Public Health Lead/ COMDIS – HSD Swaziland Placement Report

August 2014 to February 2015

Dave Mc Conalogue (and family), Public Health Specialty Registrar

1. Introduction to Swaziland and Placement

This is a joint placement between a research programme, COMDIS-HSD, and as Public Health lead at the Good Shepherd Hospital. The more people told me about the placement, or warned me about any issues or hardships (the workload is very intense; you will have lots of responsibility; you'll be the Public Health lead for the region; etc.) the more I wanted to do it. It also felt like a good balance between research implementation, and public health practice, and importantly for me, it is based in a resource poor region in sub-Saharan Africa. All I had to do now was convince my wife that this was the right location for us and our 2 year son (Diego).

1Local game reserve Hlane: A regular trip on a Sunday Afternoon

If you want to work in a challenging environment as a health professional, then a country which has the highest prevalence of HIV and the highest incidence of TB is a definite

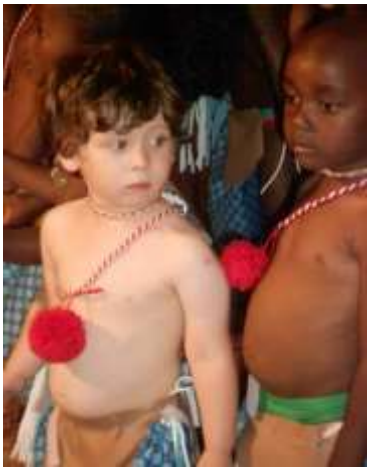
attraction. If you are not a health professional (my wife isn't) then you have to sell the placement differently. Fortunately. Swaziland is a stunningly beautiful country with a rich history, and an abundance of wild life and leisure activities. It also borders two other fascinating countries; South Africa and Mozambique.

Swaziland is a small, land-locked country with health issues which are not unique to sub-Saharan Africa, but are definitely more extreme. Life expectancy at birth for males is only 52 years, rising to 55 for females. Not unexpectedly, the proportion of the population over 60 years of age is less than 5%. Apart from living in extreme poverty and harsh inequalities, this situation has been exacerbated by the rapid increase in the prevalence of HIV and the accompanied increase in incidence of TB. Moreover, Swaziland, in addition to the highest global incidence of TB, it is also experiencing a high level of multi drug resistant TB (MDR TB) cases, which appears to be growing. Sometimes the emphasis on HIV and TB means that the burden of disease from non-communicable conditions is over looked. However, these also represent a substantial impact on morbidity and mortality.

The other interesting aspect of this placement it that it is very rural, which adds a different aspect to the nature of the job. People tend to have low incomes, and most are sustained through subsistence farming. This creates extreme access issues due to poor transport infrastructure, limited available finances, and long distances between home and clinic services. Even getting to a 'local' community clinic could mean a 20 mile round trip on foot (not easy if old and/or ill), or a bus journey equivalent to a few days wages (if you are lucky enough to have someone in your family working).

2. Siteki and Good Shepherd Mission Hospital

Siteki is a small town (essentially one street) with a population of 6380. It is the centre of a rural region in the Lubombo mountains. The Good Shepherd Hospital sits on the outskirts of Siteki. It is the biggest employer in the area, and the main source of medical support for the region. It is a mission hospital, which is funded through patient charges and a supplement from the government. While the hospital has an incentive to keep patient numbers high thereby generating an income, it has a long history of innovation in healthcare delivery. It has led the way in Swaziland for ART and TB treatment decentralisation, providing service delivery models which have been rolled out to the other regions. Regardless of the financial incentives not to decentralise service, Good Shepherd Hospital has led the way in this respect for the rest of Swaziland.



2Diego in Swazi dress

The placement comes with accommodation in one of the doctor's houses, meaning that you live on hospital grounds. For me this was great; I was home with Karlita and Diego 2 minutes after I finished work, no commute, and more free time. The accommodation is basic, but functional. We really enjoyed our time there. There is also a beautiful farm within a kilometre of the Good Shepherd hospital, called Mabuda. We, as the registrars before us, were invited by the owners (Jon and Helen Pons) to come and use the farm as we wished. It is a beautiful place to go for walks, runs, picnics etc. My wife and son would visit it at least once a day. There isn't an awful lot to do in Siteki

if you are used to a large cosmopolitan city. However, all around Siteki, and Swaziland in general, there are areas of outstanding natural beauty. The hardest thing is staying put at the weekends.

