

Health Personnel in Southern Africa: Confronting maldistribution and brain drain

Regional Network for Equity in Health in Southern Africa
(EQUINET)
Health Systems Trust (South Africa)
and MEDACT (UK)



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By Ashnie Padarath (1), Charlotte Chamberlain (2), David McCoy
(2), Antoinette Ntuli (1), Mike Rowson (2), Rene Loewenson (3);
(1) Health Systems Trust, (2) Medact,
(3) Training and Research Support Centre

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EXECUTIVE SUMMARY

Without a foundation of skilled human resources, healthcare systems cannot function adequately or effectively, particularly in the public sector and at the primary level of care. However, health systems in southern Africa face a variety of health personnel problems, including overall scarcity and an inequitable distribution of health personnel.

EQUINET commissioned this review of the literature as a discussion paper to inform its future work in this area. This work aims, in cooperation with an international network of public health organisations, to confront the negative impacts of the maldistribution of and loss of health personnel from health sectors in southern Africa and to support equitable policy development and implementation. The programme seeks to explore, review and harmonise, where relevant, policy tools for enhancing health equity in personnel distribution in southern Africa; strengthen mechanisms for managing the policy interactions between health professional associations and health unions and state authorities on health personnel issues; and facilitate and inform dialogue on policy options for dealing with the attrition of health personnel from southern Africa to selected high-income countries, including the United Kingdom, Australia and Canada.

The report provides evidence of inadequate ratios of personnel to population for key skilled health personnel, and a maldistribution of personnel along three different axes, between:

- public and private health sectors
- urban and rural areas
- tertiary and primary levels of the health system.

The report describes the exodus of healthcare workers from areas of poverty and low socio-economic development, to more highly developed areas. The flows follow a hierarchy of 'wealth' and result in a global conveyor belt of health personnel moving from the bottom to the top, increasing inequity. The report describes personnel flows and migration from rural to urban areas, from public to private sectors, from lower to higher income countries within southern Africa and from African countries to industrialised countries. International migration further increases and exacerbates inequities that exist between the public and private sector and between urban and rural areas. The knowledge and skills loss from the poorer to the richer countries is considered as a form of reverse (poor to rich) subsidy.

There are a variety of push and pull factors that impact on the movement of healthcare workers, arising both within and beyond the health system. Factors endogenous to the health care system are low remuneration levels, work associated risks including of diseases like HIV/AIDS and TB, inadequate human resource planning with consequent unrealistic work loads, poor infrastructure and sub-optimal conditions of work. Exogenous push factors are also noted, including political insecurity, crime, taxation levels, repressive political environments and falling service standards. Movement is also

influenced by pull factors, including aggressive recruitment by recipient countries, improved quality of life, study and specialisation opportunities and improved pay.

These push and pull factors are mitigated by 'stick' factors in source countries, which lead to greater personnel retention, including family ties, psychological links with home, migration costs, language and other social and cultural factors. 'Stay' factors influence decisions to remain in recipient countries and influence rates of return of personnel. These include reluctance to disrupt family life and schooling, lack of employment opportunities in host country and a higher standard of living in the recipient country.

These factors are presented in the context of current approaches to training and retention of health personnel in southern Africa. They are analysed for their costs and benefits to source and recipient areas and countries, and for their impact on equity in health personnel distribution.

This initial review of the literature indicates that a new policy momentum exists in relation to human resources for health. This draws from a number of political, economic, trade and labour rights trends, but also from the extent to which personnel scarcities have become a critical limiting factor in health interventions. Policy initiatives are being taken at regional, international and global level by government, private and health professional actors. On the other hand millions of health workers are 'acting with their feet', demonstrating their own response to weaknesses in the system by securing the personal 'best options' for themselves. While this responds to individual demands for security and wellbeing, it has costs to the health workers, the primary and district level of health systems, the poorest populations and public health sectors in the south.

The literature review highlights constraints to designing policies that neither punish workers nor leave poor communities unfairly underserved. These include the availability of timely and accurate information on health personnel distribution and movements, and the paper presents a conceptual framework for approaching and further developing a wider mapping of determinants of health personnel distribution and flows. It is also argued that while a host of factors influencing personnel flows are identified, there is inadequate specific assessment of the relative impact of these factors in different settings with different mixes of personnel; and of how different policy measures have impacted on them, objectively and from the view of stakeholders relevant to the issue. This is suggested to call for more country specific analysis, given the range and variability across countries of health sector and exogenous (non-health sector) conditions that influence human resource outcomes. It is also argued that systematic evidence is needed on the size and characteristics of the brain drain and its consequences to identify the distribution of costs and benefits from current trends.

Available literature signals but does not adequately elaborate the role of institutional and governance factors in policy development on human resource issues, but provides sufficient evidence that it is an area where stakeholder perceptions and interests cannot be ignored. Whatever process is used to generate and analyse evidence needs to be accompanied by opportunities for reflection and input from key stakeholders, from national to international level.

Health Personnel in Southern Africa: Confronting maldistribution and brain drain

1. INTRODUCTION

By far the most significant component of any health system is its health personnel. Without a foundation of skilled human resources, healthcare systems cannot function adequately or effectively, particularly in the public sector and at the primary level of care. Health systems in southern Africa have improved in their performance at those times when there have been improvements in the deployment and orientation of health personnel towards major health problems and improvements in the effective use of staff time; also when tasks and resources have been in better balance at primary care level. Research from other countries show a correlation between quality of care, healthcare outcomes and the availability of health personnel.^{1,2}

However, health systems in southern Africa face a variety of health personnel problems. These include an overall lack of personnel in key areas of the health sector; an inequitable distribution of those health personnel who are available; and a significant attrition of trained personnel from the health sector and from the region. The availability of health personnel in Africa is considerably worse than in other regions of the world and it is one of the stumbling blocks to the delivery of adequate healthcare. These issues were raised in Regional Network for Equity in Health in Southern Africa³ in 1998, profiled in an EQUINET discussion paper on the situation of health personnel in Zimbabwe⁴ and raised as a priority issue for concern in the Call for Action made at the 2000 EQUINET southern African Meeting on Equity in Health.⁵

In a follow up to this, EQUINET commissioned a discussion paper intended to inform its future work in this area. This work broadly aims, in cooperation with an international network of public health organisations, to confront the negative impacts of the maldistribution and loss of health personnel from health sectors in southern Africa and to support equitable policy development and implementation. The programme seeks to;

- explore, review and harmonise, where relevant, policy tools for enhancing health equity in personnel distribution in southern Africa
- strengthen mechanisms for managing the policy interactions between health professional associations and health unions and state authorities on health personnel issues
- facilitate and inform dialogue on policy options for dealing with the attrition of health personnel from southern Africa to selected high income countries, including the United Kingdom, Australia and Canada.

This report reviews available literature to present an overview of the distribution and migration patterns of health personnel at national, regional and international level; the determinants and causes of such patterns; and the possible policy options for enhancing a shift towards greater equity.

The review is an ongoing piece of work that will continue to be developed and updated as new evidence is provided. The issues, research questions and policy concerns raised in this document will be taken forward in EQUINET's future programme of work in this area.

This report examines the pattern of health personnel movement and migration, the factors that impact on inequity in distribution and on decisions to migrate, the current policy and stakeholder responses and the issues arising for future work on health personnel in southern Africa. **Section two** explores the distribution, movement and migration of health personnel within southern African countries, between southern African countries and outside the southern African region, and the determinants of these distribution patterns. **Section three** looks at the production and attrition of health personnel in southern Africa, and **Section four** the level and impact of migration at recipient country, source country and at an individual level. **Section five** reviews existing policy options and current stakeholder responses and **Section six** the issues arising for future EQUINET work.

2. HEALTH PERSONNEL IN SOUTHERN AFRICA

2.1 Availability and distribution of health personnel

At a regional conference on Brain Drain and Capacity Building (February, 2000) the Deputy Executive Secretary of the Economic Commission for Africa, Lalla Ben Barka, predicted that 'Africa could claim the 21st century if the issues of human and institutional capacities were placed as top priorities of development.'¹

In contrast, health sectors in Africa face significant shortfalls in human resources. According to the World Health Organisation (WHO), 31 countries in Africa do not meet the 'Health for All' standard of a minimum of one doctor per 5000 people.⁶ In the 1980s, for example, the doctor: population ratio was 1:10 800 in sub-Saharan Africa, compared to 1:1400 in all developing countries and 1:300 in industrialised countries.⁶ Worse still, since the 1980s, the situation has deteriorated. In the 1990s the doctor: population ratio in Malawi, Mozambique and Tanzania was 1:30 000 or more and in Angola, Lesotho, Zambia and the Democratic Republic of Congo this ratio stood at 1:20 000.⁶

Although Africa has a better supply of nurses, it still lags behind other regions of the world. In the 1980s, for example, the nurse: population ratio in Africa was 1:2100, compared to 1:1700 persons in all developing countries and 1:170 in industrialised countries.⁶

Within Africa itself there is a considerable variation in health personnel availability as shown in Table 1. There are nearly ten times as many doctors in South Africa as there are

¹ Conference on Brain Drain and Capacity Building in Africa, UN, Economic and Social Council 2000, Paragraph 6

in Lesotho; and there are five times as many nurses in Botswana as there are in the Democratic Republic of the Congo (DRC).

Table 1 - Estimates of health personnel per 100 000 population

Country	Year	Physicians	Nurses	Midwives	Dentists
Angola	1997	7.7	114.5	4.3	0
Botswana	1994	23.8	219.1	0	2.2
Democratic Republic Of Congo	1996	6.9	44.2	n.a	1.1
Ghana	1996	6.2	72.0	53.2	0.2
Lesotho	1995	5.4	60.1	47.0	0.5
Namibia	1997	29.5	168.0	116.5	4.0
South Africa	1996	56.3	471.8	n.a	17.8
Swaziland	1996	15.1	...	n.a	n.a
Tanzania	1995	4.1	85.2	44.8	0.7
Zambia	1995	6.9	113.1	n.a	n.a
Zimbabwe	1995	13.9	128.7	28.1	1.3

SOURCE: WHO ESTIMATES OF HEALTH PERSONNEL: 1998

n.a= data not available

These country-level indicators conceal the considerable inequities in health personnel *within* African countries. This means that for large numbers of people, the availability of health personnel is worse even than the figures shown in Table 1.

