



Health Benefits Package Design Training

Methods for the Development and Adjustment of a Health Benefits Package **Case Study: Revising the Health Benefits Package in Nebesa¹**

Purpose of this exercise

This exercise aims to get you to consider how evidence can be used to help to inform the selection of treatments and interventions to be included in a health benefit package in Nebesa, a fictional country. As part of the exercise you will be given a set of treatments to consider for inclusion in an established health benefits package. Some brief evidence and associated issues on each of the treatments is provided and you will have to decide whether the treatment can be recommended for inclusion, whether further research is needed or whether other policy steps should be considered before a decision can be reached.

The exercise is set out as follows:

1. Background information about Nebesa, its health care system and the burden of disease in the country is provided.
2. Detail is provided on the current Health Benefit Package in Nebesa, including its objectives and the current allocation of resources.
3. Information is provided about the process for updating the package each year, including details on the committee which makes recommendations and the HBP Design Secretariat group who can be asked to develop additional evidence to help inform the committee.
4. Full details of the assignment are then provided along with the set of interventions which need to be considered.

By the end of the exercise you should have an understanding of how economic evidence can be used to inform which interventions should be included in a health benefit packages and on the role for further research to assist with decision making.

Background

Although most of the Nebesa population has the right of access to health care facilities and services, this does not always translate into utilization of effective health care interventions by those who need them. A recent study of health services in Nebesa showed evidence of differences in the access to and quality of primary and hospital services and unwarranted variations in utilization patterns between different localities. The report suggests that these differences could potentially be attributed to factors such as staff shortages in remote rural regions, lack of equipment, variations in management skills, ineffective referral systems and

¹ The fictional country of Nebesa has been created purely for the purposes of this exercise. It is based on an amalgam of real countries in Sub-Saharan Africa. However, no inferences should be drawn about actual policies in Sub Saharan African countries, and neither should any of the simulated data be used for any real world purpose. The name Nebesa derives from the Slovenian word for 'heaven' and any other connotation whether fortunate or unfortunate is entirely unintended and accidental.

a lack of information amongst different populations about how best to access and use health care services.

In 2018, the Nebesa government spent roughly 15 percent of its total budget on health care, of which 40 percent was received from overseas development aid for health. The country has a high burden of infectious diseases, including HIV (20% of total disability-adjusted life years (DALYs) lost in 2018), malaria (6%), lower respiratory disease (6%), tuberculosis (TB) (3.5%) and diarrheal disease (5%). It also has a growing burden of non-communicable diseases including ischaemic heart disease (2%), diabetes (1.5%) and COPD and asthma (jointly 1.5%). Further details of the disease burden are presented in Figure 1 below. Life expectancy at birth is 61 for males and 64 for females. The country has an annual per capita income of approximately \$950. Recent empirical estimates suggest that at the margin, spending on health care services results in one DALY being averted for every \$300 spent.

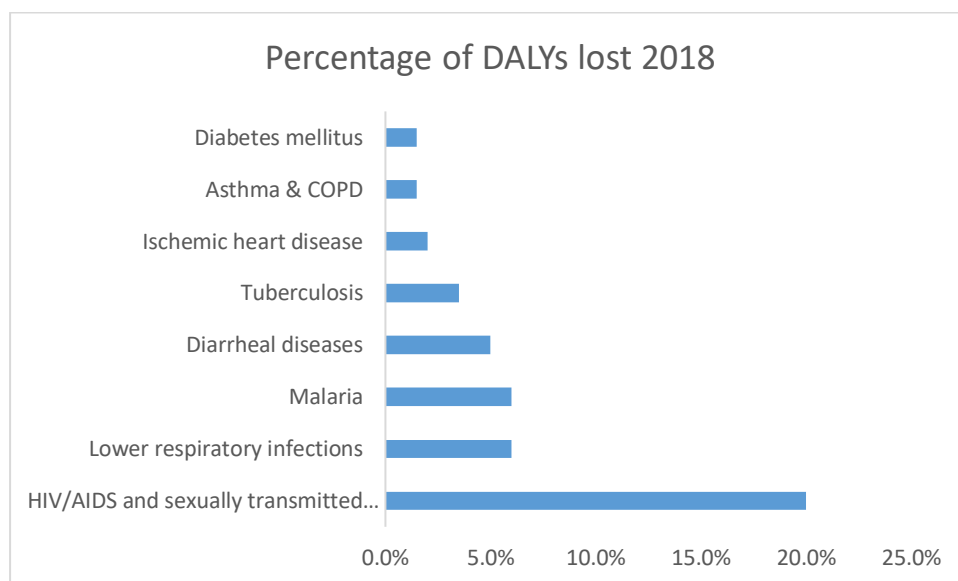


Figure 1: Percentage of DALYs lost by disease area in 2018

The Health Benefits Package

The Nebesa government aims to provide high quality, accessible and affordable health care services and has the ambition of providing universal coverage of a package of essential health care services for the entire population. As part of its five-year Strategic Plan, the government introduced a Health Benefits Package (HBP) in 2012 funded from public finances and made available free of charge at the point of delivery to the entire population. The primary purpose of the HBP is to ensure a cost-effective allocation of scarce resources addressing the country's disease burden, whilst recognizing the limits to available financial and other resources and the need to promote equity of access to health care services. The HBP has a particular focus on primary care services. The HBP had two key objectives:

- 1) To provide a standard package of health care services that form the core of service delivery in all health care facilities.
- 2) To promote equitable access to health care, especially in underserved regions.

