

Radiography in the Gambia

In February 2000, Jean Harvey and Mary Atkinson visited The Gambia to investigate the radiographic service. A full report of their findings with recommendations and priorities for action has been adopted by The International Society of Radiographers and Radiological Technologists (ISRTT), and it is hoped to use this report to establish a project for the development of the staff and the improvement of the radiographic facilities. Here, they report for Synergy.



The Gambia is the smallest independent nation in Africa. A previous British colony, it is now a republic within the Commonwealth. It lies on the West Coast of sub-Saharan Africa along the winding banks of the river Gambia and stretches for 300 miles into the African interior. At its widest, it is less than 30 miles and at its narrowest only 12 miles.

Senegal surrounds the Gambia and their people are of the same ethnic origin. The two countries would have been one but for the intervention of European colonialists – the Gambians became accustomed to

the ways of British colonialism and decided to maintain their independence. The Government and the Health Service use a British model and English is the official language taught in all the schools.

In 1997, SoR Past President Marion Frank received a letter requesting help for the radiographic service from Abdou Camara, a radiographic assistant who had read an article by Marion in a WHO publication. Marion organised for books to be sent by The World Radiography Educational Trust Fund and continued to communicate with Mr Camara until

February 2000 when we were in a position to visit The Gambia. The objectives of the trip were to:

- ◆ Find out the current level of radiographic service;
- ◆ Identify any needs for service improvement;
- ◆ Make recommendations for the future development of the service;
- ◆ Prioritise recommendations for future action.

Although this was a private initiative, support was sought from the Society of Radiographers and from the ISRTT. The External Affairs Committee of the SoR agreed a grant of £500 which contributed to the air fares but we paid the other expenses. The Society also let us use their charity number in order to obtain an increased luggage allowance, which meant we could take another supply of books from The World Radiography Educational Trust Fund. We also took a number of items that we thought would be useful: light bulbs, torches, batteries, lead markers, tape measures, pens, paper, notebooks and much more.

Preparation for the trip

A meeting was arranged with The High Commissioner for The Gambia to discuss our plans and to seek official approval for the visit. This he was happy to give but could not promise any assistance in the

Central Middlesex Hospital connects ATL systems to PACS

Earlier in the year, the ultrasound department at the Central Middlesex Hospital became one of the first departments in the country to make the transition to 'filmless' ultrasound examinations. The department's two HDI5000 ultrasound systems from ATL, which are DICOM and PACS compatible, now run routinely from worklists so that patient details are displayed at the touch of a button and are, from then on, linked to the images.



Pictured are Dr Tim Beale with Kay Foulkes and Dave Thomas from ATL.

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provision of accommodation or transport. We placed a notice in *Synergy News* asking anybody with knowledge of The Gambia to contact us. From this, we made contact with three people – two radiographers and an engineer. They had either visited or worked in The Gambia and were able to tell us more about the country's problems. These contacts have been most helpful and we have now developed a small network of people keen to help with this project.

We also heard of a charity called the Bansang Hospital Appeal, founded by Anita Smith after she witnessed the very poor conditions at Bansang Hospital when she was visiting The Gambia as a tourist. She later established a 'twinning' between Bansang Hospital and Kettering General Hospital. She visits regularly and was invaluable in setting up our visit. In particular, she told us about a small, cheap and clean non-tourist hotel, The Bunkoyo, which became our retreat when we needed to rest and recuperate.

In December 1999, Rosalind Waugh, a radiographer at South Cleveland Hospital was on holiday in The Gambia and visited the X-ray Department in the Royal Victoria Hospital (RVH) in the capital Banjul and informed them of our intended visit. Anita, on one of her trips, contacted Abdou Colley, the Senior Radiographer at the RVH and he agreed to make the internal arrangements for us. It was not until four weeks before we were due to travel, however, that we received direct contact with the radiographic staff. Abdou became our friend. He met us at the airport and organised for us to meet the country's Director of Medical Services, the Chief Executives of the government hospitals and to visit all of the private clinics with X-ray facilities in the Banjul area.

