Bradford Teaching Hospitals NHS
NHS Foundation Trust

Nuffield Centre for International Health and Development
Leeds Institute of Health Sciences

UNIVERSITY OF LEEDS

Report on public health secondment, Good Shepherd Hospital, Swaziland

September 2006 – September 2007

Secondment from the National Public Health Service for Wales.
Welsh Training Deanery.

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Specialist Registrar in Public Health Medicine.

January 2008
Minor amendment January 2009

WHO Collaborating Centre for Research and Development in Health Systems Strengthening

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Acknowledgements

I wish to thank my UK supervisors: Dr John Wright and Dr John Walley who provided immense support to me during this placement, and to thank Dr H Petros and Dr A Philip Senior Medical Officers at Good Shepherd Hospital for their hard work and assistance as local supervisors. Thanks to my wife, Valerie, with me in Swaziland, for your daring, love and support. Thanks to those managing the Welsh Training Scheme for their support for this placement particularly Dr Brendan Mason, Dr J Greenacre, Prof S Palmer and Dr J Ludlow and the Specialist Training Committee; Helen Wright for her long distance library and knowledge management support; and to Dr C Mamvura, Sr S Masango, Sr N Futhi, A Jeli, Sr L Ngcamphalala, Mrs D Simelane, Marton Luhlanga and all the staff at Good Shepherd Hospital.

Details of secondment

Location of secondment

Figure 1 Good Shepherd Hospital

The placement was at Good Shepherd Hospital (Figure 1), a district general hospital in the Lubombo region of Swaziland.

Good Shepherd Hospital is a mission hospital (Figure 2) which provides secondary and tertiary care to the Lubombo region of approximately 250,000 residents.

Training supervision

Educational and academic supervision were provided by Dr John Wright, Consultant in Pubic Health Medicine and Director of Bradford Institute for Health Research and Prof John Walley, Professor of International Public Health, Nuffield Centre for International Health and Development, remotely from the UK. Local supervision was provided by the Senior Medical Officer of Good Shepherd Hospital, initially Dr A Philip until his retirement in December 2006; subsequently by Dr H Petros, Senior Medical Officer.

Figure 2. Good Shepherd Mission, including church, primary and secondary school

Position

Honorary senior research fellow with the COMDIS research programme of the Nuffield Centre for International Health and Development and Director of Public Health Programmes for HIV/AIDS and other chronic disease Good Shepherd Hospital (Dec 2006-Sept 2007).

Reasons to undertake secondment

Opportunity to improve health

The HIV pandemic is one of the greatest public health challenges currently facing humanity. HIV is a preventable, treatable condition that is devastating communities around the world. Nowhere is this effect more evident than in Swaziland where one in four of the adult population (aged 15-44) are estimated to be infected with this virus[1] and life expectancy from birth has plummeted in the last fifteen years (Figure 3).

