



# Placement Report

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Good Shepherd Hospital, Swaziland

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## Background

### Swaziland

The Kingdom of Swaziland is a small landlocked country in Southern Africa, bordering South Africa and Mozambique. The population of the country is just over one million, with 78% of the population living in rural areas (SPHC 2007). The World Bank classifies the country as a lower middle income country due to having a reasonable resource base compared to many developing countries, however, 70% of the population are classified as poor (World Bank, 2012)

Life expectancy at birth was 49 years in 2009, a decrease from 60 years in 1990 as a result of HIV/AIDS. The national HIV prevalence in the sexually active population is 26%, with women being greater affected than men (31% vs. 20%). In 2010, 11,057 new confirmed TB cases were reported and the incidence has increased from 300 per 100,000 people in 1990 to 1,257 per 100,000 people in 2010 (WHO, 2012). Drug resistance is an increasing problem with 8% of new TB cases and 33% of retreated TB cases found to have multi-drug resistant TB (Sanchez Padilla, et al 2012).

### Good Shepherd Hospital

Good Shepherd Hospital (GSH) is the regional hospital for Lubombo, providing care for around 210,000 people. Lubombo is a very rural region, with 45% unemployment, and the lowest rates of literacy nationally at 83%. GSH is a 201-bed rural hospital run by the Catholic Diocese in partnership

with the Swazi Government. The hospital provides general outpatient care and medical and surgical inpatient care, including ophthalmology, obstetrics and gynaecology, paediatrics, ear nose and throat and dentistry.

In addition, the hospital provides a community health programme which concentrates on providing HIV and TB care to the population of Lubombo. This includes provision of HIV testing and counselling, pre-ART care, ART initiation and continuing care, TB diagnosis and

treatment and home based care services. The main service is based at GSH, although the hospital oversees the running of 16 rural clinics around Lubombo, with support from nurses and doctors on a regular basis through the roll-out team.



### Placement

Good Shepherd Hospital has had Public Health Specialists from the UK working within the hospital since 2005, in particular working within community health to develop HIV and TB services. This continuity that is provided by continued support is one of the strengths of the programme, allowing

trainees to add to the work done by their predecessors. The role of the public health specialist is twofold:

- working on service development for GSH and the Lubombo region;
- and developing a programme of operational research to develop and evaluate new services for Lubombo and for the country.

Trainees are supervised by Dr John Walley at the University of Leeds, Nuffield Institute for International Health and Development and Dr John Wright at Bradford Teaching Hospital NHS Trust. In addition, trainees work closely with the team of healthcare and support staff who are able to provide day-to-day advice and support, in particular Dr Canaan Mamvura and Matron Futhi Ndzinisa.



The Programmes Team Doctors (from left to right): Dr Fred Busulwa, Dr Yvette Atosha, Dr Canaan Mamvura

## Research

The research component of the placement is generally supported by COMDIS HSD, a research programme consortium at the Nuffield Centre for International Health and Development. The main focus of the work is operational research, which aims to develop and test locally appropriate strategies for delivery of health services and to support development of operational plans, tools and training methods and materials to enable and encourage large scale implementation of successful strategies by partner governments and other health service providers. There were four main research topics that I was involved in during my time in Swaziland.

### 1. HIV/TB case detection

#### Study Background

This study was developed by my predecessor, Dr Danny Chandler. It aims to generate insights about how best to maximise HIV and TB case detection, throughout Swaziland and in other resource-limited settings to provide earlier diagnosis and therefore reduced morbidity and mortality from the diseases, and reduce transmission. The objectives of the study are:

- To develop and establish a model for tracing, screening and testing of household contacts of TB patients
- To develop and establish a model of HIV and TB screening as part of provider initiated services in general outpatient departments
- To evaluate the effectiveness of these case finding models for TB and HIV

The study is split into two main sections: TB contact tracing, and scaling-up screening for TB and HIV in general hospital services. The first, and main, part of the study is based at the TB outpatient department in Good Shepherd Mission Hospital where TB treatment is being initiated for the majority of the population of Lubombo. On confirmation of TB diagnosis and initiation of TB treatment, patients will be asked to list their household contacts. Through a combination of invitation to screening by letter, screening over the telephone and community follow up, household contacts will be screened for TB using the Swaziland five question TB screening tool. A before and after comparison of screening rates using the variety of measures will be compared and a cost-effectiveness analysis will be done in order to guide the national roll-out of TB contact tracing.

The second part of the study is to scale-up provider initiated HIV testing and counselling and TB screening within general outpatient services. All patients who present to the out-patient department during the period of the study will be invited to receive HIV testing and counselling and HIV positive patients will routinely be screened for TB. The proportion of new diagnoses will be determined in order to evaluate the effectiveness of the service.