3 Weekend at a lodge in game reserve

3. The Job

3.1 The handover

I remember getting a feeling that I might have a fast start to my placement when I saw an activity log on one of my visits to Leeds University; the status column beside each activity said ‘awaiting Dave’s arrival’. With hindsight it was a good introduction to the placement, where there is more work to do than a team of people could cope with. It was unfortunate that Liam and Helen finished in Swaziland seven weeks before I arrived. This meant that it wasn’t possible to have a proper handover. Although we did meet in Leeds and have a couple of telephone calls, which helped. Also, Helen’s (previous registrar) excellent handover notes were a saviour as myself and Bongekile (our research officer) struggled to make sense of everything. Having been in a position to give a handover to my successor in person, I can see the value in it. There is a lot of history behind the projects, and a startling number of stakeholders. Being there in person to make the introductions saves weeks of trying to meet key people and building relationships (which are key top all of the projects).

My recommendation to anyone considering taking this role, is to ensure that you have a good handover with the incumbent Registrar; it will pay back 10 fold.

3.2 The research officer role

While Liam and Helen did many good things during their time in Swaziland, the two that I am most grateful for are: the creation of the Research officer role; and then hiring Bongekile for the position. Bongekile had only had a couple of weeks with Liam and Helen before they returned to the UK, and then had very little support or contact for the following seven weeks as there was no Registrar in post during this time. This must have been a very difficult time for Bongekile, and it might have got worse when I arrived. In essence both myself and Bongekile were new to the programme, and had to find our way together. We soon had a list of priorities and a plan to achieve them. This gave us much needed focus.

I think that, after only six months in the role, Bongekile will be an invaluable resource for anyone coming into this placement. Having an understanding of what has been done before, what succeeded, and what failed, is invaluable when you only have six months in a position. Even more than this, Bongekile is excellent at helping to navigate through the complexities of Swazi social etiquette, and has the capacity to lead projects on her own. This is really important in this role in terms of the extra capacity it brings, and also a stable COMDIS-HSD presence in Swaziland, which reaps rewards in terms of stakeholder confidence.

In this placement you are responsible for the line management of the research officer role. This is an important aspect of the placement. As well as the administrative functions of line management, it should also include a focus on the development of this role, particularly focusing on research skills and public health knowledge.

3.3 Placement Projects

It is important to understand that whilst the bulk of the projects in this placement may be directly COMDIS-HSD, the placement has a wider public health role within the hospital (and region). This inevitably means that you will take on other projects which suit your skill base, interests, and the needs of the hospital. This is encouraged by both John Wright and John Walley.

Many of the projects are long or medium term, and may have been started and developed by other Registrars. You are also likely to start projects of your own, which you will need to handover to the incoming Registrar. The following is a brief summary of the projects I was working on and what I contributed to them.

3.3.1 Decentralisation of MDR TB patient care

The decentralisation of MDR TB patient care had officially started in June. However when I arrived the community clinics to whom patient care was being decentralised had voted to reject any MDR TB patients from Good Shepherd Hospital, and were also refusing to refer any of their patients to GSH. This was a disaster. On speaking to the regional matron (who

is in charge of all Lubombo community clinics) and her clinic supervisors, they were angry with Good Shepherd and the way we had attempted to decentralise. They felt completely disenfranchised from the process. While this was perceived by many as the community clinics being negative, I did not agree. They had only had minimum involvement from the beginning of the decentralisation process, none had received any training, the decentralisation documentation and processes were very focused on Good Shepherd Hospital, and they had not been involved in any of the working groups set up to design and implement the decentralisation process.

