

Progress towards equitable health care resource allocation in east and Southern Africa

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Executive summary

There are large disparities in the health care resources available to different districts, regions and provinces within individual countries. Using a resource allocation formula, that is based on indicators of the relative need for health care within each geographic area, has been found to be helpful in overcoming historical allocation patterns.

This report, implemented under the fair financing theme in the Regional network for equity in health in east and southern Africa (EQUINET) assesses whether there has been progress towards equitable resource allocation in four Southern African countries which have adopted such formulae (Namibia, South Africa, Zambia and Zimbabwe). Researchers in Namibia, South Africa, Zambia and Zimbabwe provided information on implementation progress in their countries.

All the countries reported on are attempting in some way to allocate public sector health care resources between geographic areas (e.g. districts, regions or provinces) using a needs-based formula. They use indicators of the relative need for health services in each geographic area to guide resource allocation decisions.

- The resource allocation formula adopted in *Namibia* is based on the size of the population in each region, weighted by the demographic composition of the population and the level of deprivation.
- In *South Africa* allocations to provinces are based on a formula which includes indicators of need for health, education and other services for which the provinces are responsible. In the case of the health component, the relative need for publicly funded health services is based on the size of the population who are not covered by any form of private health insurance plus 25% of the size of the population who are covered by private health insurance. Inter-provincial resource allocations are weighted by the level of poverty within each province.
- The resource allocation formula adopted in *Zambia* is based on the size of the population in each geographic area, weighted by an indicator of the burden of disease and the level of deprivation.
- *Zimbabwe* proposed using a needs-based formula that included the population size in each area weighted by a number of indicators of morbidity and mortality (the infant mortality rate, maternal mortality rate and tuberculosis incidence rate), service coverage (immunisation rates) and an indicator of socio-economic status (availability of grain per capita).

While there has been progress towards equitable allocation of health care resources in various Southern African countries that use such needs-based formulae, there is still a long way to go. Implementation of resource allocation strategies can be strengthened by increasing the proportion of government funding allocated to the health sector, integrating financing mechanisms (such as donor and government tax funding) and allocating these resources through a single mechanism, establishing and monitoring annual targets towards equitable allocation, identifying explicit strategies for the relative redistribution of health care staff and careful management of the resource allocation policy development and implementation process.

1. Background

Many African countries face the problem of health care spending levels being very different between individual provinces or regions and districts. This is largely a historical inheritance, with health services, particularly hospitals which consume the major share of health care resources, being heavily concentrated in the largest urban areas, and rural districts and provinces or regions being relatively under-resourced. A key health policy goal in almost all African countries has been to provide equitable access to health care for their citizens. This goal implies that health care resources (financial, human and facilities) should be equitably distributed between geographic areas. This would ensure that citizens are not disadvantaged in their access to health care purely because of their place of residence.

Once a pattern of distribution of health care facilities has been established, financial resources tend to be allocated towards existing facilities, existing staff establishments and/or utilisation patterns rather than according to the distribution of population health needs. Internationally, it has been found that using a needs-based resource allocation formula is a helpful strategy for breaking the historical inertia in resource allocation patterns. The basic premise of such formulae is that public sector health care resources should be distributed between geographic areas (such as provinces or regions and districts) according to the relative need for health services in each area.

A growing number of African countries have adopted some form of needs-based formula to guide the allocation of health care resources. This has often been initiated after health service decentralisation has been implemented. Over the past few years, a number of country case studies on resource allocation issues have been undertaken with EQUINET support. These case studies particularly explored the feasibility of incorporating measures of deprivation in a needs-based formula to guide the allocation of health care resources within three countries: South Africa (McIntyre *et al.* 2001), Namibia (Ministry of Health, Namibia, World Health Organisation 2005) and Tanzania (Semali and Minja 2005).

The findings of these country case studies were discussed at a workshop in April 2005, which was also attended by participants from Zambia and Zimbabwe who had undertaken similar studies (Central Board of Health 2003; Ministry of Health, Zimbabwe, Training and Research Support Centre 2001). The workshop participants recommended that EQUINET support further work on equitable resource allocation, particularly in order to monitor progress in implementing strategies to promote the equitable allocation of health care resources.

