

**HEALTH SYSTEMS IN A CONTEXT OF HIV/AIDS:
AN ANALYSIS OF IMPACT, HEALTH POLICY
AND HEALTH CARE REFORM IN
KWAZULU-NATAL AND SOUTH AFRICA**

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**By
Nina Veenstra**

**In fulfilment of the requirements for the award of
PhD degree in Development Studies**

DECLARATION

In accordance with the regulations of the University of KwaZulu-Natal, I, Nina Veenstra, declare that this PhD thesis entitled: 'Health systems in a context of HIV/AIDS: An analysis of impact, health policy and health care reform in KwaZulu-Natal and South Africa' is my original research. It has not been previously submitted for any degree, and is not being concurrently presented in candidature in any University. All sources of literature have been duly acknowledged.

CANDIDATES SIGNATURE: *N. Veenstra*

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DEDICATION

I wish to dedicate this thesis to my little son, Aedan Lehr, born 22nd January 2007, whose generation has never known a world without HIV/AIDS.

ABSTRACT

The development of health systems in sub-Saharan Africa has been seriously challenged in the last two decades by the rise of HIV/AIDS. In this thesis I argue that the interface between health policy and HIV/AIDS in South Africa is poorly understood and that this has been to the detriment of fairly radical health care reforms as well as more general health systems development.

The research problem outlined above is two-fold, requiring different types of enquiry and analysis. Firstly, there is a gap in our understanding of the impact of HIV/AIDS on health systems. Empirical evidence is presented from research on health facilities and health management structures in Ugu district, KwaZulu-Natal to address this concern. Secondly, it is asserted that our limited understanding of the impact of HIV/AIDS and the nature of the epidemic have prevented a true appreciation of its significance for health policy. This dimension of the problem is addressed through an analysis of South African health policy from 1994 through to the present, as well as a more theoretical look at the potential future influence of the antiretroviral therapy programme on the health system.

Both quantitative and qualitative methodologies are employed in this research to acquire empirical insights. Health service utilisation trends are assessed retrospectively by quantitative analysis of key indicators from district and provincial information systems. Meanwhile, the prospective component of the quantitative research can best be described as repeat cross-sectional surveys of a selection of health facilities in Ugu district. These surveys capture data on the profile of patients seeking care and the resource requirements for managing these patients. Qualitative methodologies (predominantly semi-structured interviews) are used at facility level to gain insight into human resource issues and at the management level to better understand health system functioning in relation to HIV/AIDS.

One would expect the increasing HIV prevalence and burden of AIDS illness in South Africa to translate into a higher demand for health care. However, this has not occurred in Ugu district, largely because of difficulties with access to care. Despite this, at lower level health services, namely clinics and district hospitals, HIV-related service provision has outpaced an increase in resources. Specifically, the introduction of the antiretroviral therapy programme and the decentralisation of a range of HIV/AIDS services are causing new strains on the system. In essence, the epidemic has created a need to address barriers to accessing care and to expand support for district health services.

HIV/AIDS not only increases the demand for health care, but on the supply side erodes the capacity of the health system to deliver care. My research demonstrates that health care workers in KwaZulu-Natal are being severely impacted by the epidemic, with the nature of their work contributing to both their susceptibility and vulnerability. Not only is HIV/AIDS increasing absenteeism and attrition through escalating morbidity and mortality, but it is also working in more subtle ways to contribute to a range of 'push' factors driving health workers from the public health sector. None of these issues have been addressed because of the narrow definition of 'human resource management', despite the obviously heightened need to monitor attrition trends and develop creative retention strategies.

My research looks not only at the impact of HIV/AIDS impact on health services in Ugu district, but also at the impact of the epidemic on higher levels of the health system which constitute management structures. At these levels, the health system is challenged by an urgency to deliver HIV/AIDS services, as well as an increasing involvement of donors and partners such as civil society organisations or faith based organisations. This has resulted in trends towards more centralised control of planning and management and, in some instances, a deflection of resources towards HIV/AIDS issues and programmes. This context has called for a strong focus on capacity development and means to ensure the integration of health programmes.

Many of the trends in Ugu district demonstrate the insidious nature of HIV/AIDS impact and give some insight into why these trends have not been adequately addressed by South African health policies. My analysis suggests that despite the appropriateness of the overarching direction of health reforms, some concerns arising from the HIV/AIDS epidemic have received little attention. These include a need to: 1) manage human resource impacts, 2) develop home community based care and establish a continuum of care, and 3) lead and direct the involvement of donors and partners in the health sector. On the other hand, there have been some beneficial policy developments, such as the elimination of user fees for certain services and the attention paid to the way in which a focus on HIV/AIDS care can potentially weaken the health system. Unfortunately, in many instances HIV/AIDS has also widened the gap between policy and implementation and opportunities have been missed to develop the health system in an appropriate manner.

The South African antiretroviral therapy programme, launched in 2003, is a source of uncertainty regarding the future development of health policy in the country. My analysis makes use of scenarios to explore the potential future impact of the programme. I consider the ways in which the programme is steering us away from our post-apartheid vision of an equitable and well functioning national health system and towards 'AIDS exceptionalism'. I look to Botswana, the first country in southern Africa to provide antiretroviral therapy in the public health sector, for early lessons as to what we might expect. My case study of this programme suggests that HIV/AIDS care can be integrated with time, so limiting damage to the development of fragile health systems. Only through ongoing reassessment of the South African situation will it become apparent whether such lessons are transferable. Nonetheless, forward thinking should allow us to move from a crisis-orientated response to one that is more strategic.

This thesis concludes with four key messages (or recommendations) emerging from both the empirical research and the health policy analysis. Firstly, there is a clear need to establish systems that can provide comprehensive and timely information concerning the impact of HIV/AIDS on public health services. Secondly, trusting relationships have to be built between academics/researchers and health policy makers so that research informs policy. Thirdly, there is a need to (re)establish a shared vision of the national health system and maintain a focus on achieving this vision. Finally, priority programmes and resources allocated to these must be used to strengthen our national health system in creative ways.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION	1
1.1 A renewed focus on health in Africa	1
1.2 Health systems and their role in improving population health	3
1.3 The South African context	5
1.4 The Research Problem	5
<i>1.4.1 Understanding HIV/AIDS impact comprehensively</i>	6
<i>1.4.2 The significance of HIV/AIDS for health policy and vice versa</i>	7
1.5 Research Questions	8
1.6 Thesis structure	9
CHAPTER 2: LITERATURE REVIEW	10
2.1 HIV/AIDS and its impact on health services and systems	10
<i>2.1.1 The HIV/AIDS epidemic in South Africa and the concept of impact</i>	10
<i>2.1.2 The impact of HIV/AIDS on health services and systems</i>	17
<i>2.1.3 The impact of HIV/AIDS on households and their participation in the health system</i>	24
2.2 Health policy and reform in South Africa and beyond	28
<i>2.2.1 Health sector reform in Africa</i>	28
<i>2.2.2 Health sector reform in South Africa 1994-2006</i>	32
<i>2.2.3 Health policy analysis frameworks and the policy context</i>	35
2.3 Conclusions	41
CHAPTER 3: RESEARCH METHODOLOGY	43
3.1 Components of the research	43
3.2 Sample district, facilities and key informants	45
<i>3.2.1 Sample district</i>	45
<i>3.2.2 Sample facilities</i>	47
<i>3.2.3 Key informants</i>	51
3.3 Data collection methods	52
<i>3.3.1 Facility level</i>	52
<i>3.3.2 District and provincial level</i>	54
3.4 Data analysis	55
3.5 Policy analysis	56
<i>3.5.1 Policy analysis framework</i>	57
<i>3.5.2 Analysis of HIV/AIDS and potential health policy issues in the years to come</i>	59
3.6 Quality assurance	60
3.7 Limitations of the research	60
3.8 Ethical considerations	64

CHAPTER 4: IMPACT OF HIV/AIDS ON HEALTH SERVICES (DEMAND SIDE)	65
4.1 Stabilisation in health service utilisation for HIV-related illness	67
4.1.1 <i>Retrospective analysis</i>	67
4.1.2 <i>Prospective analysis</i>	74
4.2 Potentially higher resource utilisation associated with providing HIV-related care, with district health services becoming most affected	82
4.3 Conclusions	91
CHAPTER 5: IMPACT OF HIV/AIDS ON HEALTH CARE WORKERS (SUPPLY SIDE)	93
5.1 HIV/AIDS susceptibility and vulnerability amongst health care workers	95
5.2 Increasing absenteeism and attrition as a direct result of the HIV/AIDS epidemic	100
5.3 HIV/AIDS exacerbating a range of ‘push factors’	108
5.4 The significance of poor HR management	112
5.5 Conclusions	114
CHAPTER 6: IMPACT OF HIV/AIDS ON THE BROADER HEALTH SYSTEM	117
6.1 Trends towards more centralised control	118
6.2 Poor integration of programmes and the deflection of resources towards HIV/AIDS	123
6.3 Increasing donor/partner involvement in the system	126
6.4 Conclusions	133
CHAPTER 7: ANALYSIS OF THE INTERFACE BETWEEN HEALTH POLICY AND HIV/AIDS 1994-2006	136
7.1 The road to policy formulation: where are the potential snags in acknowledging the impact of HIV/AIDS?	139
7.2 Appropriateness of the overarching direction of health sector reforms	142
7.3 Policy content: what issues have been addressed?	144
7.3.1 <i>Access to services: the issue of user fees</i>	145
7.3.2 <i>Efforts to avoid the potential deflection of resources towards the HIV/AIDS programme and a general weakening of the health system</i>	146
7.4 Policy content: where are the silences, inadequate, or inappropriate responses	148
7.4.1 <i>The management of human resource impacts</i>	149
7.4.2 <i>HCBC and other efforts to establish a continuum of care</i>	151
7.4.3 <i>Stewardship and co-ordination to facilitate increasing involvement of donors and partners</i>	155
7.5 The gap between policy and implementation	157
7.5.1 <i>The centralisation of control</i>	158
7.5.2 <i>Insufficient support for increasingly burdened district health services</i>	159
7.6 Missed opportunities	160
7.7 How has policy response impacted on gender and inequality in South Africa?	164
7.8 Conclusions	166

CHAPTER 8: A CHANGING LANSCAPE – ART AND HEALTH POLICY IN THE YEARS TO COME	167
8.1 The impact of ART on the demand and supply of health services	169
<i>8.1.1 The impact of ART on AIDS deaths</i>	<i>173</i>
<i>8.1.2 The impact of ART on the rate of new infections</i>	<i>175</i>
<i>8.1.3 The impact of ART on the supply of health services</i>	<i>177</i>
8.2 The impact of the ART programme on the broader health system	178
<i>8.2.1 ART shifting the balance towards curative, tertiary, medical model health care delivered in more urban areas</i>	<i>179</i>
<i>8.2.2 ART shifting the balance towards centralised, vertical approaches focussed on short term delivery objectives and managed in a top down fashion</i>	<i>181</i>
<i>8.2.3 Rationale for justifying health system impacts</i>	<i>182</i>
8.3 Botswana Case Study	184
<i>8.3.1 Health system challenges associated with ART scale up</i>	<i>185</i>
<i>8.3.2 ART impact on the demand and supply of health services</i>	<i>186</i>
<i>8.3.3 ART impact on the broader health system</i>	<i>188</i>
8.4 Conclusions	188
 CHAPTER 9: CONCLUSIONS AND RECOMMENDATIONS	 190
9.1 Establish systems that can provide comprehensive and timely information concerning the impact of HIV/AIDS on public health services	193
9.2 Build trust and relationships between academics/researchers/health policy analysts and health policy makers	194
9.3 (Re)establish a shared vision of the national health system and maintain a focus on achieving this vision	195
9.4 Use priority programmes and the resources allocated to these programmes to strengthen the health system in creative ways	197
9.5 Conclusion	198
 REFERENCE LIST	 199

LIST OF TABLES

Table 1. Antenatal sero-prevalence rates across the provinces in South Africa	12
Table 2. Studies to date looking at the burden of HIV/AIDS on health facilities, measured in terms of HIV prevalence.....	18
Table 3. Studies to date looking at the burden of HIV/AIDS on health facilities, measured in terms of the proportion of HIV- and/or AIDS-related illness.....	19
Table 4. The different policy levels at which health system reforms operate	31
Table 5. Objectives against which to evaluate health sector reforms	35
Table 6. Some of the main events characterising the South African governments ‘inadequate’ response to HIV/AIDS	39
Table 7. HEARD projects from which data was extracted for this research	44
Table 8. ART roll-out: accreditation dates for hospitals included in this research.....	66
Table 9. Numbers on ART in 2004 for facilities included in this research	66
Table 10. Trends in the proportion of medical inpatients presenting as HIV positive for facilities participating in all three phases of the research	75
Table 11. Trends in the proportion of outpatients presenting as HIV positive for facilities participating in all three phases of the research	75
Table 12. Inpatient mortality rate for patients with HIV-related illness and patients with other types of illness	81
Table 13. Average cost of drugs, laboratory investigations and radiology investigations for inpatient care	84
Table 14. Average length of stay for inpatient care.....	84
Table 15. Average cost of drugs, laboratory investigations and radiology investigations for outpatient care	86
Table 16. Average consultation times for outpatient care	87
Table 17. Percentage of home country health workforce working overseas, for a number of sub-Saharan African countries.....	109
Table 18. Provincial conditional grants for health, 1990/00-2005/06	120
Table 19. Examples of disease-specific and health-system responses to typical delivery constraints	124
Table 20. Scenarios illustrating the potential demand for health care due to HIV/AIDS and the impact of ART.....	171
Table 21. Number of health facilities serving rural populations and providing ART	180

LIST OF FIGURES

Figure 1. Prevalence rates for antenatal clinic attendees 1990 to present in Southern African countries.....	12
Figure 2. Estimated deaths by disease group in South Africa and KZN, 2000	14
Figure 3. Total number of deaths by age and year of death, 1997-2005	14
Figure 4. The three HIV/AIDS epidemic curves	15
Figure 5. HIV prevalence and AIDS cases in South Africa..	16
Figure 6. The ‘AIDS Transition’	24
Figure 7. Model for health policy analysis	36
Figure 8. Map of South Africa showing the location of Ugu district and KZN province	46
Figure 9. The location of health facilities included in this research	49
Figure 10. The referral pattern of facilities included in the sample and the general structure of the health system relevant to this research.	50
Figure 11. Theoretical framework	58
Figure 12. Inpatient admission trends for health facilities in KZN	68
Figure 13. Inpatient admission trends for health facilities sampled for this research.....	69
Figure 14. Bed occupancy trends for health facilities in KZN and those sampled for this research	70
Figure 15. Length of stay trends for health facilities in KZN and those sampled for this research	71
Figure 16. Outpatient headcount trends for health facilities in KZN	72
Figure 17. Outpatient headcount trends for health facilities sampled for this research....	72
Figure 18. PHC headcount trends for health facilities in KZN.....	73
Figure 19. PHC headcount trends for health facilities sampled for this research.....	73
Figure 20. Trends in the burden of disease presenting at a sample of medical inpatient services in Ugu district and the referral hospital in Durban	79
Figure 21. Trends in the burden of disease presenting at a sample of outpatient services in Ugu district.....	79
Figure 22. Trends in average cost for HIV and non-HIV related inpatient care at different levels of the system	85
Figure 23. Trends in average cost for HIV and non-HIV related outpatient care at different levels of the system	87
Figure 24. Real expenditure on health care facilities of different levels in KZN.....	90
Figure 25. Real expenditure on health care facilities of different levels in Ugu district specifically..	91
Figure 26. Reason for termination of service among health care workers in KZN 1995-2002	102
Figure 27. Educator mortality in-service and within a year of leaving service	103
Figure 28. KZN Department of Health age profile for female employees and corresponding HIV prevalence	105
Figure 29. KZN Department of Health age profile for female employees and corresponding death rates	105
Figure 30. KZN Department of Health age profile for male employees and corresponding HIV prevalence	106
Figure 31. KZN Department of Health age profile for male employees and corresponding death rates	106

Figure 32. Government and donor earmarked HIV/AIDS funds in South Africa, 2000-2002	127
Figure 33. Trends in domestic public health funding and external financing for HIV/AIDS in other African countries, 2000-2004	127
Figure 34. Commencement dates of 359 HCBC programmes in 4 districts in South Africa	129
Figure 35. Basic stages in the policy making process	140
Figure 36. Changing allocations to HIV/AIDS activities, 2000/01-2005/06.....	180
Figure 37. The widening gap between needs, commitments and disbursements for HIV/AIDS	182

LIST OF APPENDICES

Appendix 1. South African policy template
Appendix 2. Publications associated with the PhD research
Appendix 3. Data collection forms for facility level analysis
Appendix 4. Interview schedules for facility level analysis
Appendix 5. Interview schedules for district and provincial level analysis
Appendix 6. Interview schedule for Botswana case study

LIST OF ABBREVIATIONS

ACHAP	African Comprehensive HIV/AIDS Partnership
AIDS	Acquired Immune Deficiency Syndrome
ANC	African National Congress
ART	Antiretroviral Therapy
ASSA	Actuarial Society of South Africa
CHCs	Community Health Centres
CHW	Community Health Worker
CMH	Commission on Macroeconomics and Health
CSOs	Civil Society Organisations
DHS	District Health System
FBO(s)	Faith Based Organisation(s)
HCBC	Home Community Based Care
HEARD	Health Economics and HIV/AIDS Research Division
HIV	Human Immunodeficiency Virus
HR	Human Resource
HSRC	Human Sciences Research Council
IDU	Injecting Drug Users
KZN	KwaZulu-Natal
MDGs	Millennium Development Goals
MRC	Medical Research Council
MSF	Medicins Sans Frontiers
MSM	Men who have Sex with Men
NACA	National AIDS Coordinating Agency
NGO	Non-Governmental Organisation
NPA	Natal Provincial Administration
PCR	Polymerase Chain Reaction
PEP	Post Exposure Prophylaxis
PEPFAR	President's Emergency Plan for AIDS Relief
PHC	Primary Health Care
PLWHA	People Living With HIV and AIDS
PMTCT	Prevention of Mother to Child Transmission
SANAC	South African National AIDS Council
SPHC	Selective Primary Health Care
sSA	sub-Saharan African
StatsSA	Statistics South Africa
STI	Sexually Transmitted Infections
SWAps	Sector-Wide Approaches
TAC	Treatment Action Campaign
TB	Tuberculosis
UKZN	University of KwaZulu-Natal
UN	United Nations
US	United States
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation

CHAPTER 1: INTRODUCTION

Africa lags behind other regions of the world in terms of socio-economic development, with poverty being both a cause and a consequence of poor health. While many inputs are required for the promotion of good health, the contribution of quality health care delivered through national health systems remains essential. Unfortunately, efforts to develop stronger health systems have occurred in a dynamic context in which the prevalence of HIV/AIDS has risen exponentially, particularly in the last two decades. I will argue that HIV/AIDS has presented itself as an unprecedented threat to health systems development in Africa. With the epidemic sure to be with us for many years to come, greater effort is required to understand its ways in relation to these systems, and to plan for them appropriately.

1.1 A renewed focus on health in Africa

Recently, we have seen a renewed focus on health in Africa, evidenced by a mobilisation of global resources and initiatives such as the recently published African Regional Health Report (WHO 2006a). This focus is not surprising, given epidemiological, ideological and political shifts witnessed in recent times.

In particular, increasing rates of infectious diseases have, since the late 1980s, resulted in diverging mortality trends across the world. These trends have gone against earlier predictions which foresaw a global convergence towards lower mortality. Scientists did not predict the latest or 'third' epidemiological transition of emerging infectious diseases, characterised by a large number of new pathogens (including HIV) and a rebound in pre-existing diseases such as malaria and Tuberculosis (TB) (Barrett et al. 1998; McMichael et al. 2004; Moser et al. 2005).

The focus on health in Africa has, however, not been purely driven by disease trends; concerns for equity, human rights and human security have all helped to shift the focus. The Millennium Development Goals (MDGs), for example, were established by world leaders at the United Nations (UN) Millennium Summit in September 2000 and have become an important mechanism to mobilise global support to reverse the spread of disease. The Summit's Declaration outlines a wide range of commitments to human rights, good governance and democracy, as the necessary basis for putting shared values into action (UN General Assembly 2000). Also in 2000, the UN Security Council held its first ever meeting on a health issue, 'AIDS in Africa'. United States (US) Vice President Al Gore suggested that the meeting set an example as to how 'security' could be understood according to a new, more expansive definition for the 21st century (Aita 2000).

Lastly, a sentiment has emerged among global policymakers that good health is an important contributor to economic growth. The Commission on Macroeconomics and Health (CMH), established by the World Health Organisation (WHO) Director-General Gro Harlem Brundtland in 2000, provided convincing arguments that health should be regarded not only as a priority in its own right, but also as an investment towards economic development and poverty reduction (CMH 2001). The CMH highlighted how a few health conditions (for which there are effective interventions) remained responsible for a large proportion of the burden of poor health, suggesting that relatively limited investments could result in huge gains. Amongst those conditions which the report emphasizes as primary targets, are included HIV/AIDS, malaria, TB, maternal conditions, measles, respiratory infections, diarrheal disease, and other illnesses preventable through vaccination.

1.2 Health systems and their role in improving population health

Today and every day, the lives of vast number of people lie in the hands of health systems. From the safe delivery of a healthy baby to the care with dignity of the frail elderly, health systems have a vital and continuing responsibility to people throughout the lifespan. They are crucial to the healthy development of individuals, families and societies everywhere (WHO 2000: xi)

The World Health Report of 2000, entitled 'Health Systems: Improving Performance', brought a renewed focus on the importance of health systems, not least of all by reconciling conflicting evidence on the contribution that these systems make to improving health. It argued that the performance of these systems was at the heart of many concerns about health system accomplishments.

Any argument for the contribution made by health systems to improving health will rest on what constitutes such systems, something that is not always clear. The WHO defines a health system as 'all the activities whose primary purpose is to promote, restore or maintain health' (WHO 2000). This definition is one that this thesis supports and includes the formal health services, but also acknowledges the activities of many other players, such as traditional healers, community health workers and home caregivers. Such community-based activities, integral to improving the health of populations, are all too often glossed over in health systems discussions.

In this thesis, which focuses on the South African national health system, a distinction is made between the 'health services' and the 'broader health system' (with this depicted diagrammatically in Chapter 3). This distinction is somewhat artificial, but serves to highlight that that the health system comprises more than just 'health services' provided through various levels of health facilities. It also includes all the district, provincial and national government health structures, which are required to manage these facilities (amongst other functions referred to below).

Even though health systems around the globe have developed around some common understandings about medical science and disease, their structure and organisation varies tremendously across countries (Beck et al. 2006). However, if we focus in on countries with fragile health systems and high HIV prevalence, i.e. those in sSA (sub-Saharan Africa), then these systems display some level of uniformity, at least in terms of the aspirations of publicly funded health services. At a basic level, all health systems seek to improve the health of the population they serve. Less often considered, are health system's responsibilities to respond to user's expectations and to protect them against the economic costs of ill-health – these being their other two fundamental objectives (WHO 2000).

To achieve their objectives, health systems perform a number of functions, which in themselves provide a useful framework for analysis. These functions were initially introduced in discussions on health system reform (Frenk 1994), and later related to the health system objectives in the World Health Report (WHO 2000). They include: 1) regulation/stewardship, 2) financing, and 3) the delivery of services. I return to these functions during the course of this thesis.

More recently, increasing attention has been paid by policy analysts to the complexity of health systems and the policies which guide them. This has been facilitated by a focus on systems thinking, which acknowledges that social and organisational systems like national health systems show adaptive behaviours. Such thinking asserts that reducing complex problems, such as health policy problems, into separately managed components (reductionism) is no longer appropriate, since it doesn't allow for the interconnectivity inherent in health systems today (Chapman 2002). This thesis, while not embracing soft systems methodologies¹, does acknowledge this level of complexity in its analysis. This is particularly salient given the long wave nature of the HIV/AIDS epidemic, which allows more time for the health system to adapt in sometimes unexpected ways.

¹ Soft systems methodologies were devised to address real world, complex problems where human behaviour is not always rational. They involve constructing models of the system or systems being studied. The classic soft system enquiry is conducted in a seven stage process. See Checkland P (1981) *Systems theory, systems practice*. John Wiley and Sons, Chichester.

1.3 The South African context

This thesis focuses on the province of KwaZulu-Natal (KZN) in South Africa, where there is both a fragile health system and a high HIV prevalence, making it a suitable context for studying the interface between health system development and HIV/AIDS. However, like any context, there are also some unique features that need to be acknowledged. Firstly, South Africa is a middle income country which devotes a level of resources to health that is very high for the region. Health expenditure per capita (in PPP US\$) was US\$669 in 2006, compared to US\$359 in Namibia, US\$375 in Botswana, US\$324 in Swaziland, and US\$132 in Zimbabwe (UNDP 2006).

Secondly, South Africa only recently emerged from apartheid, a system of government which had a profound influence on all spheres of society, including the development of a national health system. It is only since 1994 that South Africa seriously devoted attention to national health care reforms for all of its citizens. Sadly, the end of apartheid coincided with the dramatic rise in HIV prevalence in the country (illustrated in Chapter 2), making the task of reforming the health system all the more formidable. Many other countries in Africa, while having more fragile health systems, had the advantage of greater political and social stability during the late 1990s and early 2000s.

1.4 The Research Problem

In brief, there are two dimensions to the problem addressed by this thesis:

1. There is limited understanding of the impact of HIV/AIDS on the health system in South Africa; and
2. The lack of understanding about impact, along with other reasons, has meant that policy makers and planners have not adequately considered HIV/AIDS in the design and implementation of health policies.

This thesis constitutes original work in that it looks at impact more comprehensively than previous work, and further utilises these findings to draw out relevant policy implications.

1.4.1 Understanding HIV/AIDS impact comprehensively

In order to assess the interface between HIV/AIDS and health policy, it is necessary to understand how the epidemic impacts on the public health system. This, in itself, is a challenge that can be approached from a number of different angles. For example, a mechanistic perspective would consider how HIV/AIDS affects the many components that comprise the system and their operational efficiency. A more socio-cultural viewpoint, on the other hand, would consider how the epidemic affects the complex relationships and social interactions that dictate the functioning of the system (Blaauw et al. 2003). Although substantial effort has gone into trying to understand the impact of the unfolding epidemic, such efforts have, not surprisingly, been constrained by a lack of data. Prior to this research, the limited understanding about the impact of HIV/AIDS was nonetheless already alerting us to some of the challenges posed by the epidemic to health systems and reform initiatives. These include: overcrowding in health facilities, increasing costs in providing care, a chronic human resource shortage, and a rising community burden of HIV/AIDS illness.

Impact is by nature diverse and long term and so although we have insight into some of the challenges that the health system has faced, such insights needed refining. Most previous work looking at HIV/AIDS impact on services or systems has been narrow in focus and restricted to a short time frame. This research has looked at HIV prevalence rates in health care facilities and composed snapshot views of only one level of care, typically at the tertiary level. These research parameters limit any assessment of where the system might be most vulnerable, or how different components and interactions are differentially affected. Furthermore, almost no work has been done looking at impacts on the management and broader functioning of the system.

In trying to discern the likely impact of AIDS in South Africa, and the various ways and paths along which that impact would circulate through society, we have to acknowledge the limits both of current research output and the framing of that research, little of which is capturing the impact on systems and processes, or exhibiting understandings of the social dynamics with which AIDS intersects (Marais 2005: 22)

1.4.2 The significance of HIV/AIDS for health policy and vice versa

When the restructuring of health systems in nearly all sSA countries (including South Africa) was conceived, planners and managers had little idea of how HIV/AIDS might impact on the relevant processes, or of the challenges that restructured services would have to face as the epidemic spread. This timing, along with other domestic pressures to create a unified health system and deliver on what was mandated in the South African Constitution, as well as the political environment around HIV/AIDS, has meant that other contextual factors influencing health policy have been pushed into the background. These include changes in socio-economic factors and disease patterns. In effect, quite radical health care reforms have been and are being implemented as health services and systems are concurrently facing an expanding HIV/AIDS burden, but with little thought for the additional layer of complexity created by the epidemic (Dawes 2003; Benatar 2004):

It is unclear how processes of reform and HIV/AIDS interact, and more importantly, whether reforms are compatible with an effective management of the epidemic (Dawes 2003: 23)

If HIV/AIDS is hindering the implementation of health care reforms or weakening the health system in other significant ways, then these are issues that need to be addressed in a timely fashion. The unexpected threat and challenge created by HIV/AIDS therefore calls for adaptive management of the health system if it is to develop in the ways envisaged.

1.5 Research Questions

In view of the two-part problem presented above, this research aims to address five key research questions through both empirical study and policy analysis:

1. What is the impact of HIV/AIDS on health care services in terms of:
 - Changes in the demand for services;
 - Resource implications associated with changes in demand; and
 - Changes in the capacity to deliver services (in particular as related to the impact on health care workers)?
2. What are some of the impacts of HIV/AIDS on broader health system functioning?
3. To what extent have policy changes and health care reforms modified the response of health services and systems to the impacts of HIV/AIDS, in both positive and negative ways?
4. To what extent has HIV/AIDS hindered or facilitated policy development, policy strategy around implementation and health care reforms as a result of:
 - Impact of the epidemic on health services and systems;
 - Socio-economic changes in society; and
 - Political ideology surrounding the epidemic?
5. What new challenges does the ART programme bring to the health policy context?

The empirical analysis component (Chapters 4-6) of this thesis addresses questions 1 and 2, by looking at the impact of HIV/AIDS on health care services and the broader health system. The policy analysis (Chapters 7 and 8), on the other hand, looks to answering questions 3, 4 and 5. It seeks to better understand the appropriateness of health policies in the context of HIV/AIDS, as well as the extent to which this context has been influencing health system development. It also looks at how the rapidly expanding Antiretroviral Therapy (ART) programme might modify any trends that are currently being experienced in the health sector as a result of the epidemic.

1.6 Thesis structure

Chapter 2 of this thesis reviews relevant literature in two key areas of interest: 1) the HIV/AIDS epidemic in South Africa and its impact on health services and systems, and 2) health policy and reform in South Africa and beyond.

Chapter 3 outlines the research methodology employed. As described above, this research involved both empirical study and policy analysis.

Chapters 4 and 5 focus on the impact of HIV/AIDS on health services in Ugu district, KZN. They present a range of data which illustrates the impact of the epidemic on both the demand for care (Chapter 4) and the supply of care (looking specifically at health care workers, Chapter 5).

Chapter 6 retains a focus on Ugu district and KZN, but looks at the ways in which HIV/AIDS impacts on the health system more broadly.

Chapters 7 and 8 are orientated towards health policy issues. Chapter 7 looks retrospectively at health policy in South Africa and KZN over the last 12 years and explores if and how this has interfaced with HIV/AIDS in both positive and negative ways. Chapter 8 is forward looking, in that it considers our dynamic context and the rapidly growing ART programme. It is mostly theoretical in its consideration of what the implications of this programme might be for health policy and includes a case study of Botswana.

Chapter 9 draws out the major lessons that the research holds for health policy development in South Africa.

CHAPTER 2: LITERATURE REVIEW

This chapter provides a review of relevant literature, falling into two main categories:

- 1) That which focuses on the HIV/AIDS epidemic and its impact on health services and systems; and
- 2) That which looks at health policy and health sector reform in Africa and South Africa, and the factors that have influenced this.

The chapter has also been structured along these lines, since the two broad thematic areas are not often bridged in the literature. The purpose of this research is to ultimately provide such a bridge by identifying the interlinkages and weaving together knowledge in these areas. The literature review does not deal with theoretical literature around institutional delivery or the plethora of institutional theories, since the main focus of analysis is on health policy rather than institutional delivery.

2.1 HIV/AIDS and its impact on health services and systems

2.1.1 The HIV/AIDS epidemic in South Africa and the concept of impact

The HIV/AIDS epidemic in South Africa, driven by heterosexual transmission as we are seeing it now, first became apparent in the late 1980s and the early 1990s. However, it was cases amongst homosexuals which were first identified in 1982, with heterosexual sex only becoming the predominant pathway of transmission in 1991. (Whiteside et al. 2000). Hence there were two different patterns of HIV transmission in South Africa, occurring along different time lines (Williamson et al. 2005). The first pattern amongst homosexuals was characterised by subtype B of the HIV-1 virus, which is commonly found in North America and Europe. In contrast, the heterosexual epidemic was caused by subtype C of the HIV-1 virus, most likely originating from other countries in Africa. It is this second, heterosexual epidemic that concerns this thesis.

National surveillance of the HIV/AIDS epidemic in South Africa has involved both annual antenatal sero-prevalence surveys and two population based surveys in 2002 and 2004 (HSRC 2002; HSRC 2005). In addition, there has been one highly-focused population-based survey of youth aged 15-24 years (Pettifor et al. 2004). Information derived from such surveillance efforts has been important for the purposes of designing, planning and evaluating public health care, as well as fuelling public advocacy (GTZ 1999; WHO/UNAIDS 2003). While antenatal sero-prevalence surveys have been used to measure both trends and levels of HIV infection, they are not representative of the reproductive age population. This is because they include only sexually active females and the results depend on who accesses public antenatal care and where facilities are sited. Population based surveys may be better at measuring levels of HIV infection, but interpretation of the results becomes difficult where there are low response rates (WHO/UNAIDS 2003).

As antenatal sero-prevalence surveys have been done annually in South Africa since 1990, they remain the best source of information about the progression of HIV/AIDS in the country. They display a steady increase in HIV prevalence rates since the early 1990s, with only a very recent sign of potential stabilisation (see Figure 1). In 2005, antenatal sero-prevalence rates increased in seven out of a total of nine provinces, when compared to 2004 figures, however these increases were not statistically significant. Between 2005 and 2006, the Eastern Cape was the only province that still registered an increase, again not statistically significant (see Table 1). KZN currently has an antenatal sero-prevalence rate of around 40%, comparable to the most seriously affected countries, like Swaziland and Botswana. Meanwhile, other countries with more mature epidemics, such as Uganda, have registered more consistent declines in prevalence rates due to increasing numbers of deaths and successful initiatives to reduce the spread of infection.

Figure 1. Prevalence rates for antenatal clinic attendees 1990 to present in Southern African countries (Botswana Ministry of State President 2003; Lesotho Ministry of Health and Social Welfare 2003; Namibia Ministry of Health and Social Welfare 2003; Kingdom of Swaziland Ministry of Health and Social Welfare 2004; Namibia Ministry of Health and Social Welfare 2004; Government of Botswana 2006a; SA Department of Health 2006c; SA Department of Health 2007a)

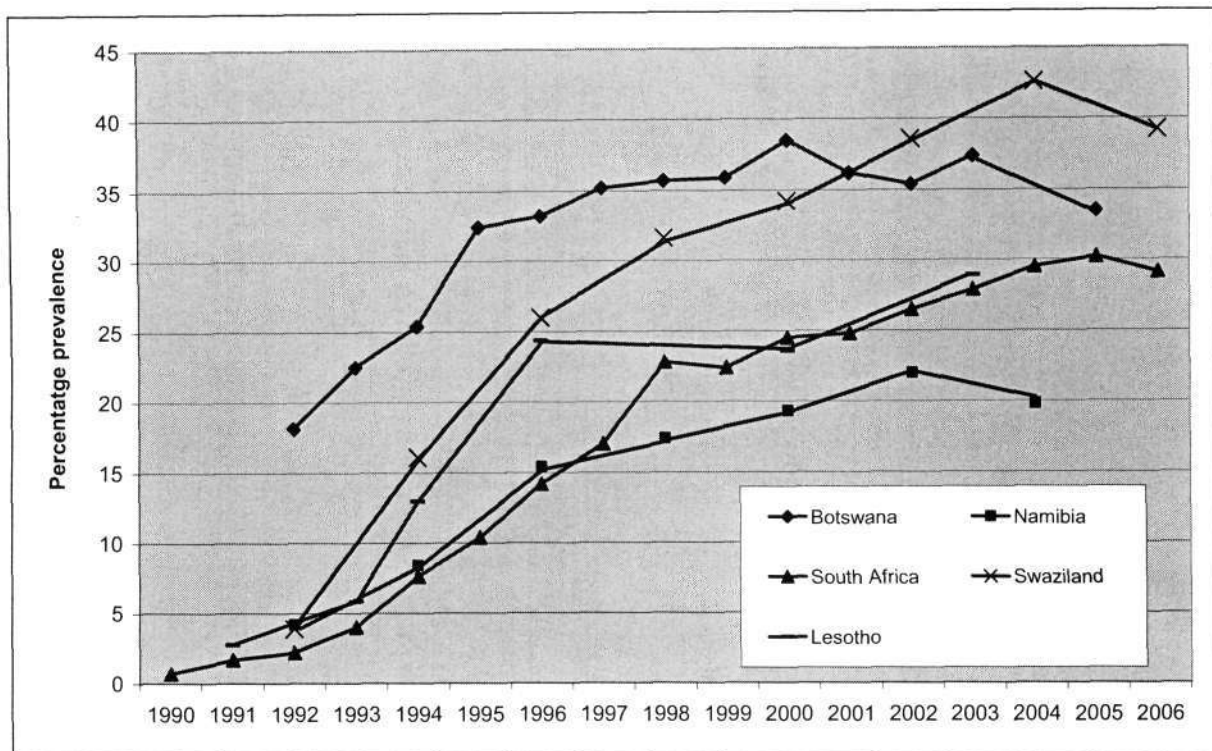


Table 1. Antenatal sero-prevalence rates across the provinces in South Africa (SA Department of Health 2006c; SA Department of Health 2007a)

Province	HIV prevalence (CI 95%) 2003	HIV prevalence (CI 95%) 2004	HIV prevalence (CI 95%) 2005	HIV prevalence (CI 95%) 2006
KwaZulu-Natal	37.5 (35.2 – 39.8)	40.7 (38.8 – 42.7)	39.1 (36.8 – 41.4)	39.1 (37.5 – 40.7)
Gauteng	29.6 (27.8 – 31.5)	33.1 (31.0 – 35.3)	34.8 (31.0 – 38.5)	32.1 (29.8 – 34.4)
Mpumalanga	32.6 (28.5 – 36.6)	30.8 (27.4 – 34.2)	32.4 (30.6 – 34.3)	30.8 (29.6 – 32.1)
Free State	13.1 (8.5 – 17.7)	29.5 (26.1 – 32.9)	31.8 (28.4 – 35.2)	29.0 (27.0 – 31.1)
Eastern Cape	23.6 (21.1 – 26.1)	28.0 (25.0 – 31.0)	30.3 (26.9 – 33.6)	31.1 (29.2 – 33.1)
North West	29.9 (26.8 – 33.1)	26.7 (23.9 – 29.6)	29.5 (26.4 – 32.5)	29.0 (27.1 – 30.4)
Limpopo	17.5 (14.9 – 20.0)	19.3 (16.8 – 21.9)	21.5 (18.5 – 24.6)	20.7 (19.0 – 22.3)
Northern Cape	16.7 (11.9 – 21.5)	15.4 (12.5 – 18.2)	18.5 (14.6 – 22.4)	15.6 (12.7 – 18.5)
Western Cape	30.1 (26.9 – 33.3)	17.6 (13.0 – 22.2)	15.7 (11.3 – 20.1)	15.2 (11.6 – 18.7)
South Africa	27.9 (26.8 – 28.9)	29.5 (28.5 – 30.5)	30.2 (29.1 – 31.2)	29.1 (28.3 – 30.0)

Of greatest concern at present in South Africa, are the continually high antenatal prevalence rates in the under-20 year age band, generally assumed to comprise mostly new infections. These rates were 15.8% in 2003, 16.1% in 2004, 15.9% in 2005 and 13.7% in 2006 (SA Department of Health 2006c; SA Department of Health 2007a). The high prevalence among the youth still in 2005 suggested that prevention efforts were not being effective in curbing the spread of HIV. The data for 2006 are more encouraging. Meanwhile, HIV-related deaths are increasing and starting to counteract the effect of new infections on the prevalence rate.

The Medical Research Council (MRC) Burden of Disease Unit has used death registration in South Africa to show how South Africa has moved from a triple burden of disease to a quadruple burden of disease, comprising communicable diseases, chronic diseases, injuries and HIV/AIDS (Bradshaw et al. 2003; Bradshaw et al. 2004). This work demonstrates the high proportion of deaths due to HIV/AIDS already in 2000, in South Africa and in KZN specifically (see Figure 2). It was robust in the sense that it adjusted for under-registration and proportionally reallocated ill-defined causes of death in each province to a specified cause. Subsequent work by Statistics South Africa (StatsSA) has also shown an increasing burden of AIDS-related deaths, through analyses of age-specific mortality (see Figure 3) and cause of death (StatsSA 2005a; StatsSA 2006b; StatsSA 2007). Since death registration has improved tremendously over the years and was estimated to be in the region of 90% in 2005, this mortality profile should be fairly accurate.

Figure 2. Estimated deaths by disease group in South Africa and KZN, 2000 (Bradshaw et al. 2003; Bradshaw et al. 2004)

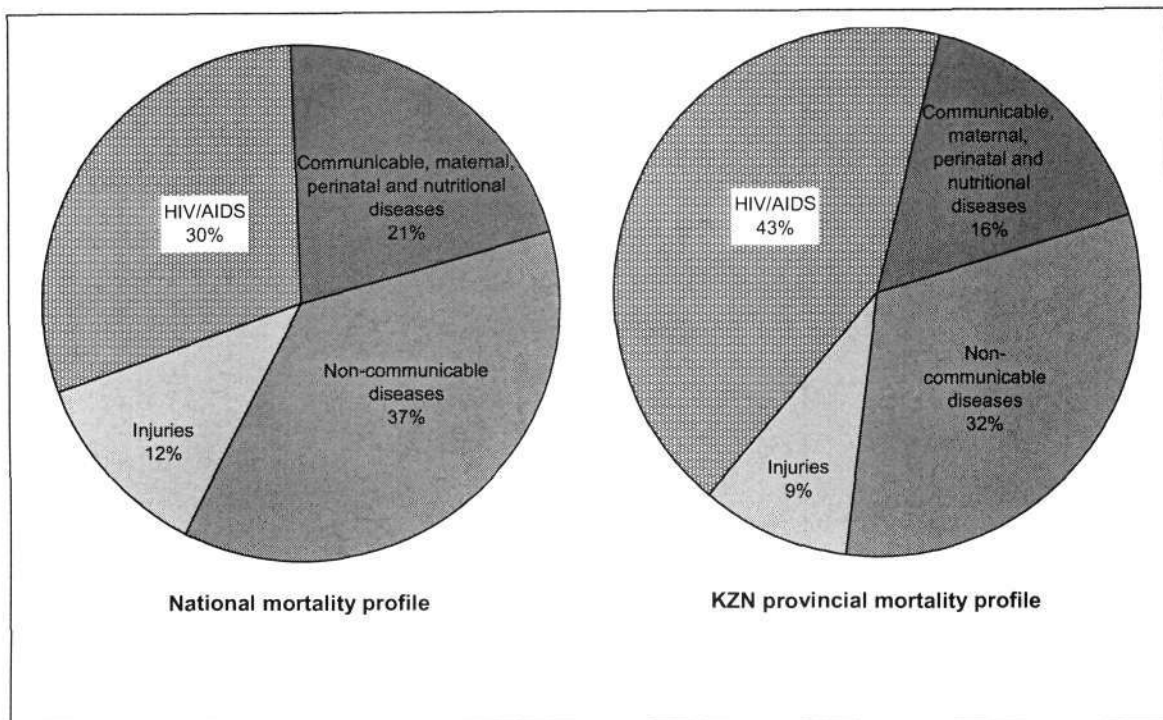
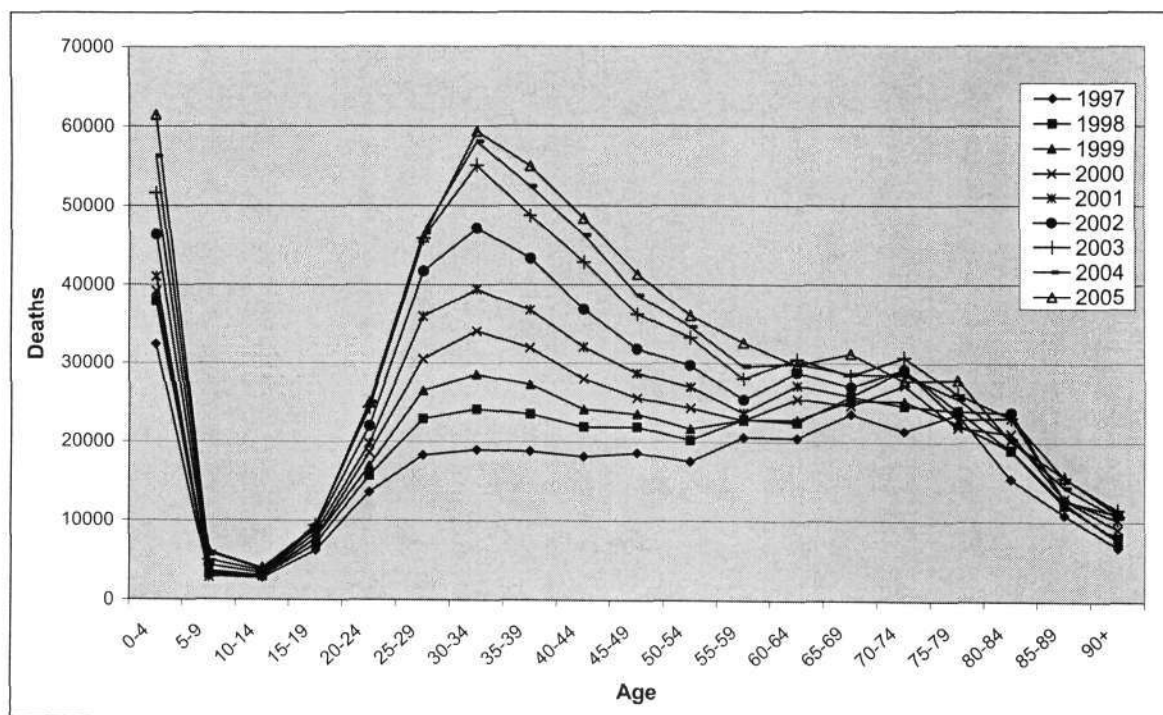


Figure 3. Total number of deaths by age and year of death, 1997-2005 (StatsSA 2005a; StatsSA 2006b; StatsSA 2007)



A rising HIV prevalence rate can be considered as the first wave of the HIV/AIDS epidemic; in essence this is a warning of what is to follow. A diagrammatic representation of the three epidemic waves captures the time lags that occur between infection, illness, death, and impact (see Figure 4) (Barnett et al. 2002). These waves are not distinct or easy to dissect out, but in South Africa it is possible to attach a timeline to both the first wave of ‘HIV prevalence’ and second wave ‘AIDS cases’, as result of modelling done using antenatal sero-prevalence survey data (see Figure 5). This modelling shows that while the steepest increase in HIV prevalence was experienced in the 1990s, AIDS deaths are predicted to have risen most sharply earlier this decade. It is not possible to simply plot a third wave of ‘impact’ in the same way, as this concept remains somewhat more elusive.

Figure 4. The three HIV/AIDS epidemic curves (Barnett et al. 2002; updated in Whiteside In press)

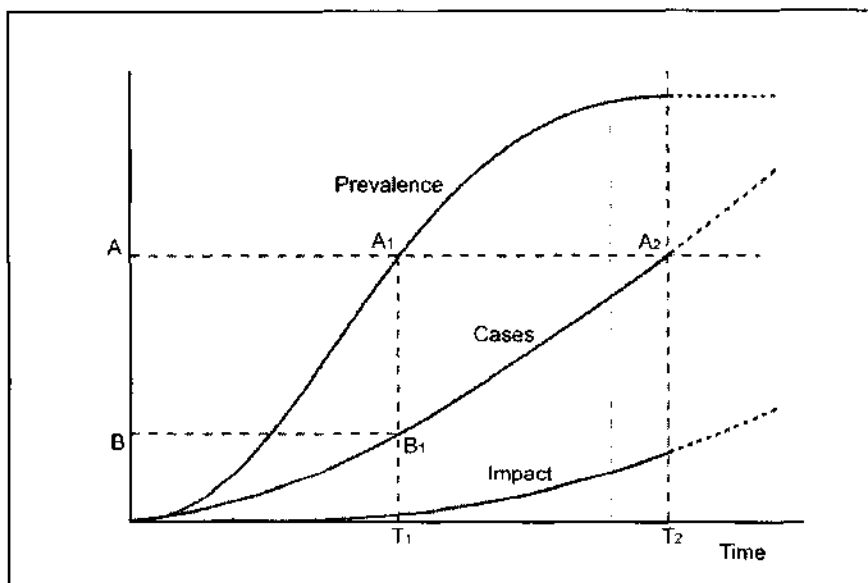
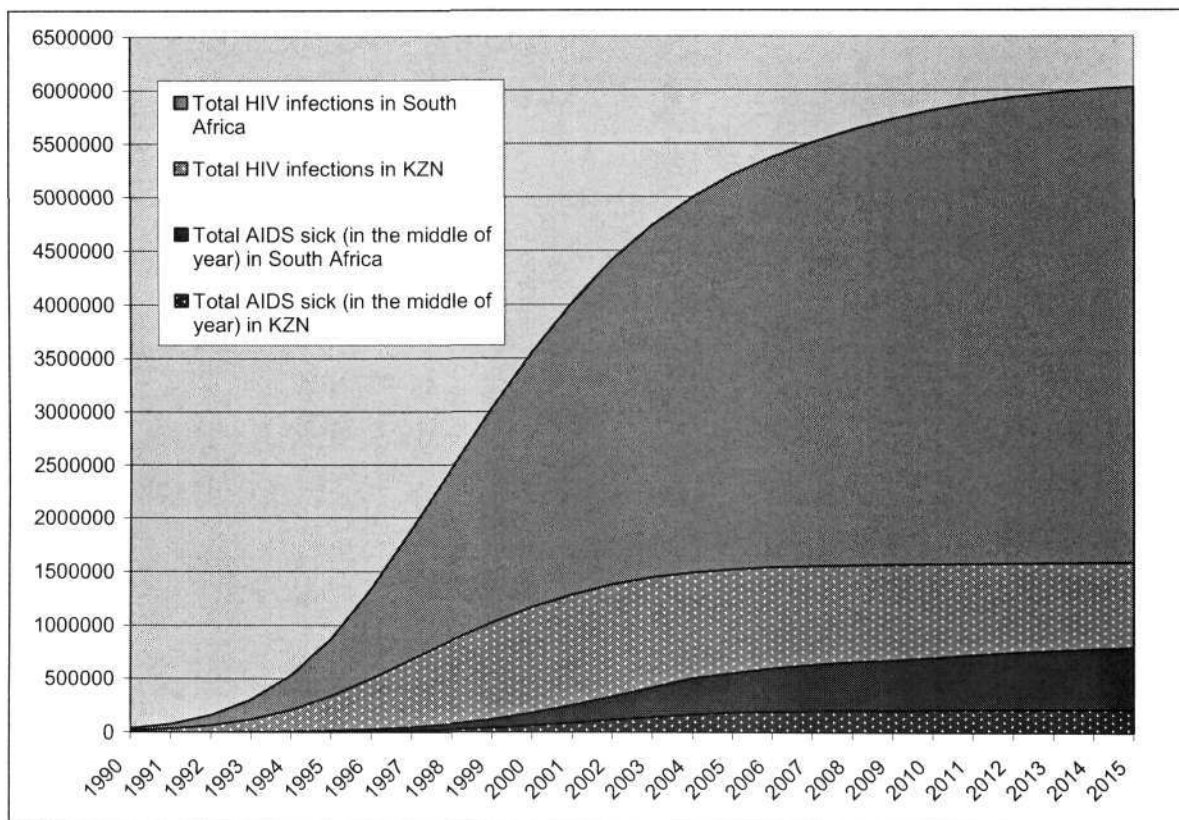


Figure 5. HIV prevalence and AIDS cases in South Africa and KZN. Modelling assumes a default scenario that half those needing access to ART will be able to access it by 2010(ASSA 2006).



Impact is defined by the pocket Oxford Dictionary as a ‘noticeable effect or influence’ (1987). In the case of HIV/AIDS, impacts are felt at all levels of society. Initially individuals and families are affected, but with time the impact of HIV/AIDS is corrosive to the functioning of communities, firms, sectors and even the government. One way of thinking about impact is as a ‘continuum between sharp shock and slow and profound changes’(Barnett et al. 2002). Another author has described the HIV epidemic as having ‘schizoid’ aspects, in being both a short-term emergency and a long term crisis (Marais 2004). Ultimately, there are a complex series of changes over time, resulting from accumulating socio-economic impacts.

2.1.2 The impact of HIV/AIDS on health services and systems

The rise in HIV-related illness, or AIDS cases, in theory marks the start of a series of changes defining impact in the health sector, since this is associated with an increasing number of infected patients requiring (but not necessarily receiving) medical care. If we assume that all individuals sick with AIDS will need some form of medical intervention, then we can model this potential demand for care over time (see Figure 5). This model indicates that South Africa experienced a particularly steep rise in the number of AIDS cases between the late 1990s and mid 2000s. Evidence on the utilisation of health care facilities by HIV-infected patients, on the other hand, shows already high HIV prevalence rates in many health facilities in the late 1990s. In subsequent studies, HIV prevalence rates never rose above 60% in adult medical wards in any context. Furthermore, a longitudinal study at Kenyatta National Hospital indicated some level of stabilisation in the burden of HIV/AIDS at a time that this was definitely not expected. Table 2 and Table 3 summarise the studies that have examined this ‘burden’ of HIV/AIDS on health care facilities using different methodologies.

Table 2. Studies to date looking at the burden of HIV/AIDS on health facilities, measured in terms of HIV prevalence

Study location	Burden as HIV prevalence in health facilities	Translation into a financial burden
Mama Yemo Hospital, Kinshasa, Democratic Republic of Congo (Hassig et al. 1990)	50% (1988, adult medical inpatients)	Costs and length of stay similar for HIV positive and HIV negative inpatients
Kenyatta National Hospital, Nairobi, Kenya (Gilks et al. 1998; Arthur et al. 2000)	18.7% (1988/89, adult medical inpatients)	
Kenyatta National Hospital, Nairobi, Kenya (Gilks et al. 1998; Arthur et al. 2000)	38.5% (1992, adult medical inpatients)	
Rubaga Hospital, Kampala, Uganda (Tembo et al. 1994)	55.6% (1992, adult medical inpatients)	Similar length of stay similar for HIV positive and HIV negative adult inpatients
Various hospitals (7), Zimbabwe (Hansen et al. 2000)	50% (1995, adult medical inpatients)	Costs for treating HIV positive inpatients almost twice that of HIV negative inpatients and much longer lengths of stay
Chris Hani Baragwanath Hospital, Soweto, South Africa (Meyers et al. 2000)	29.2% (1996, paediatric inpatients)	Longer inpatient stays for all HIV positive paediatric patients
Hlabisa Hospital, KwaZulu-Natal, South Africa (Yeung et al. 2000)	26% (1996/1997, paediatric inpatients)	
Kenyatta National Hospital, Nairobi, Kenya (Arthur et al. 2000; Guinness et al. 2002)	40% (1997, adult medical inpatients)	Costs and length of stay similar for HIV positive and HIV negative inpatients
Tertiary level hospital, Durban, South Africa (Colvin et al. 2001)	54% (1998, adult medical inpatients)	
King Edward VIII hospital, Durban, South Africa (Pillay et al. 2001a)	62.5% (1998, paediatric inpatients)	Length of stay similar for HIV positive and HIV negative paediatric inpatients
St Mary's Hospital, Lacor, northern Uganda (Fabiani et al. 2003)	42% (1999, adult medical inpatients)	
Various hospitals and clinics across South Africa (Shisana et al. 2003)	46.2% (2002, medical and paediatric inpatients) 25.7% (2002, outpatients)	Longer inpatient stays for HIV positive patients, with presumed greater costs
Various Hospitals (4), Gauteng, South Africa (Schneider et al. 2005a)	38%-58.6% (2005, adult medical inpatients) 23.4%-31.5% (2005, paediatric inpatients) 34%-36% (2005, clinic outpatients presenting for curative care only)	Longer inpatient stays for all HIV positive patients
Tertiary hospital, Gauteng, South Africa (Thomas et al. 2006)	Costing study only (2005)	Longer inpatient stays and higher costs for HIV positive adult and paediatric patients

Note: Time series data from Kenyatta National Hospital has been highlighted. All other studies reflect a specific point in time. Some studies have been excluded, because their methodologies aren't entirely comparable (see for example Zwi et al. 1999; Zwi et al. 2000; Yengopal et al. 2004). These studies were based solely on HIV testing done at the discretion of clinicians, resulting in very low testing rates and no clinical diagnoses to categorise those patients not tested.

Table 3. Studies to date looking at the burden of HIV/AIDS on health facilities, measured in terms of the proportion of HIV- and/or AIDS-related illness

Location	Burden of HIV/AIDS as a proportion of illness in health facilities	Translation into a financial burden
United Bulawayo Hospitals, Zimbabwe (Mudiayi et al. 1997)	7.0% of all admissions due to HIV/AIDS (1987-1994, adult medical inpatients) 0.5% of medical admissions due to HIV/AIDS in 1987, increasing to 18.1% in 1994. Data based on diagnosis at discharge and ICD.	
St Mary's Hospital Lacor, northern Uganda (Accorsi et al. 2001a)	1.9% of all admissions, 2.7% of inpatient bed days due to AIDS (1992-1997, paediatric inpatients) Data based on diagnosis at discharge and ICD.	
Three hospitals, northern Uganda (Accorsi et al. 2001b)	1.1%-1.7% of all admissions due to AIDS (1992-1998, adult inpatients) Data based on diagnosis at discharge and ICD.	
St Mary's Hospital, Lacor, northern Uganda (Fabiani et al. 2003)	5.5% of all admissions, 4.1% of inpatient bed days due to AIDS (1999, adult medical inpatients) Data based on diagnosis at discharge and ICD.	
Various hospitals (15), Western Cape, South Africa (Roux et al. 2000)	8.3% of paediatric beds occupied by HIV/AIDS patients (1999, paediatric inpatients) Data based on clinical diagnosis and test result where available.	
Various hospitals across KwaZulu-Natal, South Africa (KZN Department of Health 2004)	12% of admissions due to AIDS (1998-2002, all inpatient admissions) Data based on diagnosis at discharge and ICD.	
King Edward Hospital, KwaZulu-Natal South Africa (Mahomed et al. 2006)	8% of all admissions due to HIV/AIDS (1998-2002, all adult inpatients) Data based on diagnosis at discharge and ICD.	Longer inpatient stays for all HIV/AIDS related admissions 9.5% of financial expenditure incurred on adult inpatients due to HIV/AIDS.

Note: Time series data from hospitals in northern Uganda has been highlighted. All other studies reflect a specific point in time.

It is slowly becoming apparent that health care facilities in high prevalence countries are generally speaking not swamped with the burden of providing care. If they were, then one would expect some of the more recent data to indicate HIV prevalence rates of seventy, eighty, or even ninety percent in medical wards in certain contexts. Instead, time series data from some (admittedly poorer) countries in the region tells a different story; in Kenya and Lesotho this has indicated how over time there is a rising burden of illness in the community, so limiting impact on the health services (Arthur et al. 2000; Mburu et al. 2004). Qualitative observations in Swaziland also give support to this trend (HDA 2005). Speculation amongst researchers suggests that people with AIDS may not seek medical

care due to a range of factors including: stigma, health provider behaviour, the belief that hospitals may have little to offer, as well as the costs associated with seeking care. These observations indicate that a major challenge facing health systems in an HIV epidemic may be decentralising care by expanding treatment for HIV-infected people into community settings.

In South Africa, relatively stable bed occupancy rates in hospitals have led researchers to believe that hospitals have 'rationed' care as a coping strategy to avoid overcrowding (Shisana et al. 2003). Evidence has suggested that in the earlier days this was frequently in the hands of health care workers rather than patients themselves; the lack of protocols to guide health care staff in responding appropriately to the increased number of people presenting for care was described as an 'ethical minefield' (Bateman 2001). Other qualitative reports have elaborated on the mechanisms of rationing and commented that it was often not through explicit decisions that care was rationed, but rather through a more organic process of slow adaptation (Oppenheimer et al. 2004). Most likely the mechanisms of rationing have evolved over time. Although difficulties in obtaining a true measure of demand make rationing an elusive concept, if sick people aren't accessing care then this has profound implications for their health and that of their caregivers (Akintola 2004; Ormer 2005).

Actually quantifying the burden of HIV-related care on health systems in cost terms is vitally important for planning. Health service budgets must increase to accommodate any additional rising demands placed by HIV/AIDS, or health services will falter and gains made in improving health status indicators will be reversed over time. However, costing of treatment for HIV-related illness and other illness has, as one would expect, yielded different results in different contexts (see Tables 2 and Table 3). This is because cost depends on how hospitals manage the burden of HIV; the costing study in Zimbabwe as well as a more recent one in South Africa both recorded higher costs for HIV positive patients due to longer hospital stays (Hansen et al. 2000; Thomas et al. 2006). Where there is good availability of drugs and investigations, the costs of treating HIV positive patients can potentially be quite high, in contrast to contexts where poor services automatically ration care (Decosas et al. 1996). The level at which care is provided will

therefore also determine costs, since lower level services supposedly treat illnesses that are fairly easy to manage with more limited means. Evidence from KZN suggests that many patients (of all types) are treated at an inappropriate level of care, generally higher than that required (Lutge et al. 2004).

On the supply side, the impact of HIV/AIDS on health care workers has been described as a 'triple threat'; encompassing an increasing burden of disease amplifying workload and skill demands, decimation of the workforce through infection, and the psychological stress of providing palliative care (Joint Learning Initiative 2004; Chen et al. 2005). In South Africa all these threats have been substantiated by research. While the increasing workload is alluded to in all research demonstrating an increasing HIV/AIDS burden on health facilities, it has also, along with a concern for expanding roles, been documented through more focussed research efforts (Shisana et al. 2003; Zulu et al. 2004). A limitation of such research is perhaps that it has all been based on perceptions, without some type of triangulation to confirm responses.

There is a fairly large body of research on the decimation of the health workforce in Africa, defining how the epidemic has driven absenteeism and high attrition rates. In health facilities across South Africa, for the period 1997 to 2001, 13% of deaths among health workers were attributable to HIV/AIDS (Shisana et al. 2003). A study of doctors in Uganda revealed that 30% died within 20 years of their graduation (which was in 1984), with HIV/AIDS largely to blame (Dambisya 2004). In Malawi, 48% of health care worker attrition was found to be due to deaths between 1996 and 2002, and 80% of these deaths were due to HIV-related illness (Mukati et al. 2004). Furthermore, absenteeism among health workers is increasing. At a South African hospital nurses took an average of 41.8 days off work for various reasons in 1998. This increased to 57.2 days in 2001 (Unger et al. 2002).

The impact of HIV-related absenteeism and death on health care workers is not just increasing post vacancy rates, but also increasing staffing bills. In South Africa an estimated 0.8 years of nursing time are lost each time a nurse succumbs to AIDS. This includes time taken off work due to illness and the time needed to retrain a replacement, all of which ultimately has to be funded by the state (Veriava et al. 2005). However, HIV/AIDS is only one factor compounding already high attrition rates in health services. A study of nurses in South Africa showed that they emigrate for a number of reasons which include difficulties in the health system and the rise of HIV/AIDS (Xaba et al. 2001). Health care workers were burnt out and demoralised in wards heavily affected by HIV/AIDS (medical and paediatric) but also in those little affected (maternity wards) (Penn-Kekana et al. 2005; Schneider et al. 2005a; Veriava et al. 2005; van den Berg et al. 2006). A whole range of motivations, including salaries, workload and management support influenced health workers willingness to stay in public service.

The 'third threat' to health care workers as a result of HIV/AIDS is the psychological stress of providing palliative care. Qualitative observations have demonstrated how HIV/AIDS can induce feelings of hopelessness, fear or depression amongst health care workers (Xaba et al. 2001; Jinabhai et al. 2002; Unger et al. 2002; Bateman 2003; Mowatt et al. 2003; Shisana et al. 2003; Hakim et al. 2004; Zulu et al. 2004; HDA 2005). Health workers are not only faced with these stresses at work, but also live in high prevalence communities where people at home may require care. A study of health care workers at five big hospitals in Zambia showed how half of the health care workers had given personal care to people living with HIV/AIDS outside of the hospital and 25% of them were fostering HIV-affected children at home (Kiragu et al. 2004). Similarly, a more recent, large study of Kenyan health workers indicated that 17% of these workers were caring for an HIV-infected family member (Tanui et al. 2006).

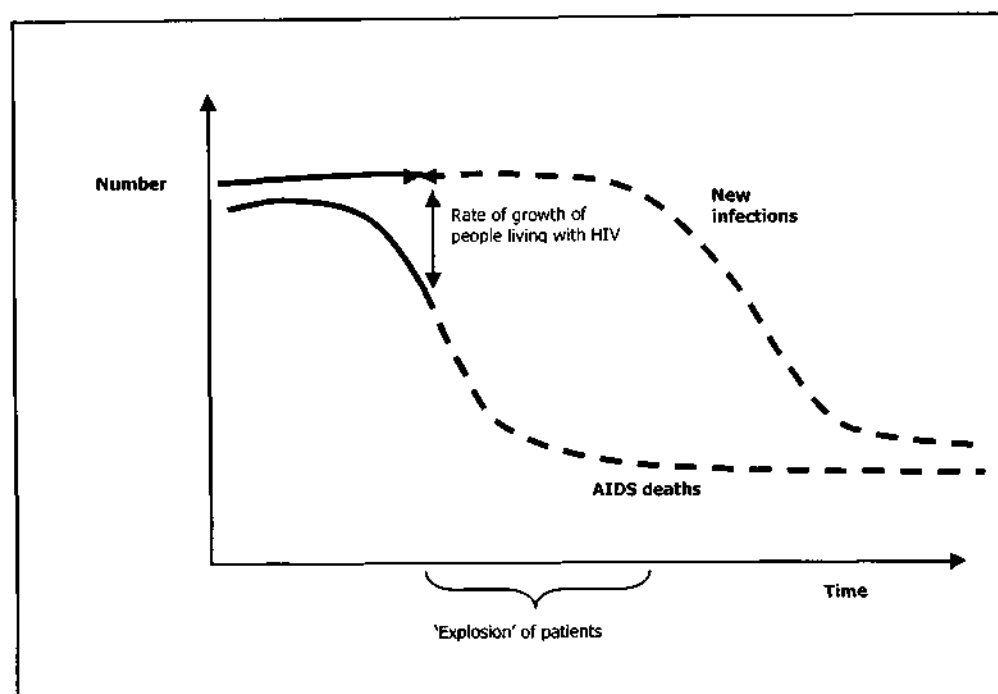
The impact of HIV/AIDS on health care services and health systems has, for the most part, been viewed quite simplistically as a dual burden; demand for care is increasing at the same time as the capacity to provide care is being eroded. Research to date (summarised above) has therefore generally focused on one of these two dimensions, to the exclusion of broader system issues. This is not to say that the interface between health

system reform and HIV/AIDS has not been acknowledged; this interface has been noted to comprise interacting processes between the effects of the disease and attempts to respond to it, and the reforms (Dawes 2003). However, there is a lack of evidence concerning the impact of HIV/AIDS on changing system structure and functioning, and on the capacity of reformed systems to deal appropriately with the burden associated with the epidemic. In South Africa, the only substantive work in this area has looked at governmental relationships and HIV/AIDS service delivery (Blaauw et al. 2004a).

The issue of governmental relationships is an important concern in South Africa, because of the public sector transformation and the prolonged period of restructuring that has occurred since 1994. The work by Blaauw et al. (2004) used HIV/AIDS as a probe to examine more specifically the allocation of roles and responsibilities, as well as the degree of coordination and integration of activities in the health sector. It found that the roles of each level of government were not clearly differentiated, but had become reasonably defined in practice. Responsibilities were, however, not often devolved to the local sphere and so the resources found at this level of government were not being optimally utilised. Provincial-local coordination had also received less attention than that between higher levels of the system.

In looking to the future, there is a need to understand the dynamic character of the HIV/AIDS epidemic and consider how new interventions might modify the nature and timing of the burden that health services and systems will face. The concept of the 'AIDS transition' is therefore useful in projecting the potential HIV-related demand for care into the future. This is an analogous concept to the demographic transition (see Figure 6); here births are replaced by HIV infections and overall mortality replaced by AIDS mortality (Over 2004). This allows us to consider various scenarios. For example, the most likely scenario (and one which presumes victory over the HIV/AIDS epidemic) will see AIDS deaths declining due to ART scale-up, with infection rates remaining high for a while. The health sector will be temporarily burdened by an explosion of patients demanding care, until such time as the rate of new infections drops and the demand for care settles at more manageable levels. The concept of the AIDS transition and health sector scenarios are explored in greater detail in Chapter 8.

Figure 6. The 'AIDS Transition' (Over 2004)



2.1.3 The impact of HIV/AIDS on households and their participation in the health system

Looking at the impact of HIV/AIDS on health services and systems only tells us one side of the story because households and communities are also gravely impacted on by the epidemic, and this in turn affects the nature of their interaction with health services. As highlighted previously, one of the less frequently acknowledged objectives of health systems according to the World Health Report (WHO 2000) should be to ensure financial protection against the costs of ill-health. Information about household functioning is therefore needed to understand the ways in which HIV/AIDS is hindering efforts to attain this objective. Here I look at a range of household studies that have been conducted in South Africa. These have exposed gaps in the social protection² system and have highlighted the shortcomings of the health system in: 1) enabling people to access care, and 2) protecting households against prohibitive health care expenditure.

² Social protection refers to a broader conception of social security, one in which political, economic and social goals are integrated through a multidimensional approach.

