

Section two

Clinical Program Initiatives



8 GMSIG Programs

8.1 Severe Burns Injury Service

GMSIG Severe Burns Recommendations and GMTT Achievements

Recommendation 1: That a single NSW Severe Burns Injury Service be established with units located at Concord Hospital, Royal North Shore Hospital and The Children's Hospital at Westmead.

Outcome: Achieved. Development is now well under way for this Service to operate as a single network on three sites.

Recommendation 2: That the management structures, planned facilities and range of joint activities be as outlined in the Burns Services Report.

Outcome: Achieved. The establishment of The NSW Severe Burns Injury Service Directorate will facilitate improved clinical collaboration, workload sharing, research and staff development practices. It has been further enhanced by a business planning process also being completed.

Recommendation 3: That the Service be reviewed in three years.

Outcome: Process established. A mechanism is now in place to ensure that continuous quality improvement occurs. This will ensure that clinical care provision remains world-class at all times. In addition, the outcomes detailed in the Business Plan will provide a basis for review and evaluation.

Description of Services

A burn is one of the most common injuries in the community. Whilst the majority of burn injuries heal with no or minimal medical intervention, a small proportion of burn victims sustain devastating and life-threatening injuries requiring intensive and long-term treatment.

Over the past decade the survival of burn patients has improved significantly due to advances in intensive care and nutrition, the introduction of early surgical intervention and developments in skin substitutes. Today, patients with more than 85% of total body surface burned are surviving.

The nature and complexity of severe burn injury requires a collaborative approach to patient care, provided by a multi-disciplinary team with expertise in the management of severe burns, in a dedicated Burns Unit with supporting services such as critical care, surgery and reconstruction, and rehabilitation.

Evolution of GMSIG/GMTT Recommendations

In October 1999 NSW Health reviewed a number of complex services (including burn services) which managed low volumes of patients and required high cost infrastructures. Recommendations were made regarding the configuration, number and location of severe burn services in NSW and a formalised statewide framework for paediatric and adult burn services. Arising from this review, the Government committed significant funding to build new facilities at Concord Repatriation General Hospital (CRGH) and Royal North Shore Hospital. Co-located operating rooms have been provided at both adult sites. Subsequently, GMTT funding of \$1.5m assisted with the development of statewide services across three sites at Royal North Shore Hospital and The Children's Hospital at Westmead. The new facilities were commissioned in September 2003, but no additional beds have been opened and the operating theatres are not yet functioning.

In July 2000 the Greater Metropolitan Services Implementation Group (GMSIG) was asked to review the State Severe Burns Service Plan. This review resulted in a detailed description of the NSW Severe Burns Injury Service, including:

- a single coordinated supra-regional service with a unified management structure to deliver tertiary care at three centres and provide a referral service for the state
- a management structure comprising the Heads of the three service delivery units and their Nursing Unit Managers
- each unit providing holistic multi-disciplinary care for severely burnt patients, with continuity of care from the time of the burning incident to completion of rehabilitation
- a purpose-built operating theatre adjacent to the Burns Unit at the Concord Unit. Similar facilities are being provided at RNSH
- units to undertake common data collection to give appropriate information on which to base decision-making and to assess the quality of care across the service
- the establishment of a skin culture facility to provide material to the Service
- joint clinical meetings to promote quality of service
- surgeons and other clinicians cross-appointed between the adult hospitals

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- increased psychiatric, anaesthetic, nursing, allied health and paramedical services established across the service
- standard treatment protocols, policies and procedures across the individual Units
- reconstructive surgery to be undertaken in all three units.

The Severe Burns Service Implementation Group (SBSIG) was convened in October 2001 to facilitate the implementation of recommendations contained in the NSW Severe Burns Service Plan which forecast needs to the year 2010/11. The SBIG is comprised of burn clinicians and key stakeholders including nominees from the Intensive Care Implementation Group (ICIG), consumer representatives and representatives from the relevant Area Health Services and NSW Health.

GMST Process

The GMST consultations with burns clinicians commenced in December 2001. Initially only the Heads of the Burns Units were involved. With subsequent consultations, a wider clinical group including medical, nursing and allied health professionals all contributed to the development of an implementation plan for the GMSIG recommendations.

Clinical leaders were identified and an Executive was formed. This group continued to meet and formed the basis of a strong clinician-led team which defined key elements of the statewide service and implemented The NSW Severe Burn Injury Service Directorate.

Outcome

Additional annual recurrent funding of \$1.5 million was provided through the GMST to establish and develop the NSW Severe Burns Injury Service initiatives.

Additional clinical staffing and operating room sessions and the provision of equipment at the two adult units have improved the diagnostic and therapeutic capacity of the service. Medical staff have been cross-appointed between units to facilitate skills transfer and permit flexibility in staffing the units in the event of major fires or disasters. The cross-appointment of nursing and allied health staff is being investigated. Rotating traineeships will also facilitate training. Substantial funding has been provided to enhance the Tissue Culture Laboratory at Concord Hospital to expand the production of skin and tissue.

The establishment of the NSW Severe Burns Injury Service is contributing to the care of patients with a severe burn injury by:

- bringing together the expertise required to coordinate clinical services across the continuum of care from initial hospital admission through to hospital discharge, rehabilitation and ongoing care
- sharing clinical expertise
- implementing a standardised Model of Care across the three Burns Units
- developing standardised clinical practice guidelines for patient care
- increasing the focus on prevention, improving links to community outreach services for patients and undertaking research to improve patient care.

Laser Doppler technology now installed at all three burns campuses makes the estimation of the depth of burn injuries more accurate. Doctors can provide more timely definitive care resulting in better outcomes for patients both in terms of treatment goals and length of stay in hospital.

Working with the Medical Retrieval Unit, Ambulance, NSW Health Department, and key stakeholders, the Severe Burns Service is reviewing the guidelines for transferring severe burn patients in NSW with the aim of effecting seamless transfers for patients requiring access to expert burns units with 24 hours-a-day care. For those burn injury patients not requiring transfer, expert support will be available to local health teams.

To coordinate burn care across NSW, a Model of Care specific to burn injuries has been developed with the involvement of staff from Concord, Royal North Shore and The Children's Hospital at Westmead. This document has been distributed.

A burn injury minimum data set has been developed to facilitate the collection of information from 2004. The database has initially been established with simple identifiers which will provide epidemiological, aetiological and trend data. This data set will be expanded as needed. The recruitment of a data manager is currently underway to support this project.

The NSW Severe Burns Injury Service, working with key stakeholders, will develop an integrated approach to burn disaster management based on work undertaken to date.

Clinical Practice Guidelines for doctors, nurses and allied health professionals are under development to aid

clinicians in their daily practice and streamline the care of all burn patients. The guidelines will ensure uniformity of management of burn patients across NSW.

8.2 Spinal Cord Injury Services

GMSIG Spinal Cord Injury Recommendations and GMTT Achievements

Recommendation 1: That a statewide spinal cord injury service be formed.

Outcome: A Directorate has been established. Staffing comprising a half-time Medical Director, Directors of the other two Units, a Program Manager, an Administrative Assistant and business support seconded from POW. Networking across the state has improved with better communication. The development of best practice protocols has commenced within the various Spinal Taskforces.

Recommendation 2: That the existing adult and paediatric units be maintained but become part of the statewide service. All appropriate staff would be cross-accredited and the statewide service would review the configuration of the current service based on data to be collected under a uniform system.

Outcome: Communication links between adult and paediatric units have been established, and paediatric representation has commenced on both the Statewide Spinal Cord Injury Service (SSCI) Coordination Committee and all Taskforces. Work on cross-accreditation and a uniform system of data collection has commenced, some staff having been cross-accredited.

Recommendation 3: That the Directorate be responsible for:

- the coordination of services in their existing units, including the paediatric units
- the development of a uniform data collection system which would be used for the assessment of clinical outcomes, funding requirements and research
- the development of transitional care and outreach programs
- liaison with Area Health Services, Mental Health, the Department of Housing, MAA, ParaQuad, Spinal Cord Injuries Australia, Spinal Care Foundation and other community support groups
- coordination of the research effort
- coordination of staff training
- the development of uniform protocols
- coordination of the development of prevention programs
- budgetary matters.

Outcome: Achievements so far include:

- a joint database between the two adult units
- a workshop on business process mapping, attended by representatives of all units, both adult and paediatric
- catchment areas have been defined and triage processes specified
- protocols for common acute interventions have been reviewed and a consensus approach is being developed
- the appointment of an Outreach/Transitional Care Coordinator

- a grant obtained to continue rural outreach project
- refining a data information collection system
- two unit directors currently appointed to ParaQuad Board
- Rural Outreach Project Steering Committee has ParaQuad and AQA representation
- combined research projects in progress (medicine, physiotherapy, OT)
- two Nurse educators appointed
- postgraduate Certificate in Nursing facilitated at UTS.

Recommendation 4: That a Director be appointed who would provide both clinical and management leadership with a tenure of five years initially.

Outcome: An interim Director has been appointed until the end of 2004. The process for the five-year appointment has been finalised.

Recommendation 5: That the Director have a conjoint appointment with the NSW Department of Health and the Universities of Sydney and New South Wales. The location of the directorate, method of funding and line of reporting to be subject to further discussion.

Outcome: The Interim Director has conjoint appointment with the University of NSW.

Recommendation 6: That the Director be expected to give firm recommendations on the future configuration of the statewide Spinal Cord Injury Service for NSW including paediatric services in the next three to five years. The teaching of SCI-related issues at the universities will be facilitated.

Outcome: This will be a requirement of the Director once appointed.

Description of Services

Between 1997 and 2001, there was an average of 113 new adult cases per year treated in the two specialist units (63 at Royal North Shore/Moorong and 50 at Prince of Wales/Prince Henry). Five to ten new paediatric cases per year were treated at the paediatric units, Sydney Children's Hospital, Randwick, and The Children's Hospital, Westmead. Although there has been a reduction in motor vehicle related spinal cord injuries, this has been offset by an increase in spinal cord injury due to falls amongst older people as well as higher survival rates amongst those with severe spinal cord injury. Due to a lack of defined catchment areas and triage procedures access to the units was sometimes difficult and variations in treatment protocols caused some confusion. A lack of outreach services often left individuals under-supported when dealing with the enormous impact of settling back into the community with a spinal cord injury or when making the transition from paediatric-based to adult-based care.

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Approximately 4000 people in NSW live with chronic spinal cord injury and have traditionally looked to the specialist units for all ongoing preventative health care and treatment of complications.

GMTT Process

Clinicians, facilitated by the GMTT, worked towards achieving the GMSIG recommendations to establish a strong service network covering the state of NSW, with the aim of ensuring best practice outcomes for any person with a spinal cord injury. The process has involved wide consultation with over 90 clinicians and key health personnel involved in the care of spinal patients in acute, rehabilitation or community settings.

Outcome

Through the GMTT process, \$2 million in additional annual recurrent funding has been provided to spinal services in NSW. This money has supported clinical enhancements through extra staff and equipment, plus the establishment of a Statewide Spinal Cord Injury Service (SSCIS) supported by a Directorate and Spinal Executive. A Clinical Development Committee has been established with representation from spinal clinicians plus other important members of the patient care team, such as the Ambulance Service, consumers, data managers, non-Government agencies and managers.

A number of working groups or taskforces, reporting to the Spinal Directorate, have been established to focus on the different functions that make up the SSCIS's responsibilities, including:

- defining, improving and utilising clinical information management
- developing a model for acute care
- standardising clinical protocols to ensure best practice in acute spinal cord injury management
- ensuring the best patient outcomes through networked outreach and community care programs.

Membership of these taskforces has included appropriate health care personnel, involving staff from the Medical Retrieval Unit, the State Trauma Service, the Department of Health, the Ambulance Service, ParaQuad, and others.

Opportunities to enhance the care of patients with spinal injuries have increased through the networking of clinicians. Now referring emergency personnel have only one phone call to make. The Medical Retrieval Unit will then arrange triage and evacuation of the patient.

Evacuation protocols have been standardised and are readily available. Tetraplegic patients being discharged into the community will now be better supported. Staff from the new outreach teams will ensure that patients are counselled regarding all aspects of their post-hospital care. These staff will ensure that patients' equipment works in their own homes and that their carers have the knowledge and skills required to confidently support each patient's return home.