Health personnel within southern African countries are typically maldistributed along three different axes, between:

- public and private health sectors
- urban and rural areas
- tertiary and primary levels of the health system.

The inequitable distribution of health personnel between public and private sectors is more intense the more developed the private sector. In South Africa, where the private sector consumes 58% of total health expenditure, private health services capture a higher proportion of all types of personnel (except nurses) than the public sector.^{7, 8} In 1998, 52.7% of all general practitioners and 76% of all specialists worked in the South African private health sector.⁹ By 1999, 73% of general practitioners were estimated to be working in the private sector in South Africa, despite the fact that this sector catered for less than 20% of the population.⁹

Inequity in the distribution of health personnel between urban and rural areas has been documented in a number of southern African countries. Rural–urban inequalities in the distribution of specialist and highly skilled health personnel trace back to the concentration of such personnel within higher levels of the healthcare system –mainly located in urban areas – and weak outreach, support or supervision links from these services to the peripheral services in their catchment area. Hence, for example,

inequalities tend to be worse for doctors compared to nurses and for specialist doctors compared to generalist doctors; in part because secondary and tertiary institutions are mainly found in cities and large towns. The urban location of most hospitals, where the majority of health workers are concentrated, makes it inevitable that health workers are mostly in the cities. (See for example Table 2 below).

**Table 2 – Distribution of professional health staff, late 1990s:
% share of total staff by level of facility**

Country	Central and provincial hospitals (%)	Rural health centres (%)	Other (central HQ, etc) (%)
Malawi	54	16	30
Zambia	41	19	40
Zimbabwe	51	5	44

SOURCE: HUDDART AND PICAZO: 2003:18

While it is logical that skilled personnel concentrate in higher levels of the health system, of greater equity concern is the extent to which inequalities in resource allocation to districts lead to differences in distribution of health personnel between the same level of care. McIntyre et al, in their analysis of public sector health resources between magisterial districts in southern Africa, highlight the significant inequalities between ‘rich’ and ‘poor’ districts.⁷

Table 3 – Indicators of the availability of public sector healthcare resources between magisterial districts (1992/93)

Indicator	‘Poorest’ districts	‘Richest’ districts
Doctors (general and specialist) per 100 000 population	5.5	35.6
Nurses per 100 000 population	188.1	375.3
Health inspectors per 100 000 population	1.1	6.7
Pharmacists per 100 000 population	0.5	5.4
Per capita healthcare expenditure (1992/93)	R122	R437

SOURCE: MCINTYRE ET AL. 1995

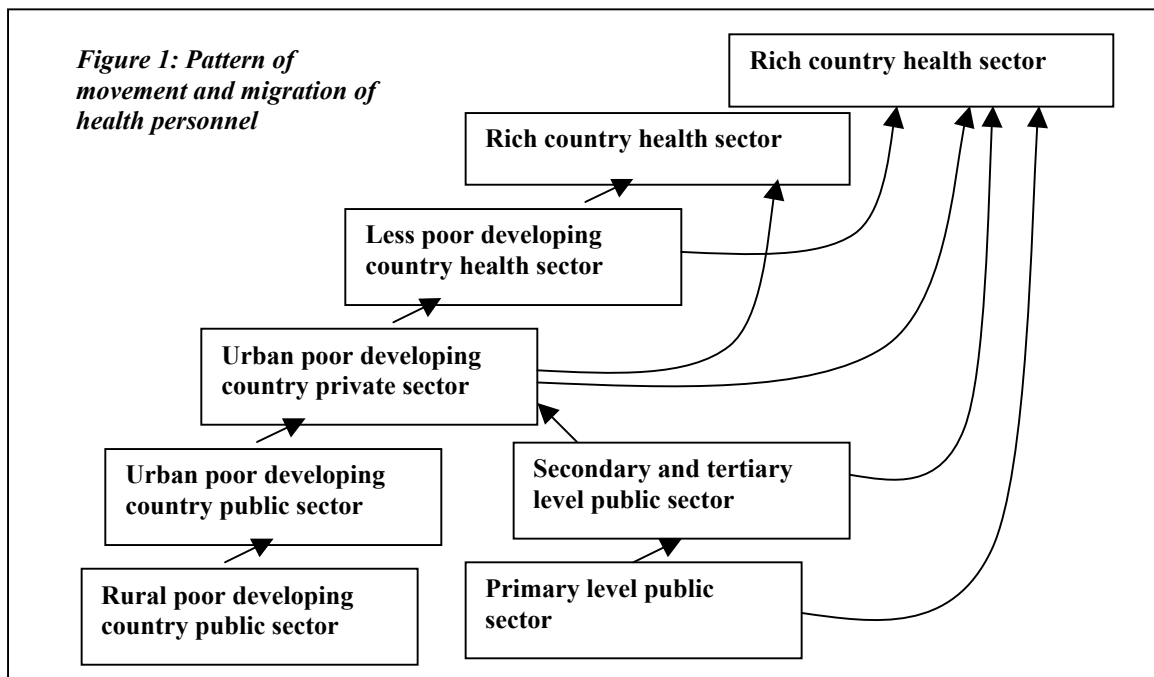
The Zimbabwe Equity Gauge Team report the extent to which such inequalities then lead to a negative cycle of reduced capacity to demand and use resources, unless deliberate steps are taken to redress this.¹⁰ This association between resource allocation and health personnel could be usefully mapped in other southern African countries. It would be important to know the extent to which HIV/AIDS-related losses intensify internal competition for skilled personnel, and thus the inequitable resource–health personnel relationship shown below. EQUINET is currently carrying out work in this area. Further,

the role of traditional health personnel in mitigating (and to some extent sustaining) gaps in western health services, including staffing, has been poorly explored and understood.

2.2 Movement of health personnel

Of increasing importance in the production of inequities in the distribution of health personnel is the increasing movement of health personnel in a direction that mirrors and reinforces the patterns described above.

Recent decades have seen a growing movement of health personnel from areas of poverty and low socio-economic development, to more highly developed areas. The flows follow a hierarchy of 'wealth' resulting in a global conveyor belt of health personnel moving from the bottom to the top, and resulting in a vicious cycle of increasing inequity.



Even amongst high-income countries, there is a hierarchy of health personnel wealth, which results in, for example, a net outflow of doctors from Australia and Canada to the United States. In Europe, several countries have voiced a concern over the loss of their health personnel to the United Kingdom.¹¹

The extent to which countries at the top of the hierarchy benefit from this global phenomenon of health personnel migration is shown by the fact that:

- 31% of the UK healthcare workforce is from overseas
- approximately 20% of the permanent medical workforce in Canada, Australia and United States is made up of international medical graduates
- 25% of Canadian hospital-based physicians are foreign.¹²

Within the Southern African Development Community (SADC) region, the variation in wealth and remuneration results in a similar net flow of health personnel from rich to poor countries. South Africa, the richest SADC country, in turn, experiences a net outflow of health personnel to countries such as the UK, Canada and Australia.

This knowledge and skill loss from the poorer to the richer countries can be considered as a form of reverse (poor to rich) subsidy. For example, it is believed that the developing world is subsidising industrialised countries by about \$500 million a year through the migration of healthcare professionals.¹³ In addition, for countries that are battling to address extreme poverty, underdevelopment and large-scale health crises, it represents a huge and irreplaceable loss of human capital.

Three other points need to be made about the general pattern of health personnel flow and migration.

Firstly, the rates and volumes of health personnel flow and migration vary between different cadres of health personnel. In some countries, the migration and movement of health personnel particularly affects nurses, whilst in others it may be more acute for doctors, radiographers, occupational therapists or other personnel.

Secondly, health personnel movement and migration is bi-directional. Health personnel move from rich to poorer countries and from urban to rural areas for a variety of reasons and through a number of mechanisms, although in much smaller numbers.

Thirdly, it is necessary to make a distinction between temporary and permanent migration. In many instances, health personnel migrate for a short period of time and return to their country or place of origin. It has been suggested that temporary migration can be beneficial to source countries as healthcare professionals return with more experience, skills and personal resources than when they left.

2.3 Factors determining the movement of health personnel

This section provides an overview of the factors that determine the direction, rate and volume of movement of health personnel. Given the available information from the literature it focuses mainly on flows between countries. There is an important body of 'grey literature' that was not accessible in this first round of work on the current factors influencing flows between the private and public sector and between rural and urban areas within countries, which would need to be included in future analysis of health personnel movements. From available evidence, while there is similarity in the factors affecting flows within and outside countries, and while there is an often seamless link between internal and external flows, the specific factors affecting internal and external movements would need to be further explored.

The factors have been sub-divided into push and pull factors. Pull factors are factors in the recipient level of the health system or country that attract and facilitate the movement of health workers towards that level or country. Push factors are those that encourage health workers to leave their country or location of work. Push and pull factors interact with and relate to each other. A 1981 WHO study, for example, commented that 'no

matter how strong the pull factors are of the recipient countries, migration only seems to result if there are also strong push factors from the donor country'.¹⁴ Push and pull factors have also been sub-divided into those that are exogenous (outside the health system) and those that are endogenous (directly related to the health system).¹⁵

A second set of factors are 'stick' and 'stay' factors. 'Stick' factors consist of reasons that keep people where they are in spite of compelling push and pull factors to move or migrate.¹⁵ 'Stay' factors are those that prevent a person from returning to their country or place of origin after they have migrated or moved away. The literature signals a range of these factors, listed below. What is less evident is the extent of their influence in different specific circumstances and areas of inequitable distribution or loss of personnel. There is scope to develop analytic tools for stakeholder and objective analysis of this question.

