



EVIDENCE BASE FOR THE IMPACT OF HIV UPON HEALTH SYSTEMS

SCOPING STUDY

A joint JSI (UK)  and HSRC document

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
ARV	Antiretrovirals
GFATM	Global Fund for AIDS, TB and Malaria
HIV	Human Immunodeficiency Virus
HR	Human Resources
ILO	International Labour Organisation
PMTCT	Prevention of Mother to Child Transmission
STI	Sexually Transmitted Infections
TB	Tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
VCT	Voluntary Counselling and Testing
WB	World Bank
WHO	World Health Organisation

1. SUMMARY

DFID wishes to support governments and communities in reducing the impact of the HIV epidemic upon health systems. To this end, a scoping study has been commissioned in order to identify key findings from existing work together with critical gaps which need to be addressed.

In several of the most heavily affected African countries, adult HIV prevalence is approaching 40%. The health sector is doubly-affected by the HIV epidemic: it must respond to the crippling burden of ill-health associated with HIV, while simultaneously dealing with the impact of the epidemic upon its own health professionals.

Furthermore, in many countries, including those with high HIV prevalence rates, the health sector is already facing a human resources crisis in recruiting and retaining an effective, well-motivated and appropriately skilled workforce.

Quality data mapping the impact of HIV/AIDS on the health systems of developing countries are scanty. In the few countries where impact studies have been conducted, the evidence of substantial and sustained impact on already overburdened and inadequately resourced health services is clear, but available data suggest this has been recognised and addressed at an institutional level (for example among donors) only to a very limited extent. Attempts to address systemic impact remain fragmented, confined to a few countries, and lacking the support of a coherent policy and resource framework.

There is scope for a lead to be taken in securing commitment among donors, international agencies and national governments to a strategic and sustained response to addressing the impact of HIV upon health systems. This is a role which DFID could undertake, drawing as appropriate from its prior experience in supporting work to address the impact of HIV upon the education sector.

This role is becoming even more critical as several countries are already, or anticipate becoming, engaged in scaling up ART which requires a fully functional and strengthened public health system. How this can be done when the severe impact of HIV on the health system is only now starting to be addressed is not clear. Nonetheless, once identified, successful solutions will generate benefits to *all* who use health systems, not just to those with HIV.

DFID may wish to consider:

i) convening a meeting with interested bilateral and multilateral partners to explore the urgent development of a concerted strategic and sustained response.

ii) exploring the possibility of supporting a study to assess the impact of HIV both quantitatively and qualitatively on health service delivery, and develop guidelines to help governments respond prospectively to the epidemic. This will involve consideration of country case studies, looking perhaps at countries with different stages of the epidemic and health systems capacity, and consideration of all levels of the health system. Such a study could include a focus on human resource issues, including the impact of HIV/AIDS on the workforce and its ability to provide services,

and consider collaboration with the WHO study on human resource development for health and HIV/AIDS. Furthermore it is suggested that there could be scope for investigating the value of supporting future work by AED on the impact of HIV on the health workforce in Malawi and Kenya based on the initial study results due in July 2003. Such an approach could link with the planned knowledge workstreams of the HSRC and the new Health Resource Centre, with a focus on supporting governments to determine workable solutions and strategies to respond to HR constraints.

iii) supporting a study or studies on the psychosocial impact of HIV/AIDS both on all healthworkers working with HIV/AIDS patients and on those healthworkers with HIV themselves.

iv) building on the DFID systems focused support to the development of a strategy to scale up ART provision in Kenya. The HSRC is developing an overview of experience of provision of ART in resource-poor settings and lessons learned, which draws from the published and unpublished literature. A next step could be a more generic focus on the systems-related issues and requirements to be considered in the scaling up of ARVs in resource poor countries, including outlining a possible process at country level as countries consider the ability of their systems to expand services for HIV care.

2. INTRODUCTION

By 2005, develop and make significant progress in implementing comprehensive care strategies...improve the capacity and working conditions of health-care personnel...provide access to medicines including anti-retroviral (ARV) drugs...as well as quality medical, palliative and psychosocial care

UNGASS Declaration of commitment on HIV/AIDS June 2001; section 56.

DFID wishes to support governments and communities in reducing the impact of the HIV epidemic on health systems. This requires a better understanding of that impact in order to assist governments, communities, and donors to develop coping strategies that seek to strengthen health systems. Similarly, health system performance monitoring systems may need to be adjusted to capture more effectively the effects of the HIV epidemic. This scoping study was therefore commissioned to identify key findings from existing work together with critical gaps which need to be addressed (Appendix 1 - Terms of Reference).

This paper presents the findings from a review of the relevant literature. Key informant interviews were also conducted by telephone or email. The main points from these are summarised in section 7 and indicate that no one organisation is particularly far ahead in mapping the impact of HIV/AIDS on health systems in developing countries but there are some studies in progress. A summary of responses from selected DFID country advisers is given in Appendix 2. References for the review of literature are given in Appendix 3.

The study was undertaken by DFID's Resource Centre for Sexual and Reproductive Health and DFID's Health Systems Resource Centre working in collaboration, with technical inputs and support provided by Professor Charlie Gilks (WHO and Imperial College). The key informant interview components of the study were undertaken by the Resource Centre for Sexual and Reproductive Health. .

In several of the most heavily affected African countries, adult HIV prevalence is approaching 40%. For them, HIV represents the most profound change in the burden of disease ever experienced by health systems. UNAIDS has noted that in Africa, where two-thirds of the world's HIV-positive people live, healthcare systems were already weak and under-financed before the advent of AIDS.

On this fragile basis, HIV is transforming clinical care and superimposing overwhelming new burdens onto existing disease patterns. These new burdens include HIV-related morbidity – in terms both of new diseases such as HIV-related opportunistic infections and of the resurgence of existing ones, such as TB – and mortality, together with related demands for diagnosis and treatment, including the challenges associated with the provision of antiretroviral treatment (ART). Proper prescription and monitoring of compliance with drug regimens are essential for the benefit of patients and for reducing the serious risk of drug resistance. HIV-related illness results in massive and mounting demands on already severely constrained services and resources, while simultaneously undermining the capacity to provide those services through its erosion of the health workforce.

The impact of the epidemic upon the health sector and health systems is complex and dynamic. Use of the service depends on health-seeking behaviour which is difficult to define. It is generally accepted that demand for health services will continue to increase, but there are complex issues about the nature and scale of care required, resulting from factors such as the social and political climate and fear of stigma, and changes in household structure, demography and treatment regimes. The spectrum of HIV/AIDS disease and the use of health services changes as HIV-related immunosuppression progresses over time. Whilst some countries may be reaching a plateau or even be experiencing a decline in HIV infection rates, the epidemic of HIV/AIDS disease and death lags many years behind this; and no country has yet experienced the full impact.

It is evident from country level studies that very few quality data are available that map the impact on the health systems of developing countries. A recurrent refrain is the need for further research. For such studies as do exist, no consistent methodologies have been used to describe different aspects of the impact of HIV. Most studies have been cross-sectional, at one point in time. Whilst such 'snapshots' can be compared with each other, longitudinal studies are required in order to plot trends and describe how the impact has changed with time, as the burden of HIV disease worsens. Such studies are more difficult to implement.

Given this paucity of information, it is difficult either to predict the specific impact of the epidemic in different situations or to be able to undertake realistic and appropriate medium-term planning. Further studies are urgently required to provide the evidence base for developing effective new strategies.

3. IMPACT ON HEALTH SYSTEMS

Scope of studies available

The UNAIDS global report on the HIV/AIDS epidemic (2002) notes that people living with HIV infection require access to a wide range of treatment, care and support options across a continuum from VCT services, health services (primary, secondary and tertiary health care) and social services to community-based support and homecare. Within the limited number of studies available on the impact of HIV/AIDS on health systems, there appears to be a pronounced concentration on the hospital system and little information on the interaction with – and impact of HIV on – primary, community and home-based care, or health system linkages with social welfare programmes. This is a critical omission requiring remedy. Arthur et al (2000 and 2001) have noted the importance of recognising the needs of those people chronically or terminally ill with HIV/AIDS who may not be seeking hospital services.