An outline of the highest spending elements of the current (2018) HBP is given in the appendix in Table A2. It is based on 8 broad programmes (and one for other areas), as summarized in Figure 2.

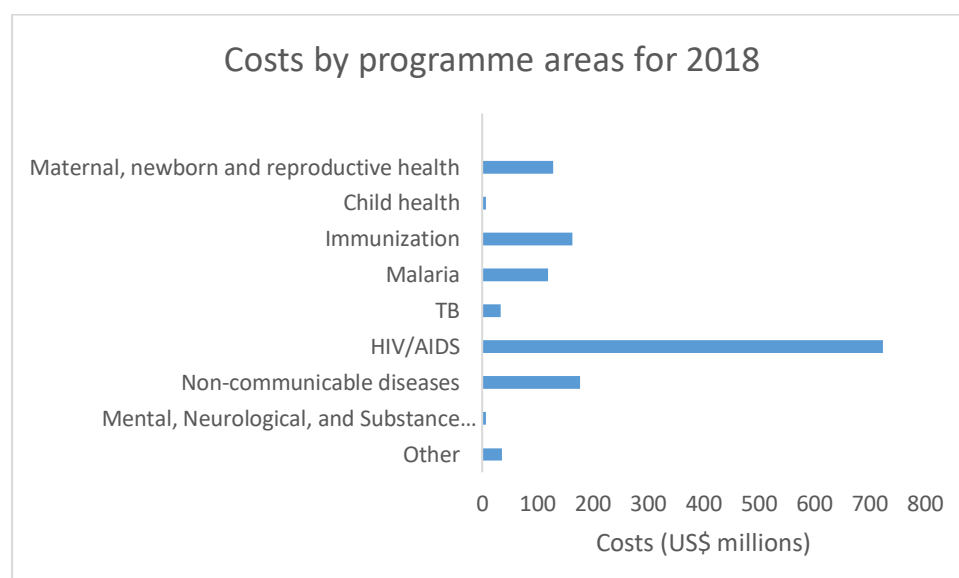


Figure 2: Costs by programme areas for 2018

Table 1 shows how much of this total spending is spent at the different levels of health care delivery.

	Costs (US\$ millions)
Community	166.4
Clinic	209.5
District and primary hospital	653.2
Tertiary hospital	363.7
Total costs (all levels)	1392.8

Table 1: Costs by levels of health care delivery for 2018

Updating the HBP

The government has appointed a high-level committee, coordinated by the Ministry of Health, to oversee the review of the HBP, and to make annual recommendations for changes to the Minister of Health. Alongside the committee's role on recommending changes to the HBP it can also make other policy recommendations which impact the HBP such as suggesting investments in facilities and medical professionals or recommending negotiations with pharmaceutical companies.

The committee is supported by a HBP Design Secretariat group within the Ministry of Health's Department of Planning. The HBP Design Secretariat can provide assistance and advice to the committee and undertake relevant technical analysis and appraisal of evidence at the request of the committee.

Assignment

You are tasked with being members of the committee to oversee the review of the HBP and to make annual recommendations for changes to the Minister of Health. Other policy recommendations which impact the HBP can also be made. The committee can also request that the HBP Design Secretariat undertake further technical analysis and appraisal of the evidence presented above.

For each of the treatments described in the next section you need to consider whether the treatment should be included in the HBP bearing in mind the objectives of the HBP. To do so, for each of the treatments in turn:

1. Assess the information provided
2. Consider what further evidence is required to inform a recommendation. This can include requesting additional analyses and appraisal of evidence from the HBP Design Secretariat when considered appropriate.
3. Consider what other actions could be taken to impact the recommendation of whether or not to include the treatment in the HBP.
4. Discuss in light of the current information and the potential further evidence and actions taken whether the treatment should be adopted. For the potential further evidence and actions, consider these in the hypothetical, for example, if further evidence showed the ICER fell below X then we would recommend. Consider the judgements you are making to reach the decisions, in light of the objectives of the HBP and any other considerations you think are important.