When I started to look deeper into what had been done prior to decentralisation 'go-live' we found that no one had been trained or orientated in MDR TB including; the community nurses; the GSH TB clinic staff; or the community treatment supporters. There were also grave concerns about infection prevention and control standards in general outpatients and radiology services. My predesser had already done a lot regarding IPC standards, but some of the key issues were still outstanding. This had led to radiology staff refusing to take any MDR TB patients (although ironically *confirmed* MDR TB patients would be on treatment, and unlikely to be infectious). The community treatment supporters were not accepting MDR TB patients.

4Speaking at the community treatment supporter MDR TB training

From conversations with a range of stakeholders, the key issue seemed to be the national TB programme pushing ahead with decentralisation, and a lack of push back from GSH. There was also a feeling from the national TB programme that because the national TB hospital was already sending some patients out to community clinics in Lubombo, that this wasn't any different. However, community clinics had confidence in the national TB hospital regarding MDR TB treatment. Also, on further investigation the decentralisation from the national TB hospital was generally very poorly planned, with very little support for community clinics, with many stories of patients turning up at community clinics without any clinical information or in some cases even a diagnosis. Key within all of this was a lack of consultation with the community clinics or the community treatment supporters.

The situation also made conversations about NCD decentralisation difficult. There was also a concern that if the MoH viewed GSH involvement in MDR TB decentralisation negatively, this might affect positive engagement with them on other projects.

The main tasks in this project were:

- **Set up regional MDR TB working group for Lubombo region**: There had been a similar group in the months before I arrived. However, this had to be put on hold while we worked

with the community clinics and the national TB programme to reengage the community clinics. We also had to expand the membership of the group to include community membership and other relevant stakeholders. We also re-established it to have a more implementation than strategic focus.

- **Finalise guideline for Lubombo decentralisation**: My predecessors had developed a draft MDR TB decentralisation guideline. We made several amendments to the guide to reflect feedback we had from community treatment supporters, community nurses, and GSH staff. The working group felt that even with amendments, and considering the history, that the guide was too focused on GSH, and a further concise guide for community clinics was required. This will be taken forward by the Registrar taking over from me.
- **Agree and support implementation of MDR TB training programme for Lubombo nurses**: This was a very difficult area. We worked with the national programme to set up further training programmes. Our role was to try and get them to engage as many of the nurses from community clinics in Lubombo in the training. The national programme put on two training sessions, but more of these sessions are needed to ensure at least one nurse form each clinic is trained in MDR TB support.
- **Develop and support MDR TB training programme for lubombo community treatment supporters**: We worked with our GSH TB clinic staff and the national TB programme to develop a three day training programme for 45 community treatment supporters in how to safely support patients with MDR TB. We had a very tight budget to deliver this training (approximately 25% of the usual budget the national TB programme allocate). The training was very well received by the treatment supporters. This came at the right time, as the following month, without warning, the national programme community treatment supporters had their funding withdrawn.
- **Agree final iterations to GSH IPC for TB and distribute**: we made minor alterations to the draft TB IPC guidelines for GSH and published them. However, this like many documents produced in GSH (or anywhere), is a piece of paper which is easy to ignore. There is an important and difficult piece of work for a Registrar to implement the guideline.
- **Agree for access to retrospective MDR TB data from national TB hospital**: Core to the MDR TB decentralisation study is a comparison between outcomes from patients who were treated for MDR TB pre-decentralisation with patients following decentralisation. The retrospective data belongs to the National TB hospital. We developed a strong relationship with the senior medical officer for the national TB hospital, who facilitated our access to the data. I had to present our study and the details of the data request to the management team and wider clinical team. After a session of some intense questioning, we were given access to the data. This has now been collated and quality checked.
- **Gain funding for MDR TB IPC modifications to outpatients and radiology**: The registrar before me had attempted to raise funding for the project, but had not been able to find any willing funders. I spoke a range of GSH and national TB programme personnel to develop a solution which had universal sign up (essentially a standalone radiology service for TB patients in the TB clinic). I used this information with national and international guidance to develop a funding proposal for IPC improvements to support MDR TB decentralisation. I contacted and met with a range of funders including, WHO, URC, national TB programme, ICAP, and UNICEF, among others. I received funding promises from both ICAP and URC (we took up the ICAP funding) to cover clinic room renovations and IPC improvements. I had also received a commitment from UNICEF to fund the portable x-ray machine, but because of delays in finalising out funding proposal, this was withdrawn. However, another funding source which we have been pursuing with the GSH management team eventually (in

February) agreed to fund the portable x-ray machine. This process took a substantial amount of time and effort in meetings, telephone calls, proposal writing, and chasing various stakeholders on their commitments. However, it is critical to the sustainability of MDR TB decentralisation.