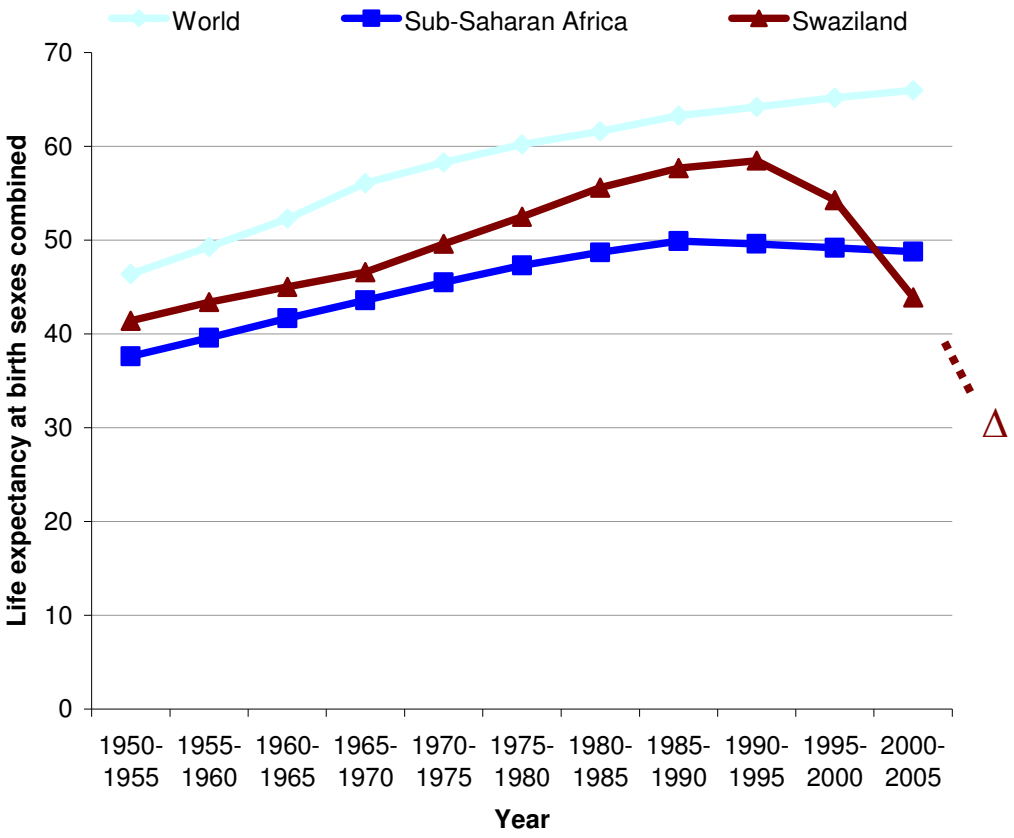

Figure 3. Life expectancy at birth for both sexes combined, World, Sub-Saharan Africa and Swaziland. Source: World population prospects: 2006 revision.[2] Hollow triangle (30) represents Swaziland life expectancy at birth 2007 estimate (Demographic Health Survey 2007, IRIN[3])

Figure 4 A sign of the times

This secondment offered an opportunity for me to impact on the health of a community in a very direct way through the existing mission services and the relations that had developed the preceding six years with the Nuffield Centre for International Health and Development.

Opportunity to gain and develop skills and experience

Skills of management, partnership working and self reliance could be developed as part of this secondment in a unique way. Having completed all my RITA competencies before my placement I was not in search of a post to fulfil a specific 'gap'. However, Area 10 of the RITA portfolio 'Ethically managing self, people and resources' can be difficult to cover with confidence on a UK training scheme; but find an abundance of opportunity in the setting of this secondment.

The placement offered an ideal opportunity to work on issues relating to international health with support from those experienced in the field. There is currently no defined training scheme for international public health. A secondment such as this is one of the few ways of getting international experience while in a training environment.

Swaziland

Figure 5 Geographical map of Swaziland

The Kingdom of Swaziland has a population of 1.1 million people in an area approximately the size of Wales[4]. Seventy-five percent of the population live in rural areas. Landlocked, Swaziland is surrounded by South Africa to the south, west and north, and bordering Mozambique to the north east (Figure 5). The Swazi people were never colonized in the manner of many other sub-Saharan countries, having requested and obtained the status of a British protectorate in 1890; subsequently attaining independence in 1968. They were thus spared the ravages and racial tensions of the South African apartheid era and its aftermath. Swazi people have a distinct cultural heritage of which they are proud; this culture is close to that of the Zulu people and includes to major national festivals the Incwala (Figure 6) or first fruits ceremony, and the Umhlanga (Figure 7) or reed dance.

Figure 6 Warriors at the Incwala festival 2006

Figure 7 Traditional Swazi culture, maidens at the Umhlanga 2007 (left) and two princes at the Incwala 2006 (right).

An executive monarchy under King Mswati III, Swaziland has universal adult suffrage and introduced a new constitution which came into effect in 2006. The constitution guarantees many individual rights; however, its relationship with the traditional 'Swazi Law and Custom' is complex.

Socioeconomics and HIV

Swaziland has enjoyed a relatively prosperous history; having overcome many of the racial inequities of land ownership that existed during colonial times. This relative prosperity is reflected in a human development index consistently higher than the Sub-Saharan Africa average (Figure 8; Box 1), particularly for the indices for education and income (Table 1). However the last 15 years has seen a major change in its fortunes with a dramatic narrowing of the gap as HIV rose sharply in prevalence (Figure 10). HIV was declared a National Disaster in 1999[5].

