

## Chapter 8

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# *A Practical Framework for Setting Priorities in Health Research*

*Section 1:  
The actors and factors determining the health status of a population*

*Section 2:  
The five steps in priority setting*

*Section 3:  
A framework to help identify priorities in health research*

## Summary

This is the first *10/90 Report on Health Research*. The road to help correct the 10/90 Gap will clearly be a long one, but it is also clear that it should lead to better health for the majority of the world community. This will be made possible mainly by a reallocation, by decision-makers in the South as well as in the North, of health research funds from lower to higher priority projects, from projects benefiting fewer people to those benefiting the large majority of the world's population.

How is a decision-maker with a small research budget to decide where to invest the funds in order to have the greatest impact on the health of the largest possible number of people in a given community (at the global, regional or national levels)? The question is highly complex due to the very large number of actors and factors affecting the health status of the community. How can the decision-maker select those determinants which will have the greatest impact for a given cost? To answer that question, this chapter proposes to apply the five-step process developed by the Ad Hoc Committee in 1996 to the following four main levels of intervention with a key impact on the health status of the community:

- individuals, their families, and their immediate community
- the health ministry and health professionals in general
- institutions outside the health sector but with a profound effect on the community's health
- central government and its macro-economic policies.

The five-step process involves seeking answers to the following:

Step 1: What is the burden attributable to each main disease/risk factor in the country?

Step 2: Why does the burden of disease persist?

Step 3: What is the current level of knowledge? What is known today about existing and potential interventions?

Step 4: Is research likely to produce more cost-effective interventions than the existing ones under each group of determinants?

Step 5: What are the current resource flows for that disease/risk factor?

In summary, in order to decide where to invest the funds so as to have the greatest impact on the health of the largest possible number of people in the community, it is proposed that the decision-maker complete the double-entry table presented in Chapter 8 (Insert 8.2) for each major disease. An analysis of each table will identify those research areas for a particular disease that are likely to have the greatest impact on the health status of the population. A comparison of the key factors across the tables will draw attention to the research areas which will be beneficial for several diseases at the same time. The research agenda can then be defined on the basis of the priorities for each disease and across diseases. It will consist of those research projects with the greatest impact in reducing the overall burden of disease in the given community.

## Section 1:

# The actors and factors determining the health status of a population

There have been a number of attempts to represent the complexity of the actors and factors affecting the health status of a population and their interrelationships. Insert 8.1 below is one such example derived from a number of previous descriptions.<sup>1</sup>

The insert is entitled "Overview of the main actors and factors determining the health status of a population" in recognition of the fact that, behind each group of determinants, there are institutions which are clearly responsible for dealing with this particular group of determinants.

### *What is the health status of a community and what are its determinants?*

The health status of a community is measured by the following two components:

- The degree of ill-health, or degree of mortality and morbidity resulting from diseases, disabilities, violence, and social maladjustment characterizing this particular community.
- The degree of physical and mental well-being characterizing this particular community.

Insert 8.1 draws attention to the fact that the health status of a community is largely determined by the following four broad groups of actors, corresponding to four different levels of intervention:

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#### <sup>1</sup> References on determinants of health

