Priorities in global health

When resources are limited, priorities must be assigned. Prioritisation should depend on various factors such as health benefits, deterioration of prognosis, health inequalities and expenses. These factors should be weighed up against each other and compared. There are many ways of improving the global distribution of health services. In this article we describe criteria for assigning priority to health work globally and the dilemmas this entails.

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Doctors and other health personnel, health planners, politicians and development aid organisations make decisions at different levels about how the resources to be used for health programmes should be distributed. A fundamental question when prioritising is the choice of criteria. When it comes to global health, cost-effectiveness has always been the primary consideration (1). However, there is considerable support in academic literature for considering a wider set of criteria when assigning priority to health interventions (Box 1) (1–4). There is less agreement about how these criteria should be specified when they are applied and how they should be weighted in relation to each other.

There are also many other criteria that are controversial. These are connected with age, gender, social status, the individual's responsibility for own health, benefits for family and community, and – not least – the ability to pay.

Two examples
General criteria of the type described above are relevant for almost all aspects of global health. The following two examples illustrate how a conflict between general criteria can arise and how non-controversial criteria may conflict with current practice.

Efficacy versus severity
The indication for starting antiretroviral treatment (ART) in patients with HIV has traditionally been CD4 < 200 cells/µl (6). The World Health Organisation (WHO) altered their guidelines in the summer of 2010 so that start of treatment is now also indicated with a CD4 level in the region 200–350 cells/µl (5). Most low income countries have implemented the new guidelines, with the exception of Ethiopia and Thailand. These guidelines represented a fundamental change – alteration of the biochemical indication resulted in a change in how much importance was attached to the priority criteria. Treatment of patients with a CD4 level in the range 200–350 cells/µl is more effective (measured in increased years of life) than treatment of patients with a CD4 level < 200 cells/µl (Fig 1) (6). However the latter patients are sicker.

The change in indication is justified in the light of the efficacy criterion. However, based on the severity criterion, all those with a CD4 level of < 200 cells/µl should be offered treatment before extending the indication for antiretroviral treatment to 350 cells/µl. Today only 52 per cent of those with a CD4 level of < 200 cells/µl are offered this treatment (7). Here we see a conflict between the recommendations resulting from the efficacy criterion and those resulting from the severity criterion. Thailand and Ethiopia have chosen to ensure full coverage of antiretroviral treatment for those who are sickest before they increase the coverage to those with a higher CD4 level, who in fact benefit most from it.

Assigning priority
to hospital treatment of premature babies
Until recently, there has been little focus on premature babies in countries with limited resources (8). In India more than half a million children are born before or in the 32nd week of pregnancy. Very few of these are treated and survive. With hospital treatment, 90 per cent of children born in weeks 30 to 32 of pregnancy would survive (9). The cost per disability-adjusted life year is lower than what the Indian authorities otherwise cover in other groups of patients (10, 11).

«In order to give fair priorities – locally and globally – the health level in different groups of the population must be known»

Hospital treatment of premature babies seems to fulfil all the general criteria for fair assignment of priority: the condition is serious, the efficacy is good, inequalities in length of life are reduced and the measure is cost-effective. However, a premature baby with the risk of subsequent poor health and functional disability could lead to catastrophically high health expenses for the family. Health personnel state that future health

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Box 1

Criteria for assigning priority to health interventions

- Efficacy criterion: The higher the priority, the greater the health benefit from the intervention.

- Severity criterion: The higher the priority, the greater the deterioration in prognosis in the target group without intervention.

- Equality criterion. The higher the priority, the worse the expected health during the whole lifetime compared with other sectors of the population. A number of factors can play a part indirectly, including severity, age and socioeconomic status.

- Cost-effectiveness criterion. The higher the priority, the lower the cost of intervention compared with the effect.

expenses and concern for the welfare of the family are decisive reasons for refraining from treatment (9). This example shows how important it is to include study of the welfare consequences of assigning priority.