More broadly, there is need for a better understanding of the totality of HIV/AIDS' impact on the health system of a given country, covering the full range of its multiple and inter-related aspects. This should include consideration of the response and role of civil society in contributing to the delivery of services, and of the role of the private 'for profit' sector.

There is literature, gray and published, which contains relevant data but which has been impossible to abstract as it is not readily accessible. Continued work to chase up and synthesise the literature has still therefore considerable value - for example, data from DFID-funded work in Malawi on laboratory services and how workload, staffing and quality have been affected, or work on health staff and uptake of VCT and post-exposure prophylaxis (part DFID-funded in Kenya).

From those studies currently available, the general picture of hospitals impacted by HIV/AIDS in developing countries is one of changing disease patterns requiring greater skill levels and diagnostic facilities, rising demand for beds, increased costs and a demoralised and overburdened workforce. In some instances, stigmatisation remains an issue, jeopardising both the quality of care for HIV/AIDS patients and the maintenance of comprehensive information to monitor the impact of HIV and underpin the development of effective responses.

Beyond these broad outlines, much remains insufficiently examined or documented, not least the extent to which hospitals in Africa dealing with large volumes of HIV/AIDS disease are being overwhelmed by chronic, end-stage disease and death, as predicted. More, and more detailed, evidence is needed about a range of key issues in hospitals, such as the overall availability and quality of care, (including information on outcomes and patients' perceptions) in relation to demand, especially from the poor and females; prioritisation between HIV and non-HIV related diseases; and the consequences of institutional coping strategies. Studies provide glimpses, but little systematic examination, of organizational responses such as the institution of gateway clinics and specialised centres; the integration of TB and STI services with those for HIV/AIDS; and modifications of clinical management policies including changes in admission and discharge protocols, reduced monitoring and shorter periods of assessment, and greater reliance on less skilled staff. There is a particular need to identify effective strategies offering promise of replicability elsewhere.

Human resource issues within hospitals are discussed in section 4.

General observations from studies

In a NORAD-commissioned desk study on the socio-economic effects of HIV/AIDS in selected African countries, Isaken et al (2002) state that the strain on health services depends on the number of people seeking services, the nature of demands for health care and the capacity to deliver that care.

According to the UNAIDS global report on the epidemic (2002), in sub-Saharan Africa the annual direct medical costs of HIV/AIDS (excluding antiretroviral therapy) have been estimated at about \$30 per capita when overall public health spending is under \$10 for most African countries. The epidemic also poses increasingly complex diagnostic and investigative challenges, creates demands for new services like counselling or home-based and palliative care; and increases spending on drugs, linen, blood and testing kits – costs that have risen by up to 40%. In many places, facilities for diagnosis are inadequate and drug supplies erratic, even for HIV-related conditions that are easy to diagnose and inexpensive to treat (UNAIDS Barcelona Fact Sheet: accelerating access to treatment and care 2002).

The range of illness seen among people with HIV differs significantly from the situation in western countries. In the African setting, people with HIV are more likely to develop earlier non-opportunistic diseases such as TB, bacterial pneumonia or septicaemia. AIDS is more characterised by 'slim' or disseminated fungal infections like cryptococcus, than the classic opportunistic infections in the west such as PcP, cytomegalovirus or toxoplasmosis.

Evidence exists (Arthur et al 2001) to support the assertion that standard clinical management can improve the outcome of earlier, more acute HIV-related diseases in resource poor settings, even when pressures on acute care services have greatly increased.

Longitudinal studies

Data from **Kenya** on the changing impact of HIV/AIDS on Kenyatta National Hospital (KNH) Nairobi over a ten year period to 1997 are reported by Arthur et al (2000 and 2001). These studies note a constant rise in HIV-infected patients being admitted, from 4.3 per day in 1988 to 13.9 in 1997. HIV seroprevalence in hospitalised patients, however, seemed to stabilise at 40% because there was a sharp increase in all admissions in 1997 (thus illustrating why cross-sectional data are relatively poor at showing impact). Bed occupancy rose to 190% with the rise in admissions. The mean length of stay did not differ according to HIV status, nor did it change over the decade. Time trends suggest that fewer people with AIDS were presenting for care, perhaps because families recognised that few interventions were available. The authors report that, contrary to expectation, KNH was continuing to maintain a focus on acute care provision and was able to maintain quality of care and reduce mortality for people with HIV over the decade. They conclude that, in order to maximise hospital efficiency and overall cost effectiveness, health planners and policy makers should seek to maintain a focus on acute care. Dying in hospital is not what most people want and is not the best use of scarce curative resources.

More recently, it has been reported that 70% of bed occupancy in KNH medical wards is HIV-related and total bed occupancy is running as high as 300%. How comparable these figures are with Arthur is unclear, as the original source of data has not been identified. However, if the reports for 2002 are correct, there has been a significant worsening in the situation (Mundy et al 2002). HIV/AIDS is having a significant impact elsewhere on Kenya's health care system and its ability to provide quality care. In Eldoret, 75% of TB patients are co-infected with HIV. On average more than 50% bed occupancy is HIV related. Other centres will be similarly affected.

Floyd et al (1999) investigated medical admissions over a ten year period in a hospital in KwaZulu Natal, **South Africa**. The South African study reported that admissions rose by 81%, with TB and non TB clinical HIV/AIDS cases the only types of admission to show a clear and consistent upward trend. Adult TB admissions grew by 360%, accounting for 47% of male and 30% of female medical ward admissions and for 11% of total hospital admissions.

Both the longitudinal studies reported above suggest that rising burdens of HIV and TB and increasing hospital bed occupancy have had little impact on overall inpatient mortality.

Cross-sectional studies

Malecela-Lazaro et al (2001) studied the impact of HIV on health services in nine regions of **Tanzania**. The disease pattern was found to have changed with more people affected by diseases such as TB, STIs and pneumonia. Budgetary constraints resulted from: increased admissions; prolonged stays; increased expenditure on drugs, HIV screening reagents and X rays; exemptions for HIV patients; and the costs of treatment and funerals for health staff. There was also a significantly greater burden on staff as a result of growing demand for services including diagnosis, treatment, and care (together with the increasing range and number of tests performed by laboratories) alongside decreasing human resources, stemming from a governmental freeze on employment, absenteeism (for domestic caring responsibilities, to attend funerals or training), illness and death. The provision of new HIV counselling services was highlighted as one source of pressure on staff time and resources.

Stigmatisation persists. 57% of the health workers in the study did not usually document a diagnosis of HIV in relevant papers to avoid the patient being stigmatised by relatives or friends. Lack of adequate protection sometimes made them reluctant to provide patients with full quality of care, which in turn left some patients feeling neglected. Related to this is an increasing trend among patients to self-refer, disrupting an already malfunctioning referral system. Preferred hospitals were usually faith-based or run by NGOs since patients perceived their services as more friendly. The study noted allegations of lack of coordination and information-sharing between government and private hospital facilities on HIV/AIDS issues. At a planning level, limited availability of data and under-reporting practices (also linked to stigma) undermine effective management responses.

The 2001 **Swaziland** Human Development Report estimated that people with HIV occupied 50% of the beds in some health care centres. In **Zimbabwe** (Hansen et al 2000), HIV prevalence among hospitalised patients also rose to 50% which made HIV the leading cause of hospitalisation. Malecela-Lazaro et al's study in **Tanzania** (2001, op cit) found that the proportion of inpatient care increased relative to outpatient care. By contrast with Arthur et al's findings in Kenya, patients with HIV had three times the average length of stay as non-HIV patients (18 days: 6 days) and two district hospitals had to construct new wards to cope with increasing demand of HIV-related disease. WHO has estimated that the number of beds required for people with HIV could exceed the total number of beds available in **Swaziland** by 2004 and in **Namibia** by 2005.

