrative authority, works out what its particular health policy will consist of. Sometimes this consists of a logical examination of the health problems that the people face, followed by a careful analysis of the advantages and disadvantages of different ways of solving the problems and improving their health. More commonly, it involves a combination of this logical process and the political realities of the authority involved and the different power blocks within the authority.

Policy development

“Policy development” is comprised of the acts and decisions of different individuals and groups involved in the identification of health problems for which policies are required, and their acts and decisions over time, which result in the formulation of a particular health policy.

Region

In this manual the term “region” is used to denote the largest administrative unit beneath the national level. It may comprise a number of smaller sub-units and include diverse population groups and geographical areas. A typical region serves a catchment population

of over 100 000 people. In some countries, this is synonymous with the term “province”.

Systematic review

These are quality-assessed clinical epidemiological studies (published and unpublished) around the world, which are disseminated in the form of frequently updated databases such as the Cochrane Collaboration. They apply a tightly controlled research protocol to the search, selection and reporting of the combined findings of the best available health research.

Preface

One of the major barriers to the improvement of oral health in the African Region of the World Health Organization (WHO) is the absence, in most countries, of a clear statement of oral health policy to guide their oral health activities. Previous approaches in the majority of these countries have consisted of the provision of unplanned, ad hoc and spasmodic curative dental services. There is, therefore, a compelling need for guidelines to assist the formulation of policies capable of ensuring proper planning, management and evaluation of oral health care programmes in the Region.

In September 1998, the WHO Regional Committee for Africa adopted a Regional Oral Health Strategy for the period 1999-2008. The aim of the strategy is to strengthen the capacity of Member countries to improve community oral health by developing appropriate national oral health policies and implementation plans, with emphasis on the prevention, early detection and management of oral diseases.

The purpose of this manual is to assist Member countries in the development of a simple, rational approach to formulate national oral health policies capable of fundamentally changing community oral health for the better. The manual is designed to assist oral health managers at all levels to select the most appropriate policies, programmes and specific oral health interventions. It introduces a systematic approach for the identification of priority oral health problems and the selection of effective, evidence-based interventions compatible with the level of socioeconomic development of the communities involved. It is clear that in order to succeed, a policy document needs to be pragmatic to be able to provide a framework that ensures that the community experiences real benefits. These policy choices are designed to be compatible with existing approaches and structures of national health

systems, be flexible enough to be adapted to changing needs and circumstances, and be easy to evaluate.

This manual outlines a new approach to oral health policy and planning in the African context and is meant to assist WHO and national groups or partners to further contribute to the health and development of the people in the Region.

How to use this manual?

This manual is designed to support a workshop-style discussion process for a small working group. It poses questions, offers selected topics for discussion and provides several examples of how others have addressed the same issues. The second half of the manual consists of several worksheets to assist this process. However, none of the guidelines or examples is cast in stone, and it will be your challenge to identify those priorities and principles that best suit the circumstances in your country or region.

The manual begins by exploring the rationale for writing oral health policy (Section 1), before exploring a suitable conceptual framework for its construction (Section 2). In Section 3, the content of the policy document is developed further as it addresses people's oral health needs, resources, interventions required and a process for making the best decisions about what strategies to adopt. The importance of sustaining the policy process beyond its first draft and toward implementation is addressed in Section 4. Some final comments and words of encouragement conclude the manual (Section 5).

By the end of the process outlined in this manual, you and your working group should already have in place a draft version of your new (or revised) oral health policy.

Acknowledgements

The WHO Regional Office for Africa would like to thank the following individuals who contributed and offered substantial comments and suggestions during the document's conception, revision and finalization:

1. Martin Hobdell – Consultant, Dental Public Health, University College, London, United Kingdom
2. David Matsinhe – Chief Dental Officer, Ministry of Health, Maputo, Mozambique
3. Neil Myburgh – Director, WHO Collaborating Centre for Oral Health, University of the Western Cape, Cape Town, South Africa
4. Usuf Chitke – Deputy Dean, Faculty of Health Sciences, University of Stellenbosch, Cape, Cape Town, South Africa
5. Peter Owen – Faculty of Dentistry of the Witwatersrand, Johannesburg, South Africa
6. Sam Thorpe – Executive Secretary, Commonwealth Dental Association and Former Regional Advisor Oral Health, WHO Regional Office for Africa, Brazzaville, Republic of Congo
7. Charlotte Faty Ndiaye – Regional Advisor Oral Health, WHO Regional Office for Africa, Brazzaville, Republic of Congo

Section 1: The Need for Oral Health Policy

This section looks at some of the reasons for writing an oral health policy (OHP). It notes the general failure of previous policies, if any, and introduces a mechanism for getting the policy-writing process started.

A reason for writing oral health policy

The failure of existing national oral health policies or plans to make a difference to community oral health strongly suggests that such plans are fundamentally flawed. Recent advances in knowledge mean that the potential now exists to eliminate and control most major oral diseases and conditions. Therefore, most countries would benefit from a process of health policy analysis and revision as they begin to write new policies that will be capable of achieving meaningful gains in community oral health.

Evidence shows that ill-health creates and perpetuates poverty and hampers economic and social devel-

opment. Health gains are capable of triggering economic growth. If the benefits of that growth are equitably distributed, this can lead to poverty reduction. The same elements that determine the general health and well-being of a population and directly influence their oral health status as well - a fact that most oral health policies have so far ignored. Oral diseases affect all human beings irrespective of location, country, nationality, race or colour.

In the African Region, the oral disease burden follows a pattern of deterioration closely associated with poverty and economic growth. Twenty-seven out of the 46 countries in the Region are classified as Least Developed Countries (LDC) and 80% of the people fall in the low socioeconomic category. For this reason, the Region is confronted by its own unique set of oral health problems, which can be ranked according to their prevalence, severity or social impact (Table 1). There is particular concern about noma, oral cancer

TABLE 1. THE PREVALENCE OF ORAL DISEASES AMONG LOW SOCIOECONOMIC GROUPS IN AFRICA

Oral disease	Prevalence	Morbidity	Mortality
Noma	High	High	High
Oral HIV	High	High	High
Oral cancer	Medium	High	High
Oro-facial trauma	Very high	Medium	Medium
Congenital abnormalities	High	Medium	Medium
Harmful practices	High	Medium	Medium
Chronic periodontal disease	Medium	Low	Low
Fluorosis	Medium	Low	Low
Dental caries	Medium	Medium	Low
Benign oral tumours	Low	Medium	Low
Edentulism	Low	Medium	Low

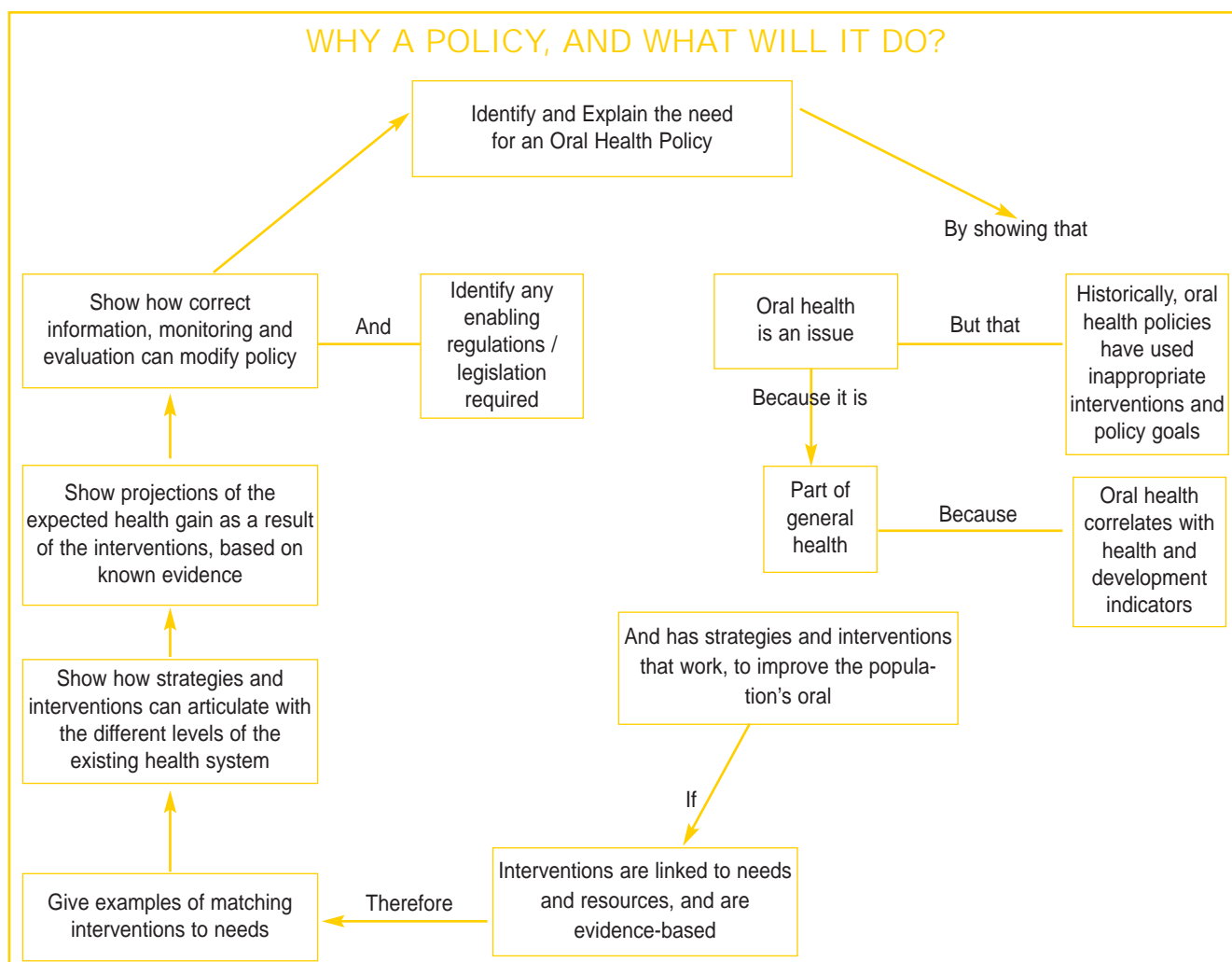
(which is also increasing in many industrialized countries), the oral manifestations of HIV infection, oro-facial trauma, dental caries and, in certain areas, endemic fluorosis.

Dramatic improvements in oral health have been achieved worldwide but they have not been uniform. The most economically developed countries have seen great reductions in levels of dental caries, whereas poor countries experiencing economic growth have seen significant increases. In nearly all African countries there remains an unacceptably high level of untreated and preventable oral disease, particularly in younger age groups. Even in the most developed countries in the Region, there are increasingly large

sections of populations with poor oral health.

In spite of this, most current oral health care services in Africa are dependent on sophisticated technology, developed primarily to treat dental caries and its sequelae. Where oral health services do function, they are treatment-oriented and mainly directed at pain and sepsis. All services are getting overwhelmed by the opportunistic oral infections of HIV/AIDS. Public oral health services are located within the district structures in most cases, yet their integration with other areas of health care and development activities is limited. Geographically, oral health services are often limited to the more urban areas, accentuating the problem of inequitable access.