#### My Contribution

One of the first things I was required to do with this project was to apply for Swaziland ethics approval which, after some difficulty finding out who to contact and how to apply, was a reasonably

simple process. Once we had received ethics approval, we were able to get the project fully implemented. The focus is currently on TB contact tracing as some funding to renovate the outpatient department and enable better provider initiated HIV testing and counselling has been secured and is awaiting implementation.

Danny had piloted the TB contact tracing part of the study with the TB team, however, a number of issues were identified after the pilot. Firstly, although investigation of TB in adults was free, investigation in children often involved x-rays and bronchial lavage, which was unaffordable for some parents or guardians. This was rectified by having a small fund to cover the cost of investigation for those who were unable to pay. The second issue identified was that the motorcycle adherence officer who was supposed to follow up people in the community who did not attend could not carry sputum samples back to the hospital if contacts screened positive and needed further investigation. Therefore, a sample carrier was purchased and attached to the back of the bike.

I continued to have regular meetings with the TB team to identify issues in a timely manner and help to address them. A number of issues were identified during these meetings. The team were not recording contacts for every index case as they claimed that they often forgot to fill in the form. This was rectified by stapling the form to the back of the Ministry of Health treatment card which was completed at each visit. In addition, the motorcycle adherence officer was finding that there were too many patients to be followed up as part of the project and that it was becoming unmanageable. Therefore, in March 2012, we held a larger meeting including Dr John Wright and some of the programme team doctors to discuss how to move things forward. I analysed the data so far and found that 26% of contacts were attending of their own accord at the initial patient visit and after sending a letter. No contacts were coming for screening after reminder phone calls. Adherence officer visits were effective in screening contacts, but was not feasible due to workload. Therefore, as a team we developed a new plan which included screening contacts on the phone and following up those not able to contact by motorcycle. This model achieved much larger numbers of people being screened, however, no contacts screened positive on the phone. In order to assess the accuracy of this, the motorcycle adherence officer visited a number of families who had previously been screened by phone and screened them in person. In each of the households, at least one person screened positive. The adherence officer discussed the reasons why the household had denied symptoms on the phone and was told that the person who was talking on the phone did not necessarily know whether the other household contacts were unwell and so denied symptoms. The team are currently working on developing a new system to screen contacts who do not present at the hospital.

We continued to have regular meetings to discuss some of the problems identified and managed them as a team when they arose. Data was analysed at the end of June to compile mid-point data for the study and another issue was identified in that contacts who screened positive were often not investigated as TB suspects. This is an area that the team is currently working to address. This process of action research to develop a feasible and effective model was very interesting and informative and involved developing a close relationship with the entire TB team to ensure that everyone's concerns were raised and addressed.

During my handover with Abigail Knight, my replacement, we presented the findings of the study to Themba Dlamini, the National TB Programme Director. He was very enthusiastic about the findings and asked us to present the findings at the next TB technical working group meeting to start the process of rolling out the project to other hospitals and clinics around Swaziland.

## 2. Male Circumcision

### Study Background

In 2007, the WHO advocated that male circumcision should be incorporated into HIV prevention measures in countries with low circumcision rates and generalised HIV epidemics, including Swaziland, after three randomised controlled trials showed that male circumcision may reduce HIV transmission by between 38% and 66%. Male circumcision as HIV prevention was introduced to Swaziland in 2009, initially using an integrated approach to HIV prevention. In 2011, an intensive campaign, Soka Uncobe, was launched, aiming to circumcise 80% of males within one year. The campaign had limited success, with less than 10% of males being circumcised during the year. Stand-alone campaign clinics are still operational, however, no services provide a fully integrated model of male circumcision for HIV prevention within Swaziland.



The aim of this study is to develop an integrated male circumcision service in Good Shepherd Hospital and for the Lubombo region of Swaziland, which can be rolled out to the rest of Swaziland and other high HIV prevalence countries if effective. The objectives of the study are to:

- Establish a model for an integrated male circumcision service within a rural hospital, and for the surrounding region
- Evaluate whether an integrated or stand-alone clinic model of male circumcision service constitutes a more effective method for increasing overall numbers of male circumcisions for hospital services in Swaziland and other high HIV prevalence countries.

This is a quasi-experimental, operational study, which aims to develop an integrated male circumcision service for HIV prevention and then evaluate the service, in comparison to stand-alone clinics. The integrated service will work within current HIV prevention and treatment services within Good Shepherd Hospital and surrounding clinics, with HIV negative men and boys routinely offered male circumcision as part of HIV prevention. The study will compare an integrated model of delivery with a stand-alone clinic over a six month time frame comparing numbers of males circumcised, proportions receiving counselling, post-operative follow up, complication rates and patient satisfaction.