In **Botswana** studies were commissioned in 2000 to explore the impact of the epidemic in a number of sectors, including the health sector.¹ Drawing from the conclusions of these studies, Cohen (2002) states that sustaining a functioning and effective health care system is becoming increasingly unattainable under the conditions imposed by the Botswana epidemic. Not only will HIV create a massive new need to be met by the health system, it will reduce the capacity of the health system to respond to this need. Cohen points to the need for a redefinition of attainable tasks together with a realignment of health training that matches a new set of health objectives and different mechanisms of delivery.

4. IMPACT ON HUMAN RESOURCES

A broader crisis in human resources

In many countries, including those with high HIV prevalence rates, the health sector is already facing a crisis in human resources. Its inability to recruit and retain an effective, well-motivated, appropriately skilled workforce (including managers) stems from a range of problems including low pay and morale, poor conditions of work and inadequate management, quite apart from the impact of HIV/AIDS. In some countries, for example, staff face out-dated packages of remuneration while civil service reform or public expenditure retrenchment have resulted in bans on the recruitment of new staff or cover for those on sick leave. These factors feed a continuing trend among health professionals to leave their professions, to move from the public sector to the private sector, or else to migrate within or beyond their country of origin, in pursuit of more fulfilling professional and economic opportunities.

¹ A copy of the report on the Health Sector Study has been requested but not yet received. Data in this section is drawn from the paper by Cohen and from the Botswana Human Development Report 2000.

DFID Uganda notes that these broader problems of recruitment, training school capacity and migration, rather than attrition due to HIV, dominate discussions of human resources for health in Uganda.

From a study funded by DFID, Kurowski et al argue that little is known about losses among health staff, and that attrition rates could be significantly higher than assumed in presented studies. Apart from the possible consequence of reduced staffing levels, a disproportionate loss of experienced staff is likely to affect the quality of the service, because of the time lag in replacing lost skills, experience and institutional knowledge and relationships.

Isaken et al (op. cit) point out that whilst demand for services is greater than ever, expansion (or indeed, replacement of losses) in terms of training new staff is constrained, not only by lack of capital, but also by losses through HIV/AIDS of appropriately trained *teaching* staff. The loss of labour in the health sector is likely to have severe consequences throughout the society in the foreseeable future.

Such problems are the exclusive preserve neither of HIV services and specialists nor indeed of the health sector as a whole. Addressing them is likely to require a challenging mixture of sector-wide, public service-wide – and, in some cases, international – solutions. Their systemic nature potentially places them within the broad remit of the ILO which has become increasingly involved in responding to the HIV epidemic and the evidence of growing health professional migration. Health sector reforms should be linked to evidence-based research on the cost-effectiveness of various staffing models. Encouragingly, Mundy et al (2002) note recent increases in the appointment of doctors in Kenya, and indications that clinicians who have left the country or the public sector are looking to rejoin government service, although hiring restrictions for the civil service remain a barrier.

The impact of HIV/AIDS

Against this background, determining the specific impact of the HIV/AIDS epidemic on human resources and capacity, and addressing the associated problems, is problematic. Kinoti and Tawfik (2002) note that only scanty information exists. This is mostly anecdotal and the impact on individual healthcare professionals is poorly understood.

What is clear is that HIV/AIDS entails for staff increasing and changing workloads, often demanding higher skills (especially with introduction of ART), and generating work-related and personal stress. But more precise details of these impacts, including soundly-based figures on increases in staff workload, are generally lacking.

Modelling by Kurowski et al (op cit) of human resources for health in Tanzania and Chad suggests that many tasks and activities are carried out by staff not formally qualified to do so, and that surpluses of staff with lower skills compensate for deficits of staff with higher skills. This raises issues about clinico-legal liability as well as implications for quality of services for patients and morale among staff. Kinoti and Tawfik (op cit) argue that the extent to which health service personnel have been trained in counselling and testing, prevention of mother-to-child transmission, management of opportunistic infections and provision of ART (where appropriate) needs to be determined. Details of staffing models are scant.

HIV has a major deleterious effect on staff productivity, not least through increases in absenteeism related to providing care for ill relatives and attending funerals (internal WHO paper not currently available). Lisk (2002, for ILO) suggests that because of

greater employment security in the public sector, the costs of absenteeism will be higher than in the private sector. The difficulty is compounded by staff sickness. Whiteside reports that in Zambia there was a loss of 16% of nursing time due to illness or the need to care for family members. Decreased efficiency among some staff results in yet further increases in workload and stress for remaining staff.

Strengthening supervision and management skills and capacity is critical. Kuroski et al find indications that improved staff management would potentially result in substantial increases in staff productivity. In relation to HIV/AIDS, increased emphasis on ARV, VCT or pMTCT require not just appropriate technical skills but also management skills in relation to systems, administration, procurement, logistics, delivery and referral as well as effective links between formal and informal sectors. The issue of management is especially pertinent within the broader contexts of decentralisation and health sector reform.

In affected countries, all these factors - together with those informing the general crisis in human resources for health - will have a major impact on future planning assumptions to meet forecast demand. In estimating the human resources required to scale up priority interventions to meet the Millennium Development Goals, Kurowski et al predict that in 2015 approximately 40% of total health staffing requirements in Tanzania would be absorbed by HIV/AIDS interventions, which require staff with significantly greater skills than those required for childhood diseases. By contrast, childhood diseases would continue to absorb the majority of human resources in Chad. In both cases, the model suggests that future human resource availability will be grossly insufficient to scale up to levels recommended by the Commission on Macroeconomics and Health. Urban/rural imbalances are predicted to worsen.

Health workers with HIV/AIDS

Kinoti and Tawfik (op cit) note that health workers as individuals are subject to similar risks of HIV/AIDS as the general population, and also face increased but limited occupational risk in the course of providing health services. This occupational risk of infection varies between developed and resource poor countries and across health cadres. A study in a **South African** hospital investigating the potential for HIV transmission as a result of sharp instrument injuries found that 41% of injuries occurred among nurses and 38% among cleaners, though the latter comprised only 16% of total hospital personnel. Nearly half of reported injuries were needle-stick related (de Villiers 2000). In the Jinobhai study in KwaZulu Natal (2002), ARVs were found to have been made widely available to healthcare workers as post-exposure prophylaxis following needle-stick/occupational exposure.

In Kinshasa, **Zaire**, health workers were found to have similar seroprevalence to the communities from which they come (internal WHO paper).

Health workers are also at risk of other infections such as TB and hepatitis, especially if they are HIV positive. The incidence of TB among health staff has increased several-fold in high HIV prevalence areas (Whiteside, 2002). This has implications for sick leave and high treatment costs.

With estimates suggesting that a country with a stable 15% prevalence rate can expect that between 1.6% and 3.3% of its health care providers will die from HIV each year, Husain and Badcock-Walters (2002) draw attention to the fact that many high prevalence countries also suffer problems of limited human resource capacity and suggest that lack of sustainable management capacity and associated systems can lead to a further 'vicious cycle of vulnerability'.

The **Botswana** report (2001 - above) concludes that the proportion of health workers infected is already substantial with 17-32% infected in 1999 and between 28-41% potentially becoming infected by 2005. **Malawi and Zambia** have experienced 5-6 fold increases in illness and death rates among health workers. Training of doctors and nurses would need to increase by 25-40% in southern Africa 2001-2010, in order to compensate (UNAIDS global report, 2002). In some places the HR crisis is most pressingly felt within smaller health professional cadres such as laboratory technicians and pharmacists of whom each district or hospital will have perhaps two or three at most, with the result that ill-health, absenteeism and unfilled posts can combine to make these services disappear.