2.3.1 Endogenous (health system) push factors

- *Remuneration and salaries:* Remuneration levels are potentially the most influential factor in a healthcare worker's decision to migrate (either between the public and private sector, or from a poor to a richer country).¹⁶
- *Lack of job satisfaction:* Health workers may also become dissatisfied (and therefore open to movement and migration) for a variety of non-financial reasons, such as feeling demotivated by poor healthcare infrastructure and bad health management.¹⁷
- *Work associated risks:* High levels of occupational risks and hazards can contribute to a feeling of insecurity and a desire amongst health workers to move to a safer and more protected working environment. (The International Labour Organisation (ILO) has ranked health work as one of the most dangerous jobs).¹⁶
- *Lack of further education and career development opportunities:* Another reason for the movement and migration of health workers is the pursuit of career development opportunities elsewhere.¹⁶ In 1998, medical doctor vacancy rates in the public sector in Malawi and Ghana were reported to be 36% and 43% respectively.¹⁸ Ghana also suffers from a 72.9% vacancy level for public health specialists (greater and far more significant than their general physician shortage rates).¹ The public sector nurse vacancy rate in Lesotho is estimated at 48%.¹⁸

2.3.2 Endogenous (health system) pull factors

Most endogenous pull factors are merely the opposite of the push factors¹. For example, higher rates of remuneration, more satisfying work conditions, a safer working environment and better educational and career development opportunities. In addition, there is another pull factor to be considered:

Recipient country or institution recruitment: Active and aggressive health personnel recruitment has been a steadily growing influence on the movement and migration of health personnel. Facilitation and support with the emigration process, job hunting, school enrolment for children and accommodation, as well as the provision of destination country social support systems, are aspects of an enhanced recruitment strategy, which contributes to the probability that health workers will seek work abroad and migrate.^{19,12} While this is often most noted in migration between countries, it has also been raised as an issue in the decentralisation of health systems. Centralised employment of higher cost health personnel has been argued to avoid unfair attrition of skilled personnel from poor to rich districts due to the benefits offered by wealthier districts and their greater access to and capacity to intervene in labour markets.²⁰

2.3.3 Exogenous push factors

- *Quality of life and crime:* Crime, political insecurity and safety concerns are strong exogenous reasons for health personnel movement and migration.
- *War, civil conflict and political repression:* Repressive political climates and a restriction on freedom of expression and political dissent are also reasons for migration.
- *Lack of education opportunities for children:* Another important reason why many professionals migrate is not because of reasons that are relevant to them, but because of aspirations they may have for their children.

2.3.4 Exogenous pull factors

Many exogenous pull factors are the opposite of the push factors described above. Countries that are able to offer a higher quality of life, freedom from political persecution, freedom of speech and educational opportunities for children, will naturally be attractive to health personnel from many other countries.

In addition, it has also been observed that there is a greater likelihood of people immigrating to an area or country where fellow citizens, relatives and friends are already based.¹² Thus, the migration and movement of health personnel may be related to the location, flow and migration of larger groups or communities.

2.3.5 Stick factors

In order for the push and pull factors to actually lead to a movement or migration of health personnel, they have to overcome various 'stick' factors.

- It has been argued, for example, that high *levels of morale* among health workers will go a long way towards improving the retention of health personnel.¹⁶ This may entail the feeling among health workers that they are able to effectively deliver good quality care and a perception of being valued by society.
- *Rewards and incentives* have also been shown to work effectively as stick factors. For example, the Canadian government has improved the retention of certain cadres of health personnel through endowment programmes in universities, which provide incentives in the form of status, salaries and research funds.²¹
- Outside of the health system, stick factors include *social values*, which place a high premium on family kinship, strong social and cultural ties and patriotism.²²

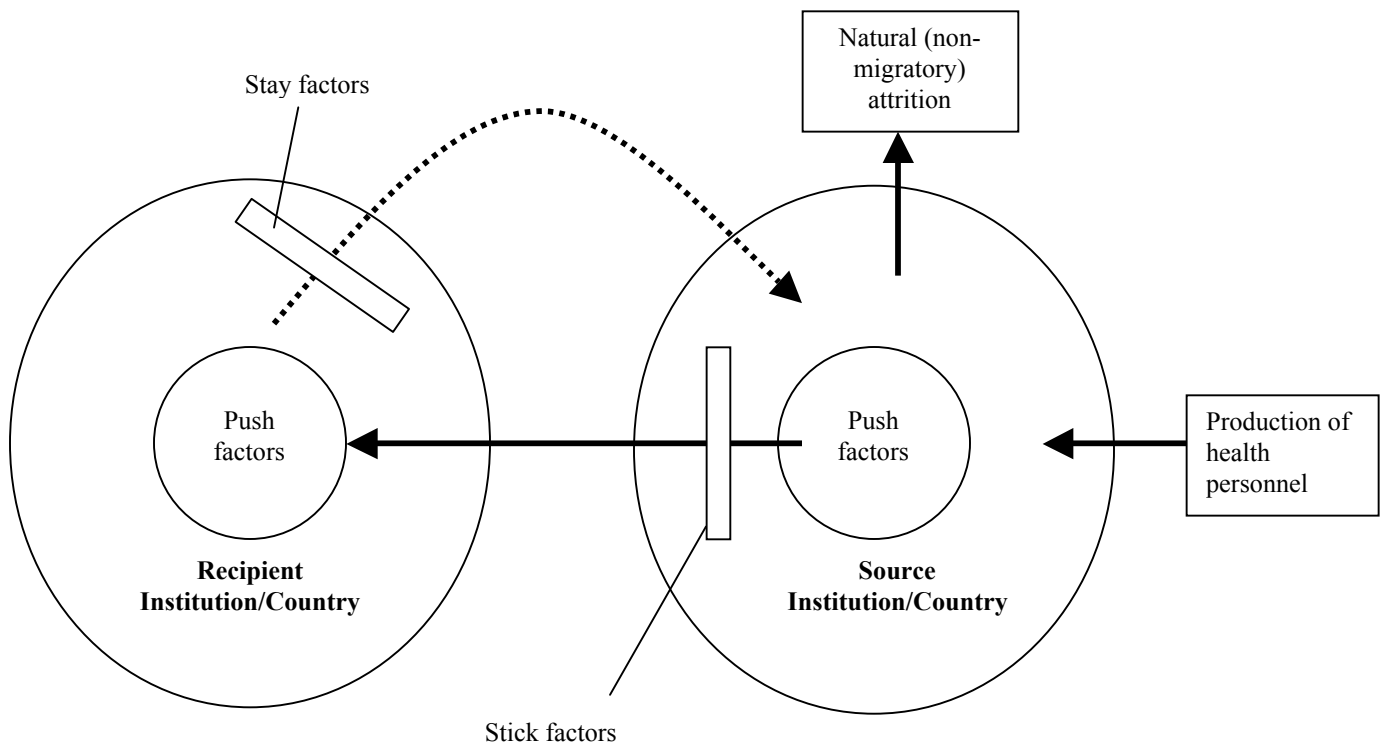
- Finally, certain *barriers to migration*, such as the cost of re-qualification and relocation, the need to learn a new language, different clinical practices and time-consuming and costly immigration procedures can also act as stick factors.^{13,15}

2.3.6 Stay factors

Once people have moved or migrated to work abroad, they may choose not to return because of a variety of ‘stay’ factors. These include the development of new social and cultural bonds; the risk of disruption to the education of children; or a reluctance to disrupt new lifestyle patterns.¹⁶ The International Organisation of Migration (IOM) also found that some migrants do not return home simply because they are unaware of job opportunities back home. According to them, many Africans remain abroad because of inadequate knowledge of job opportunities back home.²³

Figure 2 below represents a schematic representation of the different factors that contribute to the net movement and migration of health personnel within and between countries. In addition to the push, pull, stick and stay factors, the schema includes the influence of the natural (non-migratory) attrition of health workers, including factors such as HIV/AIDS, as well as inflows from the production of health workers by health science training institutions. The next section explores further the movement and migration of health personnel, while the subsequent section explores the production and non-migratory attrition of personnel.

Figure 2: Factors influencing health personnel availability and distribution



3. MOVEMENT AND MIGRATION OF HEALTH PERSONNEL

As noted earlier, health personnel movement in southern Africa can be traced within countries, between southern African countries and out of the region. This section reviews all three forms. As an initial review of available literature there are gaps in the evidence on within-country migration and migration between SADC countries, which would need to be addressed in future work.

3.1 Movement and migration within countries

As noted earlier, within-country movement takes place between public and private health sectors; between rural and urban areas; from poor to rich districts; and between levels of care. The production, attrition, push, pull, stick and stay factors described in the previous sections apply to these within-country sources of movement. Immigration-related factors are not as relevant to this, except in so far as they have been used to bring expatriate personnel to support the staffing of understaffed services. Deliberate policies of recruitment of voluntary and mission personnel have assisted to provide doctors in district hospitals in Zimbabwe, for example, while bilateral ‘solidarity’ agreements have been used to bring in personnel from countries with more medical personnel (Cuba, China) to those in southern Africa and to levels of health services with less.

The precise directions and volumes of health personnel movement within each of the southern Africa countries, their impact on equity and performance of health services, the factors influencing these flows and the extent to which they are linked with wider between- and out-of-country flows is not well documented. This is an area for follow up work, both to document, analyse and develop strategic responses to these flows.

What is documented is the relative lack of doctors and skilled health professionals in southern Africa, particularly in rural areas and in poorer communities. Health workers cite the availability of professional camaraderie, greater likelihood of promotions, availability of schools, good housing, leisure activities and other social infrastructure as their main reasons for preferring to work in urban areas.⁶ A further consequence of the HIV epidemic is that it will exacerbate the rural–urban inequity in the workforce as workers afflicted with the disease may choose to remain in urban areas to access better care.⁶ Mission health services are reported to have retained personnel at times of significant outflows from rural public services.⁵ Specific study is needed of the replicability of the often unique pull and stay factors within missions to the wider health system.

Higher remuneration rates, reduced workloads and improved professional resources in the private relative to the public health sector are amongst the pull factors cited in outflows from public to private sectors. For example, a Zimbabwean nurse could be expected to increase her salary by 40% if she joined the private sector.⁶

Mutizwa et al ⁴ and the EQUINET steering committee²⁴ highlight the extent to which these pull factors are exacerbated by frustration with industrial relations systems and by the overall loss of earning capacity within the health sector as a whole, relative to other

sectors such as finance. The policy responses from health sectors can themselves mitigate or exacerbate outflows. The use of medical practitioners in managerial capacities has, for example, contributed to the human resource crisis in that valuable skills are diverted away from mainstream healthcare into administrative functions and tasks.⁶

What is less clear is the relative role of policy measures, such as bonding, as push factors in the ‘command and control’ signals they send, or as stay factors in raising barriers to early exit from health systems. Neither is it clear what impact different measures (for example, paying for staff accommodation, providing relocation expenses, converting housing benefits into cash, payment of a rural allowance and other pay and non-pay incentives) have had on the deployment and movement of healthcare workers towards areas of high need. While this is likely to be specific to different circumstances and countries, more thorough analysis is needed to back policy development on managing internal personnel flows.