What we found

The conditions in The Gambia are much the same as those frequently reported in international journals when describing conditions in developing countries; but to see it first hand really brings it into focus.

The Gambia has a population of 1.2 million and only two government hospitals each with 600 beds – the RVH in Banjul and Bansang Hospital which is 200 miles inland. In these hospitals there is only one radiographer qualified to DCR standard, working with six radiographic assistants and one darkroom technician. The 200 miles distance between the hospitals is a hot, dusty and bumpy journey of seven or eight hours, so communication between them is mainly by telephone. Although the radiographer at the RVH is considered to be the manager of the two radiographic assistants at Bansang, the two departments

work as separate units.

There is a DCR qualified radiographer working for the Medical Research Council and another three who previously worked for the government service but are now retired and working part time in the private sector. In discussions with the Health Service officials it was made very clear to us that although they are currently building two more hospitals, the training of radiographers is not considered cost effective. The first of the new hospitals at Farafenye (100 miles from Banjul) is nearing completion, and building has started on the other hospital at Bwiam (50 miles from Banjul). The X-ray Departments at these hospitals are expected to be staffed with trained radiographers provided as a part of aid packages from other countries. One Nigerian Radiologist was working in Banjul until early in 1999 when he returned to Lagos and was replaced by a radiologist from Cuba. The new radiologist speaks

Nigerian radiologist. The staff work in isolation. They have had no recent communication with radiographers from other countries and it is difficult for them to meet because of the difficulties of travelling between the two main hospitals. Some of the staff are very proud of their work. There is, however, no stimulus to develop their skills as there is no opportunity for promotion or increased salary.

Equipment

The Royal Victoria Hospital has two X-ray rooms, an ultrasound room and a non-functioning CT scanner. One of the X-ray rooms has a Picker screening unit but the fluoroscopy cannot be used because the TV system is not working. Part of the generator workings for this unit are exposed and sit on the top of the tank. The other room has only a portable unit (15mA) and this is used for general radiography including abdominal and spinal work. These exam-



The Siemens unit, donated but never installed.

very little English so communication is very difficult.

Both X-ray Departments are a good size but are dusty and dirty and mosquitoes thrive amongst the boxes of old unused equipment and in papers stored in cupboards. This is not a problem to the local staff but makes it unpleasant and potentially dangerous for visitors.

As for workload at the RVH, there are approximately 12,000 patients a year when the two X-ray rooms are working, and at Bansang Hospital, about 7500 patients a year. The service is affected by cuts in the electricity supply especially at Bansang where electricity is only available from 8am to 2pm and from 6pm to 3am each day. In addition, there are unscheduled cuts in supply.

Most of the radiographic work is carried out by radiographic assistants who received basic training from the qualified staff and, when he was in post, from Dr Akano, the

institutions have to be done without a grid because of the low output of the unit. Also in this room is a Siemens unit, donated to The Gambia but never installed. It is stored partly in and partly out of its packaging and is covered in dust.

The CT Scanner was purchased following the failed military coup in 1996. It has never worked and there has been no lead protective glass supplied for the windows of the control panel room. Rosemary Tyler, a radiographer who contacted us following the notice in *Synergy News*, spent some time in the scanner suite when she visited The Gambia on holiday. She managed to get the equipment warmed up and ready to scan a phantom, but then the couch failed and without engineering support she was unable to do anything more.

The ultrasound equipment is used exclusively by the radiologist and although we saw it in use we did not note the make and type of unit.



The dark room at Bansang Hospital, where temperatures can reach 65°C.

We literally found a mobile image intensifier, by inadvertently opening the wrong door. The hospital engineer did not know it was there and the radiographer said it worked but he had never used it. We thought we had struck gold, until we tested it and found that the TV did not work. Potentially, if it were repaired and with the staff trained to use it safely, this unit could greatly improve the service.

The darkroom is in an appalling condition. There is a small automatic processor but the drying section is not working so has been removed. Films are fed into the processor and then when they leave the fixer section they are removed by hand and dipped briefly into the manual water tank before being dried in a cabinet. Either the automatic system or the manual tanks are leaking onto the floor making it constantly wet but we gave up trying to investigate this when we were overrun by mosquitoes.

A new air conditioning unit had recently been installed but was not light proof. The light coming into the room was sufficient to be able to see, which was why the lack

of safelighting was not a problem. The two safelights did not work because the bulbs were broken and there were no replacements.

Bansang Hospital has only one X-ray room with a Picker unit but no fluoroscopy. The kV selection meter does not work but the staff have devised a system to overcome this by using the kV/cm selection meter for the 'non existent' automatic timer. A test exposure reads on the kV meter and this shows what kilovoltage this selection gives. The automatic timer is then deselected to make the exposure. We thought this was very ingenious and doubted if we would have thought of it. There is no backup for this unit as their portable had been loaned to the RVH when the RVH was without any equipment and this had not been returned.

There is one ultrasound unit at the hospital. This is used by Dr Jabarteh the general surgeon, who is also the Chief Executive of the hospital.

The general condition of the darkroom was even worse than at the RVH and without air conditioning the temperature has

been as high as 65°C. The manual developer tank was only half full, and the films were held down into the liquid with their fingers. A second-hand Fuji RG II automatic processor had been delivered about a year ago but never used because it marks the films. The films are dried by hanging them on a drip stand in the X-ray room.

Since our visit, the darkroom has been improved through the Bansang Hospital Appeal. The floor has been repaired and the walls tiled. Further work is planned for November this year, including the installation of air conditioning.

Equipment maintenance

All the equipment has been donated to the hospitals but it was not possible to discover where it had come from and it seems that the present staff have no idea if anymore is likely to turn up. The Siemens equipment, stored in open boxes in X-ray room 1 at the RVH, arrived unannounced and has been there mainly uncovered for over two years. Because of its poor storage it is doubtful if this equipment is now suitable for installation.

Much of the equipment in use needs the attention of an engineer, but there is only one hospital engineer for the government health service and he has to prioritise the requirements of all the departments at the RVH and Bansang Hospital as well as oversee the installations in the new hospitals. In these circumstances, the requests from the radiographer when the safelights, LBDs and TVs don't work come way down his list. We were able to help a little because we took some safelight bulbs with us but we didn't have any bulbs for the LBD and we couldn't identify the faults with the TV systems.

The Gambia is reliant on the donations of equipment but this process has left them with unreliable and possibly unsafe equipment and there is no back up when there is a breakdown. Last year, the RVH was without any X-ray facilities until they borrowed the portable unit from Bansang Hospital. They then worked with only this portable unit for almost a year and sent some urgent cases to one of the private clinics.

Accessory equipment

The cassettes and intensifying screens at both hospitals have all been donated as part of aid packages. The intensifying screens are a mixture of speeds and spectral emission. We found on one occasion that the 'Ortho Fine' screens designed for extremity work were being used for a lumbar spine examination. The films are supplied to the departments by central health service supplies and the type of film is decided by the Procurement Officer.



Films drying on a drip stand in the X-ray room.

The supply of X-ray films is a constant concern to the staff as they are unsure what film is available at any time. We were unable to meet with the Procurement Officer although Dr Gassama, the Director of Medical Services, told us that the Procurement Officer should buy the products requested by the X-ray staff. This does not happen.

The quality of the X-ray films given in aid packages is variable. We checked some of the film delivered to the department while we were there, and they had a very high fog level. On some of the films, the fog level was so high that the films were unusable.

There were no positioning aids at the RVH when we arrived but we were able to get some foam pads taken out for us shortly after we left The Gambia. The department has two lead protective aprons which looked to be in poor condition. We X-ray tested these while we were there but they did not show any cracks in the rubber and therefore we accepted that they are safe.

The X-ray Department at Bansang Hospital has obtained a reasonable supply of positioning aids and lead protective aprons through the 'twinning' with Kettering General Hospital.