## **My Contribution**

Before I left for Swaziland, I was planning for the development of a COMDIS HSD proposal, as the deadline for submission was one week after I arrived. I had discussed the idea with Danny and I was keen to work on something related to HIV prevention. As male circumcision was seen as a priority in Swaziland but not done for HIV prevention GSH, it was a natural choice. However, very little conversation could take place at GSH or nationally before my arrival and so I was concerned that I would not have time to develop and implement the proposal. Therefore, I decided to propose a small qualitative study to help guide the development of a male circumcision project in the next COMDIS HSD proposal round. However, soon after I arrived in Swaziland, I started to have discussions with Programme Team staff and with PSI who delivery male circumcision services within Swaziland and realised there was enthusiasm to develop a male circumcision service at the hospital and therefore it was important to seize the opportunity. I therefore changed the proposal to an operational research project. This experience showed me the importance of understanding national and local priorities when developing projects, particularly when newly arriving within a country. It also quickly helped me realise the importance of flexibility when working overseas and grasping funding and help wherever it is offered.

I worked closely with PSI to understand how they could support GSH to develop a male circumcision service. This included providing a portacabin to hold the service, human resource support when required, training, equipment and consumables. I was concerned about the sustainability of the project when PSI left if everything was being supplied by them and no cost-sharing was required, however, we were reassured that the Ministry of Health are due to take over the funding of these consumables when PSI finish their programme.

The major difficulty with this project was convincing the hospital management that we should provide this service. The programmes team were enthusiastic about the programme, however, there were concerns raised by the senior medical officer about the importance of the project. I worked closely with him to discuss and convince him of the importance and engaged the Communities Matron in helping me to convince the management committee to agree to the project. This was a long and frustrating process however our patience paid off and we were able to convince the hospital that this is a priority for HIV prevention.

Although the project received UK ethics approval, I struggled to get the project submitted for ethics approval in Swaziland. This was as I was working with PSI on a joint proposal and required their input for the process. The contact I had at PSI was very busy and unable to give me the time I required and so this delayed my submission. When Abigail arrived, we met again with PSI and explained the problems and was able to find a new contact within their organisation to move the project along. This was a common problem working in Swaziland as people were generally not great at responding to emails or phone calls and problems were only ever solved during face-to-face meetings.

Overall, I really enjoyed working on this project and developing a new service for the hospital. I look forward to hearing from Abigail about its progress as we are hoping to start implementing within the next few months. This illustrates the importance of having continuing support from Public Health Specialists within GSH as projects such as these are ongoing and may not be possible to continue if the registrar was not there.

### 3. Buzzing

#### Study Background

About 20% of patients tested in the Voluntary Counselling and Testing (VCT) department never receive their CD4 counts after initial diagnosis and are therefore lost in the system. Some of these patients would be eligible for ART and some for continuing pre-ART care, with delays in initiation of treatment possibly leading to poorer outcomes. Mobile technology is frequently used as a tool to improve adherence and treatment outcomes in healthcare settings. However, in resource limited settings, costs of text messaging may be a barrier to implementation. Text rates in Swaziland are E0.80 per text message. VCT alone see over 250 patients per month. Sending a text to remind all patients would cost over E200 a month (£16.40). This cost is not affordable at present and a more reactive approach has been adopted, calling patients who do not attend.

In an attempt to increase the number of patients returning for CD4 counts, a new technology has been implemented within the department, based on a 'buzzing' system. Buzzing is a term that refers to when someone calls a mobile for one or two rings until the name appears on the mobile screen and then hangs up. It is common practice within Swaziland as buzzing is free for both the person sending the buzz and the person receiving the buzz. This system has been running within Good Shepherd Hospital and other clinics in Swaziland and Lesotho for a number of months. However, no formal evaluation of the system has been undertaken. The aim of this study is to measure the effects of buzzing patients as a mobile phone reminder on follow-up attendance at VCT. The study will be based on a before-and-after design. The study will calculate simple rates of non-attendance in the three months before the intervention and the three months after the intervention.

#### My Contribution

This is a small study which was very easy to implement and collect data for. The VCT team were very happy to be involved and routine data has been used to assess the outcomes. The initial data does not appear to show any benefit in the collection of CD4 results, however, complete data will not be available until the end of August. It is thought that the time between appointments is too short to show any real benefit in picking up CD4s. However, the study shows that mobile technology is feasible in resource-poor settings, and introduces an innovative new approach which is free to use and therefore available for use in many resource poor settings. It is hoped that a new research proposal will be developed considering use of buzzing in ART and non-communicable disease clinics, where time between appointments is a least one month.