3.2 Movement and migration between countries in southern Africa

While data describing the flow and movement of health workers within the SADC region is not easily accessible, some studies suggest that a considerable flow and exchange of human resources is taking place.

This evidence often comes from statistics from recipient countries. For example, in a sample of 400 skilled foreigners in South Africa, a total of 41% were from Africa, with 18% from SADC countries.²⁵ In Botswana, 77% of skilled foreigners were from other African countries, the majority of whom were from SADC countries.²⁵ Approximately 200 doctors left Zimbabwe for Botswana and South Africa in 1992. As many health personnel retain their registration in their countries of origin and many do not formally emigrate, it is difficult to assess the exact outflows from the sending countries in the region.

While there is inadequate trend analysis of health personnel flows, available statistics indicate the extent and scope of the problem as it affects medical doctors:

- The Zambian public health system has retained only about 50 of the more than 600 doctors trained in the country since independence.²⁶
- In 1999, 40 of Ghana’s 43 final year medical students planned to leave immediately after graduation¹³ while 70% of its 1995 graduates had already emigrated by 1999.²⁷
- Of 1200 physicians trained in Zimbabwe during the 1990s, only 360 were still practising in the country in 2001.²⁸

The migration of skilled people, primarily to South Africa, from other SADC countries in the early 1990s, was sufficiently large to raise concerns about a regional brain drain into South Africa, which would reinforce regional inequities and prompt a subsequent policy response within SADC to limit regional recruitment of health personnel in higher income SADC countries.²⁵ The statistics on this need to be further explored, particularly by skills group. Official immigration into South Africa is reported to have declined, both from the SADC region as well as from other parts of the world.^a What is not clear is the extent to

^a This has led to a governmental review of its immigration policy.

which this decline is true for health professionals, nor how the considerable amount of illegal immigration since 1994 has impacted on health personnel.

Health worker unions, amongst others, have identified salary differentials within the region as one of the biggest pull factors operating for health worker across the region, as illustrated in the table below:

Table 3 – Average monthly salary levels for junior doctors (\$US equivalent -1999)

Sierra Leone	Ghana	Zambia	Lesotho	Namibia	South Africa
\$50	\$199	\$200	\$1058	\$1161	\$1242

SOURCE: MARTINEAU ET AL: 2002:4

Within the health sector, the potential for a large inflow of doctors from Zambia, Uganda, Zimbabwe and other African countries into South Africa was effectively stemmed by a moratorium on the registration of all foreign doctors with the Health Professional Council in 1996. Although the moratorium has since been lifted, the South African government has maintained its stance of not issuing visas to health professionals from developing countries.²⁶

3.3 Migration and movement out of southern Africa

This movement and migration of health personnel out of southern Africa is part of a phenomenon that has come to be known as Africa's 'brain drain'.

The extent to which health professionals are leaving southern Africa to work overseas is difficult to determine. Most countries have difficulty monitoring migration patterns due to insufficient data related, in part, to registration and recording problems. For example, one independent South African study reported that between 1989 and 1997 an estimated 233 609 people left the country for New Zealand, Australia, Canada, United States and United Kingdom, while official South African statistics put this figure at 82 811.²⁹ There are 600 South African doctors registered to practice in New Zealand, and 10% of Canada's hospital-based physicians are South African graduates.¹² In the UK, 6% of the total health workforce is South African.¹²

Health personnel from South Africa appear to make up the bulk of the total number moving and migrating out of the SADC region, although smaller numbers lost from other African countries may represent a larger share of the overall personnel numbers from those countries. Because of the lower production volumes of doctors in the smaller and poorer African countries, the loss of even a small number of doctors can have a disproportionately large impact. The burdens of health personnel losses across the region thus need to be mapped in relation to the capacity to produce and replace personnel.

The levels of nursing personnel in southern African countries have also suffered from a high rate of movement and migration. According to Muula et al, Malawi has, in the past five years, suffered a significant haemorrhage of its nurses to Europe.³⁰ Ghana's loss of 328 nurses in 1999 was the equivalent of its annual output.⁶ In South Africa, DENOSA –

a national nursing union – predicts that more than 300 specialist nurses leave the country every month.³¹

Table 4 – Nurses and midwives from southern Africa registering with the UK CC²

Country	1998/1999	1999/2000	2000/2001
South Africa	599	1460	1086
Zimbabwe	52	221	382
Zambia	15	40	83
Malawi	1	15	45

SOURCE: MARTINEAU ET AL: 2002:5

Nurse migration is thought to be less permanent than physician migration. The UK register of 1995 reports more than half of foreign nurses did not stay longer than three years and some 85% of departures occur within four years of entry to the UK.³² Those remaining after four years are likely to be permanent emigrants.³³

3.4 Factors influencing migration and movement

3.4.1 Endogenous (health system) push and pull factors

It is difficult to generalise the balance between the effect of push and pull factors on these flows. In poorer countries, such as Malawi, it is felt that it is not so much the pull factors that are attracting Malawian nurses to richer countries in the region or to Europe, as it is the push factors of poor remuneration and working conditions, which are driving them out of the country.³⁰

Working conditions that *reduce job satisfaction* act as push factors. Poor management, the lack of medicines and equipment, bureaucratic inefficiencies and inadequate support and communication with health personnel are all factors that contribute to dissatisfaction amongst public sector health workers, especially in rural areas where the health infrastructure is worse. A survey conducted in Zimbabwe in 1998 showed that a common cause of for health workers resigning from the public sector was the inability to offer effective care to patients due to inadequate resources in health facilities.⁶

The work-associated risks of being a health worker have grown in southern Africa, particularly with the rise in HIV prevalence. In Zambia, where gloves are frequently unavailable in health facilities,³⁴ the fear of contracting HIV/AIDS or other illnesses through work-related accidents is a significant push factor.

In contrast, the safer environment of the private sector and of the richer and more industrialised countries, as well the *further education and career development opportunities* that exist, act as pull factors for many health workers. The lack of career advancement paths in developing countries is illustrated with the case of pharmacists in Zimbabwe. Here 153 pharmacy technician posts exist but with limited career path or advancement possibility.⁶

² The General Council for Nursing, Midwifery and Health Visiting (UK CC) is a statutory body which maintains a register of qualified nurses, midwives and health visitors.

While the relative inequalities in incomes within Africa and the region have been noted earlier as a push and pull factor, the gaps with salaries in industrialised countries are even greater. Health personnel from southern Africa who join international agencies can expect to double their income.⁶

Nursing jobs in the United Kingdom offer R256 000–448 000 a year, while in Saudi Arabia, nurses can earn a tax-free salary of R228 000–360 000 per annum. In contrast, an experienced nurse in South Africa working in an intensive care unit or theatre would earn between R84 000 and R96 000 per annum.³⁵

The outflow of health personnel can trigger a downward spiral. As more health professionals leave the public sector, under-resourced facilities and areas, and southern African countries, more work is dropped on the shoulders of those health professionals who remain. This has a negative impact on job satisfaction and leads to isolation of personnel, becoming a push factor for these personnel.

3.4.2 Endogenous (health system) push and pull factors

In spite of higher nurse and doctor to population ratios, there is a demand for health personnel that out-strips their availability in the private sector and in rich countries. Northern industrialised countries are faced with an ageing population, an ageing health workforce and increased healthcare expectations. Legislation reducing the amount of time healthcare workers can work is also expected to result in greater demand for health personnel.¹³ The United States, for example, will need a further one million nurses over the next 10 years to meet its shortfall. By 2010, one in four nurses in the United Kingdom will be 50 years or older.¹³

It has been said that part of the problem has been due to a flawed process of forecasting future staff needs.³⁶ At the same time, while recruitment is possible and less costly than training it will continue to be a preferred method for countries with staff shortfalls.

While market forces alone are able to generate flows within countries, and while information flows in the region, sometimes family to family, have enabled regional outflows, wider international flows south to north have been facilitated by active and sometimes aggressive recruitment by agencies within industrialised countries. This is needed to overcome the wider barriers to movement of people that have been established and that have intensified in recent years. A recent study commissioned by the Royal College of Nursing suggests that without active recruitment strategies, the number of foreign nurses opting to work in the United Kingdom would be much smaller.³⁷ It is possible that active recruiting by agencies can be expected to gain more prominence as health worker deficits in industrialised countries increase.

3.4.3 Exogenous push and pull factors

Volatile, unstable and repressive political conditions, high levels of poverty, unemployment and famine, coupled with a lack of business and economic opportunities operate as push factors. Poor housing, general isolation from social networks and lack of quality education for children have also been cited earlier as push factors.

In South Africa, for example, approximately 96% of emigrants cited high crime rates as their reason for emigrating.¹⁹ South Africans quote the declining quality of life since the demise of apartheid, general dissatisfaction with the cost of living, taxation levels, the government's affirmative action policy and the standard of public services as primary reasons for their decision to emigrate.¹⁹ Out-migration due to political fears and sometimes prejudice has affected each country in the region at different times, particularly post independence. Old elites (and many skilled medical personnel were included in this group) feared political change. This group may have been more concentrated in the private health sector. The gap may thus have been less difficult to close in largely public-sector-driven health service changes. What is less clear is the extent to which the balance of exogenous factors has shifted from political to economic; to what extent the composition of the groups leaving has shifted towards younger professionals; and to what extent this has shifted the balance of private vs public sector losses. Neither is it clear how the benefit (or burden) incidence of health personnel losses relate to the more general costs, burdens and benefits of economic policy measures for different population groups.

3.4.4 *Stick factors*

It is difficult to quantify the impact and strength of stick factors. Family and cultural ties are likely to be strong for some people and weaker amongst others. As noted earlier, political changes reduce or increase levels of affiliation and loyalty with governments and countries. The expense of relocation, difficulties or disinclination to learn a new language, onerous registration requirements in a host country could all result in people deciding to stay in their home country.

