

## 2014 Tanzanian Elective Report (Murgwanza Hospital and Tumaini Fund)

### Learning Objectives:

1. *Describe the pattern of disease/illness of interest in the population with which you will be working and discuss this in the context of global health*
2. *Describe the pattern of health provision in relation to the country in which you will be working and contrast this with other countries or the UK*
3. *Health related objective: Learn about and witness the most prevalent diseases in the paediatric population, develop a breadth of knowledge and experience on other endemic health issues and understand the healthcare system in Kagera, Tanzania*
4. *Personal and professional development goals, must also include some reflective assessment of you activities and experiences: I would like to experience how a third world country uses its limited resources to tackle health issues, see a variety of tropical diseases that I would otherwise not witness in the UK and expand my awareness of current public health campaigns in Tanzania.*

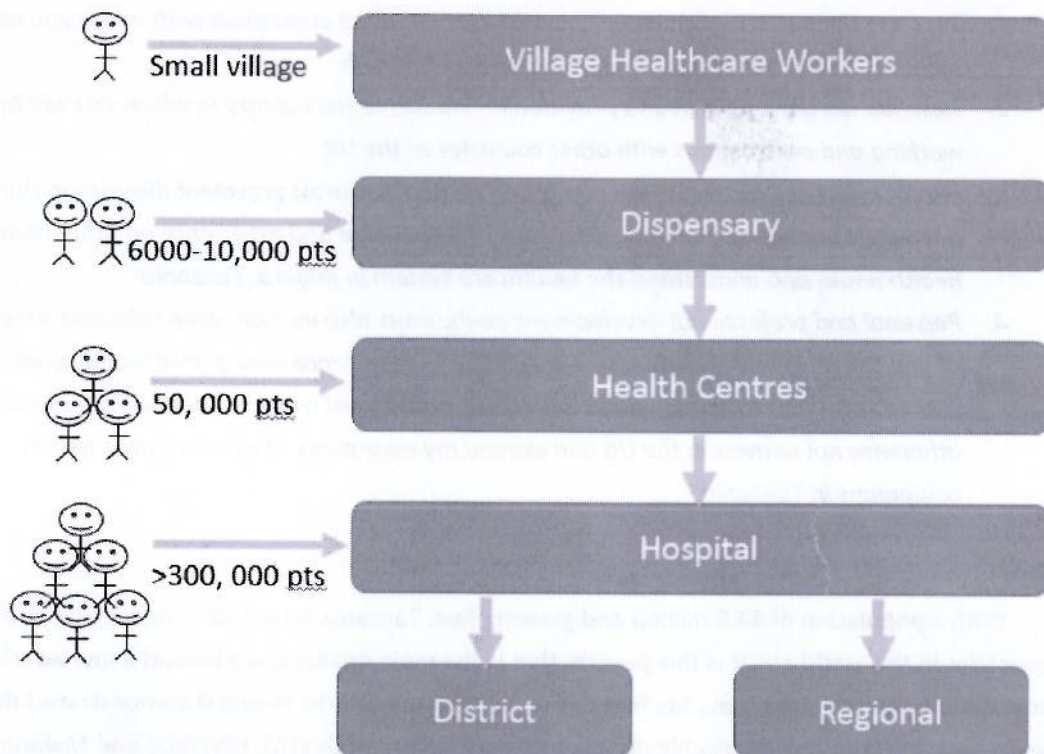
With a population of 44.8 million and growing fast, Tanzania is ranked as one of the poorest countries in the world and it is this poverty that is the main driving force behind a myriad of diseases prevalent in the country today. My first day at Murgwanza District Hospital demonstrated this very issue; malnutrition, communicable diseases such as Tuberculosis (TB), HIV/AIDS and Malaria were rife, all of which are preventable or treatable. The root cause is more than just "lack of food" but social, political and cultural contexts are keeping the average life expectancy low at 49. Hence, public health campaigns and education are fundamental health interventions. Moreover, patterns of disease are changing in particular for HIV/AIDS which is rising to now 1 in 20 people (70% being aged 25-49) whilst Malaria is drastically declining; from 140 in 2000 to 15 per 100,000.

Pneumonia and Malaria are by far the most common cause of hospital admissions at Murgwanza Hospital for all age groups. In terms of surgery, caesarean sections, herniorrhaphy and gynaecological procedures are the most common.