A very successful second SSCIS Spinal Forum was held in June 2003 bringing together more than 85 stakeholders. The forum will be an annual event to facilitate networking and dissemination of information and as a component of the SSCIS communication strategy.

Attendees included representatives from the Department of Housing, Department of Ageing, Disability and Home Care, ParaQuad, Spinal Cord Injuries Australia (AQA), paediatric and adult spinal units, the Motor Accidents Authority of NSW, NSW Health, the GMTT, Area Health Service managers and the Spinal Outreach Service.

The major themes of the forum were a review of the achievements of the SSCIS, clinical information, outreach and rural programs to be implemented in 2003, and spinal cord injury service provision and inter-agency coordination.

The Minister for Health, the Hon. Morris Iemma closed the forum and emphasised the need for cross-sectoral cooperation and liaison to ensure optimal reintegration of people with spinal cord injuries into their communities.

8.3 Complex Transplantation (Liver, Heart and Heart/Lung, Pancreas)

The area of Complex Transplantation covers the specialties of Liver Transplantation, Heart and Heart/Lung Transplantation and Pancreas Transplantation. The GMTT established separate programs for Renal Services and Bone Marrow Transplantation, both of which involve organ donation and transplantation issues. Please see the respective clinical programs for details.

Organ Donation

A key determinant of the volume of transplants that can be provided is the rate of organ donation. The rate of cadaveric organ donation in the past decade has been falling. This has necessitated a greater reliance on the

provision of organs from living donors, whether related or unrelated. To facilitate an increase in the rate of organ donation from potential donors, the GMTT provided a separate allocation of \$530,000 for organ retrieval to benefit all transplant services.

8.3a Liver Transplantation

GMSIG Liver Transplantation Recommendations and GMTT Achievements

Recommendations:

- 1 That the Liver Transplant Unit at Royal Prince Alfred Hospital continue to be the sole adult Unit in New South Wales, whilst The Children's Hospital at Westmead continue to provide a paediatric service.
- 2 That the situation be reviewed in three years with particular reference to the issue of organ donation rates.
- 3 That should another unit become necessary in the future, both Westmead and St George Hospitals be considered for such expansion.
- 4 That a Living Related Liver Transplantation Unit not be established at this point in time. However, this decision should be reviewed in the future on advice from the Transplant Society of Australia and New Zealand.
- 5 That the ANLTU continue to refine its costing data and that the Unit continue to be centrally funded.

Outcome: The RPAH and Children's Hospital units are the sole liver transplant units for adults and children respectively. A review will be undertaken as planned.

Description of Services

Every year approximately 140-150 liver transplants are performed across Australia, with 45-50 in NSW. The Australian National Liver Transplantation Unit (ANLTU) located at Royal Prince Alfred Hospital (RPAH) is the sole adult unit in NSW; others exist in Victoria, Queensland, South Australia and Western Australia. Outcomes at the ANLTU are above average world results with 1-year patient survival rates at 77.1% and graft survival at 70.3%. Paediatric liver transplantation also occurs at The Children's Hospital at Westmead (CHW). Funding for both RPAH and CHW Units are allocated centrally, with the exception of Liver Transplantation for under-three-year-olds, which is funded through the Nationally Funded Centres Program.

GMTT Process

Detailed consultations were held with the clinicians from the Complex Transplant Services, including the Liver

Transplant Service, commencing in December 2001. These meetings sought feedback from clinicians working in the field on current issues and future planning requirements. Clinicians from each major Complex Transplant Unit attended.

Outcome

There were no specific recommendations for change relating to Liver Transplantation in the GMSIG Report. However, consultations with clinicians did identify the following issues:

- 1 While the transplant costs and some follow-up costs are funded by recognition in the RDF, costs associated with maintaining hospitalised patients awaiting transplant are increasing significantly. As the rate of cadaveric organ donation continues to decline in NSW there are increasing numbers of acutely ill patients in hospital waiting for organs to become available. For the Liver Transplant Service these costs are currently met by Central Sydney Area Health Service.
- 2 Allied Health support for these patients, while waiting for transplant and following their surgery, is of enormous benefit and contributes greatly to improved patient outcomes.

The GMTT acknowledged the excellence of the Liver Transplant program and highlighted the expert, and increasingly expensive, care provided for these patients by Central Sydney Area Health Service.

Recommendations for the Future

The GMTT fully endorses any proposals that will further increase the availability of Allied Health support for the increasing cohort of post-transplant patients.

8.3b Heart-Lung Transplantation

GMSIG Heart-Lung Transplantation Recommendations and GMTT Achievements

Recommendations:

- 1 That St Vincent's Hospital remain the Heart and Lung Transplant Centre for New South Wales.
- 2 That a review be held in three years to determine whether an additional unit is warranted.
- 3 That no paediatric Heart and Lung Transplant Unit be established in New South Wales.
- 4 That emerging technologies be subject to health technology assessment prior to acceptance as treatment modalities.

- 5 That appropriate staffing levels for key positions be determined and maintained and that adequate training and education be provided to maintain levels of expertise.
- 6 That a detailed cost study be undertaken and that adequate funding be provided and allocated directly from the NSW Health Department.
- 7 That a monitoring and evaluation process be established.

Outcome: GMTT consultations with clinicians indicated complete agreement that the GMSIG recommendations remained relevant and should be implemented over the next three years.

Description of Services

In 1999 there were 19 heart transplants, 11 single and 14 double lung transplants performed in NSW, which was the lowest cumulative number of transplants performed in the state since the early 1990s.

St Vincent's Hospital is the only provider of Adult Heart and Lung Transplantation Services in NSW; other services are located in Victoria, Queensland and Western Australia. The only Paediatric Heart and Lung Transplant Service in Australia is located at The Royal Children's Hospital in Melbourne. There is no paediatric service in NSW. Given the falling number of organ donations, it is unlikely that a second Heart and Lung Transplant Unit will be established in NSW in the foreseeable future.

GMTT Process

Consultation meetings were held with the clinicians from within this specialty to review the recommendations of the GMSIG report. There was complete agreement that the proposals within the GMSIG report remained relevant and should be implemented over the next three years.

Outcome

Clinicians ratified the following steps to implement the GMSIG recommendations:

The Heart/Lung Transplant Team will approach NSW Health in mid-2004 to establish a review of the Heart/Lung Transplant Program. Given that the GMTT strategies are proposed to increase the rate of cadaveric donation and support the organ retrieval program, a review of the transplantation rates at that time in relation to this program will be timely. (GMSIG Recommendation 2)

The Heart/Lung Transplant Team will meet on a regular basis to consider the adoption of new technologies and

procedures. Where there are funding implications a GMSIG/GMTT-style review is strongly recommended to ensure optimum clinician involvement. (GMSIG Recommendation 4)

A review of staffing levels for the program highlighted the growing need for Allied Health support for transplant recipients and donor families. As the cohort of transplant recipients increases, there are more demands placed upon the team to provide follow-up care. The GMTT provided recurrent funding for increased Allied Health support for the program commencing in the 2002/03 financial year. (GMSIG Recommendation 5)

Recommendations for the Future

The review process also revealed the extensive cost of Mechanical Assist Devices (MAD) used by the program. These 'artificial hearts' are implantable single-use devices used to support a person awaiting a donor organ and cost \$100,000 each. The GMTT strongly recommends the immediate increase in funding by NSW Health to provide these devices to the program. An additional five devices are required annually to address current needs.

8.3c Pancreas Transplantation

GMSIG Pancreas Transplantation Recommendations

Recommendations:

- 1 That the National Pancreas Transplant Unit (NPTU) at Westmead Hospital continue to be the sole pancreas transplantation unit in NSW.
- 2 That the NPTU continue to be centrally funded by the Commonwealth Nationally Funded Centres (NFC) program. Should NFC funding cease, alternative arrangements will need to be established which continue to fund the Unit separately from the Area Health budget.
- 3 That the NFC Review, to be conducted in conjunction with the NSW Department of Health, incorporate consideration for the development of islet cell transplantation.

Outcome: No change to existing services.

Description of Services

The National Pancreas Transplant Unit (NPTU) is located at Westmead Hospital and is funded through the Commonwealth Nationally Funded Centres (NFC) Program to provide Australia-wide services of up to 15 combined pancreas/kidney transplants per annum. A small number of transplants are also performed at

Monash Medical Centre in Melbourne funded by the Victorian State Government. The NPTU is currently performing 15 combined pancreas/kidney transplants per year. It is estimated that the NPTU would need to perform between 17 and 21 transplants per year to meet the potential Australia-wide demand. The majority of organ retrievals are from NSW donors and, as for other transplant services, any expansion of the program would need to be supported by an increased number of organ donations. Even if there were to be significant increases in donations, the projected levels of demand would not support the establishment of a further unit either in NSW or in the remainder of Australia for at least the next five years.

In 2003 the NPTU commenced clinical islet cell transplantation as an alternative for selected patients. This approach is still restricted by the availability of pancreatic tissue from donors from which the islets are extracted. Research at the NPTU and elsewhere into the use of xenogeneic islets (from pigs) continues, but is unlikely to be used in humans in the near future.

GMPT Process

A review meeting with the clinicians involved with the Pancreas Transplantation Team was held in late 2001. As was the case for the other complex transplantation services, the key factor affecting this program is the rate of cadaveric organ donation. The GMPT initiatives supporting organ retrieval will benefit this service.

Outcome

Apart from the issues surrounding islet transplantation, the clinician group for pancreas transplantation agreed

that there were no further islet cell transplantation issues for this specialty at this time. As with other programs recommended for review in the coming years, the clinicians expressed a strong preference for a GMSIG / GMPT style review to ensure maximum clinician involvement in service planning.

8.4 Ophthalmology Services

GMSIG Ophthalmology Recommendations and GMPT Achievements

Abbreviated Recommendations

- Establishment of a Statewide Ophthalmology Service (SOS) employing a Service Director to develop a Statewide Eye Plan with subsequent Area Health Service level Eye Plans.
- Transition from the provision of most tertiary eye services based in SE Sydney AHS (3-yr plan) including formalised networks to facilitate new service development at Westmead and Liverpool Hospital, cross-appointments for ophthalmologists, undergraduate training and extending cataract services to Western and South Western Sydney.
- Sydney Eye Hospital is an essential component of SOS, as it currently treats 50 % of tertiary patients in NSW.
- Prince of Wales Hospital to remain a centre of excellence.
- One teaching program for postgraduate education.
- SOS to present a statewide plan for cataract services.
- SOS prepare a plan for cataract services for Greater Western Sydney.
- Ophthalmology Committees at each teaching referral hospital.

Outcome: Achieved. SOS established. \$430,000 annually has been committed to the Statewide Ophthalmology Service (SOS) for the improvement of clinical practice and clinical networking (commencing from 2003-4).

Annual recurrent funding of \$370,000 per unit for Academic Units at Liverpool and John Hunter Hospitals was distributed in 2003.



Description of Services

The GMSIG recommendations aim to ensure that the population of NSW has excellent access to cataract and simple ophthalmology services, consultative services at Principal Referral Hospitals and equitable access to complex eye surgery when necessary.

The total number of patients with eye conditions admitted to NSW hospitals increased by 21% from 1997/98 to 2001/02. In 2001/02 there were approximately 71,000 hospital ophthalmology admissions. Over time, a greater percentage of ophthalmology services have been provided in the private sector. Approximately two-thirds of ophthalmology inpatient services are now delivered through private hospitals or day procedure centres, with only one-third of ophthalmic admissions being in public hospitals.

There has been a significant increase in the provision of cataract surgery (approximately 28% over the last 5 years), particularly in the private sector. Cataract surgery now represents approximately 70% of all ophthalmic public and private hospital admissions with only 31% of cataract surgery being provided in public hospitals. Many ophthalmologists work across public and private sectors and perform cataract surgery in both. Limited availability of operating theatres, nursing staff, ophthalmologists and anaesthetists has meant that in some NSW public hospitals many patients booked for cataract surgery must wait for this service. In August 2003, many patients classified as non-urgent waited more than 12 months for cataract surgery.

The GMSIG report recommended that more public hospital ophthalmic services – in particular cataract surgery, should be provided in the west of Sydney. In 2001/02 about a third of all patients admitted for eye conditions had treatment in public hospitals outside their local Area Health Service and hence not close to where they live. The outflow of patients was particularly significant for western and south-western areas of Sydney. Only the Children's Hospital at Westmead and South Eastern Sydney Area Health Service had a net inflow of patients from outside their Area Health Service. The Children's Hospital Westmead offers specialist paediatric care and the Sydney Eye Hospital is located in SESAHS and provides complex tertiary eye services.