Household studies in South Africa have adopted a range of methodologies, which have to be acknowledged when comparing findings. In some instances, only households with an AIDS-sick person or a recent death were studied (Steinberg et al. 2002). These studies depended on recall to determine how morbidity or mortality had affected household wellbeing. They would also not have captured the most desperate households which dissolved as a result of the death. Other studies purposively sampled AIDS ‘affected’ households (variously defined), through health facilities or HIV/AIDS organisations, and then matched these with controls (Booyesen et al. 2004; Naidu 2004). These studies tracked households, therefore establishing panel datasets, but would not have captured those households not accessing any services. More general household surveys have also been used to explore the impact of chronic illness or death, without sampling for this specifically (Oni et al. 2002).

Despite differences in methodology, the majority of studies examining the socio-economic status of affected households share one major overwhelming finding; the direct relationship between households affected by HIV/AIDS and poverty (Oni et al. 2002; Steinberg et al. 2002; Booyesen et al. 2004; Naidu 2004). HIV affected households generally become poorer as other important changes are noted in income and expenditure patterns. Studies have repeatedly demonstrated that in affected households:

- Medical and funeral expenses consume a much greater share of household resources (Oni et al. 2002; Steinberg et al. 2002; Booyesen et al. 2004; Naidu 2004);
- Less money is spent on food and other regular expenditure items (Steinberg et al. 2002; Booyesen et al. 2004; Naidu 2004);
- Less money is spent on education (Oni et al. 2002; Steinberg et al. 2002; Booyesen et al. 2004).

This section explores the first point in greater detail.

There are well documented barriers to accessing care, which can become insurmountable when households are affected by HIV/AIDS. These include geographic access and the associated direct and indirect costs, bearing in mind that primary health care is free but hospital care is in most cases still subject to user fees (Goudge et al. 2003). Geographic access alone is an obvious problem in households with sick individuals who find it difficult to travel long distances and have to be accompanied and assisted by other members of the household, sometimes over very difficult terrain. Even if sick individuals can physically travel the distance to their nearest health facility, substantial indirect costs may be incurred when this is far from their home, including transport fees and lost income for the caregiver (Booyesen et al. 2004).

Both geographic and cost barriers compromise care not only for the person living with HIV/AIDS, but also for caregivers. These caregivers may be children or adults, who are also at risk of suffering from negative physical health consequences because of the taxing role they perform in the home (Giese et al. 2003; Akintola 2004). The far-reaching implications of poor access to care highlight the importance of addressing this issue. While there are a range of policy options that may be considered, increasing government expenditure on public health remains an important means (Goudge et al. 2003). Care does, however, need to be taken in raising additional funds, as increased taxation may impact on households in other negative ways.

There is sufficient evidence to define the extreme economic difficulties faced by poor HIV/AIDS-affected households in accessing health care in South Africa. For example, medical costs have been shown to comprise a high percentage of monthly household expenditure in AIDS-affected households; 6.4% in the case of the Free State study and 7.15% in the case of the Limpopo study (Oni et al. 2002; Booyesen et al. 2004). This is despite government policies affording certain vulnerable groups free medical care. When looking at expenditure to income ratios, Steinberg et al. (2002) found that health-related expenditure (which would cover more than just medical costs) in HIV/AIDS affected households rose to more than half of the total monthly income in rural areas. Health care spending is generally considered as 'catastrophic' when households have to reduce basic expenditure over time to deal with health costs. A relatively recent multi-country analysis

considered this to be when health payments rose above 40% of a household's capacity to pay i.e. when payment was more than 40% of household income, after basic subsistence needs had been met (Xu et al. 2003). In another analysis, a benchmark 5% health expenditure to income ratio was considered as affordable (Russell 1996). This suggests that the exceedingly high levels of health care expenditure noted in household surveys in South Africa are unlikely to be sustainable, particularly when considering the broad range of costs associated with seeking care and not just user fees alone.

Although the findings of isolated household studies are not necessarily generalisable to a wider population, evidence from national surveys suggests that households in KZN share similar difficulties. The South African General Household Survey looks at whether people who are sick or injured access care (both biomedical and traditional), and the reasons given for not seeking help (StatsSA 2005b). The 2005 survey showed that in almost 20% of cases, people who were ill or injured in the month preceding the survey did not seek help. While in many cases it was deemed 'not necessary', other commonly cited reasons included 'too expensive' and 'too far'. Even the response 'not necessary' needs interrogating, since this judgment rests on help seeking behaviour, which is in turn dependant on the frequency of disease and the quality of services available.

There is even more evidence relating specifically to KZN and/or HIV services. A community study with two sites in the province showed that barriers to accessing HIV services included: scarcity and high cost of transport, stigma, perceptions that the process to access ART is too costly, and a lack of correct information about HIV and ART in general (Padarath et al. 2006). At two ART sites in other provinces, mean travel costs varied between R19.56 and R25.93 and mean travel time between 2.2 hours and 3.7 hours, with both of these factors identified as potential reasons for poor adherence (Meyer-Rath et al. 2007). In sum, data from household and community studies in South Africa has indicated that people do not access care when they need it, and that HIV/AIDS is worsening existing barriers between health services and communities.

2.2 Health policy and reform in South Africa and beyond

2.2.1 Health sector reform in Africa

The term ‘health sector reform’ is often bandied about in policy circles, but it is not always clear what is meant by it. For the purpose of this research, I have adopted a definition conceived by Berman (1995):

...sustained, purposeful change to improve the efficiency, equity, and effectiveness of the health sector. The health sector refers to the totality of policies, programmes, institutions and actors that provide health care – organised efforts to treat and prevent disease (Berman 1995: 15)

This definition concurs with the broader literature on health sector reform, which sees contemporary reforms geared towards improving efficiency, equity and accessibility, cultivating more responsive services of better quality, and ultimately achieving better health outcomes (Cassels 1995; Gilson et al. 1995; Hearst et al. 2001; Lambo et al. 2003). In addition to the objectives of change, the term ‘reform’ implies substantial change in both what is done and how it is done, in other words, change in both policies and institutions (Berman 1995).

Health sector reforms in Africa have comprised a series of overlapping waves, also described as different ‘generations’ of reforms in the World Health Report of 2000 (WHO 2000). The ‘first generation’ entailed the establishment of national health systems; this was followed by the move to an emphasis on Primary Health Care (PHC, the ‘second generation’), and finally by reforms based on the economic value of services (the ‘third generation’). This review focuses on the second and third generation reforms. It looks broadly at what the reforms have entailed and proposed reasons as to why they have, for the most part, not achieved the objective to expand appropriate care to those that need it. It does not attempt to summarise the vast body of literature on more specific reform strategies.

Reforms with an emphasis on PHC were witnessed subsequent to the International Conference on Primary Health Care in 1978 in Alma Ata and were spurred on by the commitment of nations present to 'Health for All by the Year 2000'. At its inception, PHC was seen as a comprehensive approach to health which would address underlying social, economic and political causes of poor health and would therefore be broader than simply the provision of primary health care services (1978). In so doing, it opposed disease-specific technology and the culture of curative hospital care. With these commitments, PHC immediately faced criticism for being idealistic, too costly and coming with an unrealistic timeframe. The response to this critique was the creation of Selective Primary Health Care (SPHC), proposed as an interim strategy consisting of only medical interventions which would ultimately be most cost effective in developing countries to improve the health of the majority of people (Walsch et al. 1979).

There is general consensus that SPHC triumphed over PHC in the years since Alma Ata, with African nations not achieving their objective of 'Health for All' (Rifkin et al. 1986; Werner et al. 1997; Macfarlane et al. 2000; Chatora et al. 2004; Cueto 2004; Magnussen et al. 2004; Global Health Watch 2005). In many cases, programmes which carried the PHC-label were simply an extension of existing top-down medical systems to underserved areas. While some policy analysts described PHC as a failed experiment, others felt it has never really been tried (Werner et al. 1997). Many reasons were put forward for the demise of PHC, some of which looked to environmental factors (including economic crises, political instability, HIV/AIDS and communicable diseases) or concurred with earlier concerns about cost (Chatora et al. 2004). In other instances, the concerns were about attitudes and commitments of conservative political and health bureaucracies in developing countries (Rifkin et al. 1986; Macfarlane et al. 2000; Cueto 2004). Proponents of PHC never achieved clarity around how their reforms should be financed. Finally, donor agencies latched on to SPHC, because of the appeal of 'cost-effectiveness' and easily measurable outputs.

During the 1980s, the global recession and the accompanying structural adjustment programmes provided greater motivation for the support of SPHC - marking the start of neo-liberal thinking and the first steps towards to the 'third generation' of reforms. Broadly speaking, these followed proposals laid out in the World Development Report of 1993 entitled 'Investing in Health' and focused heavily on the economic value of services (World Bank 1993; Sen et al. 1998). They aimed at increasing market mechanisms in health care provision, by expanding the role of the private sector, increasing cost-sharing and focusing on efficiency and cost-effectiveness. The cost-recovery mechanisms, in the form of user fees and community financing, were some of the most damaging because of their effects on health care utilisation. These effects were almost always negative (see for example Mbugua et al. 1995; Mwabu et al. 1995; Gilson 1997; Asenso-Okyere et al. 1998; Arhin-Tenkorang 2000; Sepehri et al. 2001). A second wave of studies looked at quality of care as a modifying factor in the equation, but even with improved quality, fees resulted in the exclusion of those who could not afford to pay (Sierle et al. 1999). More recently, there has even been research demonstrating marked increases in the utilisation of health care services following the abolition of user fees in Uganda (Nabyonga et al. 2005).

Most importantly perhaps, 'health care reform', as defined by the World Bank, was not cognisant of earlier commitments made to expand health care to all in need. But there were other fundamental oversights, detailed in an influential critique of the 'third generation' reforms (Sen et al. 1998). Firstly, reforms did not acknowledge the links between macro economic policies (like structural adjustment) and their effects on public sector reform and health care provision. Secondly, the validity of the economic assumptions and whole ideology on which the reforms were based was not sufficiently questioned for public goods such as health care. What resulted were health systems that violated important principles such as redistribution and development, at a time when HIV/AIDS was impairing development and demanding a rapid expansion of care.

In addition to the three described ‘generations’ of reforms, which essentially categorise reforms in terms of their objectives, there are other ways of conceptualising different health care reforms that have been witnessed in Africa, such as pace and degree. Under this lens, Zambia and South Africa can be described as radical reformers, because of their adoption comprehensive reform strategies. This stands in contrast to the incremental and selective reform typical of other African countries (Berman et al. 2000). Reforms have also been conceptualised in terms of different policy levels, in an effort to better understand various elements necessary for improvement (Frenk 1994; Møgedal et al. 1995). The policy levels are illustrated in Table 4.

Table 4. The different policy levels at which health system reforms operate (Frenk 1994)

Policy level	Type of change	What change deals with
Systemic	Restructuring or redesign	The institutional arrangements for regulation, financing, delivery of services
Programmatic	Reorientation or reprogramming	The priorities of the system, defined by a universal package of health care interventions
Organisational	Reorganisation	The production of services, including issues of quality assurance and technical efficiency
Instrumental	Reinforcement	Generating the institutional intelligence for improving system performance, through information, research, technological innovation, human resource development

Health systems can also be viewed from different perspectives, described in a paper by the Centre for Health Policy looking at the neglected ‘software’ of health sector reform (Blaauw et al. 2003). These perspectives logically play out in the nature of reforms and the associated implementation strategies. As mentioned in Chapter 1, a mechanistic perspective views the health system as the sum of clearly defined components, with these arranged in a way that allows them to work efficiently and reliably. The focus of the economic perspective is the market. Reforms following both these perspectives might pay little attention to process, pursuing instead a top-down manner of execution. The socio-cultural perspective, on the other hand, is dominant in organisational thinking and views the health system as fashioned by relationships and social interaction. Reforms coming from this perspective therefore demand more participative and developmental approaches.

Ultimately, the differences between health sector reforms in African countries should not be diminished or ignored. It is true that there has been a range of common contemporary reform strategies including: improving the performance of the civil service, decentralisation, broadening financing options, improving the functioning of national ministries and working with the private sector (Cassels 1995; Gilson et al. 1995; Møgedal et al. 1995; Mwabu 1995; Agyepong 1999; Lambo et al. 2003; Okuonzi 2004). Yet more detailed analysis reveals significant variation in both the form that different reform strategies have taken and the way in which they have been implemented.

2.2.2 Health sector reform in South Africa 1994-2006

As stated above, South Africa is one of few African countries that have attempted to radically reform their health sector. This is not surprising, given that prior to 1994 the South African health sector was defined by the government's overarching policy of apartheid. It was characterised by 14 independent health departments, with huge racial and geographic disparities. Services were fragmented, highly inefficient and inequitable, and biased towards curative care (ANC 1994; Pillay et al. 2001b; Ncayiyana 2004). Reform strategies, such as those described above and witnessed in many other developing countries, remained subordinate to the ideology of apartheid.

In South Africa, radical political change therefore created a space for reform post-Apartheid and so, as elsewhere, health policy was moulded by attempts to remake the state (Cassels 1995; Pillay 2001; Forman et al. 2004). The new health care reforms, while only implemented post 1994, were grounded in discussions that occurred as part of socio-political change prior to this date (Van Rensburg et al. 1995). In effect, the unbanning of black political organisations in 1990 allowed for balanced dialogue around health issues and a vision for the South African health system. Both the African National Congress (ANC) and the Pan African Congress (PAC) formally established health desks in 1992, which became increasingly active in public debate (Tollman et al. 1995).

The Government of National Unity, elected in 1994, actually began the process of actively and extensively reforming the health system. This process was guided initially by proposals laid out in the African National Congress (ANC) National Health Plan (ANC 1994), but was later more formally defined in the 'White Paper for the Transformation of the Health Sector in South Africa' released in April 1997 (SA Department of Health 1997). The major thrust of health sector reforms in the 1990's was reorganising and reorienting the health service, particularly to give priority to PHC through decentralisation and integration, developing a District Health System (DHS), and the formulation of a basic package of care (see also SA Department of Health 1995; SA Department of Health 2000a).

The process of reforming the health sector was guided by, and had to occur in parallel with, the massive restructuring of the new multiracial government. This is illustrated by a timeline of government and health sector reforms in South Africa (see Appendix 1), constructed for the purpose of this research. Most importantly, the Constitution (1996) spelt out the powers and functions of the three spheres of government, as well as how these should relate to each other in a model of 'cooperative governance'. These principles formed the basis for dividing functions in the health system. However, it was only in 1998 that legislation was put in place to establish a permanent set of local government structures and to provide for their functioning (Municipal Demarcation Act 1998a; Municipal Structures Act 1998b; SA Department for Provincial Affairs and Constitutional Development 1998). For the health sector, local government restructuring meant that an interim system of health districts had to be adopted until municipal boundaries were finalised in 2000 and 'health districts' were geographically defined as corresponding to metropolitan and district municipalities (Barron et al. 2002).

There have been a series of reviews reflecting on the progress made in decentralising health services (and hence developing a district health system) in South Africa (Owen 1995; Mjekevu 1996; McCoy et al. 1999; Barron et al. 2000; Pillay et al. 2001b; Barron et al. 2002; Hall et al. 2002; Haynes et al. 2003; Gilson 2004). These reviews have essentially plotted the steps made in establishing structures and drafting the necessary legislation, but have very rarely focused on the 'softer' or elements of the process.

Gilson (2004) looked at the reform process in a broader sense, documenting achievements and constraints experienced during the first ten years of democracy. She proposed that achievements were most obvious at higher levels of government (province and national); that these levels had worked towards enabling wider health system change, improving coordination and supporting service delivery. Despite willingness to assume responsibilities for health service provision at the local level, health sector management still remained decentralised to a limited degree. Gilson argued that persistent capacity weaknesses, a hierarchical and bureaucratic culture and some reluctance from provinces all inhibited decentralisation.

The final step in the major restructuring of the South African health system has, in a way, been most recently marked by the proclamation National Health Act No. 61 of 2003 (2003), most sections of which came into effect on 2 May 2005. This Act in many ways gives legislative effect to the White Paper by laying out the functions of national and provincial health departments, health districts, and structures supporting these, such as health councils and consultative forums (Hassan et al. 2007). With the basic architecture of the health system in place, the national Department of Health has subsequently focused more attention on other strategic priorities (SA Department of Health 2004c), such as human resource development and governance (particularly of the private sector). This focus is evident in the new National Human Resources Plan for Health and the Draft Health Charter (SA Department of Health 2005b; SA Department of Health 2006b).

In reviewing South African health sector reform I have looked only at the major structural reforms and associated policies and legislation. This is not to say that there have not been other lesser elements of change, some sector specific, while others being part of a bigger agenda to transform the public sector (see SA Department of Health 2005a). For example, the 1995 White Paper on Transforming Public Service Delivery (SA Government of National Unity 1995) has been influential in improving the quality of health services. Such examples of more specific reform, although not reviewed here, are brought into my analysis where relevant.

2.2.3 Health policy analysis frameworks and the policy context

HIV/AIDS has changed the health policy context, creating a complex interface between this context and the content and processes of health sector reform. This section provides a foundation for the policy analysis, by reviewing some policy analysis frameworks and looking at the importance of policy context.

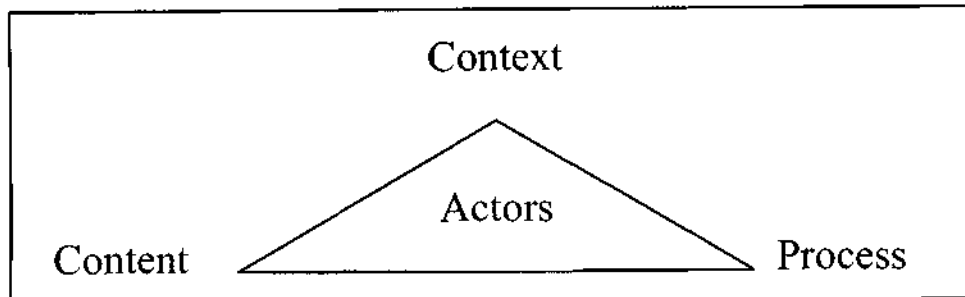
A number of different frameworks have been developed to bring structure to health policy analysis; these address health care reform more generally, or focus on evaluating specific health policies. Ideally, health care reform would be preceded by an analysis of problems and potential solutions. Such a step by step analysis was developed and applied in Mexico in 1993/1994 (Frenk 1995). More commonly however, health sector reform analysis has looked at the outcomes of reforms previously enacted. A number of health sector objectives have served to evaluate reform outcomes, with these displayed in Table 5 (Figueras et al. 1997).

Table 5. Objectives against which to evaluate health sector reforms (Figueras et al. 1997)

Guiding goals	Operational objectives	Viability
<ul style="list-style-type: none">• Health gain• Quality of care	<ul style="list-style-type: none">• Equity of finance and delivery• Effectiveness• Efficiency (technical and allocative)• Consumer choice and responsiveness	<ul style="list-style-type: none">• Acceptability• Sustainability• Accountability

Broadly speaking, health policy analysis may be descriptive or analytical, and can incorporate or link different dimensions or policy concepts. There are many descriptive studies and these essentially compile and present a range of data on the content and processes of health reforms (Figueras et al. 1997). Analytical studies, on the other hand, usually follow a single disciplinary approach (economic evaluation, for example) and so are more limited in scope. The most accessible and easy to apply framework for descriptive studies, is one that incorporates the concepts of context, content, process and actors (Walt et al. 1994); see Figure 7 below.

Figure 7. Model for health policy analysis developed by Walt and Gilson (1994)



As stated previously, specific frameworks or methods of analysis have also been developed with respect to individual health policies, or even specific dimensions of health policy. For example, methods such as political mapping and stakeholder analysis have been taken from political science to analyse the interactions of 'actors' (Walt et al. 1994; Brugha et al. 2000). The decentralisation of health systems has been analysed in various contexts through 'decision space' analysis, where decision space defines the amount of choice at the local level (Bossert 1998; Bossert et al. 2002). Although such methods and frameworks are referred to in this research, they are not entirely relevant because of their specific focus.

The concept of context is important in health policy and requires careful exploration. It is generally contextual factors that provide the stimuli for reform, and contextual factors that present constraints to implementation (Frenk 1994; Collins et al. 1999). Such constraints, often poorly understood, explain the uneven record of policy implementation thus far:

Policy-makers will respond to some contextual issues and ignore or deflect others
(Collins et al. 1999: 73)

A number of authors have tried to structure thinking around policy context. An early categorisation of contextual research evidence, incorporating situational factors, structural factors, cultural factors and environmental factors, was more suited to comparative research than policy analysis (Leichter 1979; Collins et al. 1999). A subsequent and more useful categorisation of factors relevant to the context of

contemporary health sector reform was suggested by Frenk (1994) and developed by Collins (1999). This outlines contextual factors as relating to: 1) demographic and epidemiological change; 2) social and economic change; 3) economic and financial policy; 4) politics and the political regime; 5) ideology, public policy and the public sector; and 6) factors external to the country of concern. In any policy context these factors form a complex interplay.

In sSA the most influential contextual factors are changes in economics, politics and the public sector. Specifically, political turbulence and economic crisis, alongside a shift in thinking about the role of government, have triggered reform (Cassels 1995; Møgedal et al. 1995). Epidemiological factors, concerns about the severity of health problems, and dysfunctions in the health system have not shown the same potential for inspiring action. This calls into question the extent to which major epidemiological shifts (such as the rapid spread of HIV/AIDS), which in turn have significant socio-economic impacts and implications for maintaining or improving the quality of services, have influenced general health policy. Since major health sector reform in many countries was already underway when the impact of HIV/AIDS on the sector became evident, HIV/AIDS could be viewed as a potential modifying influence rather than a trigger.

In South Africa, the political context surrounding HIV/AIDS policy making has been particularly contentious. Yet it is the political context, or the 'political and institutional dimensions of the HIV/AIDS response', that has the potential to explain the manner in which the government has responded to the epidemic (Dickinson 2006). Therefore some effort is given here to looking at what events have characterised the government's response, often considered to be 'inadequate' or 'ineffectual' (see for example Willan 2004b; Fourie 2006). If policy contestation and the politicisation of the epidemic have undermined state ability generally to initiate and maintain a united and appropriate response to HIV/AIDS, then this is relevant for the health sector and its efforts to accommodate HIV/AIDS more specifically.

Authors who view the South African government response to HIV/AIDS as inadequate refer to a few key events to support their view. It is these events that have resulted in policy contestation and confusion (see for example Schneider et al. 2001; Schneider 2002; Schneider et al. 2002; Willan 2004b; Butler 2005; Deane 2005; Judge 2005; Fourie 2006; Natrass 2007). Table 6 summarises the main events repeatedly referred to in the literature and in recent media reports (see for example BBC 2006; News24 2006). These events only tell part of the story, since it is not only policy decisions that depict the political environment, but also the discourse embodied in state communications (Judge 2005). So while it might seem from the table that the contestation died down subsequent to the decision to implement ART in 2003, the slow pace of scaling-up, combined with limited communication about targets and continued support for nutritional interventions, caused continuing controversy and political discontent through to the end of 2006. Towards late 2006, however, the Minister of Health went on prolonged sick leave and the Deputy President (as chairperson of SANAC), along with the Deputy Minister of Health, took over leadership of the government's response to HIV/AIDS. They showed a new willingness to engage with civil society and ensured that an updated 'HIV and AIDS and STI Strategic Plan' was drafted by March 2007.

Table 6. Some of the main events characterising the South African governments 'inadequate' response to HIV/AIDS

Year	Event
1995	Sarafina II, an educational HIV/AIDS play, is commissioned by the Department of Health. It is criticised because of the secrecy of the process, the exorbitant sums of money involved, and the nature of the AIDS messages conveyed.
1996	High level support is given for the development of Virodene, a South African developed drug found to contain a highly toxic industrial solvent. The Medicines Control Council (MCC) is criticised for its negative assessment of the drug.
1997	Minister of Health announces that AIDS is to be made notifiable, against advice of scientists and activists. This never happens.
1998	Evidence becomes available on the benefits of using AZT (Zidovudine) to prevent MTCT, but the government will not make it available because of concerns over affordability and toxicity. (Boehringer Ingelheim offers the drug free in 2000, but only after the TAC takes the Health Minister to court, is PMTCT made available in 2002 in the public sector).
2000	A presidential advisory panel is established to look into the links between HIV and AIDS, comprised of a number of global dissidents.
2000	The HIV/AIDS Strategic Plan is released, but lacks concrete timeframes and commitments. The South African National AIDS Council (SANAC) is established, without inclusion of leading medical researchers and key NGO groupings.
2001	Mbeki disputes Medical Research Council statistics which place HIV/AIDS as the leading cause of death in South Africa.
2001	The Minister of Health, Manto Tshabalala-Msimang, rejects the use of ART in the public sector. She places an ongoing emphasis on nutrition rather than ART, preaching a diet of lemon, ginger, olive oil, garlic, beetroot and the African potato.
2002	Increasing pressure is put on government to roll out ART by the TAC, Nelson Mandela, Archbishop Desmond Tutu and the Congress for South African Trade Unions (COSATU), amongst others. The government finally announces that ART will be made available at public health facilities, but the actual plan for this to happen is only completed towards the end of 2003.
2003	The Minister of Health appoints a controversial dissident as her nutritional advisor and attacks KZN for having put in a successful proposal to the Global Fund to support ART roll out in the province.
2003	In an interview with the <i>Washington Post</i> , Mbeki denies having known anyone who has died of AIDS.
2004	The government falls behind in its treatment targets and the TAC takes the government to court in an effort to make treatment targets public.
2004	At the International AIDS Conference in Bangkok, Stephen Lewis (UN Special Envoy on HIV and AIDS in Africa) criticises the South African government on its slow pace of ART scale-up and is accused of being ignorant by the Minister of Health. This spat is subsequently repeated at the 2006 International AIDS Conference in Toronto.
2005	The Minister of Health meets with Matthias Rath, a German doctor who promotes vitamins for the treatment of HIV/AIDS and labels ART as toxic. The government supports his endeavours, which discourage the use of ART.
2006	The Medicines Control Council impounds a shipment of Rath Health Foundation products which contain Schedule Two substances. The shipment is released by order of the Department of Health (in particular the Director General and Minister).
2006	More than 60 international experts on HIV/AIDS call for the resignation of Tshabalala-Msimang after International AIDS Conference, at which she has a stand promoting her diet of garlic, olive oil and beetroot. The Minister appears to be sidelined after this (with the Deputy President, Phumzile Mlambo-Ngcuka, appointed as spokesperson for the inter-ministerial committee on HIV/AIDS), but she denies these claims.

There is a wide diversity of perspectives presented by various analysts on the South African government's response to HIV/AIDS. Some critics simply accuse the government of practicing denialism and for lacking political commitment. However, increasing budgetary allocations for HIV/AIDS (and hence an obvious financial commitment) have, to some extent, invalidated these explanations and questioned the definition of 'political commitment' employed (Schneider et al. 2001; Schneider et al. 2002; Strode et al. 2004; Willan 2004b). These simple explanations also fail to look carefully at the reasons behind government action (or inaction).

More complex explanations have looked at the reasons for the South African government's response and have considered the influence of a range of institutional and political dimensions of the South African context. In some instances, the new government has been portrayed as overwhelmed with developing new policies and programmes, such that HIV/AIDS became simply 'one burden too many' (Strode et al. 2004; Fourie 2006). Associations with the pre-1994 struggle and the idea of an African Renaissance have also been prominent. These associations talk about the need for an African solution to an African problem, while also defining the rights that various state and non-state actors have to describe the problem and to act on it (Schneider et al. 2002).

Even more recently, the HIV/AIDS response in South Africa has been explained by looking at different paradigms and their relative appeal to those in power (Butler 2005). A 'mobilisation/biomedical' paradigm has emphasised social mobilisation, political leadership and ART, while a 'nationalist/ameliorative' paradigm has looked to poverty, palliative care, traditional medicine and appropriate nutrition. The context of institutions and intellectual discourses in South Africa, are seen to have given the ameliorative paradigm greater viability from an administrative and political perspective. So, while the ANC incorporated bits of both, it was the ameliorative paradigm which featured more prominently.

This section has outlined literature demonstrating the importance and influence of context on policy making. In South Africa, the political context surrounding HIV/AIDS has been particularly influential in determining HIV/AIDS responses. It is therefore plausible that this context has influenced other related areas, such as health policy, as well.

2.3 Conclusions

This review of the literature has shown that in theory, the progression of the HIV/AIDS epidemic should increase demand for services in the health sector, and hence increase resource requirements to deliver care. However, this is not always evident from research on health services, as variables defining the interaction between health services and communities may mitigate this effect. I attempted to construct a more comprehensive perspective on health care demand by looking at alternative sources of information as well. In particular, I reviewed literature on the progression of the epidemic, which gives insights into potential demands on the health system, as well as literature on household/community dynamics, which looks at how HIV/AIDS is impacting on households and their ability to access care.

Studies looking narrowly at the demand for care from a health system perspective can still provide us with useful information about system functioning, but have been limited in a number of ways. They have generally focused on inpatient services, often at one tertiary hospital, and have for the most part only captured one point in time. Hence they do not depict what is happening to the system more generally. For example, an increase in the demand for inpatient, tertiary care might be balanced by a decrease in the demand for other types of care, or it could simply be a reflection of increasing rates of disease in the community. Unless the system is assessed more comprehensively over time, these dynamics will never become apparent.

On the supply side there have been many studies looking at and categorising the impact of HIV/AIDS on health care workers. However, in many instances it has been difficult to quantify these impacts, limiting the benefits for planning. There has also not been much work done looking at what makes health care workers susceptible to HIV infection, or vulnerable to the impacts of the epidemic.

Literature on health care reform in South Africa has highlighted how the period post-1994 has been associated with radical reforms in the health sector. This was also a time when South Africa was witnessing rapidly escalating HIV prevalence rates, meaning that the health system was concurrently trying to reform and accommodate the demands placed by HIV/AIDS. The literature further suggests that the context of policy making is important if one is to try and understand responses to the epidemic. In South Africa the political context surrounding HIV/AIDS policy has led to many controversial government responses, most likely impacting on health sector policies as well.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Components of the research

Part of this research involved the empirical study of the impacts of HIV/AIDS on health services and health systems in KZN and more broadly. This work was based on two projects undertaken by the Health Economics and HIV/AIDS Research Division (HEARD) at the University of KwaZulu-Natal (UKZN) during the course of 2004 and 2005. Although conceived separately and managed as individual projects, these projects ultimately became merged into one piece of research, with overlapping geographical boundaries and complimenting observations. Both contributed towards understanding the impacts of HIV/AIDS on the entire health system more comprehensively, by focussing on one district in particular. The policy analysis followed naturally as a means to constructively apply the results of the projects to inform policy and planning in the health sector.

Due to the somewhat complicated origins of this combined piece of research, it is necessary to briefly outline the contribution made by each project and my personal involvement in them. This has been done in tabulated form (see Table 7). In outlining the specifics of the methodology below, these two projects are talked about as one piece of research.

Table 7. HEARD projects from which data was extracted for this research

Project title	The impact of HIV/AIDS on the public health services in KwaZulu-Natal	The impact of HIV/AIDS on health systems in South Africa, Zambia and Tanzania (pilot)
Timeframe of project	July 2004 – December 2005	January 2005-December 2005
Type of data collected and focus	Quantitative and qualitative data focussed on health service delivery	Qualitative data only focussed on health system management
Level of data collection	Facility level: clinics, district hospitals and regional hospitals	District, provincial and national level
Personal involvement	<ul style="list-style-type: none"> • Overall management of the project • Input into research design • Design of data capture instruments • Ethics submission • Design and implementation of database • Fieldwork with the assistance of fieldworkers at 6 of the 9 facilities in Ugu District (other facilities supervised by a colleague) • Supervision of data capture • Quality control • Data cleaning and analysis • Report writing 	<ul style="list-style-type: none"> • Input into research design and development of interview schedules (done with colleagues in South Africa, Tanzania and Zambia) • Fieldwork at district, provincial and national level (shared with a colleague, but KZN being my responsibility) • Data analysis • Report writing

The policy analysis following on from the empirical studies could be seen as the third component of this research, additional work undertaken specifically for the purpose of this PhD thesis. It looks at how data concerning the impact of HIV/AIDS might be applied to inform policy and planning in the health sector.

This thesis compiles and synthesizes the data and theoretical insights from a number of my publications (see Appendix 2). These include:

1. Maintaining and developing health systems to sustain HAART. In: *A Decade of HAART*. J. Bartlett, J. Lange, A. Whiteside and J. Zuniga (Eds). 2007. (co-authored S. Nixon) *In press*
2. Global health governance and the future of health systems in developing countries. In: *Making Sense of Global Health Governance – A policy primer*. K. Buse, W. Hein and N. Drager N (Eds). 2007. (co-authored A. Whiteside) *In press*
3. HIV/AIDS impact on health services: what have we learnt in the last five years? *South African Medical Journal*, 97 (6), 422-423. 2007. (co-authored T.Quinlan)

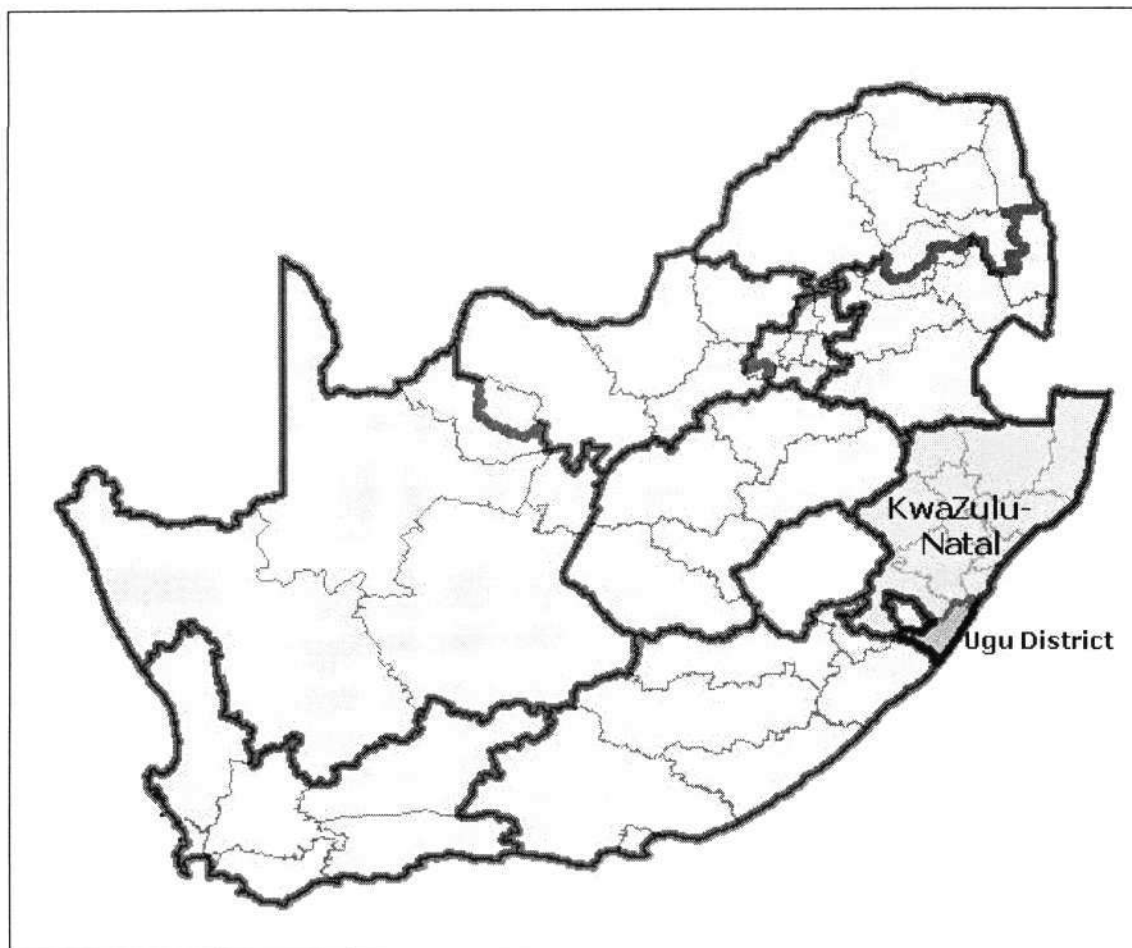
4. Social protection in a context of HIV/AIDS: a closer look at South Africa. *Social Dynamics*, 32 (2): 112-136. 2006.
5. The burden of HIV-related illness on outpatient health services in KwaZulu-Natal, South Africa. *AIDS Care*, 18(3): 262-268. 2006. (co-authored A.Oyier)

3.2 Sample district, facilities and key informants

3.2.1 Sample district

In this research I aimed to assess the impact of HIV/AIDS on one health district from a number of different perspectives. This is because health districts are defined as 'a self-contained segment of the national health system', so making them an ideal unit for study (Tarimo 1991). This research focussed on the Ugu district (also labelled DC21) along the south coast of KZN and extending inland past the town of Harding (see Figure 8). In order to understand the relation with the higher levels of the system I also tracked referral networks (in terms of services) or interactions with provincial and national levels of government (in terms of health system functioning).

Figure 8. Map of South Africa showing the location of Ugu district and KZN province, the focal district and province respectively for this research



Ugu district was selected as the focal district for this research as it was felt to be representative of a 'typical' health district in South Africa, in the sense that it is of average size, with a normal complement of health facilities and some rural-urban balance. In essence, the district covers a population of 704 023 people, with 76% of these people considered rural. There are a total of 57 fixed PHC clinics run by provincial Department of Health and local government, 3 district hospitals, 1 regional hospital, 1 hospice (run by a non-governmental organisation), 1 TB step down facility and 1 other step down facility (again run by an non-governmental organisation). In 2005, Voluntary Counselling and Testing (VCT) was offered at 100% of facilities in the district and Prevention of Mother to Child Transmission (PMTCT) at 90% of facilities (KZN Department of Health 2005).

The intention of this research was never to generalise findings to other districts of South Africa. However, where possible, results of other studies are referred to in an attempt to explore whether similar issues have been identified in the broader South African health system. In addition, comparative districts and even countries (Tanzania, Zambia) were involved in the two HEARD projects, and this has also allowed for some assessment as to whether observations can be generalised more widely. Where I refer to comparative research conducted by our research partners in other countries, it has been referenced to the appropriate individuals.

3.2.2 *Sample facilities*

In the South African health system there are at least five different levels of health facilities, although these are not all present in each district or even province. The purpose of a functional referral system is to link different level services so that these can work efficiently. In policy documents there is not always consensus on the precise package of care that should be offered at each level. However, a general outline of the different levels is clear (compiled with reference to KZN Department of Health; SA Department of Health 2001c; KZN Department of Health 2003):

1. *PHC clinics* can be mobile or fixed and are the first step in the provision of health care. They provide treatment of common diseases, as well as a range of routine preventive services including immunisation, family planning, and antenatal care.
2. *Community Health Centres (CHCs)* offer a similar range of services, but are better equipped for emergency care and have a short stay ward. In practise, there are very few of these facilities in KZN.
3. Both PHC clinics and CHCs are supported by first-level or *district hospitals*, offering non-specialist services for the immediate surrounding population.
4. In most districts, there is also a *regional hospital* providing a specialist consultant service for patients that can't be managed by district hospitals.
5. *Tertiary and central hospitals* are only located in the big provincial cities. They provide sub-specialist consultant services, as well as more advanced clinical support services.

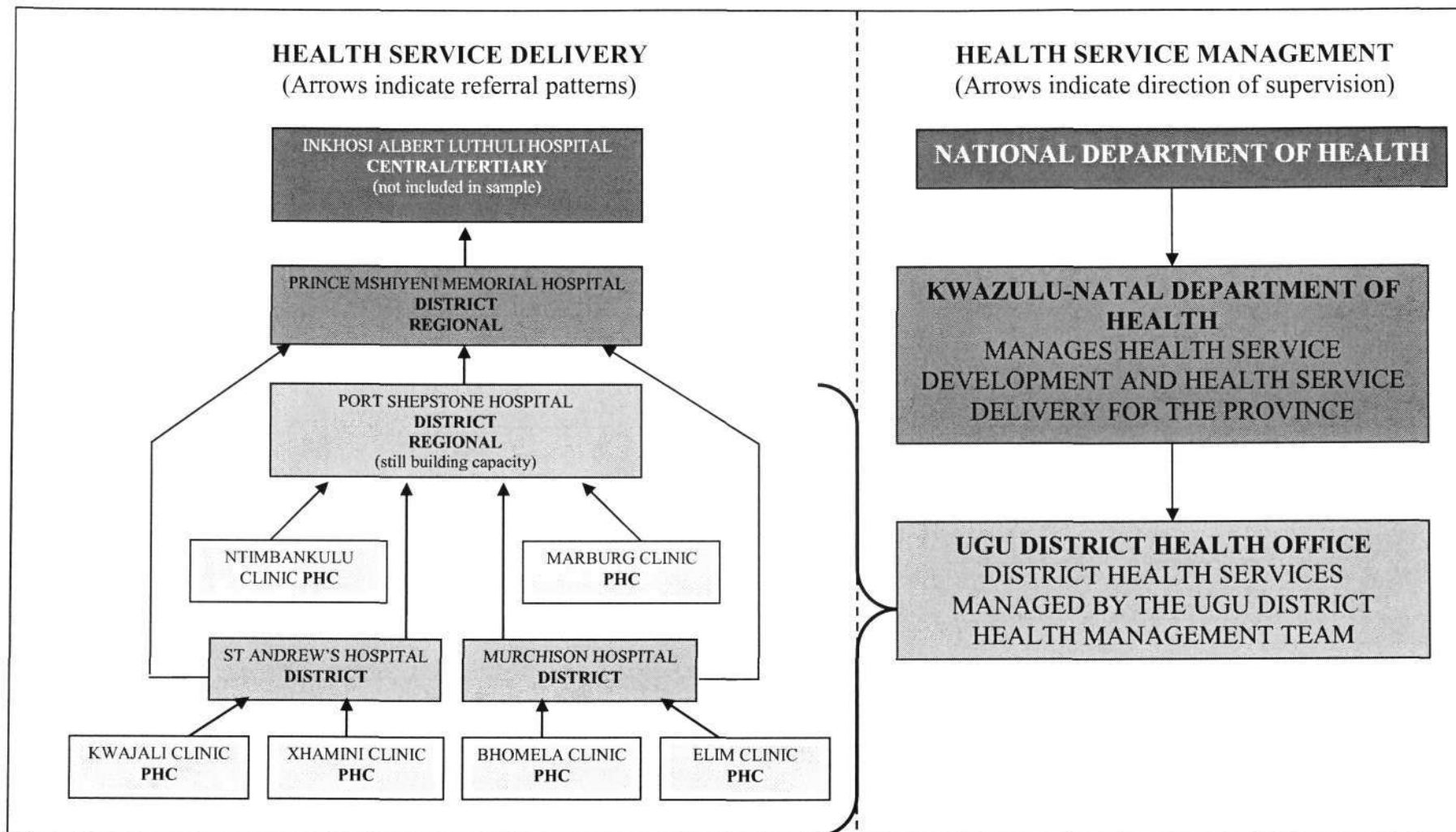
Attention was given in this research to including a range of health facilities, spanning all apparent levels of care and including inpatient and outpatient services. This is because previous studies which have assessed the impact of HIV/AIDS on health services, although large in number, have been quite limited in respect to the information that they could provide (see Chapter 2). They have focussed almost exclusively on inpatient services, have nearly always taken place in hospitals (and frequently tertiary hospitals), and have generally been cross-sectional in design, thus not giving any information about trends. As a result, we really know very little about the burden on outpatient services, particularly those at PHC level, although these are the very services which health sector reforms have been struggling to strengthen in so many African countries. Furthermore, only a few studies have studied the resource implications associated with managing the 'burden' of HIV/AIDS, even though it is this information which is needed to manage impacts appropriately.

There was no need to sample public hospitals in Ugu district because they are few in number. Those with catchment areas predominantly falling within Ugu were included in the research. PHC clinics were stratified according to their supervising hospital and then randomly sampled to include two clinics under each hospital. The tertiary/central referral hospital in Durban was not included in the sample since 1) anecdotal evidence suggests that hospitals at this level are protected from the burden of HIV/AIDS and 2) health services development is prioritised in policy documents for the lower levels of care and historically there has been an overemphasis on tertiary, curative care. The protection referred to above results from referral procedures, which mean that a patient can not access these specialised services directly. Furthermore, doctors generally only refer patients with a good prognosis and unfortunately this was not true for most AIDS patients in the pre-ART era. The location of facilities and a diagrammatic representation of their referral pattern and management structures are shown in Figure 9 and Figure 10.

Figure 9. The location of health facilities included in this research



Figure 10. The referral pattern of facilities included in the sample and the general structure of the health system relevant to this research



3.2.3 Key informants

Key informants were sampled not only from health facilities, but also from the health management structures outlined above. The Ugu District Health Office and the KZN Department of Health were the most relevant health management structures included in this research. At a very basic level, the functions of these different levels of management can be described as follows (compiled with reference to the National Health Act 2003):

1. *District health management* is responsible for planning, budgeting, providing and monitoring health services for residents of the district.
2. *Provincial Department of Health* is responsible for coordinating health services within the province, but also has responsibilities for management, policy, design and development of numerous functions supporting health service provision.
3. *National Department of Health* is responsible for ensuring the development and implementation of national health policy.

As spelt out in the Constitution (1996), the different spheres of government should operate according to a model of 'co-operative governance'.

In this research the sampling of key informants, whether from health facilities or from management structures, was in all cases purposive. At the facility level, sisters-in-charge (clinics), medical superintendents (hospitals), Human Resource (HR) managers (hospitals), and a selection of medical staff were targeted in order to elicit information about the operation of facilities and HR concerns. Managers working in district and provincial health offices were approached to be interviewed if they could contribute to discussions around three key areas of interest (described below). In many instances, those interviewed also referred me on to colleagues with further insights, thus resulting in a process of 'snowball' sampling. While potentially biased, 'snowball' sampling was in this case appropriate because of the small number of managers at each level of the system and the need to access all those with relevant insights.

3.3 Data collection methods

3.3.1 Facility level

While data collection at health facilities was necessarily done *prospectively*, this data was also supplemented by *retrospective* health facility data routinely collected by the Department of Health. The retrospective analysis (see Chapter 4) provides a historical perspective of utilisation trends for all facilities in KZN and more specifically for just the facilities included in this study. As such it gives us a general idea of the pressure placed on health facilities prior to the commencement of my research. Unfortunately, retrospective data was limited in quality and the reasons for this are described later in this Chapter.

Data was collected *prospectively* at the facility level through repeat cross sectional surveys with the objectives of better understanding:

1. Trends in the demand for care as a result of HIV/AIDS;
2. Resource implications associated with demand trends; and
3. Issues related to the impact of HIV/AIDS on health care workers

Facility level data collection was done every six months, over a course of 18 months. The three phases of data collection were designed to allow some assessment of changes over time. During every phase of the research, the research team visited each facility in the sample for a two day period, following an initial day of meetings with relevant staff. During the visit, field workers were stationed at key points in a facility (e.g. outpatient clinic, casualty, TB drop in centres, medical and paediatric wards) to obtain a set of information on each patient passing through the system for the two day period:

1. Age and gender
2. Diagnosis
3. Drugs prescribed
4. Investigations conducted (laboratory and radiological)

5. Clinical signs of being HIV positive, evidence of HIV test and CD4 count
6. Consultation time (outpatients) or length of stay (inpatients)
7. Referral (and outcome of hospital stay if inpatient)

The data collection forms are attached as Appendix 3.

Follow up visits were conducted at all inpatient facilities after each phase of the research, since costing of inpatient treatment required information from patient files post discharge in order to capture the entire inpatient stay. Despite extensive efforts to locate and access files, follow-up rates for patient files were still fairly low and varied between 83% and 90% in the first phase of the research, and between 82% and 92% in third phase of the research, both of which are reported on in Chapter 4. Missing files (or the contents thereof) could have been removed by patients, their families or doctors, incorrectly filed, or been in use by other departments.

Qualitative data was also collected during each health facility visit. Focus groups/interviews with medical staff were conducted to explore how facilities have adapted and are adapting to the changing conditions associated with HIV/AIDS and how the epidemic is impacting on their work. Due to the limited availability of medical staff, inclusion criteria for focus groups and interviews rested largely on individual's willingness to participate and their clinical commitments. In total, two focus groups were conducted with health care workers (both doctors and nurses) from the two hospitals included in the research, as well as six semi-structured interviews with sisters at the various clinics. Interviews with HR managers in each hospital were conducted to determine concerns related to the supply of health care workers and to obtain data on absenteeism and attrition where available. Background information on health service functioning was also sought from managers at each visit, to give a more complete picture of ongoing change not specifically related to HIV/AIDS. Notes were taken during the interviews to document observations, as recording in busy facilities would have been difficult. Interview schedules are attached as Appendix 4.

3.3.2 District and provincial level

Data was collected at the district and provincial levels with the objective of better understanding the impacts of HIV/AIDS on the broader health system functioning.

The data collected at the district and provincial levels was qualitative in nature and was obtained through semi-structured interviews with key individuals (see Appendix 5). In most instances, these individuals were senior managers involved with policy/planning, general health services management, HIV/AIDS service management, HR management and/or interactions with donors/partners. They were in the following positions:

- General manager of health services (at provincial level)
- Health services area manager for 3 districts, including Ugu district (at provincial level)
- Manager of district medical officers (at provincial level)
- Global Fund co-ordinator (at provincial level)
- District health manager (at district level)
- Clinical programmes and services manager (at district level)
- HIV/AIDS co-ordinator (at district level)
- Programme cluster manager for the communicable diseases cluster (at district level)

In addition, donor/partner co-ordinators of the following types of health projects were interviewed to give additional insights pertaining to their participation in the system:

- A Faith Based Organisation (FBO) project focussing on home based care and HIV prevention, and more recently assistance with the Antiretroviral Therapy (ART) programme
- A Non-Governmental Organisation (NGO) running a TB hospital and outreach service

The interview schedule used for district and provincial level data collection focussed on three important dimensions of health systems in Africa, in order to assess how these systems are changing or adapting in a context of HIV/AIDS (see Appendix 5). The three dimensions considered were:

- Structures/frameworks
- Decentralisation
- Donors/Partners

Broadly speaking, the interview schedule at the district and provincial level covered issues such as: how national policies and plans are implemented, how local circumstances influence implementation, relationships with donor/partner organisations, and decision-making. However, the semi-structured interview format allowed for discussion of other issues of relevance raised by the managers. Again, observations were recorded by taking notes during the interviews.

3.4 Data analysis

As large amounts of quantitative data were collected during the three phases of facility-based research, a special database had to be constructed on Microsoft Access to manage the data. The database linked patient information to spreadsheets with prices of commodities (drugs, laboratory tests and radiological investigations), in order to also calculate the costs of treatment. Pricing data for this purpose was obtained from the KZN Provincial Laboratory Services (laboratory investigations), KZN Provincial Medical Supplies (drug costs), and the King Edward hospital Radiology Department (radiological investigations).

Further quantitative analysis, comprising essentially simple frequency analysis and burden of disease methodologies, was done using EpiInfo 2000. This analysis focussed on estimating the proportion of patients seeking care for HIV-related illness, from 1) clinical and laboratory assessment of status, and 2) a profiling of patients' diagnoses.

The profiling grouped diagnoses according to methodologies employed in recognised Burden of Disease studies, based on the International Classification of Diseases No 10 (Murray et al. 2001).

As the quantitative data from facility-based research only covered an 18 month period, some further data analysis of routinely collected data was done to explore historical facility utilisation trends and issues around rationing. This was obtained from the KZN Health Informatics Department and was analysed using Microsoft Office Excel.

Additional personnel data (for looking at attrition rates of health care workers) was extracted from the province's PERSAL (salary payment) system by a PERSAL officer and also analysed using MS Office Excel.

Qualitative observations were personally noted, typed up, and then analysed using Nvivo. Since interviews were semi-structured, themes for coding data corresponded in most instances key research questions. For example, there were codes for 'deflection of resources' and 'donor coordination issues'. However, for the focus groups and interviews with health care workers in particular, responses and discussions broached a much wider range of topics, many of which were not anticipated. Under such circumstances, additional codes were created as the analysis progressed, for example for issues such as 'HIV/AIDS burden in personal life'.

Lastly, document reviews allowed some triangulation of qualitative data. All available and relevant documents looking at policies and plans, as well as other 'grey' literature on health system structures, was used to supplement, confirm or refute the validity of interview insights.

3.5 Policy analysis

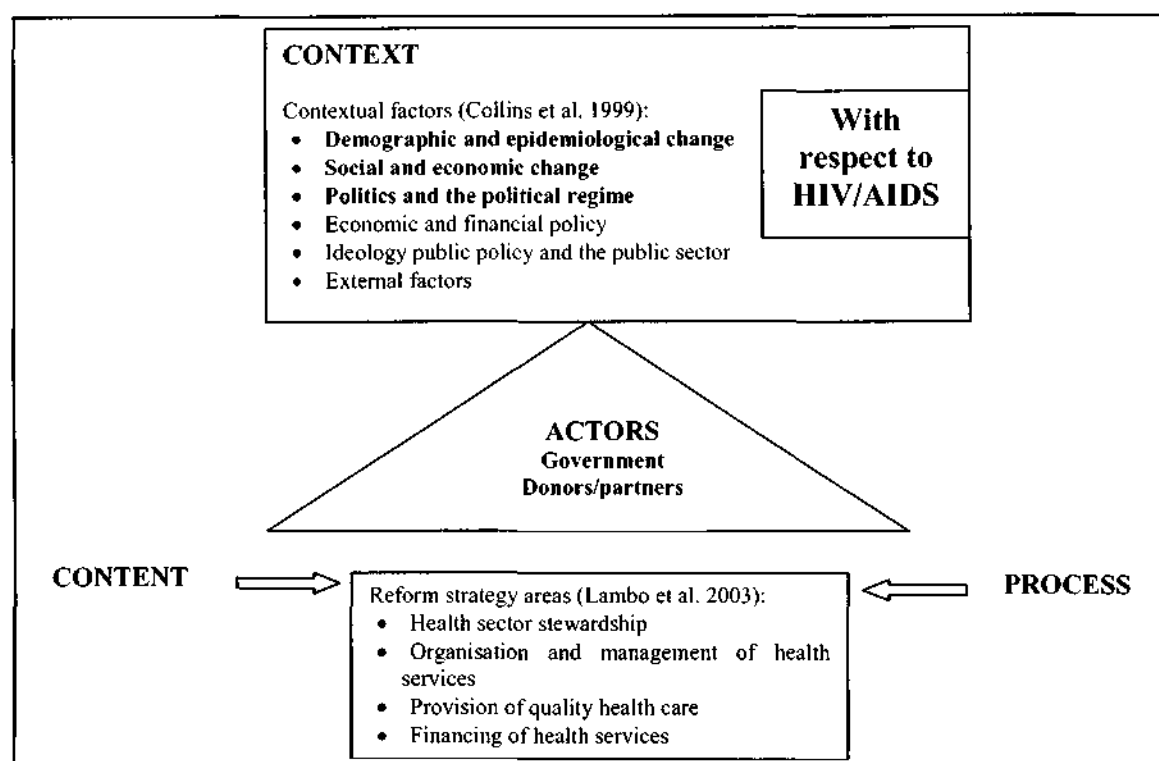
The policy analysis component of my research aimed to assess the appropriateness of health policy content and strategy in the context of HIV/AIDS. It is therefore more an assessment of the realistic nature of policies and strategies, rather than an evaluation of

the institutional effectiveness of the implementation process. Furthermore, the policy analysis was conducted in a somewhat unorthodox way. Most analyses of health policy and reform start by identifying the policies of interest, before reviewing the evidence concerning their successes and failures. In many cases, such analyses conclude that there is insufficient evidence to comment on effectiveness. My approach to the policy analysis veered somewhat from this norm, as I did not look specifically at health system outcomes. Rather, I first accumulated evidence on the impact of HIV/AIDS on health services and systems over an 18 month period. This empirical evidence, along with additional insights as to how HIV/AIDS is changing the context in other ways, then served as a basis to review health sector policies and legislation for the period 1994-2006 (see Appendix 1 for an outline of relevant policy papers, legislation and statements). The research therefore focused on trying to understand whether appropriate responses to HIV-related themes/trends/issues were evident in the policy documents or not.

3.5.1 Policy analysis framework

Walt and Gilson (1994) developed a model specifically for health policy analysis in developing countries which has been useful for framing my analysis (and was discussed briefly in Chapter 2). The model essentially advocates for a more balanced approach to understanding health policy, based on the premise that too much focus is often placed on content, while neglecting consideration of context, processes and actors. In Figure 11, I elaborate on the model to give some ideas as to the type of contextual factors and the scope of health policies that are considered, based on categorisations of these domains by other authors and what we know about the impact of HIV/AIDS.

Figure 11. Theoretical framework based on the model for health policy analysis developed by Walt and Gilson (1994)



The context created by HIV/AIDS is complex, since HIV/AIDS impacts on almost every aspect of society in diverse ways. Collins et al (1999: 79), in their categorisation of contextual factors highlight the need to appreciate interplay between categories:

The manner in which demographic and epidemiological changes have an impact on health care needs and demands was identified as part of the policy context. These factors gain their real significance when related to changing resource scarcities and the manner in which they are dealt with. Economic factors, and the manner in which political forces work, determine the availability of resources to provide health care to meet changing needs.

For this reason, three groups of contextual factors are highlighted above in Figure 11 as most relevant for this research. My empirical research looking at impact allowed a certain depth of analysis when considering demographic and epidemiological change, and even social and economic change; however this needed to be supplemented by other means (eg. household surveys, budget data) to avoid ‘one-dimensional simplicity’. Insights into the political context were also sought from a variety sources, including research and the media.

3.5.2 Analysis of HIV/AIDS and potential health policy issues in the years to come

This thesis would not be complete without considering the dynamic nature of the context of the HIV/AIDS epidemic. In particular, the initiation and subsequent scale up of the ART programme is modifying the interface between HIV/AIDS and health policy in diverse ways. However, because the empirical component of my research was conducted when the programme was still very new, it was only possible to identify some elements of early change. The last chapter of this thesis, therefore, aims to theoretically explore the ways in which health policy could respond to this dynamic context, so anticipating and counteracting problems as they arise. To frame my analysis of future issues, I again look at the possible impacts of the ART programme at a service delivery level (addressing both demand and supply), as well as at a health systems level. At the systems level, I focus on issues of stewardship and financing, in line with WHO thinking on the core functions of health systems (WHO 2000). I draw on the idea of 'scenarios' in the health sector, as a way to capture current uncertainty and to define an appropriate, ongoing research agenda.

The theoretical analysis is complemented by a case study of Botswana, which implemented its ART programme two years prior to South Africa. This case study is based on a series of semi-structured interviews (see Appendix 6) that were conducted with key informants from:

1. The Botswana Ministry of Health;
2. The African Comprehensive HIV/AIDS Partnership (ACHAP), a Merck, Bill and Melinda Gates Foundation and Botswana Government partnership supporting the ART programme; and
3. The National AIDS Coordinating Agency (NACA)

3.6 Quality assurance

During the course of this research, a number of measures were taken to enhance the quality of both quantitative and qualitative methods and some of these are outlined briefly here. In relation to the quantitative methods, all data collection forms were checked on site for obvious omissions, discrepancies and inconsistencies. Where possible, the same fieldworkers were used for all three phases of the research. A ten percent random sample of the records was checked during data capture to ensure that forms were being entered correctly on the database. In relation to the qualitative methods, the primary means of insuring that respondents' views were accurately captured and appropriately reflected was through the consensus of researchers. Wherever possible, a second research or fieldworker would sit in on interviews and later review the transcripts and reports.

3.7 Limitations of the research

The major limitations of this research stem from the insufficiency of retrospective data available to supplement that collected prospectively, the methodological difficulties associated with collecting data in very busy and stressed health facilities, as well as the scope of the research. In the case of the former, neither the health facility data nor the PERSAL data was available for a sufficient period preceding this research, resulting in difficulties clearly eliciting trends. Ideally, a retrospective analysis would have covered the period from the mid 1990s onward. The lack of suitable data results from difficulties in standardising data systems post-1994. Such difficulties were illuminated in an interview with the Health Informatics department at KZN Department of Health (March 2004) and are elaborated on below.

During the apartheid era, health facilities in KZN were managed separately by either the Natal Provincial Administration (NPA) or the KwaZulu authority and no attempt was made to standardise systems and procedures until after the 1994 elections, when the two authorities merged. The process of developing, merging and standardising systems was lengthy and difficult, and so it is only since the late 1990s that comprehensive health

facility utilisation data has been available for the entire province, even though hospitals were capturing their data from 1995. The quality of data at this time was, however, also questionable, with limited recognition of the importance of data collection and its use in management.

Even with data collected prospectively, determining trends in health facility utilisation can be complex because of the pros and cons of different methodologies. The results obtained through two methodologies employed in studies to date range along a spectrum between underestimation and overestimation of the burden of HIV/AIDS. Early studies generally performed an HIV test on all consenting patients to determine HIV prevalence in health facilities. However, since population prevalence rates have reached high levels in many countries, one would expect a high HIV prevalence in health care facilities as well. This does not necessarily mean that all HIV-positive patients are receiving HIV-related care and so this method of measuring burden is at risk of overestimation in high prevalence regions (Buve 1997). On the other hand, if burden is defined by the proportion of patients experiencing opportunistic infections associated with later stage infection, then this may not consider an HIV-positive person's early susceptibility to more common community acquired infections (such as pneumonia or TB) and would consequently lead to underestimation. In order to account for the inaccuracies inherent in methods of measuring HIV/AIDS burden, this research has made use of a wide range of indicators to balance their respective biases.

Qualitative data collection in very busy and stressed health facilities was another challenge that had to be overcome in this research and ultimately meant that it was not possible to tape record discussions with health care workers for transcription, analysis and verbatim quoting. Although the focus groups were recorded, background noise meant that only part of the group discussion was audible. In the clinics, the noise level was too high to even attempt recording. In interviews with district and provincial managers, recording would have been possible; however an explicit decision was made not to do this. The reasoning here was that government officials are often wary of researchers and would be less likely to give honest opinions in the presence of recording equipment. The priority in this instance was to obtain as accurate an account of the relevant issues as

possible, and hence this had to come at the expense of having transcriptions to refer to. In these interviews, and even after our assurances of anonymity, it was not uncommon for respondents to request that statements be made 'off the record' – such was the level of unease.

In addition to concerns around the availability of retrospective data, different methodologies for analysing prospective data, and problems with recording interviews and focus groups, this research was also limited in scope. The WHO definition of a 'health system' encompasses formal health services, traditional healers, and home care amongst other endeavours; it includes 'all activities whose primary purpose is to promote, restore or maintain health'(WHO 2000). Therefore one of the major limitations of this research is that data was collected mainly within the public health system, with the exception of that coming from donors/partners implementing community based projects. However, given the scope of this research it was not possible to extend data collection into communities. A significant (and increasing) number of household studies have looked at help-seeking behaviour, the demand for care, the costs of accessing care, and the gendered burden of home care-giving. They have provided many insights into community-based health activities and the limitations of the formal health services, which logically compliment any research conducted within the public health system.

The private sector, although significant in South Africa, was also not included in this analysis. This is because the private health sector is not governed by the same policies as the public sector, only services a small percentage of the population, and is largely protected from the economic impact of HIV/AIDS by the nature of its operations – people have to pay for services. This is not to say that many people in the lower socio-economic groups do not utilise private practitioners, however dependence on private care is not likely affordable to people without Medical Aid³. Medical Aid coverage is therefore the most reliable predictor of those with consistent access to private health services and was estimated at just 14.0% of the population in the 2005 General Household Survey

³ Medical aid schemes in South Africa provide health insurance through monthly contributions, are controlled and co-ordinated by the Council for Medical Schemes, and governed by the Medical Schemes Act of 1998.

(StatsSA 2005b). Furthermore, we know that HIV prevalence rates are lower amongst those with Medical Aid who can afford private health care, the most skilled workers (see for example Rosen et al. 2003).

Private sector operations would only have an appreciable effect on the public health sector if the costs of providing HIV/AIDS care became high enough to affect Medical Aid premiums. This could result in people no longer being able to afford coverage and having to seek care in the public sector. However, this is currently a remote possibility. The number of beneficiaries of Medical Aid schemes has been increasing steadily in recent years and stood at 6 835 621 in 2005. Furthermore, the prevalence of HIV as a chronic condition in the private health sector, although increasing, was still less 5 cases per 1000 beneficiaries in the same year (Council for Medical Schemes 2006).

In looking at the impact of HIV/AIDS on the broader health system, the national level was only included in the analysis with respect to its interaction with lower levels of the system and changing management structures. This reflects the limited involvement of national departments in service delivery, and, according to the views of respondents in HEARD research, the lesser impacts felt at this level.

Lastly, some difficulties were encountered in accessing policy documents and achieving a full understanding of the processes involved in implementing health policies. This research relied largely on policy papers, academic policy analysis, media statements and other literature in the public domain, and these have not always captured the detail desired. In other instances, health policy documents have not been made publicly accessible, for reasons which are unclear. In an attempt to overcome this difficulty, clarification was sought from relevant individuals and parties where appropriate.

3.8 Ethical considerations

For the data collection in health facilities, ethical clearance was granted by the Medical Research Ethics Committee, UKZN (protocol number 104/04). In line with ethics clearance, permission to enter health facilities was obtained from the following authorities: KZN Department of Health, Ugu District Municipality, Hibiscus Coast Local Authority, as well as all the facilities included in the sample.

Official ethical clearance was not required for interviews with provincial and district health managers. In this instance, permission granted by the KZN Department of Health was sufficient to allow access to key individuals. Further consent for participation in the research was negotiated continuously, with participants free to refuse participation or to withdraw from the study at any point. Confidentiality was in all cases maintained and responses kept anonymous.

CHAPTER 4: IMPACT OF HIV/AIDS ON HEALTH SERVICES (DEMAND SIDE)

The impact of HIV/AIDS on general health services is elusive. Those infected present with opportunistic illnesses rather than HIV itself, stigma and denial prevails, and poor human resource data limits the analysis of absenteeism and attrition trends. ART programmes, on the other hand, are much easier to study. This is because they are clearly delineated, with their own patients, budgets and management staff – they are typically, even at a service delivery level, ‘vertical’ programmes. It is for this reason that so little work has been done in trying to assess the impact of HIV/AIDS on general health care services over time, even though it is these services that form the backbone of care. These are the services that provide HIV-related care in areas where there are no ART programmes, when people fail on treatment, or when HIV/AIDS programmes become more integrated.

This research was commenced prior to the implementation of the ART programme, but was sustained concurrently to the scale-up. The accreditation dates for hospitals to commence ART are testament to this, with the last health facility in the sample only ready to initiate the programme in June 2005 (see Table 8). The initiation of ART has therefore created an extra, meaningful, layer of complexity to the analysis. Saying this, it is worth noting the relatively small number of patients placed on treatment during the duration of the research (see Table 9). Although figures for specific hospitals were only available until December 2004, we know that ART coverage across the province was still only 20% by the end of 2005 (Grimwood et al. 2006). Indeed, only a very small number of inpatients (and no outpatients) participating in this study were noted as being on treatment.

Table 8. ART roll-out: accreditation dates for hospitals included in this research (Philli 2005)

Hospitals studied	Accreditation date
DURBAN (REFERRAL) Prince Mshiyeni Memorial Hospital (PMMH)	16 August 2004
UGU DISTRICT Port Shepstone Hospital Murchison Hospital St Andrews Hospital	2 August 2004 2 August 2004 16 June 2005

Table 9. Numbers on ART in 2004 for facilities included in this research (SA Department of Health 2005c)

Hospitals studied	Aug 04	Sept 04	Oct 04	Nov 04	Dec 04
PMMH	0	2	25	36	36
Port Shepstone Hospital	11	17	32	71	112
Murchison Hospital	13	16	35	47	89
St Andrews Hospital	0	0	0	0	0

Two main trends concerning the impact of HIV/AIDS on general health care services (from a demand perspective) were elicited from the quantitative and qualitative data collected in health facilities in Ugu district over an 18 month period. These trends are summarised as follows:

1. The stabilisation in health service utilisation for HIV-related illness
2. Potentially higher resource utilisation associated with providing HIV-related care, with district health services becoming most affected

At first glance it may seem that the potentially higher costs of providing care and the worsening of human resource capacity (explored in Chapter 5) are driving changes in health service utilisation. However, I believe that these are largely separate trends requiring a separate set of actions, and so they have been analysed as such. Lastly, while some of these trends may seem almost too obvious to warrant an analysis, I feel that they require substantiating through hard data; for advocacy purposes and to better understand the nuances that can inform policy developments.

4.1 Stabilisation in health service utilisation for HIV-related illness

This research set out to assess changes in health service utilisation for all types of illness, through both retrospective and prospective analysis. Retrospective analysis was done by using routinely collected health service indicators, while the prospective analysis happened over an 18 month period, through repeat visits to a sample of health facilities (as described in Chapter 3). The aim of this component of the research was to test the assumption that the burden of HIV-related illness is on an upward trajectory, in line with increasing prevalence rates and modelled incidence of AIDS cases. This assumption is challenged in instances when those requiring care are unable to access it for any reason. When utilisation patterns are assessed alongside population studies and burden of disease research based on mortality data, they therefore bring light to the issue of ‘rationing’. In this way, they can inform strategies aimed at expanding access to care to those that require it.

4.1.1 Retrospective analysis

As described previously, routinely collected data provides a historical perspective on utilisation trends for all facilities in KZN and more specifically for the facilities included in this study. A range of health service indicators, examined below for a period of five or six years preceding this research, give us a general idea of the pressure placed on health facilities. For example, at Kenyatta National Hospital in Nairobi an early response to rising numbers of HIV patients requiring care was to admit more inpatients, resulting in bed occupancy increasing to 190% in 1997 (Arthur et al. 2000). Clearly this hospital became stressed as a result of pressures placed by the epidemic. If health facilities in KZN were coming under greater pressure since the late 1990s, then this would have been reflected in: an increase in inpatient admissions and outpatient headcounts, higher bed occupancy rates, and potentially shorter inpatient stays.

