Trade-offs in scaling up HIV treatment in South Africa

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Introduction
As argued by Mangham and Hanson (2010), in terms of equity, one of the key issues in scaling up is the trade-off between targeting resources to maximize coverage across all population groups versus targeting resources to reach poor and vulnerable groups. They further argue that while it may be efficient to achieve higher coverage by targeting the groups that are easier to reach (who are frequently wealthier), this approach to scaling up may result in widening inequalities in health outcomes between socio-economic groups. This commentary takes a different perspective on this equity/efficiency trade-off through focusing on how the cost-effectiveness of the chosen treatment strategy has an influence on the costs of scaling up as well as the constraints of going to scale, and ultimately on coverage or equitable access for all in need. These ideas are illustrated with reference to the case of HIV treatment (where HIV treatment is defined to include treatment and prophylaxis of opportunistic infections and events including tuberculosis treatment if required with some form of antiretroviral treatment—ART) in the South African public health care system.

Following Mangham and Hanson (2010) scaling up can be defined as ‘the objective or process of expanding coverage’ including ‘expanding the resources required’. While South Africa is a middle-income country, there are still sizeable resource constraints to scaling up access to the current package of HIV treatment within the public health system. This is partly owing to the very high burden of disease—17% of the global HIV burden (UNAIDS 2007). While substantial donor funding has recently become available to support the scaling up of ART, this is only approximately 2% of the overall resource envelope available in the South African public health system (Mark Blecher, National Treasury, personal communication). Costing estimates, however, suggest that 50% of these public sector resources will be needed for HIV-related treatment (including ART) within 10 years of reaching and sustaining equal access for those in need (Cleary et al. 2008).

Cost-effectiveness and the equity/efficiency trade-off
There is a great deal of debate in the health economics literature about the equity/efficiency trade-off and cost-effectiveness/utility analysis (Olsen 1997; Cookson and Dolan 1999; Dolan and Cookson 2000; Dolan and Olsen 2001; Nord 2005). Within this literature, efficiency is defined as the maximization of outcomes or health benefits from the resources devoted to health care (also known as health maximization). Following this logic, the most efficient intervention would be that with the lowest incremental cost-effectiveness ratio. If this is the only basis on which resource allocation decisions are made, one implication is that these decisions are made without considering the overall distribution of these benefits (Nord et al. 1995). However, research into the distributive preferences of policy makers and society shows that various other considerations are important and perhaps are more important than health maximization. For example, a study of health planners in Tanzania showed that the majority of respondents gave preference to life-saving interventions over non-life-saving interventions, all else equal (Ottersen et al. 2008). On the other hand, policy makers in Ghana gave equal preference to programmes targeting vulnerable populations and cost-effectiveness followed by severity of disease, number of beneficiaries and diseases of the poor (Jehu-Appiah et al. 2008). Other studies have also indicated that responsibility for own health status might matter, with lower preference given to the treatment of smokers versus non-smokers, for example (Nord et al. 1995). While there is a paucity of research into distributive preferences related to HIV treatment, it is possible that many of these are more important than health maximization. This could perhaps explain the focus on scaling up access to HIV treatment even though this may not be the most cost-effective use of resources.

However, once a decision has been made to scale up HIV treatment, the form of HIV treatment chosen will have implications for the costs of scaling up, constraints to scaling up and ultimately for the speed at which full coverage of those in need can be achieved.
Costs of scaling up

In South Africa, there have been a number of attempts to estimate the costs of meeting various HIV treatment scale-up targets (National Department of Health and National Treasury 2003; Cleary et al. 2005) and the recent ‘National Strategic Plan for HIV & AIDS and STIs’ (SANAC 2007) included a detailed costing (Cleary et al. 2007). However, while the emphasis on costing is important, until recently this has not always translated into an explicit consideration of the affordability or feasibility of providing the required resources. Perhaps unsurprisingly, therefore, there are increasing problems with provinces running out of funding for their ART programmes. According to the Minister of Health, these budget shortfalls mean that the targets contained within the abovementioned National Strategic Plan are unlikely to be reached (Govender 2009). Because of this, a key step in planning to scale up HIV treatment requires a consideration of the available budget and the capacity of the health system to absorb additional resources in the short to medium term.

