DEVELOPMENT OF HEALTH-SPECIFIC PURCHASING POWER PARITIES: GENERAL PRINCIPLES AND PROBLEMS IN MEASUREMENT OF HEALTH SERVICES ACROSS COUNTRIES

Introduction

1. This note is intended to provide a framework for the way forward in the development of health-specific purchasing power parities (PPPs). This document firstly sets out why the development of health-specific PPPs is considered to be important for health policy. Second, it outlines the current practice in the compilation of PPPs for health care. Third, the note provides a short review of the current challenges in the development of health-specific PPPs. Finally, drawing on the development of PPPs generally, this document proposes a number of issues that require resolution in the first stage of the development of health-specific PPPs.

Why the development of health specific PPPs is important

2. Health expenditures are probably the most commonly used single indicator of comparative policy analysis in the health sector. They are also of importance in fiscal policy as health expenditure in most countries is publicly funded and represent a large and growing share of governments' budgets. Those seeking to assess health expenditures most commonly benchmark their country's expenditure against international rankings of health expenditure using measures such as health expenditure per capita or health expenditure as a percentage of GDP. But the validity of the expenditure aggregates in terms of reliability and quality is frequently not considered. Simple expenditure comparisons, for example, can not take into consideration issues such as higher prices and wages in one country compared with another or differences in productivity between health sectors.

3. Health-specific PPPs are meant to address these issues. Health-specific PPPs are produced in order to compare output and consumption expenditure on health among different countries for a given year. In general, PPPs are derived from price ratios of the same products in different countries, at least in principle. Health-specific PPPs are used to divide expenditures on health in order to remove the differences in price levels between countries and compare expenditures in real or volume terms.

Current practice in the compilation of PPPs for health care

4. Calculating PPPs is a complex matter. They are initially based on surveys to ascertain prices for a representative sample of comparable products in each country. The main difficulty lies in the choice of products as they must be both comparable and representative. This is difficult because products and their relative importance may differ from one country to another. This is particularly the case with health goods and services.

5. In the current methodology used in health, prices for the estimation of PPPs are collected for medical products, appliances and equipment. For health services, only 'market' outpatient services are covered by price surveys but the comparability of collected price data has often been less than perfect. A reason for that is that to avoid double accounting, prices should in principle cover "full" prices including any possible reimbursements from government, and such data are not always easily available.

6. For hospitals, no output prices are collected but an input-price approach is applied in the estimation of PPPs for both market and non-market inpatient services. This means that PPPs for service outputs are derived from PPPs for input components of service production. Equal levels of inputs do not guarantee equal levels of output as hospitals in some countries may convert inputs into outputs more productively than others. For this reason, the current project considers that PPP measurement should be based on an output measurement approach in order for international comparisons of health expenditure to be meaningful.

7. The basic input components used in Eurostat-OECD comparisons are: compensation of employees, intermediate consumption, gross operating surplus and net taxes on production. The most important input component is compensation of employees where PPPs are based on the comparison of wages in different countries. Consequently, productivity of employees at a same position is assumed to be the same in various countries. For intermediate consumption of medical products, PPPs for these goods in household consumption are directly used as a proxy. Also here the method is not fully satisfactory because prices paid by households and hospitals are very different. An additional difficulty to be faced is that many countries cannot provide expenditure data by required classification, and gaps in the expenditure data has to be filled by using expenditure structures from other countries when necessary.

8. As a result of many difficulties in the estimation, PPPs for health care are not widely used when comparing the volume of health services between countries although those PPPs are in use when deriving PPPs for the total of GDP. GDP-level PPPs are commonly used instead which means that the share of health services of GDP is assumed to be the same in nominal and real terms.

Current challenges in the development of health-specific PPPs

9. There are numerous problems in collecting information that can be used for the development of health-specific PPPs. One such problem arises because the production of many health goods and services are non-market activities. That is, the price of the good or service is not economically significant and cannot be used to represent either the marginal costs of production or the marginal social value[1] . This may also be true of health goods and services which are provided by market producers because many health expenditures are subsidised by social insurance. Thus, reliable information on prices of health goods and services is often very difficult to obtain and often not available.

10. Aside from the lack of significant price information, the complexity and variety of health goods and services means that it is often difficult to ensure that the same goods and services are being compared across countries. This problem was evident in the EU HealthBASKET project where there is a problem with comparison of DRGs because the mix of interventions which makes up a DRG can vary. Mechanisms for remuneration of general practitioners (or family physicians) across countries can vary and may be based on salary, capitation or fee-for-service. The different remuneration patterns create different incentives so that the service received from a salaried doctor may be quite different to that received from a doctor who raises a fee for each service rendered. Thus, institutional differences in the organisation of health services potentially lead to different prices (where they exist) but also differences in both the quantity and quality of the service received.

11. For reasons mentioned above, very different kinds of data have to be used in the compilation of Health-PPPs. Sometimes prices or data on costs of service production are available and sometimes it is more practical to rely on quantity data and estimate PPPs indirectly. This is a challenging task because prices/costs, quantities and expenditures should be in full consistency to avoid biases.

