

Prioritization of Noncommunicable Diseases in Health Sector Strategic Plans: Resource Requirement Estimates from Five Low- and Middle-Income Countries

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Introduction

Given the rising burden of noncommunicable diseases (NCDs) and limited financial resources available for health in many countries, governments need evidence on the costs and impact of various NCD prevention and treatment strategies to optimize resource allocation decisions. While global evidence on NCD “best buys” is available, NCD cost and impact analyses at the country level are lacking, leading to insufficient NCD resource mobilization, strategic planning, and prioritization. There are few country-specific studies evaluating the costs and impacts of various NCD investment strategies compared with other health areas (e.g., HIV and maternal health) due to the lack of predictive models available and external financing support for NCDs. To help countries fill this evidence gap, Palladium supported ministries of health in five countries—Cambodia, Kenya, Malawi, Mozambique, and Tanzania—to estimate the costs of scaling up key NCD interventions under each country’s national health sector strategic plan.

Study Objectives

1. Estimate resource requirements for NCD prevention and control interventions in five developing countries
2. Compare relative prioritization of NCDs in national strategic plans across the five countries

Methodology

From 2014 to 2017, Palladium estimated NCD resource requirements in five countries using the OneHealth Tool (OHT). The OHT is a model for medium- to long-term strategic planning in the health sector. It estimates the cost of health system components and health service delivery using an ingredients-based approach, while also linking cost assumptions with health outcome and impact models. The cost of NCD programs includes the cost of commodities and program activities, such as training, health promotion campaigns, and advocacy. The scope of the NCD cost analysis in each country varied, particularly regarding the number and types of NCD interventions included in the final cost analysis (see Table 1). In many countries, Palladium conducted additional analyses to inform prioritization of the strategic plan. Palladium used multiple data sources to form cost assumptions, including Demographic and Health Surveys, small-scale disease burden studies, health behavior surveys, DHIS2, commodity price lists, program activity plans and budgets, and expert opinion.

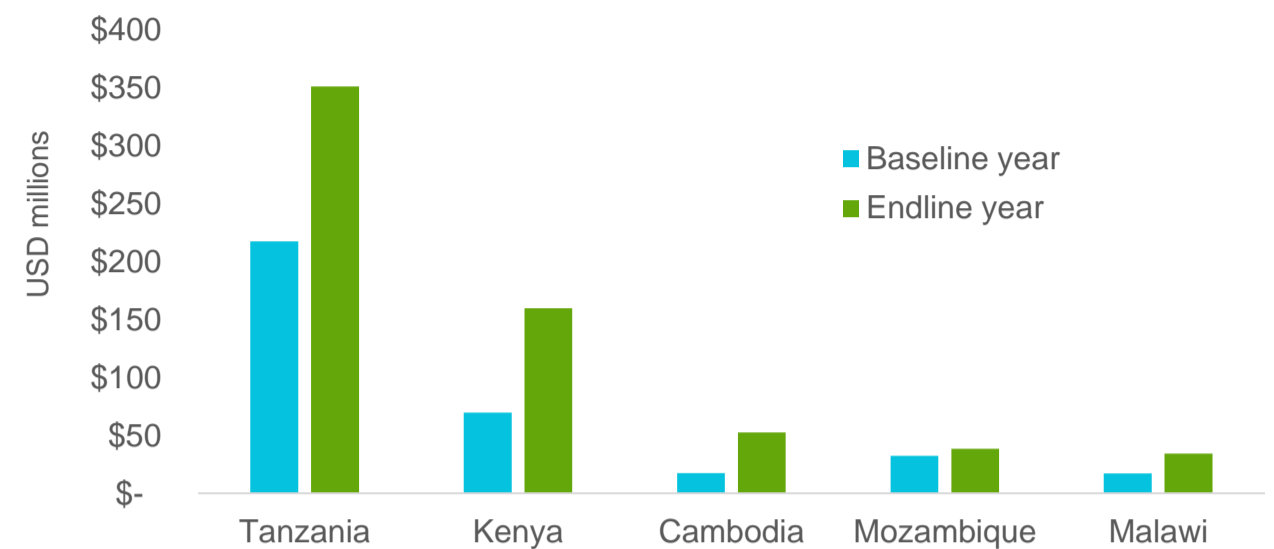
Table 1. Scope of OneHealth Tool Applications

Country	Income status	Projection period	NCD costs included in strategic plan	Analyses for prioritization
Cambodia	Lower-middle income	2016-2020	24 interventions related to screening and management of cardiovascular disease, diabetes, breast cancer, cervical cancer, oral health conditions, mental health conditions, and substance use, as well as program management	Generated two scenarios varying the percentage of patients accessing services in the public versus private sector; compared costs to resources available
Kenya	Lower-middle income	2014-2018	33 interventions related to screening and management of cardiovascular disease, diabetes, cancer, neurological conditions, chronic respiratory conditions, oral health conditions, and mental health conditions, as well as program management	Compared costs to resources available
Malawi	Low income	2018-2022	10 interventions related to management of injuries, mental health conditions, diabetes, hypertension, and oral health conditions, as well as screening for cancer	Generated four scenarios varying the number of interventions included and intervention coverage, estimated health worker requirements to meet targets; compared costs to resources available
Mozambique	Low income	2014-2019	Commodities and program management costs for two public health programs (NCDs and mental health) and five internal medicine sub-specialties (neurology, oncology, cardiology, dermatology, and endocrinology)	Estimated fiscal space and compared costs to resources available; estimated health worker requirements to meet targets
Tanzania	Low income	2016-2020	64 interventions related to screening and management of cardiovascular disease, diabetes, chronic respiratory conditions, cancer, mental health conditions, and oral health conditions, as well as program management	Generated three scenarios based on intervention importance; estimated health worker requirements to meet targets; estimated fiscal space and compared costs to resources available