Routinely collected health facility indicators for KZN are presented below. Notably, they don't demonstrate the type of stresses that we would expect, given the magnitude of the HIV/AIDS epidemic in the province. For example, the number of inpatient admissions (see Figure 12 and Figure 13) has remained largely stable, with only some increase witnessed at the regional referral hospital in Durban.

Figure 12. Inpatient admission trends for health facilities in KZN (Source data: KZN Department of Health)

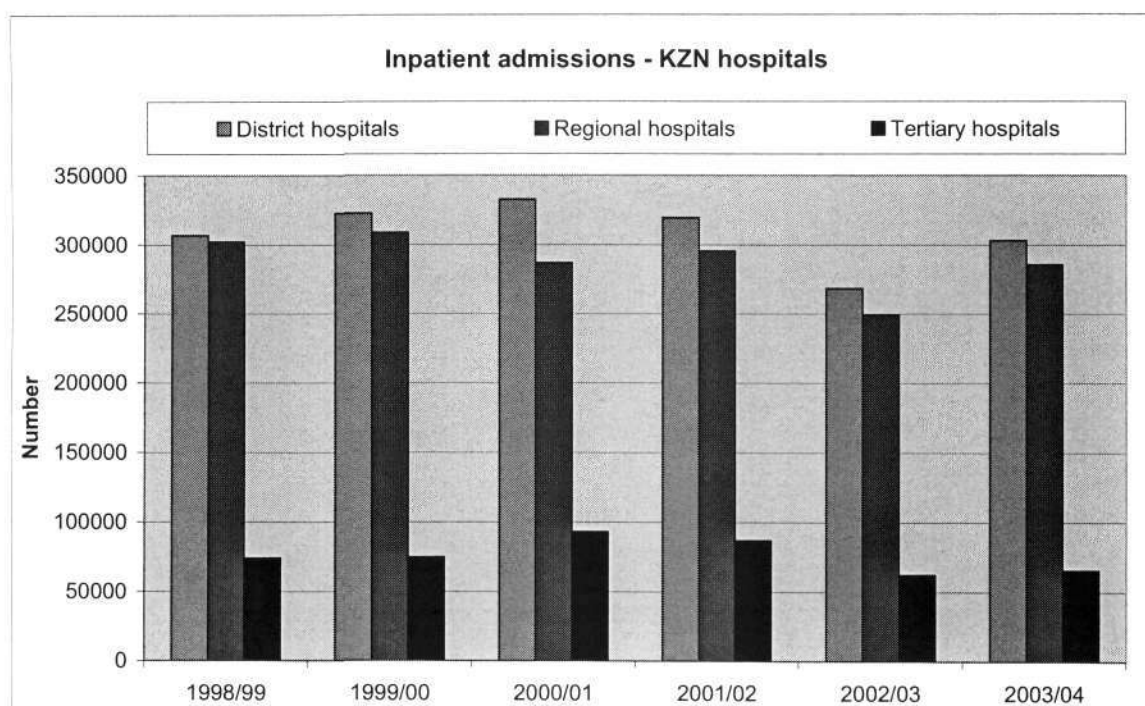
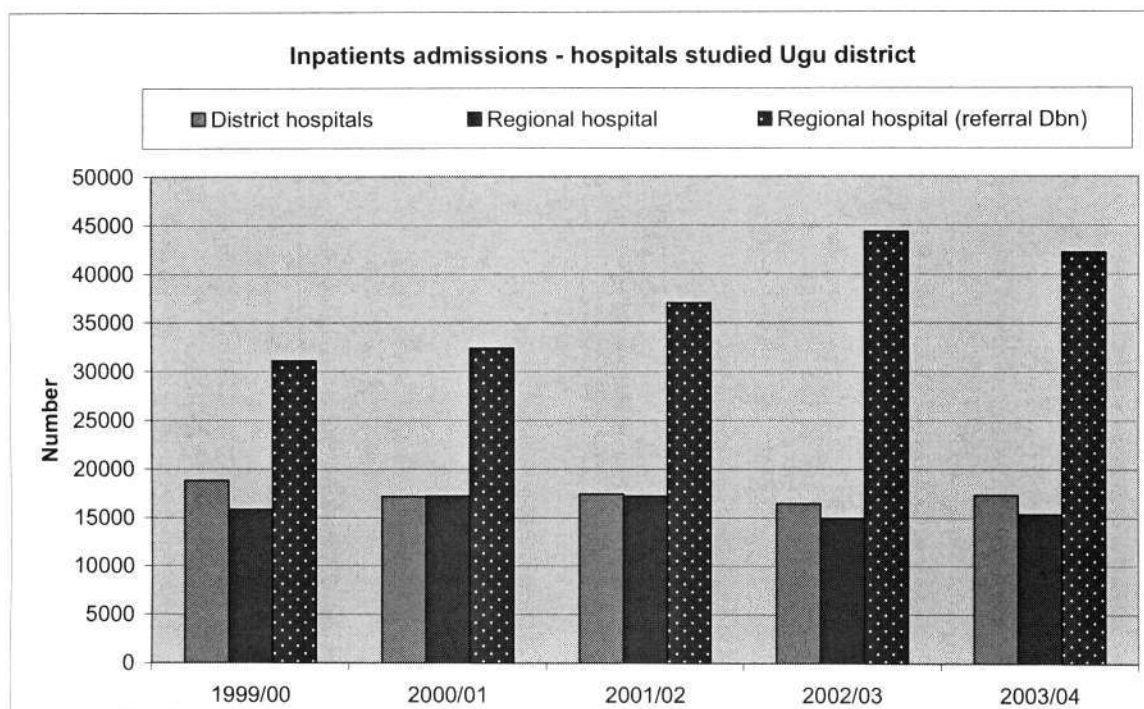
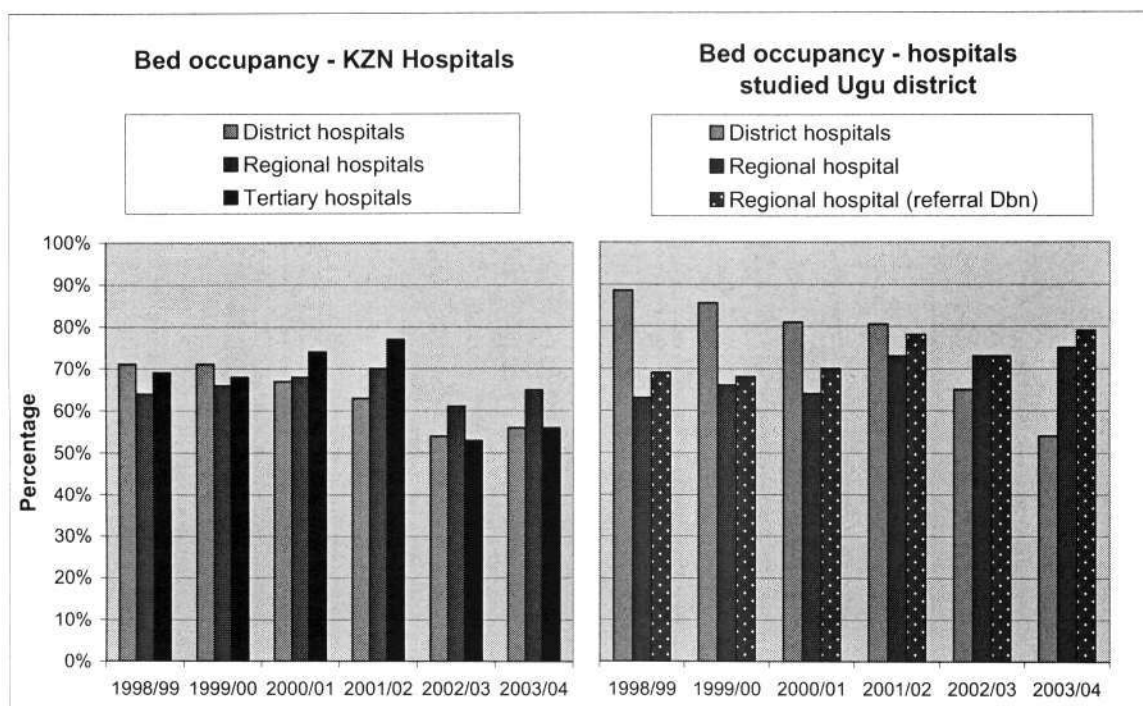


Figure 13. Inpatient admission trends for health facilities sampled for this research (Source data: KZN Department of Health) Number of admissions not given for individual hospitals in 1998/99.



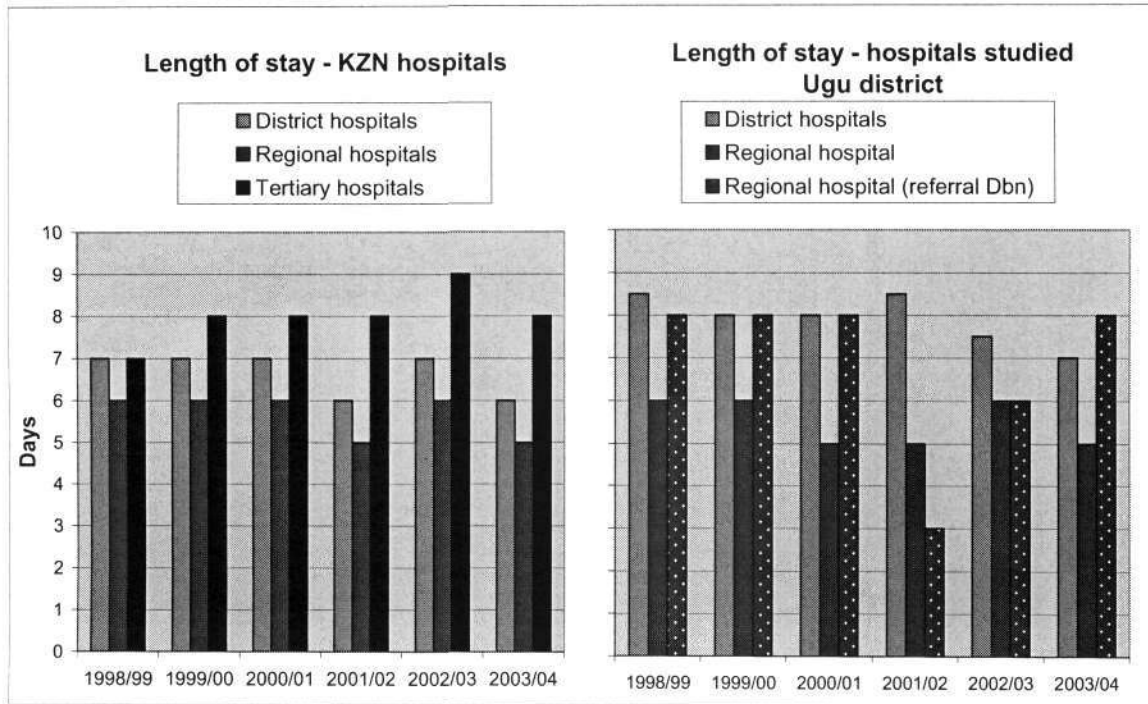
Bed occupancy rates have also in most cases remained at, or below, optimum levels which the national Department of Health has recommended to be between 70-80% (KZN Department of Health 1995-2004). At a provincial level, in no instances did bed occupancy rise above 80% (see Figure 14). District hospitals participating in this research recorded steadily declining bed occupancy rates.

Figure 14. Bed occupancy trends for health facilities in KZN and those sampled for this research (Source data: KZN Department of Health)



Inpatient admissions are balanced by bed occupancy rates and length of stay. Hence hospitals coming under pressure might record higher bed occupancy rates, or shorter lengths of stay, or both. Although length of stay data for one hospital varied tremendously, there was not an obvious trend of shorter inpatient stays (see Figure 15). While not presented here, bed turnover rates also remained constant for the six years preceding this research.

Figure 15. Length of stay trends for health facilities in KZN and those sampled for this research (Source data: KZN Department of Health)



For outpatients, headcounts are a reliable way of looking at utilisation levels. Although there was some variation in hospital outpatient headcounts, and an overall increase in the headcount at the regional referral hospital in Ugu district between 1998/99 and 2003/04, primary care facilities did not show the same trend (see Figure 16, Figure 17, Figure 18 and Figure 19). Furthermore, the increase evident at the regional hospital was most likely ascribed to this hospital purposefully increasing its capacity (from a district hospital to a regional hospital) over the period studied.

Figure 16. Outpatient headcount trends for health facilities in KZN (Source data: KZN Department of Health)

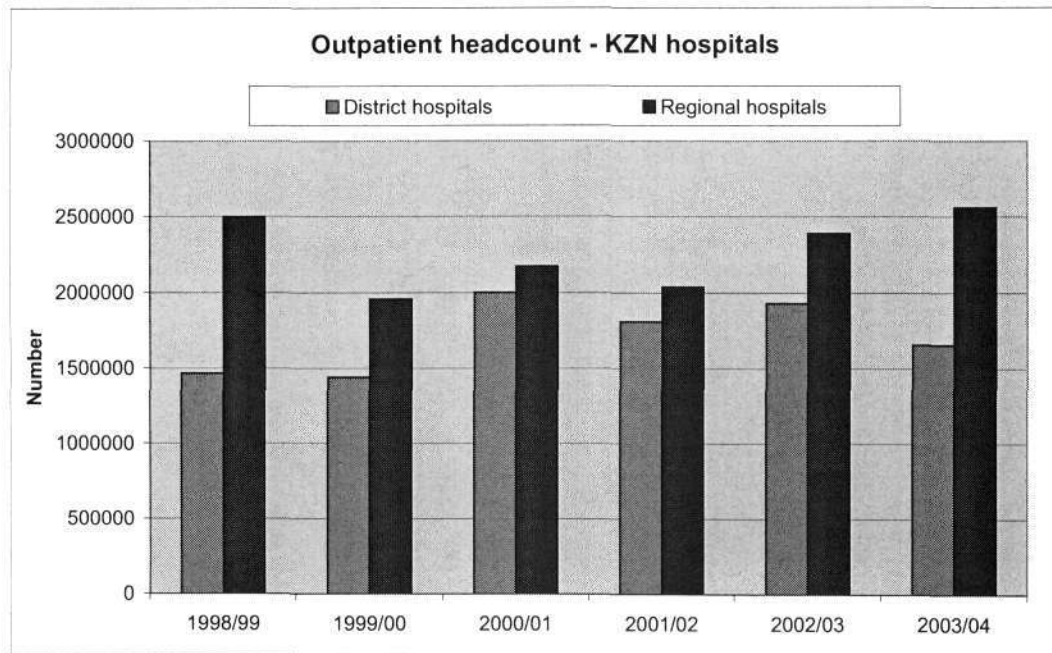


Figure 17. Outpatient headcount trends for health facilities sampled for this research (Source data: KZN Department of Health)

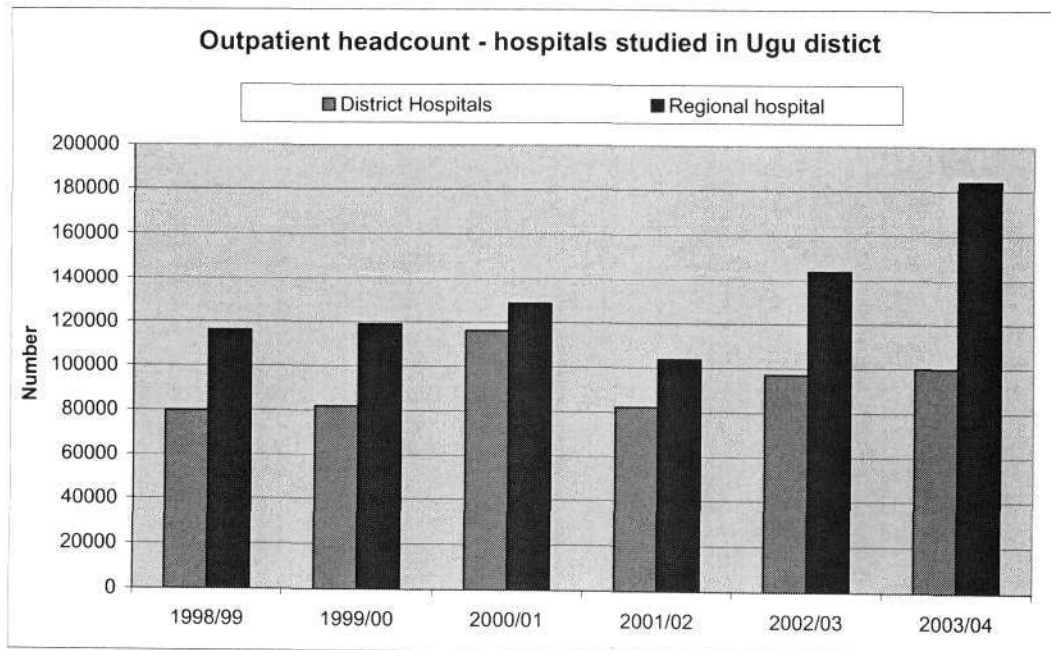


Figure 18. PHC headcount trends for health facilities in KZN (Source data: KZN Department of Health)

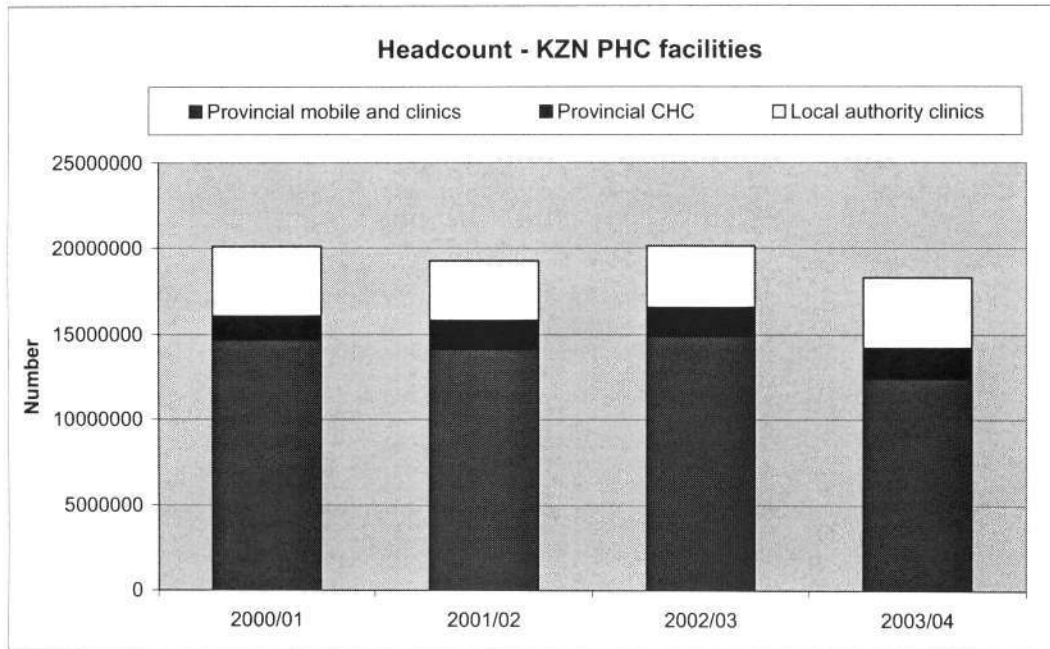
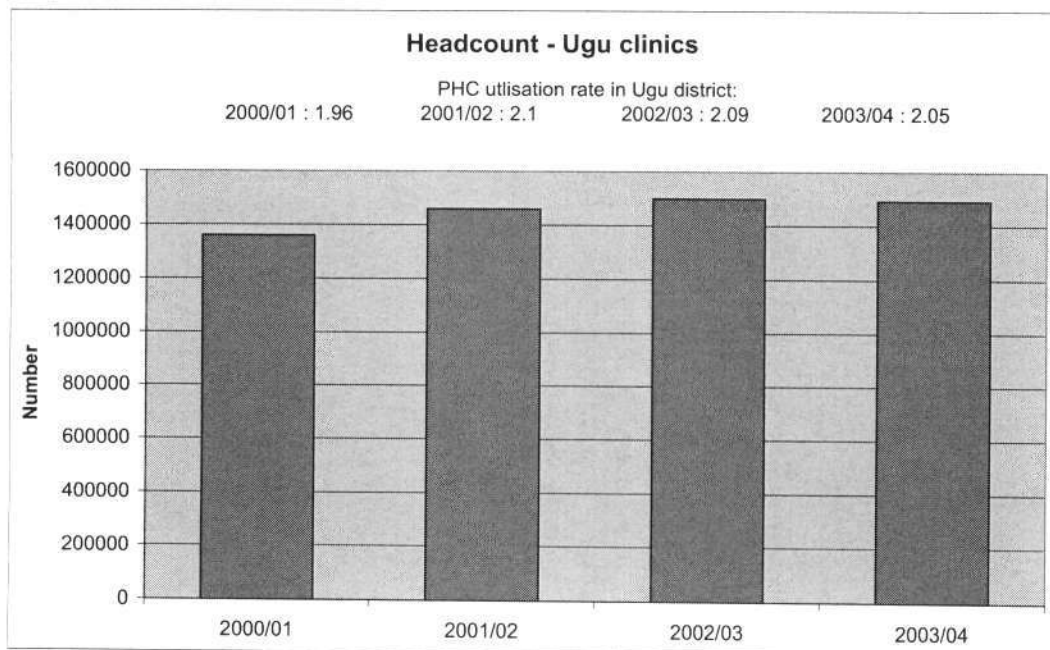


Figure 19. PHC headcount trends for health facilities sampled for this research (Source data: KZN Department of Health)



From the retrospective analysis of routinely collected health service indicators, there is no evidence to suggest that health facilities in KZN (or in Ugu district in particular) have been under strain since 1998. There has been no appreciable increase in the number of patients accessing services, except in the case of the regional hospital in Ugu district. Furthermore, all hospitals have been operating well within the limits of their capacity. This is surprising given the general discourse concerning the South African health system, which paints a very different picture. For example, the Mail and Guardian newspaper ran a series of articles in late 2006 which, through its description of conditions in a series of health facilities, depicted a health system in crisis. Other reports have described a health system that is 'under pressure' and 'overstretched' (see for example IRIN 2004a). Clearly there is a need to reconcile anecdotal evidence of conditions in health facilities with the routinely collected data presented above.

Importantly, the data presented above does not dispute anecdotal evidence suggesting that the South African health system may be in a state of crisis. This is because the data only alludes to the demands placed on health facilities, without any consideration for their capacity to deliver. If post vacancy rates are increasing, drugs aren't reaching health facilities, or infrastructure degrading, then steadily deteriorating conditions will be experienced by those working in health facilities. Some of the HIV-related HR issues are discussed in Chapter 5, however it would take a much more in-depth general investigation of health system infrastructure and support functions to fully understand the situation being described.

4.1.2 Prospective analysis

Previous studies looking at the burden of HIV/AIDS on health care facilities have examined the HIV prevalence rates in these facilities. For comparability sake, this research also looked at facility prevalence, using a combination of clinical diagnosis (based on WHO staging) and laboratory testing where available (see Table 10 and Table 11). It is true that the clinical diagnosis would miss HIV positive patients attending health facilities for problems unrelated to HIV, most likely asymptomatic and unaware of or not disclosing their status, hence giving an underestimate of the clinic or hospital prevalence

rate. However, the HIV epidemic in South Africa has reached a stage where most people with HIV/AIDS who are placing a burden on health care facilities (i.e. accessing prophylaxis or ill in wards) would have been tested, so making this a more reliable way of assessing 'burden'. Clinical features have also been shown have a fairly high positive predictive value for HIV infection; one study in Zimbabwe demonstrated this to be 97% (Chibatamoto et al. 1996), while more recently this was shown to be 85.5% in Sierra Leone (Willoughby et al. 2001).

Table 10. Trends in the proportion of medical inpatients presenting as HIV positive for facilities participating in all three phases of the research with 95% confidence intervals (proportion of medical inpatients confirmed positive with test indicated below)

Level of care	% HIV positive July-Sept 04	% HIV positive Jan-March 05	% HIV positive July- Sept 05
District Hospital	52.6% (35.8% - 69.0%) With test 26.3%	46.3% (35.0% - 57.8%) With test 23.8%	48.7% (32.4% - 65.2%) With test 20.5%
Regional Hospital (Ugu)	46.9% (36.6% - 57.3%) With test 35.6%	45.4% (36.6% - 54.3%) With test 26.2%	51.6% (41.1% - 62.0%) With test 45.3%
Regional Hospital (Dbn)	56.4% (49.3% - 63.9%) With test 23.2%	51.7% (44.7% - 58.7%) With test 25.1%	52.7% (45.5% - 59.7%) With test 30.0%

Table 11. Trends in the proportion of outpatients presenting as HIV positive for facilities participating in all three phases of the research with 95% confidence intervals (proportion of outpatients confirmed positive with test indicated below)

Level of care	% HIV positive July-Sept 04	% HIV positive Jan-March 05	% HIV positive July- Sept 05
PHC Clinics (Ugu)	20.2% (17.2% - 23.5%) With test 10.7%	10.1% (8.1% - 12.5%) With test 7.7%	11.8% (9.5% - 14.6%) With test 8.8%
District Hospital (Ugu)	24.5% (18.6% - 31.2%) With test 12.0%	19.9% (14.4% - 26.4%) With test 15.1%	15.5% (10.0% - 22.5%) With test 8.5%
Regional Hospital (Ugu)	22.3% (18.1% - 27.1%) With test 13.7%	23.4% (19.4% - 28.0%) With test 13.0%	19.8% (15.2% - 25.1%) With test 11.2%

While the prevalence of HIV infection in all health care facilities was high, it did not increase during the duration of the research. In outpatient services it even appeared to decrease, but this decline was not always statistically significant, with 95% confidence intervals for data obtained at the hospitals (both district and regional exhibiting some degree of overlap over the three phases of the research. It was only at the clinic level that the proportion of outpatients presenting as HIV positive registered a sustained decline between late 2004 and early 2005.

In all but one instance (inpatients at the regional hospital in Ugu), the absolute number of patients presenting with HIV/AIDS was also lower during the third phase of the research, when compared to the first phase. This is despite the fact that the number of people sick with AIDS was estimated to have risen by 8.5% over the same period according to the Actuarial Society of South Africa (ASSA) AIDS and demographic model (ASSA 2006). However, the number of people presenting with HIV/AIDS also varied in line with the total number of patients seen (according to the time of year and capacity of the facility), making absolute figures sometimes difficult to interpret. For example, during one visit to the district hospital in Ugu, a shortage of doctors meant that many patients could not be seen in the outpatient facility, despite waiting all day. In such instances, the absolute number of patients presenting with HIV/AIDS is not a true reflection of the demand for care. It also means that it is not meaningful to present absolute numbers without a detailed explanation of the circumstances surrounding each visit to the various health facilities.

The apparent decline in the proportion of outpatients presenting as HIV positive at clinics is attributable to two contextual factors. Firstly, during the first round of fieldwork we noted a large number of patients coming forward to request disability grants for their HIV status. Rumour had spread that a positive test result was all that was needed to access this grant and it was only later on that such misconceptions were corrected⁴. Secondly, ART was implemented in two hospitals in the region in late 2004 and this was encouraging people to come forward for testing and further management around this time. Interestingly, other routinely collected data from Ugu district also suggests a decline in the amount of effort being put into HIV diagnosis and care at clinics, which may have affected the proportion of patients presenting as HIV positive. More specifically, there was a substantial decrease in the proportion of pregnant mothers tested for HIV – from 86.2% in 2003/04 to 62.3% in 2005/06 (Barron et al. 2006). This is despite improving

⁴ The Disability Grant, according to the Social Assistance Act (2004), should be provided to those who are unable to obtain employment due to physical or mental difficulties. When HIV infected individuals acquire AIDS, this is often so. However, the criteria for providing HIV/AIDS patients a disability grant were never made clear in South Africa. At the time of this research, when ART was not widely available, biomedical criteria were based on either clinical diagnosis (WHO stage 3 or 4) or a laboratory diagnosis (CD4 count < 200) where available.

immunisation rates which suggest that PHC clinics were performing well in other respects. Unfortunately no explanation is given for this concerning trend, which clearly warrants further investigation.

Higher level services (in the form of specialist clinics) were only studied in the first phase of the research, between July-Sept 2004, with the objective of exploring whether the burden on these services was significant enough to warrant ongoing research. During this exercise, 12.1% of patients attending the non-specific (ie. not catering for any one disease) specialist medical clinic were found to be HIV positive. However, most specialist medical clinics focus on a specific set of chronic diseases unrelated to HIV/AIDS. Since these were not studied, the actual prevalence would be much lower across all specialist medical clinics. The general understanding gleaned from this was that specialist clinics 1) see a very small number of patients, and 2) were for the most part geared towards diseases that don't relate to HIV/AIDS. Hence the burden of HIV/AIDS at these clinics was negligible, in agreement with admission profiles in KZN which have demonstrated progressively lower burdens of TB and AIDS at progressively higher levels of care (KZN Department of Health 2004).

Despite the difficulty in comparing prevalence rates from this study (based partly on clinical diagnosis) with other studies (using only laboratory testing), some observations can be made. Most notably, very high prevalence rates were recorded for adult and paediatric medical inpatients (54% and 62% respectively) in a KZN hospital already in 1998 (Colvin et al. 2001; Pillay et al. 2001a). Four years later (in 2002), data collected from 4 provinces including KZN, Mpumalanga, Free State and North West, found prevalence rates of medical and paediatric inpatients to be 46.2% and of PHC outpatients to be 25.7%. The figures recorded during this research aren't any higher and have not demonstrated an observable increase during the 18 month duration of the research. Even though these different studies were not conducted in the same facilities and so can't prove trends, it is puzzling to note that they were conducted many years apart and yet came to similar conclusions. . Inpatient wards, in particular, haven't been overwhelmingly 'swamped' by the burden as many earlier reports indicated.

The notion of health facilities being ‘swamped’ is reflected in the quotes cited below, from health care workers and managers working in the field in 2001:

‘You don’t need much imagination to picture the hospitals in another six or seven years – the exponential increase [in HIV-related illness] will be huge’

‘Medical patients who don’t have HIV/AIDS are being severely compromised because we have to discharge them prematurely – everybody is being compromised – the system just can’t cope’

‘Nobody seems to be planning for the AIDS epidemic which hasn’t hit us yet. In five years time this place will collapse – it’s crumbling as we speak. It’s a catastrophe waiting to happen’
(Bateman 2001: 364,367)

It would seem that many of these concerns voiced in 2001 have not actually played themselves out, begging the question ‘why?’ Are we always looking for the bad news to report on? Is this why the discourse surrounding the South African health system has been so negative?

To refine my analysis even further and focus more specifically on the burden of HIV-related illness, I performed a ‘burden of disease’ analysis in addition to simply looking at prevalence rates. This type of analysis acknowledges that rising HIV prevalence rates are being experienced alongside other changes in the disease burden, and so HIV/AIDS has to be analysed in this context. As alluded to previously (in Chapter 3), it looks at the whole spectrum of diseases presenting at health facilities over time by considering the primary, or first recorded, diagnosis of each patient presenting for care (see Figure 20 and Figure 21). It excludes those patients presenting with injuries and so for outpatients in particular is based on a somewhat smaller sample than the analysis of HIV prevalence rates above. The basic grouping of diagnoses follows that used in Burden of Disease studies, based on the International Classification of Diseases No 10 (Murray et al. 2001). Patients presenting with an opportunistic infection and HIV positive according to clinical and/or laboratory diagnosis, were allocated to the category of ‘HIV/AIDS’. This method of analysis therefore doesn’t include known HIV/AIDS patients who are presenting for an unrelated concern in the assessment of the HIV/AIDS ‘burden’.

Figure 20. Trends in the burden of disease presenting at a sample of medical inpatient services in Ugu district and the referral hospital in Durban

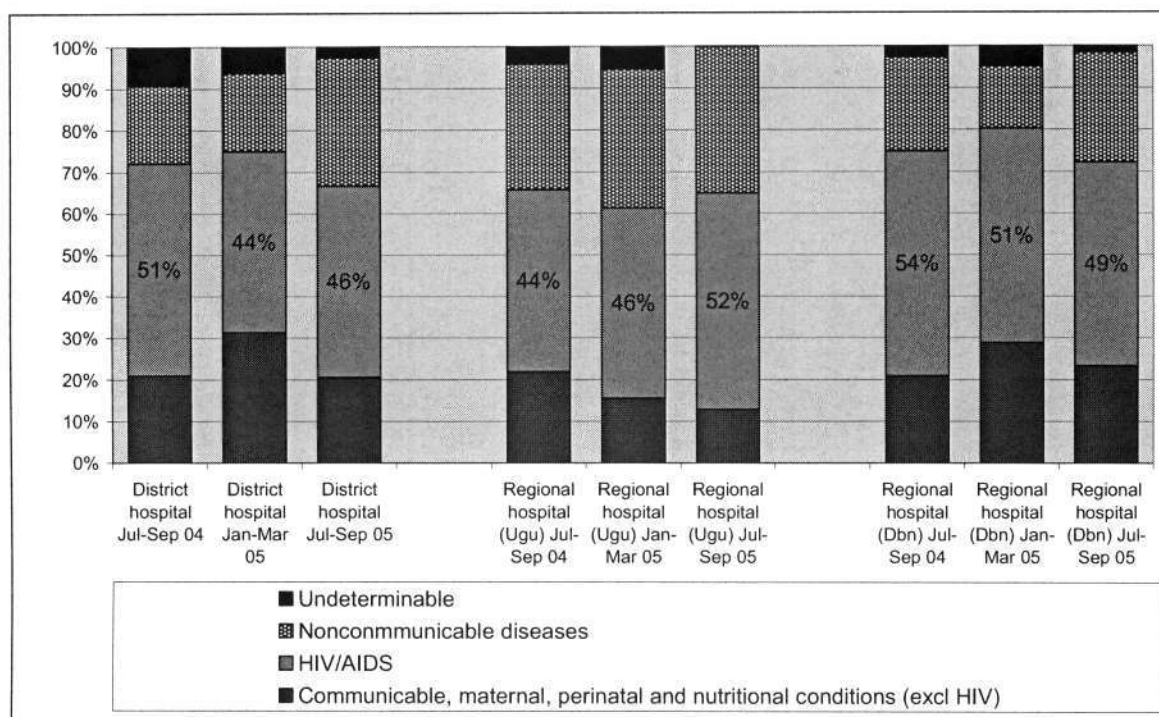
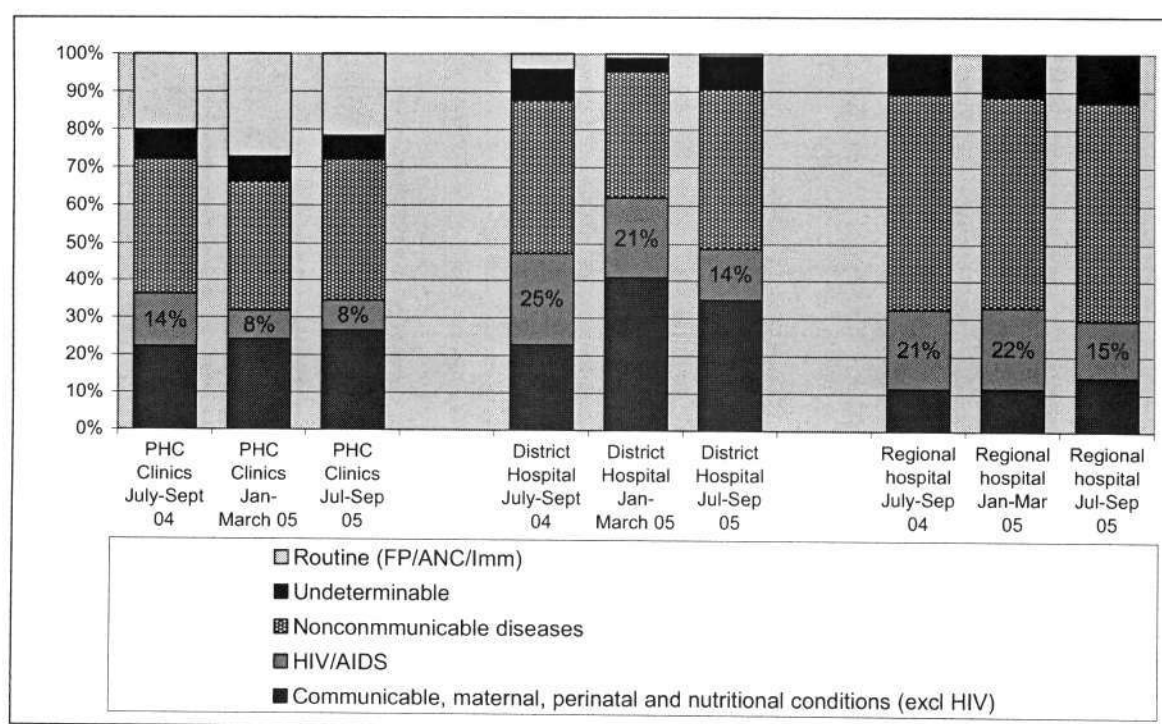


Figure 21. Trends in the burden of disease presenting at a sample of outpatient services in Ugu district



The burden of disease analysis also did not suggest an expanding burden of HIV-related illness, as one would have expected with a growing number of AIDS cases. The proportion of HIV-related illness did exhibit some expected variation, but did not increase incrementally at any of the facilities during the duration of the study. Without looking specifically at trends, the data suggested that the most obvious distinction in disease profiles occurred between inpatient and outpatient services. A large proportion of patients attending outpatient services sought care for chronic illnesses whereas at clinics a significant number of patients presented for routine preventative services (such as family planning, immunisation etc). In contrast, medical inpatient services were dealing with a much higher burden of HIV/AIDS. Other minor distinctions arose from the location of health facilities, with those located in an 'urban formal' environment having a higher burden of chronic diseases and those in an 'urban informal' environment a higher burden of communicable diseases.

In general, the 'quadruple burden of disease' demonstrated in mortality data (Bradshaw et al. 2003; Bradshaw et al. 2004) was evident in this research as well. The indication was that, *if* care is being rationed by the burden of HIV-related illness, then this is most likely being rationed for all types of patients, discrediting claims of AIDS exceptionalism. Earlier research in KZN reported a different pattern of rationing, with reports that non-HIV/AIDS patients were increasingly more likely to have their acute conditions stabilised on an outpatient basis (Jinabhai et al. 2002). These patients were given advice to facilitate self-care and encouraged to seek help elsewhere if they could afford it. In contrast, trends in my data suggest that this is no longer a concern in Ugu district, since health facilities have not experienced the anticipated increases in HIV-related illness and health service utilisation indicators have remained at stable levels.

Other studies in Africa have looked at inpatient mortality to determine if care for non-HIV/AIDS patients was being rationed. If mortality amongst these patients is higher than expected, then one could suspect that they might be accessing care late and not being managed optimally. A Gauteng study of four hospitals found that in two of them there was only small difference in the mortality rates between HIV/AIDS patients and non-HIV/AIDS patients, with all rates between 20 and 27%(Schneider et al. 2005a). In my

research, mortality in district facilities in particular was much higher amongst HIV/AIDS patients, with other types of patients experiencing acceptable levels of mortality (see Table 12). The situation was only markedly different in the city hospital, leading us to question whether it is not hospitals in certain geographical areas (particularly urban informal areas) that are coping with overcrowding by limiting admissions. This is because it was also the one hospital which had experienced a notable increase in admissions (as documented above in the retrospective analysis).

Table 12. Inpatient mortality rate for patients with HIV-related illness and patients with other types of illness with 95% confidence intervals (data taken from the third phase of the research, July-Sept 05)

Hospital	Mortality rate HIV-related illness	Mortality rate non HIV-related illness
District hospitals (Ugu)	32.9% (25.4% - 41.0%)	6.6% (3.0% - 12.1%)
Regional hospital (Ugu)	20.9% (10.0% - 36.0%)	9.5% (2.7% - 22.6%)
Regional hospital (Dbn)	25.0% (16.6% - 35.1%)	16.2% (8.7% - 26.6%)

In summary, health facility utilisation trends in Ugu district suggest that not all HIV/AIDS patients requiring care were accessing it and discussions with health providers supplemented these insights. In this research I listened to many health care workers describe the difficulties their patients faced in funding travel for the long distances to clinics and hospitals. Doctors told of their dilemmas in determining 'appropriate' care, in particular the sad reality that there was often little they could do for terminally ill patients and how this had led to the establishment of 'step down' care wards or facilities. Essentially, resources in both the health system and communities are not infinite, terminal care in facilities is not always culturally appropriate and, until the ART programme scales up significantly, medical care for infected individuals remains limited.

The reasons cited in my research as to why HIV/AIDS patients might not be accessing appropriate care and the responses of both communities and health care workers, I believe, tell the story of rationing as an organic process of slow adaptation (Oppenheimer et al. 2004). Communities and health care workers have over time come to realise what type of care is both accessible and appropriate. Sadly, this process is one which is also

likely to leave an increasing number of AIDS patients and their caregivers unsupported in the community. If the health system is going to address this concern, it needs to take a new look at different models of care and find ways of maintaining and strengthening the link with communities.

Since the completion of this research, the ART programme has continued to expand, increasing the promise of medical care to people with AIDS. Most notably, there are expectations that attitudes, held by both communities and health care workers, towards HIV management will change as the programme becomes more accessible. The belief that health services have little to offer will hopefully not be a determining factor in patient's efforts to access care. Already during the last phase of this research I received reports from a rural clinic that three patients from the area had been put on treatment and that their improved health status was acting as an incentive for other HIV positive individuals to come forward for care. However, concerns about other barriers, in particular the direct and indirect costs of accessing care, remain, and are supported by early qualitative work in KZN which has looked more specifically at community participation in the ART programme (Padarath et al. 2006).

4.2 Potentially higher resource utilisation associated with providing HIV-related care, with district health services becoming most affected

It is important to look at the costs of providing HIV-related care in addition to just HIV prevalence rates, since HIV/AIDS is potentially complex to manage, placing a large economic burden on the health sector. In particular, district health services might bear the greatest proportion of this burden, since this is the first place people access care and the most appropriate level of care for most HIV-related illness. These services have also been the focus of efforts to strengthen the South African health system. If the economic burden of HIV/AIDS on these services is not quantified, then financial resources may become insufficient to maintain or improve these services over time, leading to gradual erosion in the quality of care.

Financial resources are, however, just one concern, since the availability of human resources to provide appropriate care is also essential for maintaining health care services. HIV-related illness can be more complex and therefore also more time consuming to manage, when compared to other types of illnesses. Although only quantitatively assessed through the recording of outpatient consultation times, health care workers and managers did provide some additional insights as to how HIV/AIDS management was impacting on human resource requirements. These insights have been included where appropriate.

In this research, the burden of costs for various illnesses was assessed at various levels of care by looking at selected cost categories including:

1. Drug costs
2. Laboratory test costs
3. Radiological investigation costs (none being incurred at clinic level)

Since facility costs are equally apportioned across all patients, it is these direct patient care costs that are the cost drivers. For inpatient stays there are a number of other costs which can become significant, such as intravenous fluids or blood products. However, accurately costing these can be very difficult and so was not done for this research. Yet in a recent costing study at the Chris Hani Baragwaneth Hospital in Gauteng, more was spent on intravenous fluids for patients with HIV-related illness. These fluids accounted for 16% of the total drug costs (Thomas et al. 2006).

For all inpatient facilities included in the research, there were instances of statistically significant ($p < 0.05$) differences between the costs for the treatment of HIV-related illness and that of other illness (see Table 13), but these were the exception rather than the norm. Although the data presented is from the last phase of the research, between July- Sept 2005, this finding was consistent for all phases of the research. It is possible that statistically significant differences may have been difficult to establish because of the relatively small sample sizes.

Table 13. Average cost of drugs, laboratory investigations and radiology investigations for inpatient care (data taken from the third phase of the research, July-Sept 05)

	District Hospitals (Ugu) (n=196)	Regional Hospital (Ugu) (n=95)	Regional Hospital (Dbn) (n=203)
Drug costs (total length of stay)			
Non-HIV	p=0.21 R 127.70	p=0.77 R 184.74	p<0.01 R 340.07
HIV	R 125.02	R 149.55	R 537.60
Laboratory costs (total length of stay)			
Non-HIV	p=0.19 R 138.57	p=0.39 R 297.23	p=0.28 R 387.66
HIV	R 121.99	R 369.29	R 447.80
Radiology costs (total length of stay)			
Non-HIV	p=0.32 R 361.95	p=0.24 R 569.12	p=0.63 R 521.68
HIV	R 203.61	R 381.80	R 683.61

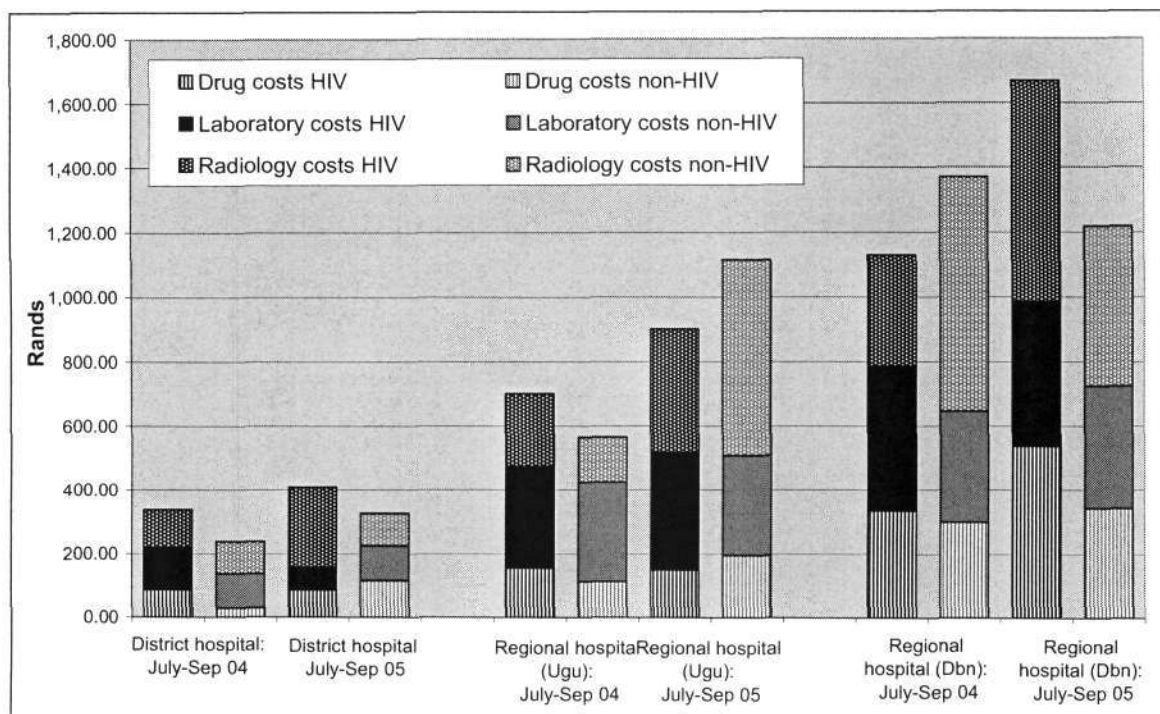
In many cases, patients admitted for HIV-related illness were found to stay longer in the wards when compared to patients admitted for other illnesses (see Table 14). This is in agreement with a number of other recent South African studies (Shisana et al. 2003; Schneider et al. 2005b; Thomas et al. 2006). Health care workers also noted that many HIV/AIDS patients were bedridden, and that it was very time consuming caring for patients who could not use the toilet, cleanse themselves or feed themselves. So even though the ward was not necessarily full, staff shortages often felt much more acute because of the higher demands on human resources. The high mortality rates recorded for HIV/AIDS patients give some indication as to just how ill many of these patients were.

Table 14. Average length of stay for inpatient care (data taken from the third phase of the research, July-Sept 05)

	District Hospitals (Ugu) (n=196)	Regional Hospital (Ugu) (n=95)	Regional Hospital (Dbn) (n=203)
Average length of stay			
Non-HIV	P<0.05 20.1 days	p=0.48 9.5 days	p<0.01 15.6 days
HIV	25.3 days	14.8 days	23.0 days

For a smaller sample of inpatient facilities, the average costs of inpatient care were tracked from the first phase of the research through to the third phase of the research (see Figure 22). In most cases, there was a steady increase in costs, with HIV-related care more costly than care for other types of illnesses. However, this was not always the case and the costs of radiology investigations often varied tremendously, because of a small number of patients undergoing very expensive investigations. There was also a clear difference between the costs of care at various levels of the system, despite the observation that regional hospitals do not only receive referral cases, but also function largely as a district hospital for patients from the surrounding area. This pointed to the need to focus on efficiencies in the system, since HIV/AIDS patients can in theory largely be managed by first level hospitals where care is cheaper.

Figure 22. Trends in average cost for HIV and non-HIV related inpatient care at different levels of the system (for a sample of inpatient facilities)



In summary, the direct inpatient care costs for HIV-related illness were not obviously more expensive than care for other types of illnesses. In most cases, the proportion of resources spent on such care approximated the estimated HIV prevalence in the facility. However, there were some cases where HIV-related care consumed in excess of 60% of direct patient care resources, even where the prevalence rates were closer to 50%.

In outpatient facilities, there were more statistically significant ($p < 0.05$) differences between the costs for the treatment of HIV-related illness and that of other illness (see Table 15). Although the data presented was collected in the last phase of the research, between July-Sept 2005, the difference in costs for outpatients care was pronounced in all phases of the research.

Table 15. Average cost of drugs and laboratory investigations for outpatient care (data taken from the third phase of the research, July-Sept 05)

	PHC Clinics (Ugu) (n=1047)	District Hospitals (Ugu) (n=312)	Regional Hospital (Ugu) (n=268)
Drug costs			
Non-HIV	p<0.01 R10.10	p=0.12 R19.00	p=0.48 R33.66
HIV	R13.55	R21.59	R30.79
Laboratory costs			
Non-HIV	p=0.06 R2.02	p<0.01 R6.60	p=0.13 R16.85
HIV	R11.23	R28.76	R21.98

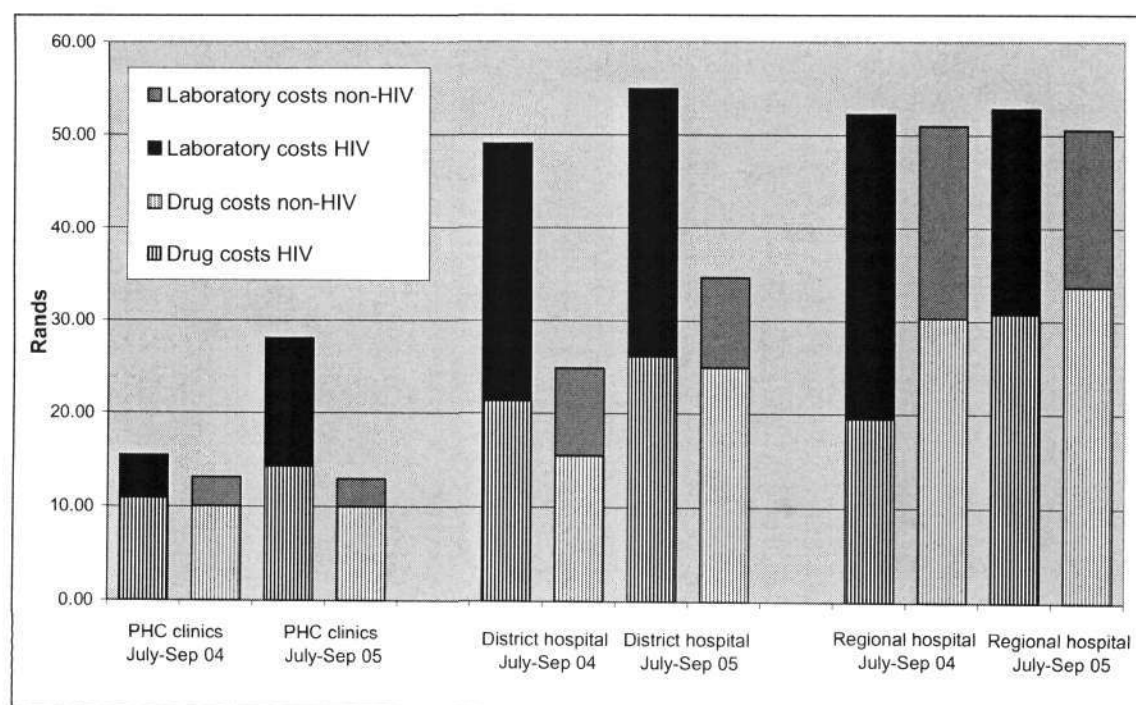
In many cases during the course of the research, outpatient consultation times were significantly longer for HIV/AIDS patients than for other types of patients. By the final phase of the study, this difference had become marked at clinics, but less noticeable at hospital level (see Table 16). Clinic sisters explained to us how sometimes it took an hour to do a dry blood spot Polymerase Chain Reaction (PCR) test for a child on the PMTCT programme, and how they felt they never had enough time to counsel patients thoroughly enough. Essentially the range of HIV-related interventions included in the basic package of care offered by clinics expanded noticeably during the course of the study, so placing significant demands on nursing sisters working in busy clinics.

Table 16. Average consultation times for outpatient care (data taken from the third phase of the research, July-Sept 05)

	PHC Clinics (Ugu) (n=1047)	District Hospitals (Ugu) (n=312)	Regional Hospital (Ugu) (n=268)
Consultation times			
Non-HIV	p<0.01 6.4 min	p=0.06 5.7 min	p=0.97 9.6 min
HIV	11.4 min	6.4 min	9.3 min

As in the case of inpatients, outpatient costs were tracked from the first phase of the research through to the third and final phase of the research in a sample group of outpatient facilities (see Figure 23). In all cases, the total direct treatment costs for HIV-related illness were higher than for non HIV-related illness. At the clinic level costs were comparable in first phase of the research. By the third phase clinics had expanded their services for HIV/AIDS patients to include CD4 testing, preparation for ART, and PCR testing, as described above. The introduction of more advanced services meant that costs of treatment were much greater. The trend of increasing demands on clinic services seems likely to continue, with ongoing expansion in the role of clinics in the ART programme, indicating a need to provide greater support at this level.

Figure 23. Trends in average cost for HIV and non-HIV related outpatient care at different levels of the system (for a sample of outpatient facilities)



As a result of the higher average costs of treating HIV-related illness, the proportion of direct costs attributable to HIV-related care was in all cases larger than the proportion of patients presenting as HIV positive. These differences were most pronounced at the level of clinics and at the district hospital. For example, in the last phase of the research it was estimated that 23% of direct patient care resources at clinics were spent on HIV-related illness, when these patients only accounted for 12% of the total number seen.

On occasion, making sense of the costing results from this research and those of previous studies has been difficult. This is because the costs of treatment vary according to a whole host of factors, which differ between individual health facilities, levels of care, and sometimes even according to particular clinicians. These factors are not only determinants for costs, but also for human resource and infrastructure requirements.

According to the findings of this research, these variables include:

- Availability of inputs to care, such as drugs and investigations (limited at PHC clinics, although this is changing)
- Rationing by health care providers (sometimes noted where terminally ill patients were not referred for expensive radiological investigations)
- Rationing by users (there was a relatively small proportion of HIV/AIDS patients that were in WHO Stage 3 or 4 presenting for care, suggesting that the more ill individuals may have difficulty accessing care)
- Clinical staging and nature of treatment (ie. prophylactic or curative)
- Level of care (regional hospital more expensive than district hospital, particularly for inpatients)
- Disease profile of hospital catchment population (multiple chronic diseases were also found to be expensive to manage, with hospitals in urban formal settings seeing a greater proportion of these)

These factors help to explain not only many of the costing differences between facilities participating in this research, but also some of the apparently conflicting results of previous costing studies (see for example Hassig et al. 1990; Hansen et al. 2000; Guinness et al. 2002).

Despite the many factors that could influence the financial and human resource requirements experienced at different levels of care, this research demonstrated that district level services were struggling most with the resource demands of managing HIV/AIDS. This was most marked for outpatient care, where the complicated nature of the illness was requiring significantly longer consultation times and incurring greater costs when compared to the management of other types of illness. Furthermore, this is a trend which will almost certainly become exacerbated over time. During the course of this research, the management of HIV/AIDS was being decentralised as far as possible to clinic level, although this was still limited and only included HIV testing, CD4 count testing and pre-treatment counselling. In other areas in South Africa, patients initiated and stable on ART were already being down-referred to PHC clinics, with this strategy touted as one of the only ways to reduce congestion in hospital-based programmes and increase enrolment in the long run (Macharia et al. 2006). The ultimate goal is to initiate treatment at PHC clinics, which are in a much better position to integrate prevention and treatment programmes, and HIV/AIDS programmes with other disease programmes. Therefore, as the ART programme scales up, shifts in the burden of care will ideally occur from tertiary to primary levels and from inpatient care to outpatient care. If the system is to accommodate these shifts, then resources have to be redistributed accordingly.

In terms of funding, PHC has been given some level of priority in the public health sector. It was identified as one of the main areas that have benefited from funding growth between 2002/03 and 2008/09, with an annual increases in real growth averaging 8.5% (Blecher et al. 2006). Furthermore, growth in clinic and community health expenditure was said to be particularly strong over this period. But have these increases been realised across the country and have they been sufficient to absorb the shift in the burden of care? To test whether there had been any redistribution of resources from hospital services (particularly regional hospitals) to PHC clinics, I looked historically at expenditure at different level health facilities in KZN and Ugu district (see Figure 24 and Figure 25).

In real terms there has been a comparative increase in PHC clinic expenditure and hospital expenditure across KZN (see Figure 24), with less of an increase in PHC clinic expenditure in Ugu district. At the provincial level, increases in clinic, district and regional hospital expenditure averaged 7.0%, 5.3% and 6.0% per annum respectively. In Ugu district PHC clinic expenditure increased on average only 3.0% per annum, compared to 5.3% at the district hospitals and 8.3% at the regional hospital. This is in spite of PHC services not only offering a greater number of HIV/AIDS-related interventions than previously, but also a more comprehensive package of care more generally. In the area of maternity services, for example, clinics in Ugu (and KZN in general) were increasingly being expected to perform deliveries, which entailed an after-hours on call schedule being in place. It is difficult to see how an expanded package of care can be implemented effectively without accompanying adjustments to resource distribution. Current trends suggest that these services are, in resource terms, becoming more stressed over time. The concern is that this stress might translate into rationing if left unaddressed.

Figure 24. Real expenditure on health care facilities of different levels in KZN
 Note: calculated with 2005 as the base year, using CPIX from South African National Treasury.

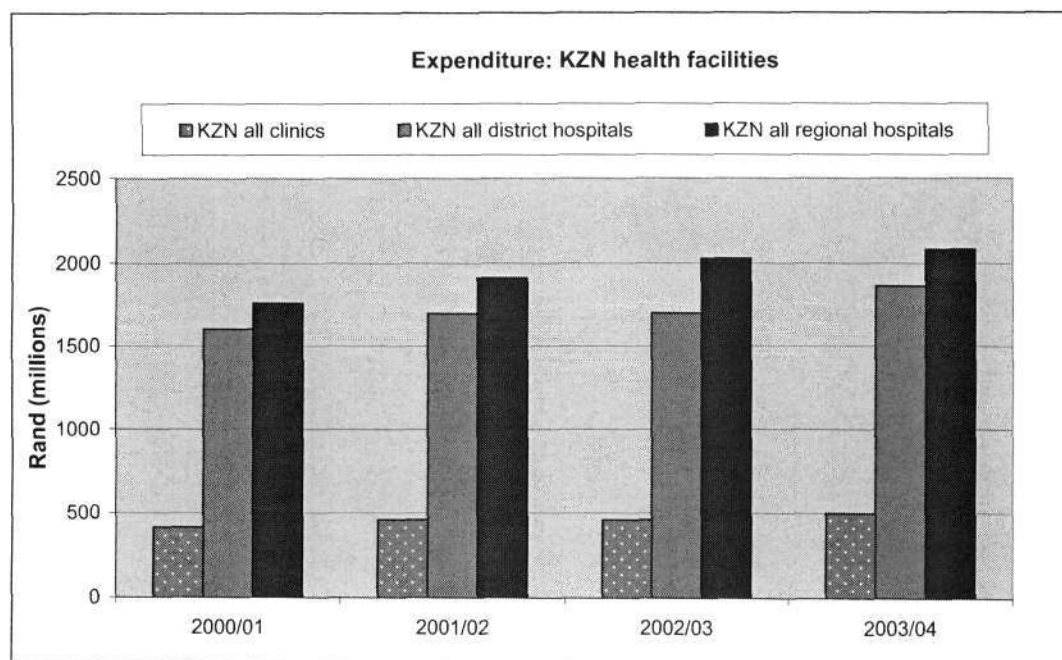
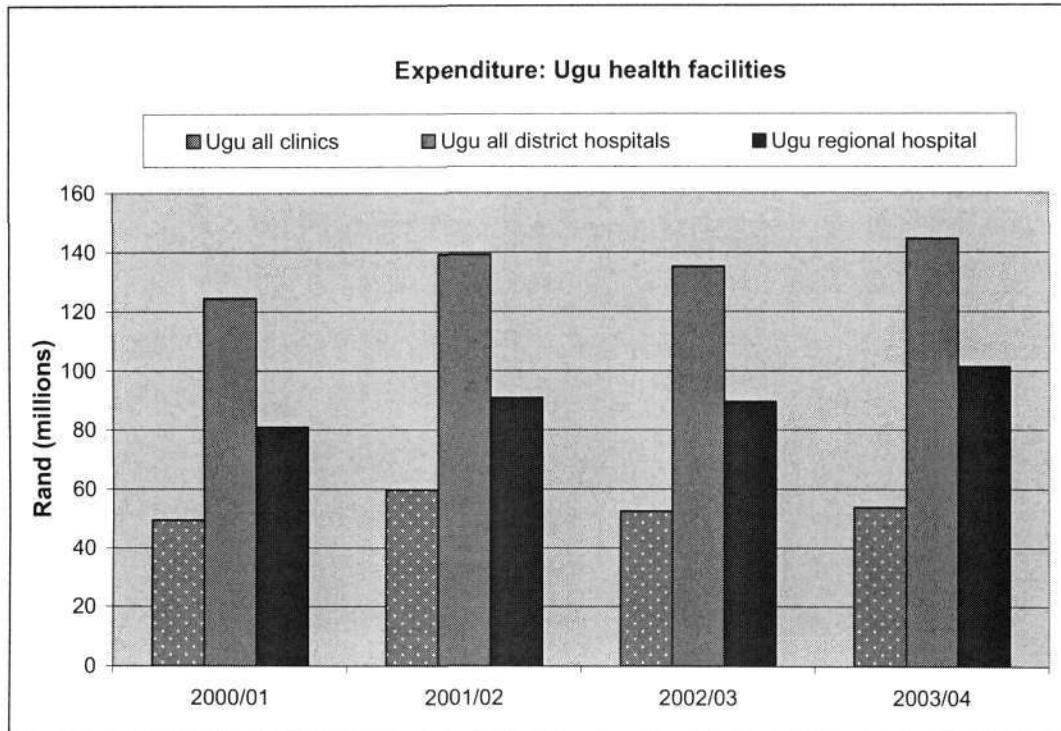


Figure 25. Real expenditure on health care facilities of different levels in Ugu district specifically

Note: calculated with 2005 as the base year, using CPIX from South African National Treasury.



4.3 Conclusions

The utilisation of health care services for the management of HIV-related illness and the resource demands arising from this have given some indication as to how HIV/AIDS has complicated the provision of health care in South Africa, and where extra support should have been provided to respond appropriately to the changing context. In keeping with the intention of the policy analysis component of this research to assess the extent to which health policy has been sensitive to the impacts of HIV/AIDS, a few policy implications of the research findings are drawn out briefly here. Two implications stand out most strongly: the importance of focussing on the needs of district health services, and the importance of maintaining and improving access to health care services, particularly for the poor and vulnerable.

During the course of this research, a greater selection of HIV-related interventions was incorporated into the package of care offered at clinics, so supporting the conventional wisdom that HIV/AIDS is most appropriately managed at the district level. This was a positive development, but one which should have been accompanied by some consideration for the human and financial resources required to offer a more comprehensive service. Hospitals and clinics required to continuously do more with less money and fewer staff will ultimately falter and services will become unsustainable. In the context of HIV/AIDS, the balance of funding between tertiary and primary care services (which has historically been a problem in South Africa) should have been reviewed. Similarly, there has been an ongoing need to reconsider the human resource needs of district health services.

My research looked at utilisation patterns in health care facilities, which only narrowly defined the demand for care, as it did not extract any information about people in communities who were not managing to reach facilities. Nevertheless, utilisation patterns and other epidemiological data suggested that although the burden of HIV/AIDS in health care facilities was found to be high, it was not as high as we might have expected, given the stage of the epidemic that we are in. Household studies in South Africa (summarised in Chapter 2) have demonstrated the economic difficulties HIV-affected households face due to health care needs, and this adds to the concern that access to care may have been becoming more difficult for HIV/AIDS patients. In the context of the epidemic, more emphasis could therefore have been placed on people's ability to reach health care when they need it. This could have been done by, for example: focusing attention on the community health worker programme, increasing doctor visits to clinics, and improving ambulance services to rural areas – all which were found to be problematic during the course of my research. In addition, every effort should have been made to optimise each and every interaction that individuals might have had with the health care system, by providing integrated care.

CHAPTER 5: IMPACT OF HIV/AIDS ON HEALTH CARE WORKERS (SUPPLY SIDE)

In the past, research on the impact of HIV/AIDS on health care workers has generally only assessed one or two dimensions of the problem. This thesis, through its longitudinal study design and fieldwork conducted at many levels of the system, attempts to understand the situation more comprehensively. In particular, in addition to simply trying to understand absenteeism and attrition patterns, I look at ways in which health care workers might be susceptible to infection or vulnerable to the other impacts of the epidemic. It assesses how HR managers deal with HIV/AIDS issues at a facility level and whether management practices themselves might also be contributing to the crisis. HR issues are given their own chapter in acknowledgement of their importance and in order to do justice to the numerous dimensions of the problem.

Most attention has been concentrated on human resource concerns at the service delivery level, although the erosion of management capacity can be similarly damaging to a health system. However, this chapter focuses on health care workers, simply because this is where concerns were found to lie during my research. District and provincial manager's overwhelming concern was in trying to recruit doctors and nurses to staff health facilities. Management posts, they claimed, were generally fairly easy to fill. Whether people actually occupying positions in management had the required skills, is something that was not investigated in depth in this research, but which would be relevant for health system development.

The shortage of health workers in sSA, is currently receiving a lot of attention, but is not a new phenomenon. An understanding of the roots of this crisis helps to put it into perspective (McCoy 2007). In many African countries the health worker shortages started with the economic shocks that came in the late 1970s and early 1980s and resulted in subsequent socio-economic under-development. Structural adjustment programmes and associated limits in public spending resulted in a fall in salary levels and more difficult working conditions. The demoralisation of health workers was accompanied by concerns of deskilling, as SPHC was implemented through multiple, vertical programmes.

Given the origins of the health workforce crisis in many countries in sSA, it is not surprising that South Africa (a middle income country that was for many years isolated from global forces by apartheid policies) is, relatively speaking, fairly well off. According to the 2006 World Health Report (WHO 2006b), South Africa is a country *without* a critical shortage of health service providers. However, health worker densities can be misleading (and so are not presented here), because of the large number of health professionals working in the private sector in South Africa. A look at post vacancy rates may therefore be more revealing.

In South Africa and KZN, post vacancy rates in the public sector are high, although not nearly as high as in some of the lower income countries in sSA. Data from the personnel database used nationally by the Department of Health (PERSAL) has indicated vacancy rates among health professional's posts in KZN to have been 34.2% in 2001, 35.6% in 2002, 24.5% in 2003 and 29.6% in 2005 (Day et al. 2005). While these figures might seem to have registered an improvement between 2001/02 and 2003, the number of public sector posts was reduced during this time from efforts to clean up the data and remove non-functioning posts (Padarath et al. 2004). Hence the situation may in fact have been getting worse over the last few years. A country like Malawi, in comparison, has a nurse vacancy rate of 60%, with other cadres of health professionals having vacancy rates of between 26% and 87% (Malawi Ministry of Health 2006).

Currently in South Africa and in KZN, health care worker vacancy rates clearly do limit the capacity of the system to provide health care to a significant degree. The managers I spoke to emphasised that the problem of staffing hospitals and clinics is not one of funding additional posts, but of filling existing posts. They claimed that the number of posts in their district could be increased fairly easily through a simple process of motivation, but their efforts to recruit and retain health workers were being thwarted. This they attributed to a series of current concerns, including: a limited number of health care workers being trained, inadequate recruitment procedures, poor HR management impacting on retention, and increasing deaths among nurses and other support staff as they succumbed to HIV/AIDS.

This research sought to make sense of some of these HR issues as they relate to HIV/AIDS. Four themes emerged under the banner of 'worsening human resource capacity constraints'. These themes relate to the various ways in which HIV/AIDS impacts on health care workers and the role that HR management plays in alleviating or exacerbating such impacts. The chapter is organised according to the themes:

1. HIV/AIDS susceptibility and vulnerability amongst health care workers
2. Increasing absenteeism and attrition as a direct result of the HIV/AIDS epidemic
3. HIV/AIDS exacerbating a range of 'push' factors
4. The significance of poor HR management

5.1 HIV/AIDS susceptibility and vulnerability amongst health care workers

The concepts of susceptibility and vulnerability in many ways form the basis for understanding HIV/AIDS risk in a population group, hence also providing necessary information for mitigation planning. *Susceptibility* looks at predisposition to virus transmission, by examining factors which determine the rate at which the epidemic is propagated. *Vulnerability*, on the other hand, considers whether the defined population (in this case health care workers) is more or less likely to experience negative impacts associated with excess morbidity and mortality (Barnett et al. 2002). Both susceptibility and vulnerability can be actively managed to limit the risk of infection and to mitigate against impact.