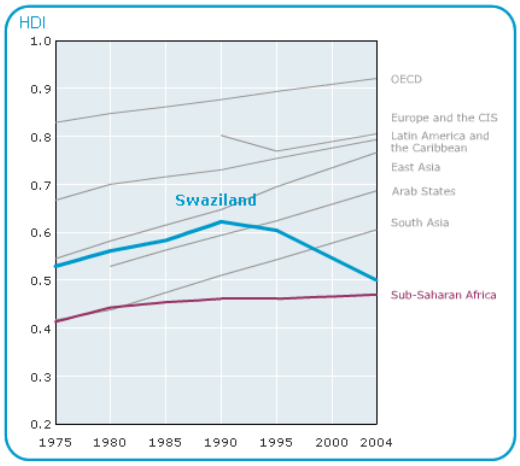

Figure 8 Human development index (HDI) 1975-2004

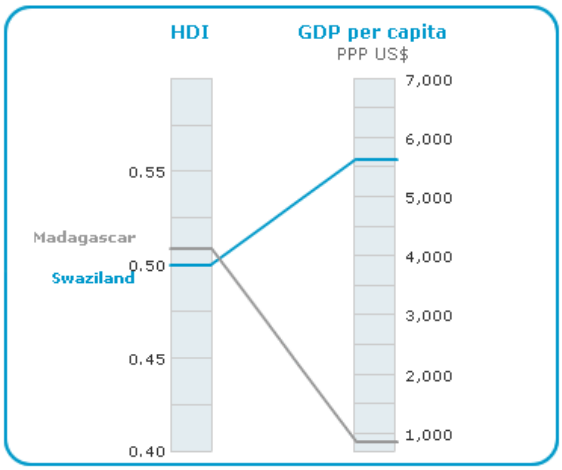

Figure 9 Human development index (HDI) compared with gross domestic product (GDP) per capita, purchasing power parity (PPP)

Source: UNDP Country fact sheets, Swaziland[6]. Reproduced with permission of Palgrave Macmillan.

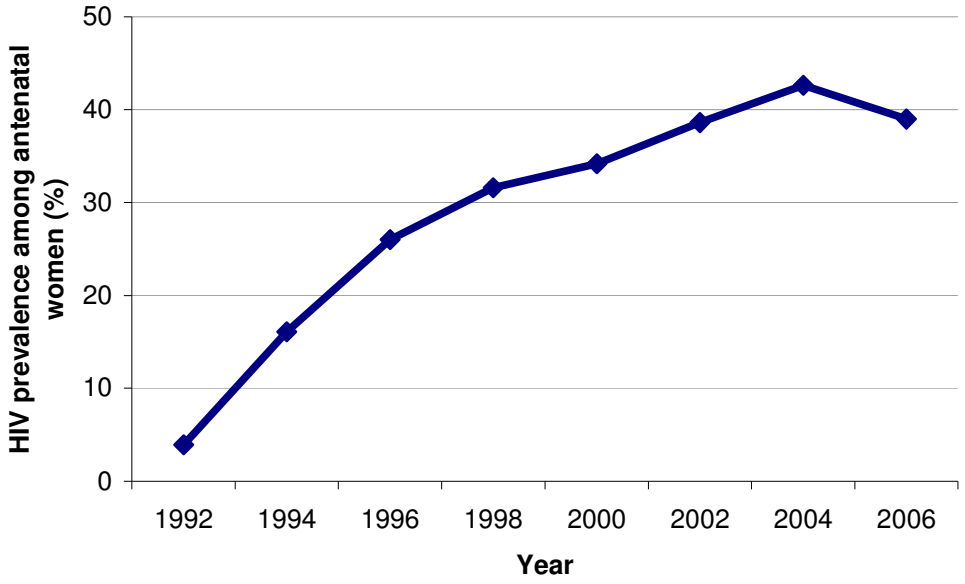

Figure 10 Antenatal HIV prevalence in Swaziland. Source: National HIV SeroSurveillance in Women Attending HIV Care, Swaziland.[7]

Box 1 The human development index[6]

> '**…**has been increasing in all major regions of the world since the 1970s. The major exception is Sub-Saharan Africa. Since 1990 it has stagnated, partly because of economic reversal but principally because of the catastrophic effect of HIV/AIDS on life expectancy' *UNDP*

Swaziland comes at the bottom of the 177 countries ranked for life expectancy for the human development index; this contributes to its low human development index in spite of a relatively high GDP per capita (Figure 9). These figures do not take account of the income inequalities between prosperous groups of people, often living in urban centres, and a poor rural population.

The factors that contribute to the high level of HIV are complex, including biological social and economic factors; poverty and culture in particular play a large role[8]. HIV spread is facilitated by multiple concurrent sexual partners, inter-generational sex, lack of adequate knowledge, secrecy and denial of infection[9]; other factors include a young population, unemployment, mobility of the population, high level of sexually transmitted infections. The role of culture is not clear cut, with some practices being seen as protective e.g. virginity tests and clothing to indicate abstinence (*lusekwane* and *umcwasho*)[8]. Culture, and its distortion, may play a negative impact (Box 2)[8,9,10].

Box 2 Traditional cultural factors that may play a role in HIV transmission in Swaziland

Kungena: a man 'inherits' the widow of his brother
Inhlanti: a young women is given to take the husband of an aunt who has died
Kukeka: a man may take multiple wives (polygamy)
Kwendizsa: arranged marriage for a daughter without her consent
Kulamuta: a man may have sexual relations with his wife's sister or close relative

Table 1. Human development index, World, United Kingdom, Sub-Saharan Africa and Swaziland.

	Human Development Index rank (of 177)	1 Human development index value 2004	2 Life expectancy at birth 2004	3 Adult literacy rate (% 15 and older) 2004	4 Combined gross enrolment ratio for primary secondary and tertiary schools (%) 2004	5 GDP per capita (PPP US$) 2004	6 Life expectancy index 2004	7 Education index 2004	8 GDP Index 2004	9 GDP per capita (PPP US$) - HDI rank 2004*
World	-	0.741	67.3	..	67	8833	0.71	0.77	0.75	..
United Kingdom	*18*	0.94	78.5	..	93 †	30821	0.89	0.97	0.96	-5
Sub-Saharan Africa	-	0.472	46.1	60.5	50	1946	0.35	0.57	0.5	..
Swaziland	*146*	0.5	31.3	79.6	58 †,‡	5638	0.1	0.72	0.67	-50

* A positive figure indicates that the HDI rank is higher than the GDP per capita (PPP US$) rank, a negative the opposite.
† Preliminary national or UNESCO Institute for Statistics estimate, subject to further revision.
‡Data refer to year other than that specified
GDP: Gross domestic product. PPP: Purchasing power parity.

Note: Life expectancy at birth on the Human Development Index indicator differs from the later estimate quoted above (Figure 3).

Source for columns:
*column 1:*calculated on the basis of data in columns 6-8; see technical note 1 for details. (should be linked)
*column 2:*UN (United Nations). 2005a. Correspondence on life expectancy at birth. Department of Economic and Social Affairs, Population Division. March. New York. , unless otherwise specified.
*column 3:*UNESCO (United Nations Educational, Scientific and Cultural Organization) Institute for Statistics. 2006a. Correspondence on adult and youth literacy rates. April. Montreal. , unless otherwise specified. Data refer to national literacy estimates from censuses or surveys conducted between 2000 and 2005, unless otherwise specified. Due to differences in methodology and timeliness of underlying data, comparisons across countries and over time should be made with caution. For more details, see http://www.uis.unesco.org/.
*column 4:*UNESCO (United Nations Educational, Scientific and Cultural Organization) Institute for Statistics. 2006c. Correspondence on gross and net enrolment ratios and children reaching grade 5. May. Montreal., unless otherwise specified.
*column 5:*World Bank. 2006. *World Development Indicators 2006.* CD-ROM. Washington, D.C. , unless otherwise noted; aggregates calculated for the Human Development Report Office by the World Bank.
*column 6:*calculated on the basis of data in column 2.
*column 7:*calculated on the basis of data in columns 3 and 4.
*column 8:*calculated on the basis of data in column 5.
*column 9:*calculated on the basis of data in columns 1 and 5.
Source: United Nations Development Programme statistics, http://hdrstats.undp.org (accessed 18 November 2007).

The impact of HIV on society has been enormous. There has been a massive impact on health, including spiralling rates of tuberculosis; loss of workforce from mortality (5-17 per 1,000 people), absenteeism and loss of fiscal revenues[11]. An increase in orphans and vulnerable children further debilitates Swazi communities.

Swaziland has had a recurrent shortage of water over the last five years. The rainy season for the summer 2006/7 has again been very poor leading to the worst drought on record for the country[12].

