

I n t e r n a t i o n a l C o m p a r i s o n P r o g r a m

Health Sector Comparisons: Concept Note

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Health Sector Comparisons

In preparation for the 2011 ICP Round, the ICP is collaborating with DCPN on developing and implementing new methodology of health sector comparisons.

While there is an increasing body of research on the costs of health care, our ability to accurately determine the costs of health service delivery is severely limited, particularly in low-and-middle-income settings. Low-and-middle-income countries are dramatically under-represented in both published and unpublished studies on unit costs. For example, the WHO-CHOICE database on hospital bed-day costs includes only 49 countries, most from high-income settings. Costing studies are also far more likely to be conducted in technically efficient settings, than in poor-performing settings. There is also likely to be substantial variation in the way that data are collected and analyzed, reducing the comparability of results. For example, bed-day costs vary in the US by up to three orders of magnitude from one place to another.

DCPN aims to address the lack of valid, comparable and reliable data on the costs of health care. The strategy will focus data collection on aggregate-level data (e.g. total costs/ budgets and intermediate outputs such as outpatient visits) for a range of service delivery platforms. Econometric models will be used to determine the setting-specific marginal cost of increasing intermediate outputs for each of the service delivery platforms. Three main tasks exist for this data collection effort:

1. Develop a parsimonious instrument for collecting total costs, intermediate outputs, and associated variables from each production unit. Our strategy depends on using econometric methods to explore the relationship between total costs, intermediate outputs, and inputs. This will only work if the information required from each production unit is relatively easy to obtain. We will develop a short protocol for information collection emphasizing total costs (recurrent and amortized capital), intermediate outputs, simple quality metrics, equipment, human resource inputs, and the use of information systems and incentives.

2. Enroll and collect data from a sample of production units for each service delivery platform for selected countries. Variation in health system architecture, in local prices of non-traded inputs, and in the management of institutions all mean that the cost functions for different service delivery platforms may vary substantially across locations. In each country, we will collect data from a large enough set of production units to be able to empirically assess the relationship between total cost and the key intermediate products produced by each platform. Our strategy will be opportunistic, taking advantage of some national initiatives, such as the South African effort to measure the total costs of all government hospitals.

3. Develop production function models to estimate cost functions for each service delivery platform and for each country. This empirical effort will yield a dramatic increase in the

quantity and quality of information on the costs of generating intermediate products such as home health visits, clinic visits, or bed-days in hospital. We will be able to use econometric techniques to relate the totals of these intermediate products to total costs; total cost functions can also be used to generate average cost and marginal cost functions. The variation in costs due to a range of factors (e.g. quality, population density, distance from supply ports or capital cities) will be tested empirically. We will also use models to extrapolate results beyond the sample of countries to collect in order to derive estimates of costs for all countries of the globe.

Collaboration with the DCPN

Both the DCPN and International Comparison Program share a common goal to estimate in a valid, reliable and comparable way the cost of health care across all countries globally. To facilitate achievement of this common goal, DCPN will be collaborating with ICP in the following areas:

- ***Establish a framework to estimate health care costs.*** The ICP program is primarily interested in the cost of healthcare from the consumer perspective. DCPN is interested in both the producer and consumer perspectives. One area of potential collaboration between DCPN and ICP would be to jointly develop a framework for estimating health care costs from both producer and consumer perspectives that would inform the data collection effort. This framework would include a clear specification of which quantities of interest data would be collected for, e.g. drugs, medicines, supplies, and healthcare utilization such outpatient visits.
- ***Use ICP channels to collect data for the DCPN costing study.*** ICP collects data in almost all countries globally through a range of channels including National Accounts, local national experts and new surveys. IHME would like to engage ICP to facilitate data collection on health care costs for the DCPN project. This would help minimize any redundancies in the data on healthcare costs that is being collected.
- ***Develop production function models and tools.*** IHME will be developing production function models to estimate the cost functions for each of the service delivery platforms as part of the more detailed costing data collection effort. *These* models and tools could be applied to future data collection efforts by ICP as well as to estimate unit costs of sectors other than health.
- ***Use the DCPN costing data to validate a shorter instrument to be used to collect data for all countries.*** The DCPN project aims to collect data on the costs of healthcare for a limited sample of countries but using a more detailed approach based on production functions than is done for ICP. This more detailed approach could be used to identify and validate a more parsimonious instrument that could be used to collect data for all countries.

- **Estimate health care costs for each country by combining the more detailed costing data with data from the shorter instrument.** Another area of collaboration would be to combine the more detailed data for selected countries with data from the more parsimonious instrument using statistical models in order to derive the best estimates of health care costs for each country with appropriate uncertainty intervals.