The largely rural and fast growing population has driven restructuring of the health system in Tanzania, with particular importance being given to access of care in remote areas (Figure 1) and similar to the UK, there is a local point of contact (i.e. GP) and then secondary care in hospitals. Majority of health professionals are not trained doctors or nurses, in fact, doctors make up 1.7% of the healthcare workforce, 52% of which are in Dar Es Salaam.

There is provision of both public and private healthcare and certain groups of people are exempt. These include:

- a. Emergencies
- b. Under 5
- c. Over 65
- d. HIV/AIDS
- e. Pregnant women
- f. Contraception



*Figure 1: Hierarchy of the Tanzanian Healthcare system. There are 219 hospitals, 481 health centres providing services such as minor surgeries and maternal health, 4679 dispensaries including services like directly observed treatment for Tuberculosis. Of all of these areas, only hospitals have doctors, everywhere else there is a mixture of nurses, clinical officers with minimal clinical education as well as volunteers in places where there is no other available person. (pts= patients).*

In addition, there are local HIV clinics set up in remote villages where otherwise people would have to travel for hours to get their medications or to be tested, reducing compliance and diagnosis respectively. Tumaini ("Hope"), a faith-based charity working with local parish workers to help orphaned children from the Rwandan Genocide, has set up a HIV clinic in a village called Tobey where every few days, there are clinics where people can be tested and can receive their medications (Figure 2).



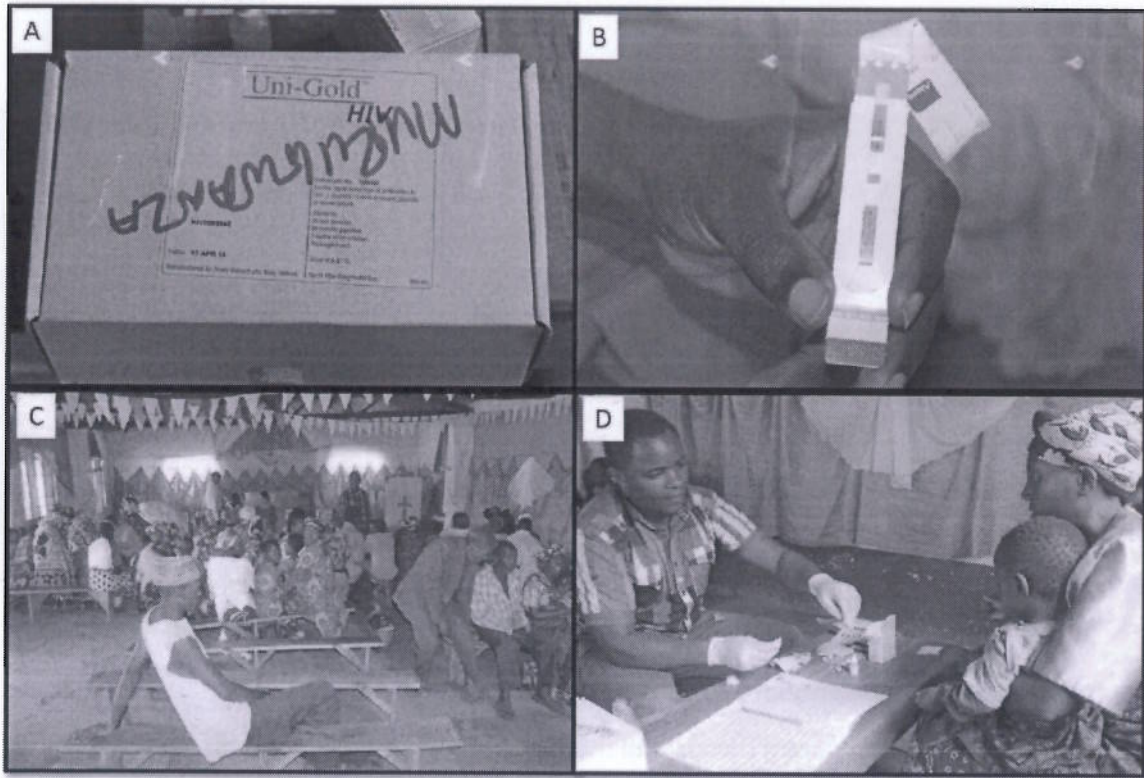


Figure 2: HIV Testing at Tobey, Kagera. A and B) HIV test kit. C and D) People of Tobey being tested. (With permission of all persons in photographs).