Health workers are susceptible to HIV infection both from occupational exposure to HIV and from working conditions that may predispose them to HIV infection in their personal lives. The latter concern has received no attention in the developed world, where epidemics tend to be concentrated amongst Men who have Sex with Men (MSM) and Injecting Drug Users (IDU). In more developed countries, effort went early on into establishing on the risk of occupational exposure to health care workers, which was estimated to average <0.5% following a percutaneous injury (see for example Bell 1997; Ippolito et al. 1999). At a population level, the likelihood of occupational exposure is much higher in developing countries in sSA, because of higher prevalence of infection

amongst patients, the incidence of percutaneous exposure, and the chance of transmission following occupational exposure (Gumodoka et al. 1997). An annual occupational risk of 0.27% was calculated for health care workers in Tanzania, when factoring in these variables. Where health systems are weak and resources are scarce, protecting health workers holds many challenges (Sagoe-Moses et al. 2001).

Despite the increased risk of occupational exposure to health workers working in high prevalence settings with limited protection, this risk is insignificant compared with the risks of sexual transmission. Research in KZN has demonstrated that hospital nurses perceive HIV/AIDS primarily as a sexually transmitted, not occupationally acquired, disease (Zelnick et al. 2005). Furthermore, the concerns of high HIV prevalence rates among health care workers in sSA have generally assumed negligible attribution to occupational exposure (Tawfik et al. 2001; Kiragu et al. 2007). My interactions with health care workers, and in particular nurses, confirmed such sentiments. Discussions around susceptibility therefore centre largely around a neglected issue – the working conditions which might contribute towards sexual transmission amongst health care workers. The focus is on nurses, simply because they comprise the majority of health care workers and because there seems to be a big difference between doctors and nurses, when considering issues of both sexual and occupational transmission (Kiragu et al. 2007).

This research found that health care workers should be considered a group of people susceptible to HIV infection due to their working conditions, but that this was never acknowledged by managers and has been infrequently documented in the literature. At most of the rural clinics I visited, as well as at many of the district hospitals, a large proportion of staff were living and working away from their families. The accommodation provided for nurses and young doctors did not allow for any partners, husbands or family members. Not only did staff spend their weeks away from home working, but they also found it difficult to travel home on the weekends due to work commitments and limited transport options. In particular, the extension of clinic hours and the increasingly higher levels of training required by the government were found to

be placing huge demands on rural staff. One clinic sister related to me how she was on call every second weekend and then had to attend training once a month in another town, in order to upgrade her qualifications. She only managed to spend one weekend a month with her husband and children, even though distance-wise her home was not that far away.

Therefore, health care workers are a mobile workforce which increases their susceptibility to becoming infected with HIV. Research looking at migration and HIV transmission in South Africa and KZN has clearly demonstrated the risks associated with working away from home (Lurie et al. 2003). However, this research has generally focussed on men as the mobile partners, where in the case of health care workers it is frequently the women. In Cameroon, patterns of infection among mobile and non-mobile women were not as conclusive as those amongst men (Lydie et al. 2004). Since we can't compare contexts, it is difficult to know how health worker's work situation may affect their chances of becoming infected. Nonetheless, this issue should be taken seriously until conclusive research indicates otherwise.

Health care workers are often thought to be less susceptible and vulnerable to HIV, because of their knowledge about protection against the virus, healthy living and treatment. Such knowledge may indeed offer some benefits, but does not necessarily mitigate the structural risk factors present in high prevalence communities. Health care workers (and particularly nurses) in this research felt that they were as much part of the community they were working in as people in other professions. They had friends and family being admitted to hospital and dying and if they were positive themselves, they faced the same stigma and discrimination, even from their co-workers. Interestingly, unlike the nurses, the doctors felt more able to distance themselves from the issues.

The stigma surrounding HIV/AIDS and the difficulties health care workers have in testing and disclosing, if they are infected, were starkly illustrated by the number of staff coming forward for Post Exposure Prophylaxis (PEP)⁵ following needlestick injury. At all hospitals those in charge of occupational health felt this to be underreported, since staff were scared to be tested and made aware of their status, fearing that they had been infected through sexual transmission. Despite the availability of ART, staff still viewed HIV/AIDS as a death sentence. For example, the occupational health and safety officer in one district hospital with a staff complement of over 350 informed me that only 6 needlestick injuries were reported in 2003, and a further 5 from January 2004 until the time of the interview in September 2004. No needlestick injuries were reported from any of the clinics supervised by this hospital. Yet confidential surveys have indicated just how high the true figures may be: more than a quarter of health care workers in a selection of Gauteng health facilities reported needlestick injuries in the preceding year in response to a surveillance questionnaire (Schneider et al. 2005b).

A number of previous studies have also recorded problems with the reporting of needlestick injuries, or have commented on the extent to which health care workers are subject to the same stigma, confidentiality issues and difficulties with disclosure as the communities in which they live and work (Bateman 2003; Hakim et al. 2004; Uebel et al. 2004; Zelnick et al. 2005; Kiragu et al. 2007). These problems of stigma and confidentiality, particularly in a confined work environment, are not unique to health sector and have been noted in a diverse range of workplaces. In the private sector, for example, companies have not seen the anticipated returns on ART workplace programmes, precisely because of low VCT uptake (George 2006). However, what is surprising is that health care workers (with presumably better levels of knowledge of the benefits of treatment etc) are still unable to support their colleagues or help themselves.

⁵ PEP reduces the likelihood of becoming infected by HIV after potential exposure, such as that sustained through a needlestick injury. It involves short term ART administered as soon as possible after injury, provided that the exposed individual is HIV negative. Health workers sustaining needlestick injuries and requesting PEP therefore have to be tested for HIV. See WHO 'Post Exposure Prophylaxis' Retrieved 2007, from <http://www.who.int/hiv/topics/prophylaxis/en/>.

I feel the idea of 'double stigma' has been under-explored in the health sector, where 'double' refers to being both a health care worker and being HIV positive. This idea, although not labelled by the nurses I interviewed, was one which I encountered frequently during my interviews. Nurses in Ugu District often felt that it was precisely because of their respected standing in communities and their access to knowledge and resources that communities would think worse of them if they revealed themselves to be HIV positive. It would be said that 'they should have known better and protected themselves' and they would have much more to lose in terms of their position in society. This perception of 'double stigma' points to the need for greater support in managing the impact of HIV/AIDS on health care workers.

Lastly, looking only at concerns related to vulnerability, it became apparent that health care workers may also bear a greater burden of caregiving in the community, when compared to professional people working in other sectors. This is again because of their access to knowledge and resources, which in theory puts them in a good position to take over the care of orphans when infected family members die, or to provide home nursing. Objectively, it is very difficult to measure the extent to which this occurs and it was not within the scope my research to do so. However, this issue was alluded to in interviews during my research, has been considered in other South African studies, and has even been studied more directly in other African countries (Kiragu et al. 2004; Mukati et al. 2004; Zulu et al. 2004; HDA 2005; Schneider et al. 2005b; Tanui et al. 2006). It alerts us to the need for a different approach to managing the problem, one that acknowledges that the distinction between caregiving in a health care worker's professional and personal lives has become blurred.

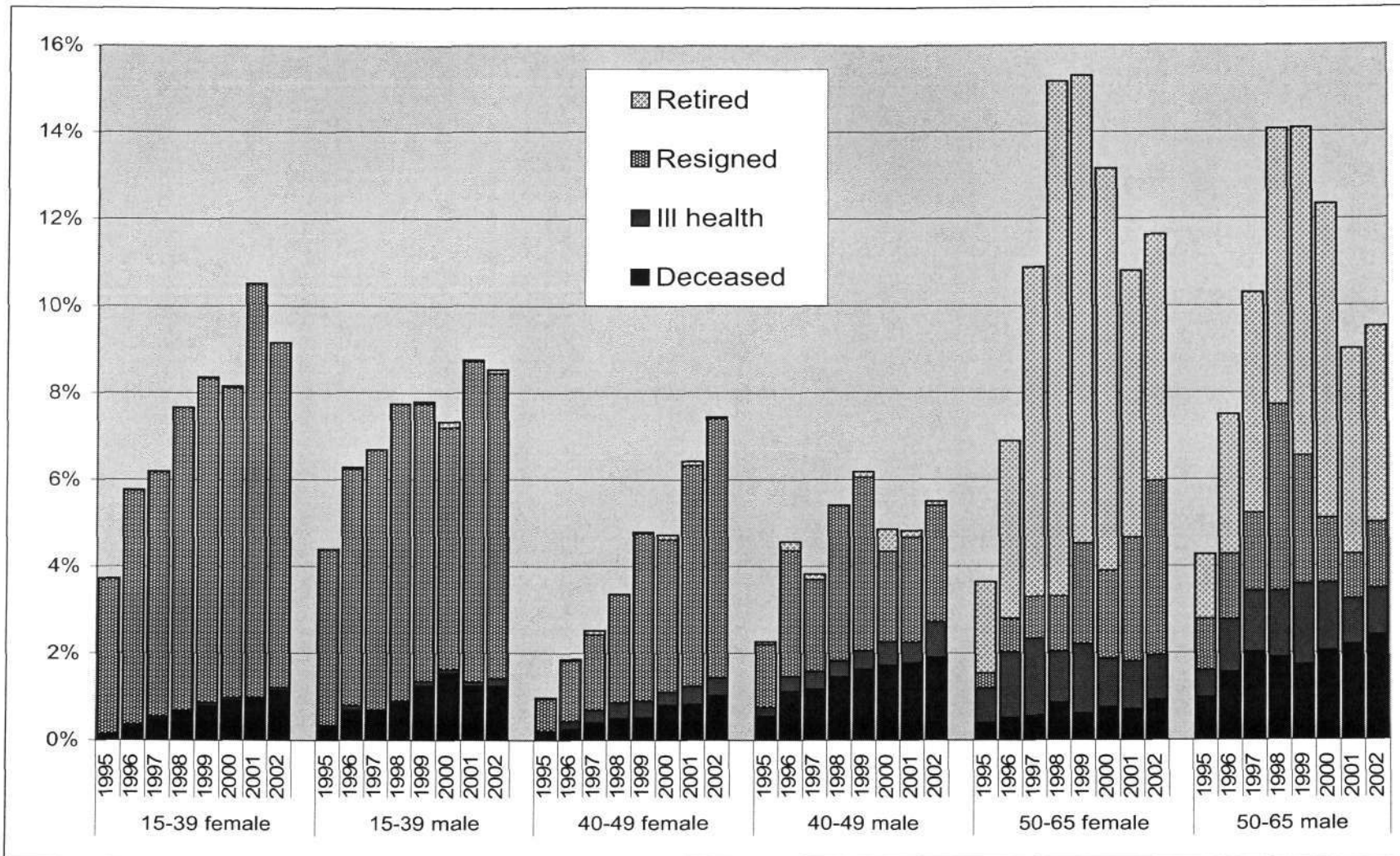
5.2 Increasing absenteeism and attrition as a direct result of the HIV/AIDS epidemic

This research set out to assess one of the most direct impacts of HIV/AIDS on health care workers that we would expect to see as the epidemic matures: morbidity and mortality as reflected in absenteeism and attrition rates. Initial attempts at collecting data were targeted at facility level, with the assumption that each health facility would keep accurate records of leave, terminations, and filled posts, which could be used to calculate annual absenteeism and attrition rates retrospectively for a period of at least 5-10 years. Data was indeed obtained from a number of facilities, but analysis of this data proved futile for a number of reasons. Firstly, the 3 to 4 years of data commonly collected was not long enough to assess trends. Secondly, only very rarely was the staff complement for any facility known for years preceding the research. For this reason the data on workers terminating service for various reasons could not be translated into an attrition rate. Thirdly, absenteeism data was found to be incomplete and again, quite useless without some dependable indication of staff complement.

The fact that human resource data at facility level was not recorded or analysed in a way that could allow quantitative analysis of trends in staff absenteeism and attrition was in itself a finding of this research and one that I will come back to later in this chapter. From my efforts in collecting data and from qualitative insights, I learnt that HR functions at a facility level revolved primarily around administrating salary payments and that this is what the PERSAL system supports. Any other management function may not be perceived as part of the HR department's scope of practise. HR managers were engaged with trying to fill posts, but were not trying to understand broader challenges to retention and productivity, or attempting to plan for them in any way. This perception has since been supported by more participative action research undertaken by the University of the Western Cape, which sought to address the problem of 'personnel administrators' who do not have the capacity, systems or incentives to aggregate data and proactively manage human resources (Mathews 2006).

In order to overcome the many difficulties with HR data at facility level, I attempted to obtain provincial level data from the PERSAL system. This again proved difficult, given that reports are not structured to access the type of data I required. While it was not possible to look at absenteeism, one data set for 1995-2003 (but with 2003 data incomplete) did allow an analysis of attrition for provincial Department of Health employees, grouped by age and gender (see Figure 26). This data showed steadily increasing attrition due to deaths since 1995, for males and females aged 49 years and younger. However, this attrition has remained below 2% in each age/gender category, with resignations and retirements (in the older age groups) always accounting for a much larger proportion of terminations. It is plausible, however, that AIDS deaths among health care workers doubled between 2002 and 2006, a period for which we do not have any data. Earlier modelling work by Johnson et al (2000) predicted that less than 1% of staff nurses would be dying of AIDS in 2002, but that this would rise to 2% in 2006 and to over 3% in 2010.

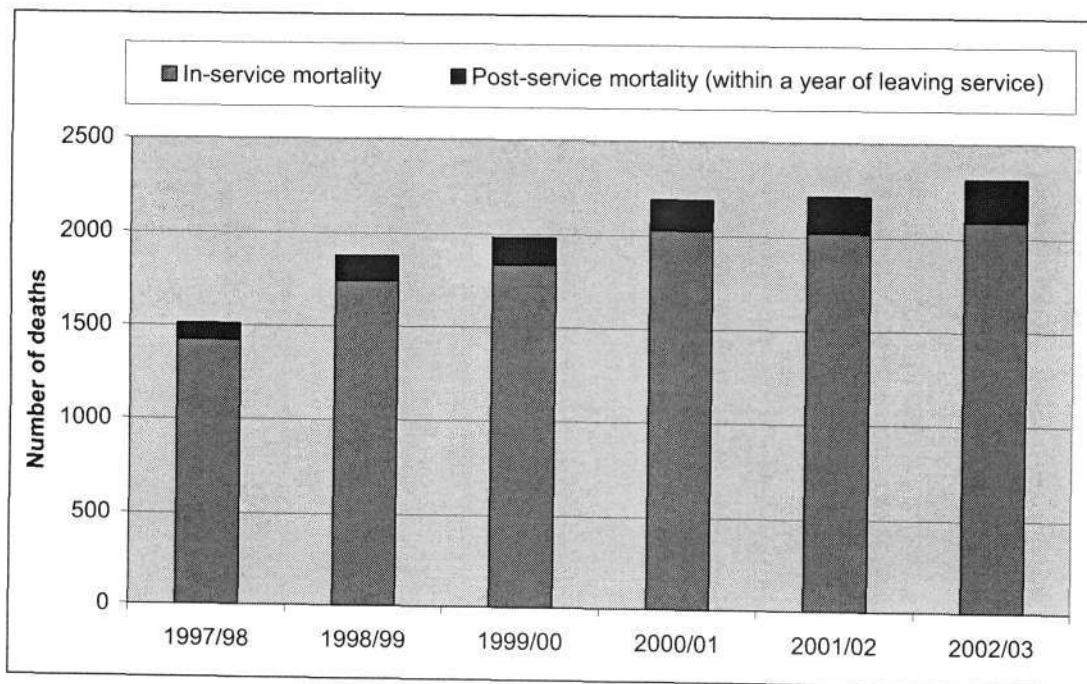
Figure 26. Reason for termination of service among health care workers in KZN 1995-2002 (Data source: PERSAL)



Note: In the age group 66+, small numbers of employees did not allow for detailed analysis and so this group is not shown on the graph.

Deaths in-service are unlikely to tell the whole story of HIV/AIDS related attrition, since health workers may decide to leave service in various ways, knowing that they are HIV-positive and experiencing more frequent illness. This was suspected to happen often according to managers that I spoke to and has been documented elsewhere (Penn-Kekana et al. 2005), but was not something that I was able to objectively assess. A detailed analysis of the full PERSAL dataset of the Education Department nationally was, however, able to cross check identity numbers with the Department of Home Affairs database registering deaths (Badcock-Walters et al. 2005). The analysis revealed a significant number of educators who died within a year of leaving service, in some years adding an extra 11% to in-service mortality (see Figure 27).

Figure 27. Educator mortality in-service and within a year of leaving service (Badcock-Walters et al. 2005)



Another way of gauging potential morbidity and mortality due to HIV/AIDS is to look at the age and gender profile of the health sector workforce. This is because both HIV prevalence and death rates vary according to age and gender. If a large percentage of the workforce fall into high risk groups, then the workforce will be more heavily impacted on, assuming that the workers are representative of the general population. Figures 28 to 31 overlay the profile of the health sector workforce (in 2005) with HIV prevalence rates (from the 2005 population based survey) and death rates (from 2004 death registration). For females, HIV prevalence peaked in the 25-29 yr age band and deaths were highest between the ages of 30-34 yrs. While a large number of employees fitted into these age bands, the Department of Health also employed a significant number of older women who fall into lower risk groups. For males, HIV prevalence peaked in the 30-39 yr age band, with deaths highest between the ages of 40-44 yrs. These age groups accounted for most of the male workforce as well.

The gender profile of the health sector workforce is a particular concern when it comes to HIV/AIDS. This is because in 2005 the workforce comprised 70% of females, who also experience higher HIV prevalence rates. Figures 28 and 30 illustrate how in 2005 HIV prevalence amongst males did not exceed 25% in any one age group, while amongst females it rose to almost 35% in those aged 25-29 yrs. The higher HIV prevalence is not reflected in higher death rates, simply because these rates illustrate deaths from all causes and males experience a much higher death rate from unnatural causes including trauma and accidents (StatsSA 2006a).

Figure 28. KZN Department of Health age profile for female employees (2005, PERSAL) and corresponding HIV prevalence (HSRC 2005)

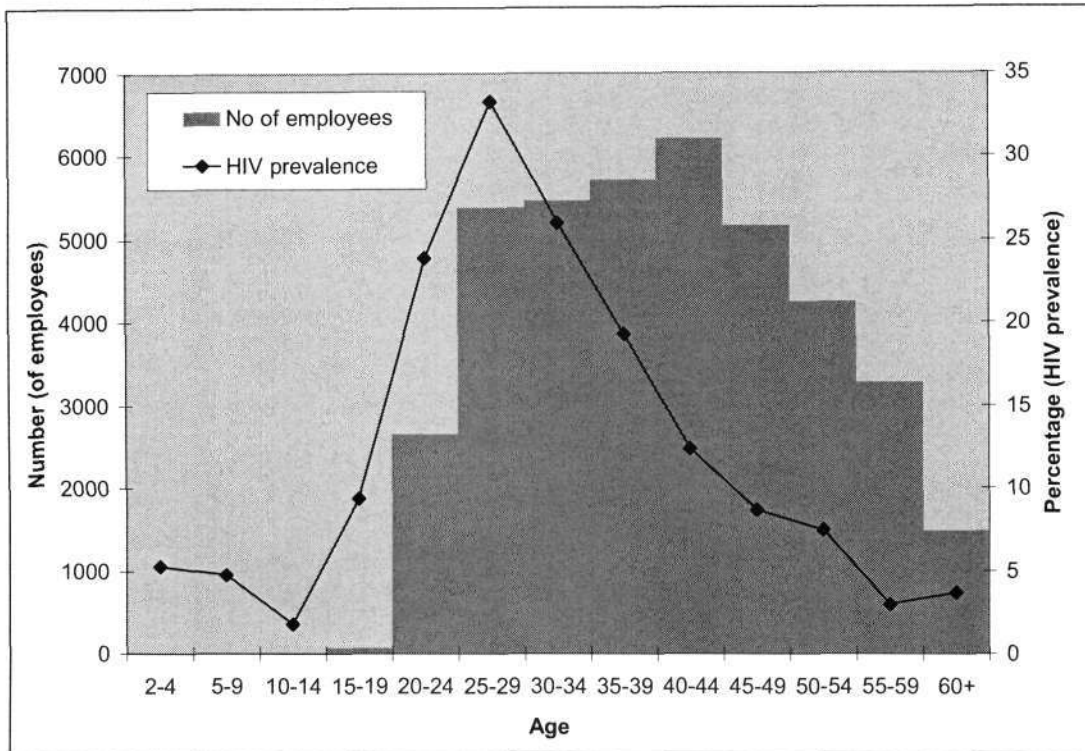


Figure 29. KZN Department of Health age profile for female employees (2005, PERSAL) and corresponding death rates (StatsSA 2006a)

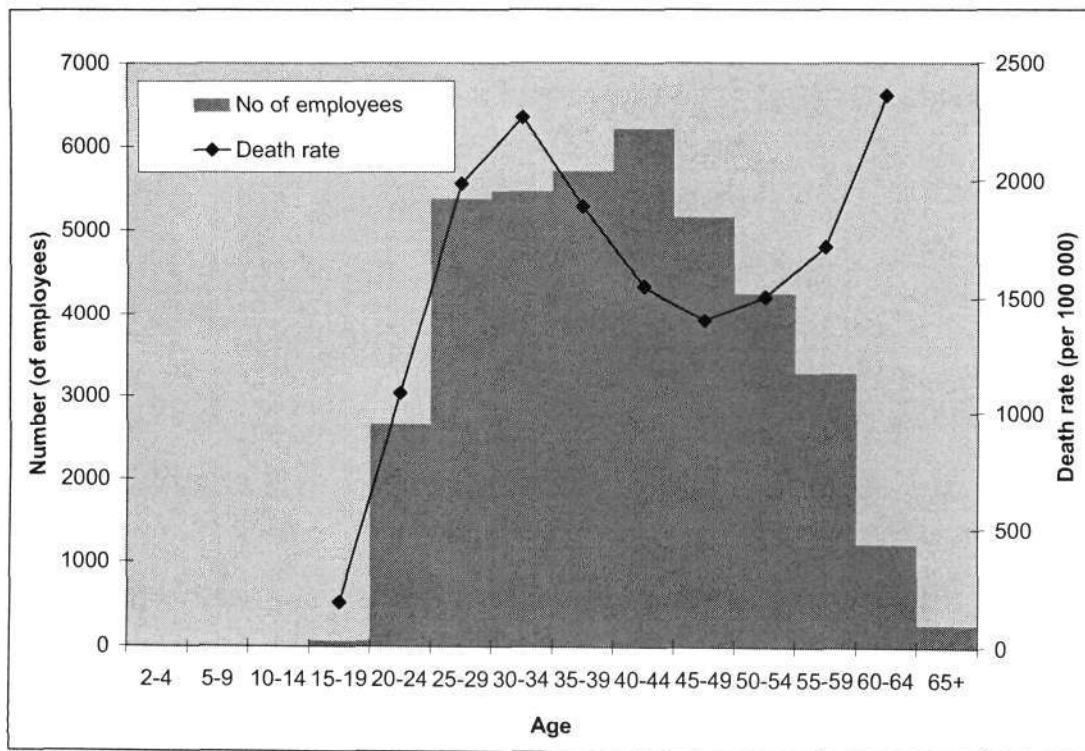


Figure 30. KZN Department of Health age profile for male employees (2005, PERSAL) and corresponding HIV prevalence (HSRC 2005)

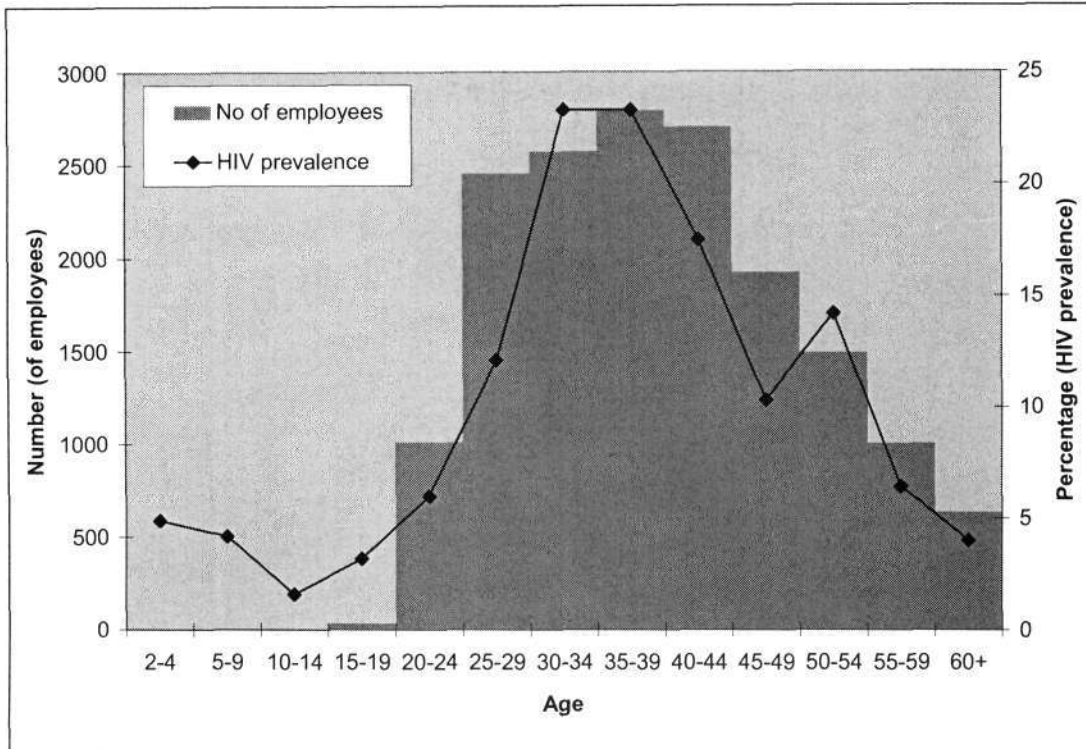
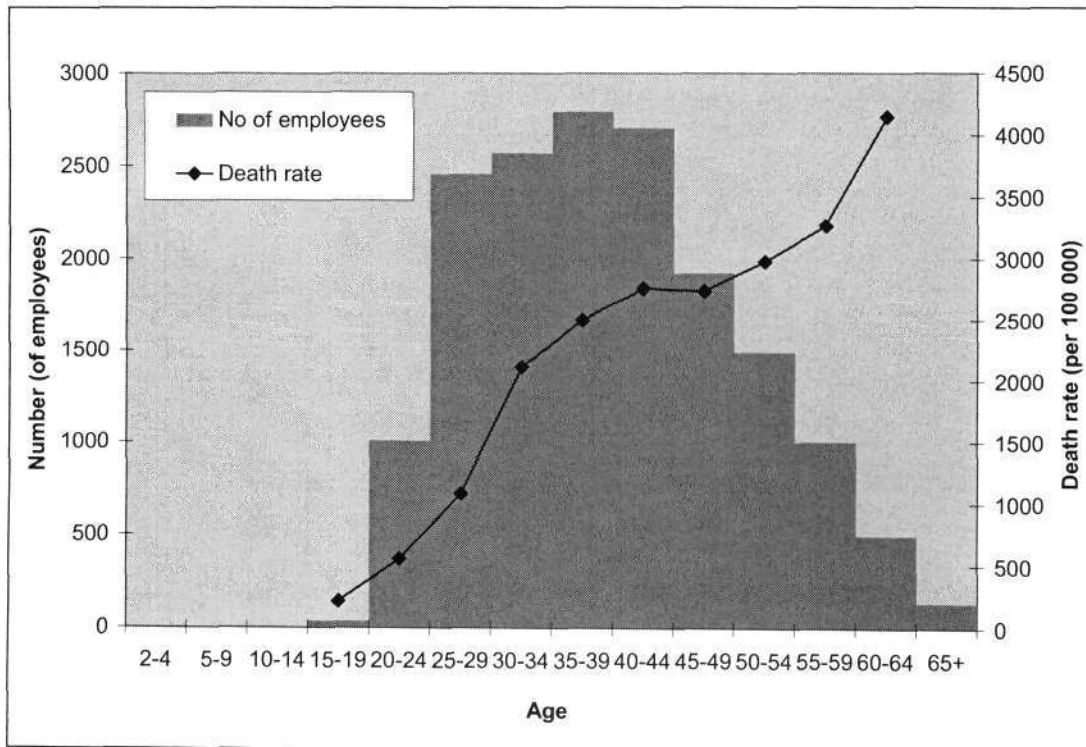


Figure 31. KZN Department of Health age profile for male employees (2005, PERSAL) and corresponding death rates (StatsSA 2006a)



Using the output from the ASSA AIDS and demographic model (ASSA 2006), it is possible to calculate more specific HIV prevalence rates for the KZN health workforce in 2005. In doing this, I have accounted for the age and gender profile of the workforce but assumed that other characteristics are identical to those of the general population. Given these assumptions, the model suggests that the HIV prevalence of female employees of KZN Department of Health was 25.6% in 2005, and that of males 30.2%. The higher prevalence amongst males reflects the age profile of this group, which puts a large percentage in high risk groups as illustrated in Figure 30. Overall, the prevalence rate for both males and females in 2005 is estimated to have been 27.0%, which is only fractionally lower than the 28.0% prevalence the model gives for all 20-64 year olds in the province for the same year. However, since the health workforce is likely to be more skilled than the general population, the ASSA estimate should be interpreted to represent the upper limit of HIV prevalence amongst Department of Health employees.

Over the years, a number of studies in Africa have alerted us to alarmingly high death rates among health care workers, indicating that being knowledgeable about HIV/AIDS does not necessarily guarantee a greater level of protection against infection. However, the extent of the loss has not been consistent across countries. In some countries, such as Zambia, Malawi and Uganda, AIDS-related deaths were found to contribute significantly to health worker attrition (Buve et al. 1994; Dambisya 2004; Mukati et al. 2004). In South Africa and Swaziland, health worker attrition as a result of death has generally been less of a threat than expected given the stage of the epidemic that we are in. It has also appeared somewhat insignificant next to the huge losses of health workers due to migration (Shisana et al. 2003; Mukati et al. 2004; HDA 2005; Kober et al. 2006). This is in contrast to findings in Zambia, which have shown that deaths way outnumber resignations and that death rates alone could account for the nurse vacancy rate of 37% (Feeley 2006).

South Africa, with its epidemic set to peak later than many other countries in the region, should take caution from research findings generated in countries like Zambia. This is because the prevalence of HIV among health care workers in South Africa has been

studied through a national survey and found to be high: 15.7% nationally, and 17.1% in KZN (Shisana et al. 2003). A smaller study in Gauteng indicated an 11.8% HIV prevalence among health care workers, with almost 20% of these individuals requiring treatment (Veriava et al. 2005). The attrition data we have does not give us a true reflection of the current situation and the ART programme has been slow to scale up. There is, therefore, no room for complacency, because deaths are still set to rise over the next few years. For example, AIDS deaths were (according to the ASSA model for KZN) expected to have increased by 5.0 % between July 2004 and July 2005, 3.4% between July 2005 and July 2006, and 1.8% between July 2006 and July 2007 (ASSA 2006). These deaths are only expected to plateau off sometime between 2013 and 2014.

5.3 HIV/AIDS exacerbating a range of 'push factors'

Even though AIDS deaths were, according to managers and data presented earlier in this chapter, not yet presenting a huge loss to the health system in KZN, this does not mean that the impact of HIV/AIDS on attrition was not considered an issue of huge concern. The attrition of health care workers, from the public sector to both the private sector and overseas, has continued to contribute to very high post vacancy rates in South Africa. The most recent World Health Report (WHO 2006b), focussing on the health workforce, has highlighted just how severe this problem of overseas migration is for many sub-Saharan African countries (see Table 17). In South Africa, the drain to the private sector is probably even greater for nurses; in 2003 less than 50% of registered professional nurses were said to be working in the public sector (Padarath et al. 2004). The migration of health professionals not only increases post vacancy rates, but also represents a huge financial loss to the country. In Malawi it was estimated to cost US\$31 726 to train a nursing sister, with a lost investment of between US\$241 508 (7% interest rate per annum for 30 yrs) and US\$25.6 million (25% interest rate per annum for 30 yrs) for each nursing sister leaving the country (Muula et al. 2006).

Table 17. Percentage of home country health workforce working overseas, for a number of sub-Saharan African countries (adapted from WHO 2006b)

Source country	Doctors: % of home country workforce working in 8 OECD recipient countries	Nurses and midwives: % of home country workforce working in 7 OECD recipient countries
Mozambique	4%	0%
South Africa	37%	7%
Uganda	16%	0%
Tanzania	6%	0%
Zimbabwe	11%	34%

Understandably, the issue of health worker migration is a complex one, and one which has been receiving a lot of attention in health policy circles (see for example Buchan et al. 2004; Stilwell et al. 2004; Eastwood et al. 2005). It arises not only from undesirable circumstances in the donor country (the ‘push’ factors), but also from a range of opportunities in the recipient country (the ‘pull’ factors). As a result, health worker migration can not only be addressed nationally or within the public sector, but requires more widespread commitment from recipient countries and the private sector in acknowledging and tackling their role. However, this research focussed on how HIV/AIDS is contributing to the ‘push’ factors, and so I do not discuss the ‘pull’ factors and the global or regional initiatives that have been proposed to address these.

The question that I asked in this research was: ‘To what extent does HIV/AIDS contribute to the loss of health care workers from the public sector in South Africa?’ In other words, what weight does HIV/AIDS carry as a ‘push’ factor, driving health workers out of the public service in South Africa? Previous studies have often been crude in their assessment of this issue, putting HIV/AIDS up against the most commonly cited factors of poor salaries, heavy workloads, limited career opportunities and inappropriate management style (Xaba et al. 2001; Awases et al. 2004; Penn-Kekana et al. 2005; Schneider et al. 2005b; Veriava et al. 2005; Kelly 2006). When I asked health care workers what their greatest difficulties were working in the public sector, they also cited these factors, often in one breath. Not surprisingly, HIV/AIDS did not come up at the top of the list, but under analysis was found to contribute in some way to almost all other concerns or push factors.

In general, the health care workers that I interviewed found it difficult to separate HIV/AIDS from other root causes affecting their working conditions. However, they were able to clearly identify a number of immediate impacts that the epidemic was having, including an increasing workload (elaborated on in the previous chapter), the need to be more skilled, as well as greater feelings of stress, frustration, helplessness, fear and depression. Some doctors also saw it as a hindrance to their longer-term career plans:

It [HIV/AIDS] changes the way you feel now, but also more long term. There are so many people I know now who say they would like to specialise for example in paediatrics, but they wouldn't do it here because almost all of it is HIV. (Interview transcription, 2004)

More in-depth probing revealed that health care workers often linked their feelings of low morale and their workload to both management and salary issues. In other words, an inadequate management style was more of an issue when they were stressed and frustrated. Many nurses reported that managers often didn't have time to listen to their concerns and did not see it as their role to motivate for any improvements in working conditions in the health facilities. Similarly, a poor salary was more of a concern when a higher workload, greater stress and fear of infection were all part of their everyday existence. The sentiment expressed by many health care workers was: 'Why do we bother going through all of this for such a low salary and for the thanks that we get?' Therefore HIV/AIDS, while not often directly responsible for driving health workers from the public sector, was still contributing to health worker attrition in indirect ways. Ultimately, it became virtually impossible to untangle HIV/AIDS from a whole host of other factors driving health care workers into the private sector and overseas.

More recently, in South Africa, financial incentives have been introduced in order to address health worker shortages in the most underserved areas. These have come in the form of a 'rural allowance' and a 'scarce skill allowance'. Managers and health care workers generally concurred on the successes of these incentives and on their shortcomings. The rural allowance in particular had reportedly had some success in staffing certain previously understaffed health facilities, particularly in township areas, but did not benefit very rural areas. This was attributed to the allowance not being given

to lower categories of staff (staff nurses), certain districts being economically 'dry' and hence unattractive, and to the general shortage of health workers which could not be solved by staff relocation alone. Concern was expressed that the problem of overall health worker shortages would need a much a more widespread intervention to address salaries across the board.

Advocates for ART have often spoken of its potential benefits to staff morale. According to a newspaper article published just prior to the implementation of South Africa's ART programme: '.....health worker's morale will be boosted as they will no longer be helpless when faced with destitute AIDS patients' (Cullinan 2003). Subsequent reports from the Free State province have confirmed that the ART programme does indeed have the potential to inspire hope and commitment among nurses in a way that benefits clinical practice (Stein et al. 2007). However, this may not necessarily play out in every context, since the ART programme also places stress on the health system in new ways as it scales up.

In Ugu district, some health workers felt the ART programme would bring hope and allow them to feel they had something to offer patients, with others more cautious in their optimism. The latter group generally cited poor TB cure rates, difficulties patients have in accessing health care services, and complicated drug regimens as almost insurmountable difficulties. There were also concerns amongst doctors that increasing drug resistance as a result of poor adherence would limit the effectiveness of PEP. While previously comforted by the assurance that PEP was both available and effective, they felt inevitably increasing resistance would place them in a more precarious situation should they experience a needlestick injury. Nurses at lower levels of care were more worried about the workload that the programme was creating, with the rapid expansion in services requiring them to be more skilled and to do more with the same resources. Hence HIV/AIDS care was generally seen to be contributing to staff overload and burnout, something that has also been expressed in a more recent study (Chopra et al. 2006).

In conclusion, HIV/AIDS was found to contribute greatly to the 'push factors' driving health care workers out of public service, but was almost never cited as the main reason for leaving service. This is because its impacts worked in indirect ways to worsen health worker conditions, creating an illusion of relative unimportance. Furthermore, initiatives such as health worker allowances and the ART treatment have not, as yet, had an appreciable influence on retention according to those health workers and managers interviewed, indicating the need for more radical action.

5.4 The significance of poor HR management

Amongst the HR managers interviewed, there was some concern about the deaths of health care workers in-service due to HIV/AIDS, but this concern was not being channelled into any form of action. There was, furthermore, virtually no acknowledgement of the psychological impacts or increasing workloads. None of the hospitals studied had any type of workplace programme to support infected staff or encourage testing, other than the regular staff sick parade or Employee Assistance Programme (allowing access to social workers and the like). HR managers didn't generally see themselves as having a role to play in understanding how HIV/AIDS was worsening staff attrition, or in putting measures in place to address the impact of HIV/AIDS on health care workers. In fact, some did not even see the relevance of me interviewing them on the HIV/AIDS issues affecting their institution. One manager, who was actually happy to be interviewed, stated outright that she did not see it as her responsibility to deal with 'moral' concerns.

If managing the impacts of HIV/AIDS on health care workers is not within the scope of HR management, then what is? Seemingly, HR managers saw their role as being one of filling posts and administering salary payments (as discussed earlier in the chapter). Other fairly major concerns related to the South African context were not even acknowledged in their existence. For instance, a provincial manager dealing with HR issues pointed out how there was no effort being put into managing diversity in the

workplace. As a result, certain race groups felt discriminated against and health workers were unhappy. Clearly, it was not just the issue of HIV/AIDS which was seen to fall outside the HR management scope of practice.

Policy decisions taken by the Department of Health and aimed at improving retention were also suffering as a result of poor HR management. A provincial manager overseeing the community service programme for doctors pointed out how this could be an excellent opportunity to get newly qualified doctors to take up posts in rural areas. While those completing internship were stationed in rural hospitals for a year, with this being compulsory for subsequent registration, many were prepared to stay on if they were happy in their post. Sadly though, many health facilities in KZN did not capitalise on this opportunity as they treated young doctors badly, expecting them to work long hours with little supervision. These poor working environments would then become known via the student 'grapevine', discouraging applications for these posts in subsequent years. Apparently, some hospitals managed to acquire such a bad reputation, so as to receive no applicants for community service posts, with none of the previous batch of young doctors willing to stay on either. These hospitals then found themselves in a very difficult predicament.

The limited notion of *personnel administration* instead of true *HR management* has been acknowledged as an area of concern in health services reforms beyond South Africa (Dussault et al. 2003). Unfortunately though, the lack of true HR management in health facilities has become even more damaging under the pressure of health workforce shortages in the context of HIV/AIDS. The many impacts that the epidemic is having on health care workers, and the need to address these concerns in order to avoid a situation where health care workers leave as a result of intolerable working conditions calls for skilful human resource management. As mentioned previously, addressing 'push' factors is unlikely to be sufficient when dealing with a complex problem involving global market forces; however it is fundamental starting point with the potential for a certain amount of success.

5.5 Conclusions

My research on the impact of HIV/AIDS on health care workers in Ugu district, examined under the four themes above, points towards the ways in which health policy could have assisted to remedy the human resource crisis. In concluding, these policy implications are considered, as a basis for further policy analysis. Broadly speaking, a policy response sensitive to the impacts described above should have included elements such as: efforts to ensure that health care workers are recruited from the local areas (to avoid a situation where health workers have to live far away from their families), workplace programmes sensitive to health care worker's needs and concerns, intensive efforts to address a range of working conditions both directly and indirectly linked to HIV/AIDS, and extensive capacity development in the area of HR management. While much attention has been paid to the issue of health worker shortages globally, for example in the form of WHO's 'Treat, Train, Retain' campaign (WHO 2006d), I would argue that the form and content of any country-specific strategy should be geared towards local challenges and conditions.

Although it may never be clear to what extent susceptibility to HIV infection translates into actual infections, an important starting point for addressing transmission would still be to eliminate any factors potentially increasing susceptibility. Health care workers in this research were thought to be more susceptible to HIV infection when working away from their families, which was frequently the case in the more rural clinics and hospitals. Some policy options which may have helped to address this issue include improvements to accommodation, efforts to locate staff nearer their homes, and provision of the rural allowance to all categories of staff experiencing high transport costs. One particularly pro-active district hospital in northern KZN started a bursary scheme for students in the area surrounding the facility to study medicine and allied health professions. Once students completed their studies, they came back to their local area to work, thus alleviating staff shortages at the hospital (Moore 2001; Kumar 2007). Such initiatives should have been implemented more widely.

Health care workers in this research were found to not only be susceptible to HIV infection, but also vulnerable to the impacts of the epidemic, often as a result of fear, stigma and confidentiality issues. Their vulnerability is evidenced by other studies which have looked at the HIV prevalence of health care workers, and by the underreporting of needlestick injuries in health facilities in Ugu district. These findings point to the inappropriateness of a government approach which assumes health care workers will look after themselves, given their knowledge and access to resources. A more sensitive way of addressing the problem would have entailed the development of workplace programmes with a strong focus on overcoming the barriers mentioned above. In KZN such a programme was implemented at a Durban hospital with documented success (Uebel et al. 2004). In Swaziland an innovative partnership led to the establishment of a special health centre for health care workers which catered for their specific needs (Kumar 2007). Such beneficial initiatives, implemented by committed people on the ground, should have been adopted as pilots for larger-scale interventions. My research also indicated that workplace programmes could be expanded to create a supportive environment for health care workers with caregiving responsibilities at home, in order to alleviate some of their stress.

From interviews conducted with health care workers for this research, it became apparent that HIV/AIDS was directly (in the case of workloads) or indirectly (in the case of poor salaries and management) contributing to a range of 'push' factors driving them overseas or into the private sector. An appropriate policy response to this problem would have entailed efforts to address all these 'push' factors aggressively. In the case of workloads, this would have involved initiatives focussed on training or the use of mid-level workers. On the issue of retention it is useful to look to Malawi, a country in a much worse state, registering the lowest staffing levels in the region. The Malawian government, with support from donors, developed an Emergency Human Resources Programme with five main facets: introducing salary top-ups to improve incentives for recruitment and retention, expanding domestic training capacity, using international volunteers as a stop-gap measure, providing technical assistance for planning and management capacity and

skills, and improving monitoring and evaluation capacity. Although still in the early stages, the plan has already registered some successes of salary top-ups in improving recruitment and retention (Palmer 2006). It has led to a call for the Global Fund to also support the salaries of health care workers in African countries (Ooms et al. 2007).

This research demonstrated just how little interest and capacity HR managers had in dealing with contextual issues, including HIV/AIDS. Poor management in general has also been repeatedly cited in a host of studies as a prominent 'push' factor. This implies that a health system responsive to the threats of HIV/AIDS would have focussed intensively on capacity development amongst facility-based HR managers. Furthermore, these managers should have been provided with a system to support their management functions and job descriptions that could hold them accountable for their expanded capabilities.

CHAPTER 6: IMPACT OF HIV/AIDS ON THE BROADER HEALTH SYSTEM

There has been little work on the impacts of HIV/AIDS on health systems in Africa, particularly impacts on management structures and their functioning. The immediate impacts on service delivery (discussed in Chapters 4 and 5) have, on the whole, been much easier to study and quantify. Yet service delivery is dependent on many interrelated processes higher up the system: the development of policies and implementation strategies, the translation of policies into action, financial planning and management, monitoring and evaluation, to name just a few. If the structure and functioning of the system is affected as a result of the epidemic, then this could compromise these processes. Alternatively, some of these changes might have positive influences and these also need to be considered.

HIV/AIDS has not left any sector of South African society unscathed and so it would be naïve to believe that the health system is functioning as it would have in the absence of the epidemic. This research set out to test this assumption, and to document some of the key trends related to HIV/AIDS impact. As the data supporting these trends is qualitative and based entirely on manager's perceptions, every effort has been made to triangulate observations with supporting evidence or comparisons to other research findings. In this way too, I try to identify whether issues arising are specific to the district studied, or whether they appear to be of more general concern.

Three main themes emerged through interviews with managers at district and provincial level in KZN:

1. Trends towards more centralised control;
2. Poor integration of programmes and the deflection of resources towards HIV/AIDS; and
3. Increasing donor/partner involvement in the system.

These themes are dealt with separately, but in practise these trends relate more closely to each other.

6.1 Trends towards more centralised control

Decentralisation has been a major thrust of health care reforms in South Africa since 1994, yet my research suggested that HIV/AIDS has created a trend towards more centralised control. While this trend was predominant in the HIV/AIDS programme, the level of priority afforded to the programme meant that the trend had more widespread implications. Here, I analyse some of the sentiments expressed by provincial and district managers on this issue. In particular, the trend of more centralised control in the health sector was evident in the frustration of managers at both provincial and district level, who felt that they had increasingly less autonomy to manage their programmes in the best interests of their province or district. Rhetorically, provinces were assured of near-full autonomy for managing health services, but in practise this was mediated through national policy making, funding mechanisms and other means. Where capacity constraints were evident, the national level maintained even greater command.

In South Africa, the bulk of service delivery happens at the provincial level, with provinces receiving nearly all of their budgets from national governments in the form of transfers (Hickey et al. 2002; Hickey et al. 2007). Such funding mechanisms can serve as a means to enforce homogeneity from the top down (Steytler 2003), controlling prioritisation at lower levels of the system. Transfers are divided into:

1. An equitable share for provinces, the purpose of which is to enable provinces to provide basic services and perform functions allocated to them. The equitable share is an unconditional block grant which is calculated according to a technical formula that looks at relative need, demographic, and economic profiles. The six components of the equitable share (with their associated weighting) are education (51%), health (26%), basic component based on population share (14%), institutional component (5%), poverty component (3%), and economic component (1%). Being unconditional, provinces can distribute this money to different departments and programmes as they see fit.

2. Conditional grants, which are allocated for specific priorities or interventions defined by the national government. These grants have strict conditions and monitoring requirements.

In 2004/05, conditional grants comprised 12.3% of transfers to provinces, with the equitable share making up the remaining 87.7% (SA National Treasury 2006b).

Provincial and district managers considered conditional grants as a means by which the national department retained control over priority setting and resource decisions within provinces. Conditional grants have in recent years made up a significant proportion of provincial health funds in South Africa, accounting for around 20 percent of health spending (SA National Treasury 2003). Looking more closely at these grants, HIV/AIDS is the only disease-specific programme that has, since 2000/01, had its own grant, with other conditional grants geared more towards health system strengthening and development (see Table 18). While it appears that the purpose of this grant is to exercise more control over the HIV/AIDS programme, the reason for HIV/AIDS funds remaining outside of the equitable share of funding given to provinces is more complicated and has been documented as two fold: 1) HIV/AIDS is a national priority and there is a need for national co-ordination of the response, and 2) the distribution of the epidemic differs from that of the equitable share (SA National Treasury 2005a). Manager's perceptions on the efforts of national level to control the HIV/AIDS programme are therefore supported, although control or 'co-ordination' is clearly not the only rationale for the comprehensive HIV/AIDS grant.

Table 18. Provincial conditional grants for health, 1990/00-2005/06 in Rand million (SA National Treasury 2003; SA National Treasury 2004; SA National Treasury 2005b; SA National Treasury 2006c)

	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
National tertiary services grant	-	-	-	4 207	4 004	4 214	4 709
Comprehensive HIV/AIDS grant	-	10	46	207	351	746	1 150
Hospital revitalisation programme grant	140	323	550	694	730	905	1 105
Integrated nutrition programme grant	460	534	489	642	825	125	123
Hospital management and quality improvement grant	-	-	124	114	148	140	150
Health professions training and development grant	-	-	-	1 269	1 347	1 437	1 520

Note: The integrated nutrition programme grant is being phased into the provincial equitable share and in 2004/05 the primary school nutrition programme was shifted to the education sector, thus explaining a very obvious decrease.

In the area of HIV/AIDS, the tendency for the national Department of Health to maintain a level of control over implementation deemed unacceptable to provincial level managers has been highlighted previously. A review of the state of decentralisation in the South African health sector in 2003 included a mapping of 'decision space' at provincial level and concluded that this was in fact 'moderate to wide' with respect to managing service delivery (Gilson 2004). In other words, provinces were generally seen to have a very important role to play around service delivery decision-making. However, Blaauw et al (2004b) noted inter-governmental relations in the implementation of the HIV/AIDS programme to be somewhat complex. In particular, they found that consensus on the roles of national and provincial Health Departments, rather than explicit guidelines, had resulted in the expanded involvement of the national department in this one programme area. The situation was aggravated by an unusual arrangement whereby funding and personnel appointments were controlled at the national level.

The strengthening of local government is a long term development objective in South Africa and, therefore, the tendency for HIV/AIDS to centralise control could have great consequences at more local levels. District managers described some of the problems associated with their lack of autonomy in making decisions about service delivery.

The HIV/AIDS programme, in particular, had reportedly undermined their planning as new initiatives were often passed down from higher levels with unrealistically short deadlines and no scope whatsoever for negotiation. Even as managers were struggling with capacity constraints, such as difficulties collecting appropriate information to decide on requirements for the district, higher levels would impose additional demands on them. Furthermore, until just prior to this research, staff supporting the HIV/AIDS programme at district level had been on contract under the province. This had resulted in unusual arrangements for the management of the HIV/AIDS programme and some confusion over lines for reporting to superiors.

Although district health managers may have related concerns that HIV/AIDS was drawing autonomy away from them, the reality is that there never has been much space for decision-making at this level. In South Africa the apartheid era was characterised by centralised management approaches and some of the current concerns around the slow pace of decentralisation have been carried over from this time (Gilson 2004). For example, the general reluctance of provincial Departments to decentralise authority and the hierarchical and rigid bureaucratic culture are constraints generated by an authoritarian mindset. On the other hand, capacity constraints and uncertainty around the functions of different levels of the system are much more real, tangible obstacles that have to be overcome. Nevertheless, irrespective of the nature of constraints, the reality remains that the major achievements in health sector decentralisation have occurred between the national-provincial levels (Gilson 2004).

The centralised control of the HIV/AIDS programme has unfortunately resulted in the advantages and resources of the local spheres of government being underutilised in the fight against the epidemic (Blaauw et al. 2004b). These local levels could potentially have facilitated a more developmental approach to HIV/AIDS, due to their better access to communities and local partners (eg. community based organisations) and to their ability to mobilise and integrate local resources. The pull against decentralisation may furthermore have extended beyond the HIV/AIDS programme, to affect the health system

more generally, simply because no programme can operate in complete isolation. This being the case, then the underutilisation of local resources would have also worked against improving the general health of communities.

The trend towards centralisation in the health sector has seemingly been mediated by certain conditions (mentioned below), with the provincial level having a distinct advantage in the 'fight' with higher levels of government. This advantage arises partly from the constitutional space that has been created for federal heterogeneity and provincial initiative. The PMTCT programme is an illustration of this in action; in this case a policy developed in the Western Cape went on to become a national policy (Steytler 2003). During interviews for this research one manager commented that it was the strength or 'backbone' of the province which ultimately determined its autonomy. The policy framework allowed provinces to contest directives, but it was up to them to do this. The more local spheres of government, on the other hand, demonstrated very little reserves in fighting centralising tendencies. Their autonomy was seen as a function of provincial and national management – these levels of the system could either direct and control, or support and assist in building local capacity. With high priority or heavily politicised programmes such as HIV/AIDS, the interference with management came from an even broader range of actors.

In summary, the sentiments of the managers I interviewed reflected observations from other research concerning the way that HIV/AIDS has created a clear tension between the immediate need to deliver (through centralisation) and the longer term developmental objective of a strong local government (Blaauw et al. 2004b). In particular, district managers often felt undermined rather than supported by the higher spheres of government, indicating a worrying sway away from the ideal model of 'co-operative governance'⁶.

⁶ Co-operative governance, according to the South African Constitution (1996), means that the three spheres of government 'exercise their powers and perform their functions in a manner that does not encroach on the geographical, functional or institutional integrity of government in another sphere and co-operate with one another in mutual trust and good faith'

6.2 Poor integration of programmes and the deflection of resources towards HIV/AIDS

In many instances, health policy analysts have voiced concern that if priority programmes are vertically structured, then they will deflect resources away from other programmes (see for example Loewenson et al. 2004). This concern has become further heightened in our current context of HIV/AIDS, precisely because the push to implement vertical programmes is stronger where epidemics, poverty and weakened health systems coincide. Under such circumstances, the burden created by a specific disease, such as HIV/AIDS, is so large that priority interventions focussed on addressing one disease alone will result in huge health status gains. Donors become involved and in many instances vertical delivery is chosen to overcome barriers associated weak capacity of the health system (Oliveira-Cruz et al. 2003). This creates tensions between the long-term need for organised health services and specific interventions for a certain diseases that could rapidly improve health in the shorter-term, something which was already appreciated in the 1960s (Gonzalez 1965; Mills 2005).

For the purposes of my research, I would like to argue that it is not so much the orientation of the programme (ie 'vertical' or 'horizontal'⁷) which necessarily deflects resources and becomes a problem for health systems development, but rather the extent to which programmes are integrated with each other. This argument also acknowledges that there is not a rigid dichotomy between vertically and horizontally structured programmes that can be used for classification purposes. In practise there is more often a continuum, with different programme components orientated differently; for example, managerial structures (dealing with strategy, monitoring and evaluation) are often vertically orientated, with patient care following a more horizontal delivery mode at the service delivery level (Oliveira-Cruz et al. 2003; Mills 2005). Ultimately, no matter how 'vertical' the HIV/AIDS programme, if it works well with other programmes to address

⁷ Here I consider a 'vertical' approach as one where programmes for specific health conditions are largely free-standing and executed through dedicated managers and health workers, and a 'horizontal' approach as a delivery mode in which all health interventions are implemented through the regular health service infrastructure

common constraining barriers to service delivery, then the deflection of resources is unlikely to become problematic. Table 19 illustrates the different types of responses that programmes can adopt (Travis et al. 2004), also summarising the opposite extremes in degree of integration.

Table 19. Examples of disease-specific and health-system responses to typical delivery constraints (Travis et al. 2004)

Constraint	Disease-specific response	Health-system response
Financial inaccessibility: inability to pay, informal fees	Exemption/reduced prices for focal diseases	Development of risk pooling strategies
Physical inaccessibility: distance to facility	Outreach for focal diseases	Reconsideration of long term plan for capital investment and siting of facilities
Inappropriately skilled staff	Continuous education and training workshops to develop skills in focal diseases	Review of basic medical and nursing training curricula to ensure that appropriate skills included in basic training
Poorly motivated staff	Financial incentives to reward delivery of particular priority services	Institution of proper performance review systems, creating greater clarity of roles and expectations regarding performance of roles, review of salary structures and promotion procedures
Weak planning and management	Continuous education and training workshops to develop skills in planning and management	Restructuring ministries of health, recruitment and development of cadre of dedicated managers
Lack of inter-sectoral action and partnership	Creation of special disease-focussed cross-sectoral committees and task forces at national level	Building systems of local government that incorporate representatives from health, education, agriculture, and promote accountability of local governance structures to the people
Poor quality care amongst private sector providers	Training for private sector providers	Development of accreditation and regulation systems

During this research, managers at all levels felt that there was much scope for improving the integration of programmes. At the provincial level, the lack of integration was blamed largely on Health Department structures, which were being revised at the time of my research. Managers were optimistic that the new structures would be more enabling, particularly since the management of PMTCT was going to be combined with that of other maternal and child programmes, and the management of the ART programme with that of other Sexually Transmitted Infection (STI) programmes. Nonetheless, one manager expressed concerns that improved integration of programmes would require

more than just an enabling environment; it would also require commitment and a change in mindsets. District health offices, in contrast, operated with fewer staff and so managers generally had a wider range of responsibilities. In theory, this could have allowed better integration, although, in practise, managers felt this was still not the case.

The way health programmes were being managed in KZN (ie the evident lack of integration) and the pressing need to effectively manage HIV/AIDS could have easily resulted in resources being gradually deflected from other disease programmes. Interestingly, managers expressed different views on this dilemma. In financial terms, many felt that the huge increase in money budgeted for HIV/AIDS had not necessarily been to the detriment of other services because: 1) money allocated for HIV/AIDS activities had assisted to improve general infrastructure and service delivery (e.g. laboratory services), and 2) a large proportion of the funds for HIV/AIDS activities had come from other sources. Managers interviewed in this research also had fairly accommodating views on donor funding coming in for HIV/AIDS – they felt it had helped to increase funding for this programme, so limiting the need to reconsider resource allocations to all programmes. This is in contrast to much of the criticism geared towards disease-specific funding, which has suggested that it does not allow the necessary health system strengthening, which would ultimately be to the benefit of all disease programmes (Global AIDS Alliance 2005).

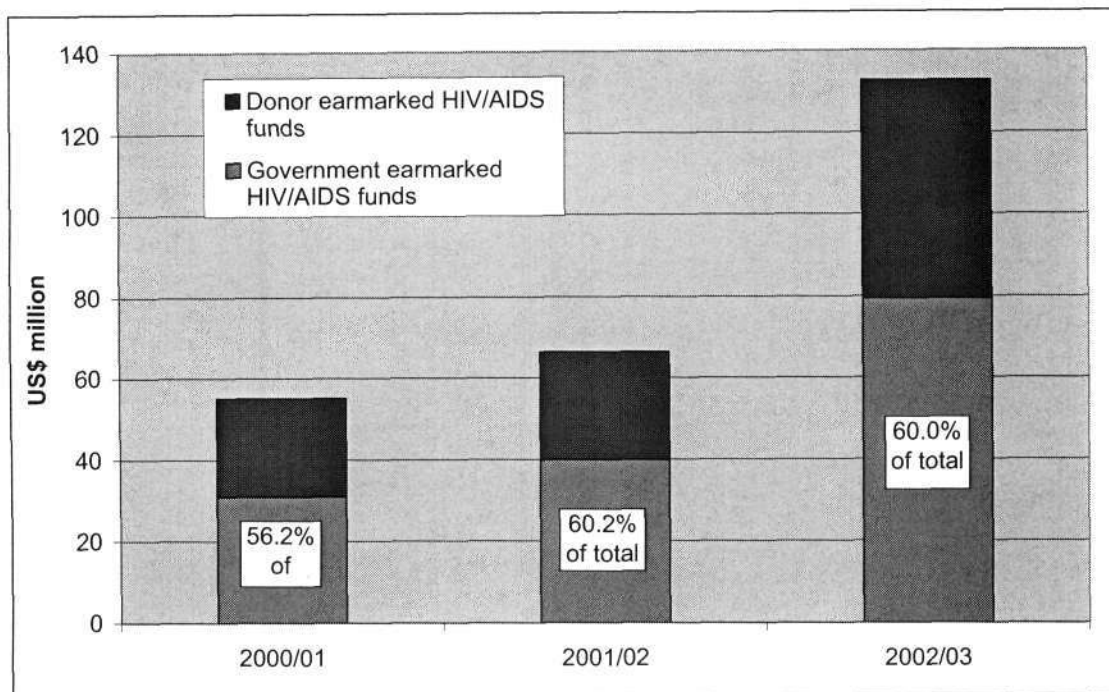
This research found the deflection of human resources towards HIV/AIDS services to be a matter of much greater concern to managers than the deflection of financial resources, particularly in cases where they were responsible for a range of diseases (including HIV/AIDS) and could not prioritise these on their own terms. General health services managers and managers of communicable disease clusters were the most affected. They reported spending a disproportionate amount of time dealing with HIV/AIDS issues, due largely to their political nature. From their own health management perspective, all diseases were important and deserved attention. But failure to deliver (or spend) on the HIV/AIDS programme would be seen in a worse light and the demands were generally much greater. Such demands allegedly also didn't often take cognisance of difficulties on the ground, with expectations that were simply too high.

In KZN and Ugu district there seemed to be a number of factors at play limiting the integration of services and deflecting resources from other disease programmes towards HIV/AIDS. These included the way programmes were structured, the way resources flowed, and the pressures to deliver in the HIV/AIDS programme in particular. The views expressed by managers were also quite restricted in their long-term perspective, with the main concern being to limit harm. Given the potential for the development of the health system in South Africa, a more optimistic and ambitious outlook might be more appropriate – one which seeks to capitalise on the opportunities (and particularly the resources) created by HIV/AIDS.

6.3 Increasing donor/partner involvement in the system

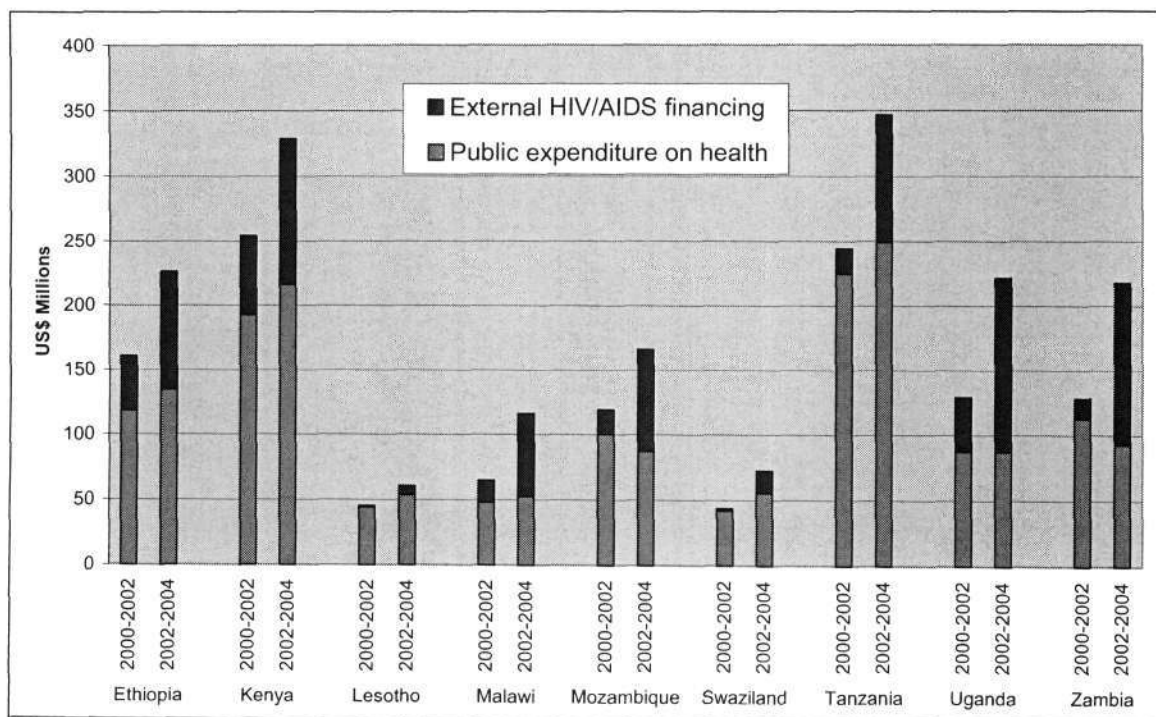
HIV/AIDS has impacted on the health systems landscape in yet another important way: it has resulted in a much greater involvement of international donors. This development is witnessed simply by the amount of external resources flowing in for HIV/AIDS activities this decade. Between 2000 and 2003 there were significant increases in both government and donor funding earmarked for fighting the epidemic (see Figure 32). However, the real boost in donor funding came after December 2003, once South Africa started to receive disbursements from both the Global Fund and the President's Emergency Plan for AIDS Relief (PEPFAR). By early to mid 2005, when fieldwork for this research was accomplished, South Africa had already received US\$35 million from the Global Fund and US\$89 million from PEPFAR (Stewart et al. 2005b). The increase in donor funding as a result of HIV/AIDS was an issue raised by all the managers participating in the research. It is also not a trend peculiar to South Africa, which in fact also allocates substantial amounts of its own resources to the cause. In other African countries, large, and increasing, amounts of aid money for HIV/AIDS compare to public expenditure on health (see Figure 33). In Chapter 1 I highlighted some possible reasons for the increasing attention on health in Africa to include: the resurgence of infectious diseases and associated threats to human security; greater recognition of human rights; and the knowledge that good health stimulates economic development.

Figure 32. Government and donor earmarked HIV/AIDS funds in South Africa, 2000-2002 (Ndlovu 2005)



Note: Unfortunately a lack of up-to-date information makes monitoring resources coming in from aid agencies difficult. In particular, one would ideally like to look not only at the funds committed, but also those disbursed and actually spent.

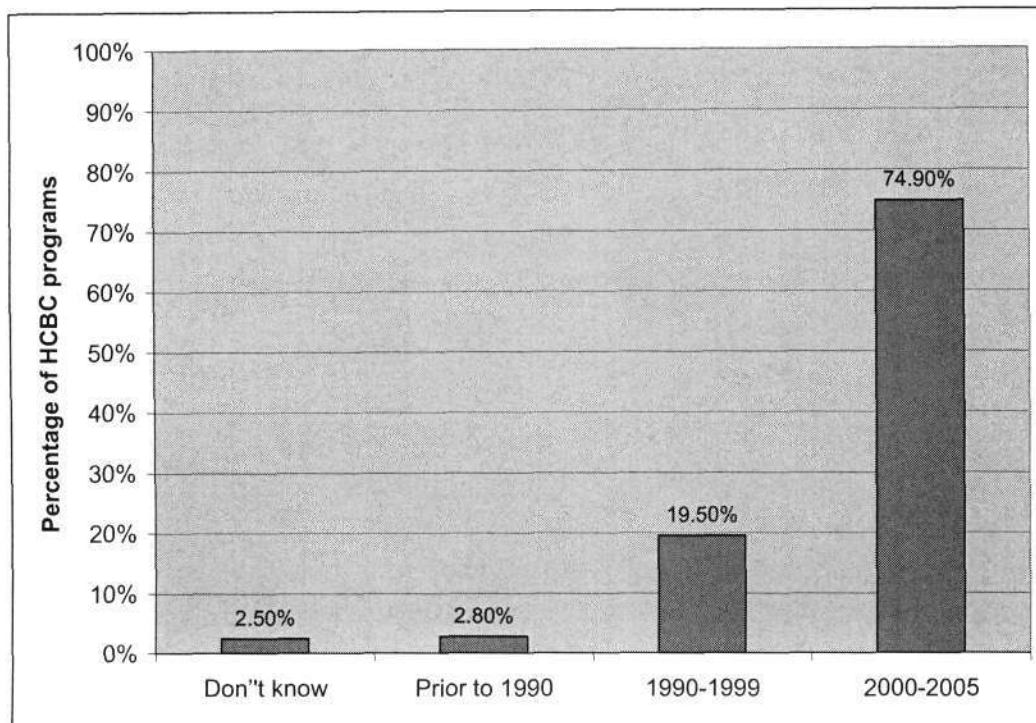
Figure 33. Trends in domestic public health funding and external financing for HIV/AIDS in other African countries, 2000-2004 (Lewis et al. 2006)



In addition to emerging partnerships with major bilateral or multilateral donors, respondents in my research also identified important partnerships with Civil Society Organisations (CSOs) and Faith Based Organisations (FBOs). These players were, however, operating at different levels of the system. Respondents informed us that in all cases the major donors had to work through national government, although they were able to fund programmes in specific provinces, in which case provinces usually became responsible for managing their activities. CSOs and FBOs that provided support in kind, on the other hand, were most evident in the districts and commonly toiled to fill gaps in government service provision. Advocacy organisations, such as the Treatment Action Campaign (TAC), operated at all levels of the system through a network of branches.

The expansion of CSO and FBO activity in districts is more difficult to quantify than the obvious increases in donor funding. This is because a Home Community Based Care (HCBC) initiative, for example, can range from two people helping a few families in a time of need, to a well established programme driven by professionals and operating on a large budget. Nonetheless, an audit of HCBC programmes in South Africa in 2002 registered 142 programmes across KZN (SA Department of Health and SA Department of Social Development 2003). More recently, 39 HCBC programmes were identified in Ugu district by fieldworkers placed in the district (Naidoo 2005). This particular study also covered another 3 districts in other provinces and clearly demonstrated the rapid increase in the number of programmes in the last 5 years (see Figure 34).

Figure 34. Commencement dates of 359 HCBC programmes in 4 districts in South Africa (Naidoo 2005)



During interviews for my research, the issue of expanding donor and partner involvement raised a number of concerns, the most important being around a heightened need for the co-ordination of their activities. All managers were concerned that the stewardship function of the Department of Health was being lost as more donors and partners were operating without the Department's knowledge and guidance. However, such concerns were not uniform across the different levels of care. Managers at the national level felt most in control over the situation; primarily because they managed the bigger donors who attended an annual donor forum, as well as the larger CSOs who were funded by the government and therefore listed. Donor relationships were moreover managed by an international donor liaison with the Department. This was in contrast to the provincial level, where managers viewed coordination as a critical problem. They felt that national level structures were not in a position to monitor the operation of donor programmes on the ground and that this should ideally become a function of the provincial Department of Health. Although planned, there was at the time of the interviews no unit at provincial

level to fulfil this purpose. Isolated donor 'co-ordinators' worked individually to report to the bigger donors (with one 'co-ordinator' per donor), but were not in a position to address issues of fragmentation and duplication.