FIGURE 1. FLOWCHART DESCRIBING THE NEED FOR ORAL HEALTH POLICY



Previous oral health policy efforts

For most countries in the African Region, a national oral health policy document is the policy. This solitary statement of intent or direction appears to be regarded as the only important artefact or product of the policy-making process. It seems to be assumed that improved community oral health will automatically result if the right ideas and interventions are written into such a document. Sadly, even where apparently excellent policy documents have been drafted, few have been implemented and all have failed to show any real impact on oral health.

All countries appear to make assumptions about the central and necessary role of dentists and the (mainly curative) procedures they are currently trained in, organized and remunerated to deliver. An effective policy will need to define clearly how their particular skills can best serve the interests of the oral health policy. They certainly can have a role to play but it may be quite limited.

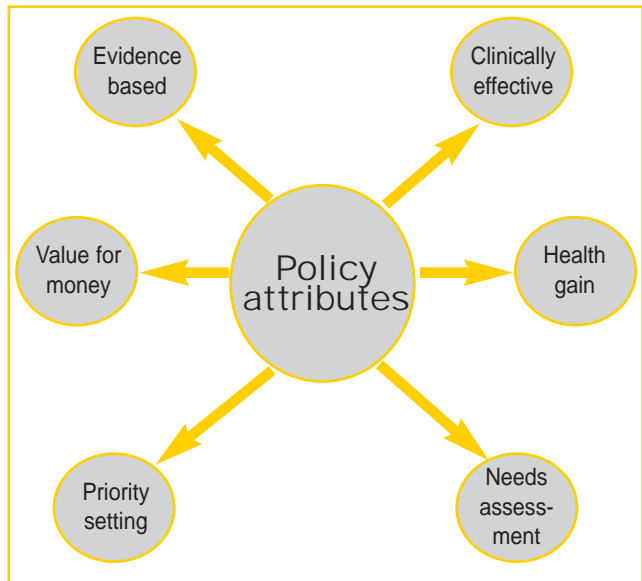
These influences are pushing free enterprise and self-care as the cornerstones of policy, despite the absence of community resources and infrastructure. These influences on health may be more difficult to address. But they cannot be ignored in the policy process. It seems important to act now to strengthen the roles of policy and planning.

What kind of oral health policy is needed?

A policy that:

- Provides a viable, simple, rational way to formulate policy
- Assesses priority oral health needs in a contextually relevant manner
- Selects interventions using scientific evidence
- Matches interventions to resources
- Gives simple, meaningful indicators of progress
- Creates a sustainable policy process, adaptable to changing social, political and economic circumstances.

FIGURE 2. KEY ATTRIBUTES OF HEALTH POLICY



How to get the oral health policy process started?

Initiating the change process

This is primarily the responsibility of the chief dental officer, but to ensure that the process gets moving, other interested parties, stakeholders and personnel may need to be involved from the start. Establishing such links with people directly concerned with oral health, particularly district oral health personnel, is a crucial first step.

Getting your policy adopted may depend as much on lobbying and advocacy in the ministry of health as on the formulation of a technically excellent policy document. It may be helpful to use the legitimacy provided by WHO's support to this approach to generate enthusiasm among other role players. Priorities must be defined within each health district where oral health programmes and services will be implemented. This document must be capable of being adapted for use at every level in the health system, but particularly at district level. The process of intervention strategy selection for district oral health needs should be carried out with the personnel who work there in order to prepare viable implementation plans for each district.

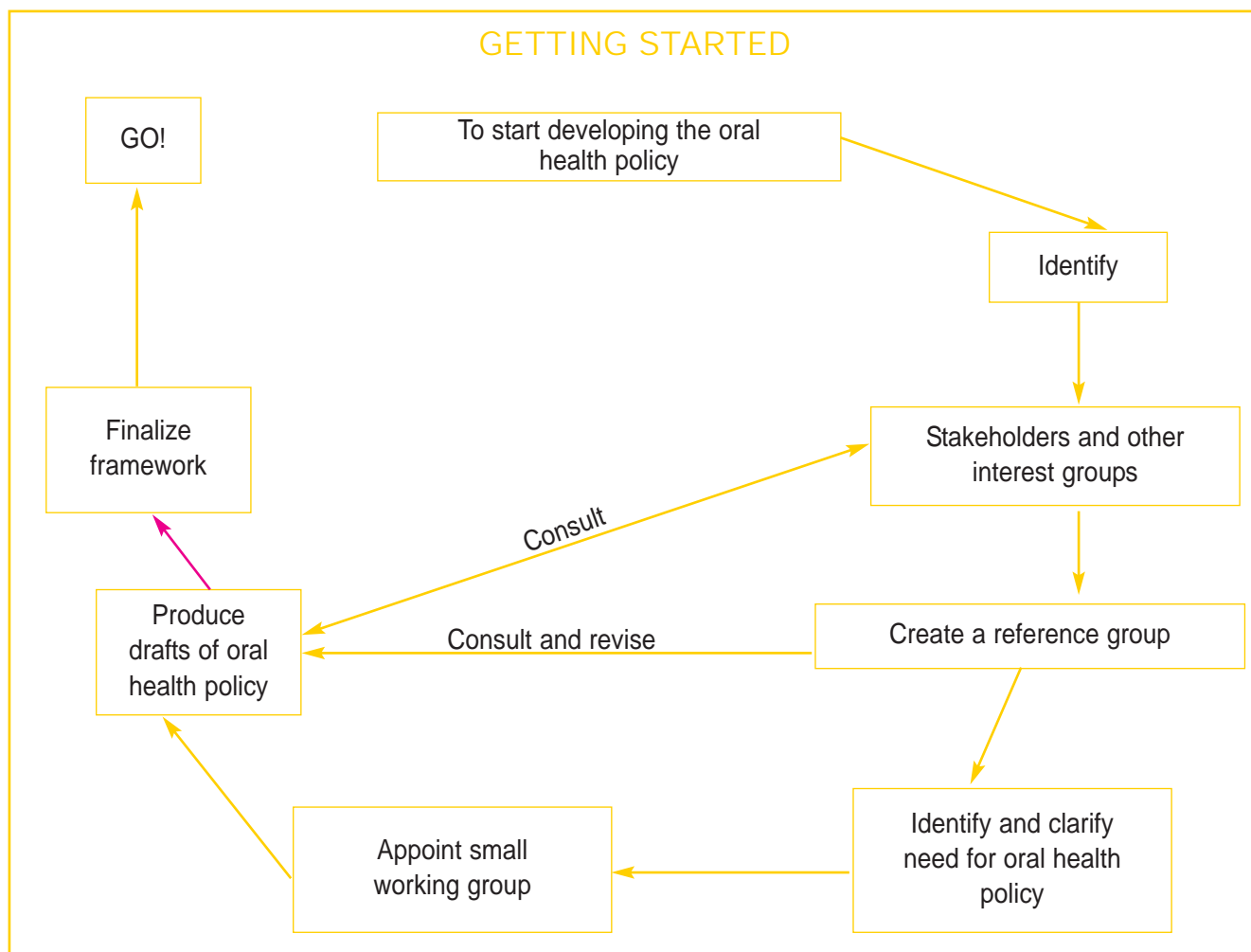
The stakeholders/reference group
 Any given policy has a number of people and groups who are either affected by or interested in the issues it seeks to address. Their interest may be in either supporting or obstructing the policy. Whatever their intention, experience has shown that the most likely way to make progress is to engage with all identifiable stakeholders, from community members to politicians. The involvement of every group that has an interest in the policy will help to build a sense of shared ownership of the policy. Out of this group, a reference group should be chosen. This group will debate key policy concerns and review completed drafts of the policy. They will need to be part of the process from the very beginning right through into the legislative and implementation phases of the process. They should become your

allies in lobbying for financial and political support for the policy. The use of a workshop format for the initial meetings can help to create a positive approach to the task.

The working group
 Inevitably, the work of investigating and writing the policy document will need to be carried out by a smaller team of people drawn from the reference group identified earlier.

The framework document
 Details about different components of individual oral health systems, such as fluoridation legislation, the provision for academic oral health centres, regulations about oral health personnel, etc., should be omitted

FIGURE 3. FLOWCHART: GETTING THE POLICY-WRITING PROCESS STARTED



from this policy document. The details of how such matters should be governed should preferably be dealt with in separate documents or within more generic health policy documents that deal directly with such issues. If necessary, the policy statement could refer to such documents or include suitable documents in the appendices. We have found this a much better way to ensure that all attention here is focused on core oral health issues, i.e. those that primarily determine what needs to be done to improve community oral health.

Developing an oral health policy is a continually dynamic process, which needs to engage all those with an interest in its outcomes at different levels of the health service. Communications between stakeholders need to be open and direct. Ultimately it will probably be necessary to produce a summary document that is readily understandable by the lay person, bureaucrats, politicians and other health professionals less familiar with oral health.

The overriding goal is to eventually ensure the implementation of a functioning oral health policy, which is capable of substantially improving people's community oral health.

What the oral health policy document must achieve?

Once written, the OHP document must be capable of serving as a political document with which to:

- persuade the minister of health and health officials to prioritize and address oral health;
- illustrate to officials the projected health gains that can be achieved;
- show how interventions are a direct response to community needs;
- show how interventions will be matched with available human, financial and other resources;
- clearly locate oral health within broader structural, legislative and regulatory frameworks.

Thereafter, the content of the document will also provide direction for the implementation and monitoring of oral health care activities.

In the next section (Section 2), the conceptual framework and principles on which oral health policy can be based, is addressed.

Section 2: A Framework for Oral Health Policy

This section explores the principles already embedded in existing health policies and practices. The same fundamental concerns can provide the basis for constructing an oral health policy that is easily integrated with other health sector activities. The second part of this section presents a framework for writing the oral health policy document.

Principles to guide the oral health policy process

If policy proposals are to achieve greater equity and community empowerment, it is essential to integrate oral health interventions with other development sectors such as primary health care, education, nutrition and agriculture and with those involved in the provision of basic services such as water and sanitation.

These are the familiar components of the comprehensive primary health care approach. An agreement on these as key principles cannot be assumed, nor can it be taken for granted that these terms mean the same thing to everyone. Discuss them and get an agreement on what they mean and on their inclusion in the key principles of your policy.

At the outset, participants in the policy-making process will need to establish a clearly stated common ground from which they begin the task. It is strongly suggested that the group begin by engaging in a workshop-style process to discuss and eventually establish a consensus on two fundamental questions.

The first is to ask: What are the main outcomes you wish to achieve with the policy you are about to write or revise? The second and equally important question is to ask: What guiding principles or values should

influence the policy and its implementation as a whole?

This philosophical or conceptual vision of what must be achieved by the policy will serve as an important platform for laying out specific national and regional responsibilities, and for developing the detailed contents of the interventions and other strategies that need to be implemented.

The national context

Clarify national and regional or district oral health responsibilities

In most countries there is a definite functional separation of national and regional (or district)* responsibilities for oral health. If we take some of the suggested guiding principles (such as decentralization, management autonomy) a bit further, it becomes evident that the local level (district or region) is where most of the actual delivery of oral health programmes or strategies will take place. We, therefore, need to redefine the different functions of national and regional components of the oral health system. This will need to be spelt out in your oral health policy proposal.

Once more, it is suggested that your policy group should work hard to find an answer to the question: What are the main functions that the regions must perform in order to improve community oral health?

Once you have clarified what the regions will do, the next logical question to ask would be about the role of the national level: What are the main functions that the national level must perform as its contribution to the process of improving community oral health?