5Busani (TB nurse) in TB clinic

I feel that MDR TB decentralisation has moved a long way from where it was in August 2015, but there is still a lot of work for the incoming Registrar to complete. The decentralisation working group is working really well, and will be key to ensuring that issues are dealt with quickly and stakeholders involved and held to account. The challenge is now to improve uptake and to embed good practice; a significant challenge.

3.3.2 Decentralisation of Non Communicable Disease patient care

All Registrars who take up this placement report on the need to prioritise their work plan. Depending on the status of the projects you inherit, pressure coming from national partners and COMDIS, and your personal interests, you will prioritise some projects above others. I am open to the fact that my priority was to move NCD decentralisation forward. This was a difficult project, which hadn't moved very far forward since it was developed as an idea by James and Elka Elston in 2012. There are several reasons for this (I believe): decentralisation requires a national policy change in terms of the drugs available at government community clinics; other COMDIS projects such as MDR TB and infection prevention and control were a priority; and NCDs in general were not a priority nationally. My time in Swaziland appeared to coincide with a new national positive approach to NCDs, and I am personally interested in NCDs and Health systems.

The other difficult aspect for this project was that all of the important stakeholders (MoH, community clinics, medicines management, GSH staff, etc) had already met at least three other registrars who wanted to move this forward, and so far no progress had been made (for the reasons stated above). This initially meant a lot of apathy (although they were all convinced of its importance). The key was getting national buy in through the national NCD committee, and changing national policy to cover access to basic NCD drugs in community clinic locations. The Registrar before me had tracked down the national NCD lead, Dr Okello. Unfortunately, this did not happen until her last couple of weeks in Swaziland, so it was not possible for her to engage with the national NCD committee. However, now that this contact had been made it was easier for us to move forward.

The main tasks in this project were:

- **Present study proposal and documentation to the national NCD committee**: We presented the NCD decentralisation proposal to the National NCD Committee in September. They supported the proposal and asked us to join the national committee. They also agreed to use our project as a national pilot for NCD decentralisation. As part of this agreement they asked for us to lead and coordinate the development of Swaziland specific community treatment guidelines for hypertension and type II diabetes (they felt the national management guidelines were not relevant or practical to community management), and to develop community clinic specific guidance (based on the COMDIS desk guide).
- **Development of Swaziland specific community treatment guidelines for hypertension and type II diabetes**: I had to coordinate and lead a multi-stakeholder work group to develop the community specific step-wise management. We had local, regional, and national doctors and nurses, from a range of organisations including: community clinics, GSH, MoH, NGOs supporting NCD development at MoH, and COMDIS. We completed this work over four weeks using meetings and electronic correspondence. Our management protocol borrowed on the draft national hospital guidance, the COMDIS approach, and the practicalities of treating diabetes and hypertension safely and effectively in community clinics in Lubombo.
- **Gain agreement for NCD drug supply to community clinics**: This was the most critical area of all of my work. In essence the rest of the work (gaining national pilot approval, developing clinical management guidelines, etc.) was to facilitate agreement for drug supply at community clinics. We developed a proposal from the community clinical management guidelines, which was supported by the national NCD lead (Dr Okello). I then arranged a meeting with the Swaziland Chief Pharmacist and a number of national and regional stakeholders to discuss how to take this forward. The Chief Pharmacist informed me in late December that they had agreed with central medical stores to supply community clinics in Lubombo with our list of medication. The next Registrar will have to ensure this now happens in a timely manner (I suspect this will more challenging than it appears).
- **Set up Lubombo NCD decentralisation working group**: We initially set up a multidisciplinary team (local, community, and national clinicians) to review the desk guide and develop the community clinic treatment guideline. This group has been developed into the Lubombo Regional NCD Decentralisation Committee. The group has also reviewed the complete desk guide and other materials, including clinic documentation etc. It is important that this group takes ownership for all protocols and materials to ensure they are applicable and have buy in. We have been careful to ensure that we always have at least two community clinic supervisors on this group, and when available, the regional matron chairs the meeting.
- **Review Case Management Desk Guide, treatment cards, register, and supporting materials**: I reviewed all materials with various stakeholders, and took them through the decentralisation committee for input and sign-off. We made substantial changes to the materials, particularly the patient and clinic records. We also dropped the patient register, as this was impractical for a sustainable chronic care model. The group had strong views on the patient information leaflet, which my predecessor drafted and I revised. They wanted substantial changes to the material, language, and presentation. Their insights were invaluable in terms of what will work and be accepted. The incoming registrar will take this forward.