Anecdotal evidence indicates that broad factors such as quality of life, security, career paths and social values have a bearing on the stick factors. In a survey carried out in South Africa, respondents were asked what the government could do or avoid doing to keep as many potential emigrants as possible. 12% of respondents indicated there was nothing that could make them stay; 25% said that an improvement in safety and security would make them less likely to leave the country; 12% suggested that patriotism would influence their decision to remain in South Africa.³⁸

3.4.5 *Stay factors*

Stay factors relate to influences keeping migrants in urban areas or recipient countries. Stay factors include a reluctance to disrupt family and schooling life, the development of social networks and friendships, promising career paths and a lack of incentives to return home.

Stay factors can also attribute to a lack of opportunities for expatriates who seek to return, and for them to share their newly developed skills. In recent years, there have been a few initiatives developed to improve this. For example, the Migration Dialogue for Southern Africa (MIDSA) project established in November 2000 under the auspices of the Southern African Migration Project aims to facilitate dialogue and cooperation among SADC governments to promote and facilitate a protocol on the regional movement of people in the region.³⁹ Regional Consultations are considered a flexible, informal, open

and efficient forum in which to discuss migration issues and management.⁴⁰ MIDSA does this by promoting similar data collection procedures and migration policies and laws that are the same across the board. It hosts training forums for officials and policy makers in the SADC region to assist them in understanding the complexities, challenges and potential socio-economic benefits of regional migration.³⁹ Added to this, *Migration for Development in Africa (MIDA)*, under the auspices of the International Organisation for Migration (IOM), is a capacity building programme designed to mobilise skills acquired by Africans abroad for the benefit of Africa's development. Endorsed by the Organisation for African Unity – now the African Union – it aims to help expatriated African nationals directly contribute to the development of their countries of origin. The MIDA health project aims to index the expertise of the African health diaspora, which will then be harnessed to improve health conditions in African countries, either through return visits and/or virtual transfer of knowledge. A database is expected to be available in September 2003.⁴¹

4. PRODUCTION AND ATTRITION OF HEALTH PERSONNEL IN SOUTHERN AFRICA

4.1 Production of health personnel

The production of health workers within southern Africa is a key factor determining the availability and distribution of health personnel within the health system. If the rate of new health workers entering the health system is equal to the rate of attrition, there should not be an overall decline in health personnel availability (although there will be a decline in overall levels of experience).

However, for various reasons, largely macroeconomic and beyond the scope of the health sector, **the quality and output of training institutions** of many southern Africa countries has come under threat. Governments facing financial constraints have tended to divert money away from training. The cost of training health workers can represent a significant investment of a country's available budget. For example, the annual expenditure on training nurses in Zimbabwe was estimated to be about US\$ 2.7 million.⁶

The movement and migration of health personnel is itself affecting health-training institutions. The loss of academic health professionals in Ghana, for example, has led to the ranks of academia being severely depleted and has affected the country's ability to train new healthcare workers.¹³ In Malawi, the inadequate number of tutors in nursing colleges has been cited as one of the reasons for the low intake of nursing students.³⁰

Apart from the number of new health personnel produced by training institutions, there are other health personnel 'production factors' that affect the availability and distribution of health personnel.

Recruitment policies have a bearing on what newly qualified health professionals do after the completion of their studies. Some have suggested that the problem of migration is not related to what happens once professionals graduate, but rather to who is selected for training, how professionals are trained and the subliminal values and context of such

training. At the keynote address of the World Organisation for Family Doctors (WONCA) world conference on rural health in 2002, Rajakumar described physicians as 'tradesman with medical degrees... selected for our ability to pay for access to medical schools and pass examinations that tax the memory'.⁴² Making a special effort to recruit medical students from rural areas has been posed as one way of helping to solve the problem of poorly staffed rural health facilities, as they are judged more likely to want to work in their rural setting after graduation. This policy assumption would need to be verified in the context of the current conditions. In South Africa, a policy to reduce the numbers of white medical students has been suggested to be likely to result in a lower proportion of doctors emigrating, given that white medical graduates are more likely to leave the country.

'Barriers to entry' themselves affect the composition of student intake. For example, because of the long duration and the financial costs of medical training, students from poorer sections of the community are less able to enter medical school, resulting in an urban and middle class bias amongst medical graduates.⁶

The **type and orientation of training** is also a factor. Training of health workers in Africa using largely European curricula and standards has been described as being of little relevance to health needs in Africa. Outdated **learning and teaching methods** such as learning by rote and authoritative teaching methods that leave no room for critical questioning and evaluation have been cited as reasons for poor graduate quality.⁶ Many countries have made substantial revisions to their medical training programmes post independence, to enhance relevance of training, and there has been work in the Commonwealth and SADC region to link medical schools to share information on new training approaches. Training programmes have introduced rural attachments, put new focus on community medicine, set up public health field sites and attempted to ensure that all faculties introduced public health and district practice orientation into their disciplines. Training schools located at hospitals servicing higher income communities made efforts to ensure that clinical practice also included facilities servicing lower income groups. While changes were implemented within medical training, in practice rural attachment and community medicine elements were sidelined over time, and the training continued to focus on clinical training in urban and tertiary centres.⁶

Another important factor that is reported to have had an (unquantified) impact is the **mix of health personnel** being produced. Given fiscal constraints and the scale of priority for public health problems, countries have at different times made decisions over the 'right' balance of highly trained medical specialists, general medical officers, professional nurses, auxiliary nurses, medical assistants and community health nurses. It has been suggested that many countries have emphasised the production of fully qualified professional nurses and doctors who are expensive and time-consuming to produce, at the expense of community health nurses and medical assistants.⁶ In Malawi, for example, the government took a decision to abolish training for enrolled nurses and medical assistants, choosing instead, to produce highly trained professionals. However, the Malawi National Health Plan showed that the extra time and effort actually accelerated the national staffing crisis. As a result, the previous decision was revoked and training for enrolled nurses and medical assistants was re-introduced.⁶

Finally, there are **post-qualification factors** that can determine the distribution and availability of health personnel. For example, cumbersome bureaucratic processes associated with the employment of health workers can contribute to the brain drain. In Ghana, for example, public service recruitment could take as long as a year to 30 months.¹⁶

4.2 Non-migratory attrition of health personnel, and HIV/AIDS

All health systems face a natural attrition of health personnel due to old age, retirement and death. However, the rate and pace of this attrition may vary from place to place.

In southern Africa, the HIV/AIDS epidemic is likely to have been the most important determinant of non-migratory human resource attrition from the workforce. In Botswana, for example, it is estimated that by 2005, 5% of health workers will have HIV/AIDS and that 16-18% of health workers will have died from various causes of death.³⁴ Not only have health workers died from HIV/AIDS well before their retirement age, but attrition can also be expected as a result of worker burnout and overload due to the increased burden of care through deaths from AIDS and reluctance to work in the health field for fear of contracting the disease.

In Malawi and Zambia five to sixfold increases in health worker illness and death rates have reduced personnel, and increased stress, overwork and fears for personal safety in remaining staff.⁴³ The costs of safety procedures and of lost time and labour in healthcare workers has made healthcare scarcer and more expensive, leaving households to take on a significant burden. While community care is important and complementary to health service management of AIDS, unsupported and poorly managed household care, including by that given by children, increases infection risks for the caregiver, compromises quality of care and adds significant burdens to already stressed households.⁴⁴

Planning health sector responses demands information that is not always available on HIV/AIDS impacts, needs and capacities, and capacity within the sector to monitor and use evidence on HIV/AIDS, healthcare demand and human resource trends in planning. Within the health sector, additional information is needed on changing levels of demand at different levels and the distribution of that demand. While primary healthcare, district health systems and equity in health become more, not less, relevant with HIV/AIDS, opposite trends within health personnel flows, as described in this paper, put significant additional strain on health services at community level, and on the health personnel within them. Health systems can only mitigate AIDS impacts when they have a minimum level and quality of district health infrastructures; pay specific attention to health worker adequacy, morale, attitudes and skills; and include management skills and support.⁴⁴ These areas have, however, received less focus than the resource flows to drugs. Separate work within EQUINET is thus exploring the implications of HIV/AIDS in the context of existing inequities in health personnel in southern Africa and in the context of the health personnel demands for equitable health services responses to HIV/AIDS.

5. THE IMPACT OF CURRENT MALDISTRIBUTION AND FLOWS OF HEALTH PERSONNEL

The literature gives a general impression that the current pattern of health personnel movement and distribution is regressive (increasing inequities and representing a poor-to-rich transfer), harmful and debilitating to already struggling and under-resourced health systems. Maldistribution itself implies a gap between need or demand and supply, while differences based on area, income or factors other than health need or planning imply distortions within health systems that may undermine the capacity to meet health needs. Attempts to measure and quantify the impact have, however, been difficult due to a lack of data and because of methodological difficulties. This is a problem as a lack of rigorous economic evaluation has been used to cast doubt on the damage to health systems. The argument is raised that the movement and migration of health personnel can also have positive effects on source countries and communities from a 'flow back' of improved knowledge and skills, the transfer back of remittances,^b and because health personnel movement and migration can sometimes make use of surplus personnel.

Some economists and development agencies have even encouraged developing countries to consider the movement of health personnel to richer countries as a form of trade that would be beneficial to their economy. The General Agreement on Trade and Services (GATS) being negotiated through the World Trade Organisation lists the transnational 'export' of human resources as a Mode 4 form of trade. As noted earlier, government-sponsored health personnel migration has also been used for mutual benefit to both source and recipient country, such as in the deployment of Cuban doctors in South Africa and Zimbabwe.⁶

What evidence is there of the costs and the benefits of the movement and migration of health personnel and of the maldistribution of personnel on the recipient and source countries and communities, on health services and on the workers themselves? Existing evidence provides some insights that would need to be developed through more detailed follow up assessment.

5.1 Costs of migration and maldistribution

The reported **costs of migration to the source country** are significant. One way of estimating the cost of health personnel outflow from a country is in terms of the cost of the **training investment** that is required to replace those health personnel. Although assessing the loss of human and social capital spent on training healthcare workers is generally difficult to quantify, it has been estimated that it costs about US\$60 000 to train a general practitioner in SADC.¹³ Losses of even the official estimate of 82 811 South African doctors between 1989 and 1997 imply an overall loss of training investments of US\$5 billion. The aggregate of these costs of 600 South African doctors in New Zealand to the taxpayer was estimated to be in the region of R600 million.⁴⁵ For countries losing

^b In assessing the effects of migration it is also useful to make a distinction between temporary and permanent migration because it is suggested that temporary migration is more beneficial to source countries as healthcare professionals return to the source country with more experience and resources than when they left.

fewer personnel, the figures may be lower but relative to annual public health budgets per capita of US\$20 and less, these losses are substantial.