1. A price which is not economically significant is deliberately fixed well below the equilibrium price that would clear the market.

The issues to be addressed in the initial stage of developing health specific PPPs

12. There are a number of outstanding issues as to the basic methodology to be applied for measuring health services. (These issues may be read in conjunction with the three recommendations from the report by Manfred Huber in Annex A.)

1. *Development of concepts and methodology.* What "bundle of activities" should be chosen to focus on for the measurement of quantity, quality and prices of health services. At what level of detail should the information be gathered: must we privilege the diseases, the providers, the procedures, and a combination of these parameters with also the characteristics of the patients? An important stage of the work is a reconciliation of the SHA and NA frameworks and classifications used in these systems.

2. *Assessment of data availability and feasibility of data development.* Concepts, even if generally agreed, are of little value unless there is a realistic possibility of collecting the data required for their measurement. The development of concepts and their measurability are in fact interrelated and a major challenge for the project will be to strike the right balance between measurability and conceptual soundness. It seems also that, due to differences in the availability of data and classifications used in countries, flexible approaches will have to be applied to reinforce comparability between countries. This means particularly that if available base data are comparable in a pair or group of countries, maximum use should be made of such information rather than requiring exactly the same data from all countries. Also experiences from a 2005 OECD-Eurostat PPP survey of prices for health services in the market sector will provide a useful starting point for further discussion of methods and data availability.

3. *Pilot data collection for the purpose of health PPPs.* A pilot data questionnaire would be necessary not just to assess availability of data but also assess the sources and methods for compiling data. This may include, as an example, information on national variation in the content of DRGs and the allocation of cost, such as overheads, in the DRG reimbursement.

Members of the Taskforce are invited to:

Comment on the outstanding issues to be addressed and make suggestions for further issues in the development that have not been included.

Indicate whether they would be interested in contributing to the methodological development and whether their countries would be interested in principle in participating in the pilot collection of data availability and sources.

Annex A

From Manfred Huber's report on "International Comparisons of Prices and Volumes in Health Care among OECD Countries" (2006)

Recommendation 1. Treatment of basic headings in future H-PPP estimates

From this list of simplifications it is obvious how to proceed to improve H-PPPs in the current OECD-Eurostat PPP project:

(1) Individual consumption expenditure by government and by non-profit institutions should be compared using an output approach; this is in particular relevant for hospital inpatient services;

(2) Where non-profit institutions serving households and government owned producers operate on the same quasi-markets, these non-profit organisations should be treated for price-volume comparisons of their publicly funded health care services in the same way as government entities;

(3) It would be worth to reconsider if the same price comparisons should be done for privately and publicly reimbursed goods and services bought from market producers, knowing that private and public tariffs can differ substantially. But this later point should probably only be tackled after the larger part of government produced health care expenditure on services has been moved to an output method.

Recommendation 2. Steps to reconcile NA estimates with SHA accounts

CPC categories currently used in NA estimates will need refinement to contribute to better international comparability and to the greater analytical power than SHA accounts have achieved. This is especially relevant for the project of reforming H-PPPs.

(1) The main challenge here is the agreement on the needed separation of production in different settings (inpatient, day-care, outpatient and ambulatory) for some CPC categories as this is where much of the dynamic of changes in modern health care systems lies, and corresponding differences between countries that need to become transparent in international comparisons in order to understand differences and communalities. Currently much of modern health care has no natural "home" in the current CPC classification (eg. much of day care).

(2) An adequately revised CPC "for H-PPPs and SHA accounts" section (for the time being) would allow for a close reconciliation of SHA accounts with NA estimates, keeping in mind that the satellite-account nature of SHA allows for a number of departures of defining expenditure, such as the reclassification of occupational care and of care allowances to output.

(3) Correcting for the currently unfortunate asymmetry in the way CPC treats (long-term) home care (as part of health care) versus "social care with accommodation" (it belongs to social services) is a major challenge of this task of overall reconciliation. It should, therefore, have priority.

Recommendations 3. The role of quality adjustment

For international comparisons it seems advisable to first keep (unadjusted) quantity and quality measurement separate. This would allow for more transparency. The calculation of composite indicators that adjust prices and volumes for quality differences across countries would then be an analytical step, rather than part of a process for "estimating data". The joint analysis of price, volume and quality should be kept as transparent as possible, in particular in the early phases of the project.

The main method that should be tested is the split of procedures in variants of different quality levels (as indicated by distinct differences in the medical technology used).

Independent of the choice of quality indicators for correcting volume or price data, it seems wise to test their predictive power based on econometric analysis. When quality is measured as outcome gains attributable to health care interventions it should be tested whether there is a simultaneous equation issue: higher average unit-costs or prices may result in better outcome, but the need for achieving this outcome (in the sense of greater health care need) may have led to higher average spending and prices.