GMST Process

In response to the GMSIG recommendations, NSW Health commissioned a consultant to develop an Ophthalmology Clinical Service Plan for NSW and the draft report was provided to the GMST Committee in September 2002. The GMST Ophthalmology consultations commenced in early 2003 with the first full meeting held in February followed by three-monthly meetings. Three separate surveys of Ophthalmologists and Trainees, Ophthalmic Nurses and Orthoptists were undertaken by the GMST in January 2002 to identify the issues facing the professions. The survey findings were presented at the first meeting of the group and helped to define the major issues to be considered.

An Interim Statewide Ophthalmology Service Committee met for the first time in April 2003 and five working groups were formed to address the issues. This Committee will facilitate the implementation of the GMSIG recommendations and will focus the groups' activities, with particular emphasis on the establishment of the Statewide Ophthalmology Service (SOS). An executive group was formed to assist the SOS Committee to develop an implementation plan including a governance structure, constitution and job description for the SOS Executive Director.

Outcome

In addition to the establishment of the main Committee, the five ophthalmology working groups were formed. The groups and the major issues being addressed by each are listed below:

Cataract Surgery in Public Hospitals

Since the commonest cause of ophthalmic admission to public hospitals in 2001/02 was for cataract surgery, this group will address the need to provide timely, accessible cataract surgery in public hospitals. Different models of care both in Australia and overseas will be considered, including a designated cataract surgery unit/module in each metropolitan Area Health Service. The group is meeting regularly to develop a NSW Cataract Surgery Plan.

Ophthalmology Services in Hospitals

This group will consider a broad range of eye-specific problems other than cataract surgery. Ophthalmic consultation and support is provided in sub-specialty

areas such as endocrinology, neurology, trauma, plastic surgery and the management of HIV/AIDS. The group's focus has been on service delivery issues and the consequences for registrar training of any changes. Of particular interest has been the on-call arrangements and management of eye trauma within Area Health Services.

Nursing Issues

Amongst the nursing issues being addressed, ophthalmic nursing workforce and training issues were a priority.

Orthoptists Issues

Orthoptists have considered the role of the orthoptist in the public sector, in particular their role in visual screening.

Rural Issues

Isolation from peers, lack of locum services, visiting ophthalmologists and workload, especially after-hours, were considered priority rural issues.

Discussion in the subgroups has progressed, and has identified how services might be improved for patients with eye conditions. It is anticipated that the establishment of the Statewide Ophthalmology Service will drive the resolution of many of these problems. By adopting innovative approaches to cataract surgery public hospitals could double the number of simple cataract procedures done each year, reduce the waiting time for patients and provide eye treatment closer to where people live. Networking clinicians within and across Area Health Services will help to ensure that skilled eye doctors will be available out-of-hours to manage patients with eye trauma, irrespective of where they present.

8.5 Cardiac Services

GMSIG Cardiac Recommendations and GMTT Achievements

(Abbreviated) Recommendation 1: That all Area Health Services employ appropriate numbers of well-trained clinicians to provide cardiac services.

Outcome: A cardiac services inventory is being undertaken across greater metropolitan Sydney in order to determine baseline services and therefore the number of clinicians required to provide adequate cardiac care.

Recommendation 2: That paediatric and quaternary services not change over the next three years.

Outcome: No change in these services is planned.

Recommendation 3: That electro-physiological adult congenital heart surgery be based at Westmead Hospital because of its close proximity and shared staff with The Children's Hospital at Westmead.

Outcome: Adult congenital heart surgery based at Westmead.

Recommendation 4: That interventional angiography services provided at Concord Hospital continue. Additional interventional angiography services should be established at Nepean, Gosford, Wollongong and perhaps Bankstown. Establishment of a facility at Campbelltown should be included in forward planning by South Western Sydney Area Health Service.

Outcome: Funding provided for new units to be established at Nepean, Gosford and Wollongong. Bankstown and Campbelltown cardiac needs will be assessed as part of the overall cardiac inventory. Further funding has been allocated to Nepean for capital expenditure in preparation for commencement of the service. Concord Hospital has retained its angiography service and enhanced the service to include angioplasty.

Recommendation 5: That acute cardiac emergencies be managed by a physician with a declared cardiology interest, especially in view of the increasing use of new drugs and interventions.

Outcome: This recommendation is being progressed in concert with the primary angioplasty plan which is due to be completed by 2005. Cardiac networks are being developed, with the Western Sydney and Wentworth; and Central Sydney and South Western already established. This will provide clinicians with access to standard treatment protocols and will facilitate coordination of clinicians and services. It is envisaged that this concept will be further developed to include the rural sector.

Recommendation 6: That networking arrangements be expanded and include acute cardiac and surgical services. A system of incentives for effective networking should be considered and perhaps quarantined funding could be considered for the establishment of satellite services.

Outcome: Area-wide cardiac services now have formal links to the five centres providing cardio-thoracic surgery. Quarantined funding at this stage has not been identified.

Recommendation 7: That Area Health Services also investigate the development of formal links to rural areas.

Outcome: The Cardiac Coordinating Committee has established a subcommittee to work with the Rural Implementation Group to facilitate closer coordination of metropolitan and rural services. It has identified a need to develop networks with the rural sector and identify mechanisms that attract Cardiologists to the rural sector.

Recommendation 8: That electro-physiological studies be available in every Area Health Service.

Outcome: Achieved. Funding was provided for EPS consumables and testing to provide EPS services at Liverpool Hospital in 2003. SWSAHS had been the only AHS without this service.

Recommendation 9: That the development of a statewide database be considered essential.

Outcome: Achieved. The Cardiac Coordinating Committee has established a subcommittee to review and develop an appropriate data collection system. The Committee has also commenced a review of the accuracy of data available in the Health Information Exchange (HIE) with the aim of ensuring data collected in the HIE is accurate, standardised and available for comparative analysis.

Recommendation 10: That South Eastern Sydney Area Health Service establish a single cardiac surgical service for their population of 750,000.

Outcome: Not achieved.

Description of Services

Approximately 31,000 patients are admitted to NSW hospitals with chest pain, unstable angina or acute myocardial infarction each year. Approximately 26,000 angiograms, 9700 angioplasties and/or stent insertions and 5800 coronary artery bypass grafts are performed annually. Rates of interventional angiographic procedures have climbed steadily during the past few years. This procedure involves the insertion of a catheter to view a patient's coronary arteries via X-ray so that stents or balloons can be used to clear blocked or narrowed arteries without surgery. The number of open-heart surgical procedures plateaued during the same period and then decreased, both in the public and the private sectors. Three Area Health Services – Illawarra, Central Coast and Wentworth – had no public hospital cardiac surgical services, nor access to locally based interventional angiography.

GM TT Process

To progress implementation of the GMSIG recommendations, Dr Michael Hollands, a gastrointestinal surgeon, was asked to consult widely with clinicians including cardiac surgeons, cardiologists and cardiology nurses.

The Cardiac Coordinating Committee (CCC) established by the GM TT to oversee implementation included clinicians from Area Health Services across the greater metropolitan region. The Committee met regularly to undertake a number of steps including reporting on future workforce requirements, improving patient pathways, developing standard patient care protocols/clinical pathways, exploring rural linkages, establishing a clinical database with transparent reporting of outcomes, facilitating clinical trials and facilitating

clinician training rotations. Subcommittees were set up to address major issues and report back to the CCC. An executive group, with two co-chairs, a cardiologist, a cardio-thoracic surgeon and a nursing representative, was chosen to lead the committee. Meetings were held throughout 2002 and 2003. Recommendations were made to the full GM TT Committee and ratified.

Outcome

An extra \$5m annual recurrent funding was provided for cardiac services across the greater metropolitan area. An additional \$500,000 in capital funding was also provided to upgrade equipment and facilities at Nepean and Liverpool Hospitals. These enhancements will ensure that people living in the west of Sydney, in the Illawarra, Central Coast and Hunter regions will now have better access to high level cardiac services. Cardiac angiography – a diagnostic procedure carried out in a cardiac catheter laboratory to detect abnormalities in the coronary arteries – will now be available to patients in all greater metropolitan Area Health Services.

New purpose-built cardiac catheter laboratories have been funded for Gosford, Wollongong and Nepean Hospitals with capital enhancements to John Hunter and Nepean Hospitals. These will be operational in the 2003/04 financial year following staff recruitment, training and equipment purchases. It is anticipated that every Area Health Service will have an interventional cardiology unit by 2004.

Electro-physiology studies (EPS) are undertaken to diagnose the problem and guide treatment when a person's heart rhythm is abnormal. With the development of a new EPS unit at Liverpool Hospital, this service will be available in every Area Health Service in greater metropolitan Sydney. Electro-physiological congenital heart surgery will be enhanced at Westmead Hospital. For patients requiring cardiac care, these initiatives have significantly improved equity of access.

For patients attending hospital with chest pain, fast and accurate diagnosis is critical. Cardiac clinicians have developed a coordinated system of cardiac networks to link each local hospital with a major hospital offering interventional cardiology and/or cardiac surgery to expedite referral, and to provide access to these high-level facilities and clinical expertise. Individual patient referrals will not be restricted, but referrals for

interventional angiography and cardiac surgery will be streamlined. As the system is developed, this will provide a 'one phone call' system for referring clinicians.

The Networks involve the following Area Health Service groupings:

Central Coast ↔ Hunter ↔ Northern Sydney
 South Western ↔ Central Sydney
 Wentworth ↔ Western Sydney
 Illawarra ↔ South Eastern

Cardiologists are also developing a Resource Plan to determine future needs for 24-hour interventional cardiology.

An upgraded patient transport network will link smaller Emergency Departments into the wider cardiac networks.

Heart-Lung Transplants will continue at St Vincent's Hospital.

Recommendations for the Future

The need for a second Heart-Lung Transplant unit will be reviewed in three years.

A review of cardiac surgery needs will also be carried out in 2004.

The use of drug-eluting stents is a new treatment modality which is gaining clinical acceptance. While it has initial cost implications, it has been proven that it reduces the need for further interventional or surgery needs. The Cardiac Coordinating Committee made a recommendation supporting the introduction of this modality, which was endorsed by the GMITT and referred to NSW Health for consideration of funding. The Director-General for Health supported the use of drug-eluting stents, but left it to individual Area Health Services to provide this option subject to local funding constraints.

8.6 Brain Injury Rehabilitation

GMSIG Brain Injury Recommendations and GMITT Achievements

Recommendation 1: That NSW Brain Injury Rehabilitation Program (BIRP) Units maintain their role of meeting the behavioural, cognitive and psychosocial needs of people with Traumatic Brain Injury.

Outcome: Process established. A Directorate has been established to provide a statewide service in NSW. A Program Manager has been appointed to manage the Directorate.

Recommendation 2: That a regional brain injury rehabilitation service have reasonable access to all of the following components:

- specialised medical inpatient care
- community rehabilitation programs
- transitional living programs
- services dedicated for children and adolescents
- community development approach with family and carer support
- quality improvement programs
- education program, research and professional development
- appropriate data collection.

Outcome: Brain Injury workshops held in September 2003 and March 2004 to further explore these issues. Identified priorities were:

- rural-metropolitan interface and service access
- paediatric and adolescent services
- challenging behaviour
- long-term accommodation support
- ongoing professional development.

Recommendation 3: Inpatient BIRP Units

- that BIRP inpatient bed capacity of 48 beds throughout the NSW hospital system be maintained, including dedicated BIRP beds for brain injury rehabilitation up to 2005
- the current number of adult inpatient BIRP Units should be maintained
- the number of BIRP inpatient beds required should be reviewed by 2005/2006 as part of a revision of the BIRP Strategic Service Plan.

Non-Traumatic Brain Injury

That selected individuals with non-Traumatic Brain Injury be treated by BIRP Units. These admissions should be subject to the availability of resources and lack of alternative appropriate services, where these individuals' rehabilitation needs are consistent with the expertise offered by BIRP staff.

At the discretion of Unit Directors, those individuals with non-Traumatic Brain Injury should generally be drawn from age range 15 to 35 years and with conditions resulting from cerebral haemorrhage, anoxia and post-infection brain injury.

Outcome: All BIRP Units be retained at current capacity.