Murgwanza Hospital has had a decline in the number of doctors from 12 to 5 in the last 4 years mainly due to its remote location and serves a population of 335,000. In most other rural areas, there is 1 doctor per 300,000, thus Murgwanza Hospital is still thriving comparatively in this respect. Health education particularly for mosquito nets, family planning and HIV and Syphilis prevention is a strong focus here.

The first thing that struck me as I entered the paediatric ward was that 2-3 patients and their mothers were sharing a bed between them, the lack of readily available gloves and strikingly low levels of staff. I found my thoughts of patient confidentiality, hygiene and staffing issues inane in light of the screaming need of a magnitude of children for imperative treatment for life-threatening conditions. The ward is divided into four areas:

1. Paediatric Intensive Care
2. Infectious area
3. Malnutrition Room
4. General paediatric area.

Mortality amongst infants in Tanzania is declining rapidly since 1990 and the most common causes of death amongst infants is pneumonia and prematurity (Figure 3).

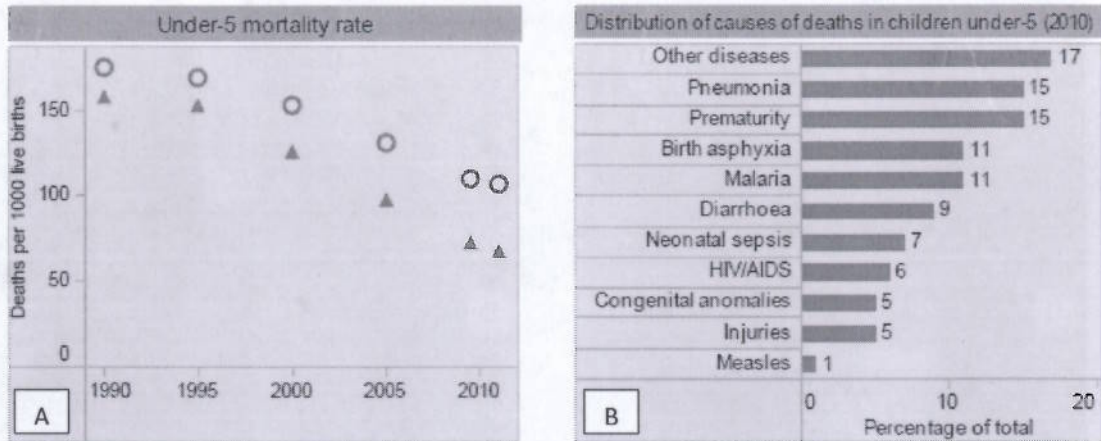
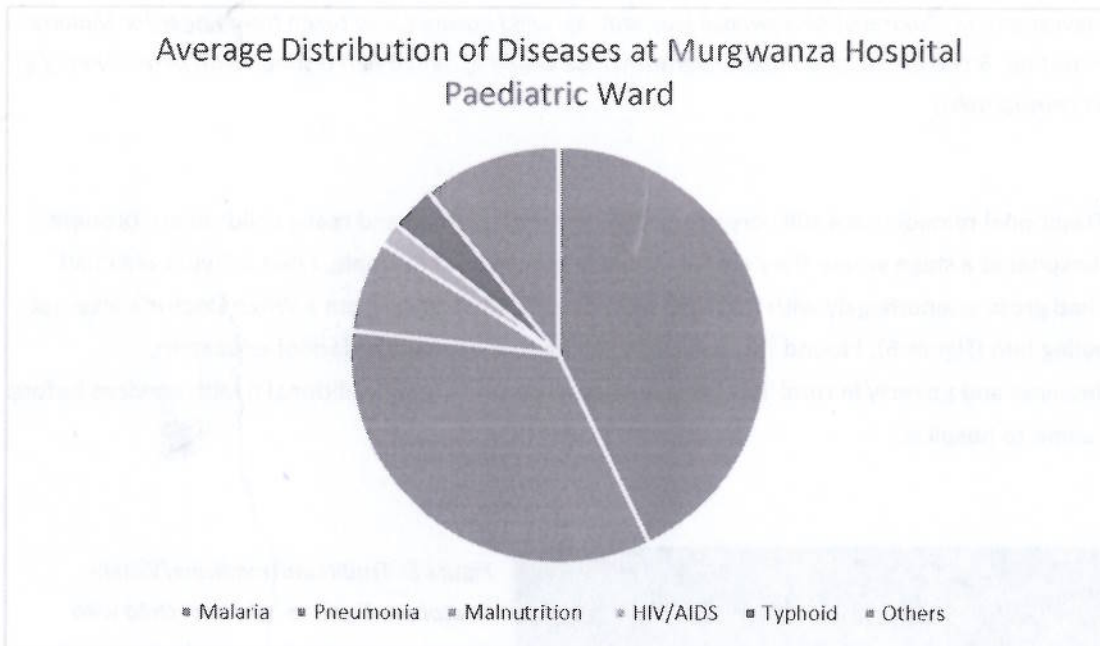