- **Training and awareness of GSH staff on CVD, diabetes, and hypertension**: We set up one day training sessions for GSH staff in September (43 staff attended). This was used as a pilot for a more intensive training for outpatient and community clinic staff. It was also used to try and engage staff in the importance of NCDs, and build support in GSH for NCD decentralisation. We also asked all participants to fill out a short evaluation. We collated and analysed the evaluation data. This will be used to develop the course for community clinics and GSH outpatients, which will be more in- depth and intensive.
- **Pairing of community clinics and randomisation**: As per study proposal, we have paired government community clinics based on catchment population, distance from GSH, and competence in decentralised care (pre ART, ART, and TB initiation). We randomised clinics in each pairing to intervention (decentralised care) or control (normal/GSH care). This has been shared with the NCD decentralisation committee. This seemed a relatively straight forward task, but was actually quite difficult in terms of choosing suitable variables to pair clinics, and then ensuring they are appropriately balanced (difficult to do when you have five variables)
- **Health promotion and screening event for CVD, diabetes, and hypertension**: We did this in partnership with the programmes team, who were putting on a HIV testing event. We developed health promotion materials (bags and bottles) with diabetes and hypertension motivational and health promotion messages. We also had a screening stand where people were given Blood Pressure and Blood Glucose tests. More than 150 people had BP and BG tested. There were also health talks given on diabetes and hypertension.

6(L to R) My favourite research officer (Bongekile) and my favourite nurse (Sr Sweetness) at the NCD Health promotion day

I am really pleased with the progress made on NCD decentralisation. The new Registrar is also highly motivated to move this forward. Since my departure I can see that this project is moving

along really well, and I am confident that the new Registrar will have this programme fully implemented before his departure (a great achievement).

3.3.3 Developing integrated screening programme for diabetes and hypertension in ART and TB clinics

7Barry Duma (screening nurse) takes blood pressure in ART screening

Everyone who takes up this placement has some 'pet' projects which they take on, which are not part of their original work plan. The most significant of mine was the setup, implementation, and evaluation of two integrated screening programmes for diabetes and hypertension. There was a push for screening for NCDs from the national programme, but without any guidance or support on how this would be completed. The challenge with screening in ART, with relatively little investment, is dealing with the numbers of patients (over 8000) all of whom will be seen by the service during a three month period. We tested patient flows using a variety of set ups, and risk factors. After ten days of testing various set ups (using short Plan, Do, Study, Act (PDSA) cycles) we finalised a screening procedure. The challenge in TB was to set up a process where all current patients are screened at least once, and new patients have blood glucose tested before treatment and one month after commencement (to monitor blood glucose control when taking Rifampicin). We were also collecting data through this process to evaluate the success of the screening programme.

