Methods for the Costing Component of the Multi-Country Evaluation of IMCI

Department of Child and Adolescent Health and Development

World Health Organization

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Taghreed Adam[1], David Bishai[2], Mahmud Khan[3] and David Evans[4]

Department of Child and Adolescent Health and Development

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[1] Global Programme on Evidence for Health Policy; and
Child and Adolescent Health and Development, WHO, Switzerland, adamt@who.int
[2] Dept. of Population and Family Health Sciences, Johns Hopkins University, USA, dbishai@jhu.edu
[3] School of Public Health & Tropical Medicine, Tulane University, USA, khan@mailhost.tcs.tulane.edu
[4] Global Programme on Evidence for Health Policy, WHO, Switzerland, evansd@who.int

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Acronyms

CEA: cost-effectiveness analysis

DALY: disability adjusted life years

EPI: Expanded Programme on Immunization

FTE: full time equivalent

GDP: gross domestic product

IMCI: Integrated Management of Childhood Illnesses

MCE: The Multi-Country Evaluation of IMCI Effectiveness, Cost and Impact Multi-country evaluation

MCH: Maternal and Child Health

NGO: non-governmental organization

PPP: purchasing power parity

QALY: quality adjusted life years

STD: sexually transmitted diseases

YLL: year of life lost

YLS: year of life saved

Introduction

The Multi-Country Evaluation of IMCI Effectiveness, Cost and Impact (MCE) is a global effort coordinated by the Department of Child and Adolescent Health and Development of the World Health Organization (1). There are two main goals for the costing component of the MCE. The first is to provide evidence on whether IMCI is of high, moderate, or low cost-effectiveness compared to other ways of using scarce health resources. The second is to provide health planners and donors with information on the cash expenditures (the financial costs) that were needed to introduce IMCI in the first place and then to keep it running. The first type of information assists decision-makers in countries that are considering whether to implement and/or continue IMCI by showing the extent to which IMCI is an efficient use of scarce health resources. The second type of analysis (called financial analysis in the rest of this document) is useful for monitoring, planning and/or budgeting purposes in those settings.

Cost-effectiveness in respect to the first goal can be analysed in two ways. The first is to estimate the total costs and total health effects of providing IMCI services to children under five (sometimes called "average CEA"). The counterfactual for this analysis is no provision of services to children under five. The second is to estimate the additional costs of adding IMCI to current treatment practices and compare those costs with the additional health benefits that accrue ("incremental CEA"). Both forms are useful but require costs (and effectiveness) to be calculated in different ways, as described below.

"Incremental cost analysis" generates useful information on the additional resources used to implement and run IMCI in a particular setting. By definition, however, this type of analysis is context driven and depends on the current interventions and the amount of pre-existing infrastructure (capital and labour, for example). Also, it does not reveal the total amount of resources required to provide services for under-fives using IMCI; all such services have an opportunity cost and could be used elsewhere. For this reason, the protocol has sought to determine the average costs of implementing IMCI *in addition to* the incremental costs.

The purpose of this report is to present a generalized methodology to conduct economic evaluation of under-five health programmes, including but not restricted to IMCI. It has not so far been feasible to undertake costing studies in all countries interested in implementing IMCI; consequently, this report is intended to be a guide for estimating costs across IMCI sites to ensure consistency in data collection, analysis and reporting. Provision of information on the resources being used and their prices in a standardized format as proposed by the report allows policy-makers in other settings to determine whether the results are applicable to their populations. By comparing the parameters (e.g., quantities and prices) in the new setting with those for a specific study area, policy-makers will be able to adjust the results to their own setting, e.g., by adjusting for differences in the supply or availability of qualified health workers, amounts of equipment and supplies, the availability of donated equipment or volunteer time, and differences in the disease burden of the population. To make it possible to generalize information to other settings, both the quantities and the prices of resources used should be presented or at least made available.

The Multi-Country Evaluation of IMCI (MCE) is being carried out in five countries. Accordingly, the costing protocol described here is designed to ensure that all relevant cost data are collected in a standard way across different sites. A standard methodology ensures that cross-national costs can be compared in order to understand the variations of costs within and between the countries

concerned. The core minimum requirements are described but individual evaluation sites are free to collect and analyse additional data to meet their specific objectives, so long as the standard protocol is not jeopardized.

Specific Objectives of the Costing Component

Average and incremental cost-effectiveness analysis requires that costs be estimated in specific ways. This is covered by the first two objectives described below. The third objective is related to the need to provide governments and donors with information about financial resources needed for the IMCI strategy.

The specific objectives of the cost component of MCE are:

1. To estimate the total resource requirement of providing IMCI in a district – i.e., estimating the full costs of providing services to children under five using IMCI. These costs are estimated from the perspective of the society as a whole. All costs are included, regardless of the source. This allows a generalized cost-effectiveness analysis (see Murray et al. 2000), which can indicate whether treating children using IMCI is a good use of scarce health resources (2;3).
2. To estimate the additional (incremental) costs of introducing and running IMCI from the societal perspective – e.g., what resources are required in addition to those already being used for the provision of health care services in that setting. This allows a conventional incremental cost-effectiveness analysis, indicating whether the additional benefits over current practice justify the additional resources (4;5).
3. To provide the study sites with information on the financial expenditures that were involved in introducing IMCI and running it subsequently in their settings. This allows countries to plan for sustained or scaled-up implementation of IMCI.

Methods

Any costing exercise requires a clear definition of the "perspective" of the cost analysis. In many countries, households continue to bear many of the costs associated with health care. A programme that shifts costs from government to households may appear to be cost-effective if only the government's perspective is considered, although it may not necessarily improve social