This increased morbidity and mortality associated with HIV among health workers - exacerbated by lack of supplies and equipment, clear safety procedures and protocols - contributes to further lost productivity and reduced performance, together with other indirect costs stemming from absenteeism, additional staff recruitment, training and retraining.

Psycho-social impact on health workers

Good quality information about professional behaviours and attitudes to the epidemic, and interactions with patients, is minimal (internal WHO paper). Similarly, there is little rigorous evidence about the effect on staff morale, the study of which raises inherent difficulties. Yet anecdotally, the psycho-social dimensions of impact upon health workers, as on patients, are profound and pose serious challenges for high quality service delivery.

In some countries the epidemic has brought to the attention of health workers the needs of previously excluded social groups. On the other hand, individual health workers may experience considerable social distance from patients who are intravenous drug users, sex workers or those with sexually transmitted diseases. Emotional responses on the part of staff, including exaggerated fear of transmission, homophobia and other negative sexual attitudes have resulted, especially in the early days of the epidemic, in some patients being refused treatment or coerced into HIV testing. Some staff may have cultural, social, or moral objections to the information they are required to convey, such as promoting the use of condoms.

At the same time, close social proximity, for example when patients are relatives or neighbours, may also exacerbate stress.

Kinoti and Twafik (2002) note as one cause of ineffective performance a sense of professional inadequacy due to high mortality rates. Malecela-Lazaro et al (2001) highlight an example of staff demoralisation arising from the attitude that providing healthcare to HIV/AIDS victims "who must die" is a waste of time and resources which could be used to treat and cure other patients. This impact on morale is reinforced by evidence from some programmes, for example in Haiti and Zambia, that the ability to provide ART to patients can increase the motivation and morale of health workers, and result in improvements in performance (HSRC 2002). A more targeted provision of ART to particular groups of 'key workers' such as health workers and teachers has been mentioned as a strategy to reward and retain staff.

Alongside increases in workload, some health workers have had to cope with 'role expansion' - assuming additional responsibilities for which they may not be adequately trained. For example, staff are seldom equipped with the skills in psycho-social support which may be necessary to deal with patients' emotional trauma.

The extent to which these pressures result in low morale, and the extent in turn to which low morale is the key factor in the loss of staff, is difficult to determine without precise methods of measurement. Nonetheless it seems likely to be significant.

For those who remain in service, staff who are over-burdened, demoralised, fearful, ill-informed or judgmental are unlikely to provide quality care, a situation exacerbated by insufficient in-service training and lack of emotional support and stress management. Burnout can be addressed in part through education and staff support programmes, together with the consistent promotion of universal precautions supported by a reliable and adequate supply of provisions, such as detergents and gloves.

Overall, an internal WHO paper concludes that quantitative investigations are required to estimate the impact of HIV/AIDS on mortality and morbidity in health care workers in order to underpin estimates of future staffing needs. Information on health care worker knowledge, attitudes, beliefs and perceptions about HIV/AIDS is needed to develop programmes to maximise effectiveness in caring for patients with HIV/AIDS and decreasing discrimination. In addition, qualitative work is needed to assess the degree of burnout among health care workers. While some work has been done on this in developed countries, there is little relating to developing countries where generalised epidemics may have greater impact due to the sheer magnitude of morbidity, as well as morbidity and mortality in colleagues, family members and possibly health care workers themselves.

5. ANTIRETROVIRAL THERAPY

According to Gilks (2001), used properly, ART will prolong life and improve the quality of life. No other intervention is disease-modifying to this extent; or can offer such potential benefit to so many who are sick. Nonetheless, the challenges associated with ART are numerous². Few, if any, examples exist of effective chronic, long-term care delivery in resource-poor countries.

A recent desk review of experiences and lessons learned with antiretroviral therapy in resource-poor countries, conducted by the Health Systems Resource Centre for DFID (2002), suggests that ART should be part of a comprehensive programme of HIV/AIDS prevention and care, and situated within the continuum of care that includes VCT, prophylaxis, diagnosis and treatment of opportunistic infections and palliative care. Suitable entry points may include: VCT services, acute medical services, TB DOTS programmes, existing HIV programmes and PMTCT/ ANC and MCH clinics. Equity issues need to be addressed.

A few middle-income developing countries, including Brazil, Thailand and Costa Rica, have introduced HAART in public sector programmes. There is also a wide range of pilot interventions in many high prevalence countries. It is generally accepted that high (but falling) drug costs and poorly functioning health systems, which limited capacity to deliver the therapy and monitor clinical progress, limit access to ART in resource limited settings. Very large investments will be needed in basic health systems, including ensuring the availability of well trained and motivated health personnel. Without these, services will be neither viable nor equitable. Illustrating this point, Willbond et al, for the Commission on Macroeconomics and

² For a fuller discussion of these see the papers by Gilks (2001) and Health Systems Resource Centre (2002).

Health Working Group 5, showed the extent to which appropriate personnel and infrastructure are lacking in Kenya. While physicians throughout the country were prescribing ARV and the drugs were widely available, only 30% had received any training in ARV, and outside Nairobi, no laboratory facilities were available for monitoring therapy.

However, several countries have plans for, or are already engaged in, scaling up ART with significant additional financing through the Global Fund for Aids, TB and Malaria (GFATM), the World Bank and others. In Africa these “first wave” countries include Malawi, Kenya, Uganda and Botswana which in April 2001 announced plans to provide AIDS drugs to all those who need them and hopes to reach 19,000 people by the end of 2003.

Kenya is perhaps leading the way in taking a strategic approach, with DFID support, for the scale-up. In particular Kenya is taking a systems approach to developing a strategic plan for the scale up of the ART programme. Although there is little available quantitative information of the impact of HIV/AIDS on the health system, the system has clearly been heavily overburdened by the epidemic. Kenya is keen not to add to this burden through the introduction of treatment in the public sector, and has started (with DFID support) to undertake a preliminary situational analysis of Kenya’s public and private health infrastructure in terms of its capacity to support a national ART programme at all levels. This work is ongoing. The next steps include undertaking a situational assessment at national and provincial levels to identify needs and gaps and system strengthening requirements (May 2003). As a first step for the situational assessment, the MoH plans to identify minimum essential standards for service, personnel (including for supervision) and infrastructure (including equipment) requirements at each level of the public sector health system. Although the primary aim is to determine the needs and gaps for the provision of ART, the standard setting exercise necessarily needs to cover the provision of all essential health services, including comprehensive care for HIV/AIDS. It will inform planners about the level of system strengthening required to provide comprehensive AIDS care, at least at the provincial levels. Over time, the assessment will be conducted at lower levels of the system.

Alongside this process, Kenya is considering developing a monitoring and evaluation framework, once the ART programme goal is confirmed. Both process and outcome indicators will need to be validated, and congruent with international recommendations and requirements. It is anticipated that this framework will facilitate some level of assessment of the impact of the ART programme on the overall health system to be made, at a minimum through bed occupancy. WHO is currently working on these issues from an international perspective. The introduction and scaling up of ART has particularly important implications in terms of human resources if the potential benefits in survival and quality of life are to be achieved. Existing staff in-service will need appropriate training, continuing in-service updates and adequate monitoring and supervision. Scaling up ART will also require recruitment of new staff, rather than being staffed at the expense of other services. Addressing the human resource dimensions of ART depends upon the availability of reliable, relevant information.

There are numerous other gaps in terms of the evidence base with regard to: the ability of the health system to expand HIV/AIDS services to include ART; the effect of introducing ARV treatment on the system (eg on reduced bed occupancy or opportunistic infections) and on existing public health priorities and outcomes. The DFID Health Systems Resource Centre review (op cit) notes the need for further

examination of ART provision by private for profit health providers, particularly in relation to quality and consistency of care.

6. FINANCE AND COSTS

Haacker's IMF-funded study (2002) on providing health care to patients with HIV in Southern Africa highlights that the epidemic is already an enormous burden on the health sector of Southern African countries. Maintaining quality of health services will require substantial investment both in terms of health facilities and human resources, neither of which can be achieved without significant amounts of external aid. He suggests that policy makers addressing the impact of HIV in countries with few resources should consider negotiating reductions in drug prices and expanding the scope of private health insurance providing external assistance to build necessary health infrastructure and train the required personnel.

Costs of Hospital Care

At country level, evidence from **Zimbabwe** (Hansen et al. 1995), indicates that the cost of hospital care for HIV/AIDS patients was considerably higher than for non-HIV/AIDS patients. In five of seven hospitals visited, average costs of an inpatient stay for an HIV/AIDS patient were twice as high as for a non-HIV/AIDS patient. The difference could be attributed both to higher direct costs per inpatient day (medication, laboratory tests and x-rays) as well as to longer average length of stays in hospital for HIV/AIDS patients as compared to non-infected patients.

The study also found that costs per inpatient *day* were progressively higher at provincial and central hospitals compared with district hospitals, though total costs per inpatient *stay* in the latter were relatively higher due to long hospital stays, especially for HIV/AIDS patients. There were also substantial variations in average length of stay, bed turnover rate and bed occupancy rate among hospitals at the same level. The authors conclude that there is possibility of efficiency gain in treating HIV/AIDS and other patients at district level whenever possible, in shortening the average length of stay for HIV/AIDS patients at district level, and in improving the performance of some hospitals.

On the basis of other work, the authors indicate that home-based care for HIV/AIDS patients may not necessarily be much cheaper than models relying more intensively on hospital-based care, but that the comparison requires further research since the clinical outcomes and patient quality of life in the two models remain unclear.

Guinness et al (2002) conducted a study of clinical care in **Kenya**, based on analysis of records from 398 patients admitted to the medical ward of the Kenyatta National Hospital in Nairobi over a fourteen week period. In contrast to Zimbabwe, they noted the costs of managing a single disease episode in patients with HIV were similar to those who were HIV negative. There were few HIV-specific (and thus expensive) services available and critically, length of stay - the main determinant of cost - was the same, irrespective of HIV status. However, the team noted that the lifelong cost of care for a person with HIV will be greater because of repeated admissions and increasing severity of illness. 42% of costs on the medical ward were associated with HIV infection.

Furthermore, health care costs have a significant impact on household expenditures and savings. As they rise, they can restrict access to health services. When planning care strategies and introduction of new more costly therapies, health policy-makers should consider affordability from the patient's as well as the provider's perspective,

the nature of existing payment systems and the importance of sustainable financing options.

Financial Impact on Households

Studies of home based care in Botswana and Zimbabwe found that families often lack the resources to care for people at home and that the main concerns among patients were for food and food supplements. Most households could not afford even basic commodities for home care such as bleach, gloves and soap (WHO 2002).

Stover and Bollinger (1999) summarise studies from Tanzania, Cote d'Ivoire, Uganda, and Ethiopia which have documented the burden associated with HIV/AIDS in terms of loss of income, large health care expenditures, and consumption of savings to pay for funeral and mourning costs:

In **Tanzania**, a study of adult mortality found that 8% of total household expenditure went to medical care and funerals in households that had an adult death in the preceding 12 months. In households with no adult death the figure was 0.8%. In addition to increased expenditures, many households experienced a reduction in remittances if the adult member worked outside the home. In partial compensation for these financial setbacks, many households were forced to remove children from school in order to reduce education-related expenditures and have the children help with household chores.

In **Cote d'Ivoire**, households with an HIV/AIDS 'patient' spent twice as much on medical expenses as other households. Furthermore, 80% of the expenditures went on the individual with HIV/AIDS, rather than on other household members who were ill. When the person with AIDS died or moved away, average consumption fell by as much as 44% during the following year.

In **Uganda**, the economic impact of HIV-related deaths was stronger than other types of death, as households lost much of their savings in order to pay health care and funeral expenditures. Asset ownership declined when the death of an HIV+ member occurred, but remained stable when the death was of an HIV- member.

In **Ethiopia**, a study of 25 AIDS-afflicted rural families found that the average cost of treatment, funeral and mourning expenses amounted to several times the average household income.

A study in **Rwanda** (Nandakumar et al 2000) also concluded that HIV seriously impairs the ability of households to meet basic needs.

Costs of Expanding Provision of ART

It is difficult to determine the health systems costs and benefits associated with expansion of provision of ART.

In resource-endowed countries it has been demonstrated that ART reduces the cost of HIV-related care and frees up hospital beds for other needs. However, the DFID HSRC review of ART in resource-poor countries (2002) noted that while the Brazilian government reports that savings outweigh the cost of providing free ARVs, other countries with substantially higher numbers of people living with HIV/AIDS face or anticipate considerable difficulties. The review concludes that procurement of ARVs solely through domestic financing remains impossible in most resource-poor countries.

In addition, as noted above, there would be need in such countries for very large investments in basic health systems. The entire sector is seriously under-resourced and dedicated new funding for HIV care and treatment is required.

The Botswana Ministry of Health has calculated the costs of medications, counselling and testing at \$600 per patient per year (Rollnick, 2002). Over 5 years, with 20,000 patients being added to the programme each year, the total cost would be around \$180 million. The government has indicated that the programme is likely to be unsustainable once a 5 year programme of support of \$50 million each from the Gates Foundation and Merck ends. It is hoping that costs will fall as infection rates decline and fewer people need ARVs (HSRC, 2002).

On the other hand, the system costs of ART should also provide benefits in strengthening the overall health system. With reference to Kenya, where the number of patients grossly exceeds hospital bed capacity, Mundy et al (2002) suggest that a shift to ART provision via outpatient care may also benefit patients with non-HIV related needs who are currently being crowded out of the health system.

In response to donor concerns about the sustainability of scaling up efforts, Farmer et al (2002) argue that most cost-effectiveness analyses fail to take into consideration issues such as the changing costs of ARVs and the costs of repeated treatment of opportunistic infections. Nonetheless, reducing drug prices, whether through concession or competition, will not solve the problem of the destitute sick. They argue that financing mechanisms must leave these drugs under the control of the public health infrastructure and free of charge to the poor. A narrow focus upon cost-effectiveness is likely to be incompatible with providing solutions of the problems posed by HIV among the poor.

7. OUTCOME OF INTERVIEWS WITH KEY INFORMANTS

DFID's Resource Centre for Sexual and Reproductive Health conducted a series of key informant interviews by telephone or email. The main points from these are summarised in the table below and indicate that no one organisation is particularly far ahead in mapping the impact of HIV/AIDS on health systems in developing countries but there are some studies in progress.

IMPACT OF HIV ON HEALTH SYSTEMS – KEY INFORMANT RESPONSES

AUSAID	Probably the most advanced work AusAID has done on this issue would be in Papua New Guinea. Its study on the Potential Economic Impact of HIV/AIDS in PNG was released in 2002. It includes a chapter on sectoral impacts, in which there are a few pages of analysis on the health sector. This section does not pretend to be a major evidence-based analysis, but tries to draw out the implications of the epidemic for PNG and also for development partners. The relevant section is at pp. 56-61, and the report is on the AusAid website at http://www.usaid.gov/publications/pdf/hivaids_png.pdf
Independent Consultant (ex-GPA/WHO)	<p>He is aware that UNAIDS/WHO tried to develop estimates of the specific annual numbers of HIV-infected persons who might require or be eligible for anti-HIV treatment. Such estimates are relatively simple to make once HIV prevalence has been estimated for a given population/country.</p> <p>The most daunting challenge for Health care planning is what programs, if any, might be developed to begin to identify individuals who are HIV-infected and who may be at the clinical or sub-clinical stage(s) of their infection to be eligible for routine anti-HIV treatment.</p>
EC	The EC is not undertaking any specific assessment of the HIV impact on health systems in developing countries. It does engage in policy dialogue at country level and discusses these issues. Likewise, the special budget line on HIV/AIDS prioritises support to innovative initiatives which can also strengthen health systems capacities to respond to AIDS, malaria and TB.
DFID Knowledge Programme	Doing a study with the Africa Centre (funded by Wellcome Trust) and HEARD at a district hospital site in South Africa, looking at the impact of the epidemic on issues such as workload and staffing patterns.
DFID Health Systems Resource Centre	The knowledge workstream of the HSRC has agreed with DFID to prioritise Human Resources in the health sector as a knowledge theme. The TORs are being finalised. They recognise the direct and indirect impact of HIV/AIDS in exacerbating the HR problem. Outputs include strengthening the HR policy debate using knowledge of good practice and evidence of effectiveness. The HSRC is also discussing with DFID (SAMH team) the possibility of focusing on HIV/AIDS as a knowledge theme with the purpose of increasing understanding of the impact of HIV/AIDS on health systems and the requirements for delivery of HIV/AIDS interventions.
USAID	The Policy project has been involved in tracking HIV related expenditure within the health system in Kenya. USAID originally organised an internal working group to address the issue of impact led by Steven Kinoti (now at AED). Linda Tawfik produced a paper on evidence of the impact of HIV on HR 2001
Academy for	Under the auspices of the Commonwealth secretariat based in

Educational Development (USAID funded)	Arusha, AED is working in Malawi and Kenya looking at the impact of HIV on the health workforce. Currently collecting data. Results should be available in July 2003. After the preliminary analysis, there are plans but no funds for the next step, which is to support governments to plan for and mitigate against the impact.
SIDA	No formal position on this. SIDA are interested in being involved in future discussions.
WHO	WHO is planning a study on human resource development for health and HIV/AIDS. The study will be piloted in two high-burden countries. The intention is to map the impact of HIV/AIDS on human resources and delivery of services, with the aim of helping countries to better estimate their resource planning and replacement strategies to respond to the additional needs. WHO is also evaluating the HR needs (training and staffing levels) required by public sector to scale up ART in line with the Public Health approach to scaling up access to treatment.
UNDP	Paper produced: Desmond Cohen. Human capital and the HIV epidemic in sub-Saharan Africa. ILO Working Paper 2. June 2002
FHI (USAID Funded)	Doing generic health systems strengthening in Kenya, Ghana and Rwanda. Mentioned the difficulty in getting USAID money to address HR issues as it involves salaries. General reluctance to address the need for basic training as in-service training is considered more attractive.
MSF	Looking at the benefits of ARTs for health personnel. In MSF Capetown, they are looking at the impact of the brain drain to the NHS and private sector. The degree of impact of AIDS is fundamentally changed by availability of ARVs. MSF has a few ARV pilot sites in Africa
KIT	Nothing being done at the moment though proposing to do a study on how HIV is impacting on district health systems
Health Systems Trust, South Africa	HIV mapping project to identify and map funding which comes into district level for prevention care and support. Also looking at the private sector.-
HIV Equity Gauge	Collecting data to look at equity of health systems in 3 districts: 1 rural, 1 farming and 1 urban. The data reflect how HIV is impacting on service delivery and take up: burn out issues, treatment issues etc. Includes anecdotes that staff are leaving because they cannot fulfil their duty of care. This work is due to be completed in a few months time. Proposal to EU in pipeline to develop approaches on impact mitigation to support governments in SSA.
International HIV Alliance	Has some evidence of the positive impact of involving positive people in health systems at community level, especially in Cambodia, India and the Philippines. The project in Zambia is run

	jointly with the MoH and concentrates on VCT.
HEARD	Has proposal awaiting government approval in Namibia to apply lessons learned from work on the impact of HIV on the education sector to the health system.

8. CONCLUSIONS AND SUGGESTED NEXT STEPS

Conclusions

In light of the above, the most significant finding of this review is the paucity of good quality information on almost every facet of the impact of HIV/AIDS on health systems in developing countries. This is urgently required to inform the development of effective approaches to solve or mitigate mounting problems. There is a serious gap between what is known (but not extensively or systematically examined and documented) among a relatively small group of practitioners and what has been done to draw out and address the strategic and policy implications. It should be noted though that several of the studies cited in this paper have been funded or part-funded by DFID (for example, the studies by Arthur et al, Floyd et al, Guinness et al, Kurowski et al).

There is scope for a lead to be taken in securing commitment among donors, international agencies and national governments to a strategic and sustained response to addressing the impact of HIV upon health systems. This is a role which DFID could undertake, drawing as appropriate from its prior experience in supporting work to address the impact of HIV upon the education sector.

This role is becoming even more critical as several countries are already, or anticipate becoming, engaged in scaling up ART with significant additional financing through GFATM, the World Bank and others. Implementing ART effectively and equitably requires a fully functional and strengthened public health system. How this can be done when the severe impact of HIV on the health system is only now starting to be addressed is not clear. Nonetheless, once identified, successful solutions will generate benefits to *all* who use health systems, not just to those with HIV. The challenge is to ensure that the momentum of support for the provision of ART strengthens the ability of the health system to deliver care, and achieve positive health outcomes, for both HIV and non HIV related conditions.

Suggested Next Steps

In determining next steps DFID will wish to consider where value can be added given the scope and complexity of the issues and the activities of other key stakeholders. DFID may wish to consider the following proposals to take forward sound, practical work to support governments in mapping and mitigating the impact of HIV/AIDS on health systems:

1. It is clear that there is growing understanding among several other partners of the need for work in this area. DFID is well-placed to convene a meeting with interested bilateral and multilateral partners to explore the urgent development of a concerted strategic, sustained and prioritised response. Such a forum would be well placed to focus on both the sharing of interests and activities and the co-ordination of future responses. It could build on previous activities, including the October 2002 DFID sponsored Workshop on Human Capacity which focused on HIV/AIDS. Any such forum would also need to link fully with other HIV and HR activities being taken forward by international agencies, either globally or at the regional level.
2. Explore the possibility of supporting a study to assess the impact of HIV both quantitatively and qualitatively on health service delivery, and develop guidelines

to help governments respond prospectively to the epidemic. This will involve consideration of country case studies, looking perhaps at countries with different stages of the epidemic and health systems capacity. It will be important to look at all levels of the health system and redress the balance of studies to date which have focused mainly on the hospital sector. We know that a significant number of individuals with HIV/AIDS are seeking care from the community and health centres levels. Indeed many (especially the poor and vulnerable groups) are not accessing the formal sector (whether public or private), due to resource constraints and other socio-economic factors.

3. A study assessing impact on health service delivery could include a focus on human resource issues, including the impact of HIV/AIDS on the workforce and its ability to provide services, and consider collaboration with the WHO study on human resource development for health and HIV/AIDS. Furthermore it is suggested that there could be scope for investigating the value of supporting future work by AED on the impact of HIV on the health workforce in Malawi and Kenya based on the initial study results due in July 2003. Such an approach could link with the planned knowledge workstreams of the HSRC and the new Health Resource Centre, with a focus on supporting governments to determine workable solutions and strategies to respond to HR constraints. Within the knowledge agenda the HSRC is discussing the possibility with DFID of carrying out country case studies to document best practice at country, district and community level in addressing human resource constraints in delivering HIV/AIDS care and support.
4. Consider support for a study or studies on the psychosocial impact of HIV/AIDS both on all healthworkers working with HIV/AIDS patients and on those healthworkers with HIV themselves.
5. Build on the DFID systems focused support to the development of a strategy to scale up ART provision in Kenya. The HSRC is developing an overview of experience of provision of ART in resource-poor settings and lessons learned, which draws from the published and unpublished literature. This planned HSRC publication will build on a literature review already undertaken as part of the ARV strategy work in Kenya. A next step could be a more generic focus on the systems-related issues and requirements to be considered in the scaling up of ARVs in resource poor countries, including outlining a possible process at country level as countries consider the ability of their systems to expand services for HIV care. Any such work would need to be taken forward in collaboration with relevant DFID supported Knowledge Programmes. If this work is taken forward, it could link into any study on the assessment of HIV on health service delivery, as the introduction of ART into public sector programmes represents new challenges for the delivery of effective care and support for HIV. The Kenya work to assess regional facilities against minimum essential standards for service, personnel and infrastructure will result in critical information on the ability of the system to respond and the identification of strengthening requirements, including HR.

ANNEX 1:**TERMS OF REFERENCE****THE EVIDENCE BASE FOR IMPACT OF HIV ON HEALTH SYSTEMS
PHASE 1 SCOPING STUDY AND NEXT STEPS****1. Background**

The HIV/AIDS pandemic has been extant for over 20 years, but little work has been done to assess the impact of HIV/AIDS on health systems. This includes direct impact of HIV on the health system (and on affected patients/communities) and indirect impact of HIV on other aspects of the health system (e.g., displacement of care for other disease conditions, skewing of priorities). With adult prevalence rates in many African countries ranging between 10-40%, we need more evidence on how health systems are responding, coping or not, and what the future decade holds. Given the increasing morbidity and prevalence, these are major planning, management, and policy issues. For low-medium prevalence countries, the impacts will certainly be felt in certain communities, and increasingly at regional-national levels depending on the spread of the epidemic and migration patterns.

The complexity of the HIV/AIDS epidemic-health system interaction and dynamic will dramatically increase with:

- a) the greater availability of ART drugs (and related system needs);
- b) accelerating numbers of sick persons with HIV (given the epidemiologic curve related to HIV illness);
- c) greater clinical and social care and support needs; and
- d) negative pressures on the same health systems due to other factors.

It is also recognised that HIV affects health workers as individuals, as well as their role within the given system (and disentangling these will be useful).

2. Objectives

It is in this context that DFID needs to better understand the effects of HIV on health systems in order to better predict how governments, communities, and donors should develop coping strategies that seek to strengthen health systems. Similarly, health system performance monitoring systems may need to be adjusted to more effectively capture the effects of the HIV epidemic. In the first instance the Resource Centres are commissioned to carry out a key contacts and literature review of the knowledge base to ascertain what information and data exists on the several areas outlined below, and identify further work required.

3. Methodology and scope of work (phase 1)

JSI with support from HSRC to carry out a scoping exercise using five days Sexual Health Adviser and one day of Information Team time (contacting main organisations, literature, case studies etc) on the impact of HIV on health systems.

See Annex 1 for selected organisations to contact. The exercise would identify the knowledge base and any gaps, and set out TORs for a more in depth piece of analytical work, which could include an outline for carrying out several case studies in countries with varying HIV prevalence and health system capacity. The assessment should identify the nature of the existing studies as well as work under way. Draft to be shared with HSRC to identify any missing elements and develop Phase 2 outline. Phase 2 will be driven by the results of phase 1, and the feasibility and cost of conducting specific case studies, and will explore opportunities for collaborating with other organisations.

4 Key areas for consideration

Impact on health workforce (in terms of presence at work, attrition, in rural and urban areas, absenteeism, skill profiles, gender issues etc). To include limitations within the health system to respond. Link to David Johnson's/Martin Taylor's work on HR issues.

Impact on health facilities (by type) and services at different levels of care (drug supplies, bed occupancy etc), and public/private sector interactions, especially in relation to poor. To include any assessments on the extent to which and dynamics related to crowding out of non-HIV cases.

Impact on health system ability to deliver care for non HIV and HIV related conditions (TB, child health, malaria, maternity care) Gender and poverty issues

Budgetary and financial impacts (including on household ability to use healthcare services). National/decentralised resource allocation patterns in response to the HIV/AIDS epidemic?

Home-health care facility continuum where there are/are not formal homecare and palliative care programmes. Examples of innovative solutions and strategies to crisis. Gender and poverty issues

Health system linkages to social welfare programmes?

Ability of the health care system to monitor the impact of HIV in the nation and to respond.

Ability of the health system to expand services for HIV care, e.g., ART and other care continuum. Limitations for coverage and with what tradeoffs? Also to include any effect of access to ARV treatment (eg on reduced bed occupancy or Ois)

5 Outputs

Document of up to 10 pages

6 Timing

First draft from JSI-UK to HSRC by 12 December 2002

Appendix 1:**Organisations to be contacted:****UK**

- HSRC
- JSI
- LSHTM and Liverpool DFID HIV knowledge programmes
- MRC
- Major NGOS e.g., SCF, Oxfam, MSF
- Selected DFID country advisers

Europe

- SIDA: Anders Molin
- Dutch : Els Klinkert
- GTZ: Tomas (last name to come)
- France: ITSF
- EC: Lieve Fransen

UN

- WHO HIV/AIDS Department: Bernhard Schwartlander
- UNAIDS
- UNICEF: Mark Stirling
- World Bank: Keith Hansen and Debrwork Zewdie

US-based

- USAID Global Bureau on Health: Paul Delay, David Stanton, Harriet Destler; Karen Cavanaugh AFR Bureau: Ishrat Husain Asia: Doug Heisler LAC: Logan Brenzel
- USAID Contractors:
- FHI: Eric von Praag
- Horizons (Pop Council)
- Abt Associates (PHR Project)
- AED: Oscar Picazo, Stephen Kinoti

- CDC: Eugene McCray
- Gates: Helene Gayle

Others:

University of Natal HEARD (Alan Whiteside)

- Commonwealth Secretariat (ECSA)
- CARECOM
- South African organisations: Health Systems Trust, universities, actuarial firms?
- Malcom Steinberg
- Other African universities

ANNEX 2:

RESPONSES FROM SELECTED DFID COUNTRY ADVISERS

DFID’s Resource Centre in Reproductive Health and HIV/AIDS sought the views of selected DFID country advisers. Their responses are set out in the following table.

	What work is DFID currently undertaking (or planning to undertake in the near future) to assess the impact of HIV on health systems in your country (with which partners)? Please describe the scope of this work.	Are you aware of others investigating this issue, apart from DFID?	What is DFID doing to support governments to plan for the future impact of HIV on the health system?	Who are the potential major partners in this area of work in your country?	Other
Bangladesh – N squires					Bangladesh, still remains a low prevalence country, with prevalence rates below 1% in all high risk groups, with the exception of IV drug users (4%), this is despite some of the highest levels of unprotected sex in these risk groups.