In 2006, a call for proposals to undertake research into progress in implementing resource allocation strategies was issued. A proposal from Zambia was funded, and the results of this research have been published by EQUINET (Chitah and Masiye 2007). In addition, researchers in Namibia, South Africa, Tanzania and Zimbabwe were approached to provide information on implementation progress in their countries, with responses from South Africa, Namibia and Zimbabwe. This report provides a brief overview of the findings from this work.

2. Current status of resource allocation initiatives

All the countries reported on are attempting in some way to allocate public sector health care resources between geographic areas (e.g. districts, regions or provinces) using a needs-based formula, i.e. they use indicators of the relative need for health services in each geographic area to guide resource allocation decisions. The indicators most frequently used internationally to measure the relative need for health services between different geographic areas are:

- population size;
- demographic composition, as young children, the elderly and women of childbearing age tend to have a greater need for health services;
- levels of ill-health, with mortality rates usually being used as a proxy for morbidity; and
- socio-economic status, given that there is a strong correlation between ill-health and low socio-economic status and that the poor are most reliant on publicly funded services.

2.1 Namibia

The resource allocation formula adopted in Namibia is based on the size of the population in each region, weighted by the demographic composition of the population and the level of deprivation. The estimated level of deprivation in each region was estimated through a composite index, which included the following variables, using data from the 2001 Namibia Demographic Health Survey:

- whether the household has electricity, a radio, a television, a refrigerator, any bicycles, any motorcycles, a car or a telephone;
- the main household source of drinking water;
- the main type of toilet facility used by the household; and
- the main type of flooring material in the home.

Although there has been high level commitment to implementing the formula and an agreement to establish a task team to manage the implementation process, this team has not yet been established and the formula has not been implemented to date. This is largely due to there being a number of unfilled Director posts in sections of the Ministry critical to the resource allocation process.

2.2 South Africa

In South Africa, *health care* resources are not allocated by the national level to individual provinces. Instead, national level resources are allocated as a 'block grant' to provinces, who then have autonomy in deciding how to allocate these resources between the health and other sectors (i.e. South Africa has a 'fiscal federal' system). Nevertheless, allocations to provinces are based on a formula which includes indicators of need for health, education and other services for which the provinces are responsible. This formula has been refined over time, and has been strictly applied since South Africa adopted a fiscal federal system in 1996/97. There is also complete transparency in this process in that National Treasury publishes the full details of the formula and allocations to each province at the time of the presentation of the annual budget to Parliament.

In the case of the health component, the relative need for publicly funded health services is based on the size of the population who are not covered by any form of private health insurance plus 25% of the size of the population who are covered by private health insurance (on the assumption that those who are privately insured will still use some public sector services). While no burden of disease or socio-economic variables are taken into account in the health component of the inter-provincial resource allocation formula, another component provides a reasonably heavy weighting for the level of poverty within each province. The weighting of the poverty component has been gradually increased over the past few years.

There have been various discussions about introducing needs-based formulae to guide the allocation of health care resources from provincial Departments of Health to health districts. However, there has been no progress in this regard.

2.3 Zambia

The resource allocation formula adopted in Zambia is based on the size of the population in each geographic area, weighted by an indicator of the burden of disease and the level of deprivation. The table below summarises the variables that were included in the deprivation index, which used data drawn from the 2002-3 Living Conditions Monitoring Survey and 2000 Census.

% of households situated more than 5km to food market
% of households situated more than 5km to primary school
% of households situated more than 5km to Boat/Bus/Taxi transport
Poverty headcount
Proportion of households with houses of poor material
Proportion of households with no electricity/gas/solar for lighting
Proportion of households with no electricity/gas/solar for cooking
Proportion of households without electricity
Proportion of households without car
Proportion of households without radio
Proportion of households without TV
Proportion of households without safe toilet
Proportion of households without safe water source
Illiteracy rate

A Resource Allocation Working Group (RAWG) was established, including a range of key stakeholder groups, to develop the abovementioned resource allocation formula and oversee the process of allocating resources. However, there has been major restructuring within the Zambian health sector. The Central Board of Health (CBoH) (which was the health service implementation organisation, established as a separate entity from the Ministry of Health) has recently been dissolved and all its functions returned to the Ministry of Health. With the dissolution of the CBoH, the RAWG was also dissolved. This has hampered the implementation of the resource allocation strategy and a single official has assumed authority to determine these allocations. Nevertheless, it appears that the broad principles of the resource allocation strategy are still being applied, but that the pace of change has been tempered. Resources for primary health care services are allocated directly from the Ministry of Health to individual districts.

