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Multicriteria Decision Analysis for Including Health Interventions in the Universal Health Coverage Benefit Package in Thailand

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ABSTRACT

Objectives: Considering rising health expenditure on the one hand and increasing public expectations on the other hand, there is a need for explicit health care rationing to secure public acceptance of coverage decisions of health interventions. The National Health Security Office, the institute managing the Universal Coverage Scheme in Thailand, recently called for more rational, transparent, and fair decisions on the public reimbursement of health interventions. This article describes the application of multicriteria decision analysis (MCDA) to guide the coverage decisions on including health interventions in the Universal Coverage Scheme health benefit package in the period 2009–2010. **Methods:** We described the MCDA priority-setting process through participatory observation and evaluated the rational, transparency, and fairness of the priority-setting process against the accountability for reasonableness framework. **Results:** The MCDA was applied in four steps: 1) 17 interventions were nominated for assessment; 2) nine interventions were selected for further quantitative as-

essment on the basis of the following criteria: size of population affected by disease, severity of disease, effectiveness of health intervention, variation in practice, economic impact on household expenditure, and equity and social implications; 3) these interventions were then assessed in terms of cost-effectiveness and budget impact; and 4) decision makers qualitatively appraised, deliberated, and reached consensus on which interventions should be adopted in the package. **Conclusion:** This project was carried out in a real-world context and has considerably contributed to the rational, transparent, and fair priority-setting process through the application of MCDA. Although the present project has applied MCDA in the Thai context, MCDA is adaptable to other settings.

Keywords: multicriteria decision analysis, priority setting, UC benefit package.

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Introduction

High-cost health interventions including pharmaceuticals and medical technologies are increasingly becoming available in Thailand, increasing public and patient expectations. Because of limited resources, however, the government cannot make all these interventions available to the population and this makes the need for priority setting of interventions more and more explicit. In the past, decisions on the public reimbursement of interventions were typically ad hoc and not transparent [1,2]: for example, certain interest groups (such as politicians, health professionals, or industry) could selectively advocate new interventions for public reimbursement. The decision-making processes often lack a systematic way without clear criteria for making coverage decisions. Decision makers in Thailand have recently acknowledged this inadequate process and called for more rational, transparent, and fair decisions on the public reimbursement of interventions to improve population health in the country [3]. As a spring-off, the National Health Security Office (NHSO), the institute that manages the largest health plan in Thailand (Universal Coverage Scheme [UC]), initiated a collaborative research and development project

with two independent research institutes—the Health Intervention and Technology Assessment Program and the International Health Policy Program—in 2009. The aim of the project was to develop an optimal strategy for the development of the UC benefit package, that is, to determine which interventions should be candidate for public reimbursement.

At the outset of the project, it was decided to use multicriteria decision analysis (MCDA) as an overall methodological approach for its potential for rational and transparent priority setting [4,5]. MCDA is defined as “a set of methods and approaches to aid decision-making, where decisions are based on more than one criterion, which make explicit the impact of all the criteria applied and the relative importance attached to them” [5].

This article describes the application of MCDA to support the coverage decisions on including health interventions in the Thai UC health benefit package in the period 2009–2010. We addressed the following research question: “Does the use of MCDA lead to (more) rational, transparent, and fair decisions in the development of the UC benefit package in Thailand?” In the absence of a clear standard on all aspects, we evaluated the present project against the accountability for reasonableness (A4R) framework

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[6,7], which specifies conditions for fair decision making. In doing so, the framework also considers the aspects of rational and transparent priority setting.

To our knowledge, this is the first time in a low- or middle-income country that MCDA is practically used including a deliberative process and multiple stakeholders' involvement to guide national-level priority setting in health care coverage decisions. The experience of Thailand, and therefore this article, also holds relevance for other countries, as it may inform them on the options and limitations of MCDA for setting priorities in health.

Multicriteria decision analysis

Empirical evidence suggests that a number of criteria including efficiency, equity (e.g., giving priority to the severely ill or the poor), financial protection, and political considerations are considered important by policymakers when setting priorities [8–10]. It is far from easy for policymakers, however, to consider these criteria simultaneously—evidence on all criteria is not always available, criteria are not equally important and may even conflict with each other, and policymakers (as people in general) are not good at absorbing dissimilar types of information—and risk cognitive overload [4]. This has prompted the use of MCDA for priority setting (Fig. 1) [4]. MCDA allows the identification of a comprehensive set of criteria, establishes the performance of interventions on those criteria in a so-called performance matrix, and then inspects the performance matrix qualitatively or quantitatively to rank order interventions [4]. In a qualitative inspection, policymakers simply interpret the performance matrix and make implicit judgments on the weights of the various criteria. In a quantitative inspection, policymakers weigh the different criteria on the basis of their relative importance, and multiply the scores by the weights to obtain weighed averages for all interventions. Interventions can subsequently be rank ordered according to these weighed averages.

