

Sonic Healthcare's objectives at HEAL Africa have been to bring the hospital laboratory and its staff up to a relatively high standard.

This year we sent a second container - and two Sonic staffers, Richard Jones and Lindsay Thitchener.

This is their report ...

The primary objective was to continue training in haematology, biochemistry, microbiology and laboratory safety - in both practical sessions and formal lectures with an interpreter.

Our first task was to unpack the container. The contents weighed 14 tonnes and the efforts of the HEAL Africa staff who unloaded the container were nothing short of amazing, as some items weighed up to 300 kilograms.

All equipment and supplies survived the 5-month trip inside the container with the exception of the Haem-X. It took nearly 10 days to replace tubing and troubleshoot the many small problems that it had. We must thank Sally Johnston from Macquarie University Hospital for her invaluable suggestions and discussions on our behalf with the Coulter engineers. All of this maintenance helped to familiarise the lab staff with the analyser and gave them valuable troubleshooting experience. Our frustration was indirectly to their benefit.

With the Haem-X in place the turn around time for Haematology results has improved ten-fold.

They are now able to provide haemoglobin, indices, Total WCC and RCC. They are still doing manual blood films for all patients and ESR. The first "real patients" we put through the analyser turned up a patient with a Haemoglobin of 45 due to undiagnosed Sickle Cell Anaemia.

As approximately half of the patients we saw had abnormal results, the rapid and reliable new service drew many positive comments from the hospital medical staff.

Our hospital laboratory project in the Democratic Republic of Congo



Members of Goma's next generation

Biochemistry is now using a Humalyser 3500. This has been a step up for the lab and the reagents are more readily available and cheaper than for the DT-60 previously used. The maintenance is also easier and cheaper to carry out and they are able to offer an extended biochemistry test range.

The laboratory received a grant from the Clinton Foundation and part provided a Partec CD4 analyser. We have since been able to provide extended CD4 training for the lab staff as well as reagents, QC material and advice and a maintenance contract with Partec in Nairobi.

They now have a valuable analytical tool to help them care for their growing number of HIV patients, young and old.



**Treat each other with Respect & Honesty
Demonstrate Responsibility & Accountability**

Poor hygiene and sanitation, together with uncertain food and water supplies and the lack of an effective immunisation program, make Goma a haven for infectious diseases.

The microbiology department now processes a large range of specimens including urine samples, swabs, faeces, blood cultures and fluids of all types. Workflows in the laboratory were streamlined with urine microscopy and gram stains now available within an hour of collection and most cultures completed within 48 hours of receipt. The laboratory has the ability to make 20 different types of media and to isolate and rapidly identify the most common organisms present in the specimens they receive.

The arrival of the biological safety cabinet means that samples, especially blood cultures, can now be processed safely in the laboratory.

Antibiotic sensitivity testing has been upgraded and standardised to cover a larger range of organisms. Resistance to most antibiotics can be very high in parts of Africa after years of treating infections with multiple and often inappropriate antibiotics in the absence of antibiotic sensitivity testing facilities. Appropriate antibiotic use should be a direct financial benefit to the hospital.

Three new computers were installed in the laboratory along with a computer-based reporting system that provides tracking of specimens within the laboratory for the first time.

Advice and support was provided in maintaining a safer work environment for the lab personnel. Re-use of disposables has ended, gloves are readily available and used and there is a regular lab cleaning regime. Sharps disposal receptacles are now seen in the lab and around the hospital. Vacutainers are steadily replacing syringes and a Nurse Education programme in collection technique and safety is being put in place. Daily quality control of all processes in the laboratory is now routine.



The HEAL Africa Hospital laboratory

Sonic Healthcare is funding Dr Kasereka (the laboratory's medical director) to undertake a 5-year pathology course in Kinshasa. When he completes this training it will make him the only qualified pathologist in the eastern half of the Congo.

The shipment this year included a very efficient incinerator for clinical and theatre waste, which had previously been collected from around the hospital by wheelbarrow and burnt in an open fire. The incinerator and a number of lockable bins and assorted contaminated waste containers will create a much safer working environment.

Another task was to help the maintenance department install the 'Solar powered' operating theatre emergency lighting, donated by a Sydney electronics company. Previously, when there was a power outage, surgeons had to wait for a torch to complete what they were doing.

While there is still much to do in the laboratory - X-Match, serology and a histology department, there has been much achieved this trip. The financial backing of Sonic Healthcare and the enthusiasm of the laboratory staff in Goma will see the laboratory develop quickly into a very valuable resource for the region. Its capabilities have already become very useful to the local and visiting overseas medical staff by providing a good basic range of haematology, biochemistry and microbiological testing.



Our reporters ...

Lindsay Thitchener

Richard Jones