Recognition that BIRP programs can be appropriate and beneficial to other clients with acute brain injury if they have special needs.

Admission criteria which allow for the treatment of individuals with non-Traumatic Brain Injury.

Recommendation 4: Networking

That tighter linking through preferred referral networks between metropolitan and rural units be required to ensure rural and city residents are provided with good access and best-practice services.

Guidelines for operation of designated referral patterns should be formally considered and adopted by BIRP Unit Directors and Area Health Services.

Outcome: Preferred networks for metropolitan and rural units

exist informally. Development of formalised guidelines will aid in the promotion of equity of access for all patients. Rural units are equal partners in the development of the minimum data set. Referral protocols for the state are being developed. The directorate is now operational and is actively working with the rural units.

Recommendation 5: Paediatric Services

That the two paediatric Traumatic Brain Injury services be continued. A paediatric brain injury services coordinator should be appointed in all Brain Injury Rehabilitation Programs.

The NSW BIRP should adopt a best-practice model of rehabilitation of children and adolescents who have sustained acute brain injury across all NSW units. This model should be developed and implemented by the BIRP Unit Directors.

Representatives of the Commonwealth Rehabilitation Service and other job network providers and BIRP Unit Directors should develop a close network and work towards meeting the needs of longer-term BIRP clients. Attention should also be paid to transitional support for young people leaving paediatric rehabilitation.

Outcome: Each regional/rural BIRP unit has an identified paediatric coordinator within their service.

Transition is supported for young people in rural/regional areas with a paediatric service attached to an adult BIRP service. A Paediatric Reference Group has been established to evaluate current models of care and best practice in the provision of services. Links have been established between Paediatric Services and the Directorate, with a representative from the Paediatric Reference Group joining the Directorate Committee.

Recommendation 6: Data Collection and Research

That BIRP Unit Directors, in conjunction with NSW Health, develop a comprehensive data strategy for BIRP. The BIRP Unit Directors should appoint a chair from within their group to lead this process, perhaps on a rotating basis. Consideration should be given to funding a data coordinating support person managed through one of the BIRP Units with responsibility for supporting this service.

NSW Health implements a minimum data set commencing financial year 2000/2001.

The UAR and hospital cost data collection will be used in future years to collect financial data on the cost of BIRP Units.

Outcome: Data managers from NSW Health and the Brain Injury Directorate are working closely to progress the data strategy for the BIRP. The recruitment of a data manager to be employed as part of the BIR Directorate is under way.

A clinical information strategy is to be implemented in accordance with the NSW Health data strategy. All BIRP processes and enhancements will be evaluated. Data collection and analysis will underpin this evaluation. Interim reporting processes enabling analysis of collected data, have been put in place.

Recommendation 7: Other Recommendations

That a working party be convened to assess and cost options for the provision of specialist services for clients with challenging

behaviours and make recommendations to the NSW Health. Adult and adolescent problem clients should be targeted and there should be a link to adult and child/adolescent psychiatry.

Multiple representations were made to the chair about the plight of the non-traumatic brain-injured young patient. This is particularly a problem once the patient is in the community where there can be difficulty accessing services provided by the health system for these vulnerable and usually non-compensatable patients. It is recommended that a group be urgently convened to further advise on the specific needs of this group of patients.

Outcome: Admission of patients with non-traumatic brain injury is considered at the discretion of the unit director.

A project to examine management of patients with challenging behaviours is being finalised.

Description of Services

In NSW there are approximately 114,735 people who have a brain injury. Just under half are in need of some form of personal assistance with everyday living.

Trauma is the leading cause of brain injury. Over 1000 people in NSW each year sustain a traumatic brain injury and experience long-term disability; 70% of these people are male; 32% are aged between 15 and 29 years.

Causes of traumatic brain injuries include external events such as motor vehicle accidents, falls, assaults, sporting accidents or blows to the head. Non-traumatic brain injury is caused by internal events such as a stroke, lack of oxygen to the brain resulting from ruptured or blocked blood vessels in the brain, brain tumours, poisoning or infections, eg meningitis.

The needs of patients with brain injury are complex, broad-ranging and not quickly resolved. Multi-disciplinary teams are needed to provide long-term therapy. Team members work together closely to ensure care is focused and integrated. Most units provide therapy and supportive counselling for patients and their families to help them rebuild their lives.

GMST Process

Early in 2002, clinicians involved in providing care for brain-injured patients came together to consider how the GMSIG recommendations could be implemented. A working group was formed and has met monthly to monitor the implementation of the recommendations through the targeted recruitment of staff and the expansion of outreach services.

Outcome

Highly specialised adult inpatient care is now provided in the following major centres:

Westmead Hospital – covering Western Sydney Area Health Service and Wentworth Area Health Service
Supra-regional responsibility – western NSW

Liverpool Hospital – covering South Western Sydney Area Health Service, Illawarra, South Eastern Sydney Area Health Service (Southern part) *Supra-regional responsibility – south and south western NSW*

Royal Rehabilitation Centre – covering Northern Sydney Area Health Service, Central Sydney Area Health Service, South Eastern Sydney Area Health Service (Northern part) *Supra-regional responsibility – north and north western NSW.*

Paediatric inpatient services are provided at The Children's Hospital at Westmead and Sydney Children's Hospital. Regional community-based and outreach services are based in Illawarra and the Hunter (covering the Hunter and Central Coast Areas).

An additional \$1.5 million per year has been provided to improve staffing levels at each of the inpatient services and to support regional services. The funding also supported the creation of the new Brain Injury Rehabilitation Program (BIRP) Directorate which is focusing on service coordination and service development. The Directorate will support clinicians working with patients suffering brain injury to develop best-practice guidelines for treatment and to review and analyse brain injury statistics to provide direction for brain injury education, research and prevention programs.

In conjunction with NSW Health and Area Health Services, the new Brain Injury Directorate will ensure comprehensive, accessible and appropriate care for patients with a brain injury.

The additional funding will ensure faster access to services for patients with a brain injury. It will enhance rehabilitation care and will ensure that all the brain injury services are well coordinated.

Recommendations for the Future

For optimal supra-regional service provision, strong links to other Government Departments and services with a statewide focus need to be forged.

8.7 Bone Marrow Transplantation

GMSIG Bone Marrow Recommendations and GMTT Achievements

Recommendation 1: Establishment of a Central Laboratory and a Central Management Group.

Outcome: Fully achieved. For logistical reasons it was decided to establish two networked services rather than one central laboratory. Services are now organised into an Eastern Service, located at Darlinghurst and Randwick, and a Western Service located at Westmead. The development of common protocols and policies is now under way.

Recommendation 2: That standard patient selection protocols be adopted across NSW that allow equal and uniform access to blood and bone marrow transplantation.

Outcome: Development now under way. Working groups have commenced formulation of standard criteria and a network support group is being put in place.

Recommendation 3: That autologous bone marrow transplantation be considered an integral component of the treatment of acute leukaemia and be provided by all tertiary haematology units.

Outcome: Fully achieved. With the establishment of autologous transplantation at Concord, Nepean, Wollongong and Gosford Hospitals, all Tertiary Haematology Units provide this service.

Recommendation 4: That related allogeneic blood and bone marrow transplantation only be undertaken in units consistently performing at least 10 allogeneic grafts per year. Services would be concentrated at Westmead and St Vincent's Hospitals with meaningful cross-appointments from present units.

Outcome: Partly achieved. The services at Westmead and St Vincent's Hospitals have been greatly enhanced. The decision with respect to other services rests with the Minister for Health.

Recommendation 5: That matched unrelated blood and bone marrow transplantation (including cord blood transplantation) and related allogeneic transplants with a less than 6/6 HLA match be undertaken only in units accredited by the Australian Bone Marrow Donor Registry to undertake these procedures. Because of the agreed difficulty in managing these patients, a maximum of two adult units (Westmead and St Vincent's) in NSW should undertake these forms of blood and bone marrow transplantation.

Outcome: No action. At the time of writing this report there is no progress for the development of a Bone Marrow Donor Registry accreditation process. The working parties established by the GMTT for Bone Marrow Transplant have agreed that this needs to be developed. Negotiations are now in place to work with NSW Health to develop a five-year strategic plan for bone marrow transplant services through which issues of accreditation and central management should be addressed.

Recommendation 6: That novel procedures in blood and bone marrow transplantation (eg 'mini-transplants') be undertaken only as research activities in units accredited for allogeneic bone

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marrow transplantation and with appropriate institutional ethical approval. Such activity should be publicised to all haematology units in NSW.

Outcome: Not achieved. The GMITT has recommended that this occur and is awaiting approval from NSW Health to implement this recommendation. This will be fully achieved once the transition to the two adult sites is complete.

Recommendation 7: That collaborative national and international research protocols only be undertaken with appropriate institutional ethical approval.

Outcome: Development now under way. With the establishment of a central laboratory service, appropriate research protocols are able to be implemented across all sites. A research and teaching working group has already been established.

Recommendation 8: That a single cord-blood banking facility be available in NSW providing equal access to patients from all haematology units. Cord-blood transplantation should occur only in units accredited for matched unrelated donor transplantation.

Outcome: Fully achieved. The Sydney Children's Hospital Red Cross Cord Blood Bank remains the single facility for this procedure.

Recommendation 9: That the establishment of any new allogeneic bone marrow transplant services in NSW only be considered after the establishment of the central laboratory service. It should only be considered if it can be demonstrated that current caseloads warrant an additional unit. Any new unit should be established with initial staffing support from an established unit for up to two years.

Outcome: Partially achieved. Whilst four adult allogeneic centres remain operational the caseload does not warrant the commencement of a fifth unit. The Bone Marrow Transplant Network will conduct a feasibility study into the establishment of a third adult Bone Marrow Transplant Unit at Liverpool Hospital to manage anticipated increases in demand.

Recommendation 10: That registrar and nursing staff be rotated between hospitals which have mutually agreed to provide a balance in general haematology (laboratory and clinical) and bone marrow transplantation.

Outcome: Now under way. Invitations for the opportunity to rotate have now been extended to all clinicians.

Description of Services

Bone Marrow Transplantation has been increasingly used since the late 1960s as a treatment for primary bone marrow disorders such as leukaemia or immune deficiency diseases and also in the treatment of malignancies where transplantation enables the use of large doses of chemotherapy. Transplantation can be either autologous (where the patient has previously donated their own bone marrow) or allogeneic (where the donor is a tissue-matched related or unrelated donor). Allogeneic transplantations are more complex than autologous transplantations and risk is further increased where the allogeneic donor is unrelated. More than 200 autologous and 100 allogeneic transplants are carried out in NSW each year.

GMITT Process

The GMITT consultations with Bone Marrow Transplantation clinicians commenced in March 2002 and have continued monthly. Medical, Scientific, Allied Health and Nursing clinicians have all been involved. By August 2002, a number of smaller working parties had been formed to develop detailed implementation plans. Working parties cover Allogeneic Transplantation, Autologous Transplantation, Laboratory Services, Research and Teaching, and an interim Executive group. These groups continue to meet on a regular basis and are accepted components of the NSW Bone Marrow Transplant Network.

Outcome

An additional \$6.421 million in annual recurrent funding was provided through the GMITT to support Bone Marrow Transplantation including the establishment of the NSW Bone Marrow Transplant Network across the greater metropolitan region. An Executive Group has



been formed and is responsible for overseeing the implementation of changes.

Additional medical and specialist nursing and allied health staff have been appointed to expand services and provide additional support for patients. Allogeneic services have been enhanced in two designated adult units at St Vincent's and Westmead Hospitals, and paediatric units at The Children's Hospital at Westmead and Sydney Children's Hospital at Randwick.

Four additional Autologous Bone Marrow Transplantation Units were established at Gosford, Nepean, Concord and Wollongong Hospitals with funding to increase the autologous transplantation in each centre by 10 per year (40 in total). This funding will ensure that 40 people per year will now not have to travel to distant centres to receive their transplant care. Two of the four sites (Wollongong and Concord) commenced cell collections and transplants in early 2003. Gosford and Nepean Hospitals have commenced transplantation and by late 2003 will be performing cell collections on-site.

The creation of a single central laboratory service across three sites will facilitate movement towards common protocols, standard operating procedures and uniform quality management strategies. Capital enhancement of laboratory services will provide state-of-the-art equipment.