2.4 Zimbabwe

Zimbabwe proposed using a needs-based formula that included the population size in each area weighted by a number of indicators of morbidity and mortality (the infant mortality rate, maternal mortality rate and tuberculosis incidence rate), service coverage (immunisation rates) and an indicator of socio-economic status (availability of grain per capita).

Although there is a commitment to pursuing equitable allocation of resources, this has been very difficult in recent years due to the hyper-inflation experienced in the country and the declining share of government funds being allocated to the health sector (e.g. from 10.7% in 2005 to 6.3% in 2006). It is very difficult to effect a relative redistribution of resources in the face of substantial reductions in the real health budget.

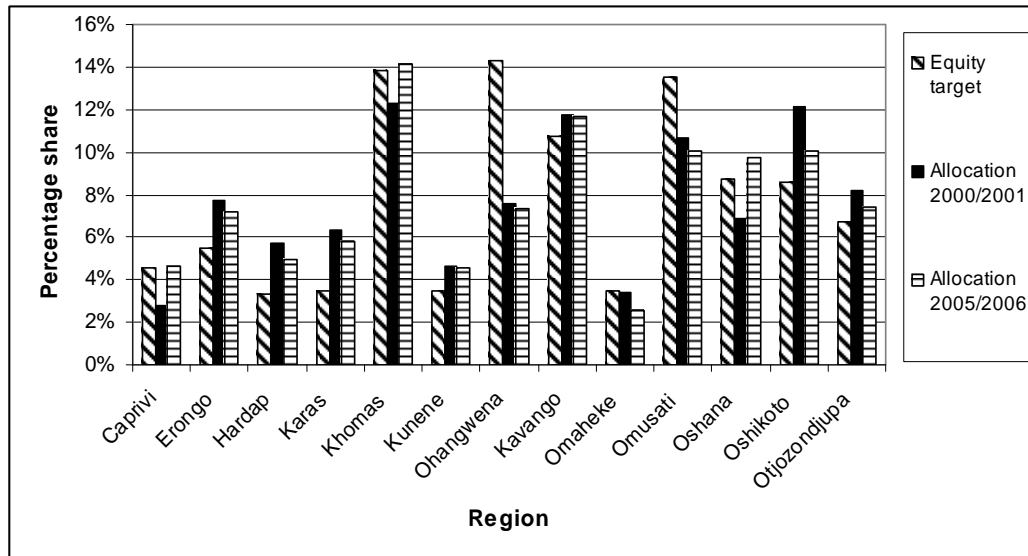
3. Progress towards equitable resource allocation

This section presents some data to explore the extent to which there has been progress towards equitable resource allocation in these four countries in recent years.

3.1 Namibia

Figure 1 compares the share of total public sector health care resources that each region should receive based on the needs-based resource allocation formula with the actual allocations in 2000/01 and 2005/06. Although the resource allocation formula has yet to be formally implemented, it is evident that in many regions, there has been progress towards the equity target allocations. For example, Caprivi, Khomas and Oshana which were below their equity targets have received substantial allocation increases. In contrast, regions such as Erongo, Karas and Oshikoto which were above their equity targets have received a reducing share of the allocations.

Figure 1: Resource allocation trends in Namibia



Source: Data from Ministry of Health, Namibia (collected by T. Mbeeli)