					<p>The focus of the national response remains on the high risk groups, although GFATM funding has just been secured for a campaign targeting adolescents.</p> <p>As yet nothing is being done on the health system, work is only just beginning on parent to child transmission, and there has been no systematic planning in relation to access to antiretrovirals.</p> <p>DFID is providing support to the national programme through pooled funding with IDA, although this money has not moved in the past 2 years, due to poor GOB performance. We have a HIV project with CARE targeting high-risk groups.</p>
Botswana – M Taylor					<p>The key constraints emerging from an HR perspective were: numbers and skills of lab staff to do the blood tests as well as community home based carers.</p>

<p>CHINA – J Haycock</p>	<p>We are not analysing the impact of hiv on health systems as a freestanding subject. We are nearing the completion of a new HIV project which will assist GOC strengthen its ability to strategise its response to HIV across the board. This will set out the role and build capacity for the office of the State Council Co-ordinating</p> <p>Committee which is increasingly taking the lead in co-ordinating, planning, evaluating and disseminating the national response. The work, over 18 months, will not only support the SCCO office to fulfil its</p>	<p>We are working closely with NCAIDS and undp to build a set of advocacy papers on HIV - their work is predominantly on HIV rights and legal issues, whilst we have already funded a socio-economic impact study. We are also in touch with the US Embassy who hope to run a workshop on forecasting techniques for the Development Research Council - many of the same technical people will be involved.</p>	<p>See response 2</p>	<p>Goc (several parts), UNDP, WB, US embassy, ? UNAIDS - new rep coming so not sure of his interests. Working hard to make donor co-ordination a reality via SCCO and ccm. Technical contractors include fhi(asia), futures group europe. IAVI may also start vaccine preparedness activities, plus we</p> <p>have large CIPRA (NIH) research projects which may look at aspects of the epidemic on the health system.</p>	
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	<p>Function, but in so doing will set out the roles different sectors should play, their resource requirements, capacity building etc. So from this work, and our existing work which is undertaking interventions, we will start to generate information on the generic strengthening needed in the health system, including an analysis of funding for integrated comprehensive responses, and ART scenario planning (China is a producer of ART and is looking to build up domestic vaccine production with IAVI support.) We will not produce information like 'the health system will loose 25 doctors per district to HIV/AIDS this year' as the epidemic is not yet at that stage. We will however build capacity --*to do this kind of analysis should</p>				
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	it become necessary.				
GHANA – V Bampoe	DFID is currently facilitating a study to assess the economic impact of HIV/AIDS on Ghana. As part of this study, a DFID-commissioned study of the cost of HIV/AIDS on the health sector (prevention and care) has just been undertaken. This will feed into the broader economic impact study. DFID has also been involved in discussions at various annual reviews of the SWAP with the Ministry of Health/Ghana Health Service and other development partners on the cost to the health care system of HIV/AIDS (especially ART provision and related areas – OI provision, laboratory services, etc.)	Gtz and USAID have commissioned work on various aspects of the impact of HIV/AIDS (governance and business, respectively). The Netherlands government is supporting the area of care and support, and have discussed the need for a comprehensive study on what the needs are. This work has however not begun.	DFID Ghana is supporting the government of Ghana through the Ghana poverty reduction strategy (GPRS). The GPRS recognises the potential negative impact HIV/AIDS can have on the economic growth of the country. One of our strategies for keeping the fight against HIV/AIDS high on the agenda revolves around internally mainstreaming HIV across thematic areas of DFID Ghana (Human Development, Enabling Environment, Governance, Sustainable Livelihoods and Improved Production). In their subsequent engagement with government and other partners, HIV/AIDS	The biggest partners are government and civil society. Among the bilateral partners, the traditional big players are the World Bank, USAID and DFID. The Netherlands government and Danida are beginning to increase their visibility in this area. The UN system in Ghana has been a very strong partner in the national response.	
			Features as a major agenda item. DFID is also supporting the Ghana		

			AIDS commission to work within the GPRS framework to advocate within government for greater resources to fight HIV/AIDS.		
INDIA – D Whyms	Nothing specifically planned to look at this - most of our HIV support is structured around the GoI Aids Control Plan, which is not looking at this yet - prevalence is still considered low (0.7% 15-49 yr), and little societal or public service impact from HIV is visible. Given the stage of the epidemic in india, this may not be a priority at this time.	No reference made in the GFATM bid. The bank is doing some analytical work on HIV - but don't know if this is within that remit, but i suspect not.	As in answer (1), no goi plans to look at this, and no "pressure" from others (UNAIDS,Bank etc) yet to do so. [more urgent challenges include ensuring there is a C in the ABC of prevention!]	Potentially: unaids, bank, and the DFID funded SHRC - Sexual Health Resource Centre - this supports GOI and State Govs mostly, but also others. It could be a useful source of technical support to this area.	
Kenya – M Mcdonagh	No official work taken place; some anecdotal information on the impact on hospital beds/staffing etc.	DFID is currently funding The preparation of an ARV strategy in order that the introduction of ARVs does not disrupt the existing health system	Re future support, it is planned that under HAPAC3 we will provide support to several ministries – not just health – to assess the impact on that sector. We have already funded work on the impact on livelihoods and	World bank, USAID, CDC	

		through distortion of expenditure, focus of attention. The first paper looks at the issues related to the health system.	land.		
Malawi – A Austen	None planned	UNDP recently (Nov 2002) produced a report on attrition in key sections of the public sector in Malawi including the health sector.	Flexible support for human resource planning included in SWAp proposals- could include flexible long and short term TA or other modalities agreed with stakeholders.	UNDP, USAID, WHO	
Nepal – Michael O’dwyer	No specific plans at present. The Nepal epidemic is "concentrated" amongst IDUs and CSWs - rates in the general population remain below 1%. Demand for services is generally low. Rates of HIV amongst health workers are Likely to be at least as low as in the general population. ARV provision is included in the strategy, but it is unlikely that there will	No, but the EC education office here is doing a study of the impact of HIV on the Education system. (contact: Susan Durston, ecbpep@mos.com.np <Mailto:ecbpep@mos.com.np>	DFID has supported the preparation of the national HIV/AIDS strategy, and has an agreed pcn for block funding of implementation of the strategy. The strategy does not include impact assessment at present, but we will be positioned TO ensure that it is included in future revisions to the strategy as and when this becomes appropriate.	World Bank, USAID	

	be much capacity to provide it, and the impact will be limited - we will keep in view.				
Nigeria – P Sterling	Nothing planned	No	Have offered the Federal Ministry of Health TA to think through the likely impact on health systems and services, but to date they have not taken up the offer	World Bank, USAID	
Tanzania – P Smithson					Unable to respond to questions until DFID Tanzania has a draft Project Memorandum since the scale, shape, partners, etc. Is likely to be subject to some discussion and debate before able to move forward.
Uganda – A Spilsbury	Work is presently underway to develop a policy and implementation strategy for providing ART through out the health service. This will lead to its eventual costing outlining the infrastructural, human resource and pharmaceutical	USAID are undertaking a costing exercise of CDC's tororo study in which ART was provided in a rural health care setting.	No work is underway or planned to assess the impact of HIV on the human resources in health (although a study was conducted some time ago looking at the impact on teachers and was found to be negligible). The health system is serious understaffed with problems of recruitment, training	There is a new Partnership Mechanisms created in uganda with representation from the all stakeholders, including the MoH. This could be an appropriate forum for discussing such issues. The main	

	requirements.		school capacity and the majority of skilled personnel being lost to the private sector or going overseas. These issues, rather than attrition due to hiv, tend to dominate discussions. As part of DFIDU HIV umbrella programme partner organizations (such as TASO, AIC) will be supported to conduct human resource vulnerability audits and create supportive environment policies to protect and maintain their human capacity.	interested partners on human resource issues and hiv are UNAIDS, USAID, DFID and the eu.	
Zambia – A Daly		A human resource study found high attrition rates and a large proportion off sick due to chronic illness. The MOH is exploring some policy options for increased retention. In the meantime, some pooled funding will be disbursed to training institutions to produce more of			

		the priority health worker cadres in shortest supply.			
Zimbabwe – J Sherman		Only aware of USAID's assessment of the impact of food insecurity on health indicators (excluding HIV)			
Zimbabwe – Marion Kelly	None planned at present, but ongoing efforts to mainstream HIV/AIDS. Evidently about a quarter of all public sector health worker posts are now vacant and much of this is due to HIV but emigration is also a major factor.	Not aware of any specific investigations but there is growing awareness that with antenatal prevalence at 34% HIV/AIDS is affecting many sectors.	No bilateral support to govt as such for planning, but regional support to WHO AFRO for scaling up RBM and IMCI is expected to facilitate national planning to counteract loss of capacity due to HIV/AIDS.	Ministry of Health, national AIDS council (unfortunately not very active or effective), WHO, USAID	

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