There has also been a significant increase in consumer participation. Eight people nominated to fill the two consumer representative positions on the Committee. The two selected representatives attend all committee meetings. The remaining nominees have also been invited to participate in special projects.

Common data collection has been initiated and the information will be made available throughout the region and to rural areas through the NSW Health Intranet. Coordination of care and nurse education at both the major sites and regional non-transplanting sites has also been supported.

Improved treatment coordination will be achieved through common treatment protocols for Bone Marrow Transplantation across the Network.

Close links between transplantation units and 'feeder' units will ensure there is no break in continuity of care once the patient is able to return to their own local area.

Improved management of scientific services will support clinical excellence across the service.

8.8 Neurosciences

8.8a Neurosurgery

GMSIG Neurosurgery Recommendations and GMTT Achievements

(Abbreviated) Recommendation 1: That there be four integrated services as follows:

Southern – POW, St Vincent's, St George and Illawarra

Northern – Royal North Shore, Gosford and John Hunter Hospitals

Central – RPAH and Concord Hospitals

Western – Westmead, Nepean and Liverpool Hospitals

These service groupings would be revised in two years' time and serve as networks as outlined earlier.

Outcome: With the GMTT review, clinicians believed that five, not four networks would be most effective. Five regional networks were established. The additional network was for South Western region based at Liverpool Hospital. Each network is represented by a neurosurgeon and a senior neurosurgical nurse. The network representatives have interacted regularly through the coordinating committee.

Recommendation 2: That super-specialised neurosurgery, such as epilepsy, interventional, functional and radio-surgery be concentrated in one or two units within greater metropolitan Sydney.

Outcome: Several issues are being currently discussed. Interventional Neuroradiology is being addressed through a separate working party including radiologists. A submission re movement disorders surgery has been ratified by the GMTT and is currently with the Director-General.

Recommendation 3: That levels of staffing including medical, nursing, allied health professional staff be reviewed, with a view to addressing the issues of recruitment, training and retention.

Outcome: Medical staffing is regularly under review. Nursing staff have been reviewed, with strategies being implemented, such as postgraduate education and professional collaboration over networks, to stimulate retention and recruitment. Funding has been allocated to allow professional development. Allied health staffing will be reviewed.

Recommendation 4: That a magnetic resonance imaging (MRI) scanner with 24-hr access for public patients be required for greater metropolitan Neurosurgical Units; that any hospital that accepts a patient with neurosurgical trauma have access to a CT scanner, again on a 24-hr basis.

Outcome: Greater metropolitan Neurosurgical Units have access to MRI units, with additional units accepted as necessary by NSW Health. Plans for additional MRIs are in progress. All hospitals that accept neurosurgical trauma patients have access to a CT scanner.

Recommendation 5: That Heads of Departments of Neurosurgery meet on a regular basis to review changing

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patterns of service provision, plan for the future and develop quality and outcome measures for neurosurgery.

Outcome: The coordinating committee agreed that there was a need to survey the international literature to obtain information on neurological services in comparable societies, standards of neurosurgical care and practice and quality in neurosurgery, such as clinical indicators and adverse events. This study, completed in May 2003, formed the basis of planning for service provision and developing outcomes measures. The results were published in 'Survey of Service and Established Protocols Leading to Implementation of Best Practice Guidelines for Neurosurgical Services in New South Wales' (Lang E; Fearnside M; Sutherland V; and members of the Neurosurgical Coordinating Committee).

Description of Services

In 2004 there are a total of 36 training posts in Australia which will be filled with Advanced Neurosurgical Trainees, 14 of which are in NSW as follows: Prince of Wales (2), Royal Prince Alfred (2), The Children's Hospital at Westmead (1), Sydney Children's (1), Westmead (2), Royal North Shore (2), St Vincent's Public and Private (1), John Hunter (1), Liverpool (1), St George (1). Neurosurgeons cited relatively low remuneration and high indemnity costs as issues of concern. Severe difficulties in recruiting and retaining Specialist Neurosurgical/Neuroscience Nurses have also been reported.

GMST Process

The Neurosciences section of the GMSIG Report focused on neurosurgery and neurology. To develop implementation plans, the GMST undertook extensive consultations with neurosurgeons.

Specific areas of concern included radiological support infrastructure and neurosurgical networking. In common with other specialties, the availability of accurate activity data and appropriate levels of staffing was also identified.

Radiological support for neurosurgery focused on the need for tele-radiology and adequate access to CT and MRI scanners for public patients. Networking of Neurosurgical services – both within and across Area Health Services – was identified as less than optimal, with the exception of the development of an Area neurosurgical service in South Eastern Sydney.

Regular meetings of neurosurgical clinicians were held through 2002 and 2003. At the early meetings the

GMSIG recommendations were strongly supported and areas for action were highlighted. Although the GMSIG report had recommended four regional groupings (with the proviso that this be reviewed) clinicians subsequently recommended that five networks be established.

Outcome

The following neurosurgical networks have been established:

Southern – Prince of Wales, St Vincent's, St George and the Illawarra Hospitals

Northern – Royal North Shore, Gosford and John Hunter Hospitals

Central – Royal Prince Alfred and Concord Hospitals

Western – Westmead and Nepean Hospitals

South Western – Liverpool Hospital

These networks will provide the next tier of care for patients needing neurosurgery and/or MRI.

Funding for neurosurgical nurses to attend development programs and additional neurosurgical nursing case managers in all neurosurgical centres were supported.

The Neurosurgical Committee has proceeded with the design of a database into which clinical neurosurgical data will be fed, hopefully from all neurosurgical units in New South Wales.

To facilitate further progression for the GMST Neurosurgical initiatives the group is in the process of appointing a network manager (shared with Cardiology). As the co-chairs for both groups are based at Westmead, Western Sydney Area Health Service will host the Directorate. This position will further support the availability of consistent and accurate statewide data, eventually providing trend analysis data. The initiative is designed to enable the neurosurgical group to identify areas for improvement in patient care and provide an effective risk management strategy.

The Committee has noted the document 'Consumer and Community Representative Advertisement and Information Kit'. The Committee is currently in the process of appointing a consumer representative.

8.8b Neurology/Stroke

GMSIG Neurology Recommendations and GMTT Achievements

Recommendation 1: That there be four integrated services as follows:

Southern – POW, St Vincent’s, St George and Illawarra

Northern – Royal North Shore, Gosford and John Hunter Hospitals

Central – RPAH and Concord Hospitals

Western – Westmead, Nepean and Liverpool Hospitals

Each of the above four integrated services should have at least one major Stroke Unit.

Comment: GMTT consultations with stroke clinicians resulted in the above recommendations being varied as follows:

- a. That at least one Major Stroke Unit (Category A National Stoke Unit Program (NSUP) equivalent) should be established within each Greater Metropolitan Area Health Service.
- b. Networks of collaborative Stroke Units (hub and spoke models) should be established within each Greater Metropolitan Area Health Service (Category A, B and C NSUP equivalent units).
- c. That for each acute stroke unit integrated stroke rehabilitation processes should be established.

Outcome: Major Stroke Units and networks of stroke units have been established in each greater metropolitan Area Health Service as follows:

Gosford, RPAH/Concord, John Hunter/Mater/Maitland, Wollongong, Royal North Shore, Prince of Wales, St Vincent’s, St George, Liverpool, Westmead and Nepean Hospitals.

Regional and rural stroke service development needs are recognised and supported by GMTT.

Establishment of collaboration between GMTT stroke group and the Institute of Clinical Excellence and Towards a Safer Culture (TASC) program

Recommendation 2: That Major Stroke Units require:

- a full-time neurologist director, or director recognised to have the appropriate experience and training, plus administrative support
- a minimum of four associated full time neurologists (to enable 24-hr on-call services)
- dedicated nursing unit
- dedicated monitored high-dependency beds and dedicated intermediate beds
- an associated neurosurgical unit
- neuroradiology services for interventional neuroradiology (minimum of 4 interventional radiologists to enable 24-hour on-call service)
- CT, angiography and MRI services on a 24-hour basis
- associated Geriatric and Rehabilitation Services
- neuropathological services (not necessarily co-located)
- allied health services (social work, physiotherapy and occupational therapy, speech therapy, dietitian).

Comment: GMTT consultations with stroke clinicians resulted in the above recommendations being varied as follows:

Using the National Stoke Unit Program definitions Major Stroke Units (Category A equivalent) require:

- a full-time acute stroke physician director, or director recognised to have the appropriate experience and training, plus administrative support
- a minimum of four associated full-time acute stroke physicians (to enable 24-hr on-call services)
- dedicated nursing unit and stroke pathways or care plans
- dedicated monitored high-dependency beds and dedicated intermediate beds
- an associated neurosurgical unit
- neuroradiology services capable of at least undertaking cerebral angiography (minimum of four interventional radiologists to enable 24-hour on-call service)
- 24-hour access to advanced interventional neuroradiology via the established neurosurgical GMTT networks
- CT and MRI services on a 24-hour basis
- integrated Aged Care and Rehabilitation physician-led programs
- stroke expert allied health services (social work, physiotherapy and occupational therapy, speech therapy, dietitian)
- establishment of collaborative processes for hyperacute stroke management in Emergency Departments
- access to neuropathological services (not necessarily co-located).

Outcome: Major Stroke Units established as outlined above. Establishment of collaboration between GMTT stroke units and the Institute of Clinical Excellence TASC Program.

Recommendation 3: That all Stroke Units require:

- a neurologist director or director recognised to have the appropriate experience and training
- a minimum of four associated neurologists or general physicians for 24-hour on-call service
- 24-hour CT capability
- dedicated beds and associated nursing unit
- allied health services
- associated Aged Care, Rehabilitation and Outreach services
- an associated Major Stroke Unit
- a catchment population of greater than 250,000.

Comment: Consideration by stroke clinicians revised the above recommendation as follows: That all Stroke Units (Category B and C NSUP equivalent units) require:

- stroke physician director or director recognised to have the appropriate experience and training
- a minimum of four associated stroke physicians for 24-hour on-call service
- 24-hour access to CT scanning
- either dedicated beds and associated nursing unit utilising stroke pathways or care plans, or non-geographically defined stroke beds but timely access to a mobile multi-disciplinary expert stroke team
- stroke expert allied health services
- integrated aged care, rehabilitation and protocols developed with Emergency Departments and/or General Practice for acute-phase care

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- networks with an associated major stroke unit
- 100 or more stroke cases per annum.

Outcome: Stroke Units reviewing and establishing services as per discussion above and local priorities. Establishment of collaboration between GMTT stroke group and the Institute of Clinical Excellence Towards a Safer Culture (TASC) program.

Recommendation 4: That patients in the younger age group (less than 45 years) experiencing stroke be cared for, where possible, in major stroke units.

Outcome: Each Area Health Service Stroke Network addressing this issue as a major priority.

Recommendation 5: That the Royal Australasian College of Physicians be requested to review the rotation of advanced trainees in Neurology and ensure placement at the peripheral centres of Gosford, Wollongong, Nepean and Liverpool.

Outcome: Partially achieved. Advance trainees in Neurology have been training at Liverpool Hospital since about 1996 and training will commence at Gosford Hospital in 2005, but at Wollongong and Nepean Hospitals the necessary training infrastructure is not in place for Neurology trainees.

Recommendation 6: That dedicated nursing and allied health staff be an essential component of neurological services and that recruitment, training and retention of these staff be reviewed.

Outcome: Staffing levels for nursing and allied health are being reviewed at each of the Stroke Unit sites. Recruitment, retention and training are being addressed at both a local level and at the Stroke Coordinating Committee level, which is striving to enhance the profile of acute stroke care and ongoing stroke rehabilitation care.

Recommendation 7: That comprehensive epilepsy services be limited to Westmead, The Children's Hospital at Westmead, RPAH and POW and the Sydney Children's Hospital.

Outcome: Achieved.

Description of Services

Seventy per cent of acute public hospital admissions for Neurology are related to transient ischaemic attacks (TIAs) or stroke and are broadly classified under the heading of 'Stroke Services'. In considering implementation of the GMSIG neurology recommendations, staffing, radiology support and networks were identified as the key issues. The GMSIG report recommended the establishment of Stroke Units similar in concept to existing Coronary Care Units. These were described as dedicated areas of patient care, specifically for the immediate acute care of patients experiencing stroke.