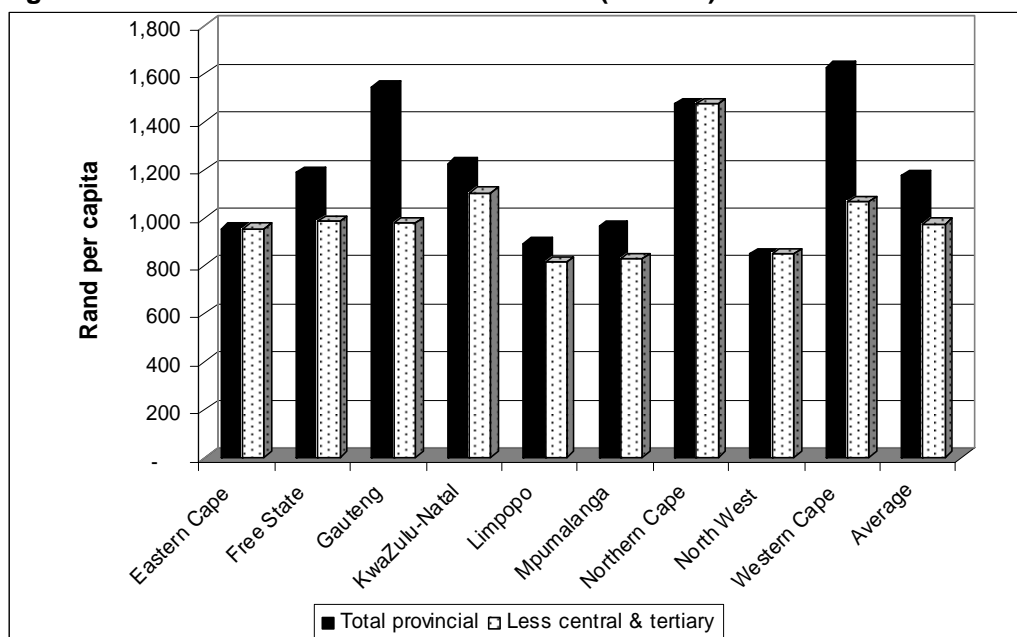
It is conceivable that awareness of which regions have high levels of deprivation and the greatest relative need for health care (based on other indicators such as population size and burden of illness) may already have translated into changes in budget allocations.

3.2 South Africa

In South Africa, there has been clear progress towards greater equity in inter-provincial health care expenditure. Given that South Africa has a different resource allocation mechanism (block grants to provinces and provincial decision-making on allocations to health and other sectors) than other countries considered in this report, the data is presented in a slightly different way.

Figure 2 compares the level of spending per person dependent on public sector services in each province to the national average (last bars in figure), with the average level providing an indication of the equity target level.

Figure 2: Resource allocation in South Africa (2005/06)



Source: Data on expenditure drawn from: National Treasury (2006) Provincial budgets and expenditure review: 2002/03 - 2008/09. Pretoria: National Treasury

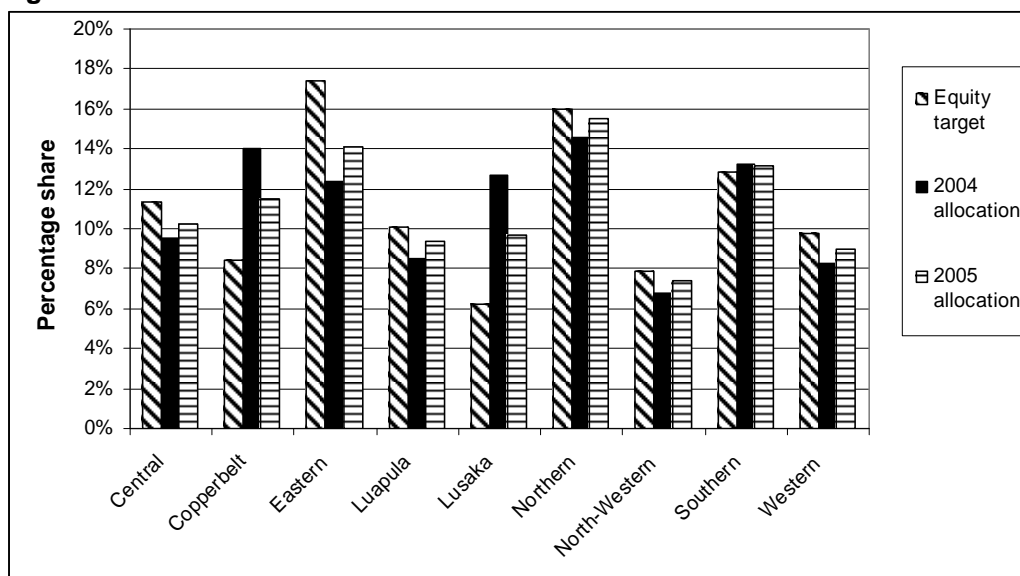
It demonstrates that by 2005/06, total public sector health care expenditure per person dependent on public sector services was about twice as high in the Western Cape as in North-West (compared to being five times greater in 1992/93). If spending on highly specialised services (central and tertiary hospitals) is excluded, the gap diminishes somewhat to 1.8 times greater in the highest spending province (Northern Cape when central hospital spending is excluded) than the lowest spending province (Limpopo), which is a small reduction in the disparities that existed in 1992/93.