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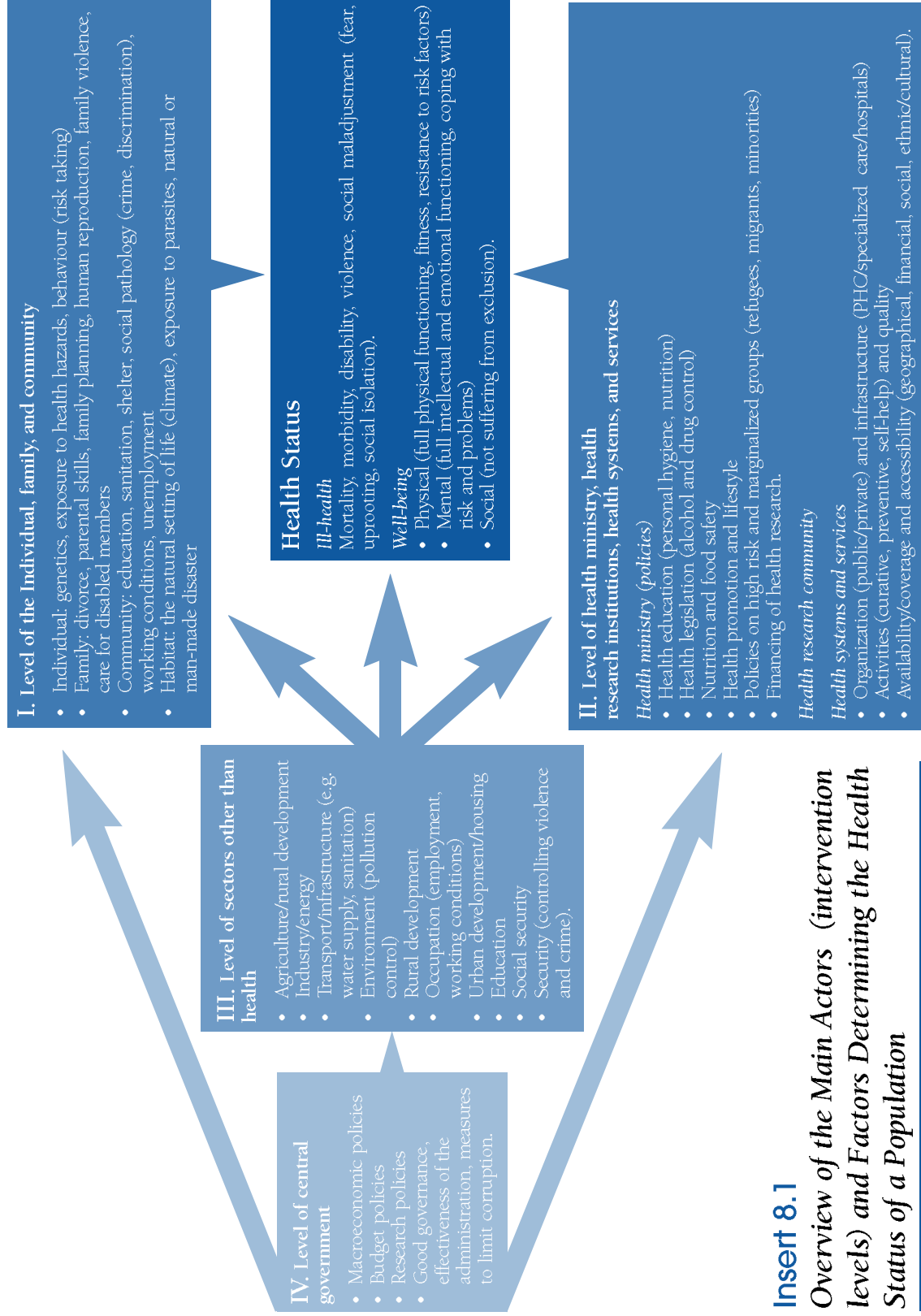
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### **I. Level of the individual, family, and community**

While genetics cannot be easily changed, the individual chooses to a large extent how much risk he or she wants to take with health. The family decides, at least in part, how many children are wanted, how they should be educated, how to handle family conflicts, how to care for any disabled members. The community will greatly influence its own health status through *local* decisions on sanitation, education, shelter, handling of violence, and unemployment.

### **II. Level of the health ministry, health systems/services, health research community**

The health ministry and health professionals are responsible for the health legislation and policies of the country, health education, and health promotion in general. They are the backbone of the health care system provided in the country. The organization, availability, and accessibility of the health sector will profoundly influence the health status of the population.

### **III. Level of sectors other than health**

Practically all sectors of economic activity in a country have an impact on the health status of the community through *national* or *regional* policies and decisions in the following areas: the development of the agricultural sector and the system of transportation of food items in the country, water supply and sanitation, the degree of pollution of the environment, the level of education, the social security system, the level of unemployment, the security system (i.e. controlling violence and criminality).

### **IV. Level of central government (macroeconomic policies)**

Although apparently remote from the health situation of the individual, the macroeconomic policies of the government and the principles of good governance in general both have a direct impact on it: for example, through the level of economic activity in a country (determined by numerous external factors, but also by government policies), the allocation of the budget between the various ministries, the degree of commitment of the ministries to their mission, the efficiency and effectiveness of the administration, and the research policies pursued by the government.