Treatments to be considered for inclusion in 2019

For 2018, the following issues about treatments have been raised for consideration by the committee:

- 1) Newbivir is a new first line antiretroviral (ARV) for HIV which is being considered for introduction in Nebesa. A recent study in Nebesa has estimated it has an incremental cost-effectiveness ratio (ICER) of approximately \$290 per DALY averted compared to current first line ARVs. However, because of the high prevalence of HIV in Nebesa and the higher unit cost of Newbivir than current first line ARVs, if recommended the intervention is expected to cost an additional \$200 million per annum, roughly 15% of the total budget for the HBP. This disproportionate use of the budget may be considered unsustainable.
- 2) The World Health Organisation (WHO) has introduced new guidelines on the management of patients with chronic hepatitis B infection. The limited evidence available suggests that the recommended management approach will improve health and may be cost-effective in some settings. However, the recommendations entail lifetime treatment and the medication alone cost \$250 per patient per annum. It is estimated that there may be up to 20,000 patients in Nebesa who would be eligible for the treatment, so the introduction of the guidelines would have a marked impact on the health care budget (\$20 million per annum for the drugs alone).

- 3) A paediatric TB medicine, Arthrimumab, is currently included in the HBP. However, it is estimated that only 27% of eligible patients are currently able to access the treatment, a clear breach of one of the two aims of the HBP, ensuring equitable access to health care. One of the main barriers to access appears to be staff shortages in remote rural regions, where it is particularly difficult to persuade health care professionals to work. This also affects diagnosis of paediatric TB. Current guidance recommends that Arthrimumab should be prescribed by a highly trained health care worker, but recent evidence has suggested that community health workers can safely prescribe the treatment.
- 4) Inbatofen, a diabetes control medicine, is currently not included in the HBP as there was previously no evidence on its cost-effectiveness. A recent study has suggested that it has an ICER of \$250 per DALY averted compared to the current standard of care in Nebasa. However, the study was undertaken on a restricted population of patients in Namibia, with only those patients aged under 50 with no other comorbidities included in the study. Even in this restricted patient group, there is a high level of uncertainty in the estimate in the Namibian setting, with the probability of the ICER being greater than \$300 per DALY averted of 30%.
- 5) A deworming treatment, Cetamaxid, is currently included in the HBP as evidence had suggested an ICER of \$176 per DALY averted compared to the next best alternative (which in this case was do nothing). However, a recent large study from a neighbouring country has estimated an ICER of \$810 per DALY compared to the next best alternative. This may suggest that the inclusion of Cetamaxid in the HBP needs to be reconsidered.
- 6) The manufacturer of P-1050, a vaccine that has been included in the routine childhood vaccines schedule of the HBP since its formation in 2012, have advised that from next year the unit price per patient is going to increase from \$1.50 to \$12 as Nebasa will no longer be eligible for inclusion in the company's coordinated country procurement scheme.

Additional exercise

As can be seen from Table A2 in the appendix, many interventions already included in the package have low coverage with many eligible patients still not receiving them. What assessments are required to determine which interventions should be prioritized for scale up?

Appendix

The major elements of each programme in the 2018 package are reported in the table below to bring some realism to the exercise, but this annex is not meant to be studied in detail. The table includes the treatments which contribute to the highest percentage of spending in the disease area, but please note that considerably more treatments are included in the complete package. The incremental cost-effectiveness ratios (ICERs) are entirely fictional but included to provide context for consideration of cost-effectiveness. The ICERs show the incremental cost per DALY averted compared to the next best alternative. The table also shows the current coverage of the treatments for the eligible population.

	% of spending in the area	Incremental cost per DALY averted	Current coverage of eligible population
Maternal (\$128.5million)			
Pre-referral management of labour complications	50	47	65%
Condom	29		58%
Management of obstructed labour	8		
Treatment of postpartum haemorrhage	4		
Cervical cancer screening			
Feeding counselling and support for low-birth-weight infants			
Children (\$6.2 million)			
Oral Rehydration	32	113	62%
Zinc (diarrhoea treatment)	26	73	
Pneumonia treatment (children)	13		
Deworming (children)	11	176	
Treatment of severe diarrhoea	7		
Antibiotics for treatment of dysentery			
Treatment of severe pneumonia			
Immunization (\$163 million)			
HPV vaccine	56	190	55%
Pneumococcal vaccine	23	100	60%
Yellow Fever	8		
Pentavalent vaccine	5		
Measles vaccine	2	33	
Malaria (\$118.7 million)			
Diagnosis	71		60%
Larval Control	18		55%
Indoor residual spraying	6	153	45%
Malaria treatment (adults)			
HIV/AIDS (\$723.9 million)			
ART (First-Line Treatment) for women	38	150	76%
ART (First-Line Treatment) for men	32	150	70%
Management of opportunistic infections associated with HIV/AIDS	15		
Diagnostics/lab costs for HIV+ in care	8		

Non-communicable diseases (\$177.2 million)			
Treatment of cases with Type I diabetes (with insulin)	65	274	25%
Treatment for Type II diabetes	23	250	
Chronic Obstructive Pulmonary Disease			
Mental, Neurological, and Substance Abuse Disorders (\$6.2 million)			
Methylphenidate medication	18		
Management of non-opioid/other drug withdrawal	16		
Management of opioid withdrawal	16		
Basic psychosocial support and anti-psychotic medication	12		
Basic psychosocial treatment and ADM	11		

Table A2: Major elements of the 2018 HBP