In Ugu district there were no structures or responsibilities allocated for the specific role of co-ordinating partner activities. This was despite a clearly articulated need and strong will voiced by all managers for the district to play a pivotal role in ensuring sustainability and avoiding duplication or fragmentation of partner activities. District management acknowledged that at times outside parties were working within their boundaries, but without their knowledge. They felt that the new District AIDS Council could play an important role in co-ordinating HIV/AIDS activities in particular, but since this structure was new, it was not clear how it would interact with the district health office. In Ugu district, managers and partners indicated that only in the case of one well established partner (who was engaged in providing clinical services) was there regular communication through district planning meetings. A smaller FBO expressed a will to interact more closely with the district health office, but felt that stronger leadership was also required on the Department of Health side to facilitate this.

My research also looked at other documented concerns related to increasing donor/partner activity, in particular the way in which this might sway the priorities of the Department of Health (Buse et al. 1996; Ndlovu 2005). For the most part, this did not seem to be a problem. Managers felt that the robust South African economy and sound policy framework held its own ground in the face of external funding. Only in one interview did a provincial manager indicate that the conditions laid down by donors were sometimes too specific. This did not influence priorities as such, but rather resulted in difficulties with absorptive capacity and hence problems in spending the money. The Department of Health would then request to shift money over for other purposes and this was sometimes allowed, depending on the circumstances. My findings contrasted quite noticeably with those of other countries undertaking similar research. In Zambia, for example, some managers argued that 'donor priorities and agendas completely permeated the government planning process and priority setting' (Cheelo et al. 2005).

Similarly, at the district level health managers felt the activities of partners fitted well into the scope of district priorities. This is because partners generally researched the district well before offering support and then attended meetings with district management to decide on the more specific nature of their activities. It was in decisions over the details of partner support that discrepancies in priorities sometimes became more evident, but never amounted to a major problem. Here one of the district managers cited the example of an FBO that was bringing in overseas doctors to help with the roll-out of the ART programme. The FBO wanted to place one of the doctors at a site where they were already running programmes, but this site was not on the Department's list for the roll-out. While this resulted in some level of disagreement, the positive contribution of the FBO in addressing district health priorities was never questioned. It has been previously noted by Birdsall et al (2005) that responses to health issues at the grassroots level are often a logical complement to the top down services provided by government, indicating that these may be poorly co-ordinated, but are unlikely to have a major impact on priorities in the same way the donor funding does.

While there is general acceptance that it is undesirable for health sector donors and partners to sway Department of Health priorities, this is not always the case. Civil society advocacy organisations, for example, are established for this very purpose. In South Africa, the TAC vociferously lobbied for the initiation of the PMTCT programme in public forums and through the courts, with huge success. Despite this, it is also a health sector partner, since its agenda includes supporting government efforts in areas such as treatment literacy. The interesting issue here, is how managers view such organisations, that seem to have a dual and somewhat conflicting mandate. Some of the respondents I interviewed saw TAC as a threat. However, there were many others which recognised the positive nature of the organisation's engagement. These respondents also commented how the implementation of new initiatives had been facilitated in provinces where the TAC was embraced as a true partner, rather than an enemy.

Ultimately, the benefits of donor and partner activities were felt to depend on a number of factors on both the donor/partner and Department of Health sides which are explored below. In cases where these factors were managed appropriately, partner/donor activity was nearly always valued. One manager gave the example of the Global Fund support for the HIV/AIDS programme in KZN, which had assisted to draw in partners in the private and NGO sectors, to work towards some common goals. Managers at the provincial level felt it was particularly important for funding to be properly negotiated, to ensure that it addresses priority areas. The value of donor support was questioned where: planning for the support took place at the national rather than the provincial level, donors were too specific about where their funds were spent, and where time consuming and complicated business plans were required to access support. The province was felt to be the best level for the co-ordination of donor funding because the provincial Department of Health was seen to be more in tune with local priorities and needs on the ground, was felt to be aware of its own capacity to absorb funds, and could be cautious not to over allocate support to needy districts (which could happen when districts were approached directly, so creating a chaotic situation).

As mentioned previously, the type of support given in kind at the district level by CSOs and FBOs is often a logical complement to government services in areas where capacity is lacking. Managers expressed this sentiment and also pointed out the role that CSOs and FBOs played in identifying problem areas in the district... 'we didn't have time for this'.... 'now we can see where we are going'. Again though, respondents participating in my research cited certain conditions for a positive partner involvement: the district had to maintain their control and only allow activities that support their priorities, the partner had to respect district timelines, and the district had to be aware of partner activities and be updated regularly. If these conditions were not met, then respondents felt that their support may be misdirected.

Lastly, a number of managers mentioned the need to interrogate the motivations behind donor/partner involvement in the health sector, since this would logically determine the impact or benefit of their activities. Even those that sought to be responsible and foster

sustainability were unfortunately often driven by a need to show tangible output. This limited the scope of their support, with donors unwilling to fund items such as salary payments, for example. In the case of CSOs and FBOs, there was unease amongst managers that some had become involved in this type of work because of the influx of resources. Those CSOs and FBOs interviewed, however, described the situation differently - they became involved in such activities because of the demand for services and often despite originally having had a different focus to their outreach operations.

In general, many conditions cited in this research as a model for positive donor/partner involvement have previously constituted the rationale for greater co-ordination (see for example Buse et al. 1996). They have also been articulated in documents such as the Paris Declaration on Aid Effectiveness (2005). But while many other countries in the region have for a long time been struggling with donor issues in particular, in South Africa these challenges arrived with HIV/AIDS. Between 2000 and 2002, 99% of health-related aid to South Africa was shown to be for HIV/AIDS (OECD/UNAIDS 2004). The question as to what effects, if any, this skewed distribution of aid to one programme has in the long term on other programmes and the entire system, remains unanswered. Absorptive capacity constraints were commented on in this research, but other concerns about the large amounts of aid relative to domestic spending are that it will 1) increase corruption, and 2) induce aid dependency, by weakening governments' abilities to generate resources locally (Bevan 2005; Lewis 2005).

6.4 Conclusion

The three themes outlined above in relation to the impact of HIV/AIDS on the broader health system all have implications for health policy. In particular, the themes indicate that there has been a need to 1) focus strongly on the capacity development of managers at lower levels of the system, 2) restructure programmes, allocate responsibility and develop indicators to enhance integration and health systems strengthening, and 3) augment the stewardship function of the Department of Health in relation to

donor/partner involvement in the system. Whether these implications have actually been considered in existing South African health policies, is something that will be looked at in the next chapter. This conclusion simply serves to draw out ideas as to what might have been effective policy responses to the emerging challenge of HIV/AIDS.

My research highlighted the frustration of lower level managers who had been given huge responsibilities but little autonomy or 'decision space' to manage these responsibilities according to their knowledge of local needs and capacities (Bossert 1998). This created intergovernmental tensions, particularly in the sphere of HIV/AIDS. As such, the strengths of lower levels of government were underutilised in the fight against the epidemic. These findings indicate that HIV/AIDS has inhibited the process of decentralisation in South Africa and that additional effort should have been directed towards building capacity of lower level managers. Rather than removing autonomy and disempowering these managers, they should rather have been mentored and supported by their superiors to take decisions that are most appropriately made at their local level.

The integration of health programmes at the management level was found to be inadequate, not only as a result of the way they were structured and responsibilities allocated, but also as a result of manager's mindsets. Poor integration stands as a risk for the deflection resources towards HIV/AIDS programmes and away from other priority programmes, something that was seen to be happening to a limited extent. However, I would argue that managers should have been looking beyond limiting harm, towards a system that could capitalise on the attention being given to HIV/AIDS. In terms of policy and implementation, this could have involved developing a set of relevant health strengthening indicators, which, through their inclusion in the monitoring and evaluation frameworks of individual health programmes, would hold them accountable for system effects (Atun et al. 2004; Global Health Watch 2005). Similarly, new programmes and initiatives could have been required to conduct systems impact assessments, to ensure that managers maintain a focus on system-wide reform and have incentives to work towards developing this.

Lastly, my research indicated some concerns arising from increasing donor and partner involvement in the health system, in particular the need for heightened co-ordination to avoid duplication and fragmentation of their activities. Donor and partner activities were seen by informants to have a role in contributing to the health sector response, with CSOs in particular assisting to promote the 'continuum of care' (see also Russel et al. 2000; Birdsall et al. 2005). However, since South Africa has never previously been very reliant on outside involvement in the health sector, policies should have been put in place to ensure that as this involvement expanded, it could be done in a way that would contribute maximally to health system goals. South Africa could have learnt from the experiences of other African countries. For example, many countries have explored the use of Sector-Wide Approaches (SWAs)⁸ and Zambia embarked on some radical health sector reforms in the 1990s, which included a range of co-ordination mechanisms to manage aid (Lake et al. 1999). Such documented initiatives, while not necessarily appropriate for South Africa, could nonetheless have served as a basis to determine what might be needed in South Africa.

⁸ SWAs do not refer to a specific programme or aid instrument, but rather to a variety of approaches to sectoral development. They reflect a shift amongst donors from supporting projects to supporting government expenditure, based on sectoral policies and plans.
Cassels A (1997) A guide to sector-wide approaches for health development: concepts, issues and working arrangements. World Health Organisation (WHO), Geneva.

CHAPTER 7: ANALYSIS OF THE INTERFACE BETWEEN HEALTH POLICY AND HIV/AIDS 1994-2006

This chapter looks at the extent to which health policy in KZN and South Africa has taken cognisance of the threats posed by HIV/AIDS, in order to develop and sustain the national health system. The previous three chapters extracted a number of themes from data collected in one health district in KZN, which demonstrated that HIV/AIDS has been impacting on: 1) service delivery, and 2) the management and functioning of the broader health system, in both cases in diverse ways. This chapter takes these themes as a starting point to review policy documents and responses. Here I should underscore that this chapter does not look specifically at HIV/AIDS policy, but rather at the appropriateness of *all health sector policies and reforms being developed and implemented in a context of HIV/AIDS* (see conceptual framework in Chapter 2).

The themes covered in Chapters 4-6 are summarised below.

Impact of HIV/AIDS on health services (demand side impacts):

- Stabilisation in health service utilisation for HIV-related illness
- Potentially higher resource utilisation associated with providing HIV-related care, with district health services becoming most affected

Impact of HIV/AIDS on health services (supply side impacts):

- HIV/AIDS susceptibility and vulnerability amongst health care workers
- Increasing absenteeism and attrition as a direct result of the HIV/AIDS epidemic
- HIV/AIDS exacerbating a range of 'push factors'
- The significance of poor HR management

Impact of HIV/AIDS on the broader health system (system issues):

- Trends towards more centralised control
- Poor integration of programmes and the deflection of resources towards HIV/AIDS
- Increasing donor/partner involvement in the system

In all cases, these themes relate to slowly evolving, insidious processes rather than obvious, immediate impacts. This is something that sets HIV/AIDS aside from other disease trends that the health sector has had to contend with, and something which has generally hampered appropriate action. For example, if we compare HIV/AIDS to other epidemics such as the Black Death, then we can see that although it has not immediately killed as large a proportion of the global population, it has spread mortality over decades, with this mortality expected to reach exceedingly high levels over time. Socio-economic impacts have evolved similarly:

The evidence for catastrophic socio-economic repercussions is as yet slender. But we must be alert to the more subtle and far reaching ways in which AIDS can influence the trajectory of social development (de Waal 2006: 9)

As a result of its long term nature and impact on social vulnerability, it almost makes more sense to compare HIV/AIDS to processes such as climate change, than to previous epidemics. The lessons resulting from such comparisons may in turn give us more of an advantage in understanding and responding to the epidemic (see Chazan et al. 2006). This is because there have been both parallels and divergences in efforts to comprehend these two challenges facing humankind. Research and discussion on both issues has been characterised by global framing of the problem, depoliticised discourses and data debates and polarisation. However, the response to climate change has been much more forward looking, focussing on present day capacity to respond to future stresses. It is in these different approaches that the lessons may lie.

The long-wave nature of the threats posed by HIV/AIDS can mean that these threats are pushed aside in the face of more immediate concerns, such as outbreaks of infectious diseases with a short incubation period and a high death toll. Reflections on societies that have collapsed through history⁹ inspire some level of amazement that these societies could not foresee or adapt to the circumstances that befell them. Yet long-term threats are

⁹ for example those documented by Jared Diamond. Diamond J (2005) *Collapse: how societies choose to fail or survive*. Allen Lane, Penguin Group, London.

more difficult to understand or predict, and invariably have to be weighed against short-term priorities. Furthermore, they require a different type of response, and one that is likely to take policy makers and planners out of their accustomed mode of operating. For example, in the health sector there are generally recognised ways of responding to immediate threats, such as those posed by communicable diseases. A vertical programme geared towards this end might typically consist of three phases: an attack phase to break the chain of transmission, a more limited consolidation phase to prevent the emergence of transmission, and a maintenance phase for surveillance (Mills 1983). However, in the case of HIV/AIDS the path of action is less clear.

Not only is it often more difficult to conceptualise responses to long wave events such as HIV/AIDS, but there are also a number of disincentives for health systems to respond appropriately. Most obviously, if people can't access care, then they don't place any burden on health services. Similarly, if the quality of care provided is sub-optimal, then the costs of treatment to the provider will be lower and people will seek care less readily. Lastly, providing new treatments such as ART can increase demands on the health services significantly at first, as People Living with HIV and AIDS (PLWHA) live for longer and so enlarge the pool of those requiring care. Where health systems are stressed and resources seriously constrained, the temptation to reduce the burden on the system might be greater than the drive to achieve health system objectives. Such objectives, according to WHO, should include improving the health of the population served, responding to people's expectations, and providing financial protection against the costs of ill-health (WHO 2000).

This chapter starts by exploring some stages in the policy making process, in order to better understand and explain in particular how gaps in the health sector response to HIV/AIDS threats ('absent policy content' and 'missed opportunities') may have arisen. It then moves on to look at the appropriateness of the general policy direction adopted by health sector reforms post-1994, before focussing in on more specific issues. It highlights which issues have been addressed and those which have fallen through the cracks. Lastly, it considers missed opportunities and some of the less obvious interactions between

HIV/AIDS and health policy. The question as to why the health sector may or may not have responded to HIV/AIDS threats is covered broadly here in the introduction, and in the section that follows. Where it has been possible to attach more specific explanations to specific issues, then this has been done in the ensuing sections.

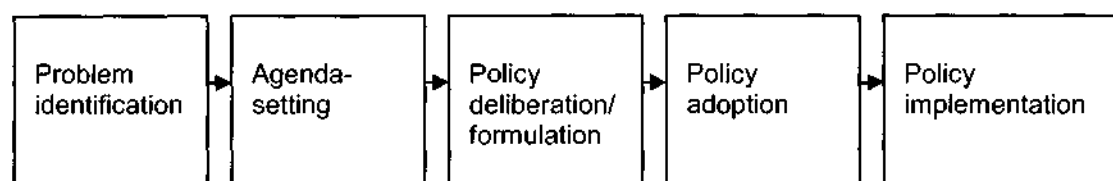
7.1 The road to policy formulation: where are the potential snags in acknowledging the impact of HIV/AIDS?

In an ideal world emerging insights and evidence would inform health policy and its implementation in a timely fashion. Health sector trends, such as those outlined above, impacting negatively on the provision of quality services, would then be an immediate catalyst for action. Conversely, a lack of evidence could be blamed for a poor response on the part of health policy makers and planners. In reality, however, credible evidence is just one of many factors feeding into policy and practice. The 'rational' approach to policy making can be contrasted against the opposite extreme, where policies reflect party-political aims or even the personal ambitions of politicians (Klugman 2000). Clearly, evidence does not always affect policy, but is still a necessary pre-requisite for a sound understanding of where problems lie. This is precisely why increasing attention is being paid to research-policy dynamics (see for example Healthlink Worldwide 2006).

Since evidence is a necessary ingredient for a rational policy making process, I consider first whether evidence of the impact of HIV/AIDS on health services and the broader system has been available to policy makers. This body of evidence has been growing fast, but is relatively nascent (see Chapter 2). This is partly due to the time lag that occurs between increasing HIV prevalence and increasing impact. It is also due to the fact that early studies (such as those reviewed from the late 1990s and early 2000s focussing on the demand for care) were isolated and limited to a snapshot view of a long-term, dynamic process. Hence, a lack of more comprehensive evidence upon which to base decisions may well have played some role in hindering efforts to respond to HIV/AIDS threats in the health sector.

The policy process itself can be thought of as comprising a number of consecutive, interconnected stages, each of which may prove problematic for acknowledging HIV/AIDS threats in the health sector. These stages are outlined in Figure 35. In this section, I focus on the first two stages and consider why: 1) HIV/AIDS threats may not have been identified as issues to be addressed in the health sector, and 2) why, even when acknowledged, these threats might not have made it on to the policy agenda. A later section of this chapter looks at problems arising later in the policy process, and, in particular, the gap between policy and implementation.

Figure 35. Basic stages in the policy making process (adapted from Booysen et al. 2001; Van der Waldt 2001)



Unfortunately, the impact of HIV/AIDS on the health system in South Africa started to take hold at a time when the government was busy trying to establish a national health system post-1994, a process that took up considerable attention and resources. Health districts were only established in 2001 and the National Health Act of 2003, which brought a sense of completion to the restructuring, was only proclaimed in 2005. It is not just in the health sector that the burden of the epidemic was questioned as perhaps being 'one burden too many' (Fourie 2006). In terms of the government's overall response to HIV/AIDS, this sentiment has been used to explain early support for nothing more than quick fix solutions and explanations.

There is no doubt that early predictions about the HIV-related demand for health care could have been overwhelming for those trying to restructure the health system post apartheid. When the health sector was hit early (in comparison to other sectors) and hard by a deluge of HIV/AIDS patients requiring care, there were many who felt that the health services would collapse under the burden that awaited them in the coming years

(see quotations in Chapter 4). We now know that the burden did not, in fact, continue to rise exponentially. In retrospect, these alarmist views did not offer much support or direction to those engaged in the policy process, given their capacity. They may even have fuelled government's so-called 'denial' of the problem, often offered as explanation for ineffectual responses to the HIV/AIDS epidemic.

One common thread runs through the many different stories of denial: people, organisations, governments or whole societies are presented with information that is too disturbing, threatening or anomalous to be fully absorbed or openly acknowledged (Cohen 2001: 1)

Since a more specific example of a 'denialist' response is reviewed later in this chapter in relation to HIV/AIDS mortality, it is perhaps appropriate to acknowledge the complexities inherent in such labelling. Cohen (2001), in his book on 'States of Denial: knowing about atrocities and suffering', introduced a framework which could provide us with insights into social responses to the HIV/AIDS epidemic (de Waal 2006). He demonstrates how, in the case of 'literal denial', there is blatant refusal to accept what is happening. More frequently though, the facts are given a different meaning ('interpretive denial') or the moral implications are downplayed, so justifying a certain level of inaction ('implicatory denial'). It is clear from this framework why knowledge does not automatically help to define policy problems, and why issues of cognition, emotion, morality and action are also important considerations.

Even where evidence is available and policy makers are able to engage with the evidence to identify and acknowledge problems, these problems may not necessarily be high on their list of priorities. In other words, they might not make it onto the policy agenda, and become held up in the second stage of the policy making process (see Figure 35). This is where political processes come into play. At the most basic level, voters have to be concerned with HIV/AIDS issues to ensure those they elect in to office feel compelled to respond to them (de Waal 2006). Yet those voters themselves affected by the epidemic may struggle to participate in democratic processes, including elections. If those people prioritising HIV/AIDS issues do not make it to the polls, then these issues are less likely

to make it on to the political agenda. In the run up to South Africa's third democratic elections, I considered how voting patterns may be altered as large numbers of people fall ill or become engaged in caregiving activities (Veenstra 2004), and Strand (2005) has since examined the effects of HIV/AIDS on elections in a great deal more depth.

Ultimately, there are many reasons why HIV/AIDS threats to the health system in South Africa may not have been adequately addressed in the twelve years since democracy. As it is not always possible to pin down specific reasons to specific issues, I have tried to explore in broader terms where hitches in the policy process might have occurred, focussing on the first two stages depicted in Figure 35.

7.2 Appropriateness of the overarching direction of health sector reforms

As an introduction to reviewing more specific health policy issues, this section first looks at the overarching direction of health sector reforms in South Africa and further considers their appropriateness in a context of HIV/AIDS. The most important policy documents outlining this direction are as follows:

1. ANC National Health Plan (ANC 1994)
2. White Paper on the Transformation of the Health System in South Africa (SA Department of Health 1997)
3. Health Sector Strategic Framework 1999-2004 (SA Department of Health 1999)
4. Strategic Priorities for the National Health System 2004-2009 (SA Department of Health 2004c)

In 1994, when the new South African government took charge, its vision for the health system was one which emphasized accessible care for all. This was to be achieved through a PHC approach and supported by a district health system. Decentralisation of management, the integration of programmes, and a focus on improving the quality of care through an essential package of services, were all identified as the primary means to achieve such a vision. Furthermore, they have remained the core thread in the Department of Health's strategic priorities over the years, alongside more specific initiatives focussed on certain elements or support functions of the health system.

The question at issue here is a theoretical one: is the vision of the South African health system described above conducive to managing the threats posed by HIV/AIDS, in addition to strengthening and developing the health system? To answer this question I examine a few important elements of the PHC approach. In particular, I consider PHC's focus on the social determinants of health, its focus on the involvement of communities, its developmental approach, and its support for a multi-sector, multi-pronged approach to health problems. All these elements of the approach are evident in the Declaration of Alma-Ata (1978), coming out from the International Conference on Primary Health Care.

Here I will argue that the threats created by HIV/AIDS would have been managed very effectively within the social framework of the PHC philosophy, but that this vision for the health sector was never realised. This is partly due to timing – South Africa was reforming its health system at a time when HIV/AIDS impacts were already being felt. It is also due to the more widespread adoption of SPHC in place of PHC, as it was initially envisaged at Alma-Ata (see Chapter 2). Because of its narrower, more medical focus, SPHC could be implemented quite easily with limited autonomy given to health districts, which is essentially what has happened in South Africa. Unfortunately, the failure to implement PHC has affected HIV-prevention efforts, the ability of health services to manage the burden of HIV/AIDS illness, and the capability of households to cope with home-based caregiving.

Prevention efforts, for one, would most likely have been more successful if implemented through PHC, so limiting the burden placed by ill individuals on the health system. This is because HIV/AIDS is a disease borne out of social determinants and relatively speaking quite difficult to transmit. Early responses in South Africa and elsewhere, however, saw it as a health sector problem. For instance, HIV/AIDS/STI Directorate of the South African Department of Health was tasked to drive implementation of the first national HIV/AIDS strategy in 1994. It was only in 1997 that a review of South Africa's HIV/AIDS response noted a lack of commitment for the strategy from departments other than Department of Health (SA Department of Health 2000b; Strode et al. 2004). Only then was there a push towards an HIV/AIDS response with greater buy in from all government departments.

The PHC philosophy is not only ideally suited to prevention efforts, but would also have assisted the health sector in effectively managing the burden of HIV/AIDS that presented at health facilities. Under the PHC agenda, care would have been closer to communities and integrated, so limiting difficulties with access and the potential deflection of resources. As things have turned out, communities have become increasingly involved in care activities, as witnessed by the increase in CSOs providing HCBC. However, this involvement has been somewhat disconnected from the formal health services, hence resulting in significant negative impacts on home caregivers and communities. What was needed was for community actors to be drawn into, and supported by, the national health system.

Finally, it is not only the health sector that would have stood to gain from PHC and its multi-sector, multi-pronged approach; communities would also have benefited greatly in the HIV/AIDS context. This is because the provision of basic services such as housing, water, sanitation or electricity, would all have assisted households in caring for family members with AIDS. In the case of a home-based caregiver nursing a relative in the late stages of infection, an inadequate supply of safe water will cause considerable hardship. The patient may soil themselves frequently, requiring regular washing and will need to drink more to prevent dehydration during bouts of diarrhoea. If the caregiver does not manage to fetch water often enough, there may be insufficient water for hygienically preparing food and seeing to sanitation needs. This, in turn, may lead to more frequent skin infections and intestinal infections, both of which an immuno-compromised person is prone to. These concerns have all been highlighted recently in discussions over the privatisation of water in South Africa and the effect that this might have on people's health (Kamminga et al. 2003; IRIN 2006).

7.3 Policy content: what issues have been addressed?

This section and the next look at the extent to which South African health policy has addressed the known impacts of HIV/AIDS on the health care system to limit potential harm. Where themes or issues have been addressed, we can not assume that this has been

an intentional effort. Since the impacts of HIV/AIDS often work to exacerbate existing health system problems rather than creating new ones, it follows that the rationale for policy development does not always come from the epidemic itself. Nonetheless, two HIV/AIDS impacts have been addressed by health policy in South Africa to a greater or lesser degree: the difficulties people face in accessing care (evident in the stabilisation of the burden on health care services) and the potential deflection of resources due to poorly integrated HIV/AIDS programmes.

7.3.1 Access to services: the issue of user fees

Shortly after the new government came to power in South Africa in 1994, user fees were abolished for pregnant mothers and children under the age of 6 years (SA Department of Health 1998). This policy was extended in 1997 to include all PHC services. This policy shift, although one of several promoting accessible, good quality PHC (in line with the general direction of health care reforms), is singled out here because it went against the general trend in the region, where many countries were intent on implementing user fees. In most of these countries, structural adjustment programmes and wider macroeconomic policies were playing a strong role in driving the process of health care reforms (Gilson et al. 1995; Sen et al. 1998). South Africa, on the other hand, had to move in line with its new, progressive constitution. In particular, Section 27(1)(a) states that everyone has the right to access to health care services (1996).

The resulting deviation from the general policy trend was one which almost certainly helped to improve access to care in South Africa, particularly for those infected and affected by HIV/AIDS. The damaging effects of cost-recovery mechanisms on access to care have been demonstrated comprehensively (with this literature reviewed in Chapter 2) and are causing even more concern in the context of HIV/AIDS. Pre-ART, HIV/AIDS affected households were shown to be spending a large proportion of household expenditure on medical costs because of frequent illness (Oni et al. 2002; Steinberg et al. 2002; Booysen et al. 2004; Naidu 2004). More recently, renewed attention is being paid to the issue of user fees because of evidence illustrating how they prevent patients from accessing and adhering to ART (see for example Hardon et al. 2006; Souteyrand 2006).

In such instances it is not just a concern that people aren't accessing treatment, but also that treatment programmes are being set up for failure - there are poorer biological outcomes and higher mortality rates where user fees are charged. In South Africa, user fees are charged for hospital care, which in some instances includes the ART programme. However, I would still argue South Africa's efforts to minimise user fees have been tremendously helpful to many in the context of HIV/AIDS. This is because most opportunistic illnesses are managed at lower levels of care, where patients would not have to pay.

If the elimination of user fees for certain services and certain vulnerable groups has indeed been a beneficial policy for improving access to care in the context of HIV/AIDS, then one might question why this has not been visible in trends demonstrated in my research. Most obviously, the elimination in user fees alone cannot improve access without concomitant measures of equal importance, for example, improvements in the quality of services or the appropriate location of facilities. This was one of the most striking findings emerging from a review of the impact of free maternal health care in South Africa, which demonstrated only relatively modest gains from the policy (Schneider et al. 2000). In another study in Hlabisa district in KZN, attendance for preventative services was thought to have declined as a result of increased demand for curative services once user fees were removed (Wilkinson et al. 2001).

Clearly, removing user fees alone will not improve access to services, particularly where there is overcrowding in health facilities and the quality of care suffers. In my analysis, a number of measures to improve access to care are highlighted in the next section on 'silences' in policy content. Such gaps, no doubt, have limited the potential benefits that could have been derived from the policy of free PHC.

7.3.2 Efforts to avoid the potential deflection of resources towards the HIV/AIDS programme and a general weakening of the health system

In planning for the implementation of the ART treatment programme and the expansion of HIV/AIDS-related health services, the South African Department of Health defended its slow pace by cautioning against the implementation of a programme without careful

consideration for strengthening the national health system as a whole (see for example SA Department of Health 2003b). This excuse for a slow roll-out was not well received by many activists. However, I would argue that there was value in the government's approach which is outlined in the Operational Plan for Comprehensive HIV and AIDS Care, Management and Treatment for South Africa. This is the only policy document devoted to how HIV/AIDS should be addressed by the health sector (SA Department of Health 2003a). Earlier strategic plans, such as the HIV/AIDS/STD Strategic Plan for South Africa 2000-2005 (SA Department of Health 2000b), were much more general in outlining their approach, with all sectors responsible for implementation.

The Operational Plan set out to accomplish two goals:

1. To provide comprehensive care and treatment for PLWHA, and
2. To facilitate the strengthening of the national health system

The plan included commitments to bolster human resources, improve drug procurement and distribution, and strengthen laboratory services, amongst other measures that are potentially beneficial to the system as a whole. Therefore, health policy in South Africa has been cognisant of the potential deflection of resources that can result from the dramatic scale-up in HIV/AIDS-related care and the strain that this can place on general health service infrastructure. However, the Operational Plan is only a fairly recent policy document and so it is too early to tell how effective its implementation will be. In the words of another policy analyst:

While the Comprehensive Plan is a model of rationality and good intentions, its implementation is likely to be governed by difficulty, uncertainty and unpredictability (Schneider 2006: 18)

Early indications have suggested that the Operational Plan could prove effective in certain areas (for example laboratory services), but that in other areas (for example human resources) its implementation might prove more difficult. In my research for example, managers commented on a number of positive effects of the HIV/AIDS programme on health system strengthening, in particular the functioning of laboratory services. Although they noted how poorly programmes were integrated, they felt the deflection of resources towards HIV/AIDS care was only an issue in the case of human

resources. This is supported by a review of progress in the Free State province, which concluded that there had not been any strengthening of the health system through human resources for ART (Steyn et al. 2006). Even more recently, evidence from the Free State has suggested that ART-rendering health facilities have been strengthened at the cost of other facilities due to health worker movement (Van Rensburg et al. 2007). The TAC has pointed out how poor monitoring systems have made it difficult to determine whether there has been success in recruiting additional health workers (TAC 2006). In a country with such limited numbers of these workers, one can foresee this being difficult without turning to some radical measures to increase the pool available for recruitment.

In conclusion, this section has highlighted instances where South Africa's health policy has addressed threats posed by the HIV/AIDS epidemic, by illustrating two of the clearest examples. In the case of user fees, the policy was not a direct response to an identified threat – it was driven more by attempts to remould state functioning. As a result, the policy lacked the support of other concomitant measures to improve access to care and the policy decision alone proved inadequate. However, in the case of the Operational Plan, the government purposefully took cognisance of the potential effects of an expanding HIV/AIDS programme on health system development. At the time of my research, however, it was still too early to properly assess the success of the policy.

7.4 Policy content: where are the silences, inadequate, or inappropriate responses?

This section considers which HIV/AIDS impacts on the health sector are conspicuous in their absence from policy discourse. In particular, it identifies two very obvious silences on the themes identified in Chapters 4-6 of this thesis. These are the lack of policy on HR management in the health sector and the limited attention paid to stewardship.

Furthermore, it looks at one instance, related to HCBC within the continuum of care, in which the government attempted to communicate its stance and address the challenges presented by HIV/AIDS. Its response, however, could be considered as inadequate and inappropriate.

7.4.1 The management of human resource impacts

When looking at the impact of HIV/AIDS on human resources in the health sector, there is no doubt that the 'dissident' or 'denialist' views held by the South African government have acted as a barrier to more proactive policy responses. My interactions with provincial managers highlighted their difficulties in pursuing issues that national government did not consider pertinent. The highly centralised political leadership in South Africa, which relies on consensus and alliance, has been identified as one element of the political environment determining markedly contrasting successes of HIV/AIDS policies in South Africa and Uganda (Parkhurst et al. 2004). So, while estimates of an alarming increase in AIDS deaths in the general population were being refuted at high levels in South Africa, there was little scope for health managers with on-the-ground insights to act according to their concerns. Following is a brief background to the situation.

The fray over mortality statistics, between President Mbeki and Manto Tshabalala-Msimang on the one hand and research organisations on the other hand, has been extensively described as one example of Mbeki's support for denialist views (see for example TAC 2004; Marais 2005; Natrass 2006b). The controversy started with the media leak of an MRC report produced in 2001 and embargoed by government, which demonstrated that AIDS had become the leading cause of death in South Africa. This was at a time when Mbeki was quoting 1995 statistics off the internet, showing only 2.2% of deaths as AIDS-related. Government spokespersons responded to the apparent discrepancy by indicating that the findings might be 'inaccurate' or 'resting on assumptions'. Even when a StatsSA report, commissioned by Cabinet, had shown similar trends, Mbeki still insisted during television interview in February 2004 that no studies existed using mortality data to determine AIDS deaths (TAC 2005).

It was in the shadow of this fray that the results of the first substantive study on the effects of HIV/AIDS on the health workforce were released. These results formed part of a broader investigation into the impacts of HIV/AIDS on the South African health sector conducted by the Human Sciences Research Council (HSRC) (Shisana et al. 2003).

The HSRC demonstrated that health care workers were as susceptible to HIV/AIDS as the general population, with a prevalence rate of 15.7% nationally and 17.1% in KZN. In the age group most at risk (age 18-35yrs), prevalence rates were 20.0%. Furthermore, the study calculated that an estimated 13% of health care workers died of HIV/AIDS between 1997 and 2001. The recommendations arising from this study were highlighted in the report:

....it is recommended that a human resource plan for the South African health sector should consider the attrition of health workers due to AIDS-related mortality, and more nurses should be trained to compensate for this (Shisana et al. 2003: 136)

The report did not stop at an examination of health worker deaths due to the epidemic, but also considered other impacts; the workload, stress and effects on morale. The report provided compelling evidence to drive immediate action, but the Department of Health only took up the challenge of developing an HR plan for the sector, entitled the National Human Resources Plan for Health, in 2005 (SA Department of Health 2006b). The delayed response to a very grave threat indicates how denialism can be a barrier to problem identification in the policy making process. Prior to the HR plan, the Operational Plan (mentioned in Section 7.3.2 above) had addressed HR needs in relation to HIV/AIDS treatment and care specifically, by including a broad range of strategies to increase the number of health care workers. However, it did not address HR development as a long-standing problem within the health sector. There is also only a cursory consideration in this Plan of the issues identified in my research, particularly those relating to the indirect impacts of HIV/AIDS on attrition, as well as the susceptibility and vulnerability of health care workers.

The National Human Resources Plan for Health, finalised in 2006, has in concept been a positive health policy development, particularly in that it addresses concerns elicited in my research around HR management. However, it has come somewhat late and has been criticised for not detailing specific enough measures or targets. The HR crisis, and the need for leadership on the part of government to address this, has become one of the TAC's key reasons for protest:

The department of Health has recently published the Framework for a Human Resources Plan. However, the plan is very weak and contains hardly any concrete targets or suggestions; it is mostly empty rhetoric, not a plan (TAC 2006: online)

Therefore, although HR issues were eventually identified as a problem deserving of attention in 2005, the policy process inevitably involves debate and deliberation, as evidenced by the quote above.

In conclusion, the late recognition in South African health policy of the way in which HIV/AIDS exacerbates an existing HR crisis has been a serious omission. As with the issue of access to care, the HR crisis will require a battle on many fronts. The strategy adopted by Malawi was outlined in Chapter 5 (Palmer 2006) and demonstrates the type of momentum that is needed in South Africa as well.

7.4.2 HCBC and other efforts to establish a continuum of care

My research suggested that an increasing number of AIDS patients were receiving care in communities, outside of the health system. This underlines the importance of improved access to care for people with HIV/AIDS and their families. Qualitative insights from other research in KZN have highlighted that home caregivers are largely unsupported (Hunter 2005). A more general acknowledgement of this problem is illustrated by a focus in the literature on a continuum in care provision, which functions to link HCBC more closely with health services (Ogden et al. 2004). In South Africa, however, health policy has generally not acknowledged the need to develop a continuum in care provision, so upholding the rift between communities and the health system.

In this analysis, I focus specifically on measures that could have helped to support home caregivers and promote a continuum of care, such as the Community Health Worker (CHW) programme, HCBC programmes, and step down care facilities. These measures have received different degrees and sorts of attention in South African health policy documents. The CHW programme, for example, was ignored for many years and then

taken up again recently. Step down care generally received little mention. HCBC, on the other hand, has been promoted, but for reasons not entirely aligned to accepted health system objectives.

In a context of HIV/AIDS, CHWs¹⁰ are an indispensable extension of professional care in the community setting. Not only do they champion the PHC approach, but they also have the potential to support home caregiving for patients not yet on treatment and to provide follow-up care for those on the ART programme (Friedman 2003; Hlope 2006). However, while CHW programmes flourished in South Africa in the 1980s, they floundered post-1994 when the national Department of Health decided it would no longer support a national programme (Friedman 2005). Only KZN continued to provide provincial government support, until a national Lekgotla¹¹ on CHWs in 2003, which saw a reversal of government policy. This was followed by the development of a national CHW Policy Framework (SA Department of Health 2004b; Friedman 2006).

The lack of policy direction in the decade post-1994 resulted in a CHW programme plagued with difficulties. By the time the programme was officially (re)launched on the 26 February 2004 (SA Department of Health 2004a), there were a multitude of cadres, training standards and remuneration structures which had to be accommodated (Friedman 2005). While the CHW Policy Framework attempts to bring clarity to some of these issues, at the time of my research these issues were still not resolved. I would argue that the government failed to acknowledge the value of CHWs at a time when they were most needed. This oversight is furthermore likely to remain a hindrance to the effective functioning of the programme in the years to come.

¹⁰ CHWs, or lay health auxiliaries as they are sometimes called, have been in use since the 1950s worldwide and since the 1980s in South Africa. A widely accepted definition of a CHWs specifies that they 'should be members of the communities where they work, should be selected by communities, should be answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organization, and have shorter training than professional workers'. WHO (1989) Strengthening the performance of community health workers in primary health care. Report of a WHO Study Group, Technical Report Series 780. World Health Organisation, Geneva.

¹¹ South African English referring to a meeting convened government, usually to discuss strategic issues.

Step down care¹² is not only useful in a context of HIV/AIDS, but also helps to promote efficiency in any situation where patients require significant nursing care without hospital-based specialist medical intervention. As hospitals filled up with patients with opportunistic illnesses in the late 1990s and early 2000s, many health workers were advocating for such facilities to be established. The concept is also acknowledged in the policy document entitled ‘An Enhanced Response to HIV and AIDS and Tuberculosis in the Public Health Sector – Key Components and Funding Requirements, 2002/03-2004/05’ (SA Department of Health 2001b). However, a lack of more specific guidance as to how these facilities should function within the health system meant that the concept was not fully embraced. Furthermore, efforts to establish such facilities were in some cases ineffectual; a step down facility in Durban was reportedly underutilised due to a lack of hospital transport and poor cooperation between hospitals and the facility (IRIN 2004b).

Step down care is, one might argue, a temporary measure to improve access to care and to support hospitals and communities, rather than a longer-term developmental objective of the health system. This is because as treatment scales up, the need for palliative care should decline. However, step down care remains crucial for AIDS patients who fail on treatment. Furthermore, even temporary responses have value and they indicate that the system can respond dynamically to the changing context in which it operates. In the case of step down care, this did not happen.

HCBC¹³, unlike other initiatives which receive scanty mention, does feature in two national policy documents:

1. National Guideline on Home-Based Care/ Community-Based Care (SA Department of Health 2001a), and

¹² Step down care is care provided to patients who do not require specialist medical intervention, but rather more intensive nursing care. It can therefore be provided with lesser input from specialist medical personnel in a facility with less expensive infrastructure than a hospital.

¹³ The WHO definition for HCBC is used in the policy documents. This describes home care as ‘the provision of health services by formal and informal caregivers in the home in order to promote, restore and maintain a person’s maximum level of comfort, function and health including care towards a dignified death’. It further explains that home care is an integral part of community-based care, ‘care that the consumer can access nearest to home, which encourages participation by people, responds to the needs of people, encourages traditional community life and creates responsibilities’.

2. An Enhanced Response to HIV and AIDS and Tuberculosis in the Public Health Sector – Key Components and Funding Requirements, 2002/03-2004/05 (SA Department of Health 2001b)

It is therefore not its complete absence which elicits concern, but rather the way the strategy is outlined and the rationale behind it. While the policy documents highlight that HCBC is not intended to be ‘cheap’ or ‘second class care’, they counteract this view with the perception that it is a cost-effective form of care that can reduce strains on health system resources.

The government’s rationale for promoting HCBC (according to the policy documents) is at best confusing and at worst in disregard of the well-documented and gendered impacts of home caregiving on households and communities. These often include physical hardship, personal risk of various infections, as well as emotional, psychological and social stresses such as alienation. This is in addition to the economic burden placed on affected households (Akintola 2004; Hunter 2005; Omer 2006; Thomas 2006). Where there are claims that HCBC is cost-effective, we would therefore need to ask: ‘From whose perspective?’ From a societal perspective we certainly can’t be sure that this is the case, given the challenges in attaching a monetary value to many of the household impacts. Early reports looking at HCBC already noted the importance of viewing HCBC not as an alternative to facility based care, but as ‘one element in a co-ordinated and integrated continuum of care’ (Russel et al. 2000). However, health policy documents show limited insight in this regard. While they do acknowledge some of the negative effects on home caregivers, they don’t give concrete suggestions as to how to avoid or overcome these.

Given the extent of HCBC and the potential impacts of such programmes (both positive and negative), the policy framework has been limited and somewhat inappropriate. The context of HIV/AIDS calls for concrete measures and targets to ensure that caregivers are linked into the formal health services and attention is given to the issue of unpaid carers, amongst other concerns. These remain, as yet, unaddressed.

7.4.3 Stewardship and co-ordination to facilitate increasing involvement of donors and partners

My research highlighted how an increasing number of donors and partners were becoming part of South Africa's health system as a direct result of HIV/AIDS. These included bilateral donors and multilateral agencies operating at the national and provincial levels, as well as CSOs and FBOs operating at the district level. The emergence of international aid and local organisations prompted concern among my informants about the lack of structures to shape a coordinated continuum of services. These structures would logically be determined by their level of operation.

In many lower income countries which have historically received significant amounts of aid, heightened concern for donor co-ordination has coincided with institutional reforms in the health sector (Buse et al. 1996). Countries like Zambia instituted a number of measures to coordinate and manage external resources as part of health sector reform (see Lake et al. 1999). In South Africa, prior to HIV/AIDS, external aid was minimal, and so relatively little attention was paid to the issue of donor coordination. Sector Wide Approaches (SWAs) for example, have not featured as part of our health care reforms.

Donor co-ordination in South Africa, although inadequate, has been covered as an issue in a number of policy documents including:

1. White Paper for the Transformation of the Health System in South Africa (SA Department of Health 1997)
2. Health Sector Strategic Framework 1999-2004 (SA Department of Health 1999), and
3. Strategic Priorities for the National Health System 2004-2009 (SA Department of Health 2004c)

The White Paper addresses issues of stewardship and co-ordination most comprehensively, outlining the problems that can arise without sound policy guidelines and ways to address these. The five year strategy documents are much less detailed and focus only broadly on the need for coordination, and the national Department of Health's role in this regard.

While not entirely ignored in policy documents, the issue of donor co-ordination has not received the attention it requires given the proliferation of donors and the level at which they actually function. My research indicated that managers felt that the most appropriate level for donor co-ordination to occur was the provincial level. However, the Department of Health attempted to co-ordinate donors through the national level, even though provinces were granted substantial autonomy in many other respects. This is according to the policy for donor co-ordination, which makes no attempt to build provinces' stewardship functions in relation to the operation of donors working within their borders. In other words, policy has not taken heed of on-the-ground realities, which was highlighted in 2002 when KZN went against policy directives by accepting money from the Global Fund. Manto Tshabala-Msimang, the South African health minister, tried to get the Fund to redirect the money through the South African National AIDS Council (SANAC) for use in all nine provinces, with no success (Baleta 2002).

My research showed that co-ordination was not only lacking for donor involvement - at the district level the proliferation of CSOs and FBOs was also creating a need for mechanisms to structure and lead the response. Stewardship and coordination of partner activities in the districts is most relevant to HCBC. This is precisely because, if properly coordinated, HCBC has the potential to become an element of the continuum of care. However, health policy documents looking at HCBC (those outlined above) have only very fleetingly concerned themselves with how government might guide the response. They mention the need to select best practice models, look at standards, and develop tools for activities such as monitoring and evaluation (SA Department of Health 2001a). However, they fail to make any concrete suggestions as to how co-ordination might be improved. Similarly, policy guidelines on NGOs in the White Paper look only at requirements for funding.

My research suggested an urgent need to establish co-ordination structures at district level that could maintain a register of partners providing health-related services. In relation to HCBC specifically, a greater display of stewardship might have seen the establishment of norms and standards for a minimum package of care, to name just one

recommendation emerging from a recent study of HCBC programmes in four districts of South Africa (Naidu 2005). I would also advocate, based on the findings of my research, for more specific guidelines as to how districts should involve CSOs and FBOs in district health planning and development activities, hence acknowledging them as an important part of the health system.

In conclusion, my research demonstrated that the context of HIV/AIDS was exacerbating a number of health sector challenges. While sometimes acknowledged, these challenges have not been addressed appropriately in health sector policies that have been made available in the public domain.

7.5 The gap between policy and implementation

Up until now, I have looked only at the extent to which health policy content has considered the impact of HIV/AIDS on health services and the health system in South Africa, positively and negatively, intentionally or unintentionally. However, the policy process is complete only at the point of implementation and then, finally, evaluation. In certain instances HIV/AIDS has intersected here, increasing the gap between policy and implementation in relation to the general direction of reforms, thus further hindering the capacity of the system to respond appropriately to the epidemic. This negative feedback loop needs to be addressed. Thomas and Grindle (1990), who developed an interactive model of policy implementation, have suggested that policy reform should be viewed as long term process of decision making. Within this process, one would expect to encounter antagonistic reactions. However, such reactions are more likely overcome if specific strategies are developed for the implementation of reforms.

In my research, I observed two trends resulting from HIV/AIDS which were counteracting the overarching direction of health policy reform in South Africa and so widening the gap between health policy and implementation. In the first instance, managers felt that they had very little autonomy in managing HIV/AIDS programmes due to centralisation of control and this was impacting negatively on their management of

other programmes as well. This was despite strong support in the policy documents for an aggressive process of decentralisation. In the second instance, I noted a rapidly increasing burden placed on district health services (largely through the expansion of the HIV/AIDS programme, but also through other initiatives), but without any obvious signs of increasing support. This clearly does not align with the national government's policy of strengthening PHC and district level hospital services.

7.5.1 The centralisation of control

Provincial and district managers interviewed in my research felt that in terms of HIV/AIDS programming, they had very little scope to act in the best interest of their province or district (see Chapter 6). District managers in particular were not given any autonomy to decide if and when to implement new initiatives. Rather, these decisions were generally passed down from higher levels as an instruction. Other research has also pointed to tensions and disjuncture between higher level policy-making (which is usually quite disease-specific) and lower level service delivery (which follows a more integrated approach), in relation to HIV/AIDS and more generally speaking (see for example McIntyre et al. 2003; Blaauw et al. 2004b). It seems, however, that such tensions have been generally heightened in the case of HIV/AIDS, because of both political interference and the pressure to deliver.

While some level of tension in the decentralisation process may be understandable, it was concerning to note that a lack of capacity at lower levels was cited as an impetus for higher levels of government to assume even greater control, rather than as a motivation for the rethinking of policy design details and institutional arrangements. This strategy for dealing with inadequate capacity is also reflected in recent moves to place PHC clinics under provincial control, with options to then hand over the responsibility of these services to local government through service level agreements (National Health Act 2003; Blaauw et al. 2004b). Such responses fall short of what is really needed to implement decentralisation successfully – intensive support and capacity building. This was enshrined in the Constitution (1996) in its understanding of 'cooperative

governance', but may be more complex than immediately apparent. For example, a World Bank paper on 'rethinking decentralisation' has highlighted how local administrative capacity may be identified as a problem by more central levels, when in fact it is these levels that also lack the capacity to manage and support local affairs (Litvack et al. 1998).

Without giving any detailed insight as to how policy design details and institutional arrangements may have been inadequate in the case of decentralisation (clearly beyond the scope of this thesis), this research did point to the role of HIV/AIDS in contributing to the slow pace of implementation. In doing so, it suggested that more needed to be done to counteract these effects.

7.5.2 Insufficient support for increasingly burdened district health services

My research indicated that the complex management of HIV/AIDS was placing steadily increasing demands on infrastructure and human and financial resources at lower level health services. Clinic and hospital staff were feeling more stressed due to the heavy time commitment of administering the improving and expanding armoury of HIV/AIDS interventions. A cursory analysis of expenditures further suggested that lower-level services were being expected to provide a lot more without a commensurate increase in funding. In sum, the need to effectively manage a significant burden of HIV/AIDS was limiting the success of efforts to strengthen district health services.

Addressing the overburden on district level services would require a redistribution of resources away from tertiary levels of care. However, in the South African health sector, the process of rationing tertiary services in favour of primary services has been slow. Reasons for this have included: rigidity in personnel and equipment costs, contractual relationships with academic institutions, continued high demands for services and the poor condition of some hospitals (Stack et al. 2002). In relation to HIV/AIDS, higher level hospitals were the first to experience the burden of illness and have remained the

focus of research studies, creating the impression that this is where the greatest impact lies. However, my research demonstrated that this is no longer the case and not enough has been done to strengthen district health services to accommodate the demands placed on them.

7.6 Missed opportunities

The history of AIDS policy in South Africa is a sorry tale of missed opportunities, inadequate analysis, bureaucratic failure and political mismanagement (Nattrass 2004c: 41)

Given the many negative impacts that HIV/AIDS has had on health services and systems, it may seem counterintuitive to consider the epidemic as a creator of opportunities. However, in certain instances this has indeed been the case. In this section I look at where some of these opportunities have presented themselves without health policy and reforms capitalising on them. They are therefore labelled ‘missed opportunities’.

Generally speaking, my research indicated that HIV/AIDS impacts most profoundly on the health system not by creating new problems, but rather by highlighting and exacerbating pre-existing systemic weaknesses. This impact could have provided the Department of Health with a compelling reason to act on some of the weaknesses which previously had remained obscured amongst a host of other concerns. For example, HIV/AIDS could have provided the motivation to act sooner on improving HR management systems, once it was known that the old system was not providing the information needed to assess trends and respond to them in a timely manner. However, in most cases, these warnings were not heeded and the opportunity to respond proactively was lost. Throughout my analysis (Chapters 4-6), I have tried to highlight innovative examples of efforts to address systemic weaknesses in other contexts.

More specifically, a host of opportunities presented itself with the increasing involvement of various actors in the health system. Firstly, increased donor funding could have been used to strengthen the health system in ways that were never possible before. Some examples of such action in other African countries include Malawi’s Emergency Human

Resources Programme (see Chapter 5) and the African Comprehensive HIV/AIDS Partnership (ACHAP) in Botswana (see chapter 8). South Africa, although a middle income country, was sixth amongst the top ten recipients of aid for HIV/AIDS control between 2000 and 2002 (OECD/UNAIDS 2004). This indicates the extent of donor partnerships. However, for such partnerships to benefit the health system, government has to understand and acknowledge where the direst problems lie and articulate these issues to donors. Furthermore, government has to assert its preference for adopting a health systems response to problems in HIV/AIDS programming. In South Africa, both the 'denialist' attitude and the lack of an emphasis on stewardship have acted as barriers to the fulfilment of the potential of donor partnerships.

Secondly, HIV/AIDS created a rationale for civil society to become more engaged in health issues, whether it be in the provision of services such as HCBC or in the advocacy arena. Put another way, HIV/AIDS created a 'pillar' to organise around, with new organisations formed and old ones strengthened (Willan 2004a). This has been a positive development, since in terms of the provision of services, for example, CSOs and FBOs have comparative advantages over government. Some of the attributes of CSOs that contribute to their effectiveness include: an ability to reach areas of great need, motivational force, way of promoting local involvement, low cost, adaptive and innovative approaches to problems, non-bureaucratic style of operation, independence from political entanglements, and their sustainable outcomes (Gilson et al. 1994; Gellert 1996; Loewenson 2003). My research at district level also highlighted how many district health managers found local partner's contribution to identifying and addressing barriers to service delivery most useful.

As local partners generally fill a gap in government services, related health policies could have looked not only at issues of regulation and co-ordination, but also at ways to support and promote their activities. Again focussing on HCBC, which not only benefits AIDS patients, it is clear that the tone of the National Guidelines (SA Department of Health 2001a) is not this way inclined. In these guidelines, government's reasons for promoting HCBC centre not only around the inappropriateness of institutional care for many conditions (which is a valid concern), but also the lack of resources and infrastructure in

the public health sector. Hence HCBC is viewed as a strategy to save money and relieve responsibilities resting on the Department of Health, with one of its cited advantages being to 'reduce and share the cost of care within the system'.

Unfortunately, supporting local partners to enhance their role in the health system is not likely to be a lower cost option, nor should it be seen as such. Community responses to HIV/AIDS have evolved as a 'logical compliment to large-scale top-down strategies' and have played an important role in extending the reach of health services in countries like Uganda (Birdsall et al. 2005). However, CSOs and FBOs need to be supported to fulfil this *complimentary* role. Some suggestions for the type of support that is required in Southern Africa have included: the provision of supplies, capacity building and training, the provision of financial assistance (funding for stipends could be provided through the Expanded Public Works Programme), strengthening the institutional capacity of programmes, creating a conducive political climate, and support from medical staff for the distribution of drugs (Naidu 2005; Rosenberg et al. 2005).

In terms of CSOs and their activities in advocacy, an interesting case study of a 'missed opportunity' is the Department of Health's interactions with the TAC and the way it positioned civil society as the 'enemy', rather than the 'partner'. De Waal (2006) aptly pointed out that TAC is not an opposition party: its civil disobedience campaigns have been aimed at enforcing rights enshrined in the Constitution, not efforts to overthrow the government. A notable example of how it operates can be seen in the way campaigns for ART were only launched once the battle against pharmaceutical companies had been won and ART was in fact affordable for the country. Zachie Achmat, the activist who started TAC, described how the target of TAC's legal battles was in fact a surprise to them:

We never imagined that we would fight with our government. We thought the bigger and longer battle would be with the international pharmaceutical companies.

I still believe that will prove to be the case (Gill 2006: 89)

The TAC has also played a strong role in treatment literacy and respondents in my research described how a successful partnership with the TAC in certain provinces had resulted in a more successful ART roll out.

In essence, the type of civil society mobilisation experienced in the HIV/AIDS era, could have been a much more positive development for the South African health system, if government had responded to it differently. Take, for example, the Joint Civil Society Monitoring Forum, a forum established in 2004 by 10 civil society organisations, with an open membership base and a primary goal of monitoring and assisting with the implementation of the Operational Plan (Ndlovu et al. 2006). Although clearly providing a potentially supportive role to government, there had (until April 2006) been no participation in this forum by national health officials. While it might appear from my examples that civil society mobilisation occurred around HIV/AIDS issues only, this is not the case. As highlighted previously, one of the goals of the Operational Plan is to facilitate the strengthening of the national health system. The TAC has been similarly engaged in general health system concerns, such as the HR crisis (see Section 7.4.1).

Donors, CSOs and FBOs do not complete the list of potential partners that the South African government could have drawn in to help develop the health system at a time of greater need. While other partners/participants in the health system may not have been studied in my research, they remain nonetheless important. The private sector has its own incentives for contributing to health system development, since a healthy workforce is more productive. Corporates are also concerned about their public image, and have a whole host of competencies in the management arena which could be beneficial for developing health systems (World Economic Forum 2006). While many big companies have taken it upon themselves to keep their workforce healthy by providing care within the workplace, most small and medium sized companies can't afford to do this, but may have contributed in other ways.

Lastly, some comment is needed on traditional healers because they are a fundamental part of the South African health system, with the potential to enhance and compliment care provided by the formal health services. In contrast to the examples above, South African health policy *has* acknowledged the importance of their engagement. In the case of HIV/AIDS, the Operational Plan (SA Department of Health 2003a) suggests that they might augment implementation by mobilising communities, encouraging uptake of VCT, promoting drug adherence, monitoring patients' condition, and improving

communication, to name just a few measures. This makes sense given the large number of people who seek care from traditional healers – a study of young adults who were interviewed in northern KZN found that 60% had consulted a traditional healer for their illness (Case et al. 2005). As a first step to recognising their role, the Traditional Health Practitioners Act (2004) was passed, which lays out the policy framework for professionalisation amongst this group. Understandably, the process of professionalisation comes with tensions and difficulties, but has generally been viewed by the healers as a move in the right direction in KZN (Devenish 2006).

To conclude, I would like to consider that the missed opportunities in the health sector are part of a bigger picture of missed opportunities in the South African management of HIV/AIDS more generally. Dr Kevin De Cock, director of WHO's HIV/AIDS department, highlighted three of these opportunities after the 2006 International AIDS Conference in Toronto, at which the South African government was openly criticised for its response (De Cock 2006). He pointed out how South Africa could have shown leadership for the continent, given its political and economic authority. Without the controversies, the country could have received huge international support, both financially and in other respects. Lastly, South Africa could have seen much greater success with both treatment and prevention efforts.

7.7 How has policy response impacted on gender and inequality in South Africa?

HIV/AIDS impacts on the health system have affected efforts to address gender inequality and socio-economic inequality more widely in South Africa. The neglect of certain health policy issues, by failing to mitigate these impacts, may have allowed a broader development agenda to be undermined in a way that is not often been acknowledged.

There are two ways in which health sector policies and reforms (or the lack of) have had broad implications for women's work in a context of HIV/AIDS. Firstly, health systems are gendered institutions, in that the hierarchy of health workers and managers places traditionally more male-dominated professions (such as doctors and administrators) above those more likely to be female (such as nurses and paramedical staff) (Mackintosh et al. 2006). HIV/AIDS does also not impact uniformly on health workers, according to the findings of my research. It was the nurses, more than the doctors, that suffered directly from the impacts of HIV/AIDS, both in their personal and professional lives. They were the ones, for example, who weren't provided with family accommodation when working far away from their homes. Therefore, in failing to acknowledge and respond appropriately to the impact of HIV/AIDS on health care workers, government has contributed to worsening gender inequities in the health sector. Had it been doctors that were most affected, it seems likely that there would have been more pressure for immediate action.

Secondly, home caregivers are predominantly women and so the negative social, emotional, physical and economic consequences of fulfilling this role with minimal support (see for example Akintola 2004; Hunter 2005; Orner 2006; Thomas 2006) fall disproportionately on women. In this instance the government's policy stance on HCBC has failed women, because of 1) its unjustified assumptions about women's availability to care for ill family members, and 2) its lack of attention to issues of support (both financial and otherwise). Any measures to improve the continuum of care could have contributed to lessening the gendered burden of caregiving (Ogden et al. 2004).

Moving away from gender concerns, I would like to consider one important way in which health sector policies (or the lack of) have worsened socio-economic inequalities. This is embodied in the failure of the health system to achieve its objective (according to WHO) of protecting people against the costs of ill-health. Evidence from household studies and my own interviews with clinic nurses alluded to the difficulties that those affected and infected by HIV/AIDS faced in seeking care, and the high costs incurred in achieving it. Essentially, more attention needed to be paid to breaking the vicious cycle of poverty and ill-health that has been experienced in the context of HIV/AIDS, primarily through

efforts to improve access to care. Now with the introduction of ART, concerns around the 'hidden costs' of accessing these drugs and their potential to exacerbate existing inequities are bringing more attention to this issue (Stewart et al. 2006).

Sadly, the post-apartheid government inherited a health system fraught with inequalities. Despite the huge amount of government attention devoted to addressing such inequalities, HIV/AIDS has worked in subtle ways to create a series of new challenges for gender and socio-economic equity in particular, many of which remain unaddressed by health sector reforms.

7.8 Conclusions

In sum, HIV/AIDS, a unique threat to health system, calls for a shift in our focus to more long term planning and an approach unlike that employed for any previous epidemics. Thus far, success has been limited; health policy in KZN and South Africa has not often intentionally addressed the specific threats posed by HIV/AIDS to the public health sector. This is despite an overarching policy drive towards PHC, a philosophy conducive to the strengthening the health system for all conditions and suited in particular to managing HIV/AIDS. However, even here the epidemic has worked to widen the gap between policy and implementation, so limiting the benefits of some reform strategies.

CHAPTER 8: A CHANGING LANDSCAPE – ART AND HEALTH POLICY IN THE YEARS TO COME

Although the world might have seen the benefits of ART for over a decade now, most lower and middle income countries have only recently expanded their armoury against the HIV/AIDS epidemic to include treatment. Brazil made an impressive start in 1996, becoming the first developing country to implement a widespread antiretroviral therapy programme (Teixeira et al. 2004). However, the most heavily affected countries in southern Africa only starting rolling out their programmes six years later, when Botswana established four central treatment sites in 2002 (Government of Botswana 2003). Today, even much less developed countries like Malawi have overcome major barriers, such as the human resource crisis, to get significant numbers of people with AIDS on treatment (Palmer 2006).

For most provinces in South Africa, the ART rollout only truly started sometime between April and August 2004. This followed the release of the ‘Operational Plan for Comprehensive HIV and AIDS Care and Treatment’ in November 2003, detailing an ambitious programme to establish an ART treatment site in each health district within 12 months (SA Department of Health 2003a). The Western Cape, however, had started providing treatment on a limited scale in April 2001, through partnerships with academic institutions and NGOs such as Medicins Sans Frontiers (MSF) (Western Cape Department of Health 2006). These partnerships not only allowed earlier initiation of the programme in the Western Cape, but also enabled many people to receive treatment through PHC clinics rather than in a hospital environment, as has subsequently been the norm in most other areas of the country. However, the partnerships were only ever intended to help with the initiation of the programme; by mid-2007 it is anticipated that the government would have taken over full responsibility for the MSF treatment sites in Khayelitsha (PlusNews 2006).

The South African Department of Health claims to have the largest ART programme in the world, with 175 000 people reportedly on ART treatment (in the public sector, June 2006), and it uses this fact to defend criticisms about government inaction in the face of a booming epidemic (SA Department of Health 2006a). Yet these criticisms have not denied the scale of the programme, they have simply compared progress in South Africa to other, often poorer, countries in sub-Saharan Africa. By the end of 2004, South Africa had less than 28 000 people on treatment, out of an estimated 837 000 in need (SA Department of Health 2005c; WHO 2005). Contrast this to a country like Malawi, which managed to put just over 13 000 people on treatment by the same date, out of an estimated 170 000 people in need (Makwiza et al. 2005). Malawi essentially had a coverage rate of around 7.8%, compared to South Africa's 3.4%. By the end of 2005 however, South African provinces had ART coverage rates of between 20% and 55% (Nattrass 2006a). The programme therefore scaled up fast, but has still not (in 2006) joined the ranks of those in Botswana, Uganda and Namibia, currently delivering treatment to more than 50% of those in need (UNAIDS 2006).

The advent of ART in lower and middle income countries like South Africa has been a major change for health systems. The shift from a 'prevention only' approach, to one that embraces combined prevention, treatment and care strategies, is affecting these systems in new and diverse ways (Beck et al. 2006). Since my research was conducted at the time that ART treatment was initiated in South Africa, it essentially gave us insights into health sector issues and trends dominant in the pre-ART era. This chapter therefore attempts to acknowledge this shortcoming and the changing landscape that we are operating in, by drawing out health policy issues that could become relevant in the years to come. As such, it looks at what might be the possible implications of ART and the changing management of HIV/AIDS for health systems and their development.

Describing the effects of ART on health systems is a great challenge, simply because there are still so many unknowns in South Africa. Lessons from the developed world, and sometimes even those from low prevalence, developing countries like Brazil aren't necessarily useful in helping us to understand the potential future burden of HIV/AIDS on fragile health systems in high prevalence contexts. This chapter is therefore mostly

theoretical; it looks first at the potential impact of ART on health services delivery (and in particular the demand and supply of health services), before considering what the impact of ART might be on the broader health system. It then incorporates a case study on Botswana, which draws out what the relevant issues there have been from the perspective of managers working in the field. While host to the oldest ART programme in Southern Africa and therefore potentially a country that South Africa could learn from, evidence is unfortunately also still largely anecdotal. However, I argue that this should not stop us from planning for the long-term; by reviewing different scenarios, incorporating new evidence as it becomes available, and ultimately, continuously adapting our responses to the changing context.

8.1 The impact of ART on the demand and supply of health services

Because it is difficult to predict how the demand placed on health services by HIV positive individuals will evolve in the years to come, I turn to the concept of ‘scenarios’ to explore this concern. Scenarios have been described as stories that describe a possible future (UNAIDS 2005). Not only do they capture future uncertainties, but they also empower individuals and institutions, by highlighting their ability to shape the future.

Scenarios have been used to look at how HIV/AIDS may play out in Africa and in South Africa more specifically (UNAIDS 2005; Metropolitan AIDS Solutions 2006). The South African scenarios project highlighted them as a useful tool to accomplish a number of tasks including:

1. Creating a shared understanding of key factors driving the HIV/AIDS epidemic, to minimise both the spread of the epidemic and its effects;
2. Creating a vision of a successful future shared by people from different sectors, so allowing commitment to actions at all levels of society;
3. Identifying key actions needed to align, intensify and broaden efforts in a way that will enhance synergies and utilise limited resources effectively; and
4. Influencing policy and agendas (Metropolitan AIDS Solutions 2006)

Scenarios are useful in the health sector for many of the same reasons, however I am going to look at how we might use their insights for ongoing review of policy and reform activities.

Health sector scenarios, unlike those mentioned above, are narrow in their focus. For example, the ones I consider look explicitly at the management and impact of ART and the resulting burden on health systems (keeping other factors constant). They therefore have to be put in context. In particular, matching the provision of ART with aggressive prevention efforts has the potential to improve the outcome of all the scenarios. Similarly, if excessive attention is diverted away from prevention efforts, then even the outlook of the most optimistic scenario is quite bleak. Modelling work has suggested that without effective prevention, for example, treatment will become unsustainable, simply because of the large number of people requiring care (Salomon et al. 2005).

Scenarios looking at the future demand for health services and the impact of ART capture various assumptions about 1) changes in the average survival time from infection to death – labelled ‘AIDS deaths’, and 2) changes in the rate of new infections (see Table 20) . The most hopeful scenario (described in Chapter 2) is one which takes lessons from the demographic transition and has therefore been labelled the ‘AIDS transition’ (Over 2004). It sees an initial decline in mortality as people go on treatment, with this resulting in the number of people infected with HIV and potentially requiring some type of care increasing. However, the ART programme also has benefits for prevention efforts, so with time these are realised and the HIV incidence falls. At this point the burden of HIV/AIDS on the health services stabilises to more manageable levels.

Table 20. Scenarios illustrating the potential demand for health care due to HIV/AIDS and the impact of ART (adapted from Over 2004)

Scenario	AIDS deaths	New infections	Resulting potential burden on health system
1. AIDS transition	Decline as people go on treatment	Decline as treatment scales up (HAART has positive effect on prevention)	Initial increase in the number of people requiring care, with later stabilisation to a much more manageable burden
2. Failed transition – AIDS deaths rebound	Decline initially as treatment scales up, but experience a rebound (due to problems with programme delivery - adherence, regimens)	Remain high (due to rebound in deaths – HAART has no effect on prevention)	Initial increase in the number of people requiring care, with some stabilisation as deaths again increase (burden remains greater than in scenario 1)
3. Failed transition – continued high rate of new infections	Decline as people go on treatment	Remain high (HAART has no effect on prevention)	Increase in the number of people requiring care, with this number remaining high
4. Failed transition – increase in the rate of new infections	Decline as people go on treatment	Increase (HAART has negative effect on prevention)	Massive increase in the number of people requiring care, with this number remaining high

Attaching a timeline to these scenarios is difficult because of the multitude of variables that have to be considered. However, ART coverage may give us the clearest indication as to when we may expect the AIDS transition to transpire, should conditions be favourable. AIDS deaths, in particular, are expected to decline with almost immediate effect as treatment scales up. In a demographic surveillance site in KZN, the first patients were enrolled in the ART programme in November 2004 and by 2006 there was already a significant decline in population mortality in the 25-49 year age group (Herbst et al. 2007). The ASSA AIDS and demographic model links ART coverage to AIDS deaths. It estimates that without ART we would have seen around 505 000 deaths a year by 2010 in South Africa (Dorrington et al. 2006). This figure drops to 388 000 with 50% ART coverage and 291 000 with 90% ART coverage. The latest HIV and AIDS and STI

Strategic Plan for South Africa aims to deliver 'an appropriate package of treatment, care and support services to 80% of HIV positive adults and children' by 2011 (SA Department of Health 2007b). Furthermore, it hopes to reduce the national HIV incidence rate by 50% by the same date. Should these ambitious targets be achieved, then South Africa may be well on its way to realising the AIDS transition by early next decade.

The scenarios presented above indicate the number of people infected with HIV and hence requiring some type of care (unless in the very early stages), however the actual burden of HIV/AIDS on health systems is mediated by a number of other demand and supply side factors. Our prior learning suggests that these factors might include stigma, access to care, perceptions about the value of seeking care, and the availability and quality of services, amongst other concerns. Understanding these dimensions can explain why the potential demand for services does not actually translate into a burden. Furthermore they give us insight into health system functioning and where opportunities may lie to improve access to care, for example.

