RCSI medical students PETER STAUNTON, ELIZABETH TATRO, OWEN KEANE, JOANNE LENNON, NIALL TIERNEY, EMMA CARMODY, ELIZABETH KEANE, SEAN FITZGERALD and BRENDAN O’KELLY embarked on an elective experience last summer in Kamuzu Central Hospital (KCH) in Lilongwe, Malawi, South Central Africa.

The warm heart of Africa

Behind the warm smiles and kind greetings of the Malawian people lies a country ravaged by poverty, HIV, malaria, and abysmal maternal and infant mortality rates. It has a population estimated at over 15 million, and with one of the highest birth rates in the world the population is expected to triple in size by 2050.¹ The health system is based around 21 district hospitals and four central hospitals, which act as tertiary referral centres. Kamuzu Central Hospital (KCH), a one-thousand-bed hospital, is the centre for the central region of the country and has a catchment population of over five million people. During our time in Malawi we were afforded the opportunity to join the specialty of our choice within the hospital and we have attempted to provide insight into each.
Internal medicine
The bulk of our group chose internal medicine, with five students allocated to the four general medical teams. The general medical wards were overcrowded, with countless numbers of patients spilling out onto the verandas, and only a few patients lucky enough to secure a bed inside. With limited nursing staff, patients were required to bring a ‘guardian’ – a friend or family member who was responsible for providing food, helping them to dress and providing for all of their hygiene needs.

The first piece of advice shared with us was that our best resources would be our five senses, which was not lost on us once we became familiar with the smells of the wards. This was also driven home by the fact that a full blood count (FBC) and a partially worn x-ray machine were the only two freely available investigation modalities. It was clear that careful history taking and the clinical exam were going to be the most useful diagnostic tools and this was made all the more challenging by a considerable language barrier. History taking in Chichewa came more naturally to some of us than others, with most histories based around ‘Mkuvu Kuwawa?’ (‘Do you have pain?’) and plenty of hand gesturing.

Morning meeting started the day for most of the specialties in the hospital. It was in essence a handover meeting, which discussed developments overnight. The meeting was generally followed by a day rounding the wards or an attachment to the ‘short stay unit’. Visiting and local physicians alike were eager to teach and expose students to most aspects of medical care within the hospital. As in any hospital, there were daily tasks to be performed on the wards, such as blood draws, pleural or ascitic taps and lumbar punctures, and the opportunity presented itself to the group to perform these procedures.

Simple tests like renal and liver function tests or cytology were not readily available, some of the group took it upon themselves to get tests done, whether it be paying out of pocket for a liver function test (LFT) to differentiate between the causes of painful jaundice or persuading the visiting pathologist to ask for a full blood count (FBC) and a partially worn x-ray machine were the only two freely available investigation modalities. It was clear that careful history taking and the clinical exam were going to be the most useful diagnostic tools and this was made all the more challenging by a considerable language barrier. History taking in Chichewa came more naturally to some of us than others, with most histories based around ‘Mkuvu Kuwawa?’ (‘Do you have pain?’) and plenty of hand gesturing.

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The ‘short stay unit’, which is essentially the medical Accident and Emergency (A&E), provided great opportunities to work up patients from initial presentation. Huge emphasis was also placed on utilising the history and exam to guide management as confirmatory testing was not always available. The necessity to consider unfamiliar underlying pathologies added to the difficulties when assessing the semi-conscious patient.

The common Irish presentations of heart failure, liver disease and diabetes were no less common in Kamuzu and daily rounds provided evidence of this. However, malaria and HIV were probably the two conditions that set a hospital day in Malawi apart from one in Ireland. Daily exposure to the management of these conditions provided a great basis for becoming familiar with the diseases. Alongside HIV were all of the conditions associated with immunosuppression, commonly seen in older patients who had not been treated with anti-retroviral medication early in the course of their illnesses. Feeling the tree bark skin of Kaposi’s sarcoma or seeing the distinctive presentation of cerebral malaria were among some of the experiences that made the elective invaluable.

Surgery
As a lone student attached to the surgical team, there was a great freedom afforded as regards daily activities. Days typically began, like the other specialties, with a morning meeting, reviewing overnight cases and the inevitable deaths over the past 12 hours.

Following this, the options were to either spend the day in theatre, partake in daily rounds or spend some time in the surgical A&E, where a constant stream of patients presented themselves, many having travelled for days from the districts.

There was always work to be done in surgical A&E. The more senior surgeons really enjoyed the opportunity to teach and basic triaging was something they gave particular attention to. They focused on highlighting the skills involved in managing patients with next to no diagnostic investigations. Surgical chest drains, endless wounds to be sutured and fracture reductions were among the daily tasks for the enthusiastic student.

The surgical wards consisted of multiple cramped, dimly lit rooms with bare cement floors. The overpowering smell of sepsis was noticeable before the sight of the purulent and often completely open wounds responsible for it. Despite the potential to be deterred from returning to the wards, they were the place where most was learned. The rounding surgeons took great pride in their knowledge and attempted to impart it, with daily simulated final medicine objectively-structured clinical examinations. Signs like massive splenomegaly and advanced wound infections, which are rare in Ireland, made spending time there very worthwhile.