The Northern Cape is regarded as a 'special case', requiring greater than average funding levels. This province is extremely sparsely populated (about 2.5 people per square kilometre) and spans a vast area (of over 360,000 square kilometres), which translates into a higher cost per person in order to deliver accessible health services. The appropriate comparison would, thus, be the province with the next highest spending levels, KwaZulu-Natal, which spent about 1.4 times more per person dependent on public sector services than Limpopo in 2005/06, which is a definite improvement on the 1992/93 level of a two-fold difference.

3.3 Zambia

The impact of the implementation of the resource allocation formula in Zambia is clearly evident in *Figure 3*. Even though the pace of change has been tempered, there, we see dramatic shifts in allocations between 2004 and 2005.

Figure 3: Resource allocation trends in Zambia



Source: Data from Ministry of Health, Zambia (Chitah and Masiye 2007)

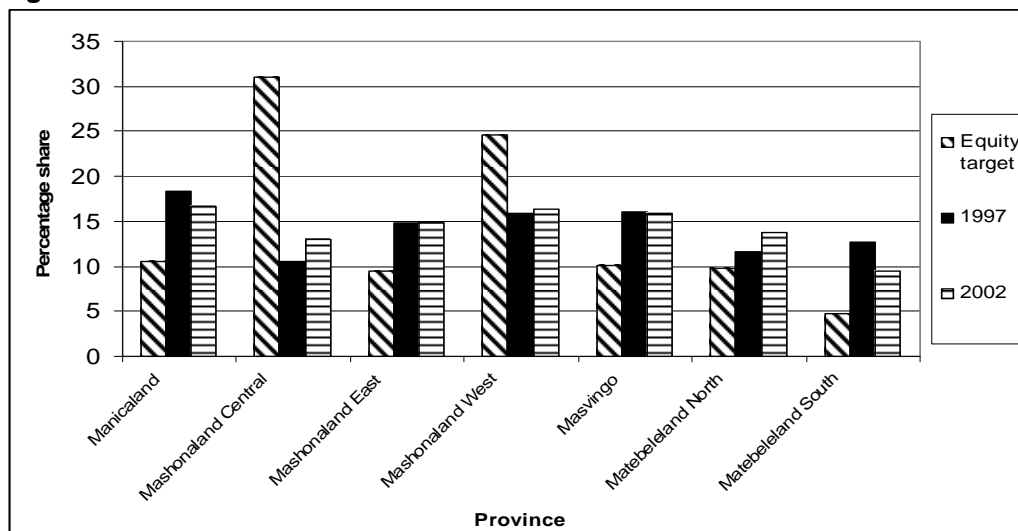
Once again, the data are presented in a way that compares the share of total public sector health care resources that each province should receive based on the needs-based resource allocation formula with the actual allocations in 2004 and 2005.

Those provinces that were relatively below their equity target shares in 2004 (such as Central, Eastern, Luapula, Northern, North-Western and Western provinces) all received an increased allocation in 2005. Simultaneously, those provinces above their equity target (such as Copperbelt, Lusaka and Southern) received reduced allocations in 2005.

3.4 Zimbabwe

It is difficult to evaluate progress towards equitable resource allocation in Zimbabwe as total public sector health care expenditure in each province is not routinely collated. Instead, only information on recurrent expenditure excluding salaries and wages is collated per province on a routine basis.

Figure 4: Resource allocation trends in Zimbabwe



Source: Data for allocations in 1997 & 2002 from Ministry of Health, Zimbabwe (collected by S. Shamu and L. Mabande); Equity targets from MoH & TARSC (2001)

Figure 4 compares the equity target for total health care expenditure (MoH and TARSC 2001) with actual non-staff recurrent expenditure in 1997 and 2002. There has been very gradual progress towards the equity target in Manicaland, Mashonaland Central and West and Matabeleland South with little progress in the other provinces.