*The terms region and district are not universally used in the WHO African Region. A region is usually composed of a number of sub-units (districts) and may be defined by distinct geographical, social and/or economic features. It is the largest unit of local government and administration, which with other regions comprise the national health system. A district is the most peripheral, fully-organized unit of local government and administration. It differs greatly from country to country in size and degree of autonomy, and population may vary from less than 50 000 to over 300 000. It is usually geographically compact and every part of it can normally be reached within a day (Tarimo, 1991, Towards a healthy district – organizing and managing district health systems based on primary health care. World Health Organization, Geneva. p.3).

Your group might like to discuss in greater detail the kind of support regions would require from the national level in order to perform their tasks effectively. In addition to material support, it might include research assistance for specific oral health problems; it might involve training; or it might simply require ongoing moral support and encouragement. Worksheet 1 includes some examples of regional and national responsibilities.

Structuring a national oral health policy

The writing of national health policy has far too often led to the creation of documents that attempt to “do it all”, and these have turned out to be over-ambitious wish lists that have effectively set the ministry of health up for inevitable failure. Clearly, a policy document that is successful needs to be thoroughly pragmatic; it should provide a framework that enables people to achieve the full potential for change that exists in their health system. It must not be prescriptive (as many have been in the past), but must be able to provide the opportunity to adapt effectively to changing needs and circumstances.

The level for which policy is written

An important consideration is the level for which the policy is being written. A national policy must deal with the broad principles and vision to be achieved for oral health in the country, but it does not need to address the detailed planning and programming processes that will be required to achieve this. As the policies for lower levels of the health system are prepared, more and more detailed proposals about how programmes are identified, implemented and subsequently evaluated, will be necessary. A district oral health plan needs to address such strategies in detail. Regional or national policies must simply provide for the enabling environment in which these responsibilities can be delegated and acted upon.

It is suggested that the content of your national oral health policy document be structured around the sub-headings in Figure 4.

Figure 4. Composition of Oral Health Policy



1. Preamble

A brief preamble is useful as it can introduce the

scope of oral health and the major issues or problems encountered in relation to the promotion of community oral health and oral health care in your country. It may include your summary statement on what a situation analysis has revealed.

2. A vision for oral health in your country

Thereafter, the policy statement should proceed to describe simply and concisely what vision you have for oral health in your country. This should indicate in fairly broad terms what you hope to eventually achieve through the implementation of your policy. You may wish to use established WHO oral health statements (Worksheet 10).

3. Agreed principles governing oral health

This section of the policy document must put forward a set of commonly acceptable principles that will enable the regions or districts, whoever is primarily responsible for the delivery of oral health care, to have a real impact on the oral health of the nation. This set of principles should be arrived at through a consultative process aimed at generating a consensus. The principles should guide the delivery of oral health programmes at every level of the health system and provide a basis for evaluating their progress. If appropriate, you may wish to include some of the following principles in this section of the policy document.

Promotion and prevention

The promotion of oral health and prevention of oral diseases are to receive the highest priorities in all programmes, although it is recognized that unmet needs in terms of pain and sepsis require curative care.

Integration

In order to effectively address the determinants of oral diseases, programmes should be integrated across all appropriate sectors. Some examples of this are the inclusion of guidelines on sugar in general food-based dietary guidelines, participation in maternal and child health education activities, and addressing oral health risk factors like tobacco as part of common risk factor health promotion strategies.

Appropriate mix of primary health care services

A portfolio of care to be provided at each level should be defined in terms of the proportion of the available time and resources that should be applied to different levels of activity. An appropriate mix of services might be established by using the following principles.

- Preventive activities are to be the priority at all times.
- District and regional plans of activities are to be based on, and should reflect, local needs and should focus on those in most need.
- Curative care is to be provided at specific times and sites, at defined levels appropriate to local needs and available resources.
- Curative and preventive regimes are to be selected according to evidence-based research criteria.

Information

Information appropriate to the planning of oral health services needs to be coordinated across districts. Inter-regional communication routes will need to be established and maintained. It is important to ensure that the information collected can be used for local planning and decision-making, as well as at regional or national levels.

4. Guidelines/mechanisms for implementation, monitoring and evaluation

This section will be the driving force of the policy, as it will provide the guidelines that define national programmes in oral health, facilitate population-wide initiatives to promote oral health, assist the customization of local strategies, provide a basis to monitor and evaluate these strategies, and sustain an ongoing process of policy review and development. It is strongly recommended that an implementation framework that details activities, outcome indicators, financial targets and timeframes, be drafted for each district or region. Section 3 of this manual assists in detailing these guidelines, and some examples are contained in the worksheets.

5. Conclusion

In concluding the document you may wish to highlight some particularly urgent or important matters that need to receive emphasis as a consequence of the policies recommended. These may have to do with one or more of the following: oral disease(s), personnel, financial and other resources, and legislation or regulation(s).

6. Appendices

A policy cannot exist in a vacuum or just in the narrow field of oral health itself. It must be able to be read by decision-makers in a manner that the technical aspects do not create a barrier to reading, and understanding, the policy. For this reason, a fairly extensive use of appendices is a useful means of reducing the size of the policy itself, while at the same time allowing you to include the technical and practical requirements for implementation.

7. Executive summary

This will be the part of the policy document that is readily understandable by the lay person, bureaucrats, politicians and other health professionals less familiar with oral health. It must capture all the main elements of what your policy is going to achieve. It must be short (about one page) and easy to read.

Section 3: Contents of a National Oral Health Policy

This section suggests ways to identify the most pressing oral health problems in your population before proceeding to introduce a systematic approach for the selection of appropriate intervention strategies to address them.

The social determinants of health also determine oral health. Poverty, a polluted environment (including water supply), poor housing, high infant mortality rates, lack of schooling and violence bred of poverty, all have a bearing on oral health. These are all, indirectly, the risk factors for oral disease and can be used as proxy indicators for planning purposes. National oral health surveys are expensive, slow to report, are a logistical nightmare and provide only averaged national data. A more focused but equally reliable method to assess community oral health needs is required. Worksheet 2 describes a method for assessing oral health at community level.

Determine national oral health priorities

Dental caries and periodontal disease have historically been considered the most important oral health problems around the world; however, in African countries, these appear to be neither as common nor of the same order of severity as in the developed world. The oral health profile of Africa today is very different from that perceived previously. This profile of oral disease is not homogeneous across Africa, so oral diseases known to exist in each community need to be individually assessed in terms of the basic epidemiological criteria of prevalence and severity, as illustrated in Worksheet 3. This assessment is a prerequisite for the meaningful ranking of community needs and the development of intervention programmes with which to address them. Each country will need to examine its own estimated prevalence, severity and social impact of these conditions to decide which are the priority concerns they will try to address. Remember that the impact may vary widely between different social groups.

It is clear that the African Region faces the urgent need to address a number of very serious oral conditions, either because of their high prevalence or because of the severe damage or death that can arise from them. According to this analysis, the most prominent oral health problems in Africa among low socio-economic communities include noma, ANUG (acute necrotising gingivitis), oral cancer, the oral manifestations of HIV and AIDS, oro-facial trauma, and lastly, dental caries.

Up-to-date oral health data are rarely available at national level. At the present time in the Region, the expense of carrying out a large nationally representative epidemiological survey to determine the precise levels of oral diseases is hard to justify. Added to which, at the national level, broad indicators of oral health status are more appropriate than precise details. Smaller and more highly focused local studies should be used to plan at regional/district/community levels and to provide data to help justify national and local expenditures on oral health.

Sometimes, there are data available from pathfinder surveys of convenience samples of the population but they may be quite old. Nonetheless, they should be tracked down and examined in conjunction with other data that reflect current influences on oral health. In this way an informed estimate of the magnitude and direction of any changes in oral health that might have occurred since the last survey can be made.

In the absence of adequate oral health data, various indicators of poverty, which is an important determinant of people's general health status, provide a useful guide. The prevalence of oral diseases, for example, also mimics prevailing levels of social deprivation. The presence of widespread poverty and underdevelopment in Africa means that communities are increasingly exposed to all the major environmental determinants of oral diseases. A sample of data on health and development is illustrated in Worksheet 2.

Oral disease goals or targets

There are no recommendations in this manual for oral health policies to contain specific oral disease targets or goals. Their absence should be explained. The reason is that too often these goals and targets have been applied to situations and communities for whom they are totally meaningless. Average national figures for the prevalence or severity of specific oral conditions tend to hide important local variations that a district dental officer needs to know for the effective planning and delivery of his/her service. Local oral health workers are therefore encouraged to identify, together with their local communities, suitable, viable objectives for their programmes. Some of these may be oral disease reduction goals, where appropriate. Hence, there is a need for more flexible indicators of oral health and this has recently been endorsed by the International Dental Federation and WHO. A selection of these indicators is included in Worksheet 5.

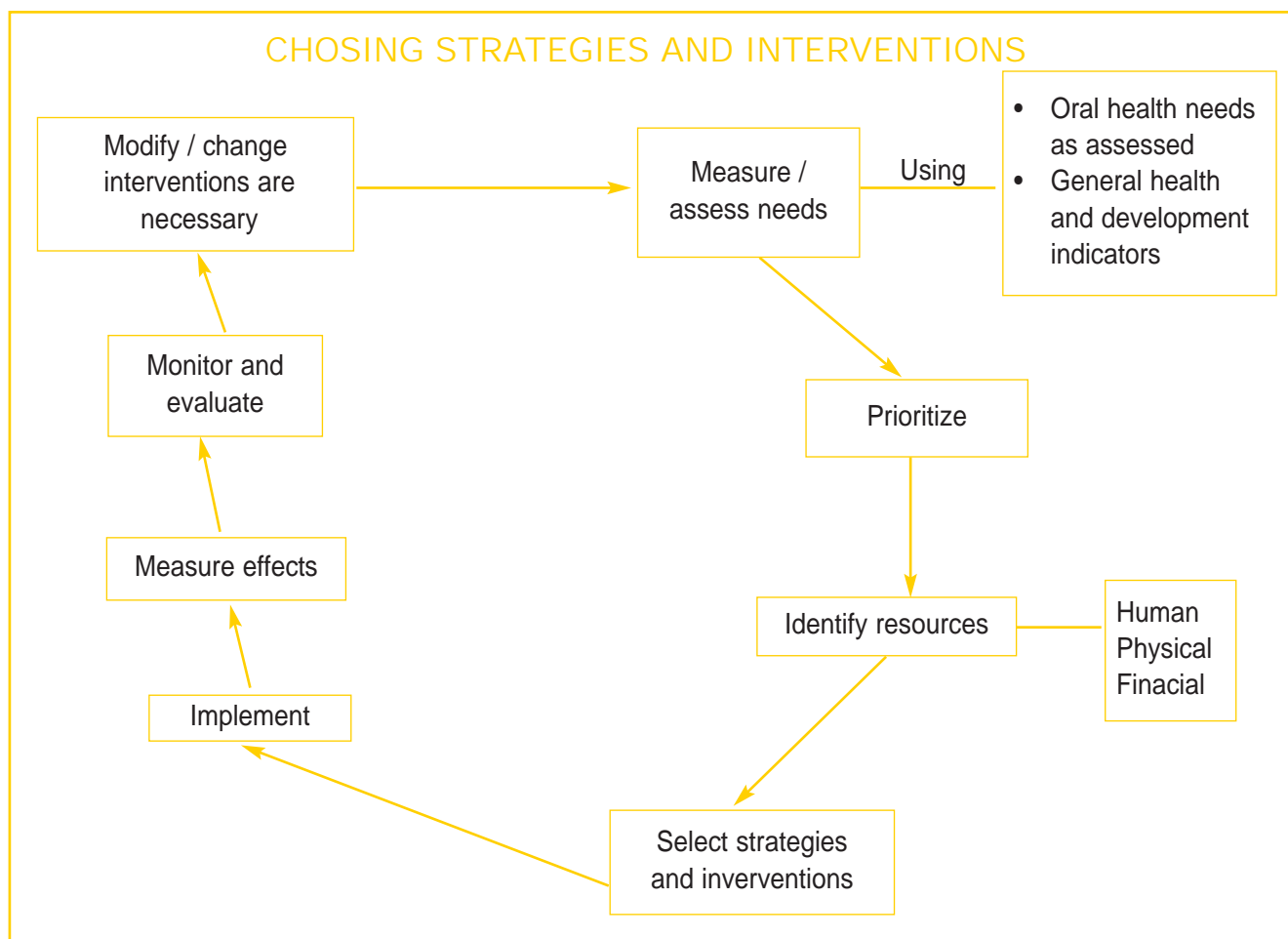
Strategy development and selection

Population-based initiatives to promote oral health

In order to protect the population against known oral disease risk factors, it is the responsibility of health managers at national, provincial and local levels of the health system to reduce the risk by:

1. Raising the awareness of oral disease risk and appropriate means of oral self-care;
2. Integrating oral health policy elements and strategies into programmes and policies of all sectors that have an impact on community health, including maternal and women's health; child and adolescent health; geriatric health; food and nutrition; medicines control; disability; agriculture; tobacco control; substance abuse; HIV/AIDS and STDs; health promotion; sanitation; chronic diseases; education and others;

FIGURE 5. FLOWCHART FOR SELECTING INTERVENTION STRATEGIES



- Identifying and developing collaborative approaches to initiatives that address common risk factors such as tobacco, sugar, alcohol, unsafe sex, chronic medication, violence and vehicle accidents.

Selecting locally effective oral health strategies or services

The communities and the conditions and circumstances in which they live are extremely diverse. A single uniform programme of interventions, goals or services is therefore inappropriate.

It is the responsibility of the health system to prepare a customized set of intervention strategies and targets selected according to the specific needs, determinants and other circumstances of each community. An absence or limitation of resources does not need to mean non-delivery of services, but simply means that alternative strategies which are less resource- or technology-intensive must be provided. For this reason, a series of decision tables illustrating an approach to matching resources and interventions is appended (Worksheet 5), and three examples (for pain, dental caries and oral HIV) are shown in tables 2 to 4.

Stipulating a minimum level of oral health services

The national or regional health authority may choose to stipulate the minimum level of oral health service that each district must deliver for certain oral disease conditions. An example from one oral health policy included the following instructions.

District health services must ensure:

- provision of a service directed at the relief of pain and sepsis;
- provision of appropriate disease prevention and health promotion measures;
- implementation of cost-effective and evidence-based strategies (Worksheet 7).

Extending oral health plan to district level

The policy will need to include instruction to local health authorities to ensure that an appropriate oral health plan is devised for each health setting. The following steps need to be taken:

- Assess the oral health condition of the community (Worksheet 2)
- Prioritize problems identified according to their prevalence, severity and social impact (Worksheet 3)

TABLE 2: ORAL PAIN

Pain	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
Adults	S1	S2	S3	S1= Provide pain relief with analgesics and/or antibiotics (see Essential Drugs List: EDL); extraction S2 = Emergency endodontics of anteriors where indicated S3 = Emergency endodontics of posteriors where indicated; pulpotomy
Children <6 years	S1	S1	S3	
Suggested indicator				Your target
A reduction in episodes of pain of oral and craniofacial origin of				%
A reduction in the numbers of days absent from school, employment and work resulting from pain of oral and craniofacial origin of				%
A reduction in the numbers of days of difficulty in eating and speaking/communicating resulting from pain or discomfort of oral and craniofacial origin of				%
A reduction in the numbers of days of difficulty in participating in social and cultural activities resulting from pain or discomfort of oral and craniofacial origin of				%

TABLE 3: DENTAL CARIES

	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
Pain	S2	S3	S3	<p>S1 = Oral hygiene education, provide analgesics (see EDL), tooth extraction for patients with pulpitis</p> <p>S2 = S1 + assessment of level of fluoride in water supplies and level of fluoride toothpaste use. Advocate for implementation of water fluoridation or distribute subsidized fluoride toothpaste.</p> <p>S3 = S2 + fissure sealants; atraumatic restorative technique; preventive resin restorations; simple endodontic therapy for patients with pulpitis of anterior teeth; treat posterior teeth with pulpitis to retain at least 5 posterior occluding pairs of teeth; use rotary instruments to place restorations if viable.</p>
Moderate	S2	S2	S3	
Mild	S1	S1	S3	
Suggested indicator				Your target
To increase the proportion of caries-free 6-year-olds by				%
To reduce the proportion of children with severe dental caries at age 12 years, with special attention to high-risk groups within populations, by				%
To reduce tooth loss due to dental caries at ages 18 years by				%
To reduce tooth loss due to dental caries at ages 35-44 years by				%
To reduce tooth loss due to dental caries at ages 65-74 years by				%

TABLE 4: ORAL HIV

	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
Adults	S1	S2	S3	<p>S1 = Advocacy and support for the health system's response to the HIV pandemic; universal infection control; prevent oral lesions amongst HIV+ people with chlorhexidine; development of a local protocol for all oral health workers.</p> <p>S2 =S1 + specific treatment of oral mucosal lesions (see current treatment protocols and EDL).</p>
Suggested indicator				Your target
To reduce the incidence of opportunistic oro-facial infections by				%
To increase the numbers of health providers who are competent to diagnose and manage the oral manifestations of HIV infection by				%
To increase the number of policy-makers who are aware of the oral implications of HIV infection by				%

3. Identify the resources available (Worksheet 4)
4. Select the most appropriate interventions (Worksheet 5)
5. Implement, monitor and evaluate the selected strategies.

Core competencies for oral health personnel

Once the range of interventions have been identified, the specific clinical and other skills required to implement them should become clear. A list of proposed core competencies for oral health personnel is given in Worksheet 6. Each country will need to determine the most appropriate match of service delivery required and the clinical competencies needed to do so.

Monitoring and evaluation

In order to determine the impact of this policy, each health authority is responsible for providing the national department with information (see Worksheet 8) describing their activities related to:

- The national oral health programmes in place

- The population strategies carried out
- The oral health strategies prepared
- The interventions implemented
- The community oral health assessment data collected.

Regional and local health authorities are required to ensure that an ongoing community oral health surveillance system is established.

Policy review and development

The national department of health is required to convene a policy review panel annually to assess the implementation and outcomes of this policy and make recommendations accordingly.

The national department of health is responsible for collating the information provided by regional health authorities and the regular dissemination of summary data and reports on the review process. An example of a draft national oral health policy is included in Worksheet 9.

Section 4: Sustaining the Policy Process

Regulations/legislation

Oral health programmes, like all health programmes, require the definition of an administrative framework in which they function. While much of this framework already exists in most African countries, there will be a need to review this administrative structure to determine how best it can be utilized to support regional oral health programmes. In other circumstances, new regional oral health programmes may require new regulations, or even legislation, in order that they may be implemented. Fluoridation legislation is an obvious example. Another is the training of local non-health personnel to provide simple preventive interventions for defined population groups such as fluoride varnish programmes. This may require the changing of the dental practice act. Such a change will involve discussions at the national level with legislators, consumer groups and professional bodies. Another example might be the use of private dental practitioners to provide specified dental services for defined population groups, which are paid for by the ministry of health. This may require specific legislation and regulations in the form of contract development.

Coordination of activities

Within a country, the prime functions at regional level (the level immediately below the national level) are to create a regional strategy and action plan within the framework provided by the national oral health policy. The action plan will consist of a series of regional and district level programmes, which the local level health personnel will be responsible for implementing and managing. This decentralized model or principle of health services management has implications for the responsibilities and actions required of the national and regional offices for oral health.

Health information systems coordination and communication/representation

The national office for oral health should establish and coordinate a specific oral health information system that will provide the required information from the regions in a standardized format. This oral health information system is the life-blood of the national office for oral health, without which little meaningful support can be given to regional programmes. Equally little will be achieved within the ministry of health because communications with other departments/offices may be severely curtailed.

What has to be decided in each country is:

- What information, and in what format, is required at the national level in order to make the decisions required of the national office of oral health?
- What information, and in what format, is required by regional offices for oral health in order for these offices to implement, manage, monitor and evaluate their programmes?
- What information is required by partners in oral health programmes in order to maintain the partnership?
- What capacity exists for the collection and use of information at the local level?

Resource allocation and management

The allocation of resources to different regions and their programmes will require not only the knowledge of what all the regions' programmes are, but also decisions concerning priorities, remembering that resources will always be limited and some programmes may have to wait for their implementation until resources become available. To make these decisions, the national office for oral health will need to review regional programmes in the light of the national oral health policies.

The national office must be provided with enough meaningful information with which to lobby continuing financial and political support for oral health programmes countrywide.

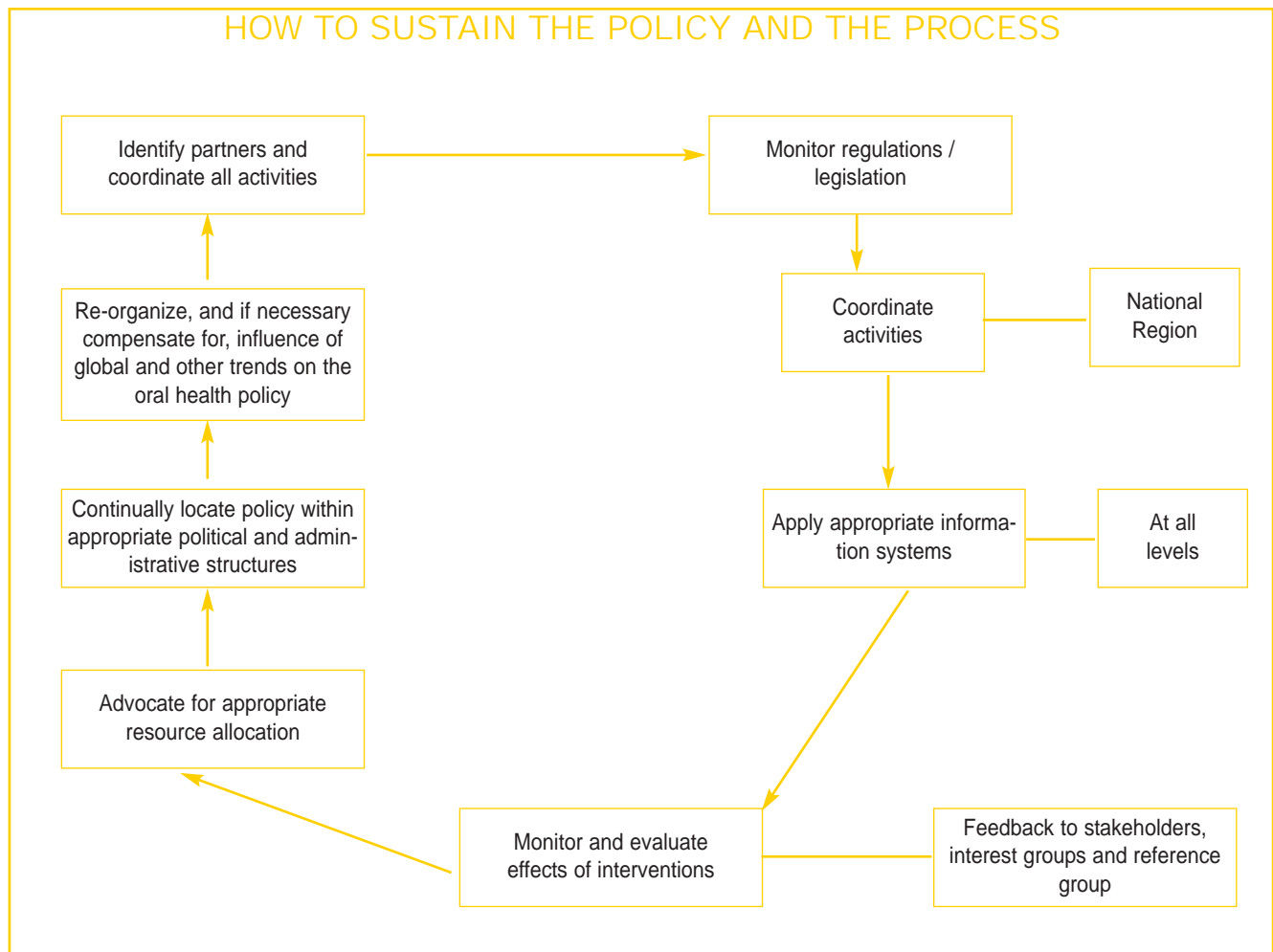
Since the process of writing, lobbying and eventual implementation can often take a very long time, it is really important to sustain interest, enthusiasm and commitment to the process during this time. Changes in the political and administrative structures mean that new participants need to be brought on board and updated on all key issues. Whether the struggle is to get approval for revised policy documents or to obtain funding for implementation, the policy process requires a sustained political strategy to ensure its success (Figure 6).

Global trends with an impact on health policy in the African Region

The formulation of effective health policy in the African Region is further complicated by the prevalence of political turmoil and a range of outside influences, including international aid, drought, famine, wars, ethnic conflicts and the global economy.

Although health policy and planning are essential processes to sustain health improvements and attain greater equity, their role is endangered by a variety of threats, such as an increasing reliance on nongovernmental organizations (NGOs) or projects to deliver health care, inappropriate decentralization of services, privatization, reduced social spending, loss of health

FIGURE 6: FLOWCHART FOR SUSTAINING THE ORAL HEALTH POLICY PROCESS



professionals to richer countries and an increasing dependence on donations, products and services of wealthy countries dominating the global economy. These influences are pushing free enterprise and self-care as the cornerstones of policy, despite the absence of community resources and infrastructure. It seems important to act now to strengthen the roles of policy and planning. These less obvious influences on health may be more difficult to address but they cannot be ignored in the policy process.

Sustaining the process through coordination and partnership

It is crucial to identify, as soon as possible, partners who can assist the process at different levels and in different areas of the health system, including the selective use of WHO and others with technical expertise. Partnerships established with groups such as professional associations, commerce, industry, dental, medical and allied professions, NGOs, aid agencies and others can make valuable contribution to the success of the oral health endeavour in the Region. The resources and expertise of partners, such as the Commonwealth Dental Association, the International Association for Dental Research (Southern and East African section), the International Odontologic Association, the WHO collaborating centres (Dar es Salaam, Cape Town) and the Inter-Country Oral Health Centre (Jos), should be used in the implementation process (Worksheet 10).

WHO is one of the partners which can take on a particularly important role in assisting countries in the

Region. Some of the specific ways in which WHO can assist countries include:

- Providing technical support to Member countries in a variety of areas.
- Facilitating the development of comparable national data sets on diseases and trends for use in planning, including the identification of suitable indicators with which to evaluate progress.
- Providing assistance for the estimation of personnel needs and development of suitable training programmes for oral health workers.
- Assisting countries in the promotion of effective oral health prevention measures.
- Supporting countries in their efforts to develop national oral health policies and plans.
- Identifying and supporting oral health collaborating centres.

The setting up of coordination mechanisms among partners is crucial for programme implementation. Emphasis should be placed on the coordination of activities instead of structures, and these should be extended well beyond the mere sharing of information. A wide network of interested parties and innovative approaches in oral health must be explored and established at country level to facilitate both the development of strategy and mobilization of resources. Effective mechanisms for coordinating the chosen strategies among district level, regional/state level, national/country level and partners outside the country in the African Region need to be strengthened. This will be critical to sustaining the process of change.

Section 5: Concluding Comments

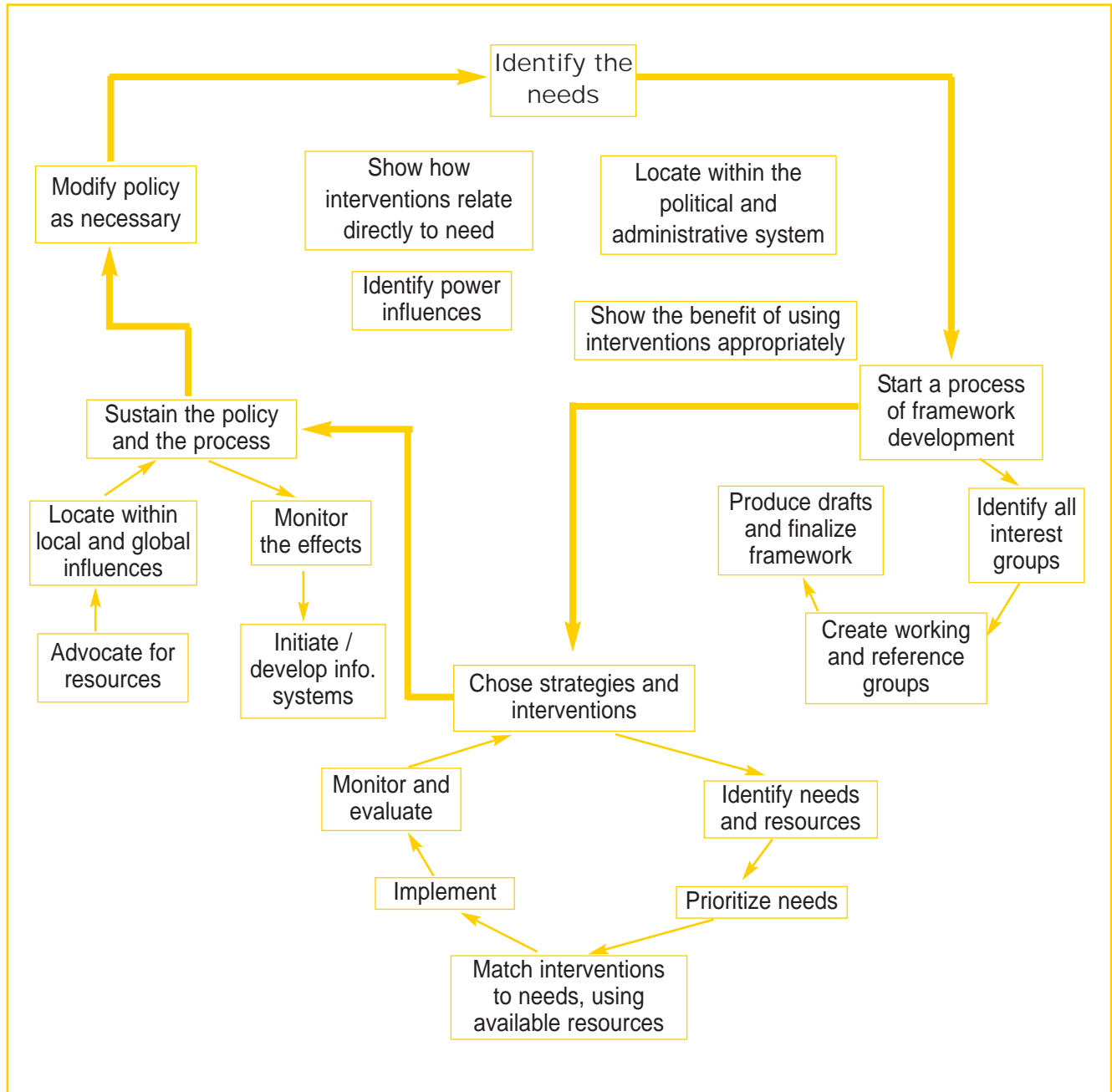
We believe that a national oral health policy developed as a result of the processes recommended in this manual will be both new and innovative, with the best chance of making real, sustainable improvements in the oral health of the population. Do not be afraid to prepare a policy that is quite different from previous attempts. Be prepared to customize your strategies to the unique needs and resources that exist in your country. This is what is most likely to work and have a positive impact on the oral health of your specific population.

It is also important to recognize that there is no such thing as a “perfect policy”, and whatever proposals you finally agree on, will have some flaws that will become evident as you begin the implementation process. Just make sure that you have effective monitoring systems

in place so you can recognize problems as they occur and find solutions for them. The next version of your policy can then include the lessons learnt from this experience. The development of effective oral health policy is a dynamic and creative process (Figure 8). However, it is more important to make it responsive to changing community needs and circumstances than to have a beautiful but irrelevant or unimplementable policy.

If you constantly refer to the specific needs and priorities of the communities whose lives the policy is designed to improve, and base every choice of intervention on the best evidence of effectiveness available, then you will have the best chance of meaningfully improving the oral health of your community at large.

FIGURE 7. FLOWCHART OF DYNAMIC ORAL HEALTH POLICY PROCESS



Worksheet 1: Examples of outcomes, guiding principles and regional and national responsibilities

Outcomes

One group that carried out a discussion on outcomes came up with the following outcome statement.

The main aims/outcomes of our national oral health policy are to:

1. Improve the oral health of the whole population;
2. Improve the delivery of appropriate and effective oral health services.

Principles

After long discussion and argument, this same group then came up with the following list of core principles to govern the policy process and its subsequent implementation.

Their guiding principles for national oral health policy were:

1. To respect the human rights, culture, religion, ethics and gender of the communities affected by the policy;
2. To promote equity to ensure that the benefits of the policy are available to everyone in the population;
3. To ensure that community participation, shared responsibility and empowerment are enhanced by the policy;
4. To integrate oral health promotion and services with those of other partners, sectors and programmes concerned with community health;
5. To introduce greater decentralization and flexibil-

ity in the implementation of the policy by ensuring that management autonomy and resources exist at local level;

6. To enable the policy to be adapted to match local needs and circumstances;
7. To adopt systematic methods, based on the best available scientific evidence, for the determination and prioritization of local needs, strategy selection, information management and policy evaluation.

Regional responsibilities

Given below is another example drawn from another policy group discussion that might help and guide your own discussion.

The regional responsibilities for oral health:

1. Collect, analyse and disseminate appropriate oral health information;
2. Identify and prioritize local oral health needs;
3. Select effective and locally viable intervention strategies;
4. Obtain and manage the resources necessary to carry out these strategies;
5. Implement the selected oral health interventions;
6. Evaluate the outcome of your activities;
7. Liaise with the national level

Once more, the response of a previous policy group discussion on the national responsibilities is informative.