The outflow of health personnel can have a number of very significant **‘knock-on’ effects** that are often not captured as costs. This includes the negative effect on the overall functioning of the health system and consequent increases in mortality and morbidity. The lack of health personnel can also mean that other healthcare investments become wasted, such as when healthcare facilities lie dormant because there aren’t any personnel to staff them. In one example, the departure of two anaesthetists from a South African spinal injuries centre to Canada resulted in the entire centre being forced to close.¹³

Counter-productive behaviours may also result from staff shortages, including absenteeism; salary-augmenting behaviour (second job); pilfering of public property; poor treatment of patients; under-the-counter fees, and the sale of drugs that should be free.^{6, 46}

The ‘loss of institutional memory’ from large scale resignations and other turnover factors result in a duplication of work and wastage of resources. This is especially relevant in the face of disease management strategies and programmes such as AIDS, reproductive health, malaria, and tuberculosis where strategies are reinvented time and time again due to the loss of key health personnel and the resulting gap in institutional continuity.⁶

As described earlier, the brain drain of academic and experienced personnel can also lead to deficiencies within training institutions or the professional attachment and supervision of new graduates, thereby also affecting the future production of health personnel.¹⁹

In relation to out-migration from countries, it has been suggested that an exodus of skilled people from a country leads to a perception of political and economic instability. Researchers have also contended that ‘national output measures are negatively affected though a loss of high-income earners’.¹⁹

Finally there is the cost in unmanaged disease burdens, and the costs to households of seeking care at higher levels where personnel are found, rather than at primary or secondary levels of care. As indicated earlier, the knock on effects of poor staffing in management and procurements of drugs, at lower levels of care and in other aspects of development of health systems has been noted, but not quantified.

There are also **costs to the recipient country**. The most direct of these is the cost of recruitment. The more active the recruitment, the more costly it is. One paper put the UK cost of hiring nurses from overseas at £2,000–4,000 per head.³⁷

In-migration of health personnel carries a cost in removing incentives for recipient countries to address their health staffing shortages internally through a sustainable human resource development strategy.¹⁴ This point was made by the International Council of Nurses who asserted that ‘recruitment campaigns for foreign nurses delay effective local

measures that would improve recruitment, retention and long-term human resource planning'.²

There are also fears that the language and cultural differences of imported health staff could impact negatively on healthcare.³² Most recipient countries now require proof of skills and language abilities in addition to a temporary period of adaptation before an official post is offered. Further where personnel are recruited into situations where there are also local personnel, there is scope for adequate supervision of new personnel. The costs of unsupervised cultural and skills differences are thus higher when expatriate staff are recruited into southern African facilities with inadequate local personnel to provide supervision and support.

5.2 Benefits of migration of health personnel

The benefits of movement of health personnel have been traced primarily in relation to migration from low to high income countries (such as from within to outside the SADC region). The **benefits to the recipient country** are obvious. Recipient countries fill vacant positions that would otherwise be empty, with an estimated economic gain of about \$20,000 per physician for recipient countries, in direct recruitment benefits and in not having to build and maintain additional training facilities.¹⁵ Although the cost of hiring nurses from overseas is typically £2,000–4,000,³⁷ this is generally less than the costs of advertising, temporary replacements and appointment costs for experienced home-grown nurses, which the United Kingdom Department of Health has estimated at about £40,000.^c

There is the additional valuable benefit of foreign health workers filling less desirable posts in the recipient country.⁴⁵ Studies show that recruited personnel typically settle in more rural, underserved, high need, deprived areas.¹² However, the practice of requiring foreign physicians to work in 'pre-determined' areas in Canada has been declared inconsistent with the Canadian Charter of Human Rights,¹² bringing into focus the extent to which benefits to recipient countries are derived not only at cost to source countries, but at cost to the human rights of the emigrants.

The **source country has also been reported to derive benefits**. Expatriate professionals who send back a portion of their earnings to their country of origin or place of birth, usually to family or friends, are reported to contribute to the overall economy of the source country. According to one report, remittances were the third largest inflow of funds in Ghana.¹³

However, it has been suggested that remittance patterns are not sufficiently understood and, according to Taylor and Adleman, may not boost the general economy if the cost of lost skills and personnel is greater. They cite a review in Eastern Europe where remittances did not offset the declining economic growth resulting from human resource loss.⁴⁷

A second postulated gain is the skills and knowledge transfer back to source countries by returning migrants. This benefit is more likely to accrue if the new knowledge and skills

^c Personal communication with April Brown UK Dept of Health 09/03/03

are relevant to the public health, primary healthcare and medical priorities of the source country. This is not always the case. Also, in the case of doctors (less so with nurses), most migration is permanent, so there will not be a *return* of knowledge.

Finally, it has been suggested that migration can operate as a ‘safety valve’ for governments, reducing pressure on them to provide and create employment. One Ugandan official explained that if all 1500 Ghanaian doctors working overseas were to return, the Ghanaian government would only be in a position to provide employment for 200 of them.¹³

5.3 Costs and benefits to health personnel

In addition to the costs and benefits described above, there are a number of experiences at the individual level that are worth noting. For example, there have been reports of exploitation and the ‘brain wastage’ of health worker immigrants in recipient countries.¹³ Reports indicate that highly trained personnel have been expected to carry out basic, menial tasks and have limited or no opportunity to use their skills and expertise,¹³ and that their salaries may not be commensurate with local health workers. In some countries emigrants do not qualify for social assistance or social security, or for employee benefits such as contributions to pension schemes. In some instances, recruitment agencies are reported to have charged exorbitant fees, misrepresented employment opportunities and failed to find employment for their clients.¹³

Incidents of workplace racism from both patients and colleagues have been reported in the United Kingdom.³⁷ Plans to make HIV testing mandatory for foreign health workers planning to work in Britain were mooted but decried as insulting and discriminatory by a variety of stakeholders representing healthcare workers.⁴⁸

While these negative experiences are noted, the decision to migrate implies that the individual regards the benefits as outweighing the costs. As noted, these relate to pull factors that are economic, political and professional or that relate to security of children’s education and future. Migration has also been found to provide an opportunity for women to improve their status when there are few opportunities for freedom of employment and social equality in their place of birth.³³ Health personnel in the north may fill institutional positions that bring personal status and also facilitate resource, scholarship and skills flows to their home country. The efforts noted earlier within the SADC region and Africa to follow up on personnel who have migrated and review ways of utilising the resources gained through migration is one option for wider collective gain from such benefits.

6. POLICY AND STAKEHOLDER RESPONSES

Given then paucity of primary evidence on important dimensions and determinants of health personnel flows, it is not the intention of this report to make policy prescriptions. This would need to be done through a more systematic process of research, analysis, stakeholder review and policy debate. This section examines existing policy options being raised and the stakeholders involved in policy debates on health personnel.

What is clear is that human resources and particularly health personnel have become a matter for more urgent international attention. The African Union (AU) has declared 2004 the 'Year for Development of Human Resources with Special Focus on Health Workers' in order to inspire stakeholders to accept their responsibility for ethical recruitment and the achievement of an equitable healthcare balance.¹⁸

The New Economic Plan for African Development (NEPAD) has also emphasised the importance of human resources development and reversing the current brain drain. NEPAD sets goals of establishing a more reliable database of the brain drain; and to develop scientific and technical networks for the repatriation of the knowledge and skills of the diaspora.⁴⁹ Further issues have been added in debates over NEPAD:⁵⁰ African governments have been urged to take account of the effects of HIV/AIDS and the international macroeconomic policies and trade agreements that perpetuate the trend of migration to industrialised countries. Further African civil society has urged that African leaders push the G8/OECD countries to improve their own health sector human resources planning, acknowledge the benefits they reap from migration and establish ways to compensate source countries and the need for trade agreements that 'truly benefit' developing countries.⁵⁰

The World Health Organisation (WHO) is currently building a database of 'Human Resources for Health' policies that have had positive impact in providing equitable, balanced health workforces.¹ The 55th World Health Assembly (2002) proposed that *all countries* participate in ethical recruitment and distribution of skilled health professionals to counteract human resource crises in low-income countries.

6.1 Policies for production of health personnel

Policy development on production of health personnel demands relatively accurate and timely **information systems and planning capacities** within public health authorities, that are able to synthesise information across public and private sectors, and to track critical blocks, inequities and gaps. (This could be viewed as a variation on national health accounts but for personnel.)

This capacity is often missing and an analytic framework for carrying this out across private and public sectors is not available. Generally plans match current information within the public sector against ratios defined as desirable, although some effort has been made to relate personnel to workloads and resources. In Zimbabwe, a 10-year staffing and training plan was developed by looking at projections for future healthcare service utilisation and ministry of health plans. Strategies to increase staff motivation and retain more staff, such as developing new facilities and staff housing and increasing staffing feasibility, together with projected costs, were also tabled.⁶

USAID has recommended carrying out a realistic assessment of the types of health workers most needed, based on careful analysis of the country's burden of disease, rather than an idealised notion of care. The approach suggested would aim at setting a sustainable size of health workforce and a balance between different types of workers

(skills mix). It should integrate the role of private providers in the country's health system and the interactions between public and private providers⁶.

Training has been raised as a common strategy, both in reorienting curricula and increasing numbers. Suggestions for improving the training and production of healthcare personnel have included emphasising interventions in promotive and preventative health; focusing on public and community health; exploring innovative training methods such as distance education; and developing other types of medical practitioners such as medical assistants, clinical officers, community health staff and traditional healers.¹

Some countries have invested more in medical training institutions to increase the number of doctors and nurses who graduate each year.⁵¹ In southern Africa, regional medical training institutions have been established, like the Medical University of Southern Africa (MEDUNSA) in South Africa, which is responsible for training more than half the doctors in southern Africa.⁵¹ To offset the loss incurred by medical personnel leaving the country for further study, Ghana has introduced shorter specialist training.¹³ Creation of private universities has also been mooted as an option. As noted earlier, unless this is planned for sustainability and within the overall system, it can overload training capacities, lead to outflows of new graduates that cannot be absorbed or supervised and may simply increase the volume of loss of personnel and thus resources out of the system.