Results

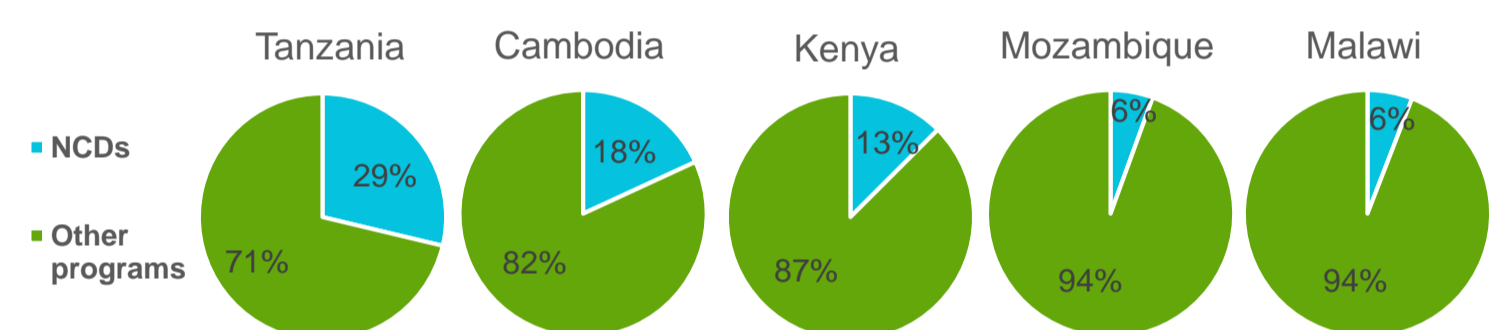
NCD costs are expected to grow faster than any other health area. In Cambodia, for example, NCD costs increase three-fold from US\$17.6 million in 2016 to \$52.7 million in 2020 (see Figure 1). This growth outpaces that of any other health program; in fact, several programs such as immunization are projected to have declining costs over time as the fertility rate and infectious disease burden continue to decline. Similarly, NCD costs are predicted to at least double from 2014 to 2018 in Kenya and from 2018 to 2022 in Malawi. The rapid growth in NCD costs across countries is due to population aging, rising NCD prevalence, and planned increases in NCD intervention coverage.

Figure 1. NCD Costs by Country



Levels of and proportionate NCD spending are predicted to vary widely by country. In 2018, NCDs are projected to represent 6% of total health program costs in Malawi and Mozambique, compared with 29% in Tanzania (see Figure 2). These differences are largely attributable to the scope of the costing and relative prioritization of NCDs. For example, the government of Tanzania prioritized inclusion of NCD interventions in its health sector strategic plan and cost analysis compared with Mozambique or Malawi. In Malawi, the government purposefully selected a limited set of NCD interventions to include in its essential health package under its health sector strategic plan due to budget constraints. Even though NCD spending by country varies widely, all five countries prioritize screening and treatment of high-risk populations for cardiovascular diseases, diabetes, and common cancers compared to broader prevention efforts, such as tobacco cessation programs.

Figure 2. Proportion of Total Health Program Resource Requirements Needed for NCDs in 2018, by Country



Health plans prioritize improved coverage and quality of infectious disease and maternal health services over NCDs. All countries aim to achieve ambitious global targets for infectious diseases such as HIV, tuberculosis, and malaria, and set relatively lower targets for NCD services. Even though countries are planning to significantly scale up coverage of NCD interventions, baseline coverage is so low that the majority of those in need of NCD preventive, screening, and treatment interventions will remain unreached. For example, Cambodia aims to scale up NCD intervention coverage rapidly, but coverage of these interventions will remain much lower than that of other interventions (see Table 2).

Table 2. Select Coverage Targets in Cambodia Reveal Low NCD Coverage

Intervention	2016	2020
<i>NCD interventions</i>		
Screening risk for cardiovascular disease/diabetes	6%	18%
Cervical cancer screening	6%	10%
<i>Other interventions</i>		
Maternal sepsis case management	80%	97%
Measles vaccine	90%	95%
HIV antiretroviral therapy for men	81%	94%

Large ranges in unit costs indicate the need for improved guidance on standards of care and better cost data. For example, the cost per person for first-line breast cancer treatment varies from US\$130 to \$839 per year, depending on the country. Many of the same interventions across countries require different drugs and supplies; the price of these commodities can vary greatly.

Conclusions

These results reveal the urgent need for increased investment in NCDs and improved evidence at the country level. While all five countries used cost results for priority setting, health system and financial constraints resulted in relatively low levels of ambition for combatting NCDs. Many countries decided to exclude high-cost interventions altogether from its strategic plans and focus on gradually scaling up coverage of screening and treatment of common NCDs for high-risk populations in order to contain costs. This suggests that many other developing countries with a dual epidemiological burden may continue to de-prioritize NCDs.