Lastly, ART will not only affect health systems by increasing or decreasing the burden placed on them, but can also cause more subtle shifts within systems. These shifts are important for managers and policy makers, since they will ideally influence prioritisation and resource allocation. If they are not accounted for in this way, then certain components of the system may be differentially impacted on and health care reforms may suffer. The most obvious shift in the burden of HIV/AIDS care due to ART would be from inpatient services to outpatient services. In Brazil for example, the scale-up of the ART programme (delivered through outpatient services) was accompanied by a gradual decline in hospital admissions among those on therapy (Dourado et al. 2006).

In order to explore the various scenarios more thoroughly, the next two sections of this chapter review a broad range of available evidence on the assumptions on which these are based. They also consider the extent to which evidence is transferable to southern Africa from countries which have much longer experience with implementing ART.

8.1.1 The impact of ART on AIDS deaths

In theory, the longer PLWHA survive on ART, the greater the number of patients that health systems will have to cope with. Established cohorts in Europe have witnessed sustained declines in the incidence of AIDS and death with ART, despite the potential for long-term adverse effects (Mocroft et al. 2003). In sSA, the clinical success of ART may be subjected to greater challenges. In particular, its success will depend on getting people on treatment early and maintaining adherence, both of which currently carry an uncertain prognosis.

Early evaluations of ART programmes in Africa demonstrated how their effectiveness is compromised when patients present late for treatment (see for example Weidle et al. 2002; Lawn et al. 2005; Boulle et al. 2007; Egger et al. 2007). While survival probabilities were shown to be substantially lower for patients with a baseline CD4 count of <50 cells/ μ l, they also decline incrementally. Hence a recent cost effectiveness model constructed for southern Africa estimated that ART plus antibiotics might prolong life for 6.7 discounted years if treatment is initiated 'late' (CD4=200 cells/ μ l), or by 9.8 years if initiated 'early' (CD4=350 cells/ μ l) (Bachmann 2006). Unfortunately, what most people fail to acknowledge is that decisions about if and when to seek therapy are dependant not only on government policy, but on many other social, political and economic factors as well.

Debates about adherence to ART in Africa are ongoing and have yielded surprising findings. Most recently, concerns about sub-optimal adherence in sSA were assuaged by a meta-analysis which concluded that there have been higher levels of adherence to antiretroviral regimes in sSA than in North America (Mills et al. 2006). This is despite the mixed successes with drug regimen compliance for other common diseases in sSA, such as malaria and TB, and health infrastructure constraints that could potentially have contributed to 'antiretroviral anarchy' (Harries et al. 2001; Stevens et al. 2004). However, the concern over these results is that many of the early ART programmes (which have logically been the subject of adherence studies in sSA until now) have captured a population and a set of circumstances that won't be the norm once treatment scales up.

For example, even at a very well managed and supported ART site in Cape Town an increasing service load has resulted in more patients being lost to follow up (Boulle et al. 2007). Another recent analysis of adherence at a regular government treatment site in KZN has demonstrated 3 and 12 month rates of achieving 95% adherence to be 60% and 41% respectively (Magula et al. 2007). The authors concluded based on these findings that there is room for performance improvement. Therefore, we need to keep questioning our early evidence on adherence over the longer term.

Barriers to accessing ART, and the potential for these to be broken down, are at the heart of concerns about late initiation on treatment and poor adherence. In sSA, the most frequently cited barriers across a range of contexts have been stigma and costs (Weiser et al. 2003; Mshana et al. 2006; Padarath et al. 2006; Meyer-Rath et al. 2007). When it comes to initiating treatment, perceptions of health facilities and the care they offer also come into play. In general, there has been an assumption that ART will, with time, help to break down these barriers. However, this will not necessarily hold true. For example, although there has been some indication that ART can reduce stigma in communities (described earlier), this has not happened to the expected degree in workplace settings. People have continued to present late for treatment when this is offered by employers, so limiting the potential benefits and hence companies' returns to investments in workplace programmes (George 2006).

If barriers to accessing ART are not broken down, then patients could continue to access treatment late (or not at all) or default on treatment, so compromising their survival. At this stage it is unclear how robust these barriers are, and what effect the ART programme will have on them. For people who struggle to survive, ART access and adherence must compete with many other challenges. This is perhaps most starkly illustrated in South Africa by the way that PLWHA have been found to compromise their health and 'yo-yo' on antiretroviral treatment, simply to maintain a relatively low CD4 count to qualify for a

disability grant (Nattrass 2004a; Leclerc-Madlala 2005). The cut off level for the disability grant is a CD4 count of below 200, which is why some PLWHA stop taking treatment if it rises above this level, so that they can maintain the income (currently R760 per month) that the grant provides.

8.1.2 The impact of ART on the rate of new infections

The most direct way that ART can lead to a reduction in new infections (and hence the number of people infected with HIV and requiring treatment in the years to come), is by decreasing transmission rates through a reduction in plasma HIV RNA. This effect is a known, given that it is not obviously context specific and has been demonstrated conclusively for both sexual transmission and vertical transmission (see for example Quinn et al. 2000; Cooper et al. 2002; Castilla et al. 2005). However, it is still not clear what the impact of such an effect will be at a population level, where it is dependent on a number of other factors, including when people are put on treatment (i.e. their CD4 count) and the extent of discordant partnerships or sexual encounters. A township study in South Africa investigated such factors and found the population impact of ART on reducing sexual transmission to in fact be small under WHO guidelines (Auvert et al. 2004).

The next big question around the rate of new infections concerns the extent to which ART influences behaviour change. Here we are looking specifically at risky sexual behaviours, which were thought to have increased amongst MSM after the introduction of ART in North America (Katz et al. 2002). However, such studies have not been able to conclusively prove a causal relationship between ART and risky sexual behaviour, and in the African context failure to provide ART could also be conducive to risky sexual behaviour (Nattrass 2004b). This is because some PLWHA, struggling with a lack of hope and a desire not to die alone, may spread HIV deliberately (Leclerc-Madlala 2001). A recent study looking at the impacts of the provision of ART in South Africa concluded that there was little evidence of widespread change in sexual behaviour (Doherty et al. 2007). Furthermore, what makes such behaviour risky is not immediately apparent and may differ across contexts. In Africa it is not the average number of sexual partners that

has contributed to the spread of HIV, but rather the fact that people engage in more long term, concurrent partnerships (Halperin et al. 2007). The effect of ART on behaviour change therefore remains poorly understood.

Aside from the effect of ART on risky sexual behaviour, there are other ways in which it can hinder or facilitate prevention programmes. It may be that the focus on treatment is deflecting some attention and resources away from prevention. On the other hand, the availability of treatment may reduce stigma and give hope, so encouraging uptake of VCT and an improved awareness of status. Early evidence on the latter is encouraging, with a large study in Botswana demonstrating significant reductions in stigma. Although several factors were correlated, perceived access to ART was associated with decreased odds of holding at least one stigmatising attitude (Wolfe et al. 2006). The Khayelitsha treatment programme in South Africa also claimed to have promoted openness and a reduction in stigma. This in turn apparently led to a willingness to be tested and higher rates of condom use (WHO 2003). In other contexts in Africa, however, uptake of VCT has not reduced HIV incidence and so this relationship can not be assumed (Matovu et al. 2005; Corbett et al. 2007).

The impact of ART on the rate of new infections not only depends on a number of effects, but also has to be viewed over a longer period of time to determine whether any declines are actually sustained. Temporal trend analysis of HIV incidence rates in Brazil between 1996 and 2002 yielded a complex picture, with some level of decline and then rebound amongst men, but no clear evidence of this amongst women. In two regions of the country there was a marked difference between observed and expected incidence rates, but not in the other three regions (Dourado et al. 2006). Ultimately, it will be many years until we can start looking at such trends in countries like South Africa.

8.1.3 The impact of ART on the supply of health services

There are not only uncertainties around the impact of ART on the demand for health services, but also around how it might affect the supply of health care. In particular, the human resource crisis is having a major impact on the capacity of health systems to deliver, as highlighted previously. The ART programme is further contributing to the depletion of human resources due to its own requirements. The exact number of health workers required depends on the quality and scope of the ART programme, but has been estimated (in a review of 6 ART programmes in developing countries) to be 1-2 doctors, 2-7 nurses, and <1-3 pharmacy staff for 1 000 patients (Hirschhorn et al. 2006). In South Africa this equates to a low estimate of 675 doctors, 1 350 nurses and 675 pharmacists to achieve universal coverage. The programme could, however, also require as many as 1 350 doctors, 4 726 nurses and 2 026 pharmacists (Bärnighausen et al. 2007).

On the other hand, the ART programme has the potential to improve current health worker attrition rates, so balancing its needs and even potentially contributing to HR development. Here, there are two key questions worth considering:

1. To what extent will health workers be prioritised or encouraged to seek treatment, hence reducing HIV-related absenteeism and attrition?
2. To what extent will ART improve the motivation and working conditions of health care workers, so discouraging migration from the public health system?

Since both of the above questions were in fact addressed in Chapter 5, I will only briefly again draw out the main issues for completeness sake. Most importantly, my research found an assumption by certain managers that health care workers would seek care on their own accord, with no efforts to prioritise their treatment. This attitude has serious implications, since health workers don't necessarily seek care and prioritising their treatment is an essential measure to ensure that health services are sustained to provide treatment to *all* that need it. More recently, this has become one rationale behind WHO's 'Treat, Train, Retain' campaign (WHO 2006c). Secondly, my research indicated that too much emphasis has been placed on ART treatment as a means to improve health worker morale. More often than not, health care workers reviewed the ART programme as

another addition to their already heavy workload. On the supply side, there is unfortunately very little we can learn from other contexts, simply because the high levels of health worker attrition due to deaths and the stresses of providing palliative care are so closely linked to the high prevalence context.

8.2 The impact of the ART programme on the broader health system

As the section above has looked at a range of service delivery issues, this section focuses on the other two fundamental functions of health systems: stewardship and financing (WHO 2000). It is at this level of the system that we have already witnessed the early impacts of ART and so much more objective evidence is available. Since it is almost impossible to separate out the two functions of stewardship and financing in any discussion, they are addressed together.

The health system function of stewardship could also be described as 'oversight' (WHO 2000). It essentially captures the guiding and moulding that is necessary to shape the health system into its most desirable form, a form which will address issues such as equity. In South Africa the stewardship function has been particularly important, because of the need to address apartheid damages, which resulted in health services that were fragmented, highly inefficient and inequitable, and biased towards curative care (ANC 1994; Pillay et al. 2001b; Ncayiyana 2004).

Post-1994, the vision for the South African health system was one which espoused the principles of PHC with an effective district health system (see Declaration of Alma-Ata, 1978). To achieve this, the health system required rebalancing with respect to its focus on:

1. Curative vs preventative care
2. Tertiary vs primary care
3. Urban service delivery vs rural service delivery
4. A medical models vs a model focussing on the social/economic/political determinants of health
5. Top down management vs community driven management style

6. Centralisation vs decentralisation

7. Short term delivery objectives vs long term developmental objectives

In the years preceding the ART roll out in 2003, substantial progress was made in these shifts of focus. However, with the advent of ART, tensions in the above balances have again been heightened because of the impact of the programme on the health system, something that other authors have also commented on (McCoy 2006). This is because of the sheer size of the programme – in terms of expenditure, it accounted for over 90% of strategic health programmes in 2005/06 (SA National Treasury 2006a).

8.2.1 ART shifting the balance towards curative, tertiary, medical model health care delivered in more urban areas

ART, although able to have a positive influence on prevention (as described above), is essentially a curative intervention. It is also one which is quite complex to implement, simply because of the variety of drug regimens, the potential side effects, and the sophisticated laboratory monitoring on which the programme is based in countries like South Africa. All these factors have meant that it is more ideally suited to implementation in an urban, hospital environment. Indeed, this has been the case until now, with only isolated examples of down-referral to clinic services. The MSF programme in Khayelitsha, for example, intended to demonstrate that ‘the use of antiretroviral therapy at primary health care level was feasible, affordable and replicable’ (Kasper et al. 2003). However, it was still located in one of South Africa’s largest cities, in close proximity to hospitals and high tech laboratories.

The increasing focus on treatment (and hence curative care) is most starkly illustrated by budget analysis drawing out the amount of money being set aside for treatment versus prevention (see Figure 36). This shows how treatment has gone from receiving no financial resources in 2002/03 to receiving more than 30% of resources allocated to HIV/AIDS in 2005/06. Treatment started out being delivered in facilities predominantly serving urban populations (see Table 21). Although with time more ‘rural’ facilities have come on board, these are still hospitals located in small towns and so they don’t guarantee access to rural communities that have to travel to reach them.

Figure 36. Changing allocations to HIV/AIDS activities, 2000/01-2005/06 (Hickey et al. 2004)

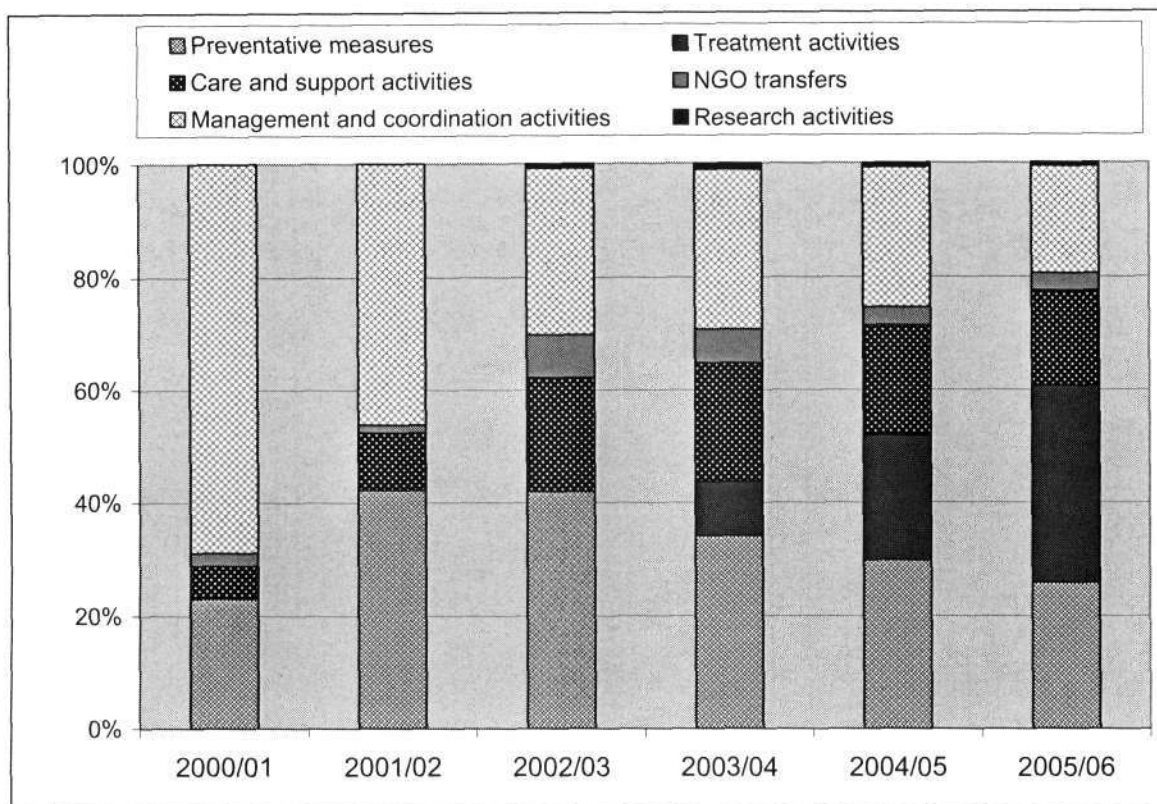


Table 21. Number of health facilities serving rural populations and providing ART (Stewart et al. 2005a)

Month	Health facilities serving rural population and providing ART	Total number of health facilities providing ART
September 2003	3 (11% of total)	24
February 2004	6 (15% of total)	39
November 2004	24 (32% of total)	75

8.2.2 ART shifting the balance towards centralised, vertical approaches focussed on short term delivery objectives and managed in a top down fashion

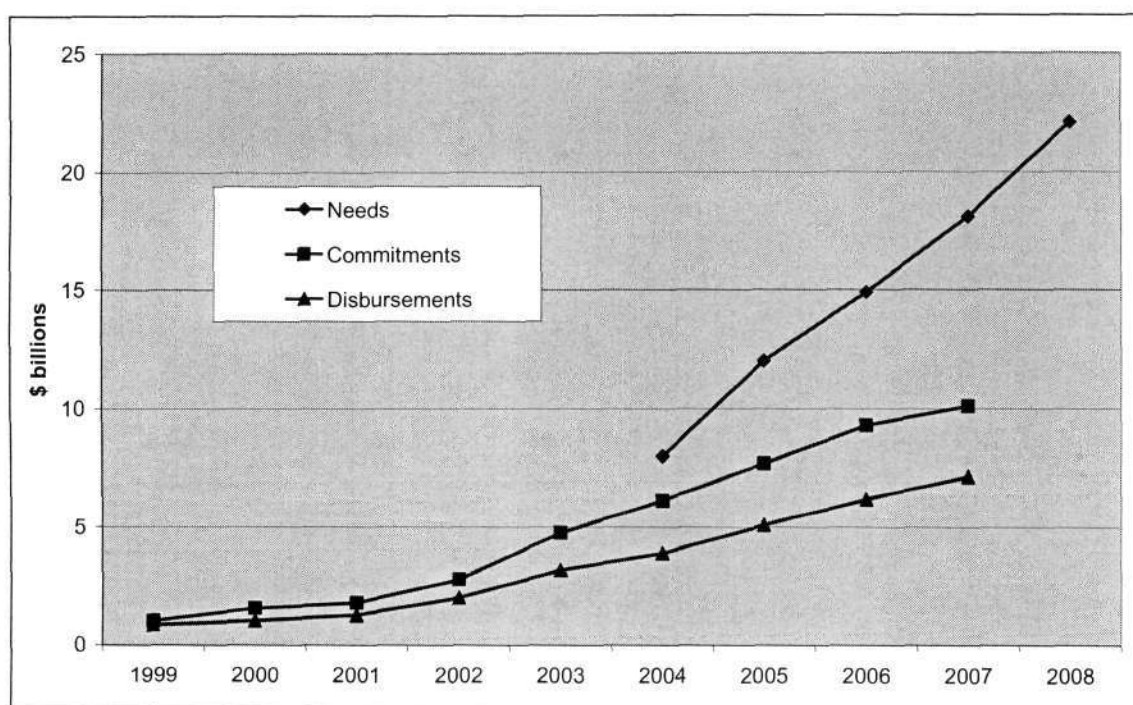
In Chapter 6, I considered how the push to implement vertical programmes is stronger where epidemics, poverty and weakened health systems coincide – a situation that we are currently faced with because of HIV/AIDS. Vertical programmes are also attractive to donors who often step in to provide additional support under such circumstances. The drawback is that vertical programmes are often poorly integrated with other disease programmes – a concern that was investigated by this research (see Chapter 6). Hence they are not concerned about longer term strengthening of the health system; instead they try to bypass constraints in a way that maintains a disease-specific focus.

Stewardship and financing cannot be addressed separately; in the case of HIV/AIDS we see that much of the donor funding has been very disease-specific thus far. For example, even though the Global Fund was created in 2002, only in Round 5 (September 2005) were proposals accepted for programmes to strengthen national health systems (Friends of the Global Fight 2005). Just one percent of Global Fund financing has been for health system strengthening. Similarly, PEPFAR funding has been very treatment focused, with Congress requiring that 55% of funds go towards treatment (Office of the United States Global AIDS Coordinator 2004). In South Africa, less than half the patients on treatment in the public sector by December 2005 were fully funded by the state (Nattrass 2006a). This indicates the degree of dependency on external resources, and the need to comply with the conditions that come with these.

At lower levels of the health system, stewardship, particularly in terms of the approaches adopted, also goes hand in hand with financing. However, since donors do not interact at this level, it is the centralisation of control (for example, through conditional grants) and a top-down management style that is more of an issue. Such concerns were already becoming apparent in my research and have been addressed in Chapter 6.

Although the high burden of disease and politicisation of the HIV/AIDS epidemic have led us towards focussing on short term delivery objectives in the South African health system, financing has again played a part in fuelling this trend. In particular, the volatile and unpredictable nature of donor aid impacts negatively on the sustainability and effectiveness of programmes and limits countries' abilities to plan. Aid volatility has been demonstrated empirically and extends to the discrepancy between commitments and disbursement (Bulir et al. 2003). Unfortunately the discrepancy is becoming larger, as the needs continue to increase sharply (see Figure 37).

Figure 37. The widening gap between needs, commitments and disbursements for HIV/AIDS (CHGA 2005)



8.2.3 Rationale for justifying health system impacts

What the above discussion has shown, is that in terms of stewardship, ART has generally steered fragile health systems away from the vision of PHC. It has also presented many associated challenges for financing – countries have needed to accept donor aid to finance ART programmes, even though this aid has come with controlling conditions and

without any assurance of sustainability. Essentially, the immediate crisis of HIV/AIDS could be seen to have taken us backwards in our long term development plans for health systems. Is this sacrifice justified by the benefits of expanding treatment? To answer this question we have to consider the issue of AIDS exceptionalism and look at how we balance short term delivery objectives with a more long-term developmental agenda in the health sector.

Up until now, AIDS exceptionalism has been supported in the health sector response: this is evident in the structuring of ART programmes and the measures that have been put in place to address the burden of HIV/AIDS. Indeed, the above observations of ART impacts on the health system are all testament to the exceptionalism afforded to HIV/AIDS, as are other clinical measures such as VCT, currently under pressure to be replaced by routine testing (Bayer et al. 2006). This exceptionalism also makes sense given the extraordinary nature of the burden. We would do the same for an outbreak of any communicable disease. However, we generally do this knowing that the burden of illness will ultimately subside to allow the health system to again pursue its path towards longer term development.

In the case of ART, the potential future demand for treatment is not easily predicted, due to the long wave nature of the HIV/AIDS epidemic. This leaves us with a degree of uncertainty as to whether the health system burden will in fact stabilise to manageable levels – levels which will enable the ART programme to be integrated and managed like any other disease programme. Scenarios – both those presented above and those developed more generally for South Africa - suggest that this is possible. Modelling has indicated that a worst case scenario for the country might see HIV prevalence in 2025 at a comparable level to what it was in 2005. A best case scenario might, on the other hand, see HIV prevalence rates fall to as low as 7%. Similarly, the number of people sick with AIDS (and hence requiring care) in 2025 could be as high as 786 000 or as low as 339 000, compared to an estimated 529 000 in 2005 (Metropolitan AIDS Solutions 2006).

Health sector scenarios are most useful in indicating to us conditions that are necessary to stabilise the epidemic and the role that health systems might play in this regard. They also alert us to a series of alternative realities which could fuel AIDS exceptionalism long into the future, so causing permanent damage to more fragile health systems.

8.3 Botswana Case Study

Botswana, a country that has one of the highest antenatal sero-prevalence rates in the world, made the decision to make ART available in the public health services in 2001. At this time, consultants were brought in to determine how many people need treatment and how this should be done. The country had a small population of just 1.7 million (Botswana Central Statistics Office 2002), and so there were calculated to be 300 000 HIV positive individuals, 110 000 of which required treatment. The government decided on a target to place 19 000 people on treatment each year. Initially the programme was rolled at 4 sites (in early 2002) in Gaborone, Francistown, Maun and Serowe, about a year after the private sector (Debswana) had started including ART provision in their workplace programmes. Despite initial plans to gradually expand the number of treatment sites, roll out happened quicker than expected, with 32 sites operational by the end of 2004. By July 2006, patient enrollment stood at 70 685, with 8 500 of those patients receiving care through the private sector (Government of Botswana 2006b).

Aside from the obvious difference in the volume of people requiring treatment in South Africa and Botswana, there is another quite unique feature of the Botswana ART programme. This is ACHAP, a collaboration between the Government of Botswana, the Bill and Melinda Gates Foundation and the Merck Company Foundation/Merck & Co., Inc. (ACHAP 2006). ACHAP was established in July 2000 to support the Government of Botswana in providing prevention, care and treatment for HIV/AIDS, through the donation of two anti-retroviral drugs (efavirenz and indinavir) and financial support. The

partnership was for an initial 5 year period, however under spending has resulted in the partnership being extended until 2009. It has in many ways provided an invaluable learning experience for the development of public-private initiatives in the region (see Ramiah et al. 2006 for some of the lessons learnt).

8.3.1 Health system challenges associated with ART scale up

Interviews with managers engaged in Botswana's ART programme highlighted an important message with respect to health system challenges; that they are constantly evolving. This demands that the system must adapt to respond appropriately to the needs of the programme. At the time of initiation, the biggest health system challenges were reportedly limited infrastructure and human resources. To assist with infrastructure constraints, ACHAP assisted to initially set up a reference laboratory and to place prefabricated buildings on hospital sites to act as infectious disease care clinics. They later purchased laboratory equipment for a further 11 sites. The problem of human resources, however, has been somewhat more pervasive. Although ACHAP has supported additional health care worker positions and the training of doctors and nurses, there is a general shortage of health care workers in the country and a continuous 'brain drain' to more developed countries.

As the ART programme in Botswana became more established, two additional health sector challenges became apparent: a low uptake of VCT, and limited access to care in certain areas. The problem of VCT uptake was addressed by several measures, including the establishment of 16 VCT centres through a US Government and Government of Botswana partnership, as well as the introduction of 'routine testing' in 2004. These both seem to have achieved significant successes. In terms of access, ACHAP has now (in 2006) just purchased 4 mobile clinics to try and reach the more remote north and west areas of the country. There are also still plans to down refer patients to clinics once stable on treatment, but this has yet to be realised.

Looking forward, managers identified a series of new challenges to be addressed. Of most concern, was the need to establish an appropriate model of care, based on cost effectiveness and a deeper understanding of health system constraints to date. The general feeling was that established treatment models are too expensive for the country to sustain, with these having resulted from foreign influences and over-medicalisation (evident in the reliance on doctors and frequent laboratory testing). Closely linked to this, was concern for the sustainability of the programme and the need to reduce reliance on foreign funding sources. Some also felt that there was still uncertainty around an appropriate balance between prevention and treatment, in order to realise the desired decline in prevalence rates.

The Botswana case study therefore highlights the type of evolving challenges that health systems might be faced with as ART treatment programmes scale up, with some being easier to overcome than others.

8.3.2 ART impact on the demand and supply of health services

Encouragingly, Botswana has registered a sustained decline in HIV antenatal prevalence, from 37.4% in 2003, to 33.5% in 2005 (Government of Botswana 2006a). However, it is not possible to dissect out this trend any further, simply because there have not been any incidence studies. Managers were also somewhat mixed in their opinion as to whether this declining prevalence had resulted in fewer hospital beds being used for the treatment of opportunistic illnesses, because of continued congestion in these facilities. They did, however, concur that even if this effect was not yet apparent, the decline in AIDS-related illness and deaths in communities was noticeable. Logic therefore suggested that a reduction in the inpatient health service burden as a result of HIV/AIDS would transpire, but that monitoring systems were not in place to detect this early.

In Botswana, managers agreed that it is very difficult to isolate the impact of the ART programme from other prevention initiatives. Prevention programmes targeting the youth, for example, had been credited for their success in reducing HIV prevalence rates among

those aged 15-18 years (often used as a proxy for incidence). But this decline could also have resulted from the provision of ART, which allowed people to view a positive HIV test result as something other than a death sentence, therefore encouraging testing. One manager described how prior to ART it was difficult to convince women to be tested for the PMTCT programme, since there was always the question 'What is in it for me?' Treatment had therefore provided hope and given people a reason to seek care. The policy of routine testing, found to be widely supported (Weiser et al. 2006), had also helped in this regard, simply by reducing the exceptionalism afforded to HIV/AIDS.

In Botswana, the consensus was that the positive effects of the ART programme on prevention had outweighed any dangers that people were becoming complacent and increasing their risk behaviour. Most managers felt that complacency arises from the absence of good information, and that if people understand that ART is not a cure, then this will never be a big concern. However, significant effort was still going into being creative with prevention messages, particularly for the youth, to limit boredom. Managers also recognised a need to move away from a 'one size fits all' message, to more targeted messaging catering to the needs of specific groups.

On the supply side, and focussing specifically on the impact of ART on health care worker's morale, the situation in Botswana's health services was found to be quite complex. All the managers interviewed, many of whom had worked as clinicians for many years, agreed that seeing individual patients get better on treatment was a satisfying part of their day to day work. However, there were also a whole host of factors that disgruntle health care workers, not least of all salaries and the overall workload that they are faced with. Hence morale had remained low in Botswana's health system, with a limited overall impact experienced as a result of the ART programme itself.

8.3.3 ART impact on the broader health system

In Botswana, health sector managers reported that the ART programme had strengthened the health system in certain respects, but then also weakened it in others. Most importantly, the ART programme had strengthened the health system by helping to identify constraints and by agitating for funds to address these. An example of this was provided in the move to computerise hospitals, something that was on the agenda for some time, but could ultimately be implemented sooner because of the needs of the ART programme. Health infrastructure, in terms of laboratory services, physical buildings and mobile clinic facilities in particular, had also benefited tremendously.

The Botswanan health system had allegedly been weakened as a result of the ART programme through the deflection of attention and resources. Although significant levels of donor funding were made available for the expansion of the programme, this funding was not viewed as sustainable in the longer term. Furthermore, the health sector did not have the human resources required to staff general health services, so any recruitment of staff to the programme automatically depleted capacity in other areas. While foreign health workers have been accepted into the country, they are generally on contract and often use their time in Botswana as a springboard to move on. Lastly, in addition to the deflection of attention and resources, weakening of the health system was also thought to have happened as a result of new management challenges. Increasing budgets and the need to manage drug supplies had worsened capacity constraints and brought concerns about corruption.

8.4 Conclusions

Although largely anecdotal, early evidence from Botswana is suggesting that the AIDS transition is possible in high prevalence countries in Southern Africa. Prevalence rates are subsiding and HIV/AIDS is increasingly being treated like other disease. However, the public health system is still to experience significant declines in its burden and challenges of integrating and decentralising AIDS care remain. This highlights that even though the ART programme there had a two-year start on South Africa's and is currently (in 2006)

reaching almost 65% of those that need it, we still can't be sure of the health policy challenges arising in the years to come. Furthermore, country contexts underscore that we should never assume lessons are transferable. Some of the more obvious contextual differences between Botswana and South Africa are their population size and political approach to HIV/AIDS. In South Africa, the damage caused by mixed messaging is already resulting in quite different and alarming responses to ART (Chopra et al. 2006).

What the theoretical insights and the Botswana case study presented in this chapter do offer, is an approach for evaluating and developing health policy in the years to come. This approach essentially involves constant reassessment of the evolving interactions between ART and health systems, to inform regular review of the various scenarios outlined above. With forward thinking it should be possible to move from a crisis-orientated response to one that is more strategic and ultimately, based on sound evidence, weighs up long- and short-term goals.

CHAPTER 9: CONCLUSIONS AND RECOMMENDATIONS

My research examined the interface between health policy and HIV/AIDS in KwaZulu-Natal, South Africa. The research problem was two-fold, requiring different types of enquiry and analysis. In essence, there have been limited efforts to understand the impact of HIV/AIDS on health systems comprehensively and this, along with other factors, has meant that general health policy has not fully appreciated the significance of HIV/AIDS.

The research undertaken for this thesis comprised two main components:

1. Empirical study of the impact of HIV/AIDS on the health system in Ugu district, KZN, South Africa; and
2. Health policy analysis from 1994 through to present, to assess the appropriateness of South African health policies implemented in the context of HIV/AIDS.

The empirical study sought to answer questions concerning changes in the demand for health services and the associated resource implications. It also looked at the impact of HIV/AIDS on health care workers (and hence on the capacity to deliver health services) and on broader health system functioning. The policy analysis sought to answer questions concerning the extent to which health care reforms have modified the response of health services and systems to the impact of HIV/AIDS, as well as the extent to which the epidemic has hindered or facilitated policy development. It also looked forward to highlight the challenges the ART programme is currently bringing to the health policy context.

The empirical study highlighted key trends concerning the impact of HIV/AIDS on health services. In looking at the demand for health care, it concluded that we have not seen the anticipated increase in health service utilisation, due largely to the difficulty of accessing care. Nonetheless, district health services are spending an increasing share of their resources on HIV-related care. On the supply side, factors contributing to HIV/AIDS

susceptibility and vulnerability amongst health care workers were identified. HIV/AIDS is resulting in increasing absenteeism and attrition, and contributing to a range of 'push factors' driving health care workers out of the public sector. Poor human resource management was exacerbating these concerns.

While most previous research on HIV/AIDS impact on health systems has focussed on health care services, my research also looked at the impact on broader health system functioning. Here it found that HIV/AIDS was resulting in more centralised control of management and that the poor integration of programmes was in some instances leading to the deflection of resources from other priority programme areas. Increasing donor/partner involvement in the health system was also not being optimally managed, hence limiting its potential benefits. For each of these trends, as well as those mentioned in the paragraph above, I offered examples of responsive health policy initiatives.

The policy analysis component of my research took the key trends relating to HIV/AIDS impact on health services and the broader health system as a starting point in order to review health policy development from 1994 through to present (2006). In broad terms, it concluded that the overarching direction of health care reform was appropriate to the context, but that the insidious nature of the epidemic limited more focussed responses. In particular, health policy neglected to manage human resource impacts, appropriately support home community based care to establish a continuum of care, and lead and direct the involvement of donors and partners in the health sector. HIV/AIDS was also found to have generally widened the gap between policy and implementation. Opportunities for developing the health system were missed despite the fact that the epidemic had created a pillar to mobilise efforts around.

The policy analysis component of my research was not only retrospective, but also attempted to capture a dynamic context by considering the potential future impact of the ART programme and the ways in which this might influence health policy. I looked to the approach of a posited 'AIDS transition' in which a decline in AIDS deaths is followed by a decline in new infections. Scenarios served as a useful tool in understanding the necessary conditions for the 'AIDS transition' to transpire. This

transition is essential if we are to see an end to AIDS exceptionalism. While justified at present, AIDS exceptionalism may in the longer term become a serious hindrance to health system development. My case study of the Botswana ART programme complemented the theoretical analysis by providing early insights into the impact of such programmes on health systems. However, I also highlighted that lessons are not always transferable and so there is a need for constant reassessment of the South African situation.

Overall, my research provides a strong motivation for moving from a crisis-orientated response to HIV/AIDS threats in the health sector to one that is forward-thinking and strategic. However, this begs the question of ‘How?’ While I have throughout the thesis highlighted potentially beneficial policy responses to specific issues (and so am not going to repeat them here), I have not yet identified the common logic underlying these. Furthermore, I would argue that this common logic is the key to creating an enabling environment, where attitudes and approaches are appropriately directed. It is for this reason that I focus the remainder of this chapter on some of the bigger-picture messages that have emerged from my own empirical research, as well as from the review of policy responses to date and the potential reasons for inaction.

The four key messages that I would like to draw out relate to the need to:

1. Establish systems that can provide comprehensive and timely information concerning the impact of HIV/AIDS on public health services;
2. Build trust and relationships between academics/researchers and health policy makers;
3. (Re)establish a shared vision of the national health system and maintain a focus on achieving this vision; and
4. Use priority programmes and the resources allocated to these programmes to strengthen the health system in creative ways.

9.1 Establish systems that can provide comprehensive and timely information concerning the impact of HIV/AIDS on public health services

This research highlighted some of the complexities of policy making, including the extent to which it does, or does not, take cognisance of available knowledge. In sum, although health policy making is never entirely rational and evidence-driven, its strength remains dependant on the availability of appropriate information. Therefore, without the necessary research, health policy makers and planners have no basis on which to make decisions. Relevant and timely management information remains a pre-requisite for improving the appropriateness of the policy response across administrative levels.

The fact that I even undertook the research that I did indicates that the management information required to manage the impacts of HIV/AIDS is not routinely available. Chapter 4 looked at the utilisation of health care facilities by people presenting with HIV-related illness, since this information was not collected by the district information system. Chapter 5 attempted to review absenteeism and attrition trends for health care workers, as the PERSAL system had no reports directed towards this function. Even the raw data required for these calculations was not available, something I did not anticipate when embarking on this research. In Chapter 6 I highlighted how health managers were concerned about the coordination of donors/partners, because there was no system in place to collect information concerning their presence or functioning in Ugu district or KZN more generally. Clearly there is a need, based on my research, to advocate for better systems to provide managers with the information they need to respond to HIV/AIDS.

More specifically, there are two ways to improve the availability of information concerning the impacts of HIV/AIDS on various aspects of health system functioning. Firstly there is regular surveillance, which is currently the only way to obtain the necessary information for managing the changing health care demands created by HIV-related illness. While all health facilities record information about the type of illnesses managed, determining what illness to attribute to HIV/AIDS is more complex. Being HIV positive doesn't immediately equate to the need for medical management, since

people living with HIV remain healthy for far longer than they are ill and still need to access health care services for various concerns during this time. This is why routinely collected data doesn't currently manage to capture this impact of HIV/AIDS and why even focussed research has been very limited to date. Health facilities actually have to be visited annually or bi-annually to address this gap.

Secondly, upgrading and updating existing information management systems could be a relatively simple exercise, particularly in the area of HR. Absenteeism and attrition rates, for example, would be easily reported on by a comprehensive HR information management system. In other instances (for example in efforts to coordinate donors/partners), it may be necessary to establish new information systems. However, any such improvements in data management would logically be to the benefit of the health system in general and not just to HIV/AIDS management, making them a very appealing prospect for health systems development.

9.2 Build trust and relationships between academics/researchers/health policy analysts and health policy makers

Even where information concerning the impact of HIV/AIDS on the health system has been available in South Africa, it has generally not been fully utilised to inform policy making. The rift between researchers/health policy analysts and health policy makers has been a general concern and in some instances civil society organisations established to monitor progress have even been positioned as the 'enemy' by government. Until the mechanisms of health research utilisation in policy making are better understood and developed, efforts to generate seemingly important management information may be wasted. Internationally, an increasing amount of attention is being paid to the mechanisms through which health research is employed in policy-making (see for example Hanney et al. 2003).

This second recommendation was not something that I studied in my empirical research, but follows logically from 9.1 above and was a major concern elicited during the policy analysis component of my thesis. Chapter 8 highlighted the extent to which available

information concerning the impact of HIV/AIDS on the South African health sector was translated into policy, and explored some potential reasons for inaction. It drew particular attention to the issue of HIV amongst health care workers and the prospects that existed to act already in 2003. The problems identified suggest that it would be inappropriate to advocate for surveillance or other efforts to generate relevant information unless some concurrent measures are introduced to facilitate uptake.

Also on the issue of uptake, it is worth considering the extent to which available data is transformed into policy relevant analysis. In my literature review I appraised previous studies focussing on HIV/AIDS and health service functioning and discussed the limitations of these. I would argue that if academics/researchers and health policy makers were actively engaging, then some of these limitations could have been overcome. In particular, there are many large datasets developed through regular surveillance efforts undertaken by government institutions, such as Statistics South Africa, and these are not fully interrogated or analysed with a health policy lens. The findings of my research would have been complemented by information concerning communities and their health needs, for example. Although beyond the scope of my work, deeper interrogation of General Household Surveys and those such as the Demographic and Health Survey (DHS) could have given us some idea of the need for various health services and the extent to which this need was being met.

In addition, there are more locally orientated surveillance efforts, such as those of the Africa Centre in the Hlabisa district in KZN. This is where academics, researchers and policy makers could benefit from shared learning and a more multidisciplinary approach.

9.3 (Re)establish a shared vision of the national health system and maintain a focus on achieving this vision

Two observations coming out of my research were that: 1) HIV/AIDS generally impacts on the health system in ways that exacerbate existing weaknesses, and that 2) HIV/AIDS is a long-wave epidemic that requires longer term planning. Both support an approach to

dealing with the impacts of the epidemic that maintains a primary focus on the longer term development of health systems. This is particularly necessary given the late start that South Africa had in establishing a national health system post-1994. While the vision of the health system created by the new government was inspirational, subsequent realities have resulted in slow progress in achieving this vision, with HIV/AIDS partly to blame.

Returning to my first point, I would like to note that my research did not elicit any entirely new or unique challenges that HIV/AIDS has brought to health systems development. Issues such as poor access to care (Chapter 4), insufficient support for district health services (Chapter 4), HR attrition (Chapter 5), poor HR management (Chapter 5), the centralisation of health management (Chapter 6) and difficulties with programme integration (Chapter 6) were concerns already for many years prior to the escalation of HIV/AIDS. The effect of the epidemic has therefore been, in most cases, to exacerbate health system weaknesses. This observation is important, since it guides our decision as to whether HIV/AIDS threats to health system require unique interventions and perhaps a new way of thinking about health systems, or whether they can be addressed by simply elaborating on our current approaches. My research has suggested the latter, but makes a clear case for being more creative and bold in expanding our array of interventions.

My second observation concerning the need for longer term planning arose largely from observations about the impact of HIV/AIDS on broader health system functioning (Chapter 7), and the way that the ART programme is steering health systems development off its desired path (Chapter 8). In the relevant chapters I also explored the extent to which certain deviations away from our goals for health systems are justifiable. My conclusion was that although certain effects are undesirable, they may be necessary as a temporary solution. As long as policy makers maintain their planning focus over longer term and health sector partners share their vision of where to go, then health systems development can still be redirected once the immediate 'emergency' is over.

A longer term focus on health systems has to therefore consider, to some degree at least, the 'normalisation' of HIV/AIDS. This is because AIDS exceptionalism is only appropriate in the shorter term to help bring down an exceptionally high disease burden. However, the normalisation of HIV/AIDS is in itself a very contentious issue, witnessed by the extensive debates around voluntary, mandatory and routine testing at forums such as the International AIDS Conference (see for example Session MOCC03 2006 International AIDS Conference). What is clear is that measures to normalise a disease like HIV/AIDS must be carefully premeditated and carried out with due consideration for sequencing. For example, human rights activists would be quick to point out that the normalisation of HIV testing is inappropriate, until such times as the provision of HIV prevention and care services has been normalised first (Hull 2006). In other words, until stigma has been addressed and treatment is widely available, routine or opt-out testing is unlikely to sit comfortably with a human rights approach.

9.4 Use priority programmes and the resources allocated to these programmes to strengthen the health system in creative ways

In order for health managers and policy makers to remain motivated and inspired, they need to hear one key message: HIV/AIDS is not an insurmountable problem and it has created many opportunities for action. Alarmist views and doomsday scenarios only feed denialism, while failing to recognise that health systems can adapt effectively to changing circumstances. Meanwhile, a whole host of opportunities to strengthen health systems may be lost.

In Chapter 6 I looked at what it means for health programmes to be integrated and health-system focussed and presented evidence to suggest that much more could be done to ensure the benefits arising from efforts to address HIV/AIDS overflow into all health programmes. This is because these efforts have been supported by an unprecedented number of new health sector partners/donors, according to the managers that I interviewed and other data presented. The involvement of donors/partners, if appropriately directed, could ultimately provide valuable resources for the type of health systems development which has been previously unattainable.

In the concluding sections to Chapters 4-6, I have tried to indicate more specifically the type of creative responses that donors/partners could be facilitating. These follow a particular mould, which can best be described by looking at how Easterly (2006) views aid in his book 'The White Man's Burden'. He looks at why aid has in many cases failed to make modest improvements to people's lives and talks about 'planners' and 'searchers' in the aid community. The 'planners' are those that fail in this endeavour, partly because of their focus on what to supply, their use of global blueprints, and their top-down approach. 'Searchers', on the other hand, experience successes by responding to a demand, adapting to local conditions and working from the bottom up. Most of the initiatives that I documented in Chapters 4-6 are in fact examples of local initiatives that have alleviated strains on the health system in various ways by responding to a specific need. It is these initiatives that need to be supported and developed, in keeping with the 'planners' versus 'searchers' philosophy.

9.5 Conclusion

HIV/AIDS is presenting an unprecedented challenge for fragile health systems in countries like South Africa. The epidemic has interfaced with health care reforms in numerous, and often subtle, ways. Our understanding of and response to the situation has, however, remained one step behind the reality of the impact. From a longer term developmental perspective, health policy needs to be more responsive to the threats posed by HIV/AIDS. This means having systems in place that are able to sense change early on, developing a shared vision of what the health system should look like, and capitalising on the readiness of various stakeholders to work together over the longer term to achieve this vision. Strong health systems will remain fundamental to improving population health, with health continuing to be a key development issue.

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APPENDIX 1: TIMELINE OF GOVERNMENT AND HEALTH SECTOR REFORMS IN SOUTH AFRICA

DATE	SOUTH AFRICAN GOVERNMENT REFORMS			HIV EPIDEMIC PROGRESSION
	MACROECONOMIC POLICIES	→ PUBLIC SECTOR POLICIES AND REFORM →	HEALTH SECTOR POLICIES AND REFORM	
1990				Ante-natal sero-prevalence: National 0.7% Total AIDS sick in SAⁱⁱ: 297
1991				Ante-natal sero-prevalence: National 1.7% Total AIDS sick in SA: 738
1992				Ante-natal sero-prevalence: National 2.2% Total AIDS sick in SA: 1 726
1993				Ante-natal sero-prevalence: National 4.0% Total AIDS sick in SA: 3 787
1994	Reconstruction and Development Programme (RDP) 'an integrated, coherent socio-economic policy framework' Identified key programs to drive reconstruction and development: - Meeting basic needs - Urban and rural development - Democratisation and institutional reform - Economic restructuring Proposed restructuring of the health system to include all role-players and to deliver primary health care through a district health system.	Public Service Act of 1994 Created the basis for integrating the fragmented system of state administrations inherited from the apartheid era into a unified national public service.	ANC National Health Plan Proposed a decentralised national health system based on PHC approach, with inter-sectoral collaboration. National health system with national level, provincial level, district level, community level.	Ante-natal sero-prevalence: National 7.6% KZN 14.4% Total AIDS sick in SA: 7 826

<p>1995</p>		<p>White Paper on the Transformation of the Public Service Outlined a strategic framework for change, including transformation in some priority areas: rationalisation and restructuring the public service, institution building and management, representativeness and affirmative action, transforming service delivery, democratising the state, human resource development and training, employment conditions and labour relations, promotion of a professional service ethos.</p>	<p>A Policy for the Development of a District Health System for South Africa Looked at the establishment of the DHS in South Africa as a vehicle for the delivery of primary health care services. Sets goals for the transformation of the system at the district level.</p>	<p>Ante-natal sero-prevalence: National 10.4% KZN 18.2% Total AIDS sick in SA: 15 263</p>
<p>1996</p>	<p>Growth, Employment and Redistribution Strategy (GEAR) Outlined the strategy for rebuilding and restructuring the economy for the period 1996-2000. Developments called for included: - Accelerated growth of non-gold exports - A brisk expansion in private sector capital formation - An acceleration in public sector investment - An improvement in the employment intensity of investment and output growth - An increase in infrastructural development and service delivery making intensive use of labour-based techniques.</p>	<p>Constitution of the Republic of South Africa Spelled out the powers and functions of the three spheres of government, and how these should relate to each other</p>	<p>National Drug Policy Covered ten areas aimed at ensuring that affordable and safe drugs are made available to all that need them.</p>	<p>Ante-natal sero-prevalence: National 14.2% KZN 19.9% Total AIDS sick in SA: 28 091</p>

1997		<p>White Paper on Transforming Public Service Delivery (Batho Pele White Paper) Provided a policy framework and implementation strategy for the transformation of public service delivery. Lists eight principles to put 'people first'.</p>	<p>White Paper on the Transformation of the Health System in South Africa Laid out implementation strategies to transform the health service in line with RDP and ANC Health Plan. Key strategies focussed on the district as the locus of implementation, PHC approach, complementary roles of the three spheres of government</p>	<p>Ante-natal sero-prevalence: National 17.0% KZN 26.9% Total AIDS sick in SA: 49 038</p>
1998		<p>White Paper on Local Government Laid out the path to transform local government and focused on: developmental local government, cooperative governance, institutional systems, political systems and administrative systems</p> <p>Municipal Demarcation Act of 1998 Gave effect to section 155 (3)(b) of the Constitution, to establish an independent authority to determine municipal boundaries, and establish criteria and procedures to achieve this.</p> <p>Cabinet approved that all departments endeavor to align their functional/service-delivery boundaries with constitutional boundaries</p>		<p>Ante-natal sero-prevalence: National 22.8% KZN 32.5% Total AIDS sick in SA: 80 331</p>

<p>1998 cont.</p>		<p>Municipal Structures Act of 1998 Provided for the establishment of municipalities by looking at: categories and types of municipalities, the division of functions between categories, internal systems, structures and office-bearers, appropriate electoral systems.</p>		
<p>1999</p>		<p>Appointment of the municipal demarcation board</p>	<p>Health Sector Strategic Framework 1999-2004 Provided clear direction on priorities for the five year period. Components of the 'ten point plan' included strengthening support services, legislative reform, focus on the quality of care, revitalisation of hospital services, speeding up the delivery of the essential package of services through the DHS, a focus on HR, communication and consultation with communities, strengthening co-operation with partners internationally</p> <p>Health district demarcation At this time there were 39 health regions, 174 health districts There were management teams in all health regions and management staff in most health districts.</p>	<p>Ante-natal sero-prevalence: National 22.4% KZN 32.5% Total AIDS sick in SA: 124 418</p>

2000		<p>Interim system of local government ended. Demarcation and final restructuring of local government according to constitution complete Final demarcation included 6 metropolitan municipalities, 47 district municipalities, 231 local municipalities</p> <p>Municipal Systems Act of 2000 Laid out the way for municipalities to function, so that they can provide essential services and work towards the socio-economic upliftment of communities.</p>	<p>HIV/AIDS/STD Strategic Plan for South Africa 2000-2005 Primary goals of the strategy were to reduce the number of new infections and reduce the impact of HIV/AIDS on individuals, families and communities.</p> <p>The Primary Health Care Package for South Africa – set of norms and standards Defined comprehensive services to be delivered at primary care level of health service delivery</p>	<p>Ante-natal sero-prevalence: National 24.5% KZN 36.2% Total AIDS sick in SA: 182 823</p>
2001			<p>National Guideline on Home-Based Care/Community Based Care Looked at what these two types of care are, how they fit into the health system and the rationale for promoting them. Provided very basic guidelines on standards and substance of programmes.</p> <p>Finalisation of health districts These included all district and metropolitan municipalities (53 health districts). Health sub-districts could be made up of one or more local municipalities.</p>	<p>Ante-natal sero-prevalence: National 24.8% KZN 33.5% Total AIDS sick in SA: 253 502</p>

2002			<p>Patients Rights Charter Provided a clear description to patients and health care workers of what standards of service patients should receive.</p> <p>PMTCT programme commenced in public sector</p>	<p>Ante-natal sero-prevalence: National 26.5% KZN 36.5% Total AIDS sick in SA: 333 807 Population based prevalenceⁱⁱⁱ: National 11.4% (15.2% age 15-49) KZN 11.7% (19.5% age 15-49)</p>
2003		<p>White Paper on Traditional Leadership and Governance Looked at the roles, structures and function of the institution of traditional leadership and governance within each sphere of government (national, provincial, local)</p>	<p>Operational Plan for Comprehensive HIV and AIDS Care, Management and Treatment for South Africa Goals of the plan included comprehensive care and treatment (incl ART) and strengthening of the national health system</p>	<p>Ante-natal sero-prevalence: National 27.9% KZN 37.5% Total AIDS sick in SA: 418 592</p>
2004			<p>Strategic Priorities for the National Health System 2004-2009 Provided for the adoption of a new set of priorities for the 5 year period. Priorities included: improving governance and management of the NHS, promoting healthy lifestyles, improving quality of care, strengthening primary health care, EMS and hospital delivery systems, human resource planning, development and management, planning, budgeting, M&E, preparing and implementing legislation, strengthening international relations.</p>	<p>Ante-natal sero-prevalence: National 29.5% KZN 40.7% Total AIDS sick in SA: 503 725</p>

<p>2004 cont.</p>			<p>Community Health Workers Policy Framework Looked at the following elements of the CHW programme: the rationale for CHW, the role and functioning of CHWs, education and training, mentoring and supervision, and logistics of the programme.</p> <p>ARV treatment programme commenced in public sector</p>	
<p>2005</p>		<p>Intergovernmental Relations Framework Act of 2005 Looked at intergovernmental structures, conduct of intergovernmental relations, settlement of disputes</p>	<p>National Health Act of 2003 (proclaimed 2005) Looked at functions and structures for national, provincial, and district health (also looked at rights and duties of users and health care personnel, health establishments, human resources, blood products, research and information)</p> <p>Traditional Health Practitioners Act, 2004 Provided for the establishment of the Interim Health Practitioners Council of South Africa, for the registration, training and practices of traditional health practitioners. Also aimed at protecting the interests of the public who use such services.</p>	<p>Ante-natal sero-prevalence: National 30.2% KZN 39.1% Total AIDS sick in SA: 554 629 Population based prevalence^{iv}: National 10.8% (16.2% age 15-49) KZN 16.5% (21.9% age 15-49)</p>

<p>2005 cont.</p>			<p>Draft Charter of the Public and Private Health Sectors of the Republic Of South Africa Sought to facilitate and effect transformation of the health sector in four key areas: access to health services, equity in health services, quality of health services and Black Economic Empowerment.</p>	
<p>2006</p>	<p>Accelerated and Shared Growth Initiative (ASGISA) This national shared growth initiative set targets for macroeconomic growth and means to reduce poverty. Targets for macroeconomic growth were set as follows: an average annual growth rate of 4.5% of GDP in phase 1 (2005-2009) and 6% in phase 2 (2010-2014). The development path outlined included an economy where products and services are diverse, more value is added to products and services, costs of production and distribution are reduced, labour is readily absorbed into sustainable employment, and new businesses proliferate and expand. Decisive interventions to counter constraints included infrastructure programmes, sector strategies, skills and education initiatives and Second Economy interventions.</p>		<p>National Human Resources Plan for Health Addressed the need to plan for human resource demands, so that there would be an adequate human resource pool to staff the public health sector.</p>	<p>Ante-natal sero-prevalence^v: National 29.1% KZN 39.1% Total AIDS sick in SA: 599 298</p>

2007			<p>HIV and AIDS and STI Strategic Plan for South Africa, 2007-2011 Primary goals of the strategy were to reduce the number of new infections by 50% and reduce the impact of HIV and AIDS on individuals, families, communities and society by expanding access to appropriate treatment, care and support to 80% of all people diagnosed with HIV. Identified interventions were in four key priority areas: 1) prevention, 2) treatment, care and support, 3) human and legal rights, and 4) monitoring, research and surveillance.</p>	
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ⁱ SA Department of Health (2006) *National HIV and syphilis prevalence survey South Africa 2005*. South African Department of Health, Pretoria.

ⁱⁱ Dorrington, R., L. Johnson, D. Bradshaw and T. Daniel (2006) *The demographic impact of HIV/AIDS in South Africa. National and provincial indicators for 2006*. Centre for Actuarial Research, Medical Research Council, Actuarial Society of South Africa, Cape Town.

ⁱⁱⁱ HSRC (2002) *Nelson Mandela/HSRC study of HIV/AIDS: South African national HIV prevalence, behavioural risks and mass media. Household Survey 2002*. Human Sciences Research Council, Cape Town.

^{iv} HSRC (2005) *South African national HIV prevalence, HIV incidence, behaviour and communication survey, 2005*. Human Sciences Research Council, Cape Town.

^v SA Department of Health (2007) *Summary report: national HIV and syphilis prevalence survey South Africa 2006*. South African Department of Health, Pretoria.

APPENDIX 2: PUBLICATIONS ASSOCIATED WITH THE PHD RESEARCH

Included in this Appendix:

1. Maintaining and developing health systems to sustain HAART. In: *A Decade of HAART*. J. Bartlett, J. Lange, A. Whiteside and J. Zuniga (Eds). 2007. (co-authored S. Nixon) *In press*
2. Global health governance and the future of health systems in developing countries. In: *Making Sense of Global Health Governance – A policy primer*. K. Buse, W. Hein and N. Drager N (Eds). 2007. (co-authored A. Whiteside) *In press*
3. HIV/AIDS impact on health services: what have we learnt in the last five years? *South African Medical Journal*, 97 (6), 422-423. 2007. (co-authored T. Quinlan)
4. Social protection in a context of HIV/AIDS: a closer look at South Africa. *Social Dynamics*, 32 (2): 112-136. 2006.
5. The burden of HIV-related illness on outpatient health services in KwaZulu-Natal, South Africa. *AIDS Care*, 18(3): 262-268. 2006. (co-authored A. Oyier)

Maintaining and developing health systems to sustain HAART

Stephanie Nixon and Nina Veenstra¹

Due to mounting political pressure and decreasing drug prices, the world is experiencing an unprecedented influx of support for the provision of HAART to people in need, with the goal of universal access shining in the distance. As a result, despite a 'Decade of HAART' in rich countries, most lower- and middle-income countries are only now able to expand their armouries against HIV/AIDS to include treatment. This welcome development, however, has brought with it a range of challenges that are starting to come to light.

The most heavily affected countries in southern Africa started rolling out their HAART programmes in 2002, when Botswana established four central treatment sites [1]. Since then, progress has been rapid. South Africa claims to have the largest HAART programme in the world, with 175,000 people reportedly on treatment in the public sector in June 2006 [2]. Even lesser-developed countries like Malawi are overcoming significant barriers, such as the human resource crisis, to get significant numbers of people on treatment [3]. Part of this is testament to a new-found focus on health in Africa and the global resources that have been mobilized to assist in this regard.

This new reality has prompted a range of operational questions for governments, including:

- How well can our health workforce handle this demand?
- Will this focus on delivery of antiretrovirals (ARVs) compromise our ability to deliver other health programmes?
- How will we sustain funding for ARVs when international funding sources shift to a different priority?
- How well (or not) does this focus fit into our long-term vision for health in our country?

While this chapter may not explicitly answer all these questions, it links them to a common theme — health systems. That is, they are all concerned with the impact that the greatly expanded scale-up of HAART could have on health systems, many of which are already stretched. Any analysis of HIV/AIDS must prioritize political, economic and social determinants of health. Nonetheless, attention to healthcare, and the health systems through which services are delivered, is increasingly important. Not only is there emerging evidence to demonstrate that healthcare matters for population health in low-income countries [4], but also that the shift in regions highly affected by HIV from a 'prevention only' approach to one that embraces combined prevention, treatment and care strategies has represented a major change for health systems.

This chapter focuses on countries where the impact of HAART on health systems is likely to be most significant: our analysis targets countries with fragile health systems, high HIV prevalence and generalized epidemics — the scenario in sub-Saharan Africa (sSA). The addition of HAART to HIV care in rich countries in the 1990s was a

¹ Corresponding author.

significant development but did not threaten the stability of those health systems. In contrast, the greatly increased scale of the HIV epidemic in sSA, married with the region's less resilient health systems, is likely to result in a very different scenario. Ongoing analysis of the impact of HAART delivery on health systems in sSA is imperative for identifying and responding to challenges that have yet to be seen in the provision of HIV treatments. Furthermore, lessons learned from analysis of this region can offer warning signals for HAART provision in other parts of the world that may also not enjoy robust health systems.

This chapter contributes to this analysis by drawing on secondary data in the form of published studies. It considers assumptions about the potential impact of HAART on health systems in sSA and contrasts them with lessons that are currently being learned through empirical research. To support this analysis, we first introduce the notion of health systems and the dominant approaches to health system strengthening over time. We then describe how the introduction of HAART can impede hard-won progress in terms of health system strengthening by shifting balances in undesired directions. Various long-term scenarios are presented that look at the future demand for health care as a result of HIV/AIDS epidemic, and issues affecting the supply of healthcare are highlighted. Finally, we conclude by arguing that the current exceptional and largely vertical approach to provision of HAART in sSA is an appropriate response provided it is accompanied by simultaneous efforts to ensure that the rise of HIV incidence is stemmed as quickly as possible.

Introduction to health systems

What constitutes a health system is not always clear. The World Health Organization (WHO) defines a health system as 'all the activities whose primary purpose is to promote, restore or maintain health' [5]. This definition includes not only formal health services, but also the activities of, for example, traditional healers, community health workers and home caregivers. Such activities remain integral to the continuum of care and should not be forgotten as HAART programmes draw our attention towards health facilities and the services they offer.

Even though health systems have developed around common understandings about medical science and disease, how they are structured and organized varies tremendously across countries [4]. In general, all health systems seek to improve the health of the population they serve. Less often considered are the responsibilities of health systems to respond to users' expectations and to protect them against the costs of ill-health — these being the other two fundamental objectives of health systems [5].

To achieve their objectives, health systems perform a number of functions, which offer a useful framework for examining the interaction between HAART and health systems. These functions were initially introduced in relation to health system reform [6], and later related to the health system objectives in the World Health Report [5]. They include:

1. regulation/stewardship;
2. financing; and
3. the delivery of services.

For countries in sub-Saharan Africa, health systems are a work in progress, continuously being reshaped in an effort to improve these functions. Ideas about how best to strengthen health systems have shifted over time. However, the current expansion of access to HAART potentially involves an approach to health delivery that runs counter to many of the aims of health system strengthening in sSA.

For the source of these aims, we must return to 1978 and the landmark Alma Ata Declaration on Health and the related commitment to 'Health for All by the Year 2000'. At the centre of this vision was the concept of Primary Health Care (PHC), which encompassed a comprehensive approach to health addressing underlying social, economic and political determinants of wellness and illness [7]. Within this concept, the mandate of health systems is broader than simply the provision of primary healthcare services. We see the focus of health systems moving away from disease-specific technology and the culture of curative hospital care and toward a more integrated, holistic and proactive approach to wellness. A central goal of this approach is equity, and a human rights perspective is embraced to achieve such equity.

Although the PHC approach to health has received criticism over time for being idealistic [8], the philosophy holds important lessons. The healthcare 'reforms' that followed PHC in the mid-1980s emphasized a different set of principles, most notably the economic value of services. These reforms, associated with the neoliberal economic approach, aimed at increasing the role of market mechanisms in healthcare provision by expanding the role of the private sector, increasing "cost-sharing" and focusing on efficiency [9]. The role of governments was minimized through fiscal limits on public healthcare spending and through decreased public regulation over health services as mandated by, for instance, World Trade Organization agreements. Cost-recovery mechanisms like user-fees were particularly damaging because of their inequitable impact on health care utilization [10, as example]. The result was an approach to health that went against many of the principles espoused by PCH and lost sight of the goal of health for all.

The neoliberal economic policy approach remains visible today in both rich and poor countries. In sSA, the approach was adopted by countries largely as a condition of World Bank/International Monetary Fund (IMF) loans or as a result of international pressure. However, as the damaging effects of these policies on fragile health systems are becoming better documented, there is a renewed passion for many of the values articulated in Alma Ata almost three decades ago [11,12]. Within this framework, we would see health systems strengthened through a shift in focus from curative to preventive care, and from understanding health within the medical model to an approach that concerns itself with the broader determinants of health. We would see health services shift from tertiary care delivered privately through centralized urban centres to an emphasis on primary care delivered publicly to all through a system that is decentralized and successfully covers rural environments. Community-driven perspectives would be given the kind of priority that top-down management currently enjoys. Long-term health system priorities would remain in focus while short-term crises were addressed. Finally, approaches to care would more often occur in an integrated way as opposed to vertical

programming for disease-specific responses. It is within this context that we come to the question of how the greatly expanded roll-out of HAART could impact on health systems.

How HAART can shift the balance in health systems

It is imperative that people in need of ARVs receive the products and services required to enable them to access and consistently use the drugs. However, it is also crucial that these processes unfold in a way that, at worst, does not compromise already-stretched health systems and, at best, serves to strengthen health systems in the process.

The goal of health systems strengthening through the delivery of HAART is a worthy target and can begin with acknowledgement of the ways in which the tensions described above could be exacerbated through delivery of ARVs. For instance, the spotlight on HIV treatment inevitably emphasizes a medical model focus instead of an approach that embraces the broader determinants of health as envisaged by PHC. It also seems to be leading to centralization of healthcare. For example, in South Africa, the response to HIV/AIDS has been shown to prioritize short-term delivery objectives decided by higher levels of government, which is at odds with the longer-term development objective of strengthening local government systems [13]. The impact of HAART on health systems is perhaps most clearly illustrated when considering the vertical versus horizontal programming debate.

Vertical versus horizontal approaches

The method of delivering HAART through specialized, 'vertical' programmes is not a new idea. Vertical programming, meaning separate health structures dedicated to the planning, management and implementation of selected disease-specific interventions, has been a public health approach used for decades [14]. The common rationale for verticalization (both then and now) is to provide greater capacity for a focused effort to reduce morbidity and mortality due to one specific disease [15]. Not surprisingly, the push to implement vertical programmes is stronger where epidemics, poverty and weakened health systems coincide, which is the case for HIV/AIDS in many countries and especially in sSA.

While this argument is compelling, there are related criticisms of this approach which are instructive for thinking about the scale-up of HAART. First, vertical programming often reflects a medical model response, which detracts from a more comprehensive approach to health that includes upstream determinants [16]. In the case of HAART, this is a call for developing treatment programming that includes attention to the social, political and economic forces that influence how well a person will be able to access, tolerate and adhere to ARVs. Moreover, it demands simultaneous investment in HIV prevention programming at individual, community and structural levels in order to mount a comprehensive response to HIV. This point cannot be overemphasized, since modelling has clearly demonstrated what might happen if treatment undermines prevention programmes — in such cases, treatment will most likely become unsustainable due to high numbers requiring care [17].

Second, vertical approaches have historically assumed a top-down management approach as opposed to one that engages community participation. This is particularly salient in the context of HAART scale-up for at least two reasons. First, the principle of GIPA, or the greater involvement of people with HIV/AIDS, is a fundamental component of effective and human rights-based responses and must remain at the centre of treatment programming. Second, the quest to roll out treatment as quickly as possible lends itself to preferentially targeting people who are easier to access, such as those with higher incomes and/or those who reside in urban areas. The result can be the widening of existing healthcare inequities, an issue that is currently receiving attention in South Africa [18]. Indeed, the rationing of limited supplies of ARVs is a challenge in almost every setting; engagement of communities in determining how limited resources will be distributed builds community trust and respects the principles of a human rights-based approach [19].

A third concern involves the way in which vertical programming can result in multiple parallel disease-specific programmes operating in silos. While these programmes may be effective in and of themselves, they have the potential to disrupt the efforts of local health systems to deliver comprehensive and integrated essential services [20]. A common harm involves the usurping of often limited supplies of health workers from existing systems to higher salary roles within vertical programmes being sponsored by international health non-governmental organizations (NGOs) and donors [21]. Furthermore, this process may be seen as de-skilling primary care workers as their expertise focuses to achieve narrow goals at the expense of their broader expertise on the health demands of communities [11].

The lesson for the scale-up of HAART is that all programmes need to be cognizant of health system targets. This can be done at a basic level through the inclusion of activities in vertical programme plans that are designed to counteract potential harms to broader health systems. A more proactive approach would be for all national HIV/AIDS programmes and global initiatives to be held accountable for not only minimizing harms to health systems, but also for health system strengthening through the inclusion of system indicators in their monitoring and evaluation frameworks (1, 2). Similarly, new initiatives can be expected to conduct systems impact assessments at the outset to identify potential damages before they begin. Some examples of the contributions that vertical programmes can make to strengthening health systems include fortifying elements of the general health service infrastructure that are required for the vertical delivery to be successful, such as laboratory facilities and drug supply chains [23].

Fourthly, while external funding for HAART programming is essential, it comes with the issue of who is setting health priorities. Responses to HIV/AIDS are designed and delivered at the country level. As such, the strategy created for scaling up delivery of HAART within and by countries should drive the allocation of external resources, not *vice versa*. In other words, financing should not only be predictable and sustainable, but also pliant enough to respect local priorities. The Commission on HIV/AIDS and Governance in Africa advised that absorptive capacity will not be an issue if countries have more flexibility in financing their health systems [24]. Similarly, the potential for

resources to be deflected towards HIV/AIDS could be minimized. Donor aid not only affects the nature of priorities, but also their time frames: the unpredictable nature of donor aid can compromise the sustainability of programmes and impair a country's ability to develop longer-term health strategies [25]. Sustainability of funding is an even more sensitive issue in the context of HAART, since treatment interruptions can have devastating effects on the development of viral resistance.

HAART and the HIV epidemic: four possible scenarios for health systems

The preceding discussion, while not in support of vertical programming, also rejects the idea that vertical programming should be abandoned altogether in favour of more horizontal approaches. We can appreciate that the current burden of disease and political-economic milieu foster a tendency towards vertical programming for the mass delivery of HAART in sub-Saharan Africa. The rationale here is to reduce morbidity and mortality as a matter of urgency and later, ideally, incidence through the potential preventive effects of decreasing viral load through treatment. This is a form of AIDS exceptionalism that is justified as an interim measure. However, this logic is based on the expectation that, in the medium term, HIV/AIDS will assume more manageable levels for the health system, at which time HAART programmes can become assimilated into general health services. HAART will then be delivered in a similar fashion to drugs for other chronic diseases, and the era of AIDS exceptionalism will be over.

The above justification of AIDS exceptionalism is based on one key question: will levels of HIV/AIDS become more manageable for health systems in the medium term? Unfortunately, this is a question that we are as yet unable to answer, given all the uncertainties about factors affecting the future demand for care. These uncertainties can be illustrated through a range of scenarios outlined in Table 1 that hypothesize how HAART might affect HIV prevalence through:

1. a change in the average survival time from infection to death ('AIDS deaths'), and
2. a change in the rate of new infections.

The most hopeful scenario takes lessons from the demographic transition and has therefore been labelled the 'AIDS transition' [26].

These scenarios, unlike those recently developed for Africa or specific countries like South Africa [27,28], are narrow in their focus. In other words, they look quite explicitly at the management and impact of HAART and the resulting burden on health systems (keeping other factors constant). They therefore have to be put in context. In particular, matching the provision of HAART with aggressive prevention efforts has the potential to improve the outcome of all the scenarios. Similarly, if excessive attention is diverted away from prevention efforts, then even the outlook of the most optimistic scenario may look quite bleak.