Tools for informed choice

In a global perspective, the coverage of many health measures is often low, despite knowledge of what promotes health and prevents disease in for example the fields of paediatrics and maternal health (11–14). This may be due to a shortage of funding.

Calculating tools have recently been developed, for example Lives Saved Tool and Marginal Budgeting for Bottlenecks, making it possible to model the effect of different health measures (15, 16). Lives Saved Tool integrates epidemiological data on mortality and efficacy data, making it easier for those who make decisions to compare the number of lives saved by different types of intervention in paediatrics and maternal health (15). By inserting local data on mortality and the coverage, it is possible to determine which intervention packets give the best results with the measures available (17).

Tools for measuring health inequality

In order to prioritise fairly – locally and globally – it is essential to know the level of health in different groups of the population. Equal health throughout lifetime, as far as possible, is a goal of most health systems. The global burden of disease is unequally and unfairly distributed between different countries (18). The burden of disease within each country is also unequally and unfairly distributed geographically and according to social status measured by income, education, and, in many cases, gender (19).

Health inequalities can be measured using the Gini coefficient, originally used as a measure of economic inequality (20). This coefficient gives a relative measure of inequality within a population – expressed on a scale of 0 to 1, where 1 is maximal inequality. For example, the degree of inequality in life expectancy in the population can be measured (21). Particularly in low income countries, there is a relatively high percentage of deaths among children and young adults. The distribution of years of life then becomes very different. For example, in 1990 child mortality in Ethiopia was 202 per 1000 (22). That is to say that more than 20 per cent of all children born did not live till the age of 5 years.

A country such as Ethiopia has had a large decrease in child mortality (22). This leads both to increased life expectancy and to reduced inequality in life expectancy (Gini coefficient). Figure 2 shows that the life expectancy at birth in Ethiopia increased from 48 years in 1990 to 58 years in 2008 (23). The country is well on the

way to reaching the UN's millennium goal number 4 (two thirds reduction in child mortality by 2015), and the life expectancy will thus increase to 60 years.

The Gini coefficient was reduced from 0.35 in 1990 to 0.25 in 2008, and will be further reduced to 0.22 if the millennium goal is reached. The coefficient is a relative measure of inequality that can also be converted to absolute figures. The absolute Gini coefficient was 26.3 in 2008. That is to say that the expected deviation from the mean number of expected years of life was 26.3 years. This is substantial inequality. However, taken as a whole, Figure 1 shows that great positive changes have taken place in Ethiopia, and that this development can be measured and evaluated at population level.

Priority procedures

Distribution of limited health resources creates winners and losers. The global health initiatives all have different priorities. What should be done to allow those who make decisions to be given the moral authority to decide on controversial priority questions? A philosophical-ethical approach to this question is based on the assumption that it will be less problematic to reach agreement on general conditions for a fair decision-making procedure than on specific principles for a fair distribution. Decision-making processes that are carried out in agreement with conditions for fair treatment of moral disagreement give the decisions more legitimacy.

The philosopher Norman Daniels and the psychiatrist James Sabin have developed a framework for legitimate distribution of health resources (24). The framework «Accountability for Reasonableness» (A4R) consists of four principles, which together shall ensure a well-founded and legitimate decision-making process:
- Reasons for assigning priorities should be open, published and made available to all those interested.
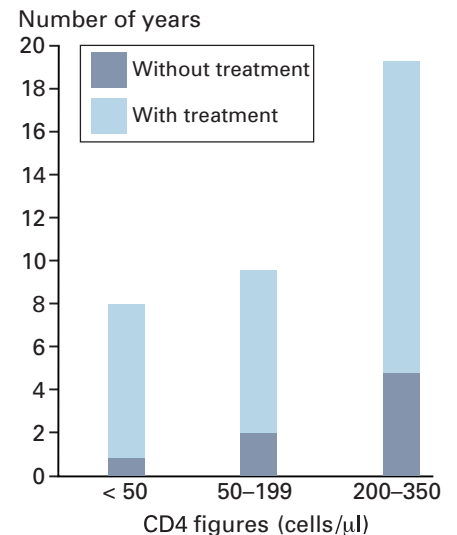
Figure 1 *Expected number of remaining years of life in HIV patients in low income countries with different CD4 levels with or without antiretroviral treatment (6)*

- The relevance of the criteria for the decision should be established as a result of thorough consideration and be based on agreement between all those involved.
- There must be the right to submit an appeal and it should be possible to revise the decision.
- There must be voluntary or public regulations to ensure that the three principles above are met.