Figure 3: World Health Organization- A) Morality amongst under 5s in Tanzania from 1990 to 2010. B) Distribution of the different causes of deaths in children aged under 5 in 1020 in Tanzania

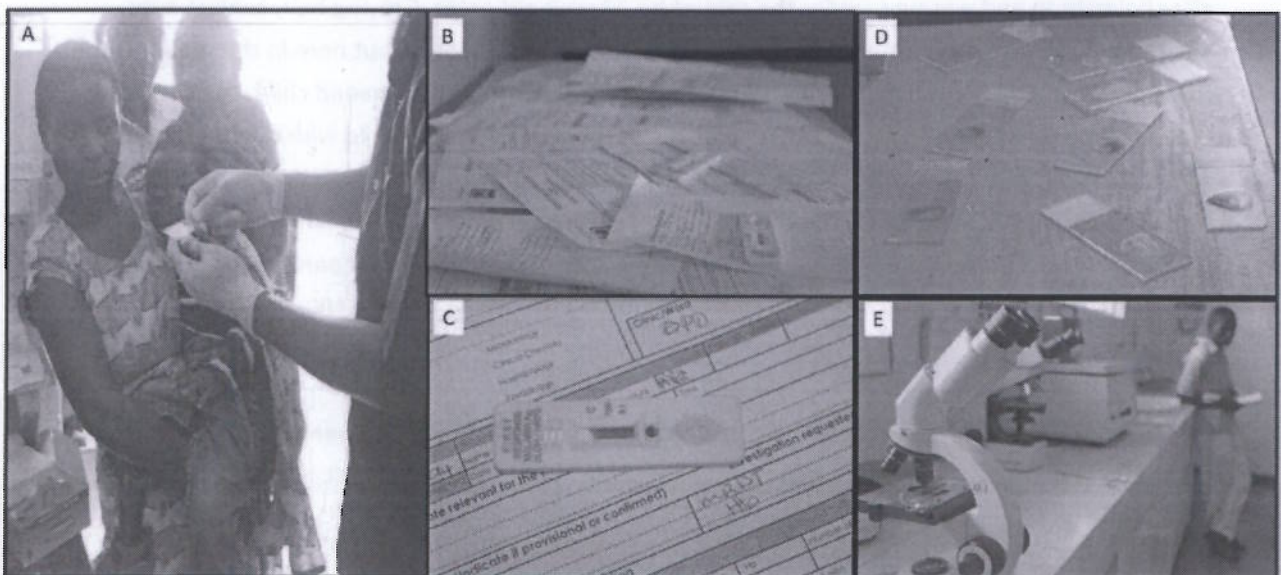
Moreover, whilst on ward rounds with the paediatric team, I conducted my own research looking into the commonest causes of paediatric hospital admissions (Figure 4). The results grossly coincided with WHO’s statistics, conveying that malaria and pneumonia were the two biggest causes of hospital admissions amongst the paediatric population at Murgwanza Hospital.





*Figure 4: Distribution of Diseases in the paediatric ward on an average ward round (based on 3 ward rounds, mean of 56 patients, aged between 3 months to 12 years).*

The death rate from Malaria has markedly reduced since 2000. This was reinforced on the ward with numerous children being discharged every day after coming into hospital with convulsions, fevers and/or vomiting. They underwent prompt investigations with ‘Malaria Rapid Diagnostic Tests’ and blood films and received inpatient or outpatient treatment (Figure 5). There has been a national decline of 75% of malaria cases and deaths since 2000 with the implementation of Intervention strategies. These include free investigations and treatment for malaria, insecticide-treated nets, indoor residual spraying and intermittent preventative treatment (for example, for pregnant women).



*Figure 5: Investigating Malaria at Murgwanza Hospital. A). Child having blood taken from finger for Malaria blood film testing. B and C). Malaria Rapid Diagnostic Test. D and E). Blood film testing (With permission of all persons in photographs).*

Traditional remedies are still very prominent in rural Tanzania and many children are brought into hospital at a stage where they are less likely to survive. For example, I met a 3 year old child who had gross splenomegaly with vast scars over her abdomen from a Witch Doctor's attempt at healing him (Figure 6). I found this to be something that echoed the lack of education, helplessness and poverty in rural Tanzania. 60% of all patients seek traditional health services before they come to hospital.



*Figure 6: Traditional medicine/Witch-Doctor medicine to help heal child with pneumonia and enlarged spleen*

Malnutrition is another endemic health issue for children. One child was orphaned shortly after being born and was now under the care of his 13 year old sister. Greying hair, sunken eyes, bloated abdomen; a description that is seldom associated with children, but here in the malnutrition room on the paediatric ward, this was a common sight. This recently orphaned child was not being breastfed, similar to all of the children in this area of the ward. Another child with marasmus had contracted HIV from his mother who was abused by her alcoholic husband. The doctor on the ward explained that, by far, the most important question of his consultation with each mother of a child is "Are you breastfeeding?". The necessity of breastfeeding in rural Tanzania is paramount due to its tragic consequences if not carried out and it is not just a choice as it is in the UK.

Another stark contrast to the UK was with blood transfusion. The blood bank is non-existent and is transfused from relatives only when the haemoglobin level falls below 5g/dL as opposed to 8g/dL in the UK;

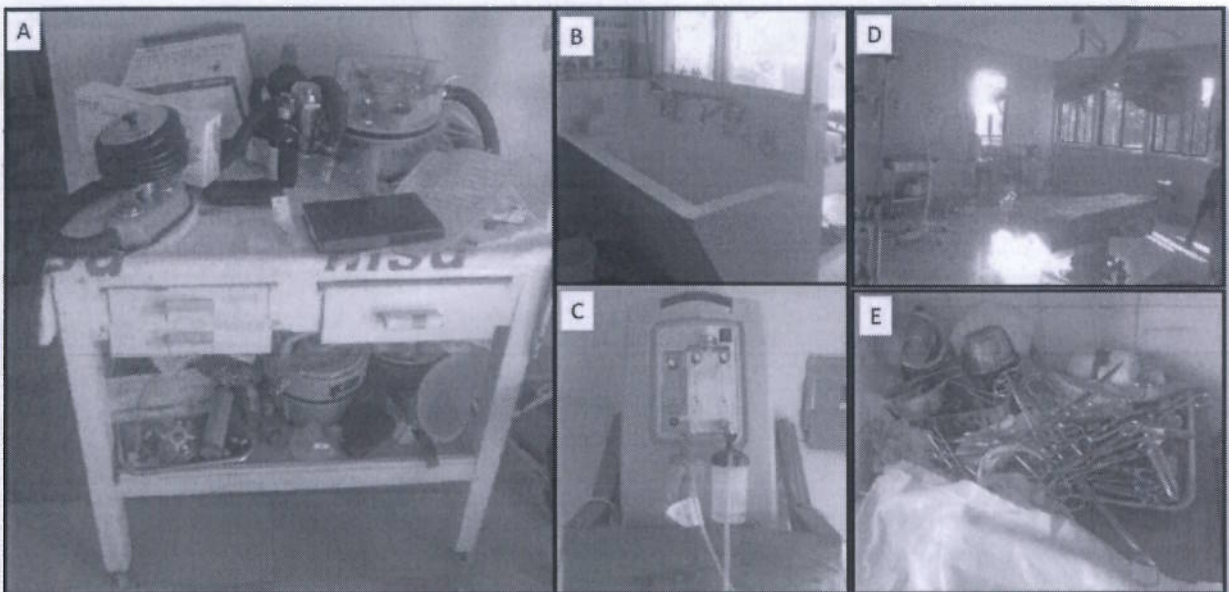


“If we did that, we would be transfusing every single patient that comes to hospital!” (Doctor R).

