



What resources do we need for a universal health system in South Africa and what are the design implications?

Introduction

This brief arises from the SHIELD (Strategies for Health Insurance for Equity in Less Developed Countries) project, which was initiated in 2006 and ends in September 2010.

The aim of SHIELD is to critically evaluate existing inequities in health care in Ghana, South Africa and Tanzania and the extent to which changes in health care financing mechanisms could address equity challenges.

The final phase of SHIELD, which has just been concluded, focuses on the feasibility and sustainability of alternative health financing reforms in relation to their respective resource requirements. This policy brief as well as policy brief no. 2 (entitled “should we pursue a universal health system or something else in South Africa?”) summarise the key SHIELD findings in this respect for South Africa.

In this brief, the findings in relation to moving to a universal health system are presented. A universal health system is one that provides financial protection from the costs of health care and access to needed health care for all South Africans.

The brief indicates the likely resource requirements for a universal health system and looks at the implications for tax revenue requirements. It also highlights what system design features are critical to ensure an affordable and sustainable health system. Policy brief no. 2 compares the universal coverage option with the status quo as well as an alternative path of health system reform, namely extending medical scheme coverage to all formal sector employees above the income tax threshold and their dependents.

Key issues in modelling the impact of health system change

Economists use models to try to understand what may happen in the future, drawing on information about the current situation and historical trends. Models are also used to explore the financial implications of alternative policies. However, a model is not a crystal ball; no model can predict the future with complete accuracy. It has been said that no model is correct, but some models are helpful. The purpose of the SHIELD modelling is not to come up with an immutable estimate of the financial resources required to achieve universal coverage, and so the results should not be interpreted in that way. Instead, the main purpose is to ‘be helpful’ and to highlight key elements of the design of a universal health system necessary to ensure affordability and sustainability.

The information presented here is based on a ‘high-level’ model, using the International Labour Organisation’s (ILO) recommended approach to modelling the impact of health system change. There are three key variables in the ILO modelling approach:

- ▶ how will the population grow over time;
- ▶ what will happen to the utilisation of different types of health services; and
- ▶ how will the costs of different health services change over time?

Although we examine what has happened in the past to help answer these questions, we ultimately have to make some assumptions, particularly if we want to explore the consequences of changing the health system. Depending on how the health system is designed, these assumptions will differ.



To show the implications of different universal health system designs, three different estimates are calculated:

- ▶ a **'highest cost' estimate**, which highlights what health system features could contribute to a universal system becoming unaffordable;
- ▶ a **'lowest cost' estimate**, which shows what design features could be used to minimise the cost of a universal health system; and
- ▶ a **'best guess' estimate** which represents, in the author's view, the most likely way in which the health system will evolve, based on the best available information.

What resources would a universal health system require?