Methods

We described the MCDA priority-setting process through participatory observation. We evaluated the rational, transparency, and fairness of the priority-setting process against the A4Rframework [6,7]. The framework specifies the four conditions for fair decision making. In doing so, the framework also considers the aspects of rational and transparent priority setting.

The whole process involved a project team (including NHSO, the Health Intervention and Technology Assessment Program, and the International Health Policy Program) and a research team (including the Health Intervention and Technology Assessment Program and the International Health Policy Program). At the beginning of the project, the research team reviewed the international experience on the development of public health benefit packages to further refine and operationalize the methodological approach. The review documented the experience of seven health technology assessment organizations in Canada, England and Wales, the United States, the Netherlands, Germany, Sweden, and Spain, which all use an explicit process of priority setting (Table 1). The review concluded that all these organizations consider multiple criteria, involve multiple stakeholders, and distinguish, in one way or another, four basic steps in their priority-setting process. These steps were then also applied in the Thai setting and included 1) nomination of interventions for assessment, 2) selection of interventions for assessment, 3) technology assessment of interventions, and 4) appraisal of interventions.

For steps 1 and 2, the project team established a consultation panel (panel 1) to reach consensus on who should be involved in these steps and which criteria should be included as the selection criteria. Participants of the consultations were identified by their expertise and selected purposively to cover stakeholders who play an important role in the Thai health insurance system. The four steps are discussed in detail in the following subsections.

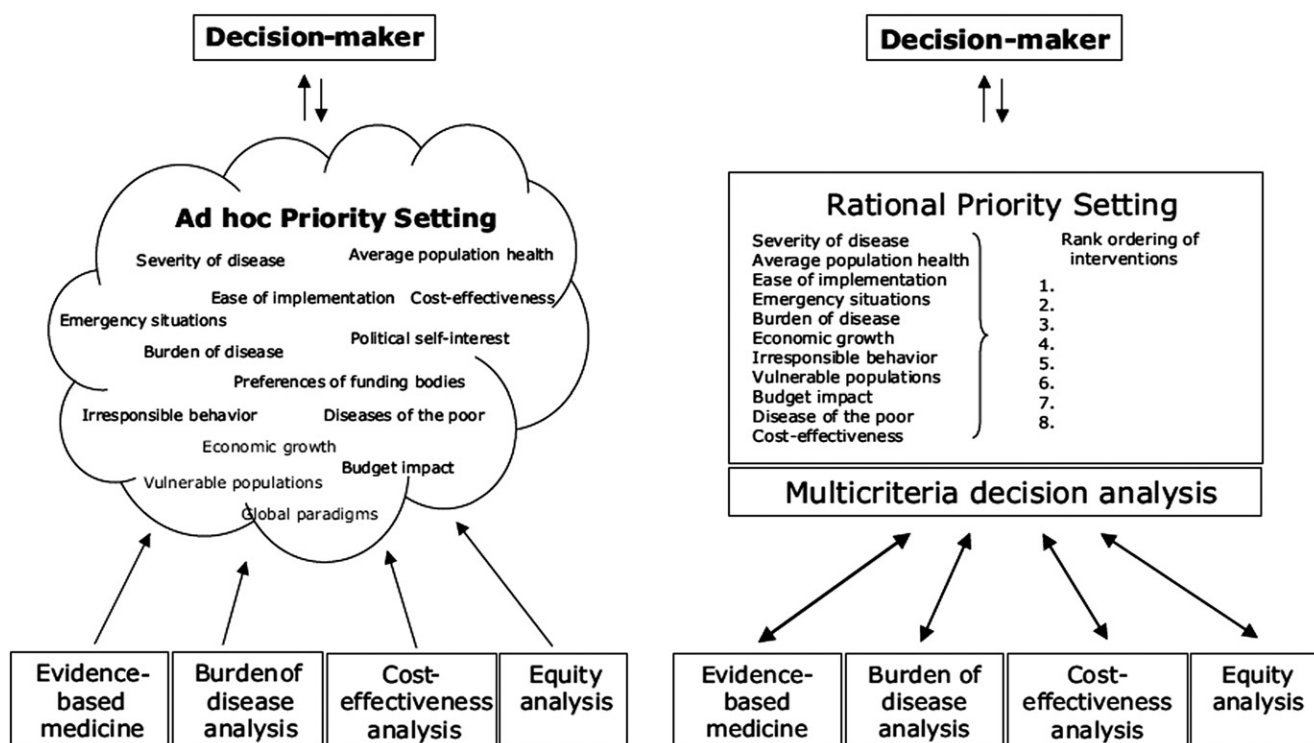


Fig. 1 – Ad hoc priority setting and rational priority setting. From Baltussen and Niessen [4].

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