Table 1. Scenarios illustrating the potential demand for health care due to HIV/AIDS, adapted from Over, 2004 [26]

Scenario	AIDS deaths	New infections	Resulting potential burden on health system
1. AIDS transition –	Decline as people access	Decline as treatment	Initial increase in the

the optimistic scenario	and adhere to treatment	scales up (HAART has positive effect on prevention)	number of people requiring care, with later stabilisation to a much more manageable burden
2. Failed transition – AIDS deaths rebound	Decline initially as treatment scales up, but experience a rebound (due to problems with programme delivery - adherence, regimens)	Remain high (due to rebound in deaths – HAART has no effect on prevention)	Initial increase in the number of people requiring care, with some stabilisation as deaths again increase (but burden remains greater than in scenario 1)
3. Failed transition – continued high rate of new infections	Decline as people go on treatment	Remain high (HAART has no effect on prevention)	Increase in the number of people requiring care, with this number remaining high
4. Failed transition – increase in the rate of new infections	Decline as people go on treatment	Increase (HAART has negative effect on prevention)	Massive increase in the number of people requiring care, with this number remaining high

While scenarios might help us to understand how many people could potentially be HIV-infected and so require some form of care through the health system, they do not draw out the nuances of the potential burden. This is because HAART will not only affect health systems by increasing or decreasing the burden placed on them, but can also cause more subtle shifts within systems. These shifts are important for managers and policy makers, since they would ideally influence prioritization and resource allocation. The most obvious shift in the burden of HIV/AIDS care due to HAART would be from inpatient services to outpatient services. In Brazil, for example, the scale-up of the HAART programme (delivered through outpatient services) was accompanied by a gradual decline in hospital admissions among those on therapy [29]. In sSA, such shifts have as yet not been reported because HAART programmes are still too new. However, we would hope to see a similar trend.

The balance of this section of the chapter reviews the current evidence on assumptions informing the various scenarios outlined above. Although limited, this evidence provides the best lessons for optimising chances for AIDS transition to unfold.

The impact of HAART on AIDS deaths

The longer people living with HIV/AIDS (PLWHA) survive on HAART, the greater the number of patients that health systems will have to cope with, even if these people are, hopefully, less ill. Hence, a sustained reduction in AIDS deaths may be necessary for a successful AIDS transition, but will not in itself be able achieve this. Established cohorts in Europe have witnessed sustained declines in the incidence of AIDS and death with HAART, despite the potential for long-term adverse effects [30]. In sSA, the clinical success of HAART may be subjected to greater challenges. In particular, its success will depend on getting people on treatment early and maintaining adherence, both of which currently carry an uncertain prognosis for reasons highlighted below.

Early evaluations of HAART programmes in Africa demonstrated how their effectiveness is compromised when patients present late for treatment [31,32 for examples]. Survival probabilities have been found to decline incrementally, and a recent cost-effectiveness model constructed for southern Africa estimated that HAART plus antibiotics might prolong life for 6.7 discounted years if treatment is initiated 'late' (CD4=200 cells/ μ l), or by 9.8 years if initiated 'early' (CD4=350 cells/ μ l) [33]. Unfortunately, what most people fail to acknowledge is that decisions about if and when to seek therapy are dependant not only on government policy, but on many other social, political and economic factors as well, which are discussed later.

Debates about adherence to HAART in Africa have, on the other hand, been ongoing. Most recently, concerns about sub-optimal adherence in sSA were dashed by a meta-analysis that concluded that there have been higher levels of adherence to antiretroviral regimes in sSA than in North America [34]. This is despite the mixed successes with drug regimen compliance for other common diseases in sSA, such as malaria and tuberculosis, and health infrastructure constraints that could potentially have contributed to 'antiretroviral anarchy' [35,36]. Therefore, we need to monitor adherence over the longer term to learn whether this early evidence remains relevant. The concern remains that many of the early HAART programmes, which have logically been the subject of adherence studies in sSA until now, have captured a population and a set of circumstances that will not be the norm once treatment scales up.

Barriers to accessing HAART, and the potential for these to be broken down, are at the heart of concerns about late initiation of treatment and poor adherence. In sSA, the most frequently cited barriers across a range of contexts have been stigma and cost [37-39]. When it comes to initiating treatment, perceptions of health facilities and the quality of their care also come into play. In general, there has been an assumption that HAART will assist to break down these barriers; however, this will not necessarily hold true. For example, although there has been some indication that HAART can reduce stigma in communities, this has not happened to the expected degree in workplace settings. People have continued to present late for treatment when offered by employers, thus limiting the potential benefits to patients and companies' returns for investments in workplace programmes [40].

If barriers to accessing HAART are not broken down, then patients could continue to access treatment late (or not at all) or default on treatment, thus compromising survival. At this stage, it is unclear how robust these barriers are, and what effect the HAART programme will have on them. Where daily survival is an issue, then HAART becomes pitched against many other challenges. This is perhaps most starkly illustrated in South Africa by the way that PLWHA have been found to compromise their health and yo-yo on antiretroviral treatment simply to maintain a relatively low CD 4 count, which qualifies them for a disability grant [41,42].

Therefore, although there is little doubt that we are already seeing improved survival for patients on HAART in sSA, maintaining this effect may prove more challenging than in other contexts. If we do not succeed, then we will witness the failed AIDS transition

associated with scenario 2 (see Table 1 above). In the developed world, conditions under which HAART was introduced have remained relatively constant, while in sSA this is less likely to be the case. In particular, early programmes in the region have been well funded and supported, and often implemented without relying entirely on the functioning of local health systems. Challenges associated with the integration of HIV/AIDS treatment into fragile health systems, as well as the somewhat less stable social, political and economic context, all alert us to the need for vigilant monitoring and evaluation.

The impact of HAART on the rate of new infections

Central to the AIDS transition scenario described above is a reduction in HIV incidence. Indeed, assuming we witness a sustained decline in AIDS deaths in sSA, scenarios 3 and 4 (see Table 1 above) may still result in a failed AIDS transition. Furthermore, there are various ways in which the introduction of HAART could potentially result in declining HIV incidence, thus complicating any analysis of the situation in sSA.

The most direct way that HAART can lead to a reduction in new infections, and hence in the number of people requiring treatment in the next ten years, is by decreasing transmission rates through a reduction in viral load. This effect has been demonstrated conclusively for both sexual transmission and vertical transmission [43-45 for examples]. However, it is still unclear what the impact of such an effect will be at a population level, because it depends on a number of other factors, including when people commence treatment (i.e. their CD4 count) and the extent of discordant partnerships or sexual encounters. Such factors were investigated in a study in a township of South Africa, where the population impact of HAART on reducing sexual transmission was found to be small under WHO guidelines [46].

A second question around incidence concerns the extent to which HAART may or may not influence behaviour change. Here we are looking specifically at risky sexual behaviours, which were thought to have increased amongst men who have sex with men (MSM) after the introduction of HAART in North America [47]. However, it is important to note that such studies have not been able to conclusively prove a causal relationship between HAART and risky sexual behaviour, and that in the African context, failure to provide HAART could be even more damaging [48]. For instance, it has been suggested that some PLWHA, struggling with a lack of hope and a desire not to die alone, may spread HIV deliberately [49]. Clearly, this effect remains unknown.

Aside from the effect of HAART on risky sexual behaviours, there are other ways in which it can hinder or facilitate prevention programmes. It may be that the focus on treatment is deflecting attention and resources away from prevention. Conversely, the availability of treatment may reduce stigma and give hope, thereby encouraging the uptake of voluntary counselling and testing (VCT) leading to an improved awareness of status. Early evidence on the latter is encouraging, with a large study in Botswana demonstrating significant reductions in stigma. Although several factors were correlated, perceived access to ART was associated with decreased odds of holding at least one stigmatizing attitude [50].

The impact of HAART on the rate of new infections must also be viewed over a longer period of time to determine whether potential declines are sustained. Temporal trend analysis of HIV incidence rates in Brazil between 1996 and 2002 yielded a complex picture, with some level of decline and then rebound amongst men, but no clear evidence of this pattern amongst women. In two regions of Brazil, there was a marked difference between observed and expected incidence rates, but not in the other three regions [29]. Ultimately, it will be many years before we can start looking at such trends in the most heavily affected countries in sSA. In other words, the second stage of the 'AIDS transition' — the reduction in HIV incidence — will still take many years to unfold in sSA.

In sum, there are many features of the context in sSA that might affect countries' ability to reduce HIV incidence. First, epidemics in the region are generalized, and this implies the need for a much broader and more extensive prevention strategy than might be employed in countries with concentrated epidemics. Where resources are limited, there is a greater chance that prevention efforts might falter as attention becomes focused on treatment. Secondly, PLWHA in conditions of poverty or political upheaval are unlikely to adapt their behaviour in the same way as those PLWHA in more developed societies once on treatment. The disability grant example documented above illustrated how the prioritization of health (whether one's own or that of another) may be valued differently under such circumstances.

The impact of HAART on the supply of health services

The future scenarios described above provide insight into potential demands on health services with the advent of HAART. However, it is also important to consider how HAART might affect the supply of healthcare, as this is a determining factor in deciding on whether the HIV/AIDS burden will be manageable or not. In particular, the current human resource crisis is having a major impact on the capacity of health systems in sSA. Since this issue is covered in another chapter of this book, it is only considered here in relation to two key questions:

1. To what extent will health workers be prioritized or encouraged to begin treatment, hence reducing HIV-related absenteeism and attrition?
2. To what extent will HAART improve the motivation and working conditions of healthcare workers, so discouraging migration from the public health system?

It is increasingly being acknowledged that healthcare workers are subject to the same stigma and discrimination as the communities they serve, making it difficult for them to seek care despite their knowledge of its benefits [51,52]. In some countries, such as Zambia, Malawi and Uganda, AIDS-related deaths have been shown to contribute significantly to health worker attrition [53-55]. In Zambia, it was estimated that deaths outnumbered resignations and that death rates alone could account for the nurse vacancy rate of 37% [56]. This suggests that any programmes supporting health workers to obtain the necessary treatment might significantly improve the capacity of the health system to deliver.

Since nurses in particular have had to increasingly provide palliative care for those infected with HIV, levels of depression, stress and burnout have become a concern. These issues, among others, have been driving healthcare workers in sSA into the private sector and abroad. HAART programmes were expected to change this trend. According to a newspaper article published just prior to the implementation of South Africa's HAART programme: "health worker's morale will be boosted as they will no longer be helpless when faced with destitute AIDS patients" [57]. However, current indications suggest that this shift in attitude has not been realized. Rather, the HAART programme has been seen as just another addition to the healthcare worker's already heavy workload [58]. It may be that too much emphasis has been placed on AIDS treatment as a means to improve health worker conditions.

Conclusion

This chapter has examined the ways in which the advent of HAART has impacted on health systems and their functions of stewardship, financing and service delivery. In terms of stewardship, HAART has generally steered fragile health systems away from the desired vision described in the Declaration of Alma Ata. This shift is closely linked to financing trends, whereby countries have needed to accept donor aid to finance HAART programmes, even though much of this aid has come with controlling conditions and without any assurance of sustainability. As such, the immediate crisis of HIV/AIDS could be seen to have taken us some steps backward in our long-term development plans for health systems. But is this impact justifiable? To answer this question, we have to consider the issue of 'AIDS exceptionalism' and look at how we balance short-term delivery objectives with a more long-term developmental agenda in the health sector.

To date, AIDS exceptionalism has been supported in the health sector response as evidenced by the structuring of HAART programmes and other measures to address the burden of HIV/AIDS. It also makes sense given the exceptional nature of the burden; we would likely do the same for an outbreak of any communicable disease. However, we generally implement such measures knowing that the burden of illness will ultimately subside, thus allowing the health system to resume its commitment to longer-term development. In the case of HAART and the potential future demand for treatment, our most hopeful scenario suggests that pressures on the health system could stabilize to the point where HAART programmes can be integrated and managed similarly to any other disease programme. However, this is not the only scenario facing fragile health systems, and evidence about the assumptions underlying the various scenarios is currently very limited. Furthermore, this optimistic scenario requires not only access and adherence to HAART, but a parallel injection of resources into prevention strategies to stem the tide of new infections.

This chapter argues that the current negative impact of HAART on health systems may be justified given our hopes that the AIDS transition will transpire. However, in the years to come, it will be essential that we accumulate evidence on the interactions between HAART and health systems in a way that allows us to revisit the scenarios outlined above. We need to move from a crisis-oriented response to one that is more strategic and, based on sound evidence, balances long- and short-term goals.

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Global Health Governance and the Future of Health Systems in Developing Countries: Will the focus on HIV/AIDS help to (re)construct health systems or is it a deflection of resources?

Nina Veenstra² and Alan Whiteside³

This chapter looks at how HIV/AIDS and the renewed focus on infectious diseases are impacting on health systems in Africa. It considers the role of Global Health Governance (GHG) on influencing outcomes. The focus is on Africa, since this is where HIV/AIDS is worst and health systems are weakest. The epidemic arrived in Africa when health systems were already struggling without the reserves to accommodate the extra demands. As they struggled on with increasing morbidity and mortality, resources started flowing in to assist. This global mobilisation of resources, and the associated need for a rapid scale-up of services, has resulted in the favouring of certain approaches to expanding care at a national level. These approaches, while addressing an immediate priority, will not assist in the long term reconstruction and development of health systems in Africa.

Since there are many ways to understand GHG, we have chosen a simple working definition for the purposes of this analysis, drawn from a conceptual review of the topic (Dodgson et al. 2002). In this chapter we think about GHG as 'actions and means' by which collective action can be brought to fruition around global health issues. We acknowledge that globalisation is creating a new set of challenges for health, in turn fuelling greater interest in the governance of global health. We also consider issues of power, in the belief that GHG should ideally have a positive influence on the governance of health at a national level. Ultimately this is where the chapter focuses: on the interface between global and national, using HIV/AIDS as a case study to understand how global involvement can guide, facilitate or undermine local efforts to make health systems work.

The first section of this chapter sets the scene, by looking at the reasons for weakened health systems and the current crisis of strategies for expanding care. This is followed by an analysis of changing disease patterns; the re-emergence of infectious diseases (including HIV/AIDS), the resulting mortality trends, and the motivations for resource mobilisation. Attention is given to trying to understand the current and future implications of HIV/AIDS for health systems, since these should logically inform any choice of approach. The second half of the chapter looks at different approaches to utilising resources and expanding care, and the evidence that we have to suggest whether these might be working or not. Finally we look at opportunities for reconstructing health systems and the role that GHG might play.

Health systems in context

Health systems in Africa have undergone many reforms, but these have not enabled the vast majority of populations to access appropriate care. Here we look briefly at what the

² Nina Veenstra is a Senior Research Fellow at the Health Economics and HIV/AIDS Research Division (HEARD) of the University of KwaZulu-Natal.

³ Alan Whiteside is the Director of HEARD and a Professor at the University of KwaZulu-Natal

reforms have entailed and at factors to explain the current crisis of strategies to expand national health systems. The World Health Organisation (WHO 2000) has described reforms in 'three generations': firstly the establishment of national health systems, then the move to an emphasis on Primary Health Care (PHC), and finally reforms based on the economic value of services. We focus on the second and third generation reforms, following on from the International Conference on Primary Health Care in 1978 in Alma Ata and the commitment to 'Health for All by the Year 2000'.

At its inception, PHC was seen as a comprehensive approach to health which would address underlying social, economic and political causes of poor health and would be broader than simply the provision of primary health care services (1978). In so doing, it opposed disease-specific technology and the culture of curative hospital care. Yet it was soon criticised for being idealistic, too costly and having an unrealistic timeframe. The concept of Selective Primary Health Care (SPHC) emerged, encompassing an interim strategy of only medical interventions, which would ultimately be most cost effective in developing countries to improve the health of the majority of people (Walsch et al. 1979).

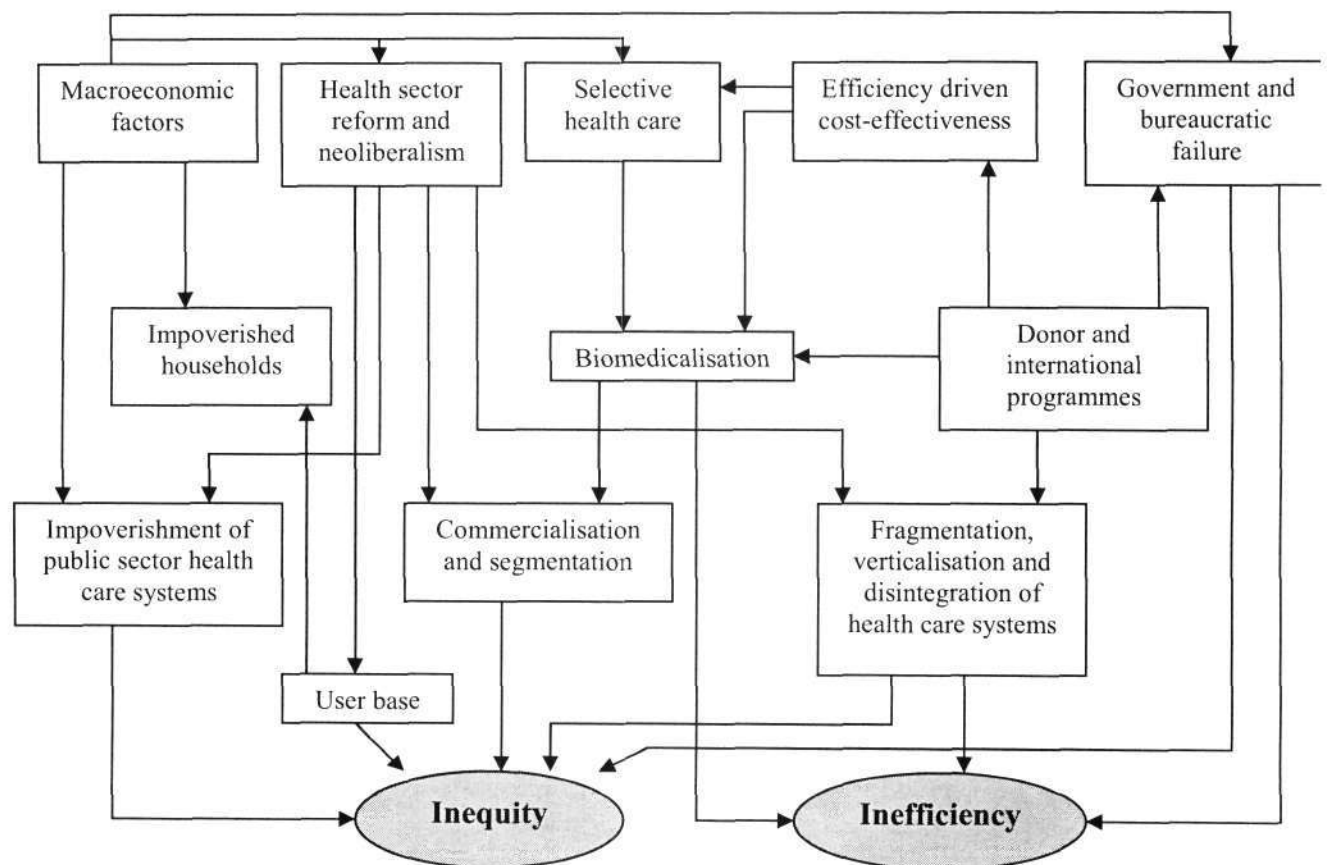
In the years subsequent to Alma Ata SPHC triumphed, with many PHC-labelled programs simply an extension of existing top-down medical systems to underserved areas. Some people described PHC as a failed experiment, while others felt it had never really been tried (Werner et al. 1997). Some reasons for the demise of PHC included local difficulties and environmental constraints: conservative bureaucracies in developing countries, lack of political commitment, political instability and little clarity around how PHC should be financed (Rifkin et al. 1986; Macfarlane et al. 2000; Chatora et al. 2004; Cueto 2004). Yet other reasons stemmed from a broader involvement in health issues. For example, donor agencies latched on to SPHC because of the appeal of 'cost-effectiveness' and easily measurable outputs. It became apparent that goals, techniques and financing had to be aligned to achieve such a holistic response to health issues (Cueto 2004). Furthermore, there needed to be widespread support at both national and global levels for a reform agenda to be translated into sustained action.

During the 1980s, the global recession and structural adjustment programs provided greater motivation for the support of SPHC - this was the start of neo-liberal thinking and the first steps towards to the 'third generation' of reforms. Broadly speaking, these followed proposals in the World Development Report of 1993 'Investing in Health' and focussed heavily on the economic value of services (World Bank 1993; Sen et al. 1998). They aimed at increasing the role of market mechanisms in health care provision, by expanding the role of the private sector, increasing cost-sharing and focussing on efficiency and cost-effectiveness. The cost-recovery mechanisms, user fees and community financing, were most damaging because of their effects on health care utilisation. Uganda abolished user fees in 2001 because of concerns of the detrimental effects and subsequently witnessed a marked increase in the utilisation of health services (Nabyonga et al. 2005).

Most importantly perhaps, 'health care reform', in the sense of the World Bank, did not take cognisance of earlier commitments made to expand health care to all. It also had

other fundamental oversights. Firstly, it did not acknowledge the links between macro economic policies (like structural adjustment) and their effects on public sector reform and health care provision. Secondly, the validity of the economic assumptions and whole ideology on which the reforms were based was not sufficiently questioned (Sen et al. 1998). What resulted were health systems that went against principles of redistribution and development, at a time when HIV/AIDS was impairing development and demanding a rapid expansion of care. Figure 1 illustrates how some of the key processes undermining PHC approach have worked to hinder equity and efficiency in health systems (Global Health Watch 2005). There are many reasons why health care reforms have failed to achieve their objectives, but perhaps most can be learnt from the tensions between national priorities and global influences.

Figure 1. Factors undermining the PHC approach (Global Health Watch 2005).



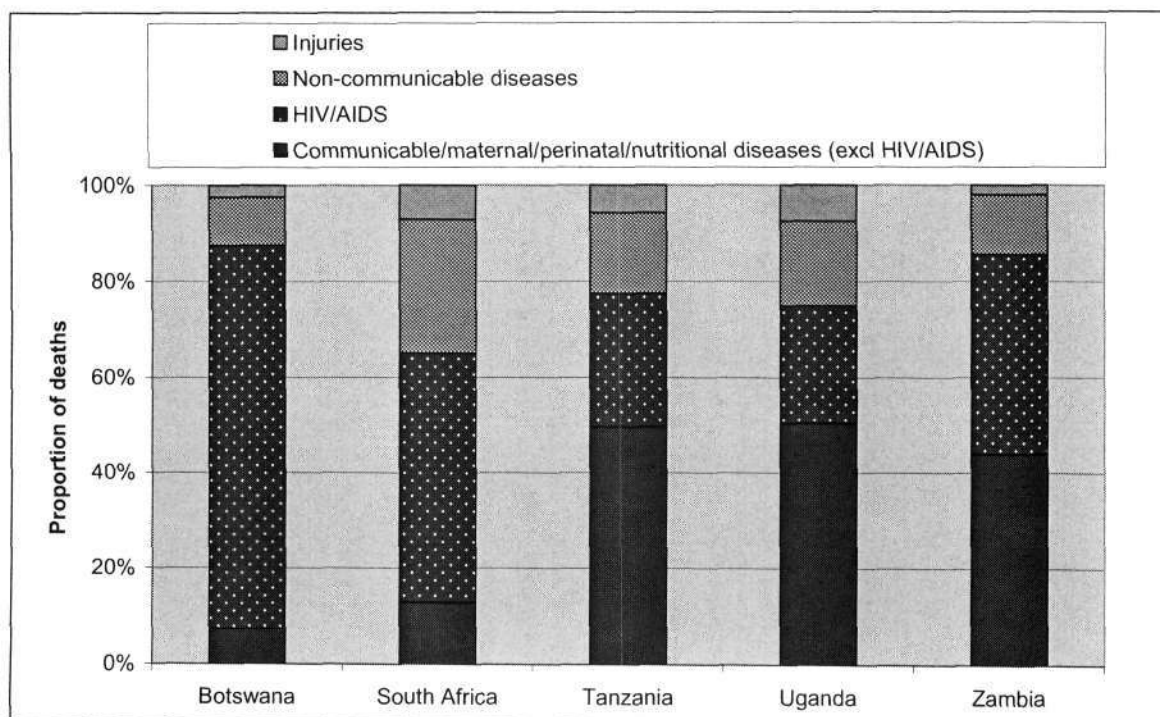
The disease burden is changing with serious consequences: HIV/AIDS and other infectious diseases

The HIV/AIDS pandemic superimposed itself on weakened health systems, creating new demands and resulting in a greater mobilisation of resources for global health (for reasons explored below), with significant implications for health system governance. The epidemic is, however, not simply as an add-on to an existing disease burden; it is part of a dynamic disease burden that is seeing a renewed focus on infectious diseases.

The resurgence of infectious diseases and the mobilisation of resources for global health

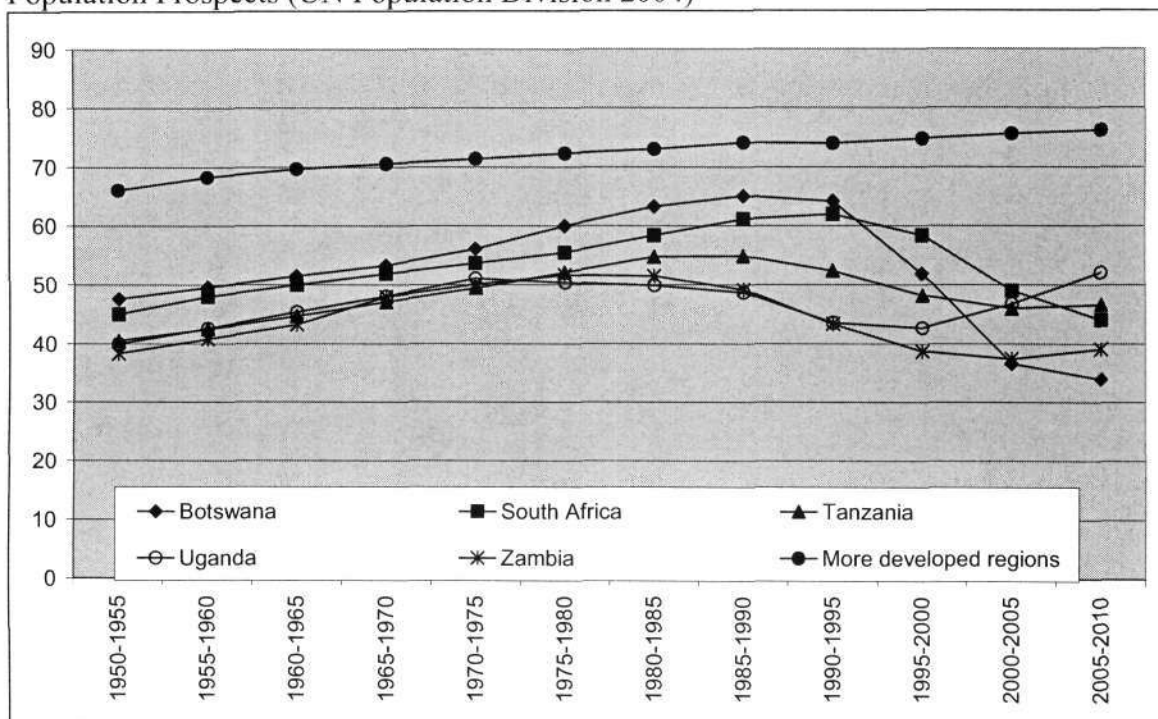
Increasing rates of infectious diseases have, since the late 1980s, resulted in diverging mortality trends across the world. These trends have gone against earlier predictions which foresaw a global convergence towards lower mortality. Scientists did not predict the latest or 'third' epidemiological transition of emerging infectious diseases, characterised by a large number of new pathogens (including HIV) and a rebound in pre-existing diseases such as malaria and tuberculosis (Barrett et al. 1998; McMichael et al. 2004; Moser et al. 2005). The high rates in infectious diseases being witnessed this century in African countries are illustrated by WHO burden of diseases estimates for 2002 (see figure 2).

Figure 2. World Health Organisation mortality estimates for selected countries in Africa
Source: Global burden of disease estimates (WHO 2002)



There are two salient points to make about the resurgence of infectious diseases (and corresponding mortality). Firstly, this has affected a certain group of countries, mainly in Africa (see Figure 3). Secondly, globalisation has not prevented the divergence in health status and the world has failed in its collective responsibility for universal human health. Changing combinations of socio-economic and political circumstances, overlaid by a breakdown in public health, have resulted in avoidable deaths. With HIV/AIDS in particular, these deaths have occurred in a section of the population that don't normally die – the young adults.

Figure 3. Life Expectancy at Birth in selected countries. Source data: UN World Population Prospects (UN Population Division 2004)



The global mobilisation of resources has not been purely driven by disease trends. Equity and human rights have become important, with increased pressure applied by advocacy movements. This is demonstrated by the Millennium Development Goals (MDGs), agreed to by world leaders at the United Nations Millennium Summit in September 2000. The MDGs are an important mechanism to mobilise global support for targets to reverse the spread of diseases (especially HIV/AIDS and malaria). However, the Summit's Declaration also outlines a wide range of commitments to human rights, good governance and democracy, as a necessary basis for putting shared values into action (UN General Assembly 2000).

In addition, good health is an important contributor to economic growth. The Commission on Macroeconomics and Health (CMH) was established by the WHO Director-General Gro Harlem Brundtland in 2000 and provided convincing arguments for viewing health not only as a priority in its own right, but also as an investment to achieve economic development and poverty reduction (Commission on Macroeconomics and

Health 2001). The CMH went further to highlight how a few health conditions (for which there are effective interventions) remained responsible for a high proportion of the burden of poor health, meaning that relatively limited investments could result in huge gains. The dilemma here is that some investments will have better returns than others. For example, recent research has shown how chemotherapy for a whole batch of debilitating parasitic and infectious diseases (lymphatic filariasis, schistosomiasis, intestinal helminths, onchocerciasis and trachoma) can cost as little as US\$0.40 per person annually, while treatment for HIV/AIDS exceeds US\$200 per person annually and has to continue for a lifetime (Molyneaux et al. 2005). From a purely economic perspective some interventions may not immediately make sense, so calling on concerns for human rights, governance, and long term socio-economic development. Often it also becomes more meaningful to compare the costs of 'treatment' to 'no treatment'.

Finally, HIV/AIDS and other health issues have been seen as threats to human security, and this has urged global involvement. In 2000, the UN Security Council held its first ever meeting on a health issue, 'AIDS in Africa'. US Vice President Al Gore suggested that the meeting set an example as to how 'security' could be understood according to a new, more expansive definition for the 21st century (Aita 2000).

The focus on global health and the urgency to mobilise resources for this purpose has resulted from epidemiological, ideological and political shifts. The re-emergence of infectious diseases, coupled with a focus on the right to health, the ways in which improving health status can potentially catalyze socio-economic development, and concerns over human security, have all been fundamental. Yet, while overtly positive, the mobilisation of resources does come with concerns, including potential difficulties in co-ordinating many actors and the use of resource-based power. The proliferation of disease-specific initiatives has implications for prioritisation within health systems. Simply mobilising resources will not revitalise and sustain health systems in the future – this will depend on a number of factors, including the type of approach adopted in scaling up care.

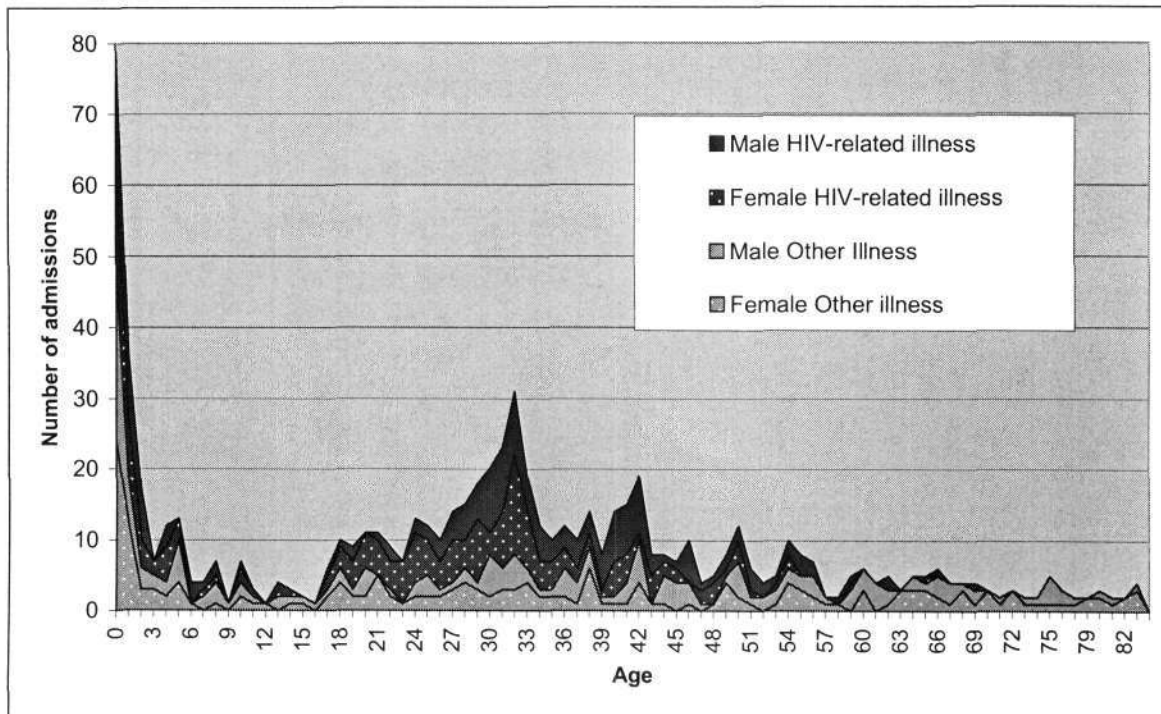
AIDS has come

In order for health systems to adequately manage the re-emergence of infectious diseases, and the burden of HIV/AIDS in particular, it is necessary to understand the current and future demands. Here we look at considerations which should inform the discussion on various approaches to scaling up care and, ultimately, an analysis of health governance with respect to HIV/AIDS.

Questions around the demand for HIV/AIDS care, and the associated impact on health systems, relate predominantly to issues of timing and magnitude. The HIV/AIDS epidemic can be seen to comprise three waves, in each case capturing the time lags that occur between infection, illness, death, and impact (Barnett et al. 2002). Initially, countries experienced rising prevalence rates. But it is the second wave, that of illness, that has struck health systems in many African countries, in many instances resulting in more than 50% of medical hospital beds occupied by HIV-infected individuals (Hassig et al. 1990; Tembo et al. 1994; Arthur et al. 2000; Hansen et al. 2000; Colvin et al. 2001; Fabiani et al. 2003). The age-profile of patients has changed in accordance with

HIV/AIDS morbidity and mortality patterns, with many young adults being admitted for care (see figure 4).

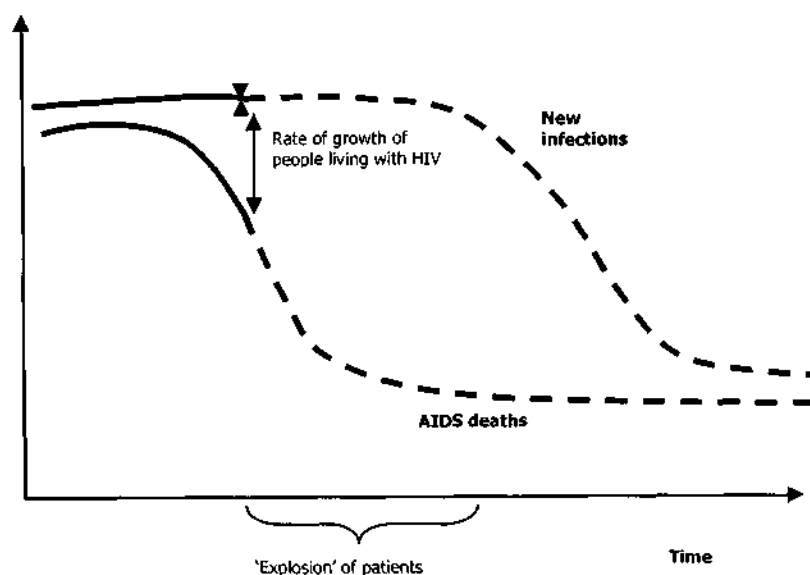
Figure 4. Age profile of hospital inpatients in the medical wards of five hospitals in KwaZulu-Natal, South Africa (Source data: HEARD database, 2005)



Unfortunately, the demand for care in communities is very difficult to measure and is not reflected in health service utilisation data. This is because of the many barriers people face in accessing health services and even then, the care that is provided may be limited. Studies in Kenya, Lesotho, Swaziland, as well as our own work in South Africa, have suggested that as the epidemic progresses, proportionately fewer people with HIV/AIDS are accessing care (Arthur et al. 2000; Mburu et al. 2004; HDA 2005). While the epidemic has created a major new burden on health systems, this is also being hidden and shifted onto households and communities.

In terms of the future demand for health care, we can consider the 'AIDS transition' as an analogous concept to the demographic transition (see Figure 5); here births are replaced by HIV infections and overall mortality replaced by AIDS mortality (Over 2004). This allows us to consider various future scenarios. For example, the scenario which presumes victory over the HIV/AIDS epidemic will see AIDS deaths declining due to ART scale-up, with infection rates remaining high. The health sector will be temporarily burdened by an explosion of patients demanding care, until such time as infection rates drop and the demand for care settles at more manageable levels.

Figure 5. The 'AIDS Transition' (Over 2004)



Given the weakened state of health systems, the observation that the AIDS epidemic has not yet peaked in many countries, and the potential 'explosion' of patients, we are left with the question as to whether health systems will ever be able to respond appropriately to the epidemic. The need for rapid scale-up of HIV/AIDS programmes, with tremendous resource implications, must be balanced against a longer term objective of rebuilding health systems. Resources are flowing in from the global community to assist with financing health programs (in particular HIV/AIDS), but will these resources be directed and sustained in a way that will strengthen health systems? This is where scenarios and projections are currently underutilised, since they would allow some consideration as to how various actions might modify outcomes.

How should the burden of HIV/AIDS be managed by health systems? Vertical vs horizontal approaches to expanding care

The need for national health systems to scale up programs to manage the burden of HIV/AIDS and the mobilisation of global resources explicitly for this purpose have brought renewed attention to the appropriateness of 'vertical' programs, or 'mass campaigns'. Is this the only way to achieve the rapid scale-up that the epidemic demands? What effects will this approach have on the long term development of health systems in Africa? This section takes a closer look at what is meant by the different types of approaches and attempts to answer some of these questions.

Definition, pros and cons

A number of different terms are used to refer to vertical and horizontal approaches to care and the dichotomy between these approaches is not as rigid as it is often made out to be. Here we consider a 'vertical' approach as one where programs for specific health

conditions are largely free-standing and executed through dedicated health workers, and a 'horizontal' approach as a delivery mode in which all health interventions are implemented through the regular health service infrastructure. In practice there is a continuum between vertical and horizontal approaches to care and the continuum can be more easily understood by dissecting out different program components, some of which are inherently more vertical in nature. For example, managerial structures (dealing with strategy, monitoring and evaluation) are often vertically orientated, yet there is integration at the service delivery level (Oliveira-Cruz et al. 2003; Elzinga 2005; Mills 2005). Where program components differ in their orientation, a vertical-horizontal interface develops, with opportunities for synergy and collaboration.

The tension between vertical and horizontal approaches, exposed as a resource allocation dilemma, was identified in the 1960s (Gonzalez 1965). Gonzalez considered the long-term need for organised health services against specific interventions for certain diseases that could rapidly improve health in the shorter-term. This dilemma is no less relevant today (Mills 2005). The push to implement vertical programs is indeed stronger where epidemics, poverty and weakened health systems coincide. The burden created by a specific disease, such as HIV/AIDS, can become so large that priority interventions will result in huge health status gains. Yet implementing vertical programs usually also comes at a cost. Table 1 summarises some of the pros and cons of the different approaches, extracted from a synthesis of the available evidence (Oliveira-Cruz et al. 2003). These are simply arguments - the synthesis itself found supporting evidence to be limited and sometimes contradictory, depending on the context and the design of specific programs.

Table 1. Some pros and cons of vertical and horizontal approaches to expanding care. Arguments extracted from Oliveira-Cruz et al (2003)

Vertical approaches:	Horizontal approaches:
Community and household level	
<ul style="list-style-type: none"> • May not promote community reliance • May not account for variations among and within countries 	<ul style="list-style-type: none"> • May be more centred on the health needs of individuals and communities • Are more frequently planned according to local circumstances and with more widespread involvement • May allow for the delivery of a range of services selected to suit national health policies and local demands • May allow for a more holistic response
Health services delivery level	
<ul style="list-style-type: none"> • May result in efficiency gains (if objectives are specific, work schedules clear, techniques defined, staff motivated and supervision adequate) • May be more appropriate when technology is sophisticated and tasks require specific skills • May provide greater capacity for a focussed effort to reduce morbidity or mortality 	<ul style="list-style-type: none"> • May not be effective under certain circumstances (drug shortages, inadequate staff training and supervision, low staff morale, poor support) • Have the potential for delivering technically efficient services due to economies of scale and scope • May be more flexible in adjusting to changing disease patterns
Health sector policy and strategic management level	
<ul style="list-style-type: none"> • May circumvent the general health system with a parallel structure and hence not contribute to strengthening the system • May duplicate or undermine existing efforts eg. by diverting time and attention of health workers and managers • May be used to avoid addressing absorptive capacity issues • Are often more attractive to donors (easier to measure, less chance of corruption, overcomes the weak capacity of national health systems) • Are often short-term, raising concerns about sustainability 	<ul style="list-style-type: none"> • Allow for opportunities to strengthen health systems • Often rely on regular budgetary resources (as opposed to aid) and so may be under funded • Are more sustainable

HIV has created additional concerns for the potentially adverse effects of vertically orientated programs because of its co-morbidity with other infectious diseases like Tuberculosis (TB). It is no longer simply a matter of inefficiencies and system effects, since clinical care may also be compromised. This was brought out in a study of TB and HIV care in a primary care setting in South Africa even before the government implemented its program of ART (Coetzee et al. 2004). It found that while the TB and HIV services had a good relationship and referral system, lessons learnt were not transferred, there were inefficiencies in service delivery and patient care was not optimal. Patient folders were kept separately, clinicians weren't aware of other treatments, and dually infected patients had to be seen by different health care workers at different times and places. In acknowledgement of such issues resulting from high levels of HIV-related TB, the ProTEST initiative was established by the World Health Organisation (WHO) in

1997 to develop collaboration between TB and HIV/AIDS programs. The initiative conducted a series of pilot projects in Malawi, South Africa and Zambia and demonstrated that collaborative efforts are necessary and feasible (WHO 2004).

If collaboration between two vertically orientated programs can be developed, then is there potential for creating synergies across entire health systems, between all programs? Or should the goal be to avoid vertical approaches altogether? We look first at how valid concerns are for the deflection of resources when HIV/AIDS programs are vertically structured, before trying to answer some of these questions.

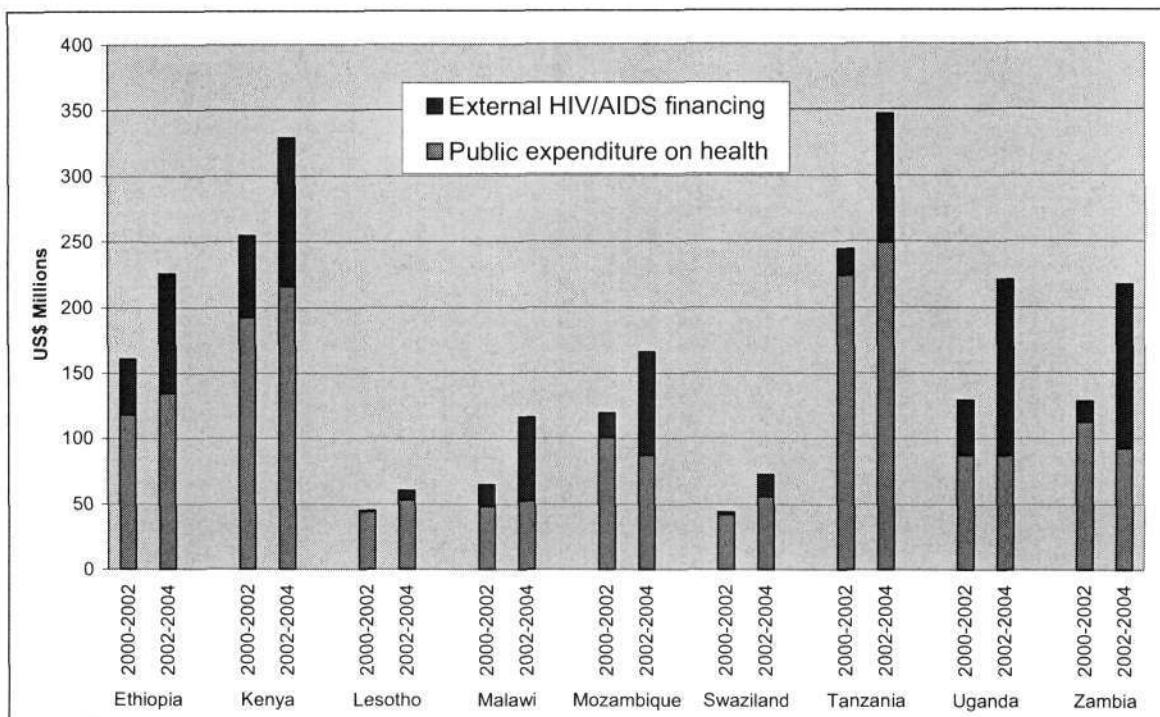
Current evidence on the deflection of resources and other system effects

The assumption that HIV/AIDS deflects resources and so contributes towards weakening health systems needs to be critically examined, since HIV/AIDS has also contributed to an increased inflow of external resources in heavily affected countries. While financial resources often receive the most attention, they are not necessarily the greatest concern. This section analyses some of the evidence for the deflection of resources within the health sector for three major resource categories which are potential constraints/barriers for implementing all programs – financial resources, infrastructure resources and human resources. In looking at financial resources, the focus is on the role of donor aid, since this has many implications for health sector governance and relates closely to any discussions around vertical and horizontal approaches to expanding care.

Financial resources

As a number of funding streams finance HIV/AIDS programs in developing countries, it is not necessarily domestic public spending which is carrying the burden of ever increasing resource requirements in the health sector. Funding from bilateral agencies, multilateral agencies, mechanisms such as the Global Fund, and philanthropic foundations has all been increasing, particularly for the provision of ART. In theory then, aid money could mitigate the need to divert domestic funds towards HIV/AIDS programs. Figure 6 looks at trends in domestic public health care funding and external financing for HIV/AIDS in a selection of African countries, to gauge to what extent this might be happening (Lewis et al. 2006). What this data shows is that, despite massive increases in HIV/AIDS funding, public health funding has only increased modestly or in some instances even declined. External financing for HIV/AIDS during the period 2002 to 2004 in fact exceeded the public health budget in some African countries.

Figure 6. Trends in domestic public health funding and external financing for HIV/AIDS, 2000-2004 (Lewis 2006).

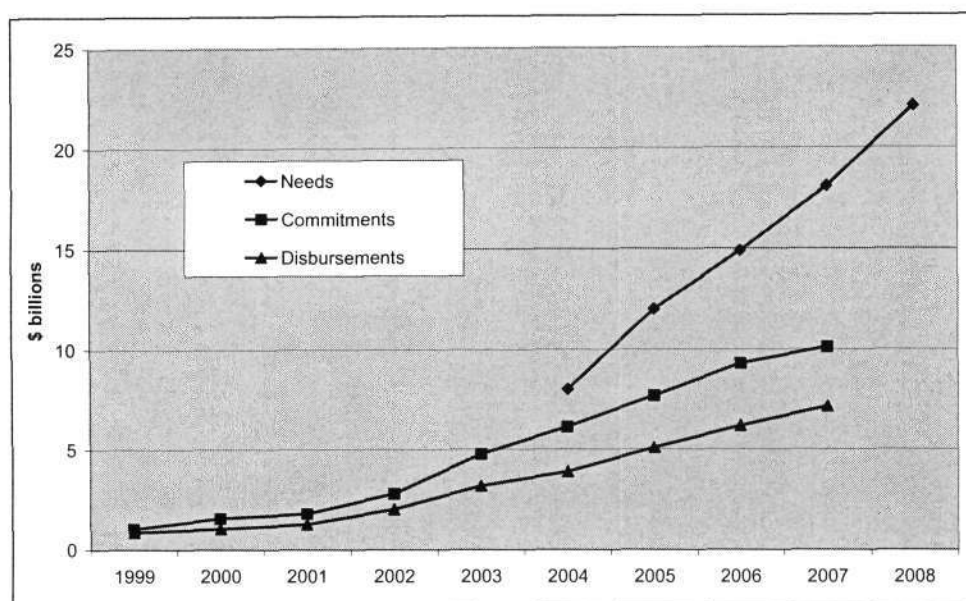


What is puzzling is how countries can accommodate and wisely allocate new resources for HIV/AIDS while their overall health spending declines or only modestly rises (Lewis 2005)

The mobilisation of aid for HIV/AIDS programs has clearly not facilitated parallel increases in domestic public health expenditure and this has implications for health system strengthening, health system governance, and the sustainability of programs. As Lewis (2005) points out, effectively scaling up programmes with donor monies generally requires some 'collateral' domestic resources, such as human resources and infrastructure. Absorptive capacity constraints are also not the only side of the story; other concerns with such large amounts of aid relative to domestic spending are that it will 1) increase corruption and 2) induce aid dependency, by weakening governments' abilities to generate resources locally (Bevan 2005).

There are other system effects associated with utilising large amounts of donor aid. The tendency for donor funds to be disease-specific and to sway countries' responses towards vertical approaches has already been discussed. What has not been mentioned is the volatile and unpredictable nature of donor aid, which impacts negatively on the sustainability and effectiveness of programs and limits countries' abilities to plan. Aid volatility has been demonstrated empirically and extends to the discrepancy between commitments and disbursement (Bulir et al. 2003). Unfortunately the discrepancy is becoming larger, as the needs continue to increase sharply (see Figure 7).

Figure 7. The widening gap between needs, commitments and disbursements for HIV/AIDS (CHGA 2005b)

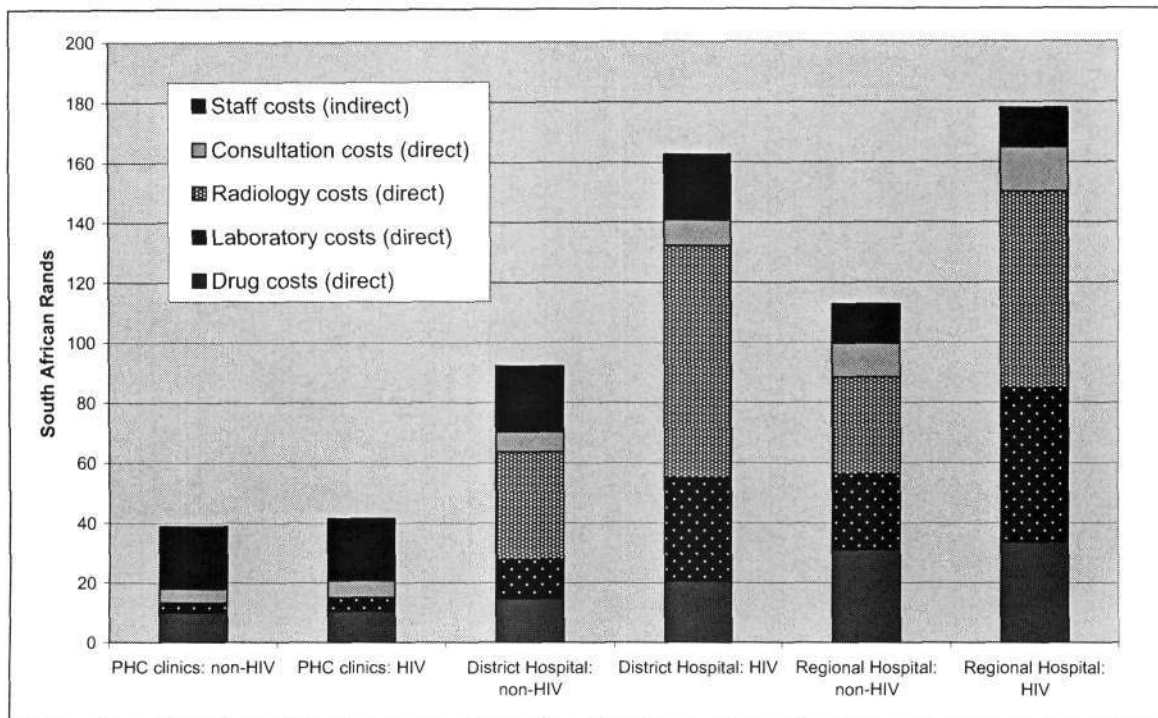


Another problem, with the number of donors, is one of coordination. Where a proliferation of donors results in increasing demands on already scarce human and financial resources simply to manage the aid, then its benefits become questionable. The issue of donor coordination has recently received attention in discussions around 'aid effectiveness' and has constituted much of the rationale behind the 'Paris Declaration of Aid Effectiveness' (2005). Over one hundred countries and organisations have committed themselves to this declaration, which focuses on 'ownership, harmonisation, alignment, results and mutual accountability' as a means to improve aid effectiveness.

Lastly, one important observation is often neglected when trying to gauge the additional resources required to finance the health system response to HIV/AIDS, is that much of the burden of HIV/AIDS on health systems is currently being absorbed by the general health services and not by HIV/AIDS specific programs. Given the rate of scale-up of ART programs in many African countries, it is likely to remain this way in the foreseeable future. A significant proportion of beds in medical wards are occupied by patients being treated for opportunistic illnesses and a large number of outpatients seeking HIV-related care. This can have major resource requirements. The complicated nature of HIV means that under optimal conditions, or where there is good availability of drugs and other investigations, care for HIV can be significantly more costly than care for other types of illnesses (Decosas et al. 1996). Such costs were already demonstrated in the mid-1990s in Zimbabwean hospitals (Hansen et al. 2000). While 50 % of patients in medical wards were thought to be HIV positive, their treatment costs were on average US\$ 174.83, compared to US\$110.03 for patients presenting with other diseases. More recently in South Africa, we have found that HIV-related care is not often only significantly more costly for inpatients, but that this observation extends to outpatient

care as well (see Figure 8). It is in such instances that the deflection of resources acquires greater meaning.

Figure 8. Costs of HIV-related care non HIV-related care at clinics, a district hospital and a regional hospital in KwaZulu-Natal, South Africa (Veenstra et al. 2006)



Infrastructure resources

Even where financial resources are available, the physical infrastructure required to provide health care can not be created without a long lead-in time, and in the meantime hospital beds may increasingly be allocated for HIV-related care, to the exclusion of other patients. Certainly, a quick review of a number of the studies focussing on HIV-related care in health facilities in Africa (see Table 2) demonstrates the large proportion of beds, particularly in medical and paediatric wards, that have been taken up with HIV patients. In Kenyatta National Hospital in Nairobi, between 1988/89 and 1992 bed occupancy rates remained at around 100%, but a steep rise in the number of HIV-positive patients admitted was accompanied by a significant fall in the number of HIV-negative patients admitted (Arthur et al. 2000). The HIV burden on the hospital seemed to then stabilise between 1992 and 1997, with more HIV-negative patients being admitted, but with bed occupancy rates rising to a staggering 190%. This demonstrates the deflection of beds towards HIV-related care; either other patients are excluded or the infrastructure is stretched beyond its limits.

Table 2. The impact of HIV on health facilities in Africa

Location	HIV prevalence
Mama Yemo Hospital, Kinshasa, DRC (Hassig et al. 1990)	50% (1988, adult medical inpatients)
Rubaga Hospital, Kampala, Uganda (Tembo et al. 1994)	55.6% (1992, adult medical inpatients)
Various hospitals, Zimbabwe (Hansen et al. 2000)	50% (1995, adult medical inpatients)
Chris Hani Baragwanath Hospital, Soweto, South Africa (Meyers et al. 2000)	29.2% (1996, paediatric inpatients)
Kenyatta National Hospital, Nairobi, Kenya (Arthur et al. 2000)	18.7% (1988/89, adult medical inpatients) 38.5% (1992, adult medical inpatients) 40% (1997, adult medical inpatients)
Tertiary level hospital, Durban, South Africa (Colvin et al. 2001)	54% (1998, adult medical inpatients)
King Edward VIII hospital, Durban, South Africa (Pillay et al. 2001)	62.5% (1998, paediatric inpatients)
St Mary's Hospital, Lacor, Uganda (Fabiani et al. 2003)	42% (1999, adult medical inpatients)
Various hospitals and clinics, South Africa (Shisana et al. 2003)	46.2% (2002, medical and paediatric inpatients) 25.7% (2002, ambulatory PHC facility patients)

Even though health system infrastructure is being stretched by HIV/AIDS, as demonstrated at Kenyatta Hospital, earlier concerns that hospitals will be completely overrun by people dying of AIDS have been tempered. Access to health care facilities has always been mediated by geographical barriers, by the direct and indirect costs of seeking care, and by health care providers. The increasing burden of AIDS illness is evident and growing in communities. In recognition of this, different care models have emerged, to address both the lack of physical infrastructure and other barriers to accessing care. Some of these new care models, such as 'step-down care' (referring to palliative care in facilities with fewer highly trained medical personnel and lower operating costs) still require the development of physical infrastructure. Community Home-based Care (CHBC) does not, however it often leads to physical, emotional and psychological, as well as social and economic stresses on the caregivers, who are usually female (Akintola 2004). If clinical care is to be shifted to communities, partly as a way to alleviate infrastructure constraints, then there needs to be more recognition of the 'care economy' and support for the work that caregivers are doing (Ogden et al. 2004).

Human resources

Closely related to the issue of infrastructure resources, but most pressing of all, is the concern for human resources. Here not only does HIV/AIDS create additional demands, but it also impacts on supply, so compounding existing difficulties in managing an increasing HIV/AIDS burden. On the supply side, the impact of HIV/AIDS on health care workers has been described as a 'triple threat'; encompassing an increasing burden of disease effecting health worker's workload and skill demands, decimation of the workforce through infection, and the psychological stress of providing palliative care (Joint Learning Initiative 2004). The loss of health care workers due to illness has been

substantiated by research; for example, a study of doctors in Uganda revealed that 30% died within 20 years of graduation, with HIV/AIDS largely to blame (Dambisya 2004). In Malawi, 48 % of health care worker attrition was found to be due to deaths and 80% of these deaths were due to HIV-related illness (Mukati et al. 2004). The loss of health care workers due to increasing workloads and psychological stress is somewhat more difficult to measure, but nevertheless remains a huge concern.

On the other hand, there are massive human resource implications in the need to scale up care. The Commission on HIV/AIDS and Governance in Africa (CHGA) has estimated that if all eligible Zambians are provided with ART, the program would by its fifth year require half the current number of physicians for its implementation and a doubling in the number laboratory technicians (CHGA 2005c). In Malawi, 90% of public health facilities did not even have the capacity to provide a minimum package of care, due to high post vacancy rates. As a result, the introduction of new services for HIV/AIDS was at the expense of other service areas, creating concerns for equity (Aitken et al. 2003; EQUINET 2003).

Given an environment of reduced supply and increasing demands, the deflection of human resources towards HIV/AIDS care is inevitable. A recent multi-country pilot study, of health systems in South Africa, Tanzania and Zambia and their operation in a context of HIV/AIDS, documented perhaps two of the most important ways in which this happens, at both management and facility level (Cheelo et al. 2005). Firstly, the creation of new posts becomes inadequate to contend with the disproportionate burden of HIV/AIDS on the health system. In health care facilities, care for HIV/AIDS patients is more time consuming than care for other types of patients, due to its more complicated nature. Secondly, managers tasked with overseeing HIV/AIDS programs and other communicable disease programs find themselves spending a disproportionate amount of time on HIV/AIDS issues as a result of the pressing demands, to the detriment of other programs.

The deflection of human resources also relates closely to the debate around vertical and horizontal approaches to expanding care. Where HIV/AIDS programs are more horizontally structured, ambitious scaling up may surpass worker capacity and so force tradeoffs between a range of important tasks (Joint Learning Initiative 2004). On the other hand, where HIV/AIDS programs are vertically structured and there is a general shortage of managers and health care workers, these programs may have to draw their human resources from other priority programs. If HIV/AIDS programs are run by Non Governmental Organisations (NGOs) or donors with different working conditions to government employees, then the draw might be even stronger (USAID 2003).

The movement of health care workers is ultimately a product of combinations of 'push' and 'pull' factors and is far more widespread than health care workers migrating between programs or from public to private facilities. There is also extensive migration from rural to urban, from the underdeveloped south to the more developed north, and between neighbouring countries, so creating a complex web of migration streams (Joint Learning Initiative 2004). In such situations, HIV/AIDS is most commonly a push factor, because

it increases the workload, causes stress, and may diminish job satisfaction. However it can also be a pull factor, where pay in HIV/AIDS programs is higher, management of these programs is better, or more career opportunities present themselves. The movement of health care workers will never be entirely dependant on the impact that HIV/AIDS is having, but rather on a whole host of factors influencing working conditions.

Interfaces and synergies

Although there may not be a significant body of evidence to substantiate the effects of vertical and horizontal approaches on health system, arguments for and against suggest that there is no one right approach to expanding care. Early observations that the two approaches should not be mutually exclusive, but rather combined in various ways to achieve longer term goals, remain relevant (Mills 2005). With HIV/AIDS, high levels of donor involvement, constrained settings and the pressure for rapid scale up (of programs such as ART) favour vertical approaches. These may indeed be appropriate in the shorter-term to bring down the disease burden, but if sustainability and strengthening of health systems remains our goal, then HIV/AIDS programs will have to be assimilated into the general health services with time. Furthermore, a large share of the burden of care is likely to remain with the general health services. Management of HIV/AIDS will remain dependant on functioning horizontal health systems, regardless of whether programs such as ART are integrated or not.

If HIV/AIDS specific programs are initially vertical in nature, but the intention is to later assimilate them into the general health services, then there is a question concerning the optimal timing for this to happen. A typical vertical program designed to control acute infectious diseases can have different phases: an attack phase to control transmission and reduce new infections, a more limited consolidation phase to prevent a resurgence of cases, and a maintenance phase for surveillance (Mills 1983). With HIV/AIDS the phases are not so distinct and there is uncertainty as to the future course of the epidemic, but it is still possible to use concepts like the 'AIDS transition' to determine what demands will be placed on health systems. The attack phase can be compared to the rapid scale up of ART now being undertaken in many countries to address a backlog of patients, while the consolidation phase may refer to stabilising infection rates and high coverage of ART for those that require it. As the HIV/AIDS programs consolidate there should be fewer demands on the capacity of health systems and so this would be a logical time for them to become more embedded into the general health services. However, unless new infections are tackled, the consolidation phase will never transpire and the treatment of ever increasing numbers of AIDS patients will become too expensive. An integrated approach comprising prevention, treatment and care, and impact mitigation remains crucial.

Given our current reality of vertical and horizontal approaches, the ideal would be for these to compliment each other in synergistic ways, with the interfaces between the approaches highlighting important areas for collaboration. Vertical programs make use of important elements of the general health service infrastructure (laboratory facilities, drug supply chains, information systems etc), creating possibly the most obvious opportunities for health system strengthening. Indeed, some of these opportunities have been

recognised in country plans and through external program assistance. The Centers for Disease Control and Prevention (CDC) Global AIDS Program (GAP) for example, has included laboratory capacity and laboratory infrastructure development in 25 countries (Martin et al. 2005). The program has developed a systematic process for strengthening the capability and capacity of the laboratory infrastructure in resource-constrained countries, with such activities being to the benefit all health programs.

Another approach to looking at system wide interfaces between vertical and horizontal approaches, involves identifying common constraining barriers to improving service delivery for a range of different programs. Where programs, whether more horizontal in nature (such as maternal and child health) or those commonly more vertical in nature (TB, Malaria, HIV/AIDS), share common concerns, opportunities arise for collaboration and system strengthening. A summary of some important constraints identified from reviews of major global health initiatives has illustrated how system barriers encountered by specific programs are rarely unique to that disease program (Travis et al. 2004). Yet the responses are frequently disease-specific, and these responses have the potential to crowd out ongoing health sector activities. More health-system focussed responses will ensure programs are more sustainable in the longer term. For example, a disease-specific response to the physical inaccessibility of health services might involve focal outreach for the disease in question. Alternatively, and perhaps more appropriately, attention could be paid to capital investment and the siting of facilities.

Health-system responses require funding and the increased mobilisation of resources for HIV/AIDS and other infectious diseases has been very disease-specific. Even though the Global Fund was created in 2002, only in Round 5 (September 2005) were proposals accepted for programs to strengthen national health systems (Friends of the Global Fight 2005). Just one percent of Global Fund financing has been for health system strengthening. Similarly, PEPFAR funding has been very treatment focused, with Congress requiring that 55% of funds go towards treatment, 15% for palliative care, 20% for HIV/AIDS prevention and 10% for helping orphans and vulnerable children (Office of the United States Global AIDS Coordinator 2004). These funding mechanisms have therefore not supported a health-system response to overcoming barriers to scaling up treatment. Given the limitations in public health care financing in most countries heavily impacted on by the epidemic, it is too much to expect that these countries compliment aid money with their own resources to develop the necessary support geared towards health system development.

More broadly speaking, the proliferation of disease-specific funding coming from global sources, and the institutions required by recipient countries to sustain this funding, creates problems of coordination, and tensions between different approaches and between existing country-level bodies. These tensions have been described in a review of early implementation processes of the Global Fund in four African countries (Brugha et al. 2004). Most obviously perhaps, disease-specific funding appears to be at odds with country-level Sector-Wide Approaches (SWAs), promoted since the mid 1990s as a mechanism to reduce fragmentation and develop national leadership of policy making and planning (Cassels et al. 1998). Separate funding might protect spending on priority

programs and see to donor interests, but it is questionable whether an appropriate balance in sector spending can be achieved at a national level without pooling of resources. The Global Fund for example, might have 'country-led processes' in the sense that individual countries can decide on which interventions to pursue, but these interventions can only relate to a specific disease and will ultimately be prioritised through the acceptance or rejection of proposals. Such influences capture the governance concerns that arise with resource-based power.

Lastly, the idea of 'interfaces and synergies' should be extended to include all sectors whose policies could potentially benefit health. Staff in Ministries of Health need new skills to engage in a globalised world (see for example Fidler et al. 2006). They need to understand the links between foreign policy and health, be aware of how they can shape the external policy environment, and develop strategic alliances with their own ministries. By advising and working through such alliances, countries can ensure that any new policy directions have favourable outcomes for health. In some instances it might even make sense to have a specific unit/cell in the ministry to focus on, say, trade issues.

Building the synergies between health and foreign policy should not just be a responsibility of developing countries. In fact, it is middle income countries that are most likely to have success in addressing foreign policy issues. The potential also exists for developed countries to find a new, more appropriate, ways of working in today's context of globalisation. In particular, their role in development cooperation could be enhanced by, for example, having money in their budget for global public health functions.

Opportunities for (re) constructing health systems

Now, perhaps more than ever, we have opportunities to (re) construct health systems in Africa. We may be coming from a weak starting point, but we have a greater understanding of what led to the weakened state of these systems in the first place, we are slowly realising and adapting to the demands of HIV/AIDS and other infectious diseases, scaling-up care is becoming a global concern, and perhaps most importantly, resources are being mobilised to assist heavily affected countries. So why are we not capitalising on these opportunities?

The answer lies in our approach, and here we don't specifically refer to horizontal versus vertical approaches, but rather a need for system-focussed responses in preference to disease-specific responses. While vertical programs are often blamed for contributing to weakened health systems, we demonstrated that it is not always so much the orientation of these programs which is the problem, but rather the disease-specific lens that they adopt. Countries are currently almost forced to adopt this lens because of a proliferation globally of disease-specific initiatives for HIV/AIDS and other infectious diseases. While countries are logically in the best position to see HIV/AIDS in the context of other health priorities, they are not being supported to do so. Global health governance bodies, such as the WHO, might advocate for the most relevant form that global involvement in health should take, but are largely powerless to ensure compliance. This governance issue needs to be considered.

Governance of issue or disease-specific initiatives can happen through global or national level action, but ideally both, since there is a need to build capacity at lower levels. One suggestion most amenable to rapid implementation is for all national programs and global initiatives to be held accountable for health system strengthening through the inclusion of system indicators in their monitoring and evaluation frameworks (Atun et al. 2004; Global Health Watch 2005). This would be facilitated by the development of relevant health system indicators. New programs and initiatives should, in addition, be required to conduct systems impact assessments, to ensure from the outset they are thinking in terms of the system.

It may be all very well to suggest activities or strategies to improve GHG, but the question often returns to the institutional arrangements that are required to facilitate these. Given the proliferation of actors that countries already have to engage with, creating new structures would simply complicate an already chaotic environment. The WHO already has a comparative advantage for sound governance in the health sector because of its strategic position, broad health focus, ability to place health in the context of development, and its humanitarian approach. Its mandate needs strengthening, so that it can develop into a governance structure that can hold its own against global health actors (particularly those with resources) and ensure accountability (Global Health Watch 2005). Perhaps then we would see a return to the 'health for all' agenda.

Most importantly, the type of response chosen by countries to scale up HIV/AIDS care should drive the mobilisation and allocation of resources for global health, and not visa versa. In other words, financing should not only be predictable and sustainable, but also pliant enough to respect local priorities and preferences. Indeed, the CHGA suggests that absorptive capacity will not be an issue if countries have more flexibility in financing their health systems (CHGA 2005a). SWAs were created with this goal in mind, but seem to have lost favour. More recently we have seen the Paris Declaration on Aid Effectiveness (2005) – is this going to make the difference we need? Similarly, International Monetary Fund loan conditions need to be more flexible to allow increases in HIV/AIDS funding and associated health system strengthening, particularly since there is somewhat conflicting evidence and a lack of consensus on what constitutes 'macro-economic stability'. If countries are given a range of scenarios illustrating the trade-offs between increasing health sector spending and controlling inflation, then they will be in the most favourable position to decide on a path to follow (Rowden et al. 2004).