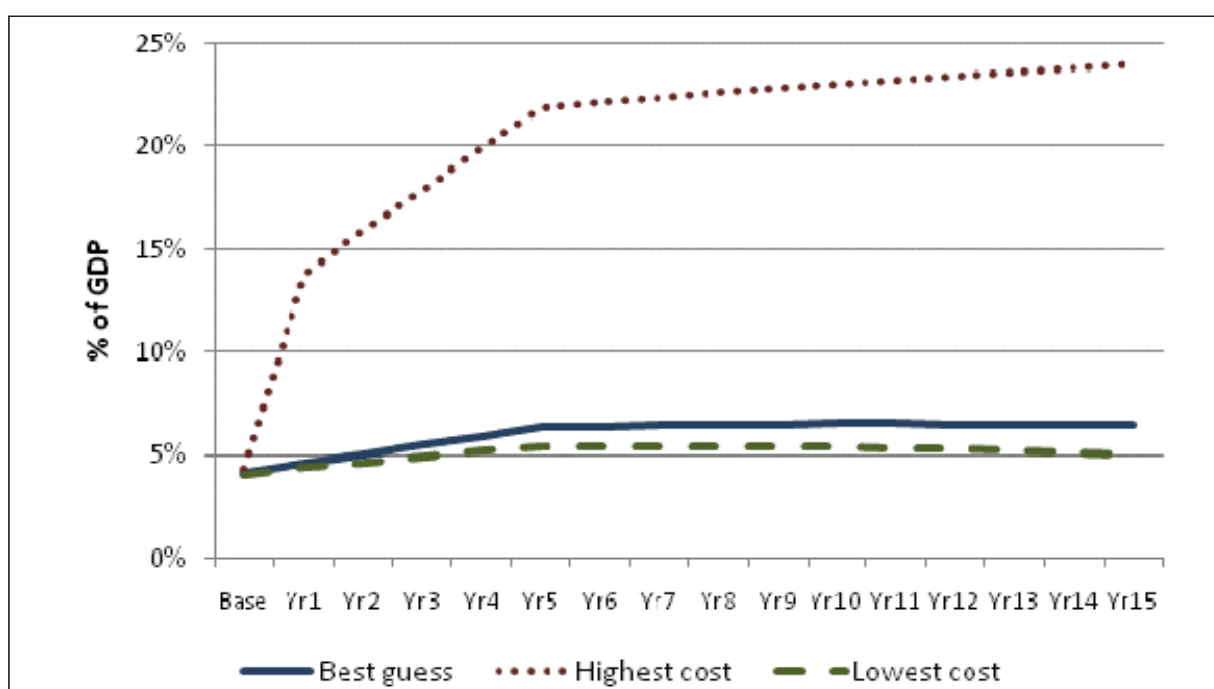
Figure 1 provides an overview of the potential resource requirements of a universal health system using the most extreme assumptions and the 'best guess' assumptions. The 'best guess' estimate indicates that in order to achieve universal coverage, public spending on health care would need to grow from its current level of just over 4% of GDP to about 6.4% of Gross Domestic Product (GDP). The 'lowest cost' estimate indicates that it is not feasible to achieve universal coverage by devoting less than 5% of GDP to public funding of the health system. The major difference between the 'best guess' and the

'lowest cost' options is that there is a lower utilisation of health services and more limited investment in improving the resourcing of public sector services in the 'lowest cost' estimate. Based on international experience of how health service utilisation has increased when financial barriers to health services have been removed, the 'best guess' scenario is more likely to represent the service utilisation situation under a universal health system.

The 'highest cost' estimate is truly a terrifying prospect – nearly 24% of GDP would be required from public funds to make universal coverage a reality under these assumptions. It is important to note that the identical assumptions about population growth and service utilisation levels are used in the 'best guess' and the 'highest cost' estimates.

The main factor that leads to the different results between these two estimates is the unit costs of services. The 'best guess' estimate is based on current unit costs in the public health sector, **but** with substantial improvements in resourcing over the first five years (10% per annum over and above normal inflation). This represents a vast improvement over the current public health system and is larger than the resourcing improvements recommended by the Development Bank of South Africa in their "Roadmap for the reform of the South African health system" report.

Figure 1: Predicted trends in public spending on a universal health system in South Africa for the three estimates



**“...a ‘private
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In contrast, the ‘highest cost’ estimate uses current private sector unit costs and assumes that the costs grow by approximately 3% above inflation every year (based on recent trends in private sector cost increases). There are a range of reasons why costs and expenditure within the private health sector are so high; whatever these reasons, Figure 1 clearly demonstrates that a ‘private sector approach’ to universal coverage is unaffordable.

The other assumption that contributes to the difference between these two estimates is the difference in assumptions about the level of administration costs. The ‘best guess’ estimate assumes that administration costs (simply for administering the funds and purchasing health services and not for management of the services themselves) would be about 3% of all other spending, while the ‘highest cost’ estimate assumes that it would be about 5%. International experience of universal health systems indicate that administration costs are generally 2-3% of other spending, but are as high as 5% in a few cases.

What do the models tell us about the design of a universal health system?

The models provide insights into the factors that can influence the sustainability of a universal health system. Particularly important are the following:

- ▶ The resource requirements for universal coverage will be heavily influenced by the level of unit costs of the services purchased. In particular, if the current full private sector fee level is paid per service used, universal coverage would be unaffordable and unsustainable (as indeed it would be for any country in the world). This implies that vastly improved resourcing of public sector services should be the core of the universal system and that careful design of purchasing of services from private providers (particularly in terms of reimbursement mechanisms and rates) is required.

