

RADIOLOGY SERVICES

CHAPTER 53

SWSAHS Radiology Services provide diagnostic imaging and procedural radiology services across the Area. These include CT (computed tomography), ultrasound, MRI (Magnetic Resonance Imaging), general X-ray and angiography/interventional services. There is one MRI unit in SWSAHS. SWSAHS successfully tendered for an MRI licence from the Commonwealth and as a result a public MRI was installed at Liverpool Hospital in December 2002 and commenced scanning on 13 January 2003. This was the first public MRI for the Area. The public MRI provides both a service to the Area and a Statewide Service. Medical specialities that benefit from the MRI service include neurosurgery, neurology, cancer services and mental health services. All hospitals (except Camden) have an onsite CT scanner. There is a private MRI unit in Liverpool.

Radiology Services at Liverpool, Fairfield, Campbelltown and Camden Hospitals operate as a centralised Radiology Network. The Network was established as a new business entity in July 2001 and fully operational in 2002/03. Growth in radiology services across the Network is estimated at 10% per annum. However some parts of the Area are increasing at a greater rate such as Campbelltown and Liverpool.

The forecast growth in Emergency Department activity, coupled with the provision of specialised services, is expected to increase the demand for radiology services across the Area in the future.

Current Services

The Liverpool, Fairfield, Campbelltown and Camden Radiology Network was established in 2001 and operates under a centralised funding and management structure. The Bankstown Hospital is serviced by the Bankstown Radiology Service. The Bowral Radiology Service is contracted from a private provider.

Bankstown Hospital

The Bankstown Hospital radiology service provides a high level of routine services including complex CT, Digital Subtraction Angiography and procedural radiology. Radiology workload is currently 45,000 examinations per year.

The CT scanner is a 4 slice, multi-slice system that is less than 3 years old. Future upgrade to a multi-slice system would meet the increasing demands of vascular, thoracic, hepatic and oncology imaging. Additional radiographers and radiologists will be needed to meet the growing demand. Currently there is 1 FTE radiologist at Bankstown.

Liverpool Hospital

Radiology workload is currently 75,000 examinations per year. Liverpool provides the tertiary radiology service for the Area and for its inpatients, outpatient clinics and the emergency department. The service provided is a high level of routine services including complex CT, Digital Subtraction Angiography (DSA), orthopantomograms (OPG) specialised imaging for GI tract, renal, biliary and spinal, and procedural radiology. There are two diagnostic CT scanners (one 4 slice and the other single slice) and one MRI (1.5 Tesla) unit. There is one fully dedicated DSA machine (and one backup DSA) that performs complex interventional procedures including insertion of stents and prostheses. There are fixed and mobile general x-ray equipment and 3 ultrasound machines. Services such as neurosurgery, major trauma services, neurology (Liverpool has developed a statewide role in multiple sclerosis) cancer and cardiology are some of the main services that benefit from the presence of an MRI.

NSW Health collects data from the MRI units on a 6 monthly basis so as to monitor the throughput and the access to MRI services. In the six months from June 2003-December 2003 a total of 1,710 scans performed on 1,571 patients (first 8 months of 2002/03 there have been 2,034 scans). This was an increase of 43% on the first 6 months of operations with inpatient scans comprising 40% of all scans. It is expected that the activity will increase to 3,400-4,000 scans, which is the current activity for the established metropolitan MRI units. Waiting lists, population growth and projected activity especially for the clinical services that mostly utilise MRI indicate the need for a second and possibly third MRI for SWSAHS.

Macarthur (Campbelltown and Camden Hospitals)

A radiology service is provided for inpatients, outpatients and the emergency department. The service provides CT scanning (single slice), general x-ray with some simpler interventional procedures and ultrasound. Radiology workload is currently 36,000 examinations per year. On site CT service providing 24 hour service (after hours on call system). Camden and Campbelltown Hospitals have installed a Picture Archiving and Communication System / Radiology Imaging System (PACS/RIS) to facilitate the dissemination of images across both sites. The expansion of PACS/RIS across the Area will enhance the provision of seamless and integrated radiology services throughout SWSAHS and is considered a high priority for service expansion.

Fairfield Hospital

An on site CT service providing a 24 hour service (after hours on call system) is available. Radiology services are provided for inpatients, non-inpatients and the emergency department. The current radiology workload is 24,000 examinations per year.

Across the Radiology network there are currently 69 FTE radiographers and 7 funded registrars and 11 staff specialist radiologists.

Trained sonographer positions in the public sector are in growing demand. The current issues relating to the difficulties in recruiting trained sonographers is an issue for the entire public health system as more staff are being recruited into the private sector. The shortage of sonographers limits the provision of after hours ultrasound services across the Area.

Bowral Hospital

The Service is contracted from an onsite private provider with CT scanning, mobile x-ray, ultrasound and general imaging services provided.

Major Equipment

Installation of an Area-wide PACS/RIS system would enable the transfer of inter-hospital images. The network would have the capability of ordering tests electronically and will integrate with the PACS system at Macarthur. This area-wide system will facilitate timely and safe management enabling prompt availability of imaging data and results.

Interventional neuroradiology to embolise cerebral aneurysms requires a dedicated bi-planar unit, a full interventional neurocoiling/interventional kit and additional staff specialist neuro interventionalists and support staff.

Radiology equipment is a high cost technology, which is rapidly evolving and has a limited life span. In order to provide the state of the art technology outmoded equipment needs to be replaced as a general rule as follows:

- MRI, DSA and CT every 8 years;
- Ultrasound every 6 years; and
- Mobile imaging and general x-ray equipment every 10-12 years.

Given the high cost of equipment replacement a co-ordinated approach to equipment replacement may achieve some capital savings.

RECOMMENDATIONS

- PACS/RIS be implemented across the Area.
- All imaging (including nuclear medicine) be incorporated into one Area-wide medical imaging service. Radiology continue to develop its Area network status to include Bankstown Hospital.
- Interventional radiology and senior staff at Bankstown be enhanced. An interventional radiology service be developed at Bankstown, Liverpool, and Campbelltown Hospitals with Liverpool Hospital developing an interventional neuroradiology service.
- Ultrasound services (excluding vascular and obstetrics) form as an Area-wide service to develop skills and training opportunities through a co-ordinated approach to in-house training and career pathways developed for ultrasonographers.
- Radiology staffing across the Area be enhanced.
- An equipment replacement program be developed for the service.
- Two additional MRI licenses for SWSAHS be sought by NSW Health from the Commonwealth.