Buluba Hospital, Uganda.
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By R. Hoare

Why choose Uganda?
As I child who grew up in Africa there has always been a hankering to return and give something back.
Armed with knowledge from previous work in the humaniatrian field I knew of many internet forums and Aid organisations who were always looking for radiographers. I have volunteered with Rotary Doctors in the past and reached out to them for guidance.
My only request was to go somewhere dry . A few places were selected for me and I based my decision on a simple choice of where could I make a small impact with my skills in a short time frame.
With the support of Mansel Thomas from Rotary Doctors and Dr Tim Spare, a regular volunteer in Uganda, Buluba fit.

Buluba Hospital Facts

Buluba is located in the Mayuge District of eastern Uganda with the nearest town, Iganga, 22km away and the airport a bumpy 4-6 hour car journey by road.
Buluba Hospital, previously known as St Francis Hospital, was founded by Catholic Missionaries in 1934 to serve as a leprosarium.
The hospital and grounds cover a large land area and serve an ever increasing population. (Approximately 1.94 million)
The offical language is Lusoga however the staff and most visitors speak a wonderful combination of English,Kiswahili and German.

After the 16 hour journey ,2 hour Ugandan immigration process and 5 hour car ride I was happy to see that both the donations and I had made it.
This was to be my home and work address for the next fortnight.


Outpatients Clinic


Radiographer(Moses) and Xray room

Convent,priest and guest lodging at the rear.

An normal day ot work

I quickly learnt that there is no normal day. A compound siren marks the start of each working week and is the signal for both the beginning of the lunch period and end of the day. Upon hearing it for the first time I instinctively ducked thinking it was an earthquake siren. Formal introductions were made 5 minutes before the Monday morning clinical team gathering where I was quickly updated on patient admissions from the weekend and activities for the upcoming week. The words that came to my mind were "there's nothing like jumping in the deep end."

Visiting the various departments I noticed how quiet and calm everything appeared. Wards and departments are spread out with patients and staff seemingly oblivious to the distances. The lack of basic resources and adequate funding to improve many of the wards and equipment was clearly obvious and where as I could look at it as tragic it was actually more empowering to see how little you need to do great work. Most of the staff multitask and regardless of the struggles or lack of resources keep a smile on their faces. There is a great sense of compassion for the patients and there are activities from cooking to washing and the constant use of cell phones taking place under every tree or in every corner with shade.

Donated equipment:

CMO and aneasthetist recording donations

Not knowing what to expect before my visit I reached out to radiographers who had previously volunteered overseas and was amazed at the plethora of useful tips and information available for effective donations.
Donations were generously given by past RD bank volunteers with experience in the field,World Radiography Educational Trust foundation and colleagues at work. This all amounted to 78 kilos of luggage!

Donations
Xray markers,lead gonad shields
Marker Pens, thyroid shields
Ultrasound Books
Diganostic imaging texts
A/E emergency radiography and orthopaedic imaging guides
1 Full length lead coat
1 Agfa lightbox viewing station
Pelvimetry scale and instructions
Boxes of gloves, First aid kits,goggles and tools.
Agfa Lumix Green Fast Cassetttes:

18x24 - 4
24x30 - 4
35x35 - 2
35x43 - 3
35x43 2 x grids
18x24 3 x grids
24x30 2 x grids

Powerpoint presentations given:
OPD Doctors :

In preperation for my visit I spent several days with 2 reporting radiographers who kindly prepared me to give simple presentations on the following topics.

- Abdominal radiography interpretation
- Introduction to chest imaging
- Radiation protection

The dedicated team of clinical officers ,doctors and nurses were keen to have some basic chest imaging and radiation protection training in their lunch times. During the days I spent time with the clinical team in outpatients, amongst the noise and general patient admissions, to watch slide shows,discuss technique and talk about their hopes and dreams for Buluba. Radiation protection was by far the most popular talk . There was a fear of radiation and thus x-rays in general. It took a lot of convincing and help from Google to show that x-rays only go in the direction of the tube, they do not linger in a room and that lead coats prevent xray penetration.

Radiographer Training:
There is only 1 radiographer in Buluba and other than training for 5 months ,over 15 years ago, he has become a self taught enthusiastic radiographer.
On the multiple occasions when the mains power was down Moses and I had no ability to xray patients so we worked together using our combined work and life experiences to extend our continuous professional development in the following areas.