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Paediatrics
Daily activities for the two students in this department began with a very brief round of the main ward and the High Dependency Unit (HDU). The morning meeting that followed was an excellent source of handover meeting, which discussed developments overnight. The meeting was generally followed by a day rounding the wards or an attachment to the ‘short stay unit’. Visiting and local physicians alike were eager to teach and expose students to most aspects of medical care within the hospital. As in any hospital, there were daily tasks to be performed on the wards, such as blood draws, pleural or ascitic taps and lumbar punctures, and the opportunity presented itself to the group to perform these procedures. Because simple tests like renal and liver function tests or cytology were not readily available, some of the group took it upon themselves to get tests done, whether it be paying out of pocket for a liver function test (LFT) to differentiate between the causes of painful jaundice or persuading the visiting pathologist to ask for a full blood count (FBC) and a partially worn x-ray machine were the only two freely available investigation modalities. It was clear that careful history taking and the clinical exam were going to be the most useful diagnostic tools and this was made all the more challenging by a considerable language barrier. History taking in Chichewa came more naturally to some of us than others, with most histories based around ‘Mkuvu Kuwawa?’ (‘Do you have pain?’) and plenty of hand gesturing.

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The bulk of the day was spent on twice-daily rounds throughout the various departmental areas and wards. Staff and students were split into two consultant-led teams with the aim of assessing as many
children as possible. With plenty of work to be done, students set 
about monitoring vital signs, checking blood glucose levels, carrying 
out malaria rapid diagnostic tests, and performing lumbar punctures 
and finger-prick haemoglobin tests, to name but a few. Seeing many cases of malaria, one quickly developed an 
appreciation for the urgency required when dealing with the severely anaemic child, and there was many a rushed venture 
across to haematology sourcing the appropriate blood products 
needed for transfusion. Being able to assist by carrying out the 
simple tasks of retrieving, logging and starting the transfusion 
freed the senior physicians to focus on the numerous other patients awaiting assessment. 
With personnel numbers stretched to the limit at times, students were frequently presented with the opportunity to assist senior clinicians in the management of acutely unwell patients. The most common, and arguably most important, intervention in this setting was ventilation. Skills in oxygen delivery, learned during the early stages of the elective, enabled the students to divide up scarce oxygen supplies and start patients on the appropriate mode of oxygen supplementation, be it simple nasal prongs or a novel form of non-invasive positive pressure ventilation called ‘bubble CPAP’ (continuous positive airway pressure). In more critical cases involving severe respiratory distress, or failure of a patient to maintain an adequate airway, students would employ bag-mask ventilation under the guidance of a consultant intensivist, and provide assistance during rapid sequence induction and subsequent intubation. This represented a unique opportunity to receive expert tuition and guidance on airway and ventilation management procedures in the acute setting.

Obstetrics and gynaecology

The most striking aspect of obstetrics and gynaecology was the modern new building that housed the specialty within the otherwise dull confines of KCH. Despite the relatively affluent appearance, conditions for patients seemed no less desperate. Morning teaching began each day in KCH with a focus on reviewing current literature and imparting learning points for the day. Daily rounds and the outpatients’ clinic allowed the student to see and assess first visit patients and was probably the best way to see the wide range of cases that presented to the hospital. HIV-positive patients with pelvic inflammatory disease, genital herpes, warts, post-operative wound infections, and even sexual abuse of children as young as four years old were the types of cases found on the wards of KCH. Active participation in rounds and discussion of the appropriate patient management was an invaluable source of learning. This learning also extended to the operating theatre, where there were many opportunities to participate.

Part of the attachment was spent in the local district hospital, in an attempt to gain more obstetrics experience, as the amount of obstetrics in KCH was quite limited. While the design was for two women per birthing room, it was not uncommon to see one woman in between the two trolleys delivering on the floor, a stark contrast to the comfortable, quiet warm rooms of the labour ward in the Rotunda. Days in the district essentially consisted of non-stop deliveries and because there were simply not enough hands to cope with all the deliveries, a medical student became a valuable commodity. The experience of being relied upon to oversee deliveries was quite daunting initially, but confidence came with each delivery until getting stuck in from first thing in the morning till late in the evening was expected.

Reflections

Our visit to Malawi was an incredibly valuable experience and for that we have all the people we encountered to thank, as well as each other for making it that much more enjoyable. While the experience gained within the hospital in terms of symptoms and signs seen, odours inhaled and hands-on practical exposure will stay with most of us, the country itself, the people, and seeing the quality of life they live is something that will probably resonate for longer within us. That above all is what separates this elective from any other we have had the chance to undertake.

There are stand out differences in the practice of medicine in a resource-starved country, from the unavailability of basic medical supplies and the failure of systematic management within the hospital, to the basic lack of health education within the community. These factors lead to many different problems, the most relevant for students being those arising when assessing patients. The barrage of tests often afforded to those in Irish hospitals is simply not available, and management needs to be based on the most likely diagnosis. Because of these restrictions, nowhere is the importance of good clinical acumen more apparent. A poor history or examination can easily result in incorrect assessments and hence poorly directed management, often resulting in unnecessary deaths. Four weeks of exposure to this generated a huge appreciation within the group for the value of strong history and examination skills. Not only this, but hopefully we took with us a long-lasting appreciation for the value of laboratory and radiological testing, something that is becoming more relevant every day on the wards in Ireland.

Reference

1. World Health Organisation. World Health Organisation Country Profile: 