Lubombo

Lubombo is a rural district of approximately 250,000 people; Good Shepherd Hospital being 3km from its centrally located main town, Siteki. Access to most homesteads is by dirt-roads or tracks. Transport from rural areas is a particular problem for the people of Lubombo, many of whom are subsistence farmers. The drought has exacerbated the ever-present difficulty for many people to access health facilities.

Figure 11 Rural homestead, Lubombo

Rural households affected by HIV face substantial obstacles beyond merely attaining healthcare. They produce considerably less maize, often taking children out of school to support the family and sell livestock creating a 'cycle of poverty'[11]. Funeral expenses further destabilise households[11].

Health care in Lubombo

There are 37 health facilities in Lubombo: Good Shepherd Hospital serves the region, there is also one rural health centre in the south of the region, and 35 health clinics: 16 government; 10 occupational/company clinics; 7 mission clinics; 2 private clinics. Occupational health care, e.g. from some sugar production companies, and support is often substantially superior to that available to most of the population.

The entire region is, in theory, covered by a home based care programme supporting those with chronic diseases including HIV, TB, cancer and stroke. The focus of this programme relates to appropriate palliative care as well as support for the conditions. In reality, only small pockets of the region have transport to supply care outside the facilities for their resident population. These are those run by mission sites, in particular Good Shepherd Hospital and the Cabrini mission at St Philips.

Health care facilities throughout Swaziland are faced with the dual problem of the immense burden of illness to cater for in the presence of HIV and the impact of HIV/AIDS on health staff[11].

Preparations before departure

Considerations before departure included:

1. Submission of a proposal for the placement to the Specialty Training Committee for Wales

2. Improving knowledge and skills in the field of HIV, including spending sessions with the consultant in HIV care at Swansea NHS Trust.
3. Preparing practicalities for the trip including travel insurance
4. Accommodation was provided by Good Shepherd Hospital; the hospital also facilitated medical registration and work permit.

The work I undertook

My role was in relation to service development and service research for HIV and related services.

The following aim, objectives and measurable outputs were agreed for the placement:

Aim

To oversee the community based programmes for antiretroviral management, TB and epilepsy.

Objectives

1. To oversee the development of community based ARV including inter-agency liaison
2. To set up a study protocol for the evaluation of ARV decentralisation in the Lubombo region, including the development of suitable evaluation tools and overseeing data collection
3. To ensure adequate data entry to undertake data analysis
4. To implement and evaluate a regional public health programme providing community based care
5. To strengthen disease prevention for HIV/AIDS
6. To oversee the expert patient programme and to evaluate the programme
7. To oversee the ongoing decentralised programmes for epilepsy and TB.

In December 2006 when the senior medical officer of the hospital retired, I took on the role of Director of Public Health Programmes. This role oversaw the hospital and community activities in relation to:

- Anti-retroviral care, at the main hospital site and at 8 local clinic sites, expanding 15 in January 2007, as part of the national anti-retroviral treatment (ART) programme.
- Directly observed tuberculosis short course (DOTS) as part of the National TB Programme
- Voluntary counselling and Testing for HIV as part of the National VCT programme
- Home Based Care for an area of 50km around Good Shepherd Hospital
- An expert patient support group programme for patients on ART (**Error! Reference source not found.**)
- A programme of adherence follow-up through motorbike adherence officers
- World Food Programme food distribution at the hospital and sites relating to Good Shepherd Hospital Community Programmes

In order to work effectively in the development of ART services I undertook one day per week in clinical care duties for patients on ART treatment. ART services are highly guideline driven through the World Health Organization (WHO) ART guidelines for a public health approach[13] initially in the hospital with support from the medical officer for ART, and soon in the community setting supporting and mentoring local clinical staff.

I was also involved in overseeing and assisting medical students undertaking an intercalated degree in international health who were under taking research at the hospital as part. I undertook teaching sessions with students spending clinical electives at Good Shepherd Hospital.

Figure 12 Community garden projects show their successes at the home based care department

Community ART services

The need for community services

Access to HIV prevention and care services are extremely difficult in Lubombo. This is due to rural nature of the region, economic challenges faced by communities and more particularly households affected by HIV/AIDS.