Australia-wide there are approximately 60 advanced trainees enrolled in the three-year Neurology training

program, with some 25-30 in their final year. This number has increased by 2-3 each year for the past few years. The Royal Australasian College of Physicians anticipates an increasing demand for neurologists to provide services for an ageing community and anticipates that there will continue to be small increases in the number of training positions in coming years.

GMTT Process

Extensive consultations were held with clinicians from all aspects of stroke care regarding the Stroke Unit proposal. The literature indicated that patients receiving high-level care in stroke units termed a 'Stroke Pod', had improved short-term and long-term health outcomes. A stroke unit was recommended for all hospitals with Level 5 or higher Emergency Departments. Protocols were developed for these units.

Outcome

More than \$10 million in recurrent funding and more than \$2 million in capital funding were provided to support the establishment or enhancement of 18 Stroke Units throughout the greater metropolitan area at the following hospitals: Bankstown, Blacktown, Campbelltown, Concord, Gosford, Hornsby Ku-ring-Gai, John Hunter, Liverpool, Manly, Nepean, Prince of Wales, Royal North Shore, Royal Prince Alfred, St George, St Vincent's, Sutherland, Westmead and Wollongong, with a 19th unit being established at Wyong during 2004.

The Stroke Units comprise one or more dedicated four-bed units in a specific area of a ward or high-dependency unit. Patients have access to CT scanning 24 hours a day, seven days a week. More than 100 additional clinical positions have been created and staff have been recruited to effectively diagnose, treat and rehabilitate stroke patients. New equipment has permitted close monitoring of patients' vital signs for better overall care. Standard protocols and clinical practice guidelines, in addition to coordinated education, training and data management, will ensure that uniform levels of care are provided for stroke patients throughout the greater metropolitan region.

Stroke rehabilitation and aged care service development needs have been identified in metropolitan Area Health Services. The GMTT stroke coordinating committee has established a network with rehabilitation and aged care clinicians to address the identified needs. Planning for

new Stroke Units will incorporate co-location of acute and rehabilitation facilities wherever possible.

Stroke service development needs in non-metropolitan hospitals have been identified.

Based on established evidence-based criteria, networks have been established.

A collaborative liaison between stroke clinicians in regional and metropolitan centres has commenced including liaison with the Australasian Stroke Unit Network.

Recommendations for Future

That a reference group of rehabilitation and aged care clinicians with an interest in stroke be established and liaise with the GMTT stroke group on requirements for establishment or enhancement of integration between acute and post-acute stroke services.

That a reference group of regional clinicians with an interest in stroke be established and liaise with the GMTT stroke group on potential models for development of regional stroke services.

8.9 Renal Services

GMSIG Renal Dialysis Recommendations and GMTT Achievements

Recommendation 1: That the guidelines for the appropriateness of dialysis, drawn up by the Australian Kidney Foundation and approved by the NH&MRC, be followed.

Outcome: Partly achieved. These guidelines are currently being reviewed by the Renal Dialysis Working Group and recommendations are due to be handed down. Key stakeholders in this process are the Area Health Services and NSW Health, and consultations are continuing.

Recommendation 2: That provision for a global increase of 7% per annum in the number of people requiring dialysis be adopted.

Outcome: Not achieved. A business case has been developed for the establishment of 10 new satellite Renal Dialysis Units in the greater metropolitan region over the next five years.

NSW Health has projected that the growth in the number of people requiring dialysis will be 5.5%. A project to develop projections based on the latest ANZDATA data set is being conducted by the Health Services Research Group of NSW Health.

Recommendation 3: That home dialysis be the preferred option for adults. However for children and for specific indications, the provision of adequate peritoneal dialysis be

available for utilisation in the appropriate clinical setting. Any plan for global dialysis services must look at a relative increase in the number of satellite positions available.

Outcome: Partly achieved. This recommendation was incorporated into the business case for additional satellite Renal Dialysis Units (see Recommendation 2: Outcome, above). Home dialysis remains a viable option for many situations but remains a clinical decision by the renal service team based on a holistic assessment of the patient.

Recommendation 4: That whilst there are adequate numbers of machines for home dialysis, haemodialysis and peritoneal dialysis at the present time, a continual process of upgrading and renewal must be followed. It is also recommended that there be an increased number of hospital and satellite machines provided.

Outcome: No increase achieved. Many individual renal services are considering or have moved to a 'Price Per Treatment' contract arrangement with private corporations which includes machine lease costs. However, these decisions are outside the recommendations or influence of the GMTT.

Recommendation 5: That a centre for renal dialysis be resourced for Nepean Hospital.

Outcome: Fully achieved. A new renal dialysis service has been established at Nepean Hospital.

Recommendation 6: The working party seeks to have input into any proposal which deals with the funding of renal dialysis, and which may arise out of the current consultancy.

Outcome: Fully achieved. The Renal Services Network has worked closely with NSW Health regarding the development of strategies relating to renal services in greater metropolitan NSW and with the NSW Rural Health Taskforce as regional and rural services are considered. A comprehensive 10-year plan has been submitted.

GMSIG Renal Transplantation Recommendations and GMTT Achievements

Recommendation 1: That the guidelines for the selection for transplantation as formulated by the Australian Kidney Foundation and currently being assessed by the NH&MRC form the basis for selection of patients to receive transplantation.

Outcome: Partly achieved. These recommendations are currently before the Renal Transplantation Working Group for consideration.

Recommendation 2: That all efforts to increase cadaveric donations be supported and consideration given to the appointment of funded directorships at each major teaching hospital.

Outcome: Fully achieved. Funding initiatives for the GMTT program of Complex Transplantation have been implemented to increase the rate of cadaveric organ donation, and are benefiting Renal Transplantation services. Funded Directorships at each major teaching hospital have been considered, although at this stage no appointments have been funded or established.

Recommendation 3: That laparoscopic surgical services for renal transplantation be properly accredited and with adequate training in laparoscopic techniques evidenced.

Outcome: Partly achieved. Laparoscopic surgical services for kidney donation in Living Related Donation patients are currently available at Westmead Hospital, John Hunter Hospital and Royal Prince Alfred Hospital but not at others. Together these three hospitals performed 85% of the living donor procedures in NSW in 2003. Accreditation processes are currently under development by the Renal Transplant Working Group.

Recommendation 4: That transplant services be consolidated at Westmead, Prince of Wales, Royal Prince Alfred and John Hunter Hospitals, and the Children's Hospital at Westmead, and that clinicians from Royal North Shore, St George and St Vincent's Hospitals be offered full appointments to these services.

Outcome: The GMITT has recommended this be implemented in order to maintain high standards of care and continue advanced level training for surgeons and nursing staff. Approval is awaited from NSW Health to proceed.

Recommendation 5: That in the event that levels of renal transplantation in NSW approach 220 per year, Liverpool Hospital be considered as the next centre for transplantation, if another centre is required.

Outcome: There is agreement within the Renal Services Network to consider Liverpool Hospital for the next centre for transplantation. The independent review commissioned by NSW Health will review Recommendations 4 and 5.

Recommendation 6: That a model be developed for return of patients in the immediate post-transplant period to their referring renal treatment units, either in the metropolitan or country areas.

Outcome: Fully achieved. This model of care is now in place for all patients. Further development is planned for a common post-transplant care protocol.

Recommendation 7: That Registrar (Physician) training involve a rotational program with all trainees passing through large units doing renal transplantation as well as structured pathways through those units not undertaking renal transplantation.

Outcome: Partly achieved. Physician Registrar rotation is now occurring between some sites through existing networks. A common rotation scheme was not approved by the clinical group and will be reviewed at a later time. Westmead and Royal Prince Alfred Hospitals have appointed Surgical Fellows in Transplantation and another position is soon to be advertised at John Hunter Hospital.

Recommendation 8: That all transplant units be required by the NSW Department of Health to report statistical outcomes to the levels required to the ANZDATA collection base.

Outcome: Fully achieved. All Renal Treatment Units were funded for additional data collection staff to ensure that timely and accurate data is provided.

Description of Services

Each year in Australia, approximately:

2000 people are newly diagnosed with renal failure

7000 people are receiving renal dialysis

5500 people are living with a transplanted kidney.

The prevalence of patients on dialysis is growing by approximately 6% annually, partly caused by an increasing incidence of diabetes. (See the Australian and New Zealand Dialysis and Transplant Registry Website – www.anzdata.org.au)

In NSW in December 2001, 2304 people were receiving renal dialysis and in the previous 12 months 164 people received a kidney transplant. The number of people suffering from renal failure has increased, resulting in greater demand for both services. Some illnesses cause temporary renal failure from which the kidneys recover. Permanent damage, however, results in chronic renal failure, or 'end stage' renal failure, the only treatment for which is regular dialysis or transplantation.

Kidneys used in transplantation may come from living or deceased donors. Organ donation from deceased donors has diminished over recent years, necessitating a greater reliance on living donors. Renal dialysis saves lives, but for patients requiring renal transplantation, the sooner this can be done, the better.

GMITT Process

Consultations commenced with all clinicians working in renal services in NSW Public Hospitals in March 2002. The group formulated implementation plans relating to the GMSIG Recommendations for Renal Services. Working groups were established to examine individual components of Renal Services as listed below:

- Renal Dialysis Working Group
- Renal Transplantation Working Group
- Prevention of Chronic Renal Failure Working Group
- Teaching, Education and Workforce Working Group
- Interim Renal Services Executive
- Rural Renal Services Group.

These groups continued to meet throughout 2003. A close working relationship has been developed with regional and rural clinicians through the Rural Renal Services group.



Outcome

The Renal Services plan includes the provision of dialysis services closer to where people live in the west of Sydney and, for those requiring a kidney transplant, speedier access to surgery. Through these initiatives it is anticipated that there will be no significant waiting time for kidney transplants utilising Living Related Donors (LRD). Faster access to renal transplantation will vastly improve the quality of life for patients with renal failure.

\$2.3 million per annum has been provided to enhance renal services, and ensure faster access to renal transplantation for patients statewide.

Funding has also been provided to facilitate the coordination of renal transplantation services by the newly established NSW Renal Transplant Service. In conjunction with NSW Health and Area Health Services, the service will ensure comprehensive, accessible and uniform care for patients with renal failure. Each Area Health Service has also been funded to collect comprehensive renal data to facilitate the best clinical practice.

The GMSIG recommendation that transplantation services from St George, St Vincent's and Royal North Shore Hospital be transferred to Prince of Wales Hospital has not yet been implemented. Once fully implemented, greater metropolitan NSW will have four world-class centres of excellence for Renal Transplantation. Patients from all over NSW will travel to these hospitals for the brief period of their transplant operation. They will then return to their local hospitals for ongoing care.

The new funding has enabled a greater number of transplants to be carried out in New South Wales and

reduced the waiting time for people who had a living related donor willing to donate a kidney.

A separate allocation of \$530,000 for organ retrieval is helping to increase the rate of organ donation (including kidneys) from potential donors.

Surgical Workforce

Currently there is an insufficient pool of specialised transplant surgeons for a sustainable future. The creation of three new transplant surgeon training positions will mean that, for many years to come, patients with kidney failure will have access to highly skilled practitioners. An important component of this Renal Services plan is the provision of the best possible training experience for the next generation of transplant surgeons.

The NSW Renal Transplant Service will coordinate Renal Transplantation. It will:

- support doctors, nurses and allied health professionals working with patients suffering severe renal failure
- develop best practice guidelines for the treatment of renal patients
- review and analyse renal dialysis and transplantation statistics
- provide direction for renal disease education, research and prevention programs.

Renal Dialysis

A detailed proposal to implement the GMSIG recommendations relating to Renal Dialysis was drawn up. This could not be funded in the 2002/03 funding year or in the 2003/04 funding year. The Renal Dialysis Working Group has now completed a major review of

renal dialysis services and has developed a business case for the establishment of 10 new satellite renal dialysis units over the next five years in the greater metropolitan region of NSW. This business case contains a detailed cost model for the establishment of any new units, and is applicable in regional and rural situations as well as the metropolitan setting. The business case is currently with NSW Health for comment.

Recommendations for the Future

That the business case for increased satellite renal dialysis facilities be adopted and funded by NSW Health.

8.10 Radiology

GMSIG Radiology Recommendations and GMTT Achievements

Recommendation 1: That benchmarking be utilised to ensure that District (Metropolitan) and Tertiary Hospital staffing levels are appropriately adjusted with the changing activity.