Me with the VCT team (From left to right, Rejoice, Zanele, Victoria and Sonto)

## 4. Incentives to CBOs evaluation

### Study Background

This study is an evaluation of the Phase 1 Global Fund Project which will be described in more detail below. GSH is a sub recipient for the Global Fund Round 8 TB grant, in particular implementing the activity “Incentives to CBOs (Community Based Organisations) for patient follow up”, working in close partnership with the National TB Control Programme. This study is adding an operational research dimension to that grant, in particular focusing on the effectiveness and cost effectiveness of using CBOs to introduce and strengthen patient support. It also seeks to look at the feasibility, acceptability and effectiveness of offering incentives to community health workers.

Diagnostic facilities will refer patients living in specific communities to a community-based organisation operating in that community. There will be no selection of patients other than by community. CBOs are offered E50 per month per patient for follow up plus a completion or cure bonus of E300 (for a restricted number of patients). The CBOs have to ensure each patient has a trained volunteer treatment supporter who visits at least weekly in addition to the standard family treatment supporter. The CBO must also ensure the patient attend follow-up appointments. CBOs have discretion on any other interventions they chose to implement with the funding.

This study will adopt a cohort study design, looking at all patients receiving a diagnosis of TB between 1.1.10 and 30.9.11 in four treatment centres across Swaziland and comparing treatment outcomes for those who received treatment support through a CBO and those who did not. A pilot evaluation of patients receiving TB diagnosis at GSH was conducted with 1077 patients initiated on TB treatment between 1.1.10 and 30.9.11 at Good Shepherd Hospital, and 161 receiving treatment support. There was no significant difference in baseline characteristics between the intervention and control groups. There is a significant increase in treatment success (completion + cure) from 67.1% (95% CI 64.0-70.3) without treatment support to 80.7% (74.3-87.1) with treatment support. Rates of death were lower in the intervention group compared with the control group 11.7 (6.5-17.0) vs. 26.1 (23.1-29.1). No significant difference in default rates was detected

### My Contribution

This is an evaluation of a programme that has been ongoing for two years at GSH. I developed a plan for evaluation with the Monitoring and Evaluation (M&E) officer at GSH and with Dr John Wright to enable data collection to commence. We hired a data clerk to collect the data from around Swaziland and I plan to conduct the analysis and write up while based at the University of Leeds. We have had a poster accepted at the Union for Lung Health Conference in Kuala Lumpur in November 2012.

## Service development

I was involved in a range of projects related to service delivery, both within the Programmes Department and within the hospital. Working within the hospital is challenging, as the Public Health specialist has historically worked mainly within Programmes and so opportunities are often more difficult to access here. However, there are some opportunities and many members of staff appreciate Public Health input on a variety of issues.

### 1. The US President's Emergency Plan for AIDS Relief (PEPFAR) Grant: Delivering Comprehensive Decentralized HIV and AIDS Services in Lubombo District

#### Project Background

Good Shepherd Hospital possesses a strong track record of innovation in home- and facility-based HIV and TB care, having introduced "Basiti" peer counselors and specialist motorcycle adherence officers, and in 2001 starting a unique home-based HIV care program. Today, it runs the only general daily home-based care (HBC) program in the country. Despite a commitment to decentralization, local-level HIV services remain limited in Lubombo Region, and up to 75 percent of ART patients seen routinely at GSH would prefer to attend their local health centre (clinic). There is also scope to expand the role of clinics in ART initiation and the breadth of home-based HIV testing and treatment services in Lubombo for patients unable to access clinics is limited by resources.

This project aims to strengthen GSH and two partner clinics' abilities to manage HIV and TB. The program will work in tandem with complementary community-based efforts to support patients, through the hospital's HBC team and peer counselors and Rural Health Motivators across Lubombo.

The main activities that are covered by the grant are:

- Capacity building and training for peer/lay counselors (Basiti), extending their role to promotion and recruitment for HIV and TB testing and treatment among target groups;
- Training and support of clinic and OPD nurses and HTC counselors to provide a continuum of HIV and TB services, including HTC and long-term HIV and TB care;
- Recruitment and training of motorcycle adherence officers to expand treatment adherence coverage and extend to case-finding and follow-up testing of HIV/TB patient contacts;
- Capacity strengthening and supportive supervision for HBC teams to promote and deliver holistic HIV and TB testing, treatment, care and support to patients unable to access clinics;
- Development of a comprehensive local HIV and TB care linkages system; and
- Strengthening of Rural Health Motivators, in particular to identify the most high-risk patients in greatest need of home-based HIV services, to maximize the reach of HBC.

#### My contribution

My predecessor was successful in bidding for the grant and implementation started as I arrived in Swaziland in January. I assisted in organising training for staff members and providing technical support in various aspects of the project, including monitoring and evaluation, reporting, strategic

direction. This was my first experience of managing a large grant and as a team, we learnt together about how to work with large funding organisations. Pact, who were managing the grant in Swaziland on behalf of PEPFAR were very helpful in guiding us through the implementation of the grant. We felt very well supported as a team and were able to work to the best of our ability due to this continuing support.