## Section 2:

### The Five Steps in Priority Setting

*Among this vast array of determinants affecting the health status of a population, how is a decision-maker with a limited research budget to decide where to invest the funds so as to have the greatest impact on the health of the largest possible number of people in the country?*

In 1996, the Ad Hoc Committee on Health Research proposed the following five steps to help the decision-maker make a rational decision regarding the allocation of the limited research budget:

**Step 1: What is the burden attributable to each main disease or risk factor in the country?**

This can be measured in DALYs (Disability-Adjusted Life Years) or similar methods.

**Step 2: Why does the burden of disease persist?**

Is it due to individual behaviour, family factors or failure of the community to recognize the problem or use existing tools efficiently? Is it due to a lack of biomedical knowledge about the disease or lack of tools? Inefficient health systems and services? Are some of the causes rooted in sectors other than health? Are government macroeconomic policies playing a negative role? The key point to remember in going through Step 2 is to look at *all possible determinants*, not only at the most immediate ones, such as the state of biomedical knowledge or the quality of the health services.

**Step 3: Present level of knowledge: what is known today about existing and potential interventions (particularly in relation to the determinants identified in Step 2 as the most important for the health of the people)?**

Here again, it is important to identify the level of knowledge on each of the possible determinants, i.e. to ask the following questions:

- At the level of the individual/family/community: What is known about the factors which are in the hands of the individual, the family or the community and which have an important impact on the particular disease or risk factor? Are the existing tools cost-effective? Are these tools widely recognized within the community? Are they applied? If not, why not? Are new tools necessary?
- At the biomedical and health policy/systems levels: How effective and cost-effective are the existing drugs/vaccines? Are the best policies and practices sufficient for treating the problem at hand? Are they applied? If not, why not?
- At the level of sectors other than health: What is being done in these other sectors (agriculture, environment, education, etc.) which has an impact on the disease or risk factor at hand? How cost-effective are these interventions? What are promising new avenues for research?
- At the macroeconomic policy level: Are existing policies effective for the health

status of the population? Can they be made more effective? What research is necessary for making them more effective?

**Step 4: Is research likely to produce more cost-effective interventions than the existing ones under each group of determinants?**

Step 3 will have summarized the state of knowledge and identified a number of new potential interventions (or research projects) under each group of determinants. Step 4 will select from among these potential research projects those having the greatest impact for the amount invested, i.e. the most cost-

effective ones (including the cost of research and the cost of the intervention itself).

**Step 5: What are the present resource flows for that disease/risk factor?**

Given the present allocation of resources in the country for this disease/risk factor, should more be invested or should resources be better invested elsewhere in research and development?

The application of the five steps described above should greatly facilitate the work of the decision-maker in identifying key research priorities.

## Section 3:

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### A framework to help identify priorities in health research

The following table (Insert 8.2) is a framework linking the five steps in priority setting with the four broad groups of actors/ factors determining the health status of a population (corresponding to intervention levels).

According to Insert 8.2, defining the health research priorities for a given community (global, regional, national) would require the following analyses (adapted according to the country-specific circumstances):

## Insert 8.2

### *A practical framework for setting priorities in health research*

<b>Five Steps in Priority Setting</b>	<b>Data and Analytic Requirements</b>
<b>I.</b> What is the burden of the disease/risk factor?	Health Status Assessment of the burden of disease (DALYs, QALYs, etc.)
<b>II.</b> Why does the burden of disease (BoD) persist? What are the determinants?	Acquisition of knowledge about disease determinants
<b>III.</b> What is the present level of knowledge?	What is known today about existing and new potential interventions? How cost-effective are they?
<b>IV.</b> How cost-effective could future interventions be?	Is research likely to produce more cost-effective interventions than the present ones?
<b>V.</b> What are the resource flows for that disease/risk factor?	Assessment of the public and private resource flows

*(Source: Ad Hoc Committee Report 1996 and Global Forum for Health Research)*

## Actors/factors determining the health status of a population (intervention levels)

Level of the Individual, Family, and Community	Level of the Health Ministry, Health Research Institutions, and Health Systems and Services	Level of Sectors other than Health	Level of Central Government and Macroeconomic Policies
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Tool of analysis:  
VHIP (Visual Health Information Profile proposed by the Advisory Committee on Health Research)

Analysis of:

- Individual determinants
- Family determinants
- Community determinants influencing the BoD

Analysis of:

- Biomedical knowledge
- Health policies
- Health systems
- Health services influencing the BoD

Analysis of sectoral policies having an impact on the BoD, for example:

- Education
- Environment
- Working conditions
- Security policies

Analysis of macroeconomic policies having an impact on the BoD, for example:

- Budget policies, structural adjustment programmes
- Research policies
- Good governance

Knowledge about factors influencing the C/E<sup>1</sup> of interventions at:

- Individual level
- Family level
- Community level

Knowledge about factors influencing the C/E of interventions in:

- Biomedical research
- Health policies
- Health systems
- Health services

Knowledge about factors influencing the C/E of interventions in sectors outside health, for example:

- School training in hygiene
- Nutrition campaign
- Pollution control

Knowledge about factors influencing C/E of interventions in macroeconomic policies, for example:

- Structural adjustment programmes and health
- Research policies
- Good governance

Estimated C/E of potential interventions at:

- Individual level
- Family level
- Community level

Estimated C/E of potential interventions in:

- Biomedical research
- Health policies
- Health systems
- Health services

Estimated C/E of potential interventions in various sectors outside health:

- School training in hygiene
- Nutrition campaign
- Pollution control

Estimated C/E of potential interventions in macroeconomic policies, for example:

- Structural adjustment programmes and health
- Research policies
- Good governance

<sup>1</sup> C/E: cost-effectiveness.

**1. The first efforts of the team would be directed at assessing the burden of the main diseases and risk factors for the country.**

**2. In parallel, the team would gather the necessary data to fill the "Visual Health Information Profile" proposed by the WHO Advisory Committee on Health Research.<sup>2</sup>**

This profile would summarize data, on an internationally comparative basis, between countries and over time, on key parameters measuring the health status of the country's population, including:

- Disease conditions and health impairments: life expectancy at birth; death rate; maternal mortality; under-5 mortality; infant mortality.
- Health care system: access to care; total fertility rate; immunization coverage; expenditure on health (% of GNP).
- Food and nutrition: daily calorie supply per capita; food production per capita.
- Environmental determinants: GNP per capita; access to safe water; access to adequate sanitation; population growth rate, energy consumption per capita.
- Sociocultural characteristics: adult literacy; expenditure on education (% of GNP); births under the age of 20; tobacco consumption.

**3. The team would then fill in one such framework table for each of the main diseases in the country (identified in point 1).**

This would involve giving as much information as available on the main questions for each of the diseases: (i) why does the burden of each disease persist; (ii) what is known today about existing and new potential interventions; (iii) is research likely to

produce more cost-effective interventions; and (iv) what are the resource flows for that disease/risk factor in the country. These four questions should be raised for each of the four main groups of actors determining the health status of a community, corresponding to the four intervention levels:

- Individual, family, community
- Health ministry, health systems and services, health research community
- Sectors other than health, having an important impact on health
- Central government and macroeconomic policies.

The advantage of the proposed table is that it will summarize all available information regarding one disease and facilitate comparisons between the likely cost effectiveness of different types of interventions. The information will necessarily be partial in the first year, probably even sketchy in some cases, but it will improve year by year and even limited information is often sufficient to indicate where priorities lie.

**4. Identification of the priority research areas for each disease.**

Through an analysis of each table, it will be possible to identify the research areas for a particular disease which are likely to have the greatest impact on the health status of the population. For each disease, the most promising research area in terms of expected impact on the health status of the population may be different, depending on the nature of the disease: intervention at the family or community level, intervention in the biomedical field, intervention through sectors other than health (for example, water supply and sanitation, or education of girls), intervention through macroeconomic policies (for example, reform of the administration).

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<sup>2</sup> WHO Advisory Committee on Health Research (ACHR), *A Research Policy Agenda for Science and Technology, A SYNOPSIS*, December 1997, pp. 27-35.

**5. A comparison of the key factors across the tables will draw attention to the research areas which will benefit several diseases at the same time.**

**6. The priority research agenda for the country will then be defined on the basis of the priorities for each disease and across diseases. It will comprise those research projects having the greatest impact in terms of reduction of the burden of disease in the country.**

This is a long-term effort. However, the tool should demonstrate its usefulness even in the first stages of the process in the following two ways: first, it will highlight the most important gaps in the information needed to make evidence-based decisions and, secondly, it will allow many decisions to be made despite the limited availability of information. This methodology can be applied at the local, national, regional, or global level.