The main tasks in this project were:

- **Development of screening material**: We developed a screening algorithm, which was adjusted through PDSA cycles. We also developed evaluation criteria, and used this to design a screening data collection tool. We also had to develop a community clinic referral proforma and procedure for patients who screened positive to receive follow up diagnostics in their community facility. As part of the evaluation I also created a data collection/collation spreadsheet for the data clerks to input screening data. All of these tools and procedures have been captured in the associated standard operating procedures that were created as part of the programme.
- **Implementation of the screening programme in ART and TB**: The ART programme was difficult mainly due to the high patient numbers. The screening programme in ART began officially on 1st December, running for three months. From this point forward only new patients will be screened. Adjustments will be made following the outcomes of the data analysis. The screening programme in the TB clinic was based on the ART format, with adjustments made in consultation with the TB clinic staff. It is also different due to rescreening blood glucose after one month on treatment. This programme began in early January. All patients already on treatment will have been screened by early March. Screening of new patients will be screened thereafter.

- **Writing and approval of screening budget**: A calculation of funding requirements from COMDIS was developed and agreed. The challenge was to create a screening programme with minimum extra resource, so that it could be sustainable in the future (depending on evaluation outcomes).
- **Screening outcomes data collection**: I developed data collection tools and a data capture spreadsheet for screening data and outcomes. We also negotiated the use and funding for data clerks to input the data.

We are now receiving the final data from the screening programme, which will be used to evaluate the programme and to make decisions about its future development.

3.3.4 Developing Ebola virus preparedness

I was in Swaziland as the severity of the Ebola outbreak in West Africa was beginning to become apparent. There was a lot of coverage in the national newspapers, and even though Swaziland has a very low risk from this Ebola outbreak, people were extremely anxious. A national emergency preparedness and response team were set up coordinate Swaziland's Ebola virus response. All health institutions were told arrange an Ebola preparedness response plan. I was asked by the Senior Medical Officer to coordinate our approach. The core activity was to agree our approach with clinical and management staff.

The main tasks in this project were:

- **Develop Good Shepherd Ebola preparedness and response guideline**: I made contact with the National SMO in charge of the Ebola Virus, who sent me a copy of the draft Swaziland plan for Ebola Virus Preparedness. This was unfortunately not very well developed, with basic elements missing, such as a case definition. I also searched for international guidance on Ebola preparedness for hospital facilities. I wrote GSH Ebola guidance with input from a range of stakeholders. This was approved by GSH SMO, and members of the GSH Ebola Case Management team.
- **Set up development of an emergency preparedness and response committee**: This is something that was highlighted as an area that GSH was performing poorly on at a recent national audit. This also appeared to be the format most enthusiastically endorsed by GSH personnel. The remit of this group was to extend beyond Ebola, to focus on preparedness for emergency events with highest risk rating. The establishment of the Emergency Preparedness and Response committee was delayed substantially through difficulties finding a Chair for the group. The SMO agreed to take on this role, but the meeting had to be rescheduled on four occasions. It was not possible to hold the meeting due to competing priorities of members, and the Christmas period when several members were away for substantial periods of time. It has been disappointing not to be able to establish this group, but the GSH SMO is still keen for this to proceed. The incoming registrar will take this forward.

I felt that this project was a failure. While the SMO and clinical team were very happy about the guideline we developed, as it put them ahead of the other institutions in Swaziland, I don't feel that practically it actually amounted to anything. Good Shepherd Hospital, like many institutions, is full of well researched guidance, which does not actually amount to any change on the ground. As media interest in Ebola waned, so did the sense of urgency in the hospital. The real benefit of implementing the Ebola guideline, is not for Ebola itself, but for basic infection prevention and control. Most of the precautions required for Ebola are generic infection prevention and control

practice. Other Registrars had completed excellent work on IPC improvement, much of which is not sustained within weeks of their exit. I thought that I could use the Ebola crisis as a way to get top-level clinical and management buy-in to infection prevention and control improvements. With hindsight my approach was probably too convoluted to be successful. There have been recent very positive changes to the IPC team at GSH, and the new Registrar has a keen interest in this area, so I am positive that this area will advance.

4. Learning Outcomes from placement

One of the real strengths of this placement is that it really stretches you. While my placement was only six months, it was an incredibly fulfilling and intense time. It is a great mixture of policy work, service development, and research. Personally, I felt like this placement was a big step up in my training. You take on a lot of responsibility and are suddenly designing and implementing projects that you have only studied. It is definitely a placement for the later stages of training when you feel competent and confident in your Public Health knowledge and practice.