Efficiency (equity) and effectiveness trade-offs

Once the available budget has been assessed, cost-effectiveness analysis can once again become a useful tool for guiding decisions around the form of treatment. When applied specifically to HIV treatment, cost-effectiveness can help to identify the strategy that will maximize the health gains to HIV-positive people within the budget specifically allocated to this care. While at the population level there is often a trade-off between equity and efficiency, within one specific programme such as HIV treatment, pursuing a more cost-effective approach will mean that coverage of those in need could also be maximized. For example, task shifting from doctors to nurses (Cleary et al. 2006), pursuing first-line ART only as opposed to first and second-line (Cleary et al. 2008), delivering care via community health centres and clinics as opposed to hospitals (Rosen et al. 2008), starting ART at CD4<200 cells/μl versus CD4<350 cells/μl (Badri et al. 2006; Loubiere et al. 2008) and limiting the number of laboratory monitoring tests (Cleary et al. 2006) have all shown the potential to enhance cost-effectiveness. If budgets are constrained, the more cost-effective the form of care, the higher the potential coverage of those in need. The ethical dilemma, however, is that many of the interventions that show promise can be increased to accommodate universal access to this more effective form of care, then clearly overall health gains will be higher. At the programme level, there is therefore less of a trade-off between efficiency and equity than there is between efficiency, equity and effectiveness.

Conclusion

The scale of need for ART makes priority setting complex and ethically fraught. Mangham and Hanson (2010) have indicated a potential equity/efficiency trade-off in scaling up between quickly providing access to the easy to reach groups (e.g. wealthier groups in urban areas) versus specifically targeting resources to poor and vulnerable groups that might be harder and more costly to reach. This commentary further develops the theme of equity/efficiency trade-offs by examining these at the programming level. The commentary argues that if there are constraints to achieving equitable access to more effective forms of ART, then the more cost-effective forms of care might allow for higher access to care for those in need.

References


Global health initiatives: opportunities or challenges?

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Global health initiatives

In response to the 2000 global commitment towards Millennium Development Goals (MDGs) and the 2001 UN General Assembly Special Session on HIV/AIDS, there were significant increases in global funding for disease-specific interventions, in particular HIV/AIDS and other diseases such as TB and malaria. These increases in financial resources demonstrated a moral commitment and a sense of urgency to halt deaths from these major diseases.

Three global HIV/AIDS initiatives contribute most of the direct external funding to resource-poor countries for scaling up HIV/AIDS prevention, treatment and care. These are the World Bank Global HIV/AIDS Program including the Multi-country AIDS Program (MAP); the Global Fund to fight AIDS, Tuberculosis and Malaria; and the United States President’s Emergency Plan for AIDS Relief (PEPFAR). The Global Alliance on Vaccines and Immunization (GAVI) has contributed significantly to scaling up routine immunization coverage while also introducing hepatitis B and Haemophilus influenzae B vaccines, and recently pneumococcal conjugated and rotavirus vaccines.

This commentary identifies opportunities and challenges posed by these global health initiatives (GHIs). It discusses and recommends how to maximize opportunities and minimize risks to the sustainability of national priority health programmes in the longer term beyond the funding.

Opportunities

A GHI furnishes a number of opportunities. It claims to promote transparency and accountability among recipient countries, for example through pay for performance mechanisms. It increases coverage and access through scaling up of cost-effective interventions when more financial resources are available. The claim that GHI contributes to health system strengthening is controversial; strong health systems are the prerequisite for successful GHI implementation. Some G such as GAVI and the Global Fund started to provide