The staff available to support ART from Good Shepherd Hospital were limited. One clinical doctor, two nurses, six lay-counsellors, one receptionist and two data-clerks supplied services for 3,000 patients actively on ART who usually returned on a monthly basis (Figure 154), together with many more pre-ART patients who came for assessment and follow-up. The patient numbers requiring ART rapidly outstripped the capacity of the hospital both in manpower and space terms (Figure 17). This was a major driver behind the need to supply services at the community level,

A key aspect of my work was the development of community ART services to improve access to essential HIV care.

The decentralization of ART care from the main hospital facility had begun four months before my arrival, and included eight clinics. A decision had already been made to expand this service to a further seven clinics. My role in the development of these services included:

- Development of guidelines, protocols and tools in consultation with clinical colleagues for referral to the local clinic and for hospital and local clinic staff to use for clinical management, and patient education both in terms of positive living with HIV and preventing HIV transmission.
- Organization and running of training courses for clinic nurses and other staff involved in HIV care

Figure 13 Home based care nurse (right) with rural health motivator (left) at typical rural homestead

Figure 14 Gabsile and Sindie data clerks

- Hosting and leading regional workshops and quarterly meetings for service development
- Developing and implementing data-collection systems to allow for evaluation of the programme
- Developing plans for programme implementation in collaboration with regional, local and national partners (Figure 16).
- Local support and on-site mentoring of nurses at clinic sites
- Liaising with the National ART programme and other national partners including the World Food Programme (UN), National Pharmacy, UNICEF, Non-governmental organizations such as ICAP, Nazerene mission and other national aid agencies e.g. PEPFAR.
- Participation in the National ART Technical Working Group, and involvement and attendance at National strategy development workshops; circumcision, TB HIV integration.