The placement is very strong in terms of the contribution it makes toward learning outcomes. However, you also have to work hard to get them. For a full list of the learning outcomes which I was able to add evidence toward (for phase 3), please see appendix A.

5. Conclusion

I had an amazing time both personally and professionally in my placement in Swaziland. It was also a great time for my family; we spent more time together, met lots of great people, and saw some amazing things. We all wanted to stay.

8The last weekend in Swaziland at Mbuuzi game reserve: (L to R) Sisanda (Bongekile's daughter), me, Karlita (my wife), Diego (my son), Ashley (the new Registrar), and Bongekile

If you want to step up your training to a level of responsibility approaching a consultant level, this placement will suit you. I found that it was great for my confidence. I was suddenly made aware of what my training had given me. It also meant that I felt, even though I was only there for a short time, that I was able to make a real difference. Even if you are not considering a career in Global Public Health, this placement will still give you a great training opportunity which is equally applicable in the UK environment.

I have found it difficult to let go of the projects when I returned to the UK. You invest a lot of time and energy in the work, and remain connected to it. However, the new Registrar is already racing ahead with all of the projects, and will bring his own unique skills and personality to the placement. Good Luck.

Appendix A: Learning Outcomes from placement

KA1.3: Use range of methods for assessment

KA1.4: Analyse geographic population data

KA1.5: Use a range of routine information sources and surveillance systems

KA1.8: Undertake an assessment of the health impact of a policy or project

KA2.1: Generate an appropriate question in order to assess the evidence

KA2.2: Use Health and non-health evidence

KA2.3: Make use of others in finding and retrieving evidence

KA2.5: Document methods used in finding and retrieving evidence

KA2.8: Formulate a balanced, evidence-based recommendation

KA2.9: Provide options for decision makers

KA2.10: Communicate recommendations

KA2.19: Incorporate relevant legal and ethical frameworks

KA2.20: Demonstrate a proactive approach to identifying issues

KA3.1: Display awareness

KA3.2: Recognise the need for policy work

KA3.3: Identify the key issues

KA3.4: Propose evidence-based policy options

KA3.5: Collate and interpret information and advice

KA3.6: Make appropriate changes to policy and/or strategy proposals

KA3.8: Develop a plan to secure the resources

KA3.9: Overcome problems

KA3.10: Analyse the process and outcomes of policy implementation

KA4.3: Use effective and appropriate leadership styles

KA4.8: Manage a project to successful completion

KA4.10: Understanding of how to use different methods of financial management

KA4.11: Guide and support staff

KA4.12: Balance the needs of the individual, the team and the task

KA4.14: Display leadership

KA4.16: Handle major levels of conflict

KA4.17: Negotiate and influence in a multi-agency arena

KA4.19: Work in partnership with other agencies

KA5.5: Develop and implement a plan to address a health improvement need

KA5.6: Evaluate a health improvement intervention

KA5.9: Influence professional groups outside public health

KA5.10: Play an active role in engaging the public

KA7.1: Evaluate and audit services

KA7.2: Design and implement data collection

KA7.3: Critically appraise a business case or cost/budget assessment

KA7.4: Conduct a health economic or cost/budget assessment

KA7.5: Contribute to a project using techniques of resource mapping and economic appraisal

KA7.6: Prepare and present a service specification document

KA7.8: Monitor and appraise

KA7.11: Establish links with existing professional networks

KA7.12: Identify and deal with uncertainty in service change decision making processes

KA8.7: Treat information about patients as confidential

KA8.8: Provide information needed and requested

KA9.4: Define appropriate outcome measures and data requirements

KA9.5: Identify the resource implications of varied research strategies

KA9.6: Use one or more research methods to support work

KA9.9: Identify research needs based on patient/population needs

KA9.10: Work within the principles of good research governance

KA9.11: Help the public to be aware of and understand health issues

KA9.12: Contribute to the education and training of other staff

KA9.14: Supervise a junior colleague in a one-to-one project mentorship

KA9.17: Advise on the relative strengths and limitations of different research methods