Health and safety

Both departments are dusty and, by UK standards, dirty. There are many exposed electric wires, spilt chemicals and there is no radiation protection protocol.

The portable unit at the RVH was being used without any collimation because the light beam diaphragm did not work. There is no lead rubber to shield the patient or mask part of the cassette and therefore the scattered radiation is at a maximum. As the patients' relatives are usually in the room with the patient, the whole family receives a radiation dose. The radiation received by the staff is not monitored and there is no check made on radiation leakage from the equipment.

There are a number of hazards to patients, staff and the general public. However, these risks must be placed in the context of the general conditions in The Gambia and of the low level of the workload and should not therefore be over emphasised. This does not mean, though, that the risks can be ignored and every effort is needed to reduce these hazards to a minimum.

Progress

Following our visit, the radiographic workers have formed themselves into a national association named The Gambia Association of Radiographers and Radiographic Technicians (GARRaT). A constitution has been drawn up and the association has applied for formal recognition by the

Register of Unions and Associations in The Gambia.

A full report on the findings in The Gambia with recommendations and priorities for action has been adopted by the ISRRT. It is hoped, with the cooperation of the Health Service in The Gambia, to set

up a project for the improvement of the radiographic services. It is planned for Jean Harvey to lead this project, acting as advisor to the ISRRT and as professional mentor to Abdou Colley, the senior radiographer.

Thanks

This work would not have progressed without the assistance and support of the External Affairs Committee of the Society of Radiographers or without the help of Anita Smith who, as well as giving us essential information, also infected us with her enthusiasm for the people of The Gambia.

We are also indebted to Rosalind Waugh, a radiographer who, while on holiday in The Gambia, visited the Royal Victoria Hospital on our behalf and returned with valuable information. Also Rosemary Tyler, Hilary Rafipay and Jack Frost who contacted us following our notice in *Synergy News*. We hope they will continue to support our work.

Our thanks go to all the people we met in The Gambia. They made us feel very welcome and appreciated so much, even the smallest thing we were able to do to help. We will not forget their hospitality. Our particular thanks go to Abdou Colley, Abdoulie Sanneh, Abdou Camara and Pa Seedy Kinteh who became our particular friends and looked after us so well.

We would also like to thank the Health Service officials who provided so much of the information.

Finally and most importantly: Marion Frank. She started the initiative and continues to guide its progress.

Appeal for support

We would be pleased to hear from any radiographers or engineers who feel they would like to help with this project. Donations of books, equipment or accessories would be greatly appreciated. If you are visiting The Gambia on holiday you could also take goods or letters out for us. If you are willing to give of your time and expertise, you may even be willing to help with some training. Although funds for travel and accommodation are not available at present, some help may be possible in the future.

Please contact Jean Harvey, The Barn, Swinton Grange, Masham, Ripon, North Yorkshire HG4 4JP. Tel & fax: 01765 689980/E-mail: harvey.thebarn@tesco.net

Kodak gets involved

Since returning from The Gambia, Jean Harvey has been in discussions with Kodak, which has arranged for two processors to be shipped to the RHH and Bansang Hospitals. Marketing Manager Phil Ferrar, said: "It is great for Kodak to be involved in helping third world countries. I know our customers appreciate that the machines they no longer have the need for are being shipped to somewhere that can continue to make use of them. The machines that are being shipped to The Gambia are the reliable X-Omat M6B processors from Humberside Breast Screening based at Castle Hill Hospital, Hull."

Another winner for University Hospital of Wales

Staff at the University Hospital of Wales are delighted with the latest addition to the ultrasound department. The hospital has replaced an old Toshiba SSA 270A with the new PowerVision 6000 which has impressed staff with the clarity of the images, its versatility

and ease of use (especially the tissue harmonics), which all lead to a speedy diagnosis and improved patient throughput.

£556

Pictured (from left) are Nick Yule, Radiography Helper; Sue Underwood, Senior Ultrasonographer; Dr Tony Jones, Consultant Radiologist and Mike Pritchard, Senior Ultrasonographer.