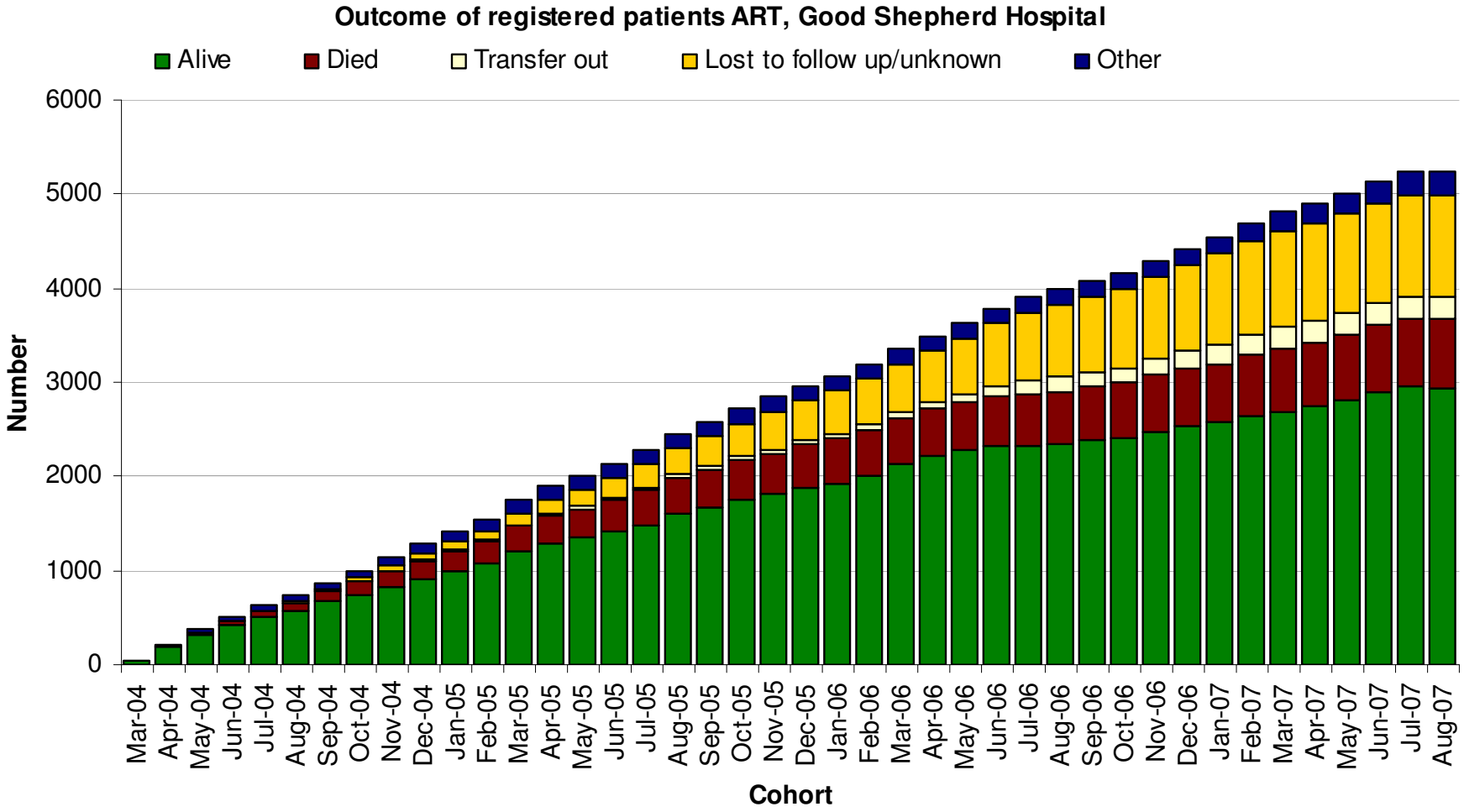

Figure 15 Outcome by month of registration, ART patients Good Shepherd Hospital. Source: Good Shepherd ART Monitoring and Evaluation Database.

- Working in partnership with regional clinic supervisors, regional matron and health administrator
- Collaborating with hospital staff including senior management, clinical colleagues and programme staff
- Developing and implementing proposals to improve health including
  - Working in collaboration with clinical colleagues to collate and submit a successful bid to UNICEF to improve prevention of mother to child transmission services in the region and assist in its implementation
  - Developing a proposal together with clinical colleagues on the integration of tuberculosis and HIV services and assisting in its implementation

Nonetheless, the supply of ART at the local clinic was a component of the National ART Plan; both nationally and regionally government staff supported the decentralization processes. Achieving ownership of this work by local clinics remained, however, a significant obstacle. The progress in terms of ownership and commitment from local clinic staff of ART supply as evident in participation at clinics, feedback at training sessions and involvement in service planning was a major positive outcome that I experienced during this time.

Figure 16 Workshop to develop community ART services in Lubombo

Preliminary findings from the community ART programme

The provision of ART services at nurse-led community primary care sites had commenced in May 2006. By August 2007 over 900 patients were being followed up in the community setting. The programme had two phases. Phase I allowed an opportunity to assess feasibility with early implementation. This involved eight clinic sites which had good links with the hospital site, or were relatively easy for the hospital to access. Seven clinics most remote from the hospital were included for phase II.

Figure 17 ART staff; expanding the ART waiting area with a temporary outdoor shelter.

After experiences from phase I were assessed criteria for inclusion in the programme were relaxed from six-months on treatment with a CD4 count of >200 to 4 weeks on treatment with a CD4 count of >100. Patients had to be assessed as medically stable by a physician in advance of referral to the community clinics for ART follow-up. Data collection on suitability for community ART was improved for phase II for both for those undertaking the intervention and for those from non-intervention areas to enable a full evaluation to be undertaken.

Preliminary, unadjusted comparison between those taking up analysis indicates that patients participating in the community ART programme were significantly less likely to miss any appointment and also have more confidence in the services they receive than controls. Controls were patients eligible for community services but whose local clinic did not yet participate in the programme to provide ART in the community.

Further analysis is being undertaken.

What went well

Training

I had a unique opportunity to work on major global public health problems of HIV and TB at a local level. This offered me experience in major competency areas spanning all ten of the RITA portfolio areas.

- Developing health services and programmes reducing inequalities
- Collaborative working for health
- Strategic leadership for health
- Research and development
- Ethically managing self and others

Telephone support from UK trainers familiar with the working environment was supplemented with a visit by the educational supervisor Dr J Wright two months into the secondment. This provided an excellent opportunity to develop my role for the rest of the placement.

Support was received from the library and knowledge management service of my employer in the UK (National Public Health Services for Wales) and many resources

such as on-line journals and databases were accessible through both NHS and Deanery remote password facilities.

Making an Impact

The impact in public health terms, together with job satisfaction was high. I was in a position to fulfil my role and worked in collaboration with organizations and individuals at all levels in the country.