## 2. Service development of Home-Based Care

### Project Background

As part of the implementation of the PEPFAR grant, we were able to look at the services provided by the hospital home-based care team and work with the team to improve the service to meet the needs of the local population. When the service was developed, there was no treatment available for HIV and so patients would often require supportive care, with support continuing until their death. However, with the introduction of ARVs, patients are living for longer periods and HBC have continued to support well patients without discharging them. During the review of the service, a number of issues were identified: services were delivered on an ad hoc basis without any clear criteria for review; patients would be seen once every three months due to high patient load; and documentation was poor and no concrete data collection system was in place.

A new standard operating procedure was developed with the team clearly outlining eligibility criteria, outlining when and how to discharge patients and referring them to other services, developing data collection systems and quality assurance procedures. In-house training was conducted for the team to introduce the new systems and ensure that staff were adequately trained.



Home-based care nurses, Andrew & Beketemba with their new mobile phone won at Bushfire festival

### My contribution

I worked closely with Dr Mamvura and the home-based care team to implement this change. This has been an area where the public health specialist has tried to impact previously and not been successful due to organisational culture. However, it was possible to move this project forward as it was part of the PEPFAR grant and there was a threat that the team would lose their funding if services were not made more accountable.

The team were very resistant to change at first and required regular meetings where we could discuss problems to help address issues. After some months, the team began to understand and appreciate the changes that were made. However, there still remains an issue with the eligibility criteria and the team continue to see and support some patients who are

not eligible as they feel that they are so poor that they need support, not for any medical reason. There are very few organisations able to support poor rural populations of Swaziland and it is understandable that the team are looking to help wherever possible, although out of their medical remit.

As I was leaving Swaziland, an EU grant became available to support impoverished populations in Swaziland and develop sustainable projects. GSH with the nearby NGO, PDI (Possible Dreams International) have submitted a bid for funding to help support impoverished people within Lubombo, which aims to address the issue identified by the HBC team and allow them to focus only on health needs.

### **3. Global Fund Grant: Financial Incentives to Community-Based Organisations**

#### **Project Background**

Good Shepherd Hospital was successful in receiving funding in Global Fund Round 8 and 10 for providing treatment support to TB patients around Swaziland. Phase 1 of this project included supporting 12 CBOs across Swaziland, and this dropped to 10 in Phase 2 of the project. This support included financial incentives based on the number of patients the CBO supported per month. In addition to the management and support of CBOs, the project funded a motorcycle adherence officer to increase capacity of treatment support at GSH and in the wider Lubombo region. A cough officer was also recruited to increase capacity of TB screening and diagnosis in the outpatient department of Good Shepherd Hospital.

Phase 1 of the project came to an end in October 2011 and 1979 patients were supported by the project over this time. GSH was awarded Phase 2 of the grant as part of Global Fund Round 10 at the end of 2012. However, as this was GSH's first major grant awarded, there were some issues that were identified by the Global Fund and monies were delayed towards the end of Phase 1. All issues have now been addressed but monies have still not yet come through from the donor. In addition, Phase 2 was due to start in October 2011, and no monies had been received in the whole of Swaziland from Global Fund by the time I left in July 2012. This is causing difficulties with the project and threatens the hospital's relationship with the community-based organisations.

#### **My contribution**

This project has been in crisis mode since I arrived in Swaziland. The team were concentrating on both trying to get monies owed from Phase 1 of the project and also ensuring that Phase 2 finance commences as soon as possible. I developed a proposal for Phase 2 of the project and worked closely with the project team and the national TB programme to address the issues. By the time I was leaving, it appeared that progress was being made and Phase 2 appeared to be about to commence.

This project was very frustrating to work on as it felt that we were constantly being set pointless tasks to do by the country managers of the grant, NERCHA. The communication between NERCHA and partner organisations was non-existent and was extremely detrimental to relationships in the team. This project helped me to understand the difficulty of working with funding organisations and the importance of open communication is vital to maintain relationships. It was very interesting to compare the two partner organisations managing grants for PEPFAR and Global Fund. Pact were

constantly available to provide advice and there was a feeling that they wanted the project to succeed. On the other hand, NERCHA appeared to be obstructive and were not supportive.

#### **4. Development of a standardised pre-ART care service**

Pre-ART care is the care provided to an HIV positive patient from the time of diagnosis to the time of initiation on ART. This should include: WHO clinical staging; taking bloods for CD4 and other baseline tests; screening for TB and other opportunistic infections; adherence counselling and support; starting patients on cotrimoxazole prophylaxis; and starting patients on isoniazid prophylaxis (where appropriate). This care is provided at a number of services within GSH (including TB, maternal and child health, voluntary counselling and testing, outpatients and the ward) and within community clinics, however services were providing different quality services and there was no standardised procedure for each unit.

I worked closely with the Programme doctors and each of the teams involved in providing pre-ART care to develop a standard operating procedure for GSH pre-ART services. This was presented for discussion at a Programme meeting, where representatives from each department come together to discuss important issues. The project was agreed upon and implemented within the various departments. The PEPFAR funded HBC is working with two local clinics to implement the SOP as part of roll-out to the community. This piece of work was identified by the programme team as a priority and I was able to facilitate its development and implementation. I was surprised at how open to new ideas the doctors and nurses were and how easy it was to implement throughout GSH.

#### **5. ART audit**

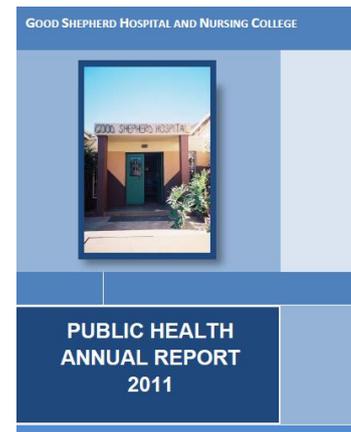
This project was developed following reporting for the PEPFAR project, when we realised that TB screening in the ART department was not happening universally as we had thought. The quarterly PEPFAR report illustrated that only 15% of HIV positive patients were screened for TB, when the team expected the figure to be well over 90%. After some investigation, it was found that there were a number of problems including staff shortage and limited supply of reporting tools that have together caused screening not to occur. It was clear from this example that there was no way to monitor quality of services using the current data tools in order to solve problems in a timely manner.

I worked with Dr Mamvura to develop an audit tool to be conducted on a proportion of patient records in a particular week. This would be conducted by the lead ART nurse, analysed with help of the monitoring and evaluation officer and the results reported back to the department on a monthly basis. This audit cycle would continue on a monthly cycle ensuring that time is taken to address any issues that arose. This was a small project however it has put in place a system to ensure quality of services and if it is successful, will be adapted for use in other departments.

## 6. Annual report and data management

My predecessor, Dr Danny Chandler, developed the first complete public health annual report in 2010. I was asked to develop a 2011 annual report by John Wright and John Walley. At the same time, the quality assurance team in the hospital approached me to help them develop a hospital annual report. Therefore we started to develop a full hospital and programmes annual report. I worked closely with the quality assurance team to help them develop their data analysis skills and together with the monitoring and evaluation officer, we developed the annual report.

However, the senior medical officer was not happy to publish hospital data and was concerned about the quality of some of the data sets we had included in the report. This is an ongoing issue for the quality assurance team that people do not believe the data they present. Therefore, we decided to publish the report as a public health annual report and work on the hospital data quality to ensure that next year, a full annual report can be completed. At times during this work, I was very frustrated with being prevented from publishing the full report. However, it was a substantial breakthrough in that senior hospital staff were taking an interest in data quality and so we decided to start a project on data management, outlining a clear standard operating procedure for data collection, analysis and dissemination for all departments in the hospital and programmes. I started to work briefly on this project and Abigail Knight will continue it alongside the quality assurance team, monitoring and evaluation officer and the senior medical officer.



## 7. Neonatal sepsis outbreak

### Project background

Neonatal sepsis is defined as a clinical syndrome of bacteremia with systemic signs and symptoms of infection in the first 4 weeks of life. Concerns were raised by the hospital paediatrician at the regular doctors' meeting and with the infection control team about the increasing numbers of cases of neonatal sepsis during March. On the 23<sup>rd</sup> March, nine neonates were on the paediatric ward with neonatal sepsis and additional space on other wards was required to be made available to ensure beds for possible neonatal sepsis cases. Within the outbreak, 36 cases of neonatal sepsis were identified between 2/3/12 and 19/4/12, with 2 deaths. One neonate suffered from severe meningitis and is likely to have significant long term morbidity due to the infection. The outbreak was declared over on the 27<sup>th</sup> April 2012.

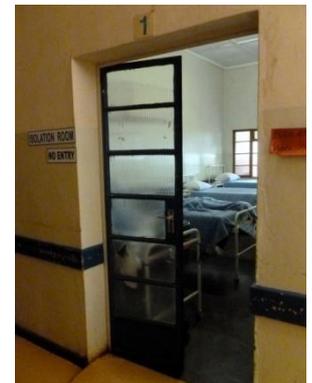
The likely cause of the outbreak was general poor hygiene and infection prevention and control practices on the maternity ward. Hospital and ward management have instigated action to improve hygiene and infection control practices. The quality assurance team will continue to monitor this to ensure continued high levels of hygiene and infection control procedures.