- Abdominal radiography interpretation.
- Introduction to chest imaging.
- Radiation protection.
- Imaging of the appendicular skeleton.
- Imaging the shoulder and the importance of the second view.
- Common fractures and basic diagnosis using the red dot system.
- Infection control.
- Peadiatric chest imaging. Erect rather than Supine .

All diagnostic images now have a radiopaque marker and all extremities are imaged with both an AP and Lateral view. Using past images and those taken during my first week we were able to create updated exposure charts for both adults and children. These are now not only stored in Moses head but in his office for future radiographers. Some of our earlier films were diagnostically poor quality due to the processing chemicals natural oxidation and age. The greater the agitation in the water tank the dirtier the films were getting so our solution was to wash the excess fixer off films in the one running water tap . The darkroom is based adjacent to the the xray room and with no ventilation it doesn't take long for the fumes to accumulate and leave your taste buds struggling to comprehend.

Slow screens,old chemicals.

Fogged films.

AP Erect. Now the new normal.

Donated fast screens, lower dose.

Challenges:

Being the only radiographer, Moses independently runs the service 360 days a year. Even he can't remember the last time he took leave.There is no radiologist for image reporting and clinical deicisions are reliant on the hard working clinical team of doctors diagnosing the xray images.

Although the hospital has a generator it is not capable of maintaining the xray service and patients either wait the day in hope of the mains power returning or come back on a later date. There are those who simply have too far to travel and opt to go without this basic diagnostic tool. Limited supplies of chemicals and film, based on funding and country imports, provide a further challenge in both providing the service and choice of treatment pathways.

Each patient pays 1500 shillings per film which itself is a struggle to find, for most are subsistence farmers (Equivalent to 0.30884 pounds). This has meant that nearly all patients only have 1 view on the 1 film.

Together, Moses and I created a method whereby all extremities can be imaged on a single film, regardless of the film size available, with both an AP and lateral view.
The darkroom consists of a simple wet tank with developer and fixer and 1 water outlet . The 1 darkroom light was small but worth its weight in gold. Replacement bulbs are difficult to source and in the past Moses has developed films with no light for a period of 5 months. A major issue for health and safety of the radiographer was the complete lack of any darkroom ventilation. The hand processed films are mounted on drying racks which are then hung in the film drying cabinet ,reliant upon mains power which is limited at best. 20 minutes after arriving in the Xray room patients depart carrying their film in a newspaper handmade envelope.
Urgent trauma cases requiring x-rays, in times of power outages, are referred to other hospitals in the district that are at least 2 hours away by car. This is an additional cost that most patients struggle to afford, if at all. The hospital team is extremely generous and during my time on site I saw several cases where the community of staff pitched in or found a solution for urgent referral costs. Without this support patients would simply not survive.
Engineering maintenance and equipment quality control are reliant on the local hospital engineer whose task also includes managing the one onsite generator and the entire electrical system including most of the hospital equipment.

X-ray equipment

Current equipment consists of a Siemans Multix Ease fixed over couch xray tube , 1 floating top table with under table bucky and 1 erect stand alone bucky.
There is no up and down movement of the table with patients having to climb onto the table. There is no radiopaque mattress, sand bags or foam positioning aids. Whilst we take for granted the technology of a modern NHS, it was the simple things,such as a step which patients were grateful for in Buluba. From patients with broken bones and leprosy there was never a complaint just a smile.
The tube has movement laterally and can be rotated 45 degrees to use with the erect chest stand. There is however no horizontal tube movement which results in all patients being pushed or pulled into position on the table.
The erect bucky is functional even though the brake and lock are both broken and as yet there is no spare part available.
Financial constraints in the past year have meant that there was no light beam diapraghm once the bulb blew until a replacement was found. This did not interrupt the service provided as Moses guestimated the light beam diapragm coverage .
I experienced so many scenarios that radiographers no longer face in the modern CR/DR department and enjoyed every minute of them.

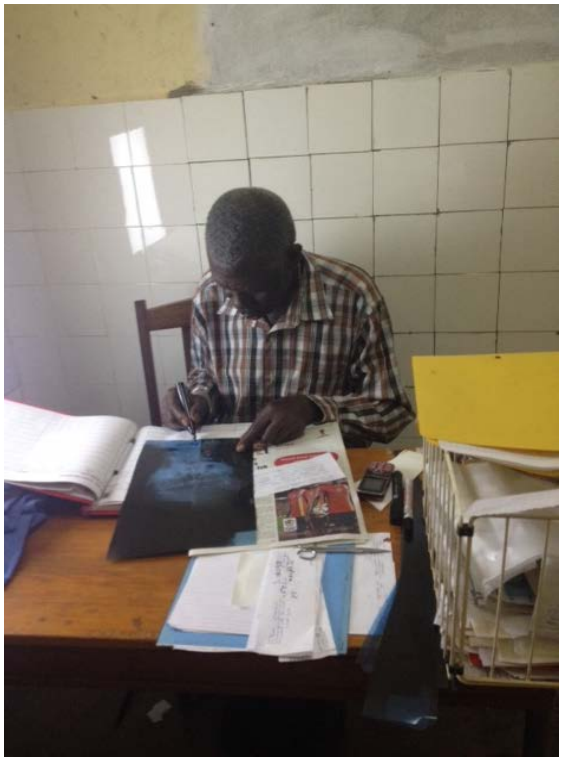
The patient journey from outpatients through x-ray and back to outpatients.

Positioning in the dark

Protection during exposures

Wet processing by hand

Drying cabinet



Naming films and record keeping.

Film re-sizing with homemade envelopes.

Gratefully recieved guide books

1st attempt

2nd attempt

The very first erect C-spine.

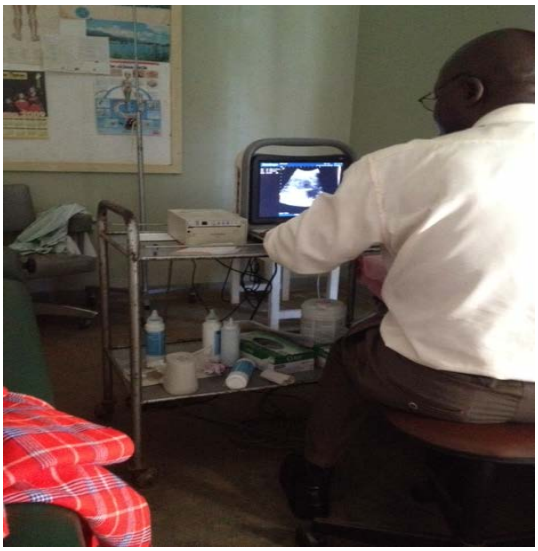
Standard 2 views .

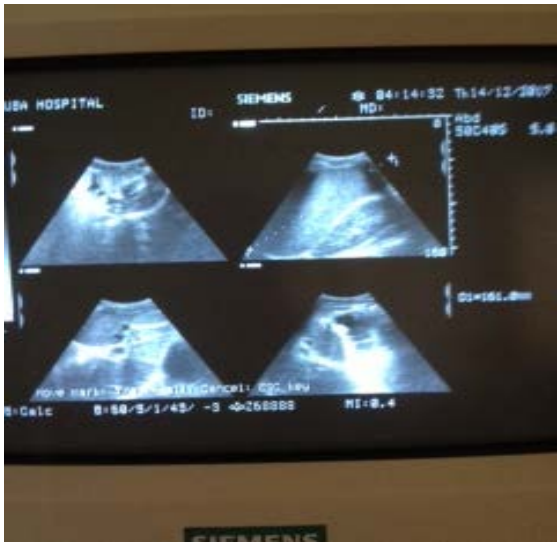
U/S

This service is limited to basic abdominal sonography and obstetrics using a Sonoscope Model A6 with variable curvilinear probe 2-7.5 MegaHz.
Currently there is 1 sonographer who visits twice a week. He scans and prepares reports for all patients and works with no breaks. Working with him for 8 hours I realised he hadn't even stopped for a drink.
Patients are often alone in the room with the male sonographer and it is not uncommon for them to be naked from the waist up. Men and women alike have no concerns in terms of preserving their dignity or embarrasment at the lack of gowns.

The sonographer was delighted to hear I was a radiographer yet dismayed that I was unable to perform ultrasonosgraphy. So he set me a challenge to get the new Siemans Sonoline Adara machine operational. This seemed a fair request and the least I could do until I managed to get the power and input sorted and realised everything was in German. A few tantrums and hours later we were both pleased to announce that the operational language was now English and the scanner is fully operational. All that is needed now is another full time sonographer.


Sonoscope A6


Scanning in action.



New capabilities

Operational Sonoline Adara

I would like to thank Rotary Doctors, Kerry Bingham ,Andy Creeden, Teresa Dawkes, Lucy Foster, Sue Marchant, Angela Ramsay, Christopher Steele,Mansel Thomas,Dr Tim Spare and the tireless devotion of all the staff, visitors and friends in Buluba.

Homeward bound.