The framework makes it possible to weigh up different alternatives when assigning priorities so that all those involved can accept the decision. In this perspective, A4R probably emerges as the most promising procedural approach we have seen so far.

Priorities in global health and Norway's contribution.

The global burden of disease measured in disability adjusted life years (DALY),
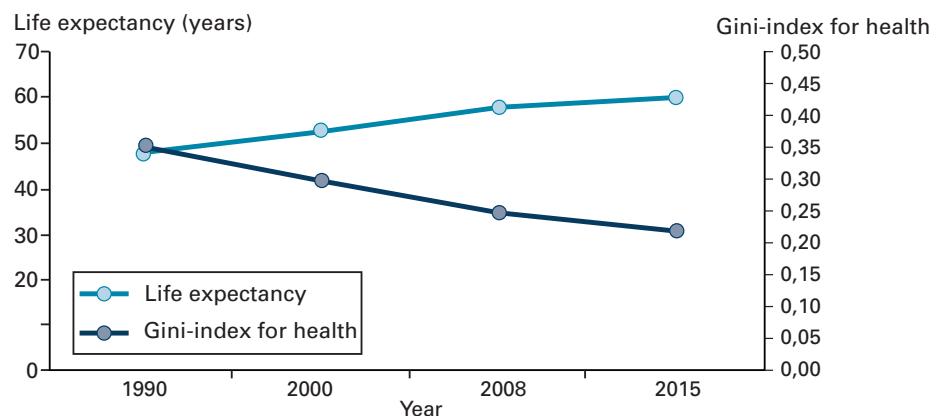
Figure 2 *Life expectancy at birth in Ethiopia and Gini coefficient in 1990, 2000, 2008 and 2015 (if the millennium goal is reached). The Gini coefficient is the relative measure of health inequality within a population. The scale goes from 0 to 1, where 1 expresses maximum inequality (own calculations) (23)*

shows that almost 40 per cent of lost years of life is due to infectious diseases, nutrition-related conditions and diseases related to birth (18). Chronic diseases cause almost 35 per cent of lost disability-adjusted life years (18). Research activity does not reflect this, as the majority of the resources are used for research on conditions that only affect a minority.

Studies of the global health initiatives show that the research and treatment resources available are not commensurate with the burden of disease. This is particularly true of maternal and newborn health, which receives relatively less attention than HIV/AIDS (25–28). The global health initiatives with implementation of selected treatment programmes have led to a decrease in the ability of the health services to provide a complete health care service for everyone (29). Even vaccination programmes less often reach the poorest (30). Even though they make up a large part of the total burden of disease, sectors such as mental health and non-infectious diseases have not attracted much attention until recently. We know that there are cost-effective measures that can reduce the burden of disease in several of these sectors. Lack of consideration of priorities thus leads to loss of opportunities as regards a more effective and fair distribution of resources.

Norway is an important provider of foreign aid. More than 1 per cent of the gross national income goes to aid, of which about 7 per cent (NOK 2 billion) was allocated to aid connected with the health and social sector in 2010 (31). In recent years aid has been concentrated on investments in multinational aid organisations, voluntary organisations and in budget subsidies to individual countries (31). The aid funds are now connected with the UN millennium goals, including treatment of HIV/AIDS (32, 33). However, we do not know what effect this has on a fairer distribution of health resources. We lack open, knowledge-based processes for assigning fair priorities both in Norway and globally.

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