## My contribution

This outbreak was a significant challenge for me, but a great opportunity to manage a large outbreak, particularly in light of my interest in becoming a Consultant in Communicable Disease Control. I returned from a holiday just after the outbreak started and so the hospital had held its initial outbreak meeting previously. However, action was very slow and I was very keen to ensure rapid progress was made. The paediatrician and myself worked very hard to engage senior members of staff to take this outbreak seriously and to ensure action was undertaken. After much discussion, we were able to engage a strong team to take part in the outbreak control team and to implement change. I co-chaired the outbreak meetings with the paediatrician, developed descriptive epidemiology around the outbreak and worked with the infection control team to ensure that actions were implemented. I also developed an outbreak report after the outbreak was declared over.

## 8. TB prevention and control

As I have an interest in health protection, and when seeing the poor infection control within the TB ward at GSH, I approached the infection control team to discuss possibilities of prioritising this area. The infection control nurse cited a number of reasons as to why TB infection control was not adequate including: lack of finances to purchase N95 masks, paper towels etc; lack of infrastructure as the TB ward was clearly not fit for purpose; and lack of senior support as the doctor sitting on the infection control team had recently left the hospital. I was unable to convince the senior medical officer to allocate a doctor to the infection control team and felt unable to progress the project.



TB isolation ward with doors left open into main hospital corridor

The TB ward is currently not suitable for TB patients and does not provide adequate isolation. I was keen to progress plans developed by a previous trainee Dr Will Welfare. I worked with an American volunteer doctor to adjust the plans, taking advice from aerobiological engineers, and started to write letters asking for donations from Swazi companies with 'social responsibility' arms. The letters were sent out just as I was leaving Swaziland due to delays in persuading senior management about the importance of the work.

In addition, towards the end of my time at GSH, three staff members were diagnosed with TB. This raised a lot of concerns within the doctors and allowed us to persuade the senior medical officer to prioritise the writing of a TB infection prevention and control policy, which I led on. In addition, nationally isoniazid prophylaxis (IPT) was made available for TB prevention and GSH decided to prioritise staff as the first group for IPT to be rolled-out to. This involved screening all staff members, and if they screened negative, starting them on six months of IPT. I was involved in drawing up plans for the implementation of this programme. Just as I was leaving Swaziland, GSH found out that two of the staff members diagnosed with TB actually had MDR TB. This was very concerning for staff at the hospital and in order to ensure that priority was given to the issue, an outbreak was declared. I will continue to support Abigail wherever possible in the management of the outbreak now that I am back in the UK.

As expected, TB infection control is now being given the attention it requires and although an unfortunate event, will hopefully lead to progress in renovating the TB wards and ensuring infection control measures are firmly entrenched within the hospital.

## **9. Non-communicable diseases**

As in the majority of resource-poor African settings, non-communicable diseases (NCDs) have not historically been a priority for health services in Swaziland. However, as ARVs improve life expectancy from HIV and people start to live longer, NCDs are becoming more prevalent. NCDs are a COMDIS HSD priority and have developed a generic desk guide and training module for cardiovascular disease, diabetes and hypertension. GSH has three NCD clinics: diabetes and hypertension; epilepsy and mental health. Plans are being developed, as part of a COMDIS HSD proposal, to improve NCD services for Lubombo, developing an integrated, comprehensive service including combining the three NCD clinics, developing data management systems, training of community nurses and community support. A pilot of the new data management system is in place in the diabetes and hypertension clinic and if successful will be rolled-out to the other NCD clinics. This project has allowed me to work with local nurses and doctors to identify problems and look for solutions to improve services. I also have been working with the Ministry of Health NCD lead to align GSH proposals with the national priorities.

## **10. Website**

As part of looking for finances for renovations for the TB ward, I decided that it would be beneficial to update the current GSH website to make it accessible for volunteers, students and potential donors. I have been working with a website designer to develop the page and the completed results should be available shortly at <http://www.goodshepherdhosp.org/>.

## **11. Supervising students/doctors**

During my time at GSH, I was lucky to supervise a number of students and doctors in a variety of projects. In particular, I supervised one student project as part of her BSc in International Health. I was able to help her develop her research topic, provide guidance on her proposal and ethics submission, provide guidance and support at in-country ethics approval, give advice on research procedure and qualitative research and then support the final write up of the project. This was an excellent experience for me and gave me some insight of supervising an academic project.

## General Reflection

During my short time in Swaziland, I was able to gain wide experience of working in Public Health in a resource-poor setting. As I was only in Swaziland for six months, I relied on the knowledge and experience of the local doctors and nurses to guide priorities and develop the direction of my programme of work. I feel that this helped me to achieve as much as I did, as it was then easy to engage staff in moving projects forward.