4. Obstacles to implementing equitable resource allocation strategies

A number of factors that pose obstacles to successfully pursuing the equitable allocation of public sector health care resources have been identified.

A very important factor is the lack of senior staff at national level to drive the resource allocation process (e.g. vacant Director positions in Policy and Planning, Human Resources and Finance and at the Under-Secretary level in relation to Policy Development and Resource Management in one country). There was also a lack of support staff with the technical capacity to undertake health equity analyses.

Another obstacle identified in some countries has been the lack of explicit annual allocation targets. The use of a needs-based formula indicates the *ultimate* allocation of resources desirable from an equity perspective. However, reaching this equitable allocation of resources cannot be achieved overnight; it rather has to be phased in over time. This requires that the pace of relative redistribution of resources is carefully considered and a set of phased, annual resource allocation targets is set. This has not occurred in many countries. Setting these targets and publicising them is critical in order to reduce opposition from areas that stand to lose from resource redistribution, as it will be evident that the pace of change is realistic and allows each area authority to plan for allocation changes. Transparent targets also allow for public scrutiny and monitoring of progress towards the targets.

A related constraint is the availability of information for monitoring allocation progress. For example in Zimbabwe, recurrent expenditure in the public sector is only reported on a provincial basis for non-staff expenditure. As staff are centrally paid, information on the distribution of salaries between provinces is not routinely available. Salaries comprise the largest share of health care expenditure and thus, non-staff recurrent expenditure provides a very distorted view of resource allocation between geographic areas.

A key constraint experienced in many countries is that of limited total public sector resources available for the health sector. The first country to adopt a strategy of allocating health care resources between geographic areas on the basis of a needs-based formula (England) did so at a time when their budget was increasing. In this context, it was feasible to achieve a relative redistribution of resources through allocating all of the additional budget available annually to the most under-resourced areas while keeping the budgets of relatively over-resourced areas static in real terms (i.e. only allowing a small increase to take account of inflation).

In contrast, where total public sector health care resources are very constrained, one effectively has to reduce the health budgets of relatively over-resourced areas in order to increase the budgets of relatively under-resourced areas. This is far more politically and technically difficult to achieve than the approach adopted in England. Where resources available for the health sector are wholly inadequate, policy makers are faced with a difficult challenge of deciding whether resources should be redistributed so that each area is equally under-funded or whether some areas should remain 'better-off' than others, yet possibly still being under-funded in terms of having adequate resources to meet the needs of the population they serve.

The existence of numerous vertical programs also constrains the ability to achieve a relative redistribution of resources. Vertical programs essentially protect allocations to specific services and reduce the pool of general health sector funds that are available for equitable allocation between geographic areas. A related issue is that in some instances, only a portion of total health care resources are allocated using the needs-based resource allocation formula. For example, in Zambia, only primary health care funds are allocated using the formula while hospital funding is allocated via a different mechanism. Given that hospitals account for a sizeable share of health care expenditure, this limits the extent to which equity in overall government expenditure can be achieved.

Finally, although it is a relatively simple matter to redistribute budgets on paper, it is another matter altogether to achieve actual shifts in expenditure patterns. As the health sector is very human resource intensive, staff redistribution is required. This requires negotiations with trade unions and/or has to be undertaken over an extended period of time by closing posts in relatively well-resourced areas as and when staff resign and opening posts in relatively under-resourced areas.

5. Factors that facilitate implementation of equitable resource allocation strategies

A key factor that contributes to the implementation of equitable resource allocation strategies is a clear policy commitment to equity and to redistribution. All of the countries included in this review have a policy commitment to promoting equity within the health sector. The Namibian Ministry of Health and Social Services, in its policy framework of 1998, goes further to commit to redistribution: "All Namibians shall have equal access to basic health care and social services provided by the Ministry. Particular emphasis shall be paid to resource distribution patterns in Namibia to identify and accelerate the correction of disparities." In addition, the Namibian Government's Poverty Reduction Strategy of 2002 commits the government to achieve a reduction in inter-regional disparities in resource allocation through an appropriate resource allocation formula. The impact of this commitment is evident in the resource redistribution documented in *Figure 1* above. Zambia made similar commitments in its National Health Policy and Strategies Document (1991) and National Health Strategic Plan (1996) as did Zimbabwe in its National Health Strategy and South Africa in its White Paper on the Transformation of the Health System (1997).