Upstream, there is need to ensure that the education curriculum prepares students for medicine not only from the higher income, urban areas. Malawi has for example increased investment in secondary education – including improving mathematics and science courses – to better prepare students for medical school.⁵¹ Downstream, there is a challenge to prepare graduates for the actual working environments they will find themselves in after university and to orient graduates towards the district and primary healthcare priorities of the health system, while also satisfying professional aspirations.¹⁸

Policy debates have suggested that the selection and training procedures for medical students need to be more sensitive to the prevailing health and socio-economic conditions of a country. More attention must be paid to portraying a career in medicine as a vocation rather than as a means to amassing wealth and prestige, as a response to the current perception that a career in medicine provides lucrative employment. Dissatisfaction and disillusionment quickly set in once this does not materialise – leading to migration out of the public sector and the country.

Recognition of health qualifications and substitution of skills has also been used in some countries to reduce migration, where qualifications meet the needs of the source country but are not internationally recognised. This involves discarding standards set largely in developed countries and delegating responsibility for some doctors' and nurses' tasks to other healthcare workers. This is argued to provide a local base of skills and to free doctors and nurses from performing relatively easy-to-learn tasks to devote more time to situations that require higher skills.⁵¹ This calls into question current professional requirements for authorities to perform certain procedures.⁶ Hence, for example, in Zambia, laws prohibiting nurses from prescribing medication and carrying

out invasive procedures were amended.¹ Similarly, in Botswana, nurses have the authority to prescribe medication when a doctor is not present.⁵¹ Tanzania has been training 'medical licentiates' who receive training in basic health sciences, obstetrics and surgery, and who are widely used in district hospitals.⁶ In Malawi, health surveillance assistants, with just six weeks of training, have become the largest and most widely spread group of health workers.⁶

6.2 Policies for the deployment and retention of public health personnel

Measures to deploy and retain health professionals in rural areas include decentralisation of the **location of training institutions**; the introduction of recruitment **quotas** to ensure that the most peripheral areas are represented among medical students; and making rural field experience during medical training compulsory.⁵² Results have been mixed. Exposing and sensitising students to the dynamics of rural practices can develop and foster an interest in working in rural areas. As noted earlier, this has been encouraged through providing appropriate training and selecting students from rural areas for medical training as they would be more likely return to rural practice.⁵²

Other strategies observed in the literature to improve the location of doctors in rural settings include **continuing medical education** using distance-learning methods such as information technology; paying a rural allowance (as is the case in South Africa); the establishment of locum relief schemes to permit rural doctors to take study and recreation leave; respect for and the recognition of the rural doctor as part of a family unit. Other incentives include providing support and incentives for spouses and families, employment opportunities for doctors' spouses, improved accommodation facilities and suitable educational institutions for doctors' children.

In Indonesia, access to specialist training has been used as an **incentive** to attract doctors to rural areas. Doctors serving in very remote regions were given a 90% chance of a civil service appointment and an opportunity to specialist studying. Doctors serving in remote regions would have a 50% chance of such opportunity while those serving in urban areas had only 10% chance of specialist training.⁵³

This initiative appeared to work initially but eventually turned out to be expensive and was reported to attract people with the wrong skills and attitudes.⁵³ Doctors interested in specialist training might not be interested in or suited to public health work. Delaying specialist study by three years due to compulsory service in rural areas means that doctors do not complete their specialist training until they are in their late 30s or early 40s. This reduces the private and social returns to that training.⁵³

Other incentives have been used: Ghana's Health Ministry has established a prize fund to reward superior performances by individuals and health teams and Namibia is reported to be offering 'generous end-of-service payments, subsidised house owning schemes, car ownership, etc'.¹³ Zambia and Ghana have both experimented with relaxing eligibility criteria for promotions. The idea is that more cost effective care could be achieved by relaxing onerous requirements for promotions and the development of career paths.⁶

Bursary schemes are another strategy being explored as a mechanism for retention and appropriate deployment of health sector staff. A graduate is given a bursary to subsidise his or her training costs but is required to work in the country and/or area from which the bursary or individual originated. For example, bursaries may be given to rural inhabitants who would then be required to serve their community after graduation. Scholarships usually require the incumbent to utilise the scholarship in a specific area. In many cases beneficiaries elect to remain where they study rather than return home. For example, only 30% of WHO scholarship recipients from Lesotho were reported to have returned home.¹⁸

Private healthcare organisations in South Africa are also designing innovative programmes and incentives to retain their nursing staff. Some of the incentives include training programmes and salary incentives (such as a 14th cheque), and performance-based pay and long service rewards.³⁵ One project piloted by Netcare offers nurses the opportunity to work overseas for four to six weeks at a time.³⁵ The philosophy behind such initiatives is to promote nursing as a stimulating and exciting career option whilst encouraging and ensuring loyalty. It is not clear yet whether such an initiative has reduced the flow of nurses overseas or led to nurses on overseas attachments remaining in the countries they travel to.

Most southern African countries have used bonding at some time and for certain categories of personnel. Bonding systems have usually been used to ensure that graduates put something back into the public service following initial training.¹³ It can work in a number of ways. Students may be required to pay the full costs of their medical training, which the government forwards in the form of a loan that must be paid after graduation, or the loan can be written off in service. Lesotho and Ghana have introduced such a bonding scheme.¹⁶ The South African government introduced a system of community service for doctors, which was subsequently extended to cover pharmacists and dentists and is being further expanded to cover physiotherapists, occupational and speech therapists, clinical psychologists, dieticians, radiographers and environmental health officers.⁵⁴ The idea is to improve health service in the country and to engender a sense of social solidarity and responsibility among new graduates. However, the programme has had limited success as many community service doctors reported their intention to work overseas upon completion of their community service.⁵⁴ In South Africa, the number of doctors planning to work overseas increased from 34% in 1999 (the year community service was first introduced) to 43% in 2001.⁵⁴

The limits to bonding schemes have been noted in that emigrants who earn substantial salaries overseas have little difficulty with paying their way out. Bonding provides a limited intervention as it focuses on newly qualified professionals, and thus generally retains only the most junior staff, while valuable specialists continue to depart.⁵¹ The administrative and enforcement costs of bonding may amount to more than the drain of resources.¹⁶

Some recommend going upstream to the health system factors that motivate outflows. The PHR network recommends investing in health infrastructure so that 'health facilities

are in good condition and health professionals have the supplies and medicines they need to serve their patients and protect themselves.⁵¹

While salary differentials are one of the major causes of public to private sector flows, Van Lerberghe et al predict that in some developing countries, public sector salaries would have to be multiplied by a factor of five to bring them in line with even a small private practice income.⁴⁶ Making such salary shifts is often outside the scope of public sector wage systems. Zambia has devised a partial solution by creating autonomous health boards with the flexibility to hire personnel on contract rather than as civil servants. The board is not bound by civil service rules.⁴⁵ It is not clear how far this has changed the public to private flows in that country.

Van Lerberghe et al point out that a simple increase in salaries would not necessarily 'restore the sense of purpose that is required to make public services function.' They suggest that other sources of motivation, including developing professional satisfaction, self-realisation, social responsibility and prestige in healthcare professionals.⁴⁶

Where strategies have failed to produce, deploy or retain local personnel, some countries have resorted to recruitment of foreign personnel: For example, 90% of doctors in Botswana are foreigners.⁵¹ Since 1994, South Africa has recruited at least 446 foreign doctors, mostly from Cuba. Many of these fill posts in rural areas.⁵¹ In 1999, 78% of rural doctors in South Africa were from another country.¹³ In 2000, Zimbabwe recruited 120 Cuban doctors, mostly for rural hospitals.⁵¹

6.3 Policies for reducing migration out of countries within and beyond SADC

Policy options for dealing with outmigration seek to reduce outward flows (such as through the measures raised in the earlier sub-section), raise barriers to outflows, or encourage migrant return.

The *South African Network of Skills Abroad (SANSA)* aims to connect highly skilled South Africans living abroad with counterparts still in the country, so they can engage in collaborative projects that will benefit the country's development process. To date, SANSA boasts a membership of 2000 people.²⁹ The International Organisation for Migration (IOM) is also involved in assisting and facilitating the return of expatriates to their home countries. Funding is sourced from governments and international agencies.

Other measures for enabling returns to home countries have been proposed: Permitting dual nationality and citizenship is posited to facilitate returns to home countries, recognising that giving up the right to live and work in newly adopted countries presents a significant deterrent to repatriation. Issuing temporary work visas with the express requirement that holders are required to return home has also been proposed.²⁸

There is debate on measures for stopping the outflow of personnel. In a strong statement issued in June 2001, *SADC health ministers* suggested that the 'active and vigorous recruitment' of their health professionals 'could be seen as looting from these countries and is similar to that experienced during periods of colonisation when all resources, including minerals, were looted to industrialised countries.' The statement also pointed

out that the pattern of movement of skilled people ‘further entrenches inequitable wealth and resources’, and recommended the ‘speeding up of intra-regional staff exchange programmes, the prioritisation of South-South cooperation on human resources and a code of conduct to bind Commonwealth countries to formalise conditions for recruitment from developing countries.’⁵⁵

The *South African Medical Association (SAMA)*, on the other hand, reflecting the views of health personnel themselves, in May 2002 affirmed the diverse range of reasons doctors migrate from the country and supported their right to choose their place of work and home. The statement expressed concern at the treatment of doctors recruited to work in foreign countries and called for equal employment conditions.⁵⁶

Some stakeholders have proposed codes of conduct to govern international recruitment of health workers. The UK Department of Health has, for example, designed a *Code of Conduct on International Recruitment (United Kingdom)* to ‘promote the best possible standards and discourage any inappropriate practices which could harm other countries’ healthcare systems, or the interests of healthcare professionals who apply for posts’. This code of practice lists ethical policies and procedures that must be followed in international recruitment scenarios.⁵⁷ It includes a list of poorer countries that recruitment agencies should not recruit from. The code, while welcomed, has been criticised because there is no formal mechanism to ensure or monitor compliance. Additionally, workers recruited for the private sector eventually find their way into National Health System (NHS) employment, effectively indemnifying the NHS from accusations that they have not complied with the code.³⁷ A spokesperson for Britain’s Liberal Democrats stated last year that ‘new research showed overseas nurses from developing countries such as the West Indies and South Africa were being recruited by the ‘backdoor’, in particular, by private nursing agencies.’⁵¹ The worrying rise of migration of South African nurses, even since the 1999 code preventing their recruitment, raises concern that without government enforcement of private sector recruitment, non-adherent private agencies will continue to exploit source countries for health labour.