Dr Mamvura and ART nurse Peter Phiri about to start their sack race

I found the staff in Programmes to be innovative and engaged, far more than I have previously experienced in the UK. I think the majority of this is due to the excellent leadership of Dr Canaan Mamvura and Futhi Ndzinisa who value everyone's opinion within the department and ensure everyone is able to get their say. I was lucky enough to experience a team building day when the whole of Programmes is able to spend a day together playing team building games and talking about how to make improvements in the department (and eat a Brai of course). Spending time together outside of the workplace is pivotal in keeping a large team as in Programmes working effectively together.

I worked hard to ensure that I kept key staff members up to date with progress and really valued regular discussions with staff, in particular Dr Mamvura and Matron Futhi, where we would often sit for hours discussing various pieces of work or brainstorming ideas for new projects. I often engaged the classic Part A method of management of 'management by walking around'. I would visit each of the departments on a regular basis, which helped me to identify problems in a timely manner. This helped me to build up trust with the rest of the staff and people felt comfortable to approach me with issues.



Saying thank you and goodbye to good friends with Matron Futhi

The one thing in particular I feel that I was not able to work as much on as I had hoped to was the strategy for decentralisation of services. I feel that we are doing a good job at rolling out services within the community and GSH needs to keep driving this progress forward. I had hoped to run a strategy development session with the Programme Team Doctors, but ran out of time. Only in the last month did I have enough of an overview to be able to help guide this strategic direction and I feel that if I had spent more time in Swaziland, I would have been able to address this.

Overall, I had a great experience in Swaziland, and was able to manage a range of projects I would not be able to in the UK. I want to thank the two Johns for all their support while I was in Swaziland. I also want to thank my good friend Gianine for getting me through some tough times. I want to give a big thank you to Futhi and Canaan for all their guidance while I was at GSH. It was a pleasure working with you both and I think the programmes department is so successful because of your excellent leadership. I would also like to thank all the staff in Programmes and in the Hospital for all their support, in particular: Dr Petros, Dr Joyce, Fred and Atosha, Busie, Vusane, Auggy, Fakudze, Busane, Sweetness, Matron Qinisile and Maxwell, and of course my excellent office buddies and colleagues Sabelo and Zwide.

*Salani kahle*



A farewell brai with colleagues from the TB team (from left to right, MAO Phineas with TB nurses Klobsile and Vusane and Dr Mamvura)

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## 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:

- 1.3 Use a range of methods of assessing morbidity and burden of disease within and between populations, both as ad hoc analysis and as part of systematic health surveillance.
- 1.4 Analyse data of populations in specific geographical areas and in particular groups of people in order to assess health status, health inequalities, determinants and different needs to support prioritisation of action.
- 1.5 Use a range of routine information sources and surveillance systems including, as a minimum, mortality, hospital admission, census, primary care, communicable disease, cancer registry, reproductive and sexual health data, and government surveys to support public health activity
- 2.8 Formulate a balanced, evidence-based recommendation explaining key public health concepts using appropriate reasoning, judgement and analytic skills in a public health setting
- 2.9 Provide options for decision makers
- 2.10 Communicate recommendations orally and in writing in order to influence decisions
- 2.20 Demonstrate a proactive approach to identifying issues where a review of evidence is likely to make a difference
- 3.2 Recognise the need for policy work to address problems
- 3.3 Identify the key issues which must be addressed when developing policy options
- 3.4 Propose evidence-based policy options for solving problems and develop appropriate strategy
- 3.6 Make appropriate changes to policy and/or strategy proposals in response to discussion with stakeholders
- 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
- 4.3 Use effective and appropriate leadership styles in different settings and organisational cultures taking account of the differences between elected and appointed roles
- 4.4 Develop a vision and communicate that effectively to other key stakeholders
- 4.8 Manage a project to successful completion within available resources and timescales
- 4.11 Guide and support staff, monitor work, receive, give constructive feedback and develop staff
- 4.12 Balance the needs of the individual, the team and the task
- 4.16 Handle major levels of conflict in an appropriate and sensitive manner
- 6.15 Participate in and make a significant contribution to the investigation of an incident or outbreak including preparation of the final report
- 6.17 Lead or take a major role in the investigation and management of a significant incident, to include an outbreak, non infectious disease incident and a look back

- 6.20 Apply health protection principles to services relevant to health protection in particular settings and in high risk groups (eg. prisons, with asylum seekers, in dental health, port health)
- 6.25 Lead or make a substantial contribution to the implementation of a health protection policy or campaign
- 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
- 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
- 8.9 Make a major contribution to systematic collecting, collating and interpreting of intelligence to inform the commissioning of health care and public health activities
- 9.2 Formulate a specific public health research question
- 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