- ▶ Administration costs should be kept to a minimum; careful attention needs to be paid to avoiding duplication of administrative functions and to ensuring an efficient administrative system.
- ▶ Utilisation increases must be managed carefully. A comparison of the results of the ‘lowest cost’ and ‘best guess’ estimates indicates that universal coverage can be achieved at a lower cost if utilisation increases are limited. Potentially the most important pre-conditions for appropriate utilisation are: to ensure that there are good community level services that will reduce the need to visit a health facility; to provide high quality, accessible primary level services; and to implement a strong gate-keeping system at primary level facilities with referral to specialists and hospitals taking place only when necessary.
- ▶ The pace of change must be carefully assessed. Potentially the greatest concern to policy makers about the universal coverage results is the rapid increase in the required public funding projected under this model. This pattern is particularly related to the assumption that there should be a dramatic improvement in resourcing of public sector services in the first five years. This is in line with the recommendations of the DBSA’s ‘Roadmap’ report. While it is critical to achieve demonstrable changes in public health services in the shortest time possible in pursuit of a universal health system, the pace of change should be reconciled with the likely availability of public funds.

What would a universal health system require in terms of tax resources?

Moving toward a universal health system will require more public funding than currently. How can this be achieved?

As a first step to improved public funding of health care, one could argue that the allocation to the health sector from the overall government budget should increase over time to 15%. This is in line with the Abuja declaration whereby African heads of state agreed in 2001 to devote at least 15% of government resources to health services. This commitment was reaffirmed at the African Union meeting of heads of state on 25-27 July 2010 in Kampala. Clearly this cannot happen overnight and would be phased in over time and requires a rethinking of public spending priorities.

Box 1

Key terms:

Progressive: Those with higher incomes contribute a greater percentage of their income to fund health services than those with lower incomes.

Proportional: All groups contribute the same percentage of their income to funding health care.

Additional revenue would be required over and above the increased allocation to the health sector from general revenue. It has been suggested that this should be generated from a dedicated health tax on income. The size of the additional tax on income (split between employers and employees for the wage or salary component of income) required to fund a universal system (using the 'best guess' estimate) was considered.

If a **proportional** dedicated income tax is applied, the maximum rate needed would be less than 4% of taxable income (with most of this being shared between employers and employees). The highest income tax payers currently pay about 41% of their income in tax and the dedicated health tax would increase this to about 43% - 44%. As low income earners pay a low percentage of their income in tax, a proportional dedicated tax would represent quite a large increase in their tax rate.

If a **progressive** dedicated income tax is implemented, the maximum tax rate would be 6% (with most of this being shared between employers and employees) while the minimum tax rate would be 1.2% (i.e. 0.6% for employers and 0.6% for employees). Once again, this would represent a substantial increase in tax for the lowest income earners, but far less than under a proportional system. It would, however, represent a larger increase for the highest tax group than under a proportional system; their tax rate would increase from 41% to about 44 - 45%.

If it is possible to contain health service utilisation increases (as in the 'lowest cost' estimate), universal coverage could be funded almost entirely by increasing the health budget's share of the total government budget to 15% (i.e. with no additional dedicated income tax needing to be levied).

**Acknowledgements**

Full details of the models and all assumptions used are available in a comprehensive report: McIntyre, D. (2010). *SHIELD Work Package 5 Report: Modelling the estimated resource requirements of alternative health care financing reforms in South Africa*. Cape Town: Health Economics Unit, University of Cape Town.

SHIELD reports are available from:
<http://web.uct.ac.za/depts/heu/SHIELD/reports/reports.htm>

This policy brief forms part of the research completed for the SHIELD (Strategies for Health Insurance for Equity in Less Developed Countries) project. SHIELD aims to critically evaluate existing inequities in health systems and to examine the extent to which mechanisms to provide financial protection can address these inequities in Ghana, South Africa and Tanzania.

**SHIELD partners
2006-2010****South Africa:**

- ▶ Health Economics Unit, University of Cape Town
- ▶ Centre for Health Policy, University of the Witwatersrand

Ghana

- ▶ Health Research Unit, Ghana Health Service

Tanzania

- ▶ Ifakara Health Institute

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- ▶ London School of Hygiene and Tropical Medicine

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- ▶ Koninklijk Instituut voor de Tropen

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- ▶ Medical Management Centre



SHIELD is a multi-partner project

Visit the SHIELD website: <http://web.uct.ac.za/depts/heu/SHIELD/about/about.htm>
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