Working to bring ART service to the community level and seeing the impact this made it clear to me that I was 'an agent of change' in a way I had never experienced previously. Early analysis of patient outcomes demonstrates the benefits of this approach. Nurses at the community level were taking responsibility for ART care in a way that had not been previously evident; further four of the clinics were seeing most of their ART patients independently between the visits by Good Shepherd Hospital.

Figure 18 Being counted in the Swazi census

By working jointly with many departments I was able to facilitate the introduction of a number of other developments including the integration of ART care with home based care services for appropriate patients, the development of PMTCT services as a part of the monthly ART outreach provision to local clinics, HIV testing and counselling as part of consultation for tuberculosis, and cough screening for tuberculosis in most major ambulatory departments.

What went less well

Training

Although excellent support was provided by telephone from the UK, there was a temporary reduction in local day-to-day public health support following the retirement of the then senior medical officer and public health supervisor in December 2006. This placement is appropriate for those in later stages of training (year 4 or 5).

Poor access to internet facilities made accessing evidence, guidance documents and communication difficult during the first three months of the placement. Access to printers, stationary and related facilities was also limited.

Making an impact

The resource limited setting with resultant reduced supports (secretarial, infrastructure, professional), together with the extended role on the retirement of the

Senior Medical Officer in December meant that data analysis and research aspects were often secondary to other service considerations.

There were many frustrations associated with the setting, including a lack of a stable health infrastructure as evidenced by interruptions in drug supply, lack of engagement from some of the national programmes, lack of support for information technology such that I was often looked to in order to provide any computer related assistance required.

The role of some sectors of society in contributing to mis-information in relation to HIV care was one aspect which I did not attempt to address directly during the year; however, it was a constant frustration. Particular examples include preachers telling their congregation that if they had faith in God they would not take ART; another is some traditional healers claiming to have a 'cure' for HIV.

Achieving the objectives

1. I oversaw the development of community based ART on behalf of Good Shepherd Hospital as detailed above.
2. I developed and implemented the study protocol for the evaluation of ARV decentralisation including suitable evaluation tools and I oversaw data collection
3. I ensured adequate data entry, and analysis is underway
4. I oversaw the implementation of the programmes; the evaluation is in process
5. I work to strengthen disease prevention for HIV/AIDS through introducing standardized WHO developed tools for counsellors for patient education, developing, with clinical colleagues, the prevention of mother to child transmission to improved the drug regimens and improved community coverage, improving access to HIV testing and counselling particularly through HIV/TB integration.
6. The expert patient programme was supported and strengthened, including developing links with the community and government led regional HIV/AIDS activities, previously absent.
7. I oversaw the ongoing decentralised programmes for epilepsy and TB including the development of a protocol and initial implementation for TB/HIV integration.

The following outputs are available from the placement

- Report of the placement
- Evaluation of the decentralization process; preliminary results are available, more detailed analysis is underway.
- Evaluation of the expert patient programme (in progress)
- Documentation from service activities
    - Report on workshop with clinic nurses
    - Minutes of meetings chaired
    - Budget documentation

Lessons for the future and action taken

1. A secondment with Good Shepherd Hospital Public Health Programmes provides a unique extremely valuable opportunity for public health training and public health action. The position should be developed for further placement in future years.
2. Local training support was limited during my placement, due to the retirement of the supervisor. A public health physician working with HIV and TB issues and based at Mbabane has been identified to provide professional public health training support at a local level for the next trainee at the placement.
3. Distance library resources a great bonus to the trainee in overseas settings and should be arranged before departure.
4. Appropriate internet access and printing facilities are extremely beneficial for the placement these have been put in place for the next trainee placement.
5. Taking over a major role in the hospital on retirement of the senior medical officer provided tremendous experience of management, dealing with staff and personnel issues, recruitment and budget management. It did, however, dominate over the original focus of the placement: programme evaluation and service research. The service responsibilities of the trainee at the location should be reduced. This has been agreed in advance of the next trainee placement.

The ART Team (and guests) from left to right: Sr Ntfombiankhosi (with Wakile), Zandile, Mfanzile, Bhonkhosi, Milton, Sr Sweetness, Sonto, Dr Humphreys, Mildred, Dr Canaan Mamvura, Ncamsile, Freddie.

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