While financial resources are certainly needed, the human resource crisis and the deflection of human resources as a result of HIV/AIDS are probably the greatest challenge currently faced by health systems in Africa. Here again, if programs or initiatives are disease-specific, then they should consider what effect they are having on the human resource capacity of the system as a whole. They should be held accountable for contributing towards human resource development. Since individual countries themselves will never be able to address their 'brain drain', this is also a relevant issue for GHG. While perhaps difficult to address given an environment of free trade governed by the General Agreement on Trade in Services (GATS), we still propose that those

countries benefiting from the global migration of health care workers should have to pay some type of 'tax' for this benefit. This will potentially not only discourage active poaching, but also give some reimbursement to countries for their loss, and in so doing contribute to the development on human resource capacity where it is needed.

The HIV/AIDS epidemic has increased tensions between ideological standpoints and in so doing has created greater confusion in countries whose health sectors are seriously impacted on by the epidemic. The concept of 'global policy networks', introduced in relation to health care financing reform (Lee et al. 2002), could be useful in understanding this predicament. Briefly described, a policy network develops out of a proliferation of initiatives, which in turn creates interlinkages through projects, individuals and policy ideas. The concern with such networks is that the resulting influential global 'policy elite' might not be representative, in particular of those affected by policy changes, thus putting question marks against the legitimacy and appropriateness of reforms. The idea that there are different global policy networks, clustering around focus areas such as HIV/AIDS, SWAps, PHC etc, might help us to understand the current situation and to develop the architecture for GHG in the twenty-first century.

This chapter focuses on HIV/AIDS, the impact it is having on health systems in Africa, and the role of global involvement in shaping this impact. In many countries HIV infection rates are still rising. The majority of AIDS cases, and hence also the long-term costs of ART, are in the future. There may be lessons in looking at those countries that have seen the AIDS cases peak, but they are few in number (Uganda and Thailand). There are more resources being made available because of HIV/AIDS (although we note that in January 2006 in Beijing the global community asked for \$1.2 billion to respond to SARS and got \$1.9 billion – some diseases are more fundable than others). However, these resources are for specific diseases and the opportunity to build the health system is being lost. We do not believe a pandemic like HIV/AIDS can be treated by specifically focused health interventions in the long term. If it is, then consequences for the rest of the health sector will be damaging. This is an important and challenging issue.

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OPINION

HIV/AIDS impact on health services – lessons learnt

Tim Quinlan, Nina Veenstra

In May 2001 an article in the *SAMJ*¹ warned of how the AIDS epidemic in KwaZulu-Natal (KZN) was overwhelming public hospitals, and cited health professionals' fears of an exponential increase in the burden. The scenario depicted was one of desperation – health services plummeting into a spiral of collapse, with their only hope of being rescued coming in the form of radical intervention. It was not the only alarming view on the state of health services – not surprisingly, given that HIV/AIDS and its impact struck at the health sector relatively early and quickly. For example, already in 1998, 54% of patients in the medical wards of a tertiary hospital in KZN were found to be HIV positive.² However, 5 years on there is reason to question whether our health services have really been overwhelmed and whether earlier predictions masked other problems in our health services and therefore misdirected responses.

HIV/AIDS evolving impact on health services – a reality check

South Africa, with an HIV/AIDS epidemic set to peak later than in many other countries in the region, has not always used the opportunity to learn from the experience of others. Researchers taking cognisance of experiences elsewhere proposed that neither health systems nor economies collapse.³ The long-wave nature of the epidemic means that systems will adapt to changing circumstances.

Kenyatta National Hospital in Nairobi, Kenya, provided some of the best early insights into the impact of HIV/AIDS on health services.⁴ It experienced an initial, inexorable increase in the HIV/AIDS disease burden, followed by some level of stabilisation. The authors suspected that the burden of chronic

HIV/AIDS disease had slowly shifted onto communities because of stigma, the belief that hospitals have little to offer the chronically unwell, and the costs of seeking care.

Our research at 5 hospitals in KZN supports those arguments.⁵ Comparing our results with studies^{2,6} done locally in the late 1990s, we found the 'burden' on hospitals to be high, but stable – 50% of beds in medical wards were taken up by patients requiring HIV-related care and hospitals were not dealing with an increasing number of patients. This is not to say that the burden has not been shifting from one service area to the other, or that new initiatives such as step-down care and the antiretroviral therapy (ART) programme have had no impact. They have simply not been of a sufficient scale to explain the broader trends in health facilities. However, in the future, ART is expected to shift the burden of care from inpatient services to outpatient services and from hospitals to clinics. We predict it will also cause a temporary increase in the number of people requiring care, as they live for longer.

The missing links and implications for the future of HIV/AIDS programmes

It is not possible to understand health service concerns related to HIV/AIDS by studying health facilities alone because in many cases people don't access services for many reasons – beliefs about the benefits of seeking biomedical care, costs (for transport and user fees), difficulties with mobility, and concerns about taking time out of daily activities. HIV/AIDS is affecting households and communities in diverse ways, although in sum often increasing poverty and so limiting ill patients' ability to access services.

Such community constraints are now being taken more seriously with the scale-up of ART and concerns about adherence. We are now grappling with issues such as if people aren't accessing care for occasional opportunistic illness how do they gain access to treatment programmes, and what happens when people on treatment cannot manage the regular visits to health facilities for monitoring and collecting their medication?

Our message is that AIDS is exceptional, but it is a contributor to, rather than a cause of, our health system problems. It should not be taken out of context and allowed to divert our attention away from important systemic issues such as poor access to care, poorly integrated services, or human resource constraints. In reality, HIV/AIDS exacerbates pre-existing health service weaknesses. If we remain committed

Tim Quinlan is Research Director at the Health Economics and HIV/AIDS Research Division at the University of KwaZulu-Natal.

Nina Veenstra is a Senior Researcher at the Health Economics and HIV/AIDS Research Division. She has an MPH from the University of Cape Town and is primarily engaged in researching the impact of HIV/AIDS on health systems.

Corresponding author: Nina Veenstra (veenstran@ukzn.ac.za)



to addressing these, then HIV/AIDS-related care will benefit automatically.

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Social Protection in a Context of HIV/AIDS: A Closer Look at South Africa

Nina Veenstra¹

Abstract

South Africa is unusual in that it is experiencing high levels of AIDS morbidity and mortality, but is also able to afford a relatively developed system of social assistance. However, HIV/AIDS is affecting poverty in some unique ways and compounding other challenges such as unemployment. Its nature is such that it demands immediate action, balanced with a focus on long-term development. This is requiring a conceptual shift from 'social security' to 'social protection', since social assistance is not managing to address all dimensions of poverty and is also creating perverse incentives for people not to maximise their health. In South Africa, household studies comprise the most useful evidence to explore the particular challenges posed by HIV/AIDS. They indicate a need to review policies in all the social sectors and to focus on the issue of human capital.

Introduction

This article looks at social protection policies in a context of HIV/AIDS, with South Africa as its focus. It considers how poverty in our current context differs from poverty in the pre-AIDS era, and what this might imply for social protection. Since the threat of HIV/AIDS to chronic poverty is multidimensional and plays out at all levels of society, a range of evidence from the macro to household levels is embraced in an effort to better understand this threat. However, particular attention is given to the dynamics of the epidemic at household level, where gaps in the social protection package are exposed. South Africa is not only a country which is heavily affected by the epidemic, but also a middle income country which, in addition

to the provision of essential services, also provides a significant level of social assistance to its population. While unique in terms of social assistance, the South African situation does generate some lessons which could be applied in other African countries.

This article argues that HIV/AIDS is exacerbating chronic poverty, and so more attention should be given to the longer term threats to development posed by the HIV/AIDS epidemic, particularly those challenging access to health and education. This longer term focus is mirrored in a conceptual shift from 'social security' to 'social protection', which recognises the current reality of developing countries and the need to review welfare approaches. Since South Africa is going through a process of determining what social protection might mean in practice, it is useful to initially review how far we have come in this process.

Social Security vs Social Protection: Where are We Now?

The concepts of social security and social protection are fundamental to contemporary thinking on welfare and development and so form a foundation for discussions in this paper. 'Social security' conventionally refers to both social assistance (minimum protection against poverty provided by the state) and social insurance (a mandatory system of contributions to pool risks). Two of its major limitations in developing countries have been identified as 1) the requirement of financially and institutionally strong states with a robust formal economy and 2) a potentially large or growing burden of public expenditure that may limit investment in public services and infrastructure required for growth (Norton *et al.*, 2002, Ghai, 2003, Maes, 2003, Taylor Committee, 2002).

'Social protection' refers to a broader conception of social security; one which recognises the realities of developing countries, is aligned to the developmental agenda for these countries, and is viewed as being more sustainable over time. Developing countries need to first address current deprivation and create a foundation for accelerated growth, unlike developed countries which are seeking to achieve greater equity and sustain progress already made towards poverty reduction (Norton *et al.*, 2002). Accordingly, social protection acknowledges a need to integrate political, economic and social goals through a multidimensional approach, so that economic

development and social protection might act to reinforce each other (OECD, 2003, UN Commission for Social Development, 2001).

South Africa has a record in implementing social security as defined above, despite the constraints associated with being a developing country, notably limited formal employment and high levels of poverty. Its welfare system, hinging primarily around means tested social assistance grants, has been described as exceptional even by international standards (Seekings, 2002). However, social assistance in particular has come at a price; South Africa spends a greater proportion of Gross Domestic Product (GDP) on grants than many developed welfare states (van der Berg and Bredenkamp, 2002). The quandary of escalating social grant costs limiting investment in other areas required for development was expressed in the 2004 budget speech by the South African Minister of Finance when he stated:

Given the challenges we face, we have made these choices. But in the longer term, it seems clear that we will need to seek a better balance between growth in welfare spending and our investments in education and infrastructure development (Manual, 2004).

Only those in formal employment really have access to social insurance options, in the form of, for example, the Unemployment Insurance Fund (UIF) or Medical Aid Schemes. The government has, however, been trying to expand access to social insurance and this is evidenced by the inclusion of domestic workers in the UIF since April 2003 (South African Department of Labour). Yet access to many other forms of social insurance remains barred by the levels of contribution required. The 2004 General Household Survey (Statistics South Africa, 2004) estimated that only 15% of the South African population were covered by a Medical Aid Scheme, with the remaining 85% relying on the state to provide affordable medical care. In the health sector, this has highlighted the need for Social Health Insurance that will cover a larger proportion of the population and avoid the need for out-of-pocket payments at the point of service. The concern remains that to expand social insurance, people have to have fairly stable employment and levels of contributions have to be made affordable.

As suggested in the Minister's speech, South Africa has not yet fully embraced the concept of social protection. Nonetheless, the Taylor Committee, appointed by the government, detailed how this broader welfare model might be implemented (Taylor Committee, 2002). The report explored

options for a comprehensive system of social protection package, including the following elements:

- Income poverty addressed through grants
- Capability poverty addressed through improved access to basic services (particularly health and education)
- Asset poverty addressed through improved access to both income-generating and social assets
- Special needs addressed through grants (for example, cover for disability)
- Social insurance (for example, cover for old age, unemployment)

The report stemmed from policy debates in post-1994 South Africa, which looked to finding an appropriate welfare model and can be seen to reflect the complexities in formulating a comprehensive system of social protection (Makino, 2004). First came the African National Congress's (ANC) Reconstruction and Development Programme (RDP), which was aimed at attacking poverty and deprivation with a focus on improving access to water, housing, electricity, land, jobs, education and health, in preference to welfare. Then the White Paper for Social Welfare was released in draft for comment in November 1995 before being published in August 1997. The draft embodied the social development approach advocated by the United Nations, where social and economic development are interdependent and mutually reinforcing. The White Paper therefore tacitly endorsed social protection, but was criticised for not extending social grants and was later revised to include comprehensive social assistance to those without other means of support. Then in June 1996 the government introduced the Growth, Employment and Redistribution (GEAR) policy, with a vision of economic growth and job creation, and limited expenditure on cash transfers through grants.

In South Africa, debates around the composition of social spending have considered whether RDP or Growth, Employment and Redistribution (GEAR) may be more growth enhancing in the longer term. Even though GEAR was not supportive of cash transfers, in recent years, civil society organisations have successfully put pressure on the South African government to expand social grants, particularly for children. The government too has come to view social grants as the most important means of reducing income poverty, capability poverty and asset poverty (Financial and Fiscal Commission, 2004), since there are still significant cost barriers to accessing

housing, education and health. Yet a developed grant system is becoming increasingly expensive for the government, with some of the recent cost increase attributed to HIV/AIDS (Nattrass, 2003b). This leads us to consider how poverty in a context of HIV/AIDS might differ in scale and nature from poverty in other contexts and why we might need to move towards true social protection with greater urgency.

Poverty in a Context of HIV/AIDS: What Might This Mean?

Social protection policies and programmes are focussed on tackling poverty and yet poverty can take many forms. Poverty in a context of HIV/AIDS undoubtedly has certain features which should act to inform and shape social protection. These features are related to the 'meta-dimensions' of poverty, described by Clark and Hulme (2005) as encompassing depth and severity, breadth and multidimensionality, and time and duration. This section looks at the theoretical arguments as to how HIV/AIDS affects these meta-dimensions and what this means for policy, in preparation for reviewing more specific evidence from household level studies.

In a country like South Africa, which is experiencing marked increases in poverty, it becomes difficult at a macro level to separate out HIV/AIDS from other causative factors such as unemployment. One study using comparable consumption aggregates for 1995 and 2000, demonstrated an increase in both the depth and severity of poverty (Hoogeveen and Ozler, 2004). Another estimated an increase of 3 million people living below the poverty line between the years 1999 and 2002 (Meth and Dias, 2004). Yet it has not been possible to discern the extent to which HIV/AIDS is responsible for such increases in poverty at a national level; in practice it is only one of a number of contributing factors that need to be addressed. Similarly, in looking at other national indicators associated with poverty, it is also not possible to discern the impact of HIV/AIDS. The 2004 General Household Survey found that 60 000 children aged 7-15 years were unable to attend school because there was no money for school fees (Statistics South Africa, 2004). But in how many cases was this due to HIV/AIDS and resulting poverty? This is where household level data can assist, that is, through providing insight into how households are affected by various factors and what coping strategies they employ.

The bi-directional and multifaceted relationship between poverty and poor health has been well described, and alludes to potential mechanisms by which HIV/AIDS might be contributing to poverty. For example, ill health and poverty can interact through the following dimensions: poor nutrition, poor shelter, poor working conditions, health care costs, erosive livelihood strategies and coping strategies (Grant, 2005). At a macro-level, the Commission on Macroeconomics and Health (CMH) was fundamental in highlighting reversed causality; not only does low socio-economic development result in poor health, but such poor health further hinders gains in socio-economic development:

A typical statistical estimate suggests that each 10 percent improvement in Life Expectancy at Birth (LEB) is associated with a rise in economic growth of at least 0.3 to 0.4 percentage points per year, holding other growth factors constant...health status seems to explain an important part of the differences in economic growth rates, even after controlling for standard economic variables (World Health Organisation, 2001).

In 2002 life expectancy at birth in South Africa was predicted to be 17.5 years less with HIV/AIDS than what it would have been in the absence of HIV/AIDS; on average 48.8 years instead of 66.3 years. This difference is expected to rise to 31.9 years by 2010, with HIV/AIDS causing life expectancies to decline further to 36.5 years (US Census Bureau, 2002).

If we believe the work showing that the *depth and severity* of poverty is increasing in South Africa, then this has implications for social assistance. Views have been expressed that where there is a large poverty gap in low-income countries, the income redistribution necessary to ensure a minimum level of income or consumption for all would not be fiscally sustainable (The World Bank Human Development Group, 2000). This observation appears to be an implicit pro-market/anti-welfare argument, however modelling in South Africa has illustrated that high levels of spending might be required for social assistance to be truly effective. With full take-up of social assistance benefits, only 37% of the poverty gap would be closed (Taylor Committee, 2002). At 2001 take-up rates, social assistance grants were reducing the average poverty gap by 23%.

When poverty becomes more widespread, this has implications not only for the amount of money spent on social assistance, but also targeting. Broad targeting has been recommended where administrative capacity is low and poverty widespread (van der Walle, 1995). Such broad targeting includes spending on basic social services and does not negate the value of additional

and more finely targeted public action. The pressure on the South African government for broad targeting is reflected in discussions concerning the feasibility of a Basic Income Grant (BIG), which would be given to every South African (BIG Coalition, 2003). The Children's Institute has also recently presented evidence against using approaches (such as a grants for foster care) that prioritise orphans in a context where so many other children are vulnerable (Giese *et al.*, 2003).

If the *breadth and multidimensionality* of poverty is increasing, then this has consequences not only for social assistance programmes, but also for policies and programmes aimed at addressing the other dimensions of poverty. Without a holistic social protection package, households will increasingly trade off basic requirements, exposing inadequacies in the social protection system. For instance, a poor parent may have to decide whether it is more important to send a child to school or to buy more food for the household. This clearly happens in South Africa, given the data presented above showing just how many households are struggling to send their children to school. While the school fee exemption policy should avoid the need for grants to be used for education, this policy is not always applied and subsidies for related costs (such as books and school uniforms) can be insufficient or non-existent (The Education Rights Project, 2003)².

Health care becomes equally difficult for people to access as poverty increases. It has been suggested that a stabilisation in the number of HIV infected patients seeking care from health care facilities in South Africa and other African countries could in part be due to the direct and indirect costs of seeking care (Arthur *et al.*, 2000, Mburu and Naidoo, 2004, Veenstra, 2006). Indeed, during our own work in health facilities in KwaZulu-Natal, many people spoke at length of the prohibitive costs involved when accessing care. This suggests that AIDS patients (or others with chronic illness) are being increasingly taken care of in their communities, with the economic consequences of caregiving then acting to further fuel a vicious cycle of poverty in affected households (Akintola, 2004, Ormer, 2005). Accordingly, addressing issues of access to education and health care in poor communities demands a review of current policies, programmes and spending in these sectors.

The third meta-dimension of poverty, that of *time and duration*, is perhaps the most important when looking at the major drivers of poverty in South Africa - unemployment and HIV/AIDS. This meta-dimension is related

to the concept of 'chronic poverty', which is seen to encompass poverty that is transmitted from one generation to the next, where children growing up in poor households in turn become poor adults (Aliber, 2003). A diverse range of circumstances can lead to chronic poverty, which may or may not coincide with deeper and more severe poverty. Households become trapped in the cycle of chronic poverty when temporary shocks (such as an HIV/AIDS death in the household) result in permanent effects. This process has been studied in South Africa largely in relation to unemployment, with a resulting concern for the sequencing of micro and macro reforms for pro-poor growth (Carter, 2004). In this article, I consider, using household evidence, the ways in which HIV/AIDS can trap households in poverty for prolonged periods. My focus is on the critical roles of education and health in maintaining human capital in a context of HIV/AIDS, which has been highlighted in the literature (Cohen, 2002).

Ultimately, if HIV/AIDS is worsening different dimensions of poverty, social protection has to be revisited from a new perspective. In South Africa the Taylor Committee prioritised the alleviation of income poverty to ensure the success of government programmes to address other types of poverty (Taylor Committee, 2002). However, income poverty is widespread and it is only where a combination of instruments are used in a comprehensive social protection package that trade-offs might be avoided (Kallman, 2003). Furthermore, social grants have been touted as potentially ineffective in mitigating poverty in the long term unless part of the welfare transfer is invested into reducing both capability and asset poverty, through income-generating activities, education, health, social networks and the acquisition of productive assets (Devereux, 2002). Cash transfers alone do not acknowledge the way that HIV/AIDS systematically undermines livelihood systems (Devereux and Sabates-Wheeler, 2005). Income poverty is only one of various dimensions of poverty to be addressed and social assistance just one of many potential strategies.

HIV/AIDS: The Nature of the Threat

In view of the above, I argue that efforts to tailor social protection to take cognisance of the threat of HIV/AIDS will only be successful if the threat is adequately understood. Reflections on societies that have collapsed through history³ inspire some level of amazement that these societies could not foresee or adapt to the circumstances that befell them. Yet long-term threats are

difficult to understand or predict, and invariably have to be weighed up against short-term priorities.

The HIV/AIDS epidemic calls for both immediate action and the ability to think long term about risk and impact. Its impacts have been described as a 'continuum between sharp shock and slow and profound changes' (Barnett and Whiteside, 2002). Put another way, the nature of the epidemic has been described as having 'schizoid' aspects, by being both a short-term emergency and a long-term crisis (Marais, 2004). It becomes a sensitive matter trying to alleviate some of the more immediate impacts as breadwinners die and households are thrust deeper into poverty, while creating a balance with longer term strategies for development. Difficulties in envisaging long-term strategies have resulted in impact mitigation being skewed towards more short-term strategies (Alumira *et al.*, 2005). For a more balanced approach, policy makers are being tasked to look into the future and constantly adapt their approach based on new learning.

Difficulties associated with understanding long-term threats are illustrated by estimates of HIV/AIDS impact on macroeconomic growth in South Africa. Early modelling work in this area concluded that in the presence of HIV/AIDS, GDP growth would only be modestly affected – in most cases less than one percent per annum (Arndt and Lewis, 2001, ING Barings, 2000, Bureau of Economic Research, 2001). This was before a World Bank paper was released, stating that the importance of human capital was not fully appreciated in earlier predictions (Bell *et al.*, 2003). It went as far as suggesting that the costs of AIDS could be 'devastating', by focussing on how AIDS will hinder human capital being transmitted across generations. Without making judgement on which prediction might be most accurate, the differences themselves highlight difficulties in understanding long term processes. This understanding informs action; for example a focus on human capital might call into question our current limited approaches to social protection, in particular our investment in children and young adults in terms of education.

Longer term threats (and in particular those associated with HIV/AIDS) may also not present a negative picture to all sectors of society. Some people are almost sure to gain from the epidemic and this means that policy makers have to engage with moral issues and self interest in order to address the needs of the poor. Two of the macro-economic models from South Africa predicted a greater impact on population numbers than on economic

growth, with a resulting increase in *per capita* income (Nattrass, 2003a). If these models prove accurate, then this good news for those (generally the elite) who have the means to prevent themselves from becoming infected, or have easy access to treatment, care and support (Nattrass, 2004b). As the skills shortage intensifies due to the epidemic, relatively skilled and skilled workers could also have access to higher wages and greater employment opportunities – they will benefit from a greater slice of the cake. On the other hand, poor households could become even more disadvantaged as firms limit their reliance on unskilled labour because of the high infection rates in this skill group (Nattrass, 2003a).

The notion that HIV/AIDS is a threat with somewhat different characteristics to other threats experienced by society has possibly been most widely acknowledged in discussions around food security. In 2002 Baylies argued that while there might be similarities in the effects of HIV/AIDS and other shocks to household food security, differences in the nature and staging of impact mean that interventions are not necessarily directly transferable. Other authors went on to suggest that the present southern African food crisis could prove to be 'more widespread and more intractable than its predecessors', due to the way that HIV/AIDS operates at household level; this was labelled the 'new variant famine'(de Waal and Whiteside, 2003). Dialogues around rural livelihoods are less relevant in South Africa, as more extensive de-agrarianisation has meant food security is based largely on employment status and levels of social assistance. Yet the work mentioned above still makes an important point: HIV/AIDS contributes to chronic vulnerability in unique ways which should hence inform our approaches to addressing poverty.

Looking more specifically at epidemics as threats, HIV/AIDS can be considered as unique in a number of respects. Although not immediately killing as large a proportion of the global population as other epidemics such as the Black Death, mortality over decades will reach exceedingly high levels and is further selective in terms of both age and gender. This distortion in population structure, along with a less certain suggestion that there is an element of 'natural selection' in who becomes infected, has led to the epidemic being considered as a 'Darwinian event' (de Waal and Whiteside, 2006). The social and economic consequences of the epidemic are equally profound and may be compounded when those affected are not willing to disclose distress or seek support. Discrimination, or the severance of social

networks, forms part of a range of diverse circumstances driving people into chronic poverty (Aliber, 2003). It also sets HIV/AIDS apart from other household shocks, such as unemployment.

Despite the profound social consequences of the HIV/AIDS epidemic, social protection debates have done little to analyse the threat. In South Africa the Taylor Committee Report did not examine how the South African welfare system might cope with the consequences of the epidemic (Seekings, 2002). At the time, the Committee would not have had access to much of the research cited in this analysis, but the concept of adapting poverty reduction efforts to the reality of HIV/AIDS had already been discussed in the public domain. In 2001 the United Nations Development Programme considered ways that poverty reduction efforts should be adapted to the reality of HIV/AIDS, with a view to also reducing susceptibility and vulnerability to the epidemic (Loewenson and Whiteside, 2001). Their approach looked specifically at the risks posed by HIV/AIDS to long term socio-economic development, including strategies focussing on: health problems of the poor and improving access to services, limiting the impoverishing effect of out-of-pocket health expenditures, protecting access to education (especially for girls), providing for public health inputs such as safe water and food security, promoting access to employment opportunities, and promoting infrastructure.

Social Protection Gaps and Changing Service Demands: The Evidence

Sometimes the failure to acknowledge certain threats to society stems from a lack of evidence. Yet in South Africa and other African countries, evidence at a micro level about the failures of social protection with respect to HIV/AIDS has been rapidly expanding through a recent wave of household studies (see for example Booysen, 2003, Lundberg and Over, 2000, Mutangadura, 2000, Naidu, 2004, Oni *et al.*, 2002, Samson, 2002, Steinberg *et al.*, 2002, Wyss *et al.*, 2004, Yamano and Jayne, 2002, Booysen *et al.*, 2004, Giese *et al.*, 2003). These studies give us insight into the particular challenges posed by HIV/AIDS, the coping strategies adopted by households, and the extent to which various government grants and policies are protecting people against poverty. Since social assistance grants are considered an important means of reducing a number of dimensions of poverty (that is, not only income poverty) in South Africa, some household studies have tried to understand the effectiveness of these grants at ground-level.

Household studies have adopted range of methodologies, which have to be acknowledged when comparing findings. In some instances, only households with an AIDS-sick person or a recent death were studied (Mutangadura, 2000, Steinberg *et al.*, 2002). These studies required some degree of recall, in order to determine how morbidity or mortality had affected household wellbeing. They would also not have captured the most desperate households which dissolved as a result of the death. Other studies purposively sampled AIDS 'affected' households (variously defined), through health facilities or HIV/AIDS organisations, and then matched these with controls (Booyesen *et al.*, 2004, Naidu, 2004). These studies tracked households, therefore establishing panel datasets, but would not have captured those households not accessing any services. More general household surveys have also been used to explore the impact of chronic impact or death, without sampling for this specifically (Lundberg and Over, 2000, Oni *et al.*, 2002, Yamano and Jayne, 2002).

Despite differences in methodology, the majority of studies examining the socio-economic status of affected households share one major overwhelming finding which has already been mentioned; the direct relationship between households affected by HIV/AIDS and subsequent impoverishment (Booyesen *et al.*, 2004, Mutangadura, 2000, Naidu, 2004, Oni *et al.*, 2002, Steinberg *et al.*, 2002, Yamano and Jayne, 2002). However, not only are HIV affected households generally poorer, but there are also other important changes noted on income, consumption and expenditure patterns. Studies have repeatedly demonstrated that in affected households:

- Medical and funeral expenses consume a much greater share of household resources (Booyesen *et al.*, 2004, Naidu, 2004, Oni *et al.*, 2002, Steinberg *et al.*, 2002, Wyss *et al.*, 2004);
- Less money is spent on food and other regular expenditure items (Booyesen *et al.*, 2004, Mutangadura, 2000, Naidu, 2004, Steinberg *et al.*, 2002, Wyss *et al.*, 2004);
- Less money is spent on education (Booyesen *et al.*, 2004, Oni *et al.*, 2002, Steinberg *et al.*, 2002).

This section explores some of these findings in greater detail, and looks at whether social grants and other social protection policies and programmes facilitate people's access to basic services, particularly health and education.

When a household's income diminishes or the costs associated with AIDS illness deplete what income there is, then the household potentially embarks on a passage of decline that, in a worst case scenario, results in dissolution. I say potentially, because although the HIV/AIDS literature has documented fairly predictable stages to this passage, financial safety nets can still prevent households from reaching a point of no return (Marais, 2005). Initial means to protect financial security have been noted in studies to include borrowing, the use of savings, remittances, petty trading and taking children out of school (Booyesen *et al.*, 2004, Oni *et al.*, 2002, Wyss *et al.*, 2004, Yamano and Jayne, 2002). The sale of assets, and particular productive or key assets, was sometimes seen as a more desperate measure marking the next stage of decline. Nevertheless, the question relevant to South Africa, is whether social grants can assist in preventing the passage of decline.

Social assistance in South Africa does seem to support HIV/AIDS affected households in protecting income levels. In the Free State Province, these households received a significantly greater proportion of their income from grants (Booyesen, 2003). Furthermore, households experiencing a greater burden of morbidity and mortality were even more dependent on social grants, providing convincing evidence that grants do help to alleviate income poverty under such circumstances. Similarly, other work done in Soweto has found that HIV/AIDS affected households made up for a loss in earned income with the income received through grants (Naidu, 2004). Yet in both these studies, the grant income did not manage to bring affected households to the same income level as non-affected households. It also did not prevent affected households from utilising savings or selling assets to offset the costs of healthcare or purchase other basic necessities (Booyesen *et al.*, 2004, Oni *et al.*, 2002).

In households affected by HIV/AIDS, education is frequently compromised when children, and particularly girls, drop out of school. This has been found to happen for three main reasons: because there is a need to care for those sick and incapacitated at home, because assistance is needed with household chores, and because of financial restrictions (Giese *et al.*, 2003, Human Rights Watch, 2005, Steinberg *et al.*, 2002). The challenges associated with caring for people in their communities are complex and are largely a health sector concern; hence this will not be explored much here. Rather, I look more closely at the evidence for financial restrictions impacting negatively on schooling, and at whether social grants help to counter this

effect. The limitations of the School Fee Exemption policy, in that it is not always applied and does not support related expenses, have already been mentioned. The government has further committed itself to implementing no-fee schools in 2006 (South African Department of Social Development, 2006), but this policy decision has still to be fully developed and implemented.

In light of the above, we need to ask whether social grants do in fact support children to stay in school. Interestingly, HIV/AIDS households researched in the Mount Frere region of the Eastern Cape Province reported using additional resources from grants to pay for food, funeral expenses and medical costs, but only infrequently for education (Samson, 2002). Research in the Free State Province made a similar observation for grants in general, but commented that the old age pension, which is of greater value than the grant for child support, did seem to assist in paying for education (Booyesen, 2003). Clearly transfers targeted at children do not necessarily improve access to education for the child recipient, since the caregiver has control over the resources which are usually employed to the benefit of the entire household to address immediate consumption shortfalls. Such dilution across the household, as well as high costs of physically accessing the grant relative to the value of payments of child support grants, limits their benefit (for education in particular).

Moving on to health, there is a need to understand how HIV/AIDS affects people's access to health services, before considering how this might be facilitated. To this end, I identify significant barriers to include geographic access and the associated indirect costs, as well as direct costs, bearing in mind that primary health care is free but hospital care is in most cases still subject to user fees. Geographic access is an obvious problem in households with sick individuals who find it difficult to travel long distances and have to be accompanied by other members of the household. Despite this, evidence and anecdotal reports suggest that it is frequently transport and other indirect costs that are a greater deciding factor in accessing care (Booyesen *et al.*, 2004). This care becomes compromised not only for the person living with HIV/AIDS, but also for caregivers who, whether children or adults, are also more at risk of suffering from negative physical health consequences (Akintola, 2004, Giese *et al.*, 2003).

There is sufficient evidence to support the economic difficulties faced by HIV/AIDS affected households in accessing health care in South Africa.

For example, medical costs have been shown to comprise a high percentage of household expenditure in AIDS affected households, 6.4% in the case of the Free State study and 7.15% in the case of the Limpopo study (Booyesen *et al.*, 2004, Oni *et al.*, 2002). When looking at expenditure to income, Steinberg *et al.* (2002) found health care expenditure in HIV/AIDS affected households to rise to more than half of the total monthly income in rural areas (Steinberg *et al.*, 2002). This is despite government policies affording certain vulnerable groups free medical care. Health care spending is generally considered 'catastrophic' when households have to reduce basic expenditure over time to deal with health costs. In a relatively recent multi-country analysis, this was considered to be the case when payments rose above 40% of a household's capacity to pay, that is, more than 40% of household income after basic subsistence needs have been met (Xu *et al.*, 2003). A benchmark 5% health expenditure to income ratio has also been considered affordable (Russell, 1996).

The exceedingly high levels of health care expenditure noted in household surveys in South Africa are unlikely to be sustainable. This observation is supported by the health sector studies mentioned earlier, which indicated stabilisation in the utilisation of health care facilities for HIV-related illness, despite a growing epidemic. Most likely health care expenditure would be even higher if people did in fact access care whenever they needed it. All these observations suggest that strategies to reduce the burden of medical expenses on AIDS affected households could play an important role in reducing chronic poverty. Ensuring financial protection against the costs of ill-health has, furthermore, been identified as a fundamental objective of health systems (World Health Organisation, 2000). Therefore, it seems logical that it is primarily the responsibility of the health system to deliver affordable, accessible and appropriate care, but that social grants may play a supportive function in this regard.

Social grants are used to improve health in HIV/AIDS affected households in South Africa in two ways. Evidence suggests that these grants can improve access to services by assisting with costs, or indirectly contribute to better health status outcomes. For example, research has indicated that social grants increase expenditure on food (Booyesen, 2003, Kola *et al.*, 1999), which would have a positive impact on the nutritional status of household members. However, such mechanisms have limitations which need to be acknowledged. As mentioned previously, access to health services for HIV-

affected individuals in particular becomes increasingly difficult as household resources are repeatedly plundered to cover the direct and indirect costs of seeking care. There is evidence from Ghana and Kenya to suggest that decreasing the distance to health facilities can increase the utilisation of these facilities tremendously (Castro-Leal *et al.*, 2000). This highlights the need for a multi-pronged approach in tackling the vicious cycle between poverty and poor health. .

In conclusion, the system of social assistance grants in South Africa plays a very important role in alleviating income poverty; indeed the value of social assistance within a more comprehensive social protection package cannot be disputed. However, government's reliance on social grants to alleviate other forms of poverty, and in particular capability poverty, is not appropriate considering the risks posed by HIV/AIDS. This is because access to health and education is becoming more difficult for affected households, many of which may not even be benefiting from grant income. Furthermore, greater access to health and education enables other opportunities for addressing poverty. The concept of schools as 'nodes of support' is one such example.

Social Grants – Gaps, Limitations and Perverse Incentives

The HIV/AIDS epidemic calls on us not only to review our approach to addressing capability poverty by expanding support to education and health, but also to revisit the system of social assistance and the laws governing it. This is because HIV/AIDS highlights the faulty premises on which it is based and inadequacies in its processes. As such, HIV/AIDS has allowed us to see the holes in the safety net, so creating an opportunity for reforming social assistance in South Africa.

Most obviously, HIV/AIDS impacts most heavily on the working age population and this is the only age group in South Africa that is not universally covered by any type of grant. The elderly are covered by the Old Age Pension and children by the Child Support Grant. The premise here is that all people of working age are either employed or disabled, in which case they are supported by a Disability Grant. Unfortunately this fails to acknowledge the unemployed, who make up a large proportion of this group. The 2005 Labour Force Survey estimated an unemployment rate of 26,7%,

with a further 11.2% of people aged 15-65 years classified as discouraged work seekers (Statistics South Africa, 2005). A number of authors have pointed out how dangerous the underlying premise of full employment has been when dealing with the dual challenges of unemployment and HIV/AIDS (Leclerc-Madlala, 2005; Nattrass, 2004a, 2006; Simchowitz, 2004). These challenges have resulted in people trading off health and income, in ways which are described below.

The Disability Grant, according to the Social Assistance Act (2004), should be provided to those who are unable to obtain employment due to physical or mental difficulties. When HIV infected individuals acquire AIDS, this is often so. However, the criteria for providing HIV/AIDS patients a disability grant were never made clear. In theory, biomedical criteria could be based on a clinical diagnosis (WHO staging) or a laboratory diagnosis (CD4 count), even though these do not always agree. In practise there have been various interpretations, with some doctors or assessment panels acknowledging the socio-economic determinants of the disability (Simchowitz, 2004). Assessors using a broader definition of disability (and one that is not supported by the state) recognise that the health status of HIV/AIDS patients often deteriorates without good nutrition for example, and that if the grant is removed once the patient's condition improves, then they will not be able to afford nutritious food anymore. Antiretroviral Treatment (ART) has complicated the situation even more, since a positive HIV test is no longer synonymous with a continuous, gradual decline in health status.

With many people unemployed and HIV positive, and support only reliably offered for those actually sick with AIDS, an emerging coping strategy has been to trade-off health and income. This has manifested in a number of ways which has increased fraud, impacted negatively on individual's health status, and created public health risks (Leclerc-Madlala, 2005, Nattrass, 2004a, Simchowitz, 2004). Anecdotal evidence suggests that some people, understanding that an HIV positive test will entitle them to a grant, are disappointed when the test comes back negative. Infected people have been reported to 'sell their status', by taking along their 'client's' identification book when going for an HIV test and CD 4 count. Yet other HIV positive individuals allegedly default and resume treatment in a 'yo-yo' pattern, to ensure that they can retain their grant. This has severe repercussions for the health of the individual and for increasing resistance to ART regimens currently in use.

Clearly, plugging the hole in the social assistance safety net, which currently leaves the working-age unemployed without any income, will have positive implications for HIV/AIDS management as well. A number of options for policy reform have been recently put forward, some of which, like the Basic Income Grant (BIG), have been discussed in the public domain for a while already (Nattrass, 2006). They encompass a range of options from support for the unemployed (or more narrowly for the unemployed on ART treatment), a universal grant such as a BIG which has been proposed for some time, or a means to ensure the delivery of jobs. In the case of the latter, constraints with bringing a public works programme to scale have to be acknowledged with a guarantee of income for those not managing to benefit from the programme.

HIV/AIDS is not only affecting poverty in its own unique ways, but is also interacting with and highlighting the importance of addressing other determinants of poverty. This is calling on policy makers to do two things: 1) review what is being done across the entire range of social services (in terms of social protection), and 2) reform the way that social assistance is delivered as evidence is presented on the shortcomings.

Conclusions

This analysis, while focused on South Africa, has drawn out a number of issues that are relevant to debates on social protection in a context of HIV/AIDS. These issues relate to a basic concern that poverty is dynamic, and so changes in scope and nature depend on the environment. While any factor in the environment might affect poverty, the HIV/AIDS epidemic is exacerbating a dire situation. Hence we might like to consider that poverty experienced in our current context of increasing HIV prevalence rates and high levels of AIDS sickness could be different from poverty experienced in decades prior to the epidemic.

The nature of the HIV/AIDS threat to poverty is such that it demands some form of immediate action, balanced with a focus on long-term development. A number of factors have swayed the current balance towards more short-term action, including difficulties in envisaging long term impacts and strategies to avert these, as well as more immediate pressures in society. The social protection discourse has given little attention to this dilemma, which further tasks us to develop a deeper understanding of the complex processes by means of which HIV/AIDS traps people into a cycle of chronic

poverty. Ultimately, social protection strategies should avoid the need for households to trade off basic requirements and developing human capital should be considered as an investment for the future.

I have argued that in a country like South Africa, there is evidence concerning threats of HIV/AIDS to chronic poverty; it is now a matter of refining and applying this evidence in the design of social protection policies and programmes. Previously it has been suggested that an under-reaction to HIV/AIDS at the household level could be due to both the epidemic remaining somewhat hidden from view at this level and largely uncoded, and to the nature of HIV/AIDS and its impacts (Baylies, 2002). Yet this reasoning is no longer valid; while evidence may not be complete and possibly never will, it should become a matter of everyday practise to reassess policies and programmes as the story of the epidemic and its impacts plays itself out.

While HIV prevalence rates might slowly be stabilising in some areas in Africa, impacts are rising and will be with us for generations to come. What we do now to alleviate impacts and reduce susceptibility and vulnerability will ultimately shape the welfare of African populations.

Nina Veenstra is a Senior Research Fellow with the Health Economics and HIV/AIDS Research Division (HEARD) at the University of KwaZulu-Natal. Her research interests relate to public health issues, in particular the impact of HIV/AIDS on health services and systems in Africa. Her email address is: veenstran@ukzn.ac.za.

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Notes

- ¹ I am grateful to Tim Quinlan, Rosa Dias, Dorrit Posel, Gavin George and Marisa Casale of the University of KwaZulu-Natal, for their comments on earlier drafts of this paper.
- ² Recent media coverage of Human Rights Commission (HRC) hearings on the right to basic education have highlighted a submission by the Education Law Project which states that less than 5% of pupils receive exemptions from school fees and that the poor borrow R2,7 billion a year to spend on education. The submission further argues that: 'The only system than can effectively facilitate access for poor learners, and one which accords with international law, is a system of free education' (Macfarland, 2005).
- ³ For example those documented by Diamond (2005).

The burden of HIV-related illness on outpatient health services in KwaZulu-Natal, South Africa

NINA VEENSTRA¹, & ANTHONY OYIER²

¹Health Economics and HIV/AIDS Research Division (HEARD), University of KwaZulu-Natal, Rm 911 Shepstone Building, Howard College Campus, Durban, 4041, and ²Department of Economics and Management, University of KwaZulu-Natal Durban, South Africa

Abstract

Health services in sub-Saharan Africa will be faced with increasing numbers of AIDS patients for many years to come. Where there is good availability of drugs and other resources, the costs of treating HIV/AIDS is likely to be higher than those of treating other types of illness. This will put services under strain and potentially jeopardise health system reform, depending on the vulnerability of the system. Whereas previous research has focussed on inpatients, this paper looks at the impact of HIV/AIDS on outpatient services in a district of South Africa. Through facility visits at various levels of care, data concerning HIV status and the costs of care was collected for all patients presenting over a set period of time. The proportion of patients presenting for HIV-related care ranged from 20.2 to 24.5%. The average costs of treating HIV-positive patients were significantly higher than those for non HIV patients at hospitals, with clinics not experiencing this difference due to the limited service provided. District hospitals spent the greatest proportion of direct patient care resources on treating HIV-related illness. In terms of outpatient care, this data suggests that district hospitals may require the most support in dealing with a rising number of AIDS patients.

Introduction

In sub-Saharan Africa health services are struggling under the double impact of HIV/AIDS; they have to deal with an increase in HIV-related illness, while their capacity to deliver is eroded as health workers fall ill and die. Prevalence rates are still on the increase in many countries, including South Africa. Recent projections indicate that while the total number of HIV infected South Africans might stabilise and start to fall around 2012, the number of AIDS sick will continue to increase beyond 2015, even with phased in Antiretroviral (ARV) treatment (Dorrington et al., 2004). This alerts us to the desperate need for information and planning, so that health services might accommodate the future burden of AIDS sick patients without collapse. In terms of the demand for services, policy makers and planners are most likely asking the question: 'What will it cost to manage HIV-related illness in years to come?'

Complex interfaces have developed as health systems in sub-Saharan Africa have concurrently been trying to develop effective responses to HIV/AIDS, while also facing various other challenges.

Health system reforms for example, may affect the capacity of health services to respond to the epidemic, or alternatively may be undermined by its impacts (Dawes, 2003). In particular, reforms focussing on decentralisation and development of district health systems could become vulnerable. Understanding some of the complexity around impact, and hence where health systems might be most vulnerable, requires knowledge as to how various components of the system are differentially affected by the epidemic.

Middle income countries (like South Africa) may suffer most under the economic impact of HIV on health services. This is because the demand for care will depend on the availability and accessibility of services (Decosas et al., 1996), and in poor countries the availability of drugs and other necessary inputs are limited. Original research on inpatient care in the Democratic Republic of Congo, Kenya, and Zimbabwe, has indeed shown how context can determine a difference in costs between care for HIV and other types of patients (Hassig et al., 1990; Hansen et al., 2000; Guinness et al., 2002). However, a lack of research has not allowed a similar assessment of socio-economic context as a determinant of the cost

Correspondence: Nina Veenstra, MPH. Researcher, Health Economics and HIV/AIDS Research Division (HEARD), University of KwaZulu-Natal, Rm 911 Shepstone Building, Howard College Campus, Durban, 4041. Tel: 27 31 2602795, Fax: 27 31 2602587, E-mail: veenstran@ukzn.ac.za

for outpatient care. Clearly though, gains made in improving health service delivery might be more at risk in countries like South Africa, given their fragility and the potential costs involved in managing HIV/AIDS patients.

This paper analyses some initial observations from a longitudinal study which is assessing the burden of HIV/AIDS on health services in KwaZulu-Natal (KZN), South Africa. The study adopts a new approach to looking at impact, by assessing the economic impact of HIV across facilities falling under the same district and referral network. In particular the costs of treating HIV-related illness are compared to those of treating other types of illness at different levels of care. The analysis focuses on outpatient services, since most studies to date have concentrated only on inpatients. We argue that maintaining good outpatient services will ultimately assist to avoid ward admissions, and that the burden of HIV/AIDS on these services can not be assumed to be negligible.

Methods

This research is based on a health district from which sample facilities were selected and a referral pattern tracked. Ugu District, along the south coast of KZN, was selected for this research. The regional hospital was selected for inclusion in the study, along with one district hospital referring to it. Primary Health Care (PHC) Clinics were stratified according to their supervising facility, and two were randomly selected under each hospital.

The research team visited each facility in the sample for a two day period, following initial meetings with relevant staff. During the visit, field workers were stationed at key points in a facility (outpatient clinic, casualty, TB drop in centres) to obtain information on each outpatient in the system. This information included: age and gender, diagnosis, drugs prescribed, investigations conducted (laboratory and radiological), clinical signs of being HIV-positive, WHO clinical staging (WHO, 2002), evidence of HIV test and CD4 count, and consultation time. Patients were noted as presenting for HIV-related care if they were clinically HIV, and/or had a positive test result which was disclosed for treatment purposes.

Data was recorded by both clinicians and fieldworkers, who were also registered health professionals. The fieldworkers used hospital records to collect the required data, briefly questioning the treating clinicians after they have seen each patient to complete the data entry form where necessary. Costing data was obtained through the Provincial Laboratory Services (laboratory investigations), Provincial Medical Supplies (drug costs), and the King

Edward Radiology Department (radiological investigations). Therefore, a 'bottom-up' costing method (Hansen et al., 2000) was used to capture direct costs, with the costing information being collected at the patient level. This differs from 'step-down' methodologies, which can be used to allocate all facility capital and recurrent costs to relevant facility departments in a step-wise fashion (Drummond et al., 1997). Statistical significance for cost differences was determined using the Chi square test.

Consultation costs had to be calculated using the consultation times as a proxy. Information concerning the staff complement at each facility was provided by the sisters-in-charge and the annual pay scale for the various staff grades was supplied by the KZN Department of Health. The mid-points of pay scales were used in cost calculations. It was assumed that there are 48 working weeks a year, 40 working hours a week and 8 working hours a day in order to calculate staff costs per minute. The total consultation times were divided equally among all medical staff members. The medical staff time not spent on consultation and the full working hours of non-medical staff were considered as indirect staff time and hence allocated to indirect staff costs. Indirect staff costs were apportioned equally to all patients. At both hospital outpatient departments, nurses were involved in indirect patient care (doctors conducted consultations), and hence their costs were also considered as indirect.

The capital costs for two recently appraised clinics were provided by the KwaZulu-Natal Department of Health. Capital costs were annualised assuming a lifespan of 30 years for buildings and 10 years for equipment and furniture in line with common practice. A real interest rate of 5% was used. Capital costs for the 2 days were apportioned equally to all patients seeking treatment at the two clinics.

The study was granted ethical clearance from the Medical Research Ethics Committee, University of KwaZulu-Natal.

Results

Proportion of HIV-related illness

On the basis of clinical signs and symptoms and/or a positive test result disclosed to the treating clinician, between 20 and 25% of outpatients were estimated as presenting for HIV-related care, with district hospitals recording the highest percentage.

Cost of treating HIV-related illness at different level facilities

Four categories of direct costs were examined to determine whether treatment of HIV-related illness

requires more resources than the treatment of non HIV-related illness. These were drug costs, laboratory costs, radiological investigation costs (none being incurred at clinic level) and consultation time costs. Other direct costs not included were those related to additional medical supplies: dressings, syringes, needles, etc., which are only encountered for a limited number of patients and do not represent a significant proportion of total costs. Minor procedures were also done for a small proportion of patients.

In terms of direct costs, there were statistically significant ($p < 0.05$) differences for the treatment of HIV-related illness and that of other illness, in all the cost categories except drugs and at all levels of care (see Table I). Laboratory tests at the clinic level were only done for a very small number of patients, limiting analysis of this data. Patients in the later stages of HIV infection also exhibited generally higher direct treatment costs. At the district hospital drug costs for late stage HIV care were low, but this was balanced by much higher costs for radiological investigations, because many of these patients were presenting from the clinics specifically for further investigation. Consultation time costs were higher at the hospitals, even where consultation times were shorter, as patients are seen by doctors paid at a higher rate to the nurses in clinics.

The greatest burden of direct costs attributable to HIV was experienced by the district hospital, where 24.5% of patients were found to be seeking care for HIV-related illness and these patients accounted for

39.9% direct costs (see Figure 1). The regional hospital had a slightly lower percentage of patients seeking care for HIV-related illness and direct costs for treating these patients comprised 33.4% of the total. At clinics the proportion of direct costs for treating HIV-related illness was comparable to the proportion of HIV patients.

The main component of direct treatment costs varied according to level of care. At clinics drug costs comprised the greatest proportion of direct treatment costs, in comparison to radiology costs at the hospitals. Although the main component of direct costs was the same for HIV and non-HIV patients, there were differences in other cost categories. For non-HIV patients at the hospitals, drug costs were higher than laboratory costs, but this was reversed for HIV patients.

We also examined indirect costs, which were apportioned equally to all patients. Indirect staff costs were found to comprise a significant proportion of total patient costs, most noticeable at clinic level (see Figure 2). Indirect staff costs for clinics and the district hospital outpatient department (i.e. Primary levels of care) were comparable. In contrast with direct costs, indirect staff costs were lower at the higher level hospital which saw a greater number of patients.

For two clinics where the information was available, it was possible to also calculate capital costs for buildings, equipment and furniture. These amounted to R3.28 per consultation at a busy clinic and R7.26 per consultation at a quieter clinic.

Table I. Average cost of drugs, laboratory investigations, radiology investigations and consultation time.

	PHC Clinics (<i>n</i> = 654)	District Hospital (<i>n</i> = 190)	Regional Hospital (<i>n</i> = 319)
<i>Drug costs (in Rands)</i>	<i>p</i> = 0.80	<i>p</i> = 0.28	<i>p</i> = 0.71
Non-HIV	10.02	14.43	31.21
HIV (all)	10.63	20.58	33.67
HIV (Stage 1 & 2)	9.24	23.30	24.46
HIV (Stage 3 & 4)	17.49	7.06	72.68
<i>Laboratory costs (in Rands)</i>	<i>p</i> = 0.16	<i>p</i> < 0.01	<i>p</i> < 0.02
Non-HIV	3.16	13.20	24.90
HIV (all)	4.44	34.36	51.09
HIV (Stage 1 & 2)	Small sample size	26.66	27.33
HIV (Stage 3 & 4)		63.27	86.21
<i>Radiology costs (in Rands)</i>		<i>p</i> < 0.01	<i>p</i> < 0.03
Non-HIV	0.00	36.36	31.92
HIV (all)	0.00	77.23	65.41
HIV (Stage 1 & 2)	0.00	64.67	60.00
HIV (Stage 3 & 4)	0.00	154.29	63.89
<i>Consultation time costs (in Rands)</i>	<i>p</i> < 0.01	<i>p</i> < 0.01	<i>p</i> < 0.01
Non-HIV	4.70	6.59	11.29
HIV (all)	5.64	8.56	14.69
HIV (Stage 1 & 2)	4.29	8.26	15.06
HIV (Stage 3 & 4)	6.96	9.22	14.09

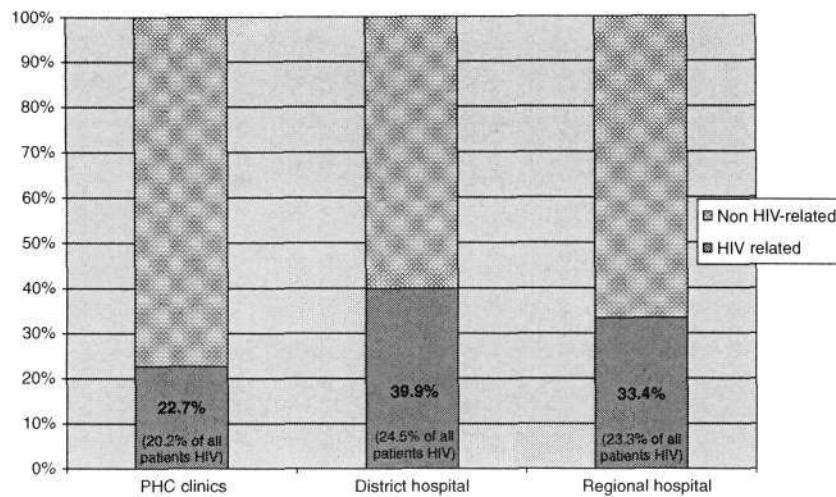


Figure 1. Proportion of direct costs attributable to HIV-related illness at different levels of care (with proportion of patients being seen with HIV-related illness stated for comparison).

Discussion

This study focussed on one district and a relatively short time was spent in each facility. However, the volume of outpatients presenting at facilities allowed an adequate sample size for costing analysis. Future phases of the larger study will include facilities from a comparative district, to establish the extent to which these observations may be generalised further.

For this research, patients were recorded as presenting for HIV-related illness according to clinical presentation, or according to a positive test result if this had disclosed this to the treating clinician. While there might have been many more HIV-positive patients attending health facilities for problems unrelated to HIV, most likely asymptomatic and not disclosing their status, these patients would not be increasing the HIV burden on health

care services. Therefore, while the prevalence rate recorded might underestimate an actual clinic or hospital prevalence rate, it does give a more true reflection of the proportion of patients attending health facilities specifically for HIV-related care. Furthermore, clinical features have been shown have a high positive predictive value for HIV infection; one study in Zimbabwe demonstrated this to be 97% (Chibatamoto et al., 1996), while more recently this was shown to be 85.5% in Sierra Leone (Willoughby et al., 2001).

A summary of the major studies to date assessing the burden of HIV/AIDS on health services and the costs of treatment illustrate the extent to which outpatient services and first level (district) hospitals have been generally ignored (see Table II). Yet district services are in the most appropriate position

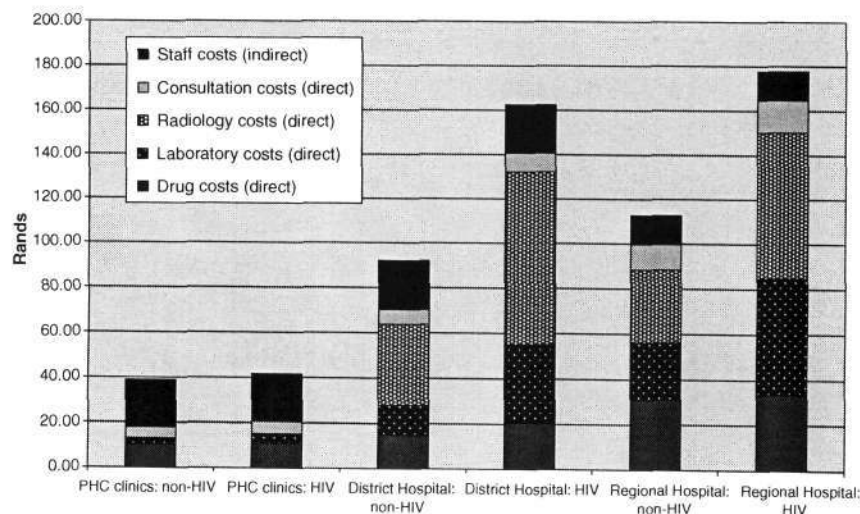


Figure 2. Average costs for HIV- and non-HIV-related care at different levels of the system.

Table II. Summary of major studies assessing the burden of HIV/AIDS on public health services in Africa.

Location	HIV prevalence	Cost of treating HIV-positive and HIV-negative patients
Mama Yemo Hospital, Kinshasa, DRC (Hassig et al., 1990)	50% (1988, adult medical inpatients)	Costs similar for HIV-positive and HIV-negative patients
Rubaga Hospital, Kampala, Uganda (Tembo et al., 1994)	55.6% (1992, adult medical inpatients)	No costing done
Various hospitals, Zimbabwe (Hansen et al., 2000)	50% (1995, adult medical inpatients)	Costs for treating HIV-positive patients almost twice that of HIV-negative patients
Chris Hani Baragwanath Hospital, Soweto, South Africa (Meyers et al., 2000)	29.2% (1996, paediatric inpatients)	No costing done
Hlabisa Hospital, KwaZulu-Natal, South Africa (Yeung et al., 2000)	26% (1996/1997, paediatric inpatients)	No costing done
Kenyatta National Hospital, Nairobi, Kenya (Arthur et al., 2000)	40% (1997, adult medical inpatients)	Costs similar for HIV-positive and HIV-negative patients
(Guinness et al., 2002)		
Tertiary level hospital, Durban, South Africa (Colvin et al., 2001)	54% (1998, adult medical inpatients)	No costing done
King Edward VIII hospital, Durban, South Africa (Pillay et al., 2001)	62.5% (1998, paediatric inpatients)	No costing done
St Mary's Hospital, Lacor, Uganda (Fabiani et al., 2003)	42% (1999, adult medical inpatients)	No costing done
Various hospitals and clinics, South Africa (Shisana et al., 2003)	46.2% (2002, medical and paediatric inpatients) 25.7% (2002, ambulatory PHC facility patients)	Longer inpatient stays for HIV-positive patients, with presumed greater costs

to receive most HIV/AIDS patients, both as outpatients and as inpatients. In this study the prevalence of HIV-related illness was similar for both hospitals, mainly because the distinction between levels of care is blurred, with the regional hospitals also operating as a district facility (i.e. seeing patients without referral). However district hospitals should be able to manage a large proportion of HIV-related illness; an earlier study of outpatient care for HIV-positive individuals in South Africa demonstrated the large proportion of patients attending a tertiary level hospital that could potentially be seen at the primary care level (Kinghorn et al., 1996). More recent research has concurred by demonstrating how inefficiencies in the system are made worse by both HIV and other types of patients being seen at a higher level of care than is necessary (Metrikin et al., 1995; Lutge et al., 2004). In Ugu district there was a move to introduce step down facilities for inpatients to act on such concerns.

Health care reforms in South Africa in the decade since democracy have focussed on strengthening primary health care and district health services with considerable success, but also not without shortcomings. In particular, a need to protect and increase funding to District Health Systems and Primary Health Care has been identified, along with concerns of a lack of personnel, poor administration and expanding demands (Benatar, 2004; Thomas et al., 2004). HIV/AIDS will impact on all these areas,

but here we consider in particular what can be expected in terms of expanding demands for care and corresponding resource requirements. Earlier research alerted us to the potential difference in the proportion of direct costs attributable to HIV/AIDS treatment between district and regional hospitals in KZN (Mowatt et al., 2003). Our current analysis affirms the suspicion that district hospitals are more at risk of having funds diverted to HIV-related care, with consequent difficulties in maintaining or improving general hospital services. A significant proportion of resource requirements at clinics were also used for the management of HIV-related illness, even though costs for the treatment of all illnesses were comparable.

Results presented in this paper agree with previous studies and confirm the theory that in contexts such as South Africa, where there is good availability of drugs and investigations, treatment of HIV/AIDS will generally be more costly than that of other illnesses. This also explains why there was little difference in treatment costs at the clinic level. Currently clinics have a limited list of drugs at their disposal and very rural clinics may not have access to laboratory facilities or radiological procedures. However, clinics are increasingly being tasked with implementing new initiatives (particularly concerning the treatment of HIV), which could have significant implications in terms of resources in the years to come.

Another important factor to consider when assessing costs of treatment relates to the stage of HIV infection. It has been demonstrated previously for outpatients in South Africa (Kinghorn et al., 1996) and in this study, that the costs of treating later stage HIV infection are greater than the costs for treating earlier stage infection. Looking more specifically at clinics, we noted many patients presenting in earlier stages of HIV infection for prophylactic treatment (Vitamin B Compound tablets and Co-trimoxazole) or minor illness, both being relatively inexpensive to manage. This is because attendance at PHC clinics is free and geographically often more accessible. In contrast, outpatient treatment at hospitals is subject to user fees and is often further away, which acts as some disincentive for people collecting monthly drugs or seeking treatment for a minor ailment. Hospital patients were therefore generally presenting for more serious, and hence more expensive, illness. This observation suggests that the policy for free PHC at clinics has had some success in defining a functional distinction between the care offered at clinics and that given by hospitals.

Conclusion

Outpatient services are generally the first place where people access care and the burden of HIV-related illness on these services in high prevalence areas such as KwaZulu-Natal is no longer negligible. Furthermore, this burden will intensify as the number of people sick with AIDS increases. Whether services are able to absorb the additional burden will depend on whether adequate resources are made available.

Deciding where to allocate additional resources demands consideration of which services are most vulnerable to the epidemic alongside priorities in terms of health care delivery. In particular, the process of strengthening district health systems could be at risk, considering both the level of care at which HIV patients are accessing services, as well as the costs of treatment.

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APPENDIX 3: DATA COLLECTION FORMS FOR FACILITY LEVEL ANALYSIS

Drugs prescribed (cont):

Name of drug	Dose	Number of doses	Drug ref number

Laboratory investigations (and code):

Radiological investigations (code only):

Procedures:

Length of stay (days):

Number of admissions in the last year:

Outcome:

HEARD BURDEN OF DISEASE STUDY: Outpatient Record Form

Level of care:

Age (years): **Gender:**

Diagnosis (1): **Code1:**

Diagnosis (2): **Code2:**

Clinically RVD:

Clinical staging (if clinically RVD adult):

Clinical RVD status confirmed by test:

Current CD4 count: (last 6 months)

Drugs prescribed:

Name of drug	Dose	Number of doses	Drug ref number

Laboratory investigations (and code):

Radiological investigations (code only):

Procedures:

Referral (if applicable):

<input type="text" value="Specialist Clinic – same level of care"/>	<input type="text" value="Specialist Clinic – higher level of care"/>
<input type="text" value="Admit to ward – same level of care"/>	<input type="text" value="Admit to ward – higher level of care"/>

Consultation time (minutes):

APPENDIX 4: INTERVIEW SCHEDULES FOR FACILITY LEVEL ANALYSIS

HEARD BURDEN OF DISEASE STUDY: Focus groups/interviews with health care workers

Introduction/Informed consent

As per informed consent sheet.

Questions to be put to the group:

1. Have you noticed any changes in the demand placed on your health care facility?
What do you feel are the reasons for these changes or altered patterns of utilisation?
2. Have you noticed any changes in staffing of this health care facility?
What might the reasons be for these changes?
3. Have there been any other factors affecting the capacity to deliver services in this facility?
4. What coping strategies are being used in this facility to deal with changes in demand or capacity to deliver services?
5. What impact have the reported changes had on health care workers?
6. How do health workers feel about working in a context of high HIV prevalence?

HEARD BURDEN OF DISEASE STUDY: Interview with clinic sister/hospital manager/medical superintendent

Key Questions

1. How have the services that this facility offers evolved over the last 5 years?
2. Have there been any significant changes in the hospital infrastructure over the last 5 years?
3. What changes have there been to the clinical care services (curative, preventative, palliative) over the last five years?
4. What HIV-related service needs have been noted over the last 5 years, and how has this facility responded to these needs?
5. Evidence-based guidelines: how are these used/developed in this facility?
6. What protocols/procedures have been put in place over the last 5 years and what are the planning framework/policies that underpin these new protocols/procedures?

HEARD BURDEN OF DISEASE STUDY: Interview with HR managers

Quantitative data to be obtained:

1. Staff complement at the facility over the last 5 years
 - By professional category, gender, age
2. Post vacancies at the facility over the last 5 year
 - - By professional category, gender, age
3. In-service training at the facility over the last 5 years
 - Type of training
 - By professional category, gender, age
4. Absentee rates of staff at the facility over the last 5 years
 - Type of leave
 - By professional category, gender, age
5. Attrition rates of staff at the facility over the last 5 years
 - Reasons for leaving
 - By professional category, gender, age
6. Staff deaths in-service
 - Cause of death
 - By professional category, gender, age
7. Needle stick injuries over the last 5 years
 - Incidence by professional category, gender, age
 - Treatment provided
8. Costing data: salary scales and costs of training/recruitment at each level

Additional questions

1. As an HR manager, what do you feel are the most important issues with regards maintaining adequate staffing levels in this facility?
2. How adequate are staffing levels for ARV roll-out (according to earlier assessment)?
3. Can you identify the key positions in this facility? How easy is it to replace people in these key positions?
4. Have any HIV prevalence tests been done with staff?
5. Are there any HIV/AIDS programmes specifically for staff eg. Prevention, awareness, VCT, ARV treatment?
6. Any idea of how many staff live away from their homes and families?

**APPENDIX 5: INTERVIEW SCHEDULES FOR DISTRICT AND
PROVINCIAL LEVEL ANALYSIS**

INTERVIEW SCHEDULES: The Impact of HIV/AIDS on Health Systems

GUIDING QUESTIONS FOR INTERVIEWS WITH DISTRICT AND PROVINCIAL HEALTH MANAGERS

Structures

Structure

- What are the structures generally and for HIV?
- What is the role of each block in the structure?
- Do the structures perform as is formally required?
- What is the system for interaction/communication both across the district and with higher levels?

Decision-making and key players

- *(Site examples from specific HIV and non-HIV clinical programme and ask):*
How these were implemented, who made what decision and at what level, who were the key players? What were the sources of information used to make decisions about this change?
- *(Site examples from specific HIV and non-HIV admin/system change programme and ask):*
How these were implemented, who made what decision and at what level, who were the key players? What were the sources of information used to make decisions about this change?

Mechanisms

HIV and non HIV-clinical programme:

- What are the mechanisms for supervision, M&E, report backs?
- HIV and non-HIV admin/system change:
- What are the mechanisms for supervision, M&E, report backs?

Decentralisation

- What are the numbers, skills, gaps in staffing complement? *(Relate back to clinical and admin initiatives to understand gaps in capacity)*
- Who decides on the capacity requirements for the district?
- How does the district decide what its needs are and the rationale?
- To what extent do district plans reflect their own needs or problems? *(Relate back to clinical and admin initiatives to illustrate. Use planning documents to focus discussion)*
- To what extent are district needs considered by higher authorities?

Organisational challenges (multi-sectoral approach, integration of programmes):

(Look to see if there is a forum for multisectoral response)

- Do the formal or informal structures express/allow integration?
- How effective are structures for multi-sectoral or integrated responses? How often do they meet?
- How are decisions made and implemented? *(Relate back to HIV and non HIV initiatives to explore further)*
- What is the communication set-up between programmes and sectors, both horizontally and vertically? *(Check if there is a two-way communication)*
- How do district structure relate to national structures existing at the district level? (Probe relations and power dynamics to see if there are overlaps)

Implementation (and risk of deflection)

- How are resources allocated to HIV vs Non-HIV issues?

Donors/ Partners

- What partners are operating in the district in relation to health and what activities are they involved in? *(Identify HIV and non-HIV related activities)*

Co-ordination

- What is the formal and informal relationship and how do channels of communication work?

Decision-making

- What are the partners' contributions to district planning? How independent are they?
- How have they worked with the district health management team on programmes? *(Try to use clinical and admin programmes to illustrate)*
- Do partner programmes operate through identified representative?

Impact on district system

- What is the impact of partners/donors activities on district health programmes?
- What changes have taken place in the way that partners operate in the district (historical perspective)? Are district needs reflected in partner actions/programmes? If yes, how?

GUIDING QUESTIONS FOR INTERVIEWS WITH DONORS/ PARTNERS

Partnership with District Health Management Team

(Obtain project documentation to assess alignment to district plans)

Co-ordination:

- How do channels of communication work between donors/partners and DHMT? *(Probe on formal and informal relationships)*

Decision-making:

- What is the partners' contribution to district planning? How independent are they?
- How have they worked with the district health management team on programmes? *(Try to use clinical and admin programmes to illustrate)*
- Do donors/ partners programmes operate through an identified representative?

Use of funds:

- How are donors/partners funds channelled? *(Probe if passes through or bypass government structures)*

Priorities:

- Have there been changes in the way that partners operate in the district (historical perspective)?

APPENDIX 6: INTERVIEW SCHEDULE FOR BOTSWANA CASE STUDY

GUIDING QUESTIONS FOR INTERVIEWS WITH BOTSWANA MINISTRY OF HEALTH, ACHAP AND NACA

1. Looking at the main challenges that the ART programme has brought to the health sector:
 - a. What have these been?
 - b. How have these been managed? Has the management been successful or unsuccessful?
 - c. How are these evolving as the programme scales up? (ie. Are new challenges emerging as the programme becomes more established?)

2. Looking at what effects the ART programme has had on health system development in the country:
 - a. In what ways has the programme strengthened the health system?
 - b. In what ways has the programme weakened the health system?

3. Looking at the longer term impact of the ART programme on the demand and supply of health care:
 - a. Has the programme had any impact yet on the demand for health care (eg. beds required to treat opportunistic infections in the medical wards)?
 - b. Has the programme had any impact on the supply of health care, in particular the morale of health care workers?

4. Looking to the future, what challenges do you think the ART programme will bring to the health system?

5. Are you aware of any research or reports supporting some of your perceptions?