National responsibilities for oral health:

1. Formulate national policy as a framework for regional and more local policy development;
2. Support the regions in their activities;
3. Establish simple effective methodologies to assist regions in their tasks;
4. Manage certain specifically national programmes or interventions;
5. Address the oral health tasks that require regulation or legislation;
6. Monitor the implementation of national intersectoral, promotive, oral health programmes;
7. Ensure that the determinants of oral health are addressed in all policy matters;
8. Develop clinical practice guidelines through the application of evidence-based research findings and through commissioning research;
9. Ensure the provision of dedicated national funding for the education and training of appropriately skilled oral health personnel;
10. Coordinate oral health information collection and dissemination from districts and provinces for planning, monitoring, evaluation and resource allocation.

Worksheet 2: Assessing the oral health of a community

Sometimes there is a complete absence of oral health data. No surveys have been done and many difficulties stand in the way of doing one straightaway. In such cases, some idea of a community's oral health and certain other commonly available health and socioeconomic data can give a good idea of the likely situation. Table W2.1 illustrates some of these proxy indicators that might be used.

Data for oral health programme management must be gathered at the level where programme implementation and decision-making takes place. They provide a basis for planning, monitoring and evaluation.

Tables W2.2 and W3.1 contain some examples of ques-

tions and formats to assist you in selecting questions and relevant information for a local oral health appraisal process. Adapt or restructure similar data sheets to suit your local circumstances.

When all such local data are aggregated then they also provide justification for the allocation of financial and other resources to the oral health sector. To be useful for this purpose such data must reflect community priorities in oral health. For this purpose, the 12-year-old DMFT is rarely adequate alone. Of far greater relevance is the number of people suffering from toothache at any one time, or the number of days of school or employment lost because of oral ill-health. These types of data

TABLE W2.1: SUGGESTED PROXY INDICATORS OF ORAL DISEASE IN A RELATIVELY POOR COUNTRY

Macro-indicator	Oral cancer	Mucosal lesions	Noma	Dental caries	Perio. disease	Facial trauma	Harmful practices
Low Per capita GNP	High	High	High	Low	High	High	High
Low Gini coefficient (income equity)	?	High	High	Low	High	High	
High % low birth weight infants	High	High	High	Low	High		
High Infant mortality rate	High	High	High	Low	High		
High % malnourished children (below 3rd percentile age/weight)		High	High	Low	High		
Low % population using safe water			High	Low	High		
Low Literacy rate	High		High	Low	High	High	High
Low Measles vaccination coverage		High	High		High		
High HIV infection rate	High	High	High		High		
High Tobacco consumption	High				High		High
Low Sugar consumption				Low			
High Alcohol consumption	High				? High	High	
Low Fluoridated toothpaste sales				High			
High Endemic fluorosis (certain areas)				Low			

TABLE W2.2 SIMPLIFIED QUESTIONNAIRE FOR RAPID ORAL HEALTH APPRAISAL

Some sample questions on oral diseases and determinants

1. Do you have anything wrong with your mouth at this moment or have you experienced any problems with your mouth in the past month?

Yes No

2. If yes, which of the following conditions best describes what you think was wrong?

<input type="checkbox"/> Toothache	<input type="checkbox"/> Pain on chewing	<input type="checkbox"/> Sore gums
<input type="checkbox"/> An ulcer	<input type="checkbox"/> Bad appearance	<input type="checkbox"/> Bad breath
<input type="checkbox"/> Infection of gums	<input type="checkbox"/> Difficulty opening/closing your mouth	
<input type="checkbox"/> Cold sore	<input type="checkbox"/> Difficulty in speaking	<input type="checkbox"/> Other.....

3. Have you been treated for anything wrong with your mouth in the past six months? Yes No

4. Do you smoke? Yes No
 Have you ever smoked? Yes No
 If you have, when did you stop? Months/Years ago

5. Do you drink alcoholic drinks? Yes No
 Have you ever drunk alcoholic drinks? Yes No
 If yes, when did you stop? Months/Years ago

6. Think about yesterday and what you had to eat.

Did you add sugar to anything you ate? Yes No
 How many times did you eat sugar foods? times

7. Think about yesterday and what you had to drink.

Did you have a sugar-containing drink? Yes No
 Did you add sugar to anything you drank? Yes No
 How many such drinks did you have? Cans/Cups

show that the constituents' concerns are measurable and are understandable by those whose support for specific policies is essential.

Few, if any, accurate data exist for regions in Africa on the impact of oral diseases on peoples' daily lives (pain, appearance, comfort, eating restrictions, bad breath,

etc.). It is recommended that as part of the general data gathering process, simple community-based surveys to determine the frequency of oral health problems should be carried out. These data should be gathered using a rapid appraisal approach such as the questionnaire shown above.

Worksheet 3: Priority oral conditions and determinants

Most oral health programme managers have a rough idea of the oral health conditions prevalent in their local communities. National and province-wide surveys are complex, expensive and take a very long time for the results to return to local level, so a simpler and quicker form of assessment is required to verify the manager's rough estimate.

Step 1

Interview a number of reliable community informants such as clinic staff, general practitioners and others, on their perception of how serious (social impact) and how common (the prevalence) the conditions listed below are felt to be. The accepted morbidity and mortality of each condition is given. Indicate your assess-

TABLE W3.1: THE PREVALENCE AND SEVERITY OF ORAL CONDITIONS

Oral disease	Social Impact	Prevalence	Morbidity	Mortality
Bad breath			Low	None
Benign oral tumours			Medium	Low
Bleeding gums			Medium	None
Congenital abnormalities			Medium	Medium
Early childhood caries			High	Low
Fluorosis			Low	None
Harmful practices			Medium	Medium
Loose teeth			Low	Low
Mouth sores			Medium	Medium
Noma			High	High
Oral cancer			High	High
Oral HIV			High	High
Oro-facial trauma			Medium	Medium
Pain			High	Low
Tooth decay			Medium	Low
Tooth loss			Medium	Low
Other				

Note: This is only an example. You might add other conditions or delete some of these in your own list.

ment of Social Impact and Prevalence as High, Medium, Low or None in the blocks provided.

Step 2

Rank the listed conditions depending on how many times they score a High or Medium rating in their row of the table. The conditions that you move to the top of list on this basis will represent the priority oral health conditions in your particular community.

Step 3

This same group of community informants can assist you to identify the most prominent determinants or risk factors for oral disease present in their community. Indicate the responses as High, Medium, Low or None in the following table (W3.2)

TABLE W3.2 FACTORS KNOWN TO AFFECT THE RISK OF ORAL DISEASE

Risk factor for oral disease	How widespread is this?
Tobacco use	
Sugar consumption > 10 kg/year	
Use of fluoride toothpaste	
Access to fluoridated water	
Other, e.g. areca or betel nut chewing, disability, etc.	

Worksheet 4: Oral health resource assessment

An absence of or limitation on resources does not mean non-delivery of services but simply means that alternative strategies which are less resource- or technology-intensive must be provided. For this reason, a series of decision tables illustrating an approach to matching resources and interventions is presented in

Worksheet 5. However, before proceeding to that stage of the process, it is first necessary to determine the level of resources available to implement the interventions you are considering. The following questions are designed to assist you in making this assessment.

	Yes	No	Don't know
Finance			
1. Is there an oral health budget?			
2. Are there sufficient capital funds for equipment & instrumentation?			
3. Are there sufficient recurrent funds for salaries and materials?			
Personnel			
4. Are there sufficient, appropriately trained personnel?			
5. Are there sufficient personnel to manage, monitor and evaluate the intervention?			
Equipment and instrumentation			
6. Is the equipment available appropriate?			
Infrastructure			
7. Has a needs assessment been carried out in sufficient detail to select the intervention?			
8. Are there clear lines of communication to the community?			
9. Are there clear lines of communication for the acquisition of resources?			
10. Are there clear lines of communication for reporting?			
11. If yes, are they functional?			
12. When some form of transport is necessary (for people or goods), can you rely on the transport system to provide it?			

Interpreting the responses you get

Number of questions answered YES	Availability of resources
If there are less than six	LOW
If there are between six and nine	MODERATE
If there are more than nine	HIGH

Worksheet 5: Decision tables to match oral diseases with best interventions and available resources

After determining local oral disease priorities, each separate condition must be assessed in terms of the intervention options available and the resources or infrastructure necessary to deliver them. Based on this, a selection of the best locally viable strategies can be made and implemented. The outcome of each strategy may be measured using selected indicators such as the suggested targets included below each oral disease table.

The oral health targets suggested for each of the listed oral diseases or health conditions are intended to provide a framework for health policy-makers at different

levels - national, provincial and local. They are not intended to be prescriptive. It is hoped these targets will be mixed and matched according to prevailing local circumstances.

The tables are not provided for every conceivable condition and others will need to be constructed as they become necessary. Future tables might include malocclusion, and orthodontic treatment, occupational hazards such as erosion or abrasion, and others.

Always ask: Is the intervention based on best practice, i.e. is it evidence-based?

Pain	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
Adults	S1	S2	S3	S1= Provide pain relief with analgesics and/or antibiotics (See Essential Drugs List: EDL); extraction S2 = emergency endodontics of anteriors where indicated
Children <6 years	S1	S1	S3	S3 = emergency endodontics of posteriors where indicated; pulpotomy
Suggested indicator				Your target
A reduction in episodes of pain of oral and craniofacial origin of				%
A reduction in the numbers of days absent from school, employment and work resulting from pain of oral and craniofacial origin of				%
A reduction in the numbers of days of difficulty in eating and speaking/communicating resulting from pain or discomfort of oral and craniofacial origin of				%
A reduction in the numbers of days of difficulty in participating in social and cultural activities resulting from pain or discomfort of oral and craniofacial origin of				%

Oral HIV	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
Existence of HIV	S1	S2	S2	<p>S1 = Advocacy and support for the health system's response to the HIV pandemic; universal infection control; prevent oral lesions amongst HIV+ people with chlorhexidine; development of a local protocol for all oral health workers.</p> <p>S2 =S1 + specific treatment of oral mucosal lesions (see current treatment protocols and EDL).</p>
Suggested indicator				Your target
To reduce the incidence of opportunistic oro-facial infections by				%
To increase the numbers of health providers who are competent to diagnose and manage the oral manifestations of HIV infection by				%
To increase the numbers of policy-makers who are aware of the oral implications of HIV infection by				%

Dental caries	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
Severe	S2	S3	S3	<p>S1 = Oral hygiene education, provide analgesics (see EDL), tooth extraction for patients with pulpitis</p> <p>S2 = S1 + Assessment of level of fluoride in water supplies and level of fluoride toothpaste use; advocate for implementation of water fluoridation or distribute subsidized fluoride toothpaste.</p> <p>S3 = S2 + Fissure sealants; atraumatic restorative technique; preventive resin restorations; simple endodontic therapy for patients with pulpitis of anterior teeth; treat posterior teeth with pulpitis to retain 5 posterior occluding pairs; use rotary instruments to place restorations if viable.</p>
Moderate	S2	S2	S3	
Mild	S1	S1	S3	
Suggested indicator				Your target
To increase the proportion of caries-free 6-year-olds by				%
To reduce the proportion of children with severe dental caries at age 12 years, with special attention to high-risk groups within populations, by				%
To reduce tooth loss due to dental caries at age 18 years by				%
To reduce tooth loss due to dental caries at ages 35-44 years by				%
To reduce tooth loss due to dental caries at ages 65-74 years by				%

Fluorosis	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
High prevalence of fluorosis	S1	S2	S2	S1 = Identify alternative water source; Advocacy and social mobilization for de-fluoridation using appropriate technology. S2 = No intervention S3 = Clinical intervention for selected severe cases
Moderate or low prevalence	S1	S2	S2	
Suggested indicator				
To reduce the prevalence of disfiguring fluorosis with special reference to the fluoride content of food, water and inappropriate supplementation by				%

Chronic periodontal disease	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
High priority attachment loss or pockets >55	S2	S2	S3	S1 = Self-care and education; occupational health and safety measures. S2 = S1 + identify those at risk; advocacy to reduce risk factors like poor nutrition, smoking, immuno-suppression; extraction of teeth with pain and mobility; treatment of critical teeth to retain at least 5 posterior occluding pairs; scaling when necessary. S3 = S1 + S2 More complex evidence-based treatment to delay/slow progress, where appropriate.
Low/moderate attachment loss or pockets >5mm	S2	S2	S3	
Suggested indicator				
To reduce tooth loss due to periodontal diseases at ages 18 years with special reference to smoking, poor oral hygiene, stress and inter-current systemic diseases by				%
To reduce tooth loss due to periodontal diseases at ages 35-44 years by				%
To reduce tooth loss due to periodontal diseases at ages 65-74 years by				%
To reduce the incidence of narcotising forms of periodontal diseases by reducing exposure to risk factors such as poor nutrition, stress and immuno-suppression by				%
To reduce the incidence of active periodontal infection in all ages by				%

Noma	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
Existence of noma	S1	S1	S2	S1 = immunisation, nutrition, education, feeding schemes (short term), oral cleaning, chlorhexidine, mouthwash during acute infectious diseases, develop a local protocol for the acute phase of noma. S2 = S1 + reconstructive surgery.
Suggested indicator				Your target
To increase reliable data on noma from populations at risk by				%
To increase early detection and rapid referral by and respectively				%
To reduce exposure to risk factors with special reference to immunization coverage for measles, improved nutrition and sanitation by				%
To increase the number of affected individuals receiving multidisciplinary specialist care by				%

Oral Cancer	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
Existence of oral cancer	S1	S1	S1	S1 = Train primary health care (PHC) workers in the detection of oral pre-cancer and cancer; early diagnosis by PHC workers for oral pre-cancer and cancer; advocate for a functional referral system if none exists; train general pathologists in oral cytology and classification of oral cancers; measures to limit occupational risk factors; advocate for registration of all oral cancers in a national register; adopt and use standardized treatment protocols.
Suggested indicator				Your target
To reduce the incidence of oro-pharyngeal cancer by				%
To improve the survival of treated cases by				%
To increase early detection and rapid referral by and respectively				%
To reduce exposure to risk factors with special reference to tobacco, alcohol and improved nutrition by				%
To increase the number of affected individuals receiving multidisciplinary specialist care by				%

Benign tumours	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
Existence of benign tumours	S1	S1	S1	S1 = Training PHC workers in the detection of oral pre-cancer and cancer; early diagnosis by PHC workers for oral pre-cancer and cancer; adopt and use standardized treatment protocols based on the availability of resources.
Suggested indicator				Your target
To increase the numbers of health care providers who are competent to diagnose and provide emergency care by				%
To increase early detection and rapid referral by and respectively				%

Cleft lip, palate	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
Occurrence of cleft lip & palate	S1	S2	S2	S1 = Counselling, ante-natal care; surgical treatment of condition; train PHC workers in early recognition and referral for speech therapy, etc. S2 = S1 + orthodontic and prosthetic treatment based on the availability of resources.
Suggested indicator				Your target
To increase the number of affected individuals receiving multidisciplinary specialist care by				%

Oro-facial trauma	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
Existence of Oro-facial Trauma	S1	S1	S1	S1 = Advocacy and support for programmes that: a) enhance social development; b) decrease alcohol and drug abuse; c) improve infrastructural development; and d) create legislation for occupational health and safety and road safety; adopt and use standardized treatment protocols based on the availability of resources.
Suggested indicator				Your target
To increase early detection and rapid referral by and respectively				%
To increase the numbers of health care providers who are competent to diagnose and provide emergency care by..... to				%
To increase the number of affected individuals receiving multidisciplinary specialist care where necessary by				%

	RESOURCES			INTERVENTION STRATEGIES
Tooth loss	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
Partial edentulism	S1	S2	S2	S1 = Health promotion and education; advocacy and support for programmes that enhance social development. S2 = S1 + Denture construction, based on the availability of resources and according to current protocols.
Complete edentulism	S2	S2	S2	
Suggested indicator				Your target
To increase the number of natural teeth present at ages 18 years by				%
To increase the number of natural teeth present at ages 35-44 years by				%
To increase the number of natural teeth present at ages 65-74 years by				%

	RESOURCES			INTERVENTION STRATEGIES
Harmful practices	RESOURCES			INTERVENTION STRATEGIES
	Low	Medium	High	
High	S1	S2	S2	S1 = Health promotion and education; advocacy and support for programmes that enhance social development; education and training of health workers; treatment of severe complications S2 = S1 + Education and training of existing health workers to recognize and advocate for the eradication of harmful practices; education and training of existing oral health personnel to use only evidence-based interventions.
Low	S1	S2	S2	
Suggested indicator				Your target
A reduction in the numbers of individuals experiencing difficulties in chewing, swallowing and speaking/communicating arising from a variety of harmful practices of				%

Worksheet 6: Evidence-based dental practices

Oral health strategy	Evidence
Oral health promotion	There is clear evidence that oral health education/promotion can be effective in bringing about changes in people's knowledge. This process must be ongoing for maximum effect.
Water fluoridation	Very effective at preventing caries.
Mass media programmes for oral health	There is no evidence that mass media programmes significantly alter any oral health-related outcome.
School-based health education programmes aimed at improving pupils, oral hygiene	There is no convincing evidence that these programmes had any effect on plaque levels in the participants' mouths, even when daily brushing was done. School-based programmes run by dental professionals, teachers, older etc., have not been demonstrated to affect oral hygiene.
Tooth brushing	Good evidence to recommend brushing twice daily with fluoride toothpaste for caries prevention and gingivitis.
Dental flossing	Good evidence to recommend flossing as an adjunct to tooth brushing for control of gingivitis in adults. Not effective in preventing gingivitis in children.
Scaling	Good evidence to recommend against subgingival scaling in sites with no signs of disease. Good evidence to recommend scaling for initial therapy in patients with active periodontitis when combined with maintenance therapy.
Root planing	No evidence regarding additional benefits of root planing in periodontal therapy. There is a lack of scientific evidence regarding the effects of root planing beyond the effects that can be achieved with sub-gingival scaling alone.
Polishing	Good evidence to recommend against polishing prior to topical fluoride application. Good evidence to recommend against polishing for control of gingivitis.
Recall	No evidence that 6-monthly recall is optimal frequency
Prophylactic removal of impacted third molars	There is little justification for the removal of pathology-free impacted third molars.
Fissure sealants	Effective in preventing dental caries. Effectiveness decreases with time; so periodic reapplication is advisable. Self-curing sealants more effective than light-cured sealants. Water fluoridation appears to increase effectiveness.

Worksheet 7: Core competencies for dental personnel

The level of care provided and the competencies required must be in keeping with the resources available, balanced against the needs of individuals and populations and the known effectiveness of the intervention. To practice oral health care at the primary level of care (i.e. the level of care which is normally provided to individuals and communities without referral to a specialist), the qualified oral health care worker in Africa should be able to demonstrate competence in all of the procedures listed below according to individual and community needs. Further descriptive levels and procedural details will need to be defined by each country according to its circumstances.

Organization, management and research

- Work as leader of the oral health care team using the full range of available dental auxiliary personnel.
- Provide a level of care balanced against the resources available and the needs of individuals and populations.
- Access and critically interpret relevant scientific information from appropriate sources.
- Be able to participate in hypothesis-driven research.

Community situation analysis, diagnosis, prognosis and population strategy selection

- Assess the local determinants of health including environmental sanitation and infectious and parasitic diseases prevalence.
- Assess oral health needs and wants.
- Be able to balance conflicting demands and recognize demands that violate ethical principles.
- Analyse community capacity to support and sustain different levels of public oral health programmes.
- Use the community situation analysis to select population strategies to control commonly occurring oro-facial diseases.

Patient examination assessment diagnosis, prognosis and treatment planning

- Take a proper case history, including a medical history.
- Carry out an oral examination (including the craniomandibular joints), recognizing deviations from normal, diagnosing oral and dental diseases and formulating a long-term treatment plan.
- Use laboratory investigations appropriately in the diagnosis of disease.
- Carry out routine and appropriate dental radiographic techniques where available, while protecting the patient and the dental team from ionizing radiation.
- Recognize radiographic signs of deviations from normal in oral radiographs.
- Know when to carry out appropriate oral care and when to refer.
- Recognize oral manifestations of systemic disease, manage appropriately and/or refer as necessary.
- Demonstrate an appreciation of the general health of the patient and the relationship between general health and disease and the oral cavity and the implications of general diseases on planning oral health care.
- Recognize and manage predisposing factors for oral malignancy.
- Be able to detect early signs of oral malignancy and manage appropriately.
- Recognize infections of the dento-facial complex.
- Diagnose and record developmental anomalies and oral diseases using an internationally accepted classification.
- Diagnose, manage or refer patients with oro-facial, dental and craniomandibular related pain, and common oral and dental diseases including cancer, mucosal lesions and bone pathology.
- Recognize potential orthodontic occlusal problems that will affect mastication.
- Understand the role that aesthetics may play in the

well-being of the patient and in the cultural context of the individual and community.

Communication and health promotion

- Communicate effectively with communities and individuals.
- Work effectively with local administrators, community leaders and individuals to promote healthy public policies and healthy lifestyles.
- Work with traditional healers to promote and improve oral health.

Ethics and jurisprudence

- Recognize and prevent the exploitation of economic, political, gender or other vulnerability for institutional or personal advantage of any form.
- Ensure that individuals and communities have access to, and are appropriately provided with, sufficient information, based on current scientific knowledge, in order to gain informed consent for treatment.
- Display a proper understanding of the legislation concerning the practice of oral health care for the particular country in which the oral health care worker practises.
- Recognize his or her own limitations in providing care for individuals and communities and know when it is appropriate to refer for further assistance.

Population strategy implementation and evaluation

- Use the community situation analysis to develop and implement population strategies to control and prevent commonly occurring oro-facial diseases.
- Collaborate with others in the implementation of strategies to prevent and control other health prob-

lems, which may or may not have oral manifestations or implications.

- Plan and implement the evaluation of population strategies to control and prevent commonly occurring oro-facial diseases.

Individual patient care

- The removal of materials which accumulate on teeth.
- Incision, elevation and replacement of a mucosal flap for minor oral surgical procedures.
- Routine extraction of teeth.
- Surgical excision of buried roots, root resection and impacted teeth that display symptoms.
- The treatment of simple fractures of the jaws.
- The provision of simple treatment for common non-malignant and cystic lesions of the jaws.
- The treatment of infections of the dento-facial complex.
- The replacement of missing teeth to improve mastication when less than five posterior occluding pairs exist, by means of acrylic-based, but tooth- or dento-gingivally supported removable partial dentures.
- The provision of a denture service to improve mastication in those edentulous.
- The restoration of masticatory function using an appropriate range of currently acceptable and available restorative materials.
- The restoration of aesthetics when appropriate.
- The prevention of potential orthodontic occlusal problems that will affect mastication by interceptive orthodontics.

Medical emergencies

- Carry out cardio-pulmonary resuscitation and first aid.

Worksheet 8: Monitoring and evaluation

The following information needs to be compiled annually by the national department of health from its own data, and from data submitted by regional health authorities.

1. National oral health programmes in place

- 1.1 Is there a regional oral health operational policy? Yes No

If no, why not? _____

When is it expected to have such a policy finalized? _____

Attach a list of all health districts, indicating (i) whether an oral health plan has been prepared or the stage of the planning process that has been reached; and (ii) the extent to which each plan has been implemented.

- 1.2 National water fluoridation programme.

Number of water providers in region

Number of water providers fluoridating water supplies

Number of water providers exempted from fluoridation

Attach a list of all water supply agencies/municipalities in the region, indicating (i) the stage of the fluoridation planning process that has been reached; (ii) the extent to which fluoridation has been implemented; and (iii) the number of people receiving fluoridated water.

2. Population strategies carried out

- 2.1 Are there oral health education and promotion programmes? Yes No

If no, why not? _____

Attach a list of all programmes of this kind that have been implemented, indicating (i) the nature of the programme; (ii) where they have been implemented; and (iii) the beneficiaries of the programme.

- 2.2 Are oral health strategies integrated with other health programmes, e.g. HIV/AIDS, health promotion, maternal and women's health, child and adolescent health, and nutrition?

Yes No

If no, why not? _____

3. Oral health strategies prepared and interventions implemented

List of oral health conditions	Estimated prevalence	Priority ranking	Number of LHAs with intervention strategies in place for these conditions

Total number of local health authorities (LHAs) in region

Attach copies of this table for each of the health districts in your region.

4. Community oral health assessment data

Has community oral health assessment data per LHA been collected? Yes No

If no, why not? _____

Attach the data set for each health district in your region for which this has been collected.

5. Resource assessment

Worksheet 9: Example of a national oral health policy

The following example is from a draft national oral health policy document. As you will see, it is fairly short, and refers to a number of appendices in which the technical aspects will be found, just as in these appendices.

Preamble

Oral conditions are not always life-threatening, yet they are important public health concerns because of their high prevalence, their severity, or public demand for services because of their impact on individuals and society. The combined effect of the resulting pain, discomfort, handicap, social and functional limitations, and financial burden on quality of life, has been largely ignored. A global review of oral health policies suggests that they have been fundamentally unachievable. They have employed uniform intervention strategies for non-uniform needs, used expensive, technology-driven approaches and failed to address key determinants of disease. When such health strategies have been exported to this country, they have failed to improve oral health. Where viable interventions existed in the past, their accessibility for most communities was limited or entirely excluded by the constraints of their social, economic or political status.

The cost of oral disease to individuals and the community is considerable. The causes of oral diseases are well known, are easy to detect and are largely preventable using simple and cheap public health methods. Individual treatment options are not available to most people and are often ineffective as strategies to improve people's oral health.

The management of oral pain, discomfort, functional limitation and handicap will fundamentally improve health and quality of life. Oral disease is an important public health concern that requires an explicit policy.

Foundation

This policy recognizes that oral health is influenced by the same factors that influence general health. This concept of oral health is central to the construction of the policy. An effective oral health policy or programme must address both the generic and specific influences on community oral health. The policy proposes the integration of oral health promotion strategies within the activities of all sectors engaged in health and social development.

This policy is based on the principles already enshrined in the Constitution, Bill of Human Rights and in the National Health Bill and related regulations.

It offers an alternative way of gathering and interpreting the oral health information. It introduces an alternative approach to the process of identifying and managing priority oral health problems.

A systematic approach to the selection of interventions capable of addressing these needs on the basis of scientifically proven efficacy is presented. The critical role of evidence-based dentistry research in the oral health policy and planning process is specifically highlighted. It demands a pragmatic assessment of what interventions are actually viable in the often poorly-resourced environments found in this country.

An important conceptual difference between this approach and its predecessors is its emphasis upon flexibility and customization to match local circumstances. It directly challenges the prevailing approach centred on a uniform set of global disease goals, normative indicators and a focus on caries and periodontal disease. Instead, it recognizes the value of locally set and monitored indicators. Oral diseases are addressed by focusing on the determinants of these conditions.

The policy provides a simple set of guidelines to enable local level health care managers and providers to make the best decisions they can on what oral health strategies to implement. It is a flexible decision-making framework that enables health managers to adapt the most effective oral health interventions to the specific needs, infrastructure and resources available to each community.

Aim

The aim is to improve the oral health of the population by providing a set of guidelines to ensure that an effective oral health strategy is devised for every community in different regions, and that interventions are matched to needs according to the resources available.

Guidelines

To achieve significant oral health gains for the population, this policy provides guidelines that define national programmes in oral health, facilitate population-wide initiatives to promote oral health, assist health managers to customize locally effective oral health strategies, provide a basis to monitor and evaluate these strategies and sustain an ongoing process of policy review and development.

1. National programmes in oral health

To ensure equity and coherence, a number of programmes are required at national level to ensure their effective implementation and management. These are:

- The oral health policy process (formulation, implementation and review)
- The national water fluoridation programme
- The national oral health data set
- Dissemination of a best-practice database
- Assessment and advice to the cluster manager: human resources management on the extent to which academic oral health programmes serve the

requirements of this policy in terms of specific competencies, categories and numbers of oral health personnel.

2. Population-based initiatives to promote oral health

In order to protect the population against known oral disease risk factors, it is the responsibility of health managers at national, provincial and local tiers of the health system to reduce the risk by:

- Raising the awareness of oral disease risk and appropriate means of oral self care;
- Integrating oral health policy elements and strategies into programmes and policies of all sectors that have an impact on community health, including maternal and women's health; child and adolescent health; geriatric health; food and nutrition; medicines control; disability; agriculture; tobacco control; substance abuse; HIV/AIDS and STDs; health promotion; sanitation; chronic diseases; education and others;
- Identify and develop collaborative approaches to initiatives that address common risk factors such as tobacco, sugar, alcohol, unsafe sex, chronic medication, violence and vehicle accidents.

3. Locally effective oral health strategies or services

The communities and the circumstances in which they live are extremely diverse. A single uniform programme of interventions, goals or services is therefore inappropriate.

It is the responsibility of the health system to prepare a customized set of intervention strategies and targets selected according to the specific needs, determinants and other circumstances of each community. An absence or limitation on resources does not need to mean non-delivery of services, but simply means that alternative strategies that are less resource or technology-intensive must be provided.

As a minimum, it is imperative that provincial and local health authorities ensure:

- provision of a service directed at the relief of pain and sepsis;
- provision of appropriate disease prevention and health promotion measures;
- implementation of cost-effective and evidence-based strategies.

The following steps must be taken by local and provincial health authorities to ensure that an appropriate oral health plan is devised for each health setting:

1. Assess the oral health condition of the community
2. Prioritize the problems identified according to their prevalence, severity and social impact
3. Identify the resources available
4. Select the most appropriate interventions
5. Implement, monitor and evaluate the selected strategies.

4. Monitoring and evaluation

To determine the impact of this policy, each health authority is responsible for providing the national

department with information (Appendix x) describing their activities related to:

- The national oral health programmes in place
- The population strategies carried out
- The oral health strategies prepared
- The interventions implemented
- The community oral health assessment data collected.

Provincial and local health authorities are required to ensure that an ongoing community oral health surveillance system is established.

5. Policy review and development

The national department of health is required to convene a policy review panel annually to assess the implementation and outcomes of this policy, and make recommendations accordingly.

The national department of health is responsible for collating the information provided by provincial health authorities and the regular dissemination of summary data and reports on the review process.

Worksheet 10: Additional resources, contacts and links

Contact information for WHO and WHO collaborating centres for oral health

Dr Charlotte Ndiaye, Oral Health Adviser, WHO Regional Office for Africa, P.Box 6, Brazzaville, Republic of Congo, ndiayec@afro.who.int Tel: 13219539672, Fax: 13219539667.

Prof Bakari Lembariti, WHO Collaborating Centre for Oral Health, Muhimbili University College of Health Sciences, PO Box 65014, Dar es Salaam, Tanzania. blembariti@muchs.ac.tz Tel: 0222150564

Dr J.S. Danfillo, Director, Intercountry Centre for Oral Health (ICOH), 3 CBN Road, P.M.B. 2067. Jos, Nigeria. Tel: 073463859, Fax: 23473462901

Dr Neil G Myburgh, Director, WHO Collaborating Centre for Oral Health, Faculty of Dentistry, University of the Western Cape, Private Bag X08, Mitchells Plain, 7785, nmyburgh@uwc.ac.za South Africa, Tel: 0213704442, Fax: 0213923250

Additional resource/reference documents

1. Oral Health in the African Region: A regional strategy. 1999-2008. WHO, Harare (1999).
2. Myburgh NG and Hobdell MH. Oral health policy formulation to match changing epidemiological priorities. Journal of Dental Research. In Press.
3. Hobdell MH, Myburgh NG, Kelman M, Hausen H. Setting Global Goals for Oral Health for the Year 2010. International Dental Journal, 50: 245-249, 2000.
4. Hobdell MH, Laloo R and Myburgh NG. The Human Development Index and Per Capita Gross National Product as Predictors of Dental Caries Prevalence in Industrialised and Industrialising Countries. Annals of the New York Academy of Sciences. 896: 329-331, 1999.
5. Laloo R, Hobdell MH and Myburgh NG. Dental caries, socio-economic development and national oral health policies. International Dental Journal 49: pp. 196-202, 1999.
6. Hobdell MH, Myburgh N, Laloo R, Chikte U and Owen CP. Oral diseases in Africa - a challenge to change oral health priorities. Oral Diseases.3: pp. 216-222, 1997.
7. Myburgh NG (1996). The CDA/WHO Workshop: Promoting Equity in Oral Health: Striving towards a public/private partnership. SADJ July 1996, pp 412-413.
8. Future Directions for Oral Health in South Africa: Proceedings of the Medic Africa '95 workshop on Oral Health Policy. Ed. Myburgh NG. Published by UWC, 1995.

Some references and websites for evidence-based dentistry

1. Brothwell DJ, Jutai DKG, Hawkins RJ. An Update Of Mechanical Oral Hygiene Practices: Evidence-Based Recommendations for Disease Prevention. J Can Dent Assoc 1998; 64(4): 295-304.
2. Locker D, Kay E. A systematic review of the effectiveness of health promotion aimed at improving oral health. Comm Dent Health 1998; 15: 132-144.
3. Song F, Landes DP, Glenny AM, Sheldon TA. Prophylactic removal of impacted third molars: an assessment of published reviews. BDJ 1997; 182: 339-346.
4. Netting the Evidence: <http://www.shef.ac.uk/~scharr/ir/netting/>
5. Centre for Evidence-Based Medicine <http://cebm.jr2.ox.ac.uk/docs/adminpage.html>
6. Cochrane Collaboration <http://www.cochrane.org/cochrane/general.htm>