Proposals for codes have a high moral imperative but have problems where they do not bind state parties or other protagonists, such as recruitment agencies and private healthcare providers. There is also an argument that in an environment where capital is being facilitated to move freely, increasingly harsh measures to control the movement of people are contradictory and punitive of labour.

What is proposed as an alternative is a regulated system that involves source and recipient countries, which balances supply and demand and that seeks to compensate for the public goods losses and gains through training and experience.

In the *Commonwealth Code of Practice for the International Recruitment of Health Workers*, Commonwealth health ministers have agreed to adopt a consensus approach in dealing with international recruitment of health workers. A code was approved in May 2002 to guide the recruitment of health workers in a manner that balances the needs of both source and recipient countries. Some of the guiding principles of the code include transparency in recruitment activities, a ban on recruiting workers who have outstanding

obligations to their country, fairness and mutuality of benefits which includes recruiters examining ways in which they could provide assistance to source countries.⁵⁸

Lowell and Findlay²⁸ and PHR⁵¹ recommend wealthy nations stop recruiting health professionals from developing countries that are particularly vulnerable to skill losses. They suggest the development of a detailed listing of skills oversupply and shortages in poor countries to inform recruitment policies and strategies by industrialised countries. Bi-lateral and multilateral agreements on worker mobility are argued to create the opportunity for both source and recipient countries to develop terms of reference and exchange programmes that can benefit both parties. The exportation of surplus cadres of workers and those who have been identified for skill enhancement programmes will help to mitigate the negative effects of indiscriminate head hunting by foreign recruitment companies.²⁸

The World Medical Association (WMA) recommended in 2003 that countries take responsibility for developing their own medical doctors and actively work towards retaining such professionals by helping them meet their professional and personal needs. It insists that physicians should not be restricted from migrating if they do not have contractual obligations in their home country, but that recruiting countries are advised to compensate the country of origin for the cost of educating those physicians it recruits. The statement also recommends that physicians working in recipient countries be treated fairly.⁵⁹ The WMA established a working group to develop policies on the ethics of recruiting health professionals between countries and the relevant human rights issues for those who have already migrated.

Recipient countries have been advised to recruit staff from countries that have a surplus of professionals. It is suggested that countries with such surpluses consider approaching countries that experience shortfalls in these fields. China, for example, has approached the UK to take health professionals as it has a surplus and it is believed that the remittances to the emigrants' families from such placements would be beneficial to the economy.¹³ Regulation and accreditation of international recruitment agencies is argued to assist in eliminating many of the exploitative practices associated with international recruitment.²⁸

Some argue that the United Nations should facilitate agreement on an international code of ethical guidelines, including policy on appropriate advertisements in health professional journals in the developing world, recommend recruitment licensing for recipient countries and parameters for limited educational exchanges. A code of conduct is proposed to govern the conduct of countries that are not part of bilaterals or wider ethical recruitment pacts – such as the Commonwealth Code of Conduct – and backed by active monitoring.¹³

Having recipient countries pay **compensation** or a '**brain drain tax**' to source countries has been suggested as one method of compensating for losses incurred by migration.²⁸ This would make recruitment more costly and therefore discourage it. Money received in the form of compensation can then be re-invested by source countries into their own healthcare systems and into the training of new staff.⁴⁵

In May 2002, the World Organisation of Family Doctors (WONCA) adopted a code of practice for the international recruitment of healthcare professionals. They urged recipient countries to consider the effects their recruitment policies are having on source countries and encouraged them to ensure that the number and distribution of undergraduate and postgraduate training posts available within the country are adequate to meet their own workforce needs. They also called for compensation, 'to be paid to contribute to the support and training of healthcare professionals in their country of origin, inclusion of healthcare professionals recruited from abroad under the receiving country's employment laws and the support and encouragement of nationals to return to work in their country of origin.' They further recommend that recruitment and advertising only takes place between countries with a memorandum of agreement.⁶⁰

It is argued that personnel flows, rather than trigger direct compensation to training institutions, should trigger more generic bilateral aid flows from recipient to source countries and to developing countries generally, channelled into the *ongoing* costs of health systems to prevent brain drains.

Such policies of reparation to mitigate the adverse effects of the skills drain are, however, noted to face difficulties in implementation of exit taxes or bonded payments and imply potentially high administrative costs in collection of fees and the subsequent distribution of finance.⁶ There are many unresolved questions of who would make these reparations, how they would be calculated, to whom they would be paid to and how would they be paid.¹³

7. ISSUES FOR FOLLOW-UP RESEARCH, POLICY DEBATE AND ADVOCACY WORK

This paper highlights a range of areas for follow up work in southern Africa to support policy debate and development and ensure that the measures reached are effective, sustainable and equitable.

The initial review of the literature indicates that a new policy momentum exists in relation to human resources for health. This draws from a number of political, economic, trade and labour rights trends, but also from the extent to which personnel scarcities have become a critical limiting factor in health interventions. Policy initiatives are being taken at regional, international and global level by government, private and health professional actors. On the other hand millions of health workers are 'acting with their feet', demonstrating their own response to weaknesses in the system by securing the personal 'best options' for themselves. As noted, even while this responds to individual demands for security and wellbeing of health workers and their families, it has costs to the health workers, the primary and district level of health systems, the poorest populations and public health sectors in the south.

The literature review highlights that one constraint to designing policies that neither punish workers nor leave poor communities unfairly underserved is the availability of

timely and accurate information on health personnel distribution and movements across private, public and traditional sectors, supported by evidence of relationships with identified determinants of health personnel distribution, including impacts of HIV/AIDS, wider resource allocation systems, public-private differentials in wage and non wage factors as well as social and value based determinants. In the same way as national health accounts are making visible the total resource flows within health systems, public sector planning for health personnel needs to get a wider and more holistic sense of health personnel distribution and determinants. This paper presents in Section 2, Figure 2 a conceptual framework for approaching and further developing a wider mapping of determinants of health personnel distribution and flows.

It is also important to provide clearer analysis for policy on specific issues. While generic factors are identified, there is inadequate specific assessment of the relative impact of these factors in different settings with different mixes of personnel, or of how different policy measures have impacted on them. While broad areas of promising practice and policy can be identified, it would appear that more country-specific analysis is needed, given the range and variability across countries of health sector and exogenous (non health sector) conditions that influence human resource outcomes. In some settings specific areas of sectoral analysis may be needed (for example, to examine the stay factors in mission services; to identify the push factors for pharmaceutical personnel and other areas of critical scarcity and so on).

Steps need to be taken on a global basis to assess the scale, causes and impact of the skills drain before appropriate interventions can be devised and evaluated. There is a need to systematically analyse trends, develop perspectives, define response strategies and generally develop a coherent plan to meet the challenge in Africa. Data on the size and characteristics of the drain and comprehensive indicators reflecting the consequence of the drain on health must be collected and collated if there is to be any understanding of who is suffering as a result of the drain and how to address it. Much of the migration information in the literature is dated and 'there is no uniform system of statistics on the number and characteristics of international migrants'.¹⁵

It would be important in analysis to identify the relative impact of push-pull-stick-stay factors in different dimensions of health personnel flows and distribution, both as measured from data and as perceived by key policy stakeholders. It must be noted that this is an area where a blend of objective and subjective reporting is critical for policy development if old problems of thinking 'for' rather than 'with' health workers and of policy imposition are to be avoided.

Further such analysis needs to be accompanied by cost-benefit evaluation of the losses and gains of current flows to health workers, to communities, to health systems and to countries, if incentives and other economic policy levers are to be effective and if the benefit incidence of current policies and conditions are to be assessed.

A more rigorous framework for policy analysis is needed, both to stimulate relevant innovation and to avoid measures and incentives counteracting each other.⁶¹

This evidence demands stakeholder review. Available literature signals but does not adequately elaborate the role of institutional and governance factors in policy development on human resource issues, but provides sufficient evidence that it is an area where stakeholder perceptions and interests cannot be ignored. Whatever process is used to generate and analyse evidence needs to be accompanied by opportunities for reflection and input from key stakeholders, from national to international level.

Less evident in current literature is the extent to which a rights discourse informs policy development and the framing of options for the sector. Nevertheless, many of the issues generating debate on health personnel include balancing rights of individuals, workers, communities, patients and countries, and corresponding obligations to public health and to avoid unfair inequalities in either the costs or benefits of the current distribution and flows of health personnel. Notions of fairness imply a need for social debate on rights and obligations around movement and migration of health personnel, in relation to the personnel themselves, to their employers in low income and industrialised countries, to users of health services and to training and labour market institutions^{2,26,30}. While national constitutional, public health and employment law frameworks provide some basis for resolving competing rights, there is criticism that international and global frameworks are currently skewed away from social, public health rights, and provide underdeveloped options for protecting and equitably financing public goods, such as health personnel training. This calls for debate to build a widening understanding and consensus on how rights are protected and balanced at national, regional and international level. While there is growing commitment to setting codes of practice and ethics in this area, significantly more attention needs to be given to how such codes are implemented and enforced, to avoid these codes becoming ‘bandaids’ on a gangrenous wound.

Dealing with these issues implies more than evidence; it also implies political choice. Previous EQUINET work has highlighted that macro-economic and health sector reforms in southern Africa have enabled more powerful business, medical and middle class interest groups – who are also more technically qualified – to exact health sector concessions at the cost of the poorer, less organised rural health workers, or the urban and rural poor (EQUINET 2001). New global trade policies are criticised for strengthening the voice of northern capital interests over southern and social interests. At national level equity oriented policies are strengthened in processes that also strengthen the voice and influence of workers and users of primary healthcare and public health systems. At international level there is a need to strengthen processes that link public and equity-oriented interests south and north, to reinforce these interests in international policy. This calls for alliances, networking, debate and advocacy.

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