A particular example of when the implications of such poor resources in cases of anaemia really troubled me was when a child with Marasmus and a Hb of 4.1g/dL could not be transfused for two days as they had to wait for the relative to arrive.

I saw many other interesting cases in the paediatric outpatient emergency department including a 2 year old boy with sickle cell crisis (painful wrists and ankles) and a 10 year old boy with rheumatic fever (a very loud new murmur and fever).

I spent some time in theatres and on the surgical ward as well. I was surprised to see that almost 40% of the patient consisted of road traffic accident casualties as well as how the doctor that was dealing with medical patients earlier in the day was now seeing surgical patients and planning their surgeries. The doctors in rural hospitals need to have such a breadth of skills. The theatre itself was lacking many anaesthetic drugs and equipment that are standard in the UK and also had one oxygen cylinder that went up to 5 litres of oxygen maximum only (Figure 7). The theatre list of 8 patients stopped on one occasion as 7 patients had not paid for their surgeries; a stark contrast to the National Health Service we have in the UK. However, many similarities to the UK were also apparent; caution not to break asepsis, similar theatre set up and scrubbing kits.



*Figure 7: Surgery at Murgwanza Hospital. A). Anaesthetics Trolley B). Scrubbing up basin C). Oxygen cylinder device D). Theatre E). Surgical apparatus*

Tumaini have performed numerous disease prevention interventions including a water-pump for clean water that is maintained by cleaning and checking the water for contaminants regularly (Figure 8). In addition, they provide funding for school uniforms and stationary for children



that cannot otherwise afford it to be able to obtain a good education and during my time in Murgwanza, I was able to help pack items and distribute them to local villages. At a national level, other malaria prevention strategies than the ones mentioned previously include mosquito net distribution and public health campaign posters for TB and Polio vaccinations for children (Figure 9).



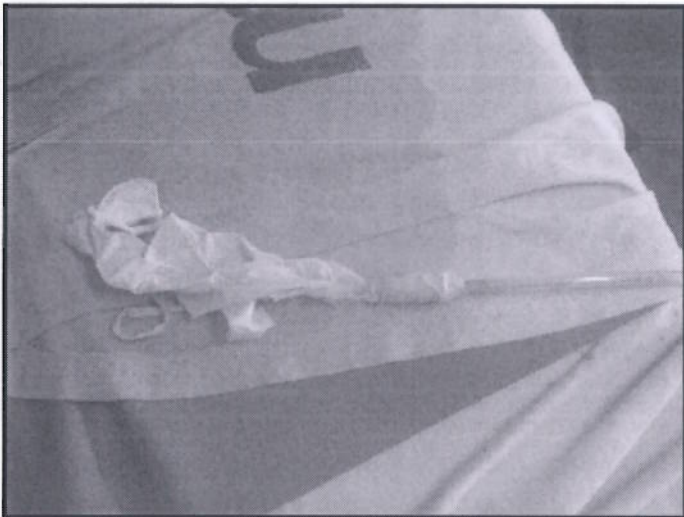
Figure 8: Tumaini worker cleaning the Tumaini-funded water pump for local village with chlorine (With permission of all persons in photographs).





*Figure 9: Public Health Campaigns for polio and Tuberculosis vaccinations on the paediatric ward at Murgwanza Hospital*

Through this elective period, I have gained invaluable experience and knowledge in regards to tropical diseases and other conditions that are not prevalent in the UK. From radio-ulnar fractures reduced in a cast made of cardboard boxes to catheters made from gloves (Figure 10) and lack of fundamental drugs like morphine, there is no doubt that the healthcare professionals work relentlessly to provide an outstanding level of healthcare with extremely limited resources and are a true inspiration. The future of healthcare in Tanzania relies heavily on health education and prevention of disease, thus a combination of more public health initiatives, drivers for more rural healthcare staff and increased funding for hospitals will help improve the system.



*Figure 10: Glove used as adapted catheter for a patient with spilled urine on bed*