The adoption of Medium-Term Expenditure Frameworks (MTEF) by some countries such as Namibia and South Africa, also facilitates the relative redistribution of health care resources. MTEF is a system of three-year rolling budgets, e.g. budgets for 2006/07, 2007/08 and 2008/09 are set during 2005. Although the budgets for 2007/08 and 2008/09 can be revised in 2006, the broad parameters of the budget envelop should not change dramatically. The MTEF can be used to indicate how resources will be allocated between geographic areas in the medium-term and allows the health authorities in each area to plan appropriately for the use of the resources that they will be allocated.

In some countries, particularly Zambia, bilateral and multilateral donor agencies have been a facilitating force in the resource allocation process. As Zambia has a Sector Wide Approach Programme (SWAP), donors participate in planning for the allocation of resources, and strongly supported the development of a needs-based formula for the allocation of resources, and encouraged its implementation.

Finally, and possibly most importantly, an important facilitating factor has been engaging with key stakeholders in the process of developing and implementing an equitable resource allocation strategy. Stakeholders include those who provide funding for public sector health services such as the Ministry of Finance and donors, managers at the provincial / regional, district and facility level as well as frontline health workers. It is critical that as many stakeholders as possible 'buy-in' to the need for a relative redistribution of resources between geographic areas in pursuit of equity goals. If this support is not secured, there is likely to be considerable overt and covert opposition to the process. Resource allocation is a highly politicised process and adequate attention needs to be paid to the resource allocation policy development and implementation process in order for it to be successful.

6. Conclusions

While there has been very encouraging progress in the relative redistribution of health care resources between provinces or regions in the countries surveyed, there is still a long way to go before equitable resource allocation is achieved. Based on the experience of these four countries, the following proposals are made to strengthen the implementation of resource allocation strategies:

- Other research by EQUINET indicates that there has been very limited progress towards the Abuja target of devoting 15% of government funds to the health sector (EQUINET SC 2007). Increasing the overall allocations to the health sector will allow governments to effectively redistribute health care resources. All of the additional budget available annually can be allocated to the most under-resourced areas while keeping the budgets of relatively over-resourced areas static in real terms (i.e. only allowing a small increase to take account of inflation).
- Careful attention should be paid to the process of developing and implementing the resource allocation strategy. In particular, there should be widespread engagement with key stakeholders to ensure that all understand the necessity for a relative redistribution of health care resources and commit themselves to pursuing an equitable sharing of available resources. In addition, it is very helpful to have a 'policy champion' in the form of a very senior Ministry of Health official who will motivate for and monitor progress in an equitable resource allocation strategy.
- A reasonable pace of change should be adopted for the relative redistribution of health care resources and clear annual targets for progress toward equitable resource allocation should be specified. This will facilitate appropriate planning and avoid unnecessary disruption to services.
- Strategies must be put in place to facilitate a relative redistribution of staff. This may include negotiations with trade unions and initiatives such as offering additional allowances, preferential training opportunities and other incentives to attract health workers to rural areas.

Resource allocation is a highly politicised process and the resource allocation policy development and implementation process requires careful management in order for it to be successful.

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Equity in health implies addressing differences in health status that are unnecessary, avoidable and unfair. In southern Africa, these typically relate to disparities across racial groups, rural/urban status, socio-economic status, gender, age and geographical region. EQUINET is primarily concerned with equity motivated interventions that seek to allocate resources preferentially to those with the worst health status (vertical equity). EQUINET seeks to understand and influence the redistribution of social and economic resources for equity oriented interventions, EQUINET also seeks to understand and inform the power and ability people (and social groups) have to make choices over health inputs and their capacity to use these choices towards health.

EQUINET implements work in a number of areas identified as central to health equity in the region:

- Public health impacts of macroeconomic and trade policies
- Poverty, deprivation and health equity and household resources for health
- Health rights as a driving force for health equity
- Health financing and integration of deprivation into health resource allocation
- Public-private mix and subsidies in health systems
- Distribution and migration of health personnel
- Equity oriented health systems responses to HIV/AIDS and treatment access
- Governance and participation in health systems
- Monitoring health equity and supporting evidence led policy

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