Outcome: Partly achieved. Benchmarking of some indicators has been established, and was already in place for others. NSW Health already collects a comprehensive set of Key Performance Indicators relating to services provided. There is no current commonly accepted minimum data set for patient-related information or for staffing levels in Medical Imaging units. A major review of the structure of Medical Imaging Services was commissioned by the GMTT through an external consultancy. Clinicians working in this field continue to meet and develop these benchmarking standards in collaboration with NSW Health.

Recommendation 2: That the Principal Referral Hospital Radiological Director be designated at least 0.2 FTE for administration, with an extra 0.3 FTE for those appointed Area Directors. There should be recognised time for teaching, research, and quality assurance activities, for all teaching staff radiologists.

Outcome: Partially achieved. Funding for these positions has been allocated and distributed to most Area Health Services.

Recommendation 3: That Magnetic Resonance Imaging (MRI) scanners be available 24 hours for public access at all principal referral hospitals.

Outcome: Not achieved. Radiology clinicians considered where MRI units were most needed. The hospitals identified as the highest priority for provision of MRI were those with no public MRI facility on site. Since then the Minister has announced that MRI will be provided at Concord, Gosford and Wollongong Hospitals. Commonwealth licences have not yet been issued for these sites. The remaining Principal Referral Hospitals without public MRI on site are: Bankstown, St George and St Vincent's.

Recommendation 4: That there is a need to explore public/private work arrangements which would allow improved

financial incentives while retaining excellent people in the public system. Appropriate career structures need to be developed as well.

Outcome: Fully achieved. An Executive Committee has been appointed from the radiology clinicians to investigate and report on this strategy. The recommendations of a radiology consultancy formed the basis of a planning day for clinicians held in early September 2003. Clinicians have formed a working party to continue to examine the radiology workforce and the establishment of public radiology services as business units.

Recommendation 5: That a statewide strategy for digital imaging and Picture Archival Communication System (PACS) would appear essential both between the metropolitan areas and with country links. Many areas will require supplementary funding to allow the movement toward PACS.

Outcome: Partially achieved.

Recommendation 6: That the increasingly computerised nature of Radiology Departments with the various RIS, PACS and other computing needs makes the need for Systems Administrators located within Radiology Departments mandatory, supernumerary to existing staff.

Outcome: Not achieved. Funding for these positions could not be secured from NSW Health. These positions will be necessary as part of the Statewide PACS implementation (see Recommendation 5 above).

Description of Services

Radiology practice has changed dramatically in recent years. Increased use of sophisticated imaging involving CT and MRI has increased significantly. Interventional practices are expanding. These procedures, ranging from simple diagnostic injections to abscess drainage under direct organ imaging, have reformed open surgical techniques in many instances and require at times a 24-hour service. Radiological services are necessary to diagnose and treat patients and to reduce hospital length of stay.

Resources vary greatly in different metropolitan Area Health Services with regard to staff and equipment. An overall approach to discover options for improving radiological hospital services was endorsed by all radiologists.

GMTT Consultations

Heads of Radiology from Principal Referral Hospitals meet on a regular basis to discuss service planning. The GMTT expanded this nucleus to include Heads of all Public Hospital Radiology Departments in the greater metropolitan region. Radiological nurses and

radiographers have met as separate groups and have representation on the Radiology Executive Group.

It was apparent that there were many differences in the provision of radiological services in the public hospital system across the nine Area Health Services. These differences were partly historical and in some Area Health Services they reflected the differing public/private patient mix. Other differences highlighted were in the co-location of private hospital radiological services, the varied access to Magnetic Resonance Imaging (MRI) facilities, staff recruitment and retention variations across geographical areas, and differing funding arrangements for radiological services. 'Area of Need' measures had been undertaken to attract overseas radiologists to staff Principal Referral Hospitals on the outskirts of the metropolitan area.

Outcome

The Minister supported the GMTT recommendation that 24-hour CT scanning for public patients be made available at hospitals with Stroke Units and funding was provided. The Committee believed that a fundamental prerequisite for best-practice management of stroke patients was access to 24-hour public MRI at each of the Principal Referral Hospitals which are the hubs for the neurosurgical networks. This has not been achieved.

A consultancy was let to Dr Jim Roche and Mr Les Apolony to develop a proposal for improving the existing service delivery arrangements and improving equity of access. They visited Radiology Departments at each of the Principal Referral Hospitals, or interviewed at length the head of the department. Their report focused on a number of areas which included:

- workforce issues
- equipment replacement issues
- limited MRI availability
- complex administrative processes limiting effective radiology financial and service planning.

Following receipt of the report a steering committee was established to develop detailed plans.

Key issues which all agreed should be addressed were the subject of a planning day for radiology clinicians held in August 2003 facilitated by Dr Norman Swan. These issues were:

- introduction of Picture Archival Communication System (PACS) across all Principal Referral and Metropolitan Hospitals

- workforce problems (radiologists, radiographers, sonographers and radiological nurses)
- the need for a programmed capital replacement strategy
- opportunities for linked facility-shared 24-hour tele-reporting of medical images
- Magnetic Resonance Imaging (MRI) access
- current Key Performance Indicators (KPIs).

It was agreed that there was much to be gained from a unified approach to these problems, allowing for some flexibility. Issues identified which impact on medical imaging included: the growth of private radiological services and some publicly provided radiological services such as BreastScreen, changing practice patterns, increased use of sophisticated imaging involving CT and MRI, the growth in Interventional Neuro-radiology practices, and widely varying equity of access for patients across the greater Sydney region. An overall approach to identify options for improving radiological hospital services was endorsed by all radiologists. Working parties have been established to examine further issues including the development of business units, installation of PACS, radiology workforce, developing meaningful KPIs and provision of MRI scanners. Members of these working parties include radiologists, radiographers, nurses and officers from NSW Health.

A joint meeting with the GMTT Nuclear Medicine group was held in June 2003 to consider issues in common. After consideration, both groups agreed to remain separate, but to liaise on a regular basis.

The radiology clinicians elected an Executive including four radiologists, a medical imaging nurse, a radiographer and a rural representative. This group has been recognised by NSW Health as the clinical advisory group for greater metropolitan public radiology services.

Both the radiology nurses and radiographer groups have embraced the opportunity to meet regularly. Both groups have nominated representatives to the Radiology Executive and to the working parties.

The nursing group has found it valuable to share information and protocols and is actively developing specific competencies in medical imaging nursing. This is seen as very important for this new nursing specialty. A needs analysis and feasibility study into postgraduate education for Medical Imaging Nurses was completed in June 2003 and negotiations have taken place with universities with a view to establishing a postgraduate

certificate in Medical Imaging Nursing. A working group will commence preparing the coursework for the first subject before the end of 2003 and nurses will be able to enrol in second semester 2004. Demand will determine whether additional subjects are offered for nurses in 2005. The establishment of a postgraduate certificate in Medical Imaging Nursing would bring Medical Imaging Nursing in line with other nursing specialties. It would improve service delivery by enhancing nursing recruitment and retention; it would establish a recognised career path for Medical Imaging Nurses and expand the body of knowledge.

In October 2003, the radiographer group held a full-day planning session to consider the next steps in relation to these issues. Their main concern was the current shortage of radiographers and sonographers in NSW public radiology services. They fully support current research investigating the recruitment and retention crisis in radiology and its implications for future public radiology services. Meetings were held with the relevant deans of university faculties responsible for training radiographers to discuss workforce requirements.

Achievements

A small allocation was provided to support each Hospital Director of Radiology on an annual recurrent basis. A larger amount was provided to support Area Heads of Radiological Services in each of the nine greater metropolitan Area Health Services.

New staff have been appointed in a number of Area Health Services. New CT scanners were installed at Auburn and Mt Druitt Hospitals, replacement scanners provided for Blue Mountains and Ryde Hospitals. Support was provided for the establishment of a new scanner at Wyong Hospital and to extend hours at Camden and Fairfield.

Capital funding was allocated (through the Metropolitan Hospitals enhancements) to support tele-reporting at Blue Mountains, Camden, Fairfield, Maitland, Mt Druitt, Ryde, Sutherland, Sydney and Wyong Hospitals.

For the financial year 2002-3, the Radiology Group agreed to pool some of the funding identified for the support of Area Head of Radiological Services and to devote a portion of that funding to meeting the needs of radiological nurses and radiographers. The remainder was used to support the consultancy into public hospital radiology issues. For 2003-4, some of the pooled funding will facilitate

administrative support and the establishment of the Greater Metropolitan Radiology Services Network to coordinate planning of radiological services.

Recommendations for the Future

In response to the GMSIG recommendations, the Minister for Health established MRI scanners at Liverpool and Nepean Hospitals and announced the establishment of new scanners at Gosford, Concord and Wollongong Hospitals. The GMTT recommendation is that MRI scanners be provided at the remaining Principal Referral Hospitals – Bankstown, St George, Sydney Children's and St Vincent's Hospitals. Until the new MRI sites are licensed by the Commonwealth, adequate recurrent funding from NSW Health will be required.

8.11 Maternity Services

GMSIG Maternity Recommendations and GMTT Achievements

Recommendation 1: That the recommendations of 'The NSW Framework for Maternity Services' be implemented as a priority.

Outcome: Not achieved. The GMTT has engaged in a partnership with the Maternal and Perinatal (M&P) Committee to work towards implementing the GMSIG recommendations, including the implementation of 'The NSW Framework for Maternity Services'.

Recommendation 2: That the distribution of, and allocation of resources to Level 6 Maternity units be reviewed and adjusted according to the changing demographics of maternity services in the Sydney Metropolitan Area.

Outcome: Not achieved. In October 2002 the GMTT wrote to all Area Health Services and outlined the implementation framework for Maternity Services in NSW. Area Health Services were asked to provide a benchmark of current activity against the recommendations and an implementation plan developed locally for each site.

Recommendation 3: That the issue of recommended standards of maternity services in Metropolitan Suburban hospitals be reviewed by another body, ie Maternity Services Review Committee.

Outcome: Not achieved.

Recommendation 4: That the recommended standards of maternity services and resources, as outlined above, be implemented.

Outcome: Not achieved.

Recommendation 5: That Metropolitan Suburban Hospitals and community-based or outreach-style maternity services be networked on a formal basis with Area Health Service Maternity operations.

Outcome: Not achieved.

Recommendation 6: Clear lines of responsibility, authority and role delineation be established across the maternity services overall. The networks should have the aim of enhancing a collaborative, integrated model of maternity care which offers continuity of care and clear protocols for risk assessment, appropriate patient referral or transfers, equitable resourcing of suburban metropolitan maternity services and community services and a skills maintenance program.

Outcome: Partially achieved. The clinical group is aware of the need for the issues raised in this recommendation and is working towards incorporating them.

Description of Services

There are 28 public hospitals providing prenatal, delivery and post-natal services in the greater metropolitan region. The number of babies delivered in these facilities in 2002-3 ranged from 400 to 3880. Birth rates overall in greater metropolitan Sydney are declining. The number of deliveries is rising in some centres in line with population movements, notably in the West and South West regions, and falling in other regions. Whilst the larger centres are self-sufficient, many of the smaller centres have a 'low risk' model of care, carefully screening pregnant mothers at pre-natal clinics and planning deliveries at the most appropriate centre.

There are significant workforce shortages. Medical staffing is affected by the current medical indemnity issues, a lack of trainees entering the specialty, poor remuneration in the public sector, and an increasing feminisation of the workforce (with resultant increases in the number of medical practitioners working part-time rather than full-time).

There are also severe nursing workforce shortages. Contributing factors include decreasing job satisfaction from increased workload stress, lifestyle choices by nurses away from full-time employment and unattractive shifts, and an ageing nursing workforce.

Community expectations are not always realistic. There is an expectation that a range of birthing models will be available at every site. This expectation influences decision-making at a political and health- planning level.

The peak reference body for the public hospital system for maternity services is the Maternal and Perinatal (M&P) Advisory Committee. This ministerially appointed advisory group consists of representatives from a wide cross-section of clinical and academic services from both

metropolitan and rural centres. Initially established in the 1930s to review maternal and perinatal deaths, the M&P Committee has extended its role to be the key body responsible for policy development for all services relating to mothers and babies in NSW. The Pregnancy and Newborn Services Network is the key advisory body to the M&P Committee, with representation from a wide range of clinical staff and structured into specific specialty area working groups.

The GMSIG group made a number of detailed recommendations regarding maternity services in NSW. The GMTT recognised that to implement any change, there was a need to engage stakeholders including the M&P Committee, the Pregnancy and Newborn Services Network (PSN), the Office of the Chief Nurse and the NSW Health Advisor for Maternity Services, Area Health Services, clinical groups, professional organisations and community groups. A strategic partnership was established between the GMTT and the M&P Committee to progress implementation of the GMSIG recommendations relating to Maternity Services.

Consultations were commenced with clinicians – medical, nursing, midwifery and administration staff – from all 28 facilities with maternity services. This consultation progressed slowly in order to accommodate the needs of the various stakeholders. Early in the consultation process it was evident that achieving consensus would take time in view of the widely differing and strongly held opinions within this specialty.

The issues that all clinicians agreed should be tackled initially were:

- the development and adoption of additional models of care for maternity services
- establishment of improved community based services
- the urgent addressing of workforce shortages.

GMTT Process

The GMSIG Report fully supported the immediate implementation of the Metropolitan Services Plan for Maternity Services. The report specified the resources that needed to be available for services at various levels and highlighted the importance of networking the available maternity services so that the appropriate skills could be available to mothers and their babies, no matter where they entered the system. The GMSIG Committee identified that there were major problems associated with the workforce available to offer quality care to mothers

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and their babies and that an exploration of new models of care and the rationalisation of some services was an urgent matter.

The GMTT was particularly interested in exploring the possibility of closely co-located hospitals with maternity services concentrating efforts in one or other hospital making available in the chosen organisation a medical model for obstetric care co-located with a midwifery led service. This would provide women with the choice of a medical or a non-medical model.

In October 2002 the GMTT wrote to all Area Health Services and outlined the implementation framework for Maternity Services in NSW. Area Health Services were asked to provide a benchmark of current activity against the recommendations and a locally developed implementation plan.

GMTT and M&P convened two open fora held in June and August 2002, with a workshop held in August 2003 with a very large number of participants. Another meeting is scheduled for February 2004.

Given the particularly difficult workforce issues surrounding the ANZAC Memorial Hospital in the Blue Mountains, the GMTT was asked to supervise the development of a model for trial in which a midwifery-led service would be offered to women of the region. Additional training would be provided to midwives and a telelink established with the obstetric unit at Nepean Hospital. Women who elected to do so in this model would have their babies delivered in Katoomba without a doctor being necessarily available.

The Wentworth Area Health Service set up an appropriate committee which also explored a second model of care utilising a 'Hospitalist' Training Program, for Advanced Medical Trainees in Obstetrics to be trained to provide enhanced medical skills to women and their

babies where obstetricians and paediatricians were not available. Funding for a dedicated Project Officer and implementation program was provided. Initially conceived to address workforce issues at the Blue Mountains Hospital, this training model was designed to be transportable across the NSW Health system. The midwifery-led service approach is on hold while further debate about models of care in general proceeds. Under Area-of-Need criteria, the Blue Mountains Hospital has managed to maintain a medically-led service, although at the time of writing its sustainability is not assured.

The GMTT recognised the urgency of addressing numerous issues associated with the maintenance of quality and safety for mothers and their babies, the provision of choice regarding models of care and the need to use an evidence-based approach to monitoring the clinical experience needed in any unit to ensure its quality. Work in all of these areas will continue in 2004.

Significant issues delaying progress include lack of outcome data, pressure not to integrate services and workforce shortages.

Recommendations for the Future

The need for detailed strategies to address current issues in Maternity Services is seen as urgent. The GMTT recommends that the current consultation strategy be completed as soon as practicable with implementation to commence as a matter of urgency. A lead agency, currently being provided by the GMTT/M&P Committee partnership, should be clearly nominated and charged with completing this important project.

The GMTT acknowledges that the process of introducing changes to maternity services will take an extended period of time, and strongly recommends a lead agency be appointed with clear terms of reference commissioned



by NSW Health. Adequate resourcing with project staff and infrastructure is seen as essential to ensuring that a coordinated and comprehensive change process is initiated.

The engagement of a wide cross-section of clinical staff must be continued in order to improve maternity services. Senior Area Health Service and facility administrators should be involved. A structured consumer and community consultation process must be implemented to ensure the community is adequately engaged.

The GMTT has not succeeded in furthering a rational distribution of Maternity Services. The Minister for Health informed the GMTT that the M&P Committee was responsible for further developments.

8.12 Gynaecological Oncology Services

GMSIG Gynaecological Oncology Recommendations and GMTT Achievements

Recommendation 1: That there be four networked Gynaecological Oncology Services for NSW, centred on:

- John Hunter and Gosford Hospitals (Central Coast and Hunter)
- Royal Hospital for Women and St George Hospital (South East Sydney and Illawarra)
- Westmead, Royal North Shore, Nepean Hospitals (Northern, Western, Wentworth)
- King George V and Liverpool Hospitals (Central and South Western).

Each service would establish a coordinating committee which would be chaired by a clinician. The chair would rotate every 12 months. Each service would strive to centralise specialised gynaecological oncology surgery at the first-named hospital within each Service.

Outcome: Achieved. The four designed networks are established with Northern /Western/ Wentworth and Hunter/Central Coast fully functional.

Recommendation 2: That the gynaecological oncologists undertake a review of the delineation of place of care for specific rarer tumours, eg vulva and vagina, and of the more complex procedures, eg evisceration associated with ovarian cancer. This review should also detail those cancers which would not routinely be managed by general gynaecologists. The results of this review should be in place by January 2002.

Outcome: Partially achieved. The work of GMTT has seen a change in referral patterns with the more complex procedures being referred to the major networks and the routine chemotherapy and non-complex radiology being performed locally.

Recommendation 3: That there be formal discussion with the Rural Health Implementation Group to move towards specific linkages with gynaecological oncology centres and rural gynaecology units.

Outcome: Achieved informally. Discussions have commenced with formal links being established with the major networks.

Recommendation 4: That there be urgent implementation of a statewide data system for gynaecological cancer cases, their management and outcomes.

Outcome: Not achieved as Rural Hospitals Implementation Group commenced meeting in August 2003.

Recommendation 5: That there be a review of the models of care provided by each Service in 2005. By this time relevant outcome data should be available. In addition, trends in population growth and disease incidence will become clearer.

Outcome: For review 2005.

Recommendation 6: That enhancements for the statewide Gynaecological Oncology Services be required with priorities for:

- funding of the data collection
- expansion of the Hunter/Central Coast service with an additional gynaecological oncologist, with appropriate infrastructure, eg. psychologist, specialist nursing staff
- funding of operating and/or outpatient sessions in a number of the current hospitals that provide gynaecological oncology services to ensure that cross-appointments within each Gynaecological Oncological Service are achieved.

Outcome: Achieved, see below.

Description of Services

There are approximately 1200 new cases of gynaecological cancer diagnosed each year in NSW. Care of these women and their families is complex and requires the coordination of multiple modalities of therapy, integration of many tiers of health service and attention to the complex psychosocial demands resulting from these diagnoses.

GMTT Process

During 2002-3, an Implementation Executive Committee was established to promote high quality gynaecological cancer care for women in NSW, to oversee the implementation of the GMTT service enhancements and to improve access to comprehensive gynaecological cancer services across NSW. The Committee consists of a medical and non-medical representative from each of the four networks, the Chairperson and Deputy Chairperson of the GMTT. Following interviews, two consumer representatives were invited to join the Committee. Formal terms of reference of the committee have been adopted and circulated.

Outcome

The GMSIG Report recommended the establishment of four networks to coordinate the provision of clinical services for women with gynaecological cancer. These networks have been established to provide links between the major centres and local treatment centres. They revolve around the maintenance of multidisciplinary teams providing comprehensive and coordinated care according to agreed protocols. The anticipated outcome is efficient and effective use of available resources.

The four networks have been established around the major centres involved in treatment. They consist of:

- Central/South Western: RPA and Liverpool Hospitals
- Hunter/Central Coast: John Hunter and Gosford Hospitals
- Northern/Western and Wentworth: Royal North Shore, Westmead and Nepean Hospitals
- South Eastern/Illawarra: Royal Hospital for Women, St George and Wollongong Hospitals.

Each of the networks has established links with rural areas. Surgical services are based at the above hospitals with functional links between radiation and medical oncology services in comprehensive cancer centres. Links are also well established with palliative care services.

\$1.147 million in annual recurrent enhancement funding was allocated to gynaecological oncology services in total. The following service enhancements have been introduced:

The South Eastern/Illawarra Network has built on its established relationships, now providing an outreach clinic at Wollongong Hospital which operates once every two weeks. The network received \$101,000 for 2002/3 to purchase equipment to establish the clinic and to provide additional medical, nursing, secretarial, and data management services for this clinic. An additional \$31,000 has facilitated the development of a network with referring country doctors, including the production of a patient-held follow-up card.

The Central/South Western Sydney Gynaecological Oncology Network received \$300,000 for service enhancement and development. The service was enhanced with the appointment of a full-time Data Manager and Clinical Fellow at RPA; part-time clinical psychologist, care coordinator and VMO at Liverpool Hospital. The remaining \$10,000 will be spent on cross-appointment of staff. Successful applicants have been

appointed. Network arrangements including regular meetings, cross-appointments, and common protocols are continuing to develop.

The first meeting of the Hunter/Central Coast Network was held in October 2002 and was attended by representatives from all three hospitals. Meetings have been held monthly. The Hunter/Central Coast Network received just over \$500,000 which will be used to enhance both the staff and the infrastructure.

The following staff have been or are being recruited: Staff Specialist Gynaecological Oncology, Accredited Fellow in Gynaecological Oncology, Medical Oncologist, Psychologist, Social Worker, Clerical Assistant, Data Manager.

A number of structural changes are also planned. All aspects of the service (with the exception of radiotherapy) will be in one location. This will involve a number of changes, including the relocation of outpatients, the provision of a reception area, offices for medical, allied health and nursing staff, and a room for the provision of social work support and educational materials for both patients and their families.

Planning is also under way for an educational meeting/feedback opportunity within the next few months involving the Hunter Postgraduate Medical Institute.

The Gynaecological Oncology Implementation Committee approved two statewide projects which are being sponsored by the Northern/Western and Wentworth Network. Both of these projects have been established for 12 months with assessment and evaluation at the end of this time.

The first of these projects is a Statewide Guidelines and Monitoring Project. The project aims to complete the development of Clinical Practice Guidelines for use as a framework for the monitoring of outcomes of common gynaecological cancers and treatment. A project officer has been appointed to conduct this task and several working parties consisting of clinicians from each network have been established for each cancer site. Approximately \$80,000 has been allocated for this project and it will result in a set of common treatment protocols available across NSW.

The second statewide project will support health professionals involved in the provision of psychosocial support for women with gynaecological cancer. A

coordinating officer has been appointed and will commence duties in April, 2003. The person will provide appropriate educational and professional support across the state following a resource audit and needs analysis. The coordinator will foster collaborative activity across the state and facilitate appropriate referrals and professional up-skilling. Approximately \$65,000 has been allocated for this project, which is also being managed by the Northern/Western and Wentworth Network.

8.13 Severe Trauma Services

GMSIG Trauma Services Recommendations and GMTT Achievements

Recommendation 1: That there be six adult major trauma networks covering NSW, each with their own hub and director. That there be five major adult trauma hubs in metropolitan Sydney and one in Newcastle.

Outcome: Major Trauma Service hubs achieved. Six hubs identified within integrated trauma networks. Full-time Trauma Directors are now in place in five hubs and being recruited for, with one awaiting final selection.

Recommendation 2: That St George, Royal Prince Alfred, Liverpool, Westmead, John Hunter and Royal North Shore Hospitals be immediately identified as major adult trauma hubs in NSW.

Outcome: Fully achieved. These hospitals are recognised as Major Trauma Centres (Level 1).

Recommendation 3: That an additional hub be identified to serve the centre of Sydney and that this be Royal Prince Alfred Hospital, noting that existing services at St Vincent's and Royal Prince Alfred Hospitals remain until all new construction is completed. Construction was estimated to be completed by June 2003.

Outcome: Achieved. During the above time period, St Vincent's has maintained a funded Trauma Service and would like to continue to fund a Trauma Service at Level II.

Recommendation 4: That Prince of Wales Hospital (POW) be recognised as a centre of excellence for acute spinal injury.

Outcome: Achieved. A Statewide Spinal Cord Injury Service (SSCIS) has been established which will coordinate spