

Report on Out Of Programme Training attachment: Good Shepherd Hospital, Siteki, Swaziland January – December 2011



Dr Daniel Chandler
Specialty Registrar in Public Health
NHS Dumfries & Galloway, Scotland
18th May 2012

Bradford Teaching Hospitals 
NHS Foundation Trust

**Nuffield Centre for International
Health and Development**
LEEDS INSTITUTE OF HEALTH SCIENCES


**Dumfries
& Galloway**


COMDIS
RESEARCH & DEVELOPMENT FOR EFFECTIVE
COMMUNICABLE DISEASE CONTROL

**GOOD SHEPHERD
HOSPITAL**



CONTENTS

ACKNOWLEDGEMENTS.....	3
1. INTRODUCTION.....	4
2. CONTEXTS.....	4
2.1. Swaziland.....	4
2.1.1. <i>Geography and society</i>	4
2.1.2. <i>Health</i>	5
2.2. Description of the placement.....	6
2.2.1. <i>Public Health Specialty Registrar post</i>	6
2.2.2. <i>Setting: Good Shepherd Hospital, Lubombo</i>	6
3. AREAS OF WORK.....	9
3.1. 2010 Public Health Annual Report.....	9
3.1.1. <i>Background</i>	9
3.1.2. <i>Development of the Report</i>	9
3.1.3. <i>Key findings</i>	9
3.2. Applications for Programmes Funding.....	11
3.2.1. <i>The US President’s Emergency Plan for AIDS Relief (PEPFAR) – Request for Applications (RFA) for Implementing Partners</i>	11
3.2.2. <i>TB Reach – Financing Facility for Innovative TB Case-Detection</i>	13
3.2.3. <i>United States Centers for Disease Control and Prevention (CDC) – Strengthening Facility-Based HIV Testing and Counselling in Swaziland</i>	14
3.3. Academic and Research Activities.....	14
3.3.1. <i>Increasing TB and HIV case-finding through TB contact investigation, plus TB screening and HIV testing for general outpatients</i>	15
3.3.2. <i>Evaluation of clinic-based initiation of ART</i>	17
3.3.3. <i>Student project supervision</i>	17
3.3.4. <i>Other research activity</i>	19
3.3.5. <i>Education</i>	20
3.4. Ongoing projects and funding partnerships.....	21
3.4.1. <i>Global Fund to Fight AIDS, TB and Malaria Round 8 Grant</i>	21
3.4.2. <i>Claypotts Trust and CMMB support for HTC and Home-Based Care</i>	22
3.4.3. <i>Partnership with COSPE</i>	22
3.4.4. <i>COMDIS-HSD Programme management</i>	22
3.5. Other activity in support of HIV & TB Programmes in Lubombo.....	23
3.5.1. <i>Decentralisation</i>	23
3.5.2. <i>Establishing HTC and TB screening at Good Shepherd Outpatient Department</i>	23
3.5.3. <i>Development of Good Shepherd Hospital infrastructure</i>	24
3.5.4. <i>Participation in national TB programme work</i>	24
3.6. General Hospital Support And Management for Public Health.....	26
4. REFLECTIONS.....	27

ACKNOWLEDGEMENTS

I wish to thank:

Professors John Wright and John Walley, for the opportunity to undertake the placement, and their tremendous support throughout it, and before and after;

Dr Petros Hailemariam, for the warm welcome and dedicated support as local supervisor at Good Shepherd;

Dr Derek Cox, Dr David Breen, Dr Jim Chalmers and Professor Bill Reid for their permission and assistance for the placement, and support and advice;

Dr Canaan Mamvura, for the dedicated support, assistance and friendship at Good Shepherd, from the beginning and throughout;

Dumsile Simelane and Matron Luhlanga; for the welcome, assistance and support;

Matron Futhi, for the unwavering enthusiasm, guidance, friendship and support;

Sabelo Nkwanyana and Zwide Ndwandwe, for their assistance, dedication, friendship, and being perfect office-mates!

Busi Ntimba, for the dedication, friendship, and patience with all my finance questions and requests

Dr Fred Busuulwa, Dr Yvette Atosha, Sister Vusi, Sister Fakudze and all the Programmes staff for their hard work, assistance, friendship and camaraderie;

Dr Jonathan Pons, Dr Joyce Mareverwa and all the medical staff at Good Shepherd for their support, assistance and friendship;

All of the many colleagues at Good Shepherd who offered their support and friendship throughout my stay;

Dr Will Welfare, for the guidance, encouragement and listening ear;

Liz Smart and Dr Andrew Carnon, for their support and encouragement;

And finally to my fiancée Claire Easton, for everything.

1. INTRODUCTION

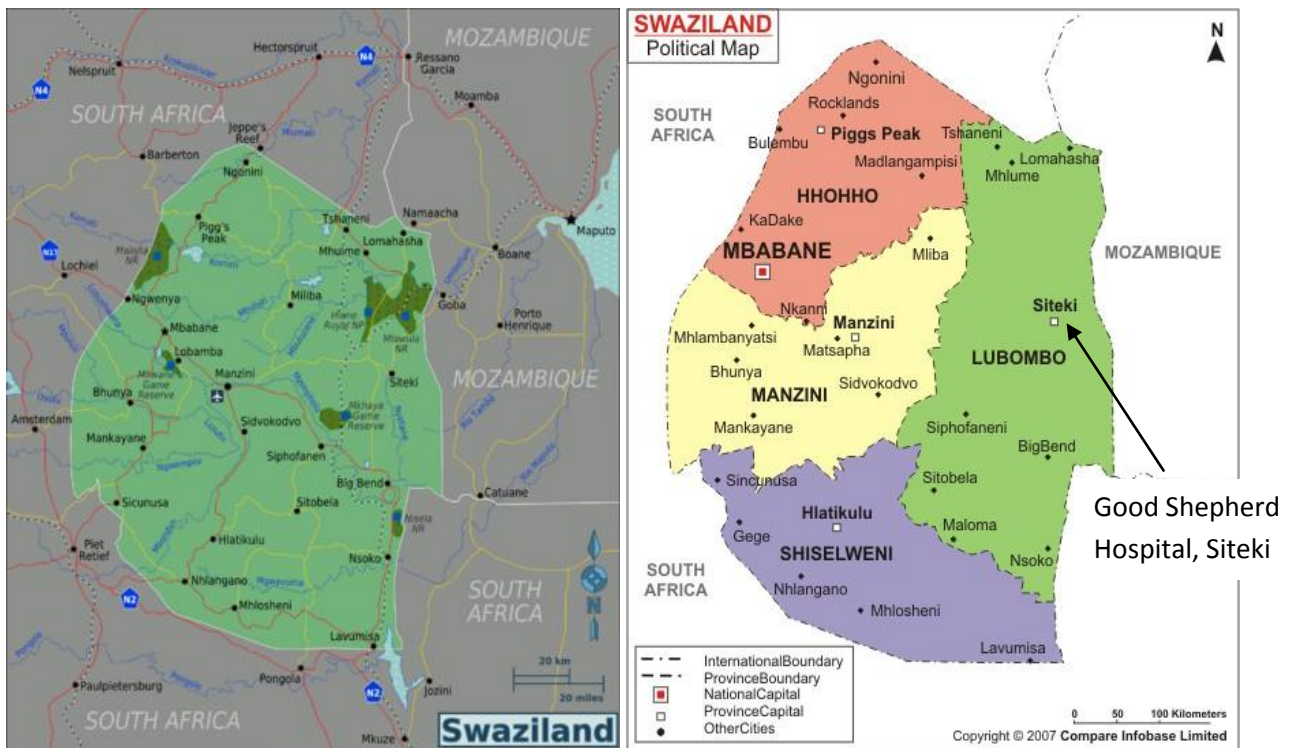
From 4 January 2011 to 13 January 2012, I was the Public Health Registrar at Good Shepherd Hospital in Lubombo, Swaziland. This report details the projects and activities I carried out over the course of the year. It begins with a summary of the country’s physical and political circumstances, focusing in particular on the huge challenges it faces in the arena of health – on which my work as public health registrar focused. The final section expresses some thoughts on what did and didn’t go well during my placement, what I gained from the experience, and impressions of what the future might hold for Good Shepherd and for Swaziland.

2. CONTEXTS

2.1. Swaziland

2.1.1. Geography and society

Swaziland is a small, landlocked country in Southern Africa, surrounded on three sides by South Africa and sharing a border with Mozambique to its east. Home to approximately 1.1 million people, it has an area of 17,364 km² - in both respects, roughly equivalent to Wales. Formerly a British protectorate, Swaziland gained full independence in 1968. Five years later, the then King Sobhuza II suspended parliament and outlawed all political parties, instituting a structure of government that remains firmly in place today. Although it incorporates a form of representative democracy, with a proportion of national Senate and House of Assembly members popularly elected, it is a political system based on traditional structures, placing supreme executive, legislative and judicial power in the hands of the reigning king. As such, the current head of state, King Mswati III (son of Sobhuza II), is effectively absolute ruler.



Maps of Swaziland

Swaziland is officially classified as a lower-middle income country, with a GDP per capita of USD 5,200 in 2010 (ranked 144th in the world). Its chief trading partner is South Africa, and although it possesses significant forestry, agriculture and textile industries, around three quarters of the population are engaged in subsistence farming, and the official unemployment rate is 40%. The land is divided into four roughly equal regions, Hhohho to the north, Shiselweni in the south, Manzini in the east, and Lubombo to the west. Hhohho and Manzini respectively host the country's capital, Mbabane, and its industrial and commercial centre, Manzini. Lubombo and Shiselweni are more rural and remote, and have the highest proportions of people in the most socio-economically deprived sectors of society.

2.1.2. Health

2.1.2.1. The HIV epidemic and its causes

The last 10-15 years has been a time of unprecedented challenge for health and health-care in Swaziland. The country is facing a severe public health crisis, in the form of the ever-growing HIV/AIDS epidemic. Swaziland has the distinction of possessing the world's highest estimated national HIV prevalence, with over a quarter of the adult population (aged 15-49) now thought to be living with the virus. One of the effects of this 'hyper-epidemic' has been widespread increase in susceptibility to tuberculosis (TB), such that the incidence of TB in Swaziland – 1,198 new cases per 100,000 population per year – is also one of the highest in the world. Up to 80% of people with TB are co-infected by HIV.

The results of the twin HIV and TB epidemic have been devastating. There are approximately 7,000 deaths due to AIDS in Swaziland each year, with up to 100,000 (roughly 10% of the population) in total estimated to have died since 1990. Women and young adults are the hardest-hit, with half of females aged 25-29 thought to be infected, and around 42% of those attending antenatal care HIV-positive. Overall life-expectancy at birth has reportedly fallen to 49 years. On a social level, single- and double-orphans, and child- and grandparent-headed house-holds, have become commonplace. In short, there can be few people left in the country – young or old, rich or poor – whose lives have not been touched by HIV.

Various studies and analyses have concluded that multiple, inter-linking factors have driven the spread of HIV in Swaziland and led to its position as the most severely affected country. These include the cultural beliefs and behaviour norms that underlie many adults, particularly men, engaging in multiple concurrent sexual partnerships, in inter-generational sex, and long periods of premarital sexual activity. Swaziland is a patriarchal society; polygyny is legal and common, and gender-based inequalities, sexual aggression and violence are endemic. The prevalence of male circumcision is also low, and use of condoms is often infrequent and inconsistent. The labour-force is generally mobile, so that many men who have jobs live and work away from their families, either in Swaziland or over the border with South Africa, in circumstances that are high-risk for contracting HIV. Poverty and inequality, stigma, poor education and incorrect beliefs are all also likely to be important drivers.

2.1.2.2. HIV/TB policy and strategy

Largely in response to the HIV epidemic, the Government of Swaziland has officially made health one of its priority areas. On 24th March 2011 (World TB Day), tuberculosis joined HIV in being formally declared a national emergency, and the battle against HIV and TB is being led by high-profile national agencies managed by the Ministry of Health, including the Swaziland National AIDS Programme (SNAP), and the National TB Control Programme (NTCP). Multi-sectoral oversight and strategy is the responsibility of the National Emergency Response Council on HIV and AIDS (NERCHA), established in 2003. Policy is co-ordinated through a key five-year plan, the National Strategic Framework on HIV & AIDS 2009-2014, and a linked national Stop TB Strategy. Funding is provided by major international donors such as the WHO

and the Global Fund to Fight AIDS, Tuberculosis and Malaria, and a 'partnership framework' for implementation has been signed with the US Government.

2.1.2.3. Wider issues

While HIV and TB are clear priorities, with 3 out of 5 people living on less than USD 1.25 a day, and a fifth chronically reliant on food aid, Swaziland's health crisis is exacerbated by the infectious disease, under-nutrition, and myriad other problems that go hand-in-hand with endemic deprivation. Simultaneously, there is a growing tide of 'lifestyle' diseases linked to increasing pervasiveness of energy-dense, micronutrient-poor and low-cost foods (also a consequence, perhaps, of the country's extremes of wealth and opportunity). Non-communicable diseases are currently estimated to account for 28% of all deaths in Swaziland, and roughly 45% of the adult population aged 20 years and older were over-weight or obese in 2008 (corresponding figures for South Africa, the UK, Mozambique and Zambia are respectively 65%, 64%, 21% and 16%). Thus, like many non-highly industrialised countries, Swaziland is increasingly having to seek effective solutions to a 'double burden' of serious disease.

2.2. Description of the placement

2.2.1. Public Health Specialty Registrar post

A partnership with Good Shepherd Hospital has been built over the course of the last decade by the Nuffield Centre for International Health at Leeds University and the Bradford Hospitals NHS Trust. For five years, the hospital has been part of the COMDIS research programme consortium led by the Nuffield Centre, and funded by the Department for International Development. This has allowed the establishment of a Public Health Registrar post at Good Shepherd. The post has received formal accreditation as a training placement by the UK Post-graduate training authorities. It is supervised jointly by two UK-based public health trainers: Professor John Wright of Bradford Teaching Hospitals Foundation Trust, and Professor John Walley of the Nuffield Centre.

After responding to an advertisement for the post, and meeting Professors Wright and Walley for interview, I became the seventh UK public health trainee to undertake the attachment at Good Shepherd. In addition to the two UK-based supervisors, local support and supervision was provided by Dr Petros Hailemariam, Good Shepherd Senior Medical Officer, and by Dr Joris Vandelanotte, Public Health Consultant and Technical Director in Swaziland for the International Center for AIDS Care and Treatment Programs (ICAP), of the Mailman School of Public Health at Columbia University. I received two visits for support and guidance during my placement, from Professor Wright and from one of my predecessors, Dr Will Welfare, Consultant in Public Health at NHS Manchester.

2.2.2. Setting: Good Shepherd Hospital, Lubombo

2.2.2.1. Overview

Based in the small town of Siteki, Good Shepherd Mission Hospital was officially opened in 1949, with an initial complement of one Medical Officer and two Nursing Sisters. It has grown over time to become the main regional secondary-care centre for the rural, eastern region of Lubombo, providing a full range of out-patient and in-patient medical, surgical, paediatric and maternity services for a population of approximately 210,000. It employs 12 full-time doctors and 108 nurses, with a corresponding complement of para-medical staff (physiotherapists, pharmacists etc). The hospital is also home to a large nursing training school, founded in 1970, and from which, today, more than 60 students graduate each year.



Good Shepherd Hospital main entrance



Entrance to the hospital Out-Patient Department

The point of initial access to Good Shepherd for the majority of patients is the hospital's Out-Patient Department (OPD). This is staffed by a specialist team of nurses and para-medical staff and doctors, with additional expert care provided by the main hospital's surgeons and physicians. Patients in need of in-patient care may be admitted to the relevant male or female ward (medical, including TB isolation; or surgical, including obstetrics & gynaecology and ENT). The hospital also has a separate children's OPD and a paediatric ward, staffed by an experienced specialist paediatrician, and a dedicated nursing team. The other major route to in-patient care is for women in labour, who are admitted directly to the maternity unit.

The OPD offers treatment reviews and other follow-up when needed for patients who have presented acutely; longitudinal care is also provided for some long-term conditions, including via a special clinic which began in August 2010 for selected non-communicable diseases (diabetes, hypertension, asthma), run by a dedicated nurse. It is intended that this service will ultimately become the responsibility of the Communities programmes, whose specialised teams provide ongoing management for patients with many of the most common chronic conditions, including HIV and TB infection, plus epilepsy and mental illness. Beyond the hospital itself, Good Shepherd works to increase the accessibility of healthcare throughout Lubombo, decentralising services by supporting primary care facilities to manage HIV and TB patients in the community, and through its Home-Based Care team of nurses and nursing assistants, who offer palliative and general health-care services to patients unable to access facility-based care.

2.2.2.2. HIV and Public Health programmes

In partnership with statutory and voluntary sector agencies ranging from the Government of the Kingdom of Swaziland to local primary care facilities, Good Shepherd's Communities departments have consistently been at the forefront of efforts to meet the challenge of HIV and TB. New programmes and services to help meet population needs for comprehensive treatment and care has been developed with the support of an array of project donors and partners, including COMDIS and the Nuffield Centre for International Health & Development; ICAP; the Claypotts Trust; the Catholic Medical Mission Board; and UNICEF. They have focused on establishing effective strategies for earlier diagnosis and entry into treatment and care as the key to improving outcomes, reducing complications, and lowering the potential for transmission of HIV. Initiatives include early adoption of dedicated, free HIV testing and counselling (HTC) and anti-retroviral treatment (ART); introduction of holistic Pre-ART and antenatal services to help minimise HIV's worst consequences; and intensive case-finding to reduce spread of TB.

Increasingly, services are adhering to the principle of decentralisation: taking health services and health-workers out of hospitals and into local primary care clinics and health centres. The goal is to achieve universal access to early diagnosis and treatment of HIV, radically increasing the availability of HIV care by moving it closer to communities, and assimilating specialist interventions into wider, generalised health-services. The same principle is also being applied to non-communicable disease, building on existing services to offer structured, comprehensive care for the growing numbers of people diagnosed with chronic conditions such as heart disease, diabetes and epilepsy.



Some of the signs and health education notices outside the front entrance of the hospital

3. AREAS OF WORK

3.1. 2010 Public Health Annual Report

3.1.1. Background

An important gap at Good Shepherd that soon became apparent was the lack of a thorough statistical overview of activity and outcomes of the major public health and primary care programmes based at or supported by the Hospital. Numbers of patients served by public health programmes in Lubombo have steadily grown, and the procedures in place for recording and monitoring those services' activity have become increasingly important – to help manage workloads, direct resources to where they are needed, and plan for the future. However, reporting on clinical activity still largely depends on capturing information in paper-based registers held by each clinic or hospital department/unit. With an ever-increasing volume of data and no over-arching electronic management system, collating the data is time-consuming and error-prone. Unvaryingly high staff workloads have tended to limit the scope for detailed analysis of services and evaluation of longer-term trends. I set out to develop a first Annual Report of public health activity in order to meet this need.

3.1.2. Development of the Report

Gathering together all the available data for the Annual Report involved harvesting figures from paper records of raw and collated statistics, outputs from the national ART system database outputs, and ad hoc spreadsheets created by Good Shepherd staff. Thorough discussion with front-line staff was also needed to help understand patterns that emerged, and to shape the report's commentary. All the data, even in the national ART database, still largely depend on manual entry of information from paper records, and thus remain prone to inaccuracies due to human error. The lack of a single universal data management system meant the types, date ranges and comprehensiveness of the information available across different programmes was not consistent. Producing the annual report required systematic exploration, thorough cleaning and careful analysis of a large and disparate pool of data.

The final Annual Report represents the first ever collection of a comprehensive set of statistics, presented systematically, about Good Shepherd's major HIV, TB and other Communities programmes. It offered a timely opportunity to reflect on what has been achieved in health-care programmes in Lubombo over the past decade of partnership with COMDIS - and hence what the next key challenges are likely to be. An equally important output was the series of electronic files containing the complete set of data that the report was based on, which can be added to or updated each year to support efficient generation of future annual reports of public health activity. The work therefore laid the foundations for annual publication of trends in key public health activity indicators to continue, providing a vital tool for long-term planning and ongoing service development.

3.1.3. Key findings

The major findings of the 2010 Public Health Annual Report are presented below, by section heading:

- **HIV Testing & Counselling:** The bulk of HTC carried out at Good Shepherd is for patients referred by OPD to the Voluntary Testing & Counselling (VCT) Unit. Just over 3,000 tests were conducted in 2010, down from a peak of 5,000 in 2004. The proportion of positive tests has also fallen, from 60% in 2006 to 30% in 2010. A falling rate of infection, increased testing in primary care, and a shift to using the test for screening rather than confirmation of infection may underlie these trends.

- **Pre-ART care:** early in 2009, Good Shepherd became one of few sites to enact the Strategic Framework recommendation to provide structured pre-ART services, to reduce losses to follow-up by more effectively linking new patients to structured, ongoing care. Pre-ART is delivered by the HIV/ART, VCT, Prevention of Maternal-to-Child Transmission (PMTCT) and TB units. There were 2,314 enrolments in ten months of 2009 but only 60% as many in all 2010. Losses to follow-up remained below 25 patients per month after April 2010, thanks to ongoing quality improvement efforts.
- **ART:** patients return regularly (every 1-3 months) after treatment initiation for review, re-supplies of drugs, and ongoing care. A sharp upturn in initiations began in 2008, coinciding with employment of an additional doctor, the beginning of task-shifting to local clinics and more active follow-up, and a rise in the CD4 count threshold for initiation from 200 to 350. 2,500 patients were initiated in 2010. Low proportions of children and men among initiations and retained patients remain challenges.
- **Prevention of Maternal-to-Child Transmission:** PMTCT services attempt to prevent vertical transmission of HIV through targeted HTC for prospective male and female parents and exposed babies, and maternal and neonatal ART. There are a little under 300 first antenatal care attendances at Good Shepherd each year. HIV tests in children represent only a small fraction – at most, a sixth – of total deliveries in HIV positive women. These low numbers may be due to services being provided at other sites.
- **Tuberculosis:** The Good Shepherd TB unit's functions range from counselling and taking samples from suspected TB patients, to treatment initiation, and co-ordinating community workers to follow up those who default. The annual number of patients is rising, although with sizeable variation, peaking at almost 2,000 in 2007. Rates of treatment success (completed treatment or laboratory-proven cure) declined from 57% in 2000 to a low of 32% in 2005, recovering to peak at 58% in 2009 (the WHO standard is 85%). This likely reflects the service becoming over-whelmed by the advance of HIV-associated TB, then recovering somewhat as capacity and facilities were expanded.
- **Epilepsy and Non-Communicable Diseases:** Epilepsy was amongst the very first services linking Good Shepherd to community clinic-based care to be established, and it appears to have reached a 'steady-state', operating at roughly maximum capacity with an estimated 300-400 patients under active care. A gradual drift towards more hospital- and fewer clinic-based appointments suggests some loss of focus on decentralising care, but clinics are much less effective than at retaining patients in care – perhaps because they have greater numbers who have become seizure-free. Good Shepherd's specialised non-communicable diseases clinic began in August 2010. At approximately 350 appointments a month, mainly for patients with hypertension and/or diabetes, it too appears to have reached maximal capacity. Activity data for Good Shepherd's mental health clinic were not available.
- **Overall programme activity trends:** between 2004 and 2010, the combined numbers of patients receiving ongoing care from Good Shepherd Communities services (Pre-ART, ART, TB, PMTCT and Epilepsy) increased approximately 500%, from under 2,000 to around 10,000 or more per year. The numbers of recorded HIV tests follows a repeating 3-year cycle, of a sharp incline followed by a shallower decline, but with an overall trend that is again upward, peaking at 7,650 tests in 2007. These trends coincide with a decline in general Good Shepherd Outpatient Department attendances, which levelled out at around 56,000 in 2010, from a peak of 75,000 in 2004. The overall trend in admissions was also slightly downward. There is clear evidence that public health-focused programmes in Lubombo have helped reduce numbers of patients requiring in-patient and OPD care.
- **Conclusions:** significant progress has been made towards mounting an effective public health response to the epidemic of HIV and related ill-health in Lubombo. Continuing programme development, filling gaps with new services while making ongoing quality improvement a high priority for existing programmes, is likely to be vital to maintaining and furthering these achievements. Clear, robust procedures and lines of responsibility are required to improve the quality and consistency of Communities programmes data collection and collation.

3.2 Applications for Programmes Funding

Several opportunities to apply to large international donors for funds that would help support and develop HIV and TB programmes in Lubombo emerged over the course of the placement.

3.2.1. The US President's Emergency Plan for AIDS Relief (PEPFAR) – Request for Applications (RFA) for Implementing Partners

3.2.1.1. Background

In January 2012, the Swaziland office of the American NGO 'Pact' published an invitation from PEPFAR to apply for funds of between USD 50,000 and 300,000 per year for up to two years, in order to "quickly and efficiently implement activities in response to the HIV & AIDS epidemic in Swaziland." Proposals for sustainable activities in HIV & AIDS prevention, testing and counselling, treatment care and support, or impact mitigation for children were sought. There was immediate enthusiasm at senior level in Good Shepherd for making a bid. Initially, the focus was on seeking funds to replace the four-wheel drive vehicle used by the hospital's Home-Based Care team (HBC). However, an application based on a more extensive, integrated package of interventions was required. I took on the role of co-ordinating a bid-writing process, bringing together senior clinical staff from HIV & TB P and HBC teams, plus the hospital Financial Manager, to identify priorities and develop a coherent concept for a programme of activities.

3.2.1.2. Bid development and outcomes

The process of developing a funding bid represented something of a baptism of fire for me in the role of Public Health Registrar at Good Shepherd. A detailed application was needed to meet the requirements of the RFA, but the priorities of members of the bid-writing team varied widely, and the timescale was short. There was some assistance on hand in the form of a party visiting from the New York headquarters of the Catholic Medical Missions Board (CMMB). However, given that CMMB is a major funder of the HBC service, care was needed to ensure the overall concept remained balanced. Ultimately, I was able to write a bid document that I felt to be a successful synthesis of all the views and ideas expressed by different colleagues during the development process.

The Good Shepherd proposal was titled 'Delivering Comprehensive Decentralized HIV & AIDS Services in the Lubombo District', It centred on increasing provision of HTC and HIV care, treatment and support by building on existing programmes in the region. Based on the available budget and resources, three primary implementation sites were chosen: Good Shepherd Hospital, and Tikhuba and Mpolonjeni clinics. The key activities proposed included providing training and support for existing Nurses and HTC Counsellors, including at Good Shepherd OPD, to provide full HTC, TB screening, pre-ART/CD-4 testing, ART initiation, refills, and long-term HIV care; for Motorcycle Adherence Officers (MAOs) to increase their coverage and support for HIV / TB case finding; for Home-Based Care to increase its emphasis on delivering HIV-focused care for patients and contacts at home; and for Rural Health Motivators (lay community health-workers) to identify patients most in need of HBC services for HIV and TB.

This application was successful, and Good Shepherd was invited by Pact in May to develop a more detailed, costed proposal for a second round of assessments. Again, this was a complex, time-pressured process, but with good co-operation between all the members of the original bid-writing group, a fully developed proposal was successfully submitted. In August, we were delighted to be informed that this application had been recommended for funding by the review committee.

The next stage was to attend a week of intensive meetings alongside the other successful applicants, during which Pact explained and supported us in completing further detailed technical plans, setting

targets and indicators, and refining the budget for the proposed project. We were informed that, in common with the other awardees, the funds we had been allocated (USD 153,000) were significantly less than what we had requested (USD 231,000) for year 1, with year 2 to be negotiated based on initial outcomes. We were also instructed to discard HTC activities from our proposal and focus on treatment, care and support, with an increased emphasis on services for children. Considerable team effort was again required to reshape the proposal and cut back the budget. The revised programme contained the following key elements:

1. Recruit additional community counsellors (Basiti) and a motorcycle adherence officer, and train and build the capacity of these workforces to find cases, promote HTC and treatment, boost adherence support, trace defaulters, and link patients to clinic and hospital services.
2. Working with HBC, establish a new community nursing team to radically expand direct provision of HTC, TB screening, drug refills, psychosocial & nutritional support, and palliative care in communities, as well as linking to and providing supportive supervision for clinic staff
3. Engage and build capacity of Rural Health Motivators (RHMs) to identify patients in greatest need of community-based HIV care, providing an additional link into support and services.
4. Train hospital Outpatients and clinic-based nurses and lay-counsellors to provide the full range of HIV services, addressing weak areas in the current decentralisation programme.
5. Train and build staff capacity to introduce screening, counselling and testing for HIV and TB routinely at Good Shepherd OPD for all patients who are eligible, with robust mechanisms in place for referral for hospital- or clinic-based follow-up care.



Home-Based Care nurses attend to a patient, who is seated on the team's old four-wheel drive truck. The final programme description included purchase of a new vehicle, and plans to use HBC's staffing resources more efficiently, by seconding two nurses to a new community HIV and TB nursing team.

3.2.1.3. Implementation

Following approval from Pact for the final project description and budget, funds were made available to begin implementing the programme from October. Existing staff-members took up their roles as defined in the proposal (Project Director, Manager, Finances Director and M&E Officer). However, full implementation had to await a series of meetings and visits from the Pact team, at which Good Shepherd's financial and general management procedures and capacities were assessed. This was to establish our level of need for additional support from Pact in order to meet the rigorous reporting and monitoring requirements set by PEPFAR in its funding allocations. Staff from all successful bidders were required to begin attending a series of training sessions in understanding and applying these standards.

With the demands of the detailed proposal development, establishing compliance with Pact/PEPFAR's requirements, and the short timescales post-approval, implementation of the final programme at Good Shepherd got off to a slow start. The first tasks lay mainly in liaison with the Hospital authorities, government Regional Health Management Team and staff groups in order to follow the procedures required for recruitment of new staff and to establish the training programmes we had proposed. There had been little opportunity to lay the ground-work for these tasks, and the sometimes detailed negotiation that was required caused delays.

The last two months or of my placement were focused on quite intensive efforts, working with colleagues, to make the necessary arrangements and catch up with the Pact timetable for implementation. Momentum was building by the time of my departure, but my successor was required to pick up a sizable workload in order to help ensure this programme proceeded on track. However, by the end of my placement, a robust plan has been established for implementation and evaluation of a model of comprehensive, high quality and community-focused HIV treatment and care. It will be extremely interesting to observe the outcomes of this programme as it progresses.

3.2.2. TB Reach – Financing Facility for Innovative TB Case-Detection

Early in 2012, Good Shepherd was approached by Pact Swaziland about another funding opportunity: Wave 2 of the international Stop TB Partnership's 'TB Reach' programme. This fund was established to support partners seeking to enact innovative and sustainable interventions for early and increased TB case detection in under-served populations. In contrast to its role co-ordinating the bidding process for PEPFAR, this time Pact wished to lead a collective of TB service providers in Swaziland in making a bid.

Pact's proposal was to co-ordinate a consortium of health-care facilities that between them offered a high degree of coverage of TB services across Swaziland. They were supported in this plan by Dr Joris Vandelanotte and colleagues from ICAP, which is a leading international HIV research and development NGO. Again working to a tight timescale, I co-ordinated discussions with the HIV & TB Programmes Director Dr Canaan Mamvura, the lead for TB Dr Fred Busuulwa, and colleagues at the Good Shepherd TB department, together with liaison with Pact and ICAP, in order to produce a detailed concept for increasing TB case-finding activity in Lubombo, feeding in to the wider, multi-partner proposal.

The overall concept was for a project that would build on existing HIV and TB services and infrastructure at six sub-grantee partners (including Good Shepherd) in all four regions of Swaziland, by investments in proven, state-of-the art diagnostic techniques, and strengthening capacity for screening, linkage to treatment and community-based support. The headline target was detection and linkage into care of 5,500 additional TB cases. One of the main features of the proposal was to introduce 'GeneXpert' nucleic acid amplification (PCR) machines for rapid TB diagnosis and testing for rifampicin resistance (a reliable proxy for MDR-TB) at a number of partner sites. This technology had recently received prominent WHO backing and is seen as a promising (if expensive) new avenue to increasing accessibility of TB testing and eliminating failures of linkage between testing and entry into care for TB disease.

Unfortunately, despite what was felt to be a strong application, the Pact-led consortium bid was not successful. There was limited feedback as to the reasons for the rejection, but Pact noted that there had initially been no successful applications from Swaziland at all. Eventually a proposal led by Swaziland's National TB Control Programme was approved, but only, reportedly, after representations were made to the Stop TB Partnership by the Ministry of Health.

3.2.3. United States Centers for Disease Control and Prevention (CDC) – Strengthening Facility-Based HIV Testing and Counselling in Swaziland

As part of its programme of assistance for Swaziland's national strategic plan and partnership framework on HIV, in March the CDC invited applications for funding to strengthen and scale up the accessibility of HTC services in all four regions of Swaziland, ultimately seeking to make HTC available at every single health facility in the country. The Good Shepherd HIV & TB Programmes team was approached by two separate agencies in Swaziland who hoped to co-ordinate multi-agency bids. First was Caritas, an umbrella body for Catholic church and voluntary organisations. Next was Pact Swaziland, who again wished to develop a proposal joining together a range of health-care providers in the country. Good Shepherd considered participating in both bids, for which I led the discussions with Caritas and Pact, but eventually Caritas decided on an alternative approach, focusing on working with smaller, charitable providers. Therefore we concentrated on bidding with Pact, again with ICAP's assistance.

The proposal was for Pact to build capacity for finance and grants management at sub-awardee health facilities and Regional Health Management Teams (RHMTs), in order to support implementation of routine HTC in in-patient, out-patient and family planning settings. ICAP, with the backing of the Ministry of Health, would provide technical assistance, building on its successful community linkages program to ensure linkages into care and appropriate follow-up and provide monitoring and evaluation (M&E) support. I worked with Dr Mamvura on Good Shepherd's contribution to this proposal, mapping out the implementation of the service developments at Good Shepherd in detail.

As with the TB Reach proposal, the consortium that Good Shepherd joined was ultimately unsuccessful. It was stipulated that the funding award, a total of USD 5 million over five years, would be made entirely to one single proposal. The competition was therefore very fierce, and the absence of a single universal strategy for expanding HTC across all facility sites may have been a weakness of our proposal. Nevertheless, the process of participating in writing it contributed to development of a general vision for progress in Good Shepherd's HIV service, as well as helping strengthen relationships with the other agencies involved.

3.3 Academic and Research Activities

As an approved academic training placement, managed through the Leeds University Nuffield Centre for International Health & Development, a primary responsibility in the post at Good Shepherd was to initiate and get involved in formal operational research. In the early part of the year, I found my focus was pulled elsewhere, primarily to attempts to secure new sources of funding for Good Shepherd HIV & TB Programmes (see above), and supporting existing research projects and service delivery (see below). It also took some time to identify and develop my thoughts around a significant service/knowledge gap upon which to base my main contribution to ongoing research at the hospital. As a result, my efforts to complete a programme of academic work were pressured by the time remaining in the second half of the placement. Nevertheless, I managed to commence or contribute to a varied set of research and related activities.

3.3.1. Increasing TB and HIV case-finding through TB contact investigation, plus TB screening and HIV testing for general outpatients

3.3.1.1 Background

The impetus for this project was discussion with Professors Wright and Walley as well as Dr Mamvura and colleagues about Good Shepherd TB services, and specifically the inadequacy of existing arrangements to engage and pursue TB and HIV case-detection among community contacts of diagnosed cases of TB. I decided to focus my main research activity for the year's placement on attempting to design and test out a model that would be viable for wide-scale screening of contacts of TB disease in Swaziland.

Screening for TB is widely recommended for all children and persons with HIV who are in close contact with an infectious TB case, and an adapted version of an internationally validated patient questionnaire suitable for such screening has already been implemented at a number of HIV service provider facilities in Swaziland – among the first of which were Good Shepherd and its partner clinics (this was the Intensified Case-Finding study carried out by previous Registrar Susan Elden). Contacts of infectious TB represent a group with a high prevalence HIV, who are themselves at high risk for developing TB, and hence could benefit from TB and HIV screening, with linkage to services for diagnostic testing and treatment or TB chemoprophylaxis as appropriate depending on results.

Contact investigation has been shown to be an effective strategy for TB case finding in high-incidence settings. A programme of intensive home-based follow-up of contacts of high-risk cases of TB at has been implemented at two sites in Swaziland with funding from WHO and the Canadian International Development Agency (CIDA). However, uptake was reportedly disappointing, and the National TB Control Programme was keen to encourage assessments of effectiveness for alternative, less resource-intensive models of TB contact investigation in Swaziland. I set out to develop an approach that would maximise efficient use of limited resources by tailoring the intensiveness of follow-up efforts to contacts' willingness to engage proactively with screening, and their level of risk.

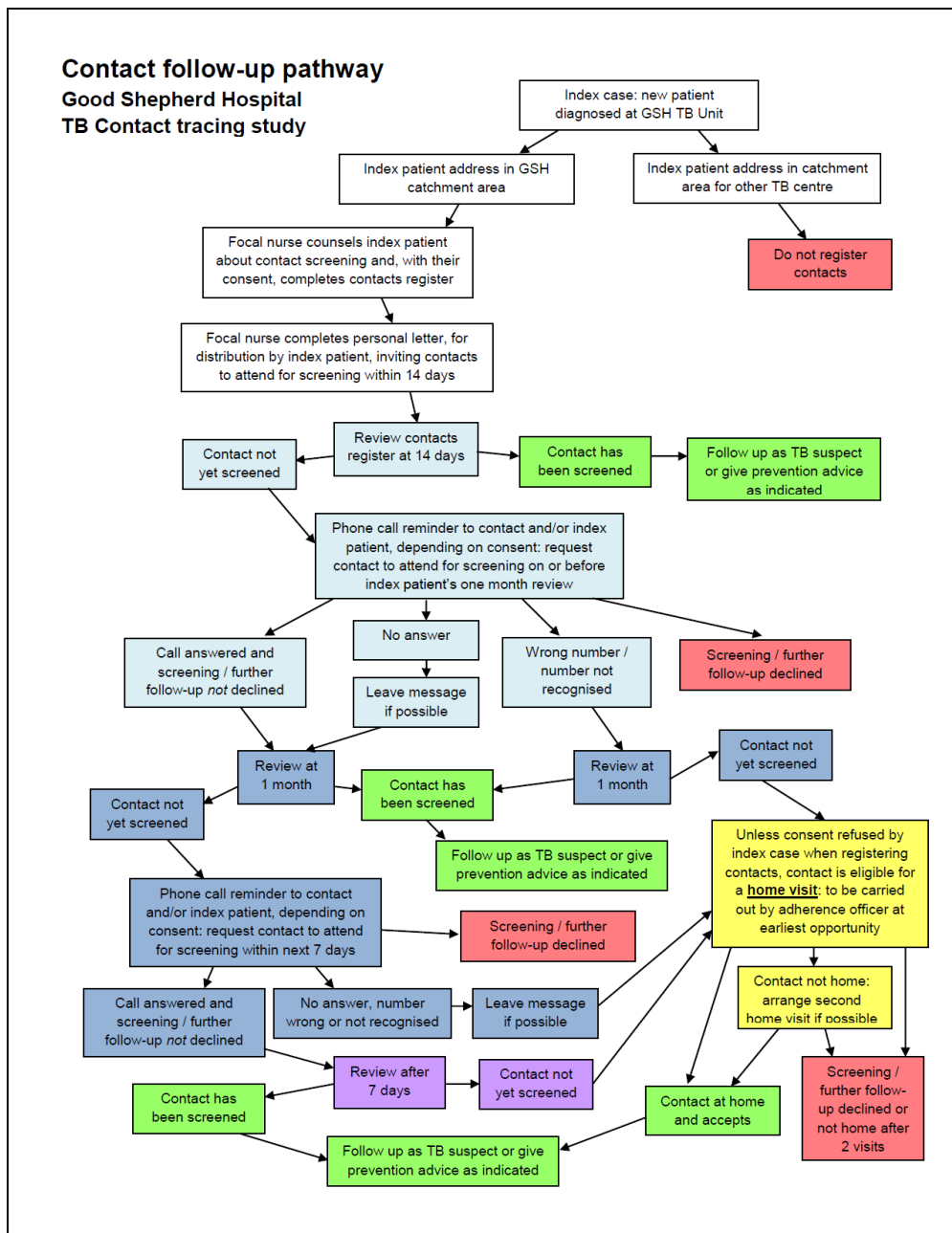
3.3.1.2 Project development

I began developing a proposal for this research around April/May, through discussion with colleagues and searching and reviewing relevant literature. I set up a working group involving Dr Mamvura, the Communities Programmes nurse, Matron Futhi, and the senior doctor and nurse for the Good Shepherd TB service. I also met several times with the National TB Programme Director, Themba Dlamini, to secure his backing for the project and interest in applying its eventual findings more widely in Swaziland.

During development of the project, the established problem of substantial losses of suspected TB cases and of individuals with HIV who could benefit from TB screening at Good Shepherd was raised. The problem is due to patients directed by the Good Shepherd Outpatients Department to attend HIV & TB units failing to do so. A solution based on staff training and capacity building for HTC and TB screening to be offered at OPD had been included in the PEPFAR proposal (see above). However, it was not certain whether that application would be successful, it was agreed that the same interventions should be added to the TB contact tracing proposal, since preventing losses of TB patients would mean capturing a larger pool of contacts to offer screening and testing to.

The final proposal aimed to establish and evaluate a model for case-finding based on inviting TB contacts to attend health facilities for screening and testing, with follow-up for those failing to attend escalating from repeat phone calls to community-worker visits and home-based screening. Outcomes were identified as the proportions of contacts named by index patients who were screened after each level of follow-up, the overall yield of new cases of TB infection, and their six-month treatment

outcomes compared to conventionally-detected cases. The project also sought to explore the logistical viability and case yield of routinely offering HTC and TB screening to all patients attending the Good Shepherd Outpatient Department.



Flow diagram of TB contact investigation study protocol

3.3.1.3 Implementation

Because of the process at COMDIS of transitioning to new budgets, organisational structures and contract with DFID as COMDIS-HSD, there was a pause until July in the procedure for receiving and approving research proposals. It was not until October that final approval was received and the project could officially begin. Meanwhile the PEPFAR funding proposal had received its final, positive response; therefore, capacity building for HTC and TB screening in OPD was not eventually pursued as an element of this project

Key steps in implementation of TB contact tracing at Good Shepherd were the preparation of a contacts register and detailed investigation pathway, meetings and training sessions to engage nursing and other TB unit staff in carrying out the relevant activities, and appointment of a lead nurse to co-ordinate contact identification and follow-up activities day-to-day. The fact that it was late in the year when the project fully began meant handover to the next Public Health Registrar would occur before the end of its planned 6-month. It may in principle have been possible to commence effectively piloting the contact tracing programme earlier, but competing work demands around this time made that difficult.

Implementing the project was a process, and in particular procedures for the more intensive contact follow-up interventions – repeat phone calls and home visits – were not fully established and running smoothly by the time of my departure. Many TB patients, especially parents, said they were keen for their family contacts to receive screening, but that for financial and logistical reasons, it was difficult for them all to attend the hospital to do so. There were also issues with the affordability of the diagnostic chest x-rays required for young children who screened positive. Nevertheless, in the first two full months of the project, 22 out of 92 identified TB contacts (24%) attended Good Shepherd for screening, with two cases detected among those contacts (both children) - an encouraging first set of results.

3.3.2 Evaluation of clinic-based initiation of ART

Decentralisation of services is a major priority within Swaziland's HIV strategy, and provision of ART is shifting increasingly into local health centres and primary care facilities. However, there remains a relative lack of evidence, particularly in terms of benefits and potential risks over the longer-term, about the outcomes of decentralization and the public health approach to ART. Following up on a research idea of ICAP Swaziland Technical Director Dr Vandelanotte, I liaised with Professor Wright and local Good Shepherd and ICAP colleagues to design a study of the effects of decentralized initiation on uptake, retention and treatment outcomes of ART in the Lubombo region.

Three primary care clinics (Mpolonjeni, Shewula and Lubuli), with an estimated combined catchment population of 38,200, were capacitated by ICAP and Good Shepherd to begin initiating patients on ART, in April, August and September 2010 respectively. This was achieved through establishing fortnightly visits by a doctor and nurse from Good Shepherd to the clinics, in order to start eligible patients on ART and review those recently initiated or who are having problems. The study proposed to evaluate this programme based on a controlled before-and-after design. It is a retrospective study with 2 main components: evaluating whether the introduction of ART initiation at clinics increased the proportion of patients residing in the clinic catchment area who initiated on ART; and comparing the outcomes of patients initiated on ART at clinic sites with those of patients initiated at the hospital ART unit.

This study is an ongoing project, and is at the stage of data collection. I had hoped to harvest all the required data from the interface with the national ART database at Good Shepherd. However, the computer programme has unfortunately been affected by technical problems, and staff there have been unable to retrieve the patient-level data from it. I am liaising with colleagues who remain working at ICAP and Good Shepherd to establish an alternative data collection approach.

3.3.3 Student project supervision

Good Shepherd has become a popular medical elective placement, and a number of students from countries including the UK, USA, Australia and Germany were at the hospital at different during my attachment. I made efforts to encourage all those I met to spend time with the HIV and TB services, and several expressed interest in learning more about the public health programmes by carrying out a specific project with my supervision. Ideas for projects came from questions that I and/or colleagues had identified as of interest for the hospital, or from the students themselves.

3.3.3.1 Assessment of HIV/TB service decentralisation in Lubombo

This was a large project undertaken in January and February by Thomas Main, a final year student from the University of Manchester. The impetus was a need identified by Dr Mamvura and me for an up-to-date, comprehensive picture of the progress of decentralisation of HIV and TB services at healthcare facilities with which Good Shepherd and ICAP work in Lubombo. We proposed this as a project to Tom, and he took it on with considerable enthusiasm and diligence. I worked with him to develop the aims and objectives and methodology, and met him regularly to provide support and guidance as he gathered data and wrote up his findings.

Tom visited and met with the most senior available staff member(s) at sixteen rural health clinics in Lubombo region. With each, he carried out semi-structured interviews, based on a topic guide adapted from ICAP's HIV provider site assessment tool, in order to obtain information in depth about the services provided at the clinic, and explore infrastructure and process issues they faced. He also took, with permission, digital photographs of clinic registers for the month of February, which provided data on patient flows through the services, and an impression of service outcomes. The interviews were audio-recorded, and analysed by identifying emergent themes.

The major conclusions of this project were that key requirements for successful shifting of services to community-level providers include strong clinical leadership, effective mechanisms for inter-agency co-operation, and robust systems of patient referral. Engaging with men and ensuring provision of appropriate services for adolescents and children were identified as particular challenges in the decentralisation of care. The data provided for a detailed break-down of the availability and quality of decentralised services at every health facility visited, which could be divided into three distinct groups:

1. Clinics offering few decentralised HIV and TB services; they tended to have had relatively little input from external organisations, generally served small populations, and were challenged by significant limitations due to infrastructure, staff training, numbers and morale
2. Clinics that were providing some decentralised services, and had capacity in terms of space, tools, staff and training to provide more, but having difficulties with delivery.
3. Clinics that were generally delivering good quality services, and were in a position to take on more, or even begin functioning independently; they tended to have received more extensive NGO input, and to be benefiting from confident, informed leaders with well-motivated staff in clearly-defined roles.

The data and analysis generated in this project were very useful for continuous planning and development of the decentralisation programme in Lubombo. Tom is also currently working on revising his report for submission for publication in a peer-reviewed journal.

3.3.3.2 Audit of follow-up of TB suspects at Good Shepherd Hospital

This project was carried out by Sheila Ranson, a fourth year medical student from the University of East Anglia. It assessed whether WHO standards for management of TB suspects were being consistently met by the Good Shepherd TB unit, based on data collected from the TB suspects register for March to June. 88% of TB suspects in this period had their HIV status checked and recorded. Of more concern, collection of a first sputum sample was not recorded as complete in 60% of suspected cases – roughly the same proportion as for collection of a second sample. This suggested that staff were leaving suspects' records unfilled unless and until they submitted the minimum set of two samples. This was reported to Drs Mamvura and Busuulwa, in order for them to support staff in applying appropriate practice. It was not possible to complete a repeat audit to assess whether improvement had been achieved; this would be a valuable follow-up project for another student in the next year.

3.3.3.3 *Trends in Surgical Procedures at Good Shepherd Hospital*

In July-September, I supervised an American pre-medical student, Catherine Eichhorn, who was undertaking a voluntary placement at Good Shepherd. As well as gaining exposure to the various hospital wards and departments, she undertook project that had originally been proposed by Dr Teferi Bahlbi, one of the hospital's general surgeons. It was an exploration of patterns in the frequencies of different types and categories of surgical procedure, posing the question of how practice had been affected during the expansion of the HIV epidemic.

Catherine collected data from the hospital's daily theatre record for the years 2001 to 2011, including the date, detailed procedure description and underlying diagnosis for every procedure carried out in May each year, and for the complete years 2009 and 2010. The analysis provided convincing evidence that incision and drainage procedures varied as a proportion of all operations over the past decade, becoming more frequent initially, then declining after 2005. This could be explained by the advent of free ART in Swaziland leading to a decrease in HIV-AIDS-related infective conditions requiring surgical treatment. I am continuing to support Catherine in writing up her findings for possible submission to a medical journal.

3.3.4 *Other research activity*

I had roles in developing concepts for and supporting various Good Shepherd and COMDIS colleagues with several other areas of research work:

3.3.4.1 *Scaling up male circumcision services: investigation of barriers and facilitators amongst healthcare staff in Lubombo*

This was a proposal for the next Good Shepherd research project for submission to the COMDIS-HSD approval process. It was developed and will be carried out by my successor, Dr Merav Kliner. With her, I helped identify the current accelerated national HIV prevention campaign to encourage and carry out circumcision for young men for as a topic for research. In the run up to our handover, I assisted Merav in developing the initial concept, and with establishing links to the agencies implementing the national programme, in order to prepare for the proposed project exploring of the issues around scaling up circumcision at Good Shepherd and across Lubombo.



Condoms branded for the national male circumcision HIV prevention campaign Soka Uncobe: "circumcise and conquer"

3.3.4.2 Improving patient retention within Good Shepherd Communities Programmes

Loss of patients to follow-up for HIV and TB care, arising from gaps in linkages between prevention, testing and treatment services, was an emerging theme during my placement, both at Good Shepherd and more widely across Swaziland. Around October, the Ministry of Health and the Swaziland National AIDS Programme (SNAP) published Standard Operating Procedures (SOP) to guide HIV care programmes on providing effective follow up for patients diagnosed with HIV. This was not yet being implemented, but I worked with senior medical colleagues from Good Shepherd HIV & TB Programmes and from ICAP in developing an outline plan for adapting and implementing the Procedures to the health-care system in Lubombo. This activity would be suitable, when rolled out, for formal evaluation of its impact in terms of changes in the proportions of patients receiving HIV care who are lost to follow-up, and I mapped out a brief proposal for how this could be carried out.

3.3.4.3 Medical equipment purchasing study

In October, I was privileged to welcome Professor of Clinical Epidemiology Professor Richard Lilford, a colleague of Professor Wright's, to Good Shepherd for a week-long visit. As well as receiving extensive and invaluable technical assistance and advice on my ongoing projects from him, I was able to provide some assistance to Richard in his work on developing a Health Economics tool for prioritisation of medical equipment purchasing for use in resource-limited health-care settings. Primarily, this was by introducing him to the systems and services operating at the hospital, and arranging meetings and discussions with colleagues to help build a picture of the kinds of equipment resources and challenges faced in clinical practice there.

3.3.4.4 Research proposal review: Improving effectiveness of Bangladeshi primary care for diagnosis and treatment of diabetes, CVD and related conditions

At the invitation of Professor Walley, I undertook the role of second reviewer for a study proposal submitted to the first round of the approvals for COMDIS-HSD. Working to a standardised template, I provided comments on the strategic approach, level of engagement with international partners, relevance and technical quality of a proposal led by COMDIS-HSD's Bangladeshi NGO partner. I believe my contribution was useful for highlighting and helping resolve minor issues in the proposed study design.

3.3.5 Education

As well as supervising the above student projects, I provided informal support, supervision and teaching on public health principles to a variety of students and colleagues in the course of carrying out the range of projects and activities described in this report. I also supported Dr Mamvura with development of a multi-disciplinary Continuing Professional Development (CPD) programme for HIV & TB Programmes staff. A range of Good Shepherd and external speakers were invited to give introductions and discuss latest developments in key topics of HIV and TB care. I wrote and delivered the presentation for one of these sessions, an overview of current global HIV epidemiology and trends, titled 'Turning the Corner: Latest News on the Global HIV Epidemic'. This was well-attended and received and stimulated some thoughtful debate amongst colleagues present.

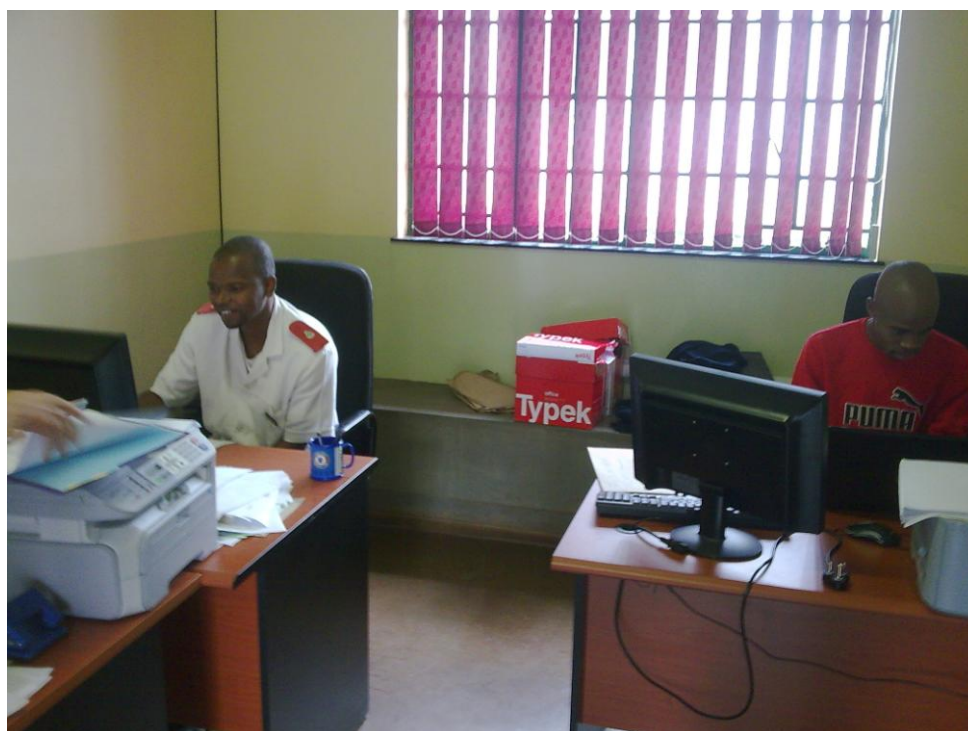
3.4 Ongoing projects and funding partnerships

My functions as Public Health Registrar included taking over various roles assisting and supporting existing activities helping deliver HIV and TB services at Good Shepherd.

3.4.1 Global Fund to Fight AIDS, TB and Malaria Round 8 Grant

In 2010, Good Shepherd Hospital was awarded sub-recipient status under the Global Fund to Fight AIDS, TB and malaria (GFATM) Round 8 TB grant for Swaziland, based on work led by Kerry Bailey during a previous Registrar placement. When I took up post, the Good Shepherd project team was dealing with the legacy of a late and chaotic start to this project. The National TB Programme had opted, post-approval, to deliver some of the key activities itself. Following withdrawals by other sub-recipients, and extensive discussions, GSH therefore agreed to alter and expand its role to act, with NTP guidance, as supervisor for 'sub-sub-recipient' community-based organisations (CBOs), who would receive incentives for providing home-based TB patient follow-up and treatment adherence support. A detailed proposal, operational plan, budget and M&E framework were developed, but implementation was delayed until Quarter 2 of 2010.

Day-to-day running of this project – capturing monthly activity statistics, validating and transferring payments for incentives claimed by CBOs, and providing them with training and technical assistance – is the responsibility of a Project Nurse and M&E Officer, and throughout my year at Good Shepherd, their workloads were heavy. Nevertheless, progress was made in increasing numbers of TB patients receiving documented treatment support from CBO workers, via links with TB treatment centres established under this programme. Some of the CBO workers are 'Basiti' – a cadre of expert HIV patients in Lubombo originally trained by Good Shepherd with Elton John AIDS Foundation funding, who now work for the hospital under the Global Fund project. I supported the project work by organising and chairing regular team meetings, advising on management and supporting the Project Director, Dr Mamvura.



Global Fund Project Nurse Sabelo Nkwanyana (left) and M&E Officer Zwide Ndwandwe hard at work in their office, which I also shared

From September, we were made aware that Swaziland had been awarded a Global Fund Round 10 grant. Negotiations on the programmes and activities that would be supported across the country were still ongoing, but the CBO incentives project was expected to continue for another three years. We were notified by NERCHA that the targets for numbers of patients supported would be reduced, but that processes for monitoring CBOs, approving incentives payments and reporting on outputs needed to be strengthened. Unfortunately, following the pattern from the outset of this project, communication about the specifics of the changes required was poor, and conflicting messages were received from NERCHA. In the run-up to my departure, I assisted the project team in distilling what tasks needed to be carried out, completing new documentation, and setting up more rigorous processes to comply with NERCHA's demands as best as possible.

3.4.2 Claypotts Trust and CMMB support for HTC and Home-Based Care

The UK based charity the Claypotts trust provided funding for two separate programmes at Good Shepherd. One was in support of expanding capacity for provision of HTC at the hospital, through funding of lay counsellors, a laboratory technician, training sessions, and purchase of testing equipment. The term of this funding was coming to an end when I began my placement, and the resources it provided were being shifted over to hospital budgets. I gathered data and worked with the Communities Matron to produce the final report of activities and outputs to Claypotts in order to complete the hospital's commitments under this funding.

The second Claypotts programme was provision of funding for equipment and delivery of nutritional and psycho-social support by the Home-Based Care team. The hospital negotiated for this funding to continue, but Claypotts requested improvements in the quality and consistency of activity reporting back to them. I worked with the HBC senior nurse to develop a system for capturing the numbers of clients attended and services provided on a monthly basis in a Microsoft Excel spread-sheet, and a template document for making monthly reports to Claypotts. However, an American volunteer nurse funded by the Catholic Medical Missions Board to work with HBC from September volunteered to take over this responsibility and liaise with Claypotts to ensure they receive the information they required. CMMB are a long-standing partner for Good Shepherd and the HBC team. I co-ordinated meetings, discussions and participation of Good Shepherd staff in CMMB training courses held in Pretoria in order to maintain that relationship, and explore what additional assistance they were in a position to offer.

3.4.3 Partnership with COSPE

COSPE is an Italian NGO that receives funding from the EU to provide community education and develop HIV peer support groups in Lubombo. They also help develop health facility capacity and infrastructure to support decentralisation of HIV services. COSPE has a close relationship with the Good Shepherd HIV & TB Programmes team, working with it to strengthen capacity at three clinics that are also partners of the hospital. COSPE has also sought to agree plans with the hospital for provision of computer equipment and to develop IT infrastructure. I supported Good Shepherd's Senior Medical Officer in liaising with COSPE to maintain and strengthen the organisations' relationship, and to secure a new memorandum of understanding supporting ongoing collaboration with assistance and funding.

3.4.4 COMDIS-HSD Programme management

As part of my responsibilities for management of the partnership with Good Shepherd, I worked with the Good Shepherd Finances Manager to prepare regular quarterly financial reports, budget plans and invoices for funds spent on COMDIS-related activity. I liaised with the Senior Medical Officer to agree and sign a new contract and partnership framework when the transition to COMDIS-HSD was implemented.

3.5 Other activity in support of HIV & TB Programmes in Lubombo

3.5.1 Decentralisation

The programme of decentralisation of services in Lubombo depends on ongoing communication and co-operation both within the Good Shepherd HIV & TB team, and externally with government and voluntary sector partners. To support collaborative working and strategic planning, I assisted with arranging regular weekly meetings for the hospital medical staff, including frequent sessions to which the Lubombo ICAP team were also invited. These provided a forum in which current issues and challenges in service delivery could be debated and addressed, and strategy for programme development discussed. I also supported Good Shepherd and ICAP in strengthening bilateral links and trying to establish a regular forum for discussion with the Lubombo Regional Health Management Team (RHMT), the government agency responsible for assisting and monitoring local primary care clinics.

In March, ICAP Lubombo arranged an annual review meeting for all partner clinics, attended by Good Shepherd and the HIV and TB leads for the RHMT. This provided as a forum for representatives of the clinics to network with each other and the supporting agencies, and to discuss successes and challenges in their ongoing programmes of task-shifting and decentralisation. I took an active part in the programme for this event, and worked with the ICAP Lubombo Medical Advisor and with Good Shepherd's Dr Busuulwa to plan and present a strategy for the development of decentralisation activity over the coming year.

3.5.2 Establishing HTC and TB screening at Good Shepherd Outpatient Department

The need for HTC and TB screening to be routinely available in the hospital OPD is discussed under section 3.3.1 of this report – essentially, it would greatly reduce failures to complete testing / screening due patients advised by OPD to attend the HIV and TB departments deciding not to do so. Fully remedying this gap is a long-term ambition for the hospital HIV & TB team, but it has not always received full support from the OPD and wider hospital hierarchy. That is because of legitimate concerns about the physical space and staff capacity to provide an adequate counselling and testing service in a department that is already often over-burdened by the numbers and needs of patients attending it.



Looking out over the OPD waiting area from behind the reception on a typically busy day

Developing OPD capacity permanently to provide regular HTC and TB screening was a significant element in two major project proposals that I developed during my placement – for funding from PEPFAR and from COMDIS-HSD. However, to try and expedite progress, and given that the two proposals were not guaranteed to be successful, I worked with colleagues from HIV & TB to lobby and persuade the OPD team and senior hospital management to push ahead with developments that were feasible regardless of funding, on the basis of their substantial importance.

This advocacy met with some success. The senior OPD clinician, Dr Koshi, expressed firm support for implementing HTC and TB screening in his department, and one of the hospital's Senior Matrons, Jerry, was nominated to lead scoping for implementing practical changes. A store-room was identified for renovations to convert it into a clinical area, and although not ideally sited (adjacent to the staff toilets), the new room formed a private area sufficient for HTC and TB screening to be carried out as part of the routine initial assessment carried out for all presenting patients. It was agreed that full implementation of HTC and TB screening for all patients was not feasible immediately, so initially only patients with limited mobility, who would find transfer to the TB and HIV units difficult, began to be screened and tested in OPD from September/October. This constituted very useful preparation for the full scale-up of screening and testing that would commence with implementation of the PEPFAR proposal in early 2012.

3.5.3 Development of Good Shepherd Hospital infrastructure

I contributed to various attempts to obtain funding for renovations and development work for the Good Shepherd Hospital site. Together with Dr Mamvura, I approached the National TB Programme Co-ordinator about the potential for submitting a request for funds to renovate or build new TB in-patient and investigations facilities, including an MDR-TB ward, under the Global Fund to Fight AIDS, TB and Malaria Round 10 award. A proposal of this nature had been initially approved in the Round 8 grant, but the money had to be diverted to help purchase a new x-ray machine, due the hospital's existing machine breaking down. Although we received different indications at different times from NTP, the ultimate advice was that any request was likely to be unsuccessful, due to the decision to re-programme the Round 8 monies that were made available.

Around the middle of the year, ICAP indicated that there may be an opportunity to secure surplus funds from their annual budget for small-scale building projects at Good Shepherd. Working with Dr Mamvura and, during his supervision visit, the former Registrar Dr Will Welfare, I wrote up a list of long-standing improvements needed for the main ART unit building. ICAP indicated they would be able to make a decision on these requests early in 2012.

3.5.4 Participation in national TB programme work

Over the course of the year, I took up opportunities to get involved in and support Good Shepherd's participation in programmes for prevention and control of TB at national level. Much of this centred on 24th March, World TB Day, when TB, like HIV before it, was declared a national emergency in Swaziland. This had originally been planned for July 2010, but was postponed pending further discussions with government. The decision to go ahead with the declaration reflects increasing high-level national political interest in the issue of TB, which can be attributed to an extensive programme of support and activity developed between the Swaziland National TB Programme and the global Stop TB Partnership since 2007.

Just prior to the emergency declaration, Good Shepherd's Dr Busuulwa stood as a candidate for a newly constituted Swaziland Stop TB Partnership board. The board is a forum for sharing ideas and co-ordinating efforts across all organisations. I attended several national meetings at which final plans and preparations for establishing the board took place. As a result, I was able to successfully support Dr

Busuulwa’s nomination. He was elected to represent faith-based organisations providing TB care and treatment in Swaziland. In the week before 24th March, I worked with him to prepare a presentation describing Good Shepherd TB programmes, which he gave at the emergency declaration. The event was attended by the Prime Minister and senior figures from across the health sector, as well as a sizeable contingent from Good Shepherd.



Good Shepherd staff and students at the Declaration of TB as a National Emergency



Dr Busuulwa delivers his presentation at the TB National Emergency Declaration

Other activities relating to TB included representing Good Shepherd at the annual national conference for TB service providers, and the launch of a formal '3 I's' programme (for Intensified case-finding, Isoniazid prevention therapy and Infection control in healthcare), which is aimed at decreasing the burden of TB in people living with HIV. Implementation of 3 I's did not effectively take place before I left Swaziland; this was due to national problems with drugs and equipment procurement. I also took up my predecessors' role as a member of the Swaziland national Technical Working Group.

3.6 General Hospital Support And Management for Public Health

I carried out several planned and ad hoc pieces of work that contributed to a public health agenda at Good Shepherd but were not directly related to TB and HIV

- **Non-Communicable Diseases:** I regularly met with the nurse responsible for the new NCD chronic care clinic over the course of the year. She generally reported feeling that she was over-stretched and working with inadequate facilities and documentation tools. I had hoped to support her in developing more efficient systems of work using a single attendance register and record template proposed by Professor Walley, but was restricted from achieving this by pressures of other work.
- **Possible meningitis outbreak:** At the beginning of February, Dr Joyce Mareverwa, Paediatrician at Good Shepherd Hospital, noted that incidence of patients admitted to her ward with suspected meningitis had been higher than usual. Where normally she would expect 1-2 cases per month, in the last two months, there had been 13 - all diagnosed clinically (assisted by cerebro-spinal fluid biochemistry and microscopy), since specimen culture is not available at the hospital. I supported Dr Joyce in engaging the Ministry of Health's Epidemic Preparedness and Response unit, who proved reluctant to assist; investigation stalled when specialised sample containers for microbiological testing could not be sourced.

I conducted a partial independent outbreak investigation using a clinical case definition, with support from Dr Vandelanotte and from Dr Aymeric Péguillan, Head of Swaziland Mission for Médecins Sans Frontières. I reviewed ward records and medical notes to establish case numbers and chronology, and to seek associations between cases. Six probable and two possible cases of meningitis, plus a further two of suspected TB meningitis, were admitted to Paediatrics at Good Shepherd Hospital after 19 January 2011. Normal natural variation in incidence could not be ruled out. No meaningful associations between cases could be identified. I proposed investigating further by seeking an alternative, private avenue for specimen cultures, but no further cases were identified over subsequent weeks, and the hospital management preferred not to pursue this.

- **Infection Control:** I provided ad hoc advice to the Good Shepherd Infection Control Nurse, a member of the Quality Assurance team, on proposing to the hospital management to set up a formalised process for development and approval of appropriate hospital Infection Control policies. I provided review comments for a draft TB infection control policy, which was eventually taken forward for approval and implementation.
- **'Waiting huts' funding:** At short notice, I was asked to draft a formal letter of request to the Ministry of Health for funds that had been made available for redevelopment of the hospital's 'waiting huts.' These are a facility for pregnant women who would face significant challenges in reaching hospital timeously after onset of labour; they are invited to come stay in dedicated accommodation on the Good Shepherd site a few days before their estimated due date. The request was approved, but because of the government's financial challenges, the funding was not forthcoming for the duration of my attachment.

4. REFLECTIONS

I have a long-standing interest in international development and global public health, and the Good Shepherd post provided a unique opportunity to explore this further within the public health training programme. It was a great privilege to spend a year working on the 'front-line' of HIV and TB programmes, and I learned a huge amount about the science and strategy of efforts to control the twin epidemic.

One aspect of the appeal of this post was the potential it offers, at a relatively junior level, to carry out work making a real difference to public health, and the successful elements of my activities prompted a major sense of satisfaction for that reason. The flip-side was the frustrations and difficulties of working in a health-care organisation, and system, in which resources are relatively scarce, supplies and equipment are often not reliable – if available at all – and the severity and ubiquity of social and healthcare need can often feel overwhelming.

The placement involved a mixture of discrete projects and ongoing service work, and as effectively the only specialist (semi-) trained public health professional based in the Lubombo region, there was significant scope for initiating activities and designing my own work-plan according to priorities as I perceived them. This was a challenging aspect of the role for me; there was a tendency at times to feel paralysed by the range and scale of the health and social challenges visible all around, and by the relative lack of resources and position-power on which I could call in my post in order to effect change.

Partly as a consequence, in the early months of the placement, I concentrated on reactive and ready-made projects, and my focus was dominated by leading efforts to secure sources of funding to help develop and build on Good Shepherd's existing HIV/TB and public health programmes. In fact, this led to perhaps the biggest success of the year, securing funding from PEPFAR for a proposal to strengthen and expand decentralised HIV treatment, care and support in Lubombo (I felt some frustration at not being able to see the proposal through to its fruition, my attachment ending as the arrangements were being put in place for implementation). Co-ordinating the bid-writing process, bringing together senior HIV & TB Programmes and HBC clinical staff with the hospital Financial Manager, NGOs and government partners, to develop and then set out in detail a coherent, shared vision, was complex and a careful political balancing act.

I also devoted considerable time early in my placement to two other, collaborative, bids for high-profile large-scale funding opportunities. Although these were unsuccessful, they generated valuable ideas for use in future projects and service development work, and I felt being asked to co-ordinate Good Shepherd's participation in two separate bid consortia was a validation of my efforts to adapt to and establish myself in the placement, and to cement the hospital's profile within networks of NGOs and health-care providers in Swaziland.

Work-place structures and cultures at Good Shepherd, and more generally in Swaziland, seem to be based on more rigid hierarchies, and yet also on strong personalities and personal qualities of the people in senior roles, than in the UK. While this would perhaps never be my 'natural' environment, as I became more familiar with it, and with the strengths and weaknesses of the services I worked within, I was able to build rapports with internal and external colleagues, and further employ negotiation and rhetorical skills to in order to create space in which I could initiate projects and help steer work to address key issues as I saw them.

This was the platform from which I took on projects including developing the hospital's first Public Health Annual Report; implementing a novel TB contact investigation strategy as a research study and seeing it achieve encouraging initial results; securing significant progress on establishing HTC and TB screening for all outpatients; and helping the Global Fund project team tackle the obstacles to transition to a further three years of implementation. Other work that I undertook for which there were positive

outcomes includes supervision of three medical elective students who each carried out useful and interesting projects, and contributions to the general education and development of colleagues.

However, I also encountered difficulties that meant that some activities did not run as smoothly as I would have hoped. Prioritisation and time-management were consistently a challenge, in the face of multiple problems and areas of public health need. Because of both delays in the COMDIS-HSD approvals procedure, and the demands of more general day-to-day service work, implementation of the TB contact investigation study occurred relatively late in the year, and, like the PEPFAR-funded programme and the Global Fund project strengthening, I had to hand this work on to my successor as it was incomplete at the time of my departure.

Further issues included obtaining the data for the other research project I concentrated on, assessment of clinic-based ART evaluation, and this remained an unsolved problem at the time of my departure. The limited efforts I made to seek funding for TB facilities renovations met with little success, and I was unable to spur the authorities to a more concerned and helpful response, and thus to complete an incident investigation, for an excess of suspected paediatric viral meningitis cases.

These challenges reflect what was one of the most significant aspects of the placement was for me, the need to be highly self-motivated and self-reliant, given the lack of close formal local supervision or fixed programme of work, and the potential for obstacles to impede the work you intend to pursue. The in-country supervisor, Dr Vandelanotte, was unavoidably very short of time in which to offer guidance and advice during my placement, due to losses of key staff at ICAP – including the national director, whose role he had to cover. However, I did benefit from active and responsive support from the two UK-based supervisors, with whom I enjoyed frequent email, phone and videoconferencing contact (technology permitting). Visits from Professor Wright, from his colleague Professor Lilford, and from Dr Welfare during the course of the year were all also very useful for discussing difficulties, and developing ideas and plans for the direction of my subsequent activities.

On a wider level, one of the benefits of travelling alone to Swaziland and taking up the 'single-handed' Public Health Registrar post was the impetus it provided for me to immerse myself fully in the role, and in the life of Good Shepherd and the wider community more generally. I made extra efforts to build strong relationships with many colleagues, and this helped both in fulfilling my professional role, and in establishing the social links that would be vital for my general well-being while living 6,000 miles from home in a new and different culture.



Taking time out with my friend and colleague Dr Canaan Mamvura, Good Shepherd's HIV & TB Programmes Co-ordinator



Just before departing Swaziland, saying goodbye to another friend and colleague, Dr Jonathan Pons, Good Shepherd's Consultant Ophthalmologist

Establishing those relationships was made easy by the warm and friendly reception I received universally from the staff, students and volunteers of Good Shepherd. Likewise, I felt I made a contribution in turn to the Good Shepherd community, and I came away with a number of friendships, and firm thoughts of wishing to return. Some of my warmest memories are from a number of social and team-building events that I took part in with colleagues over the course of the year... although I never did quite hone my dancing skills enough to feel anything other than thoroughly embarrassed when, inevitably (like everyone else), I was put on the spot!



Fun and games at a Communities programmes team-building day



At my farewell tea... one last dance

Finally, one of the most important aspects of my experience over the last year has been the inspiration I felt in observing the tremendous commitment, technical skill and leadership of friends and colleagues at Good Shepherd, in Swaziland and in the UK. Their dedication is essential to the battle against HIV, and the myriad associated and underlying societal challenges, facing Swaziland. Such efforts are all the more vital in view of the slashed budgets, regular failures to pay government workers on time (including at Good Shepherd), and social and political unrest that I observed during my attachment – a consequence, ultimately, of the recent global financial crash. Despite the challenges, I left Swaziland with a renewed enthusiasm and determination to follow the examples set by those friends and colleagues, and return to work in the future on the front-line of international public health.

APPENDIX: LEARNING OUTCOMES

Below is a list of the Faculty of Public Health training curriculum Learning Outcomes that my placement at Good Shepherd Hospital contributed to or enabled me to sign off:

- EMS 12: Pay regard to efficiency while not discriminating against individuals/populations
- EMS 17: Seek and follow advice where health concerns may affect practice
- 1.6: Use qualitative and ad hoc or local survey data
- 2.20: Demonstrate a proactive approach to identifying issues where a review of evidence is likely to make a difference
- 3.4: Propose evidence-based policy options for solving problems and develop appropriate strategy
- 3.7: Develop a strategy, based on personal identification of a desired future state, to deliver change from a present unsatisfactory position
- 3.8: Develop a plan to secure the resources required to implement a strategy successfully
- 3.9: Overcome problems that arise when implementing a plan or strategy
- 3.10: Analyse the process and outcomes of policy implementation
- 4.8: Manage a project to successful completion within available resources and timescales
- 4.11: Guide and support staff, monitor work, receive and give constructive feedback and develop staff
- 4.12: Balance the needs of the individual, the team and the task
- 5.9: Influence professional groups outside public health in giving advice to and making brief interventions with patients or clients on health behaviour issues
- 6.15: Participate in and make a significant contribution to the investigation of an incident or outbreak including preparation of the final report.
- 7.2: Design and implement data collection for a defined service question and integrate data outputs with other routinely available and relevant data
- 7.6: Prepare and present a service specification document which will lead to service development to a relevant committee or management group within the organisation
- 7.11: Establish links with existing professional networks or set up new professional groups to direct changes in service configurations across and within different organisations and health/social care settings
- 8.5: Present and communicate population health intelligence in effective ways in order to monitor system performance and to improve decisions of colleagues, practitioners and senior decision makers
- 9.9: Identify research needs based on patient / population needs and in collaboration with relevant partners
- 9.10: Work within the principles of good research governance where appropriate
- 9.14: Supervise a junior colleague in a one-to-one project mentorship
- 9.17: Advise on the relative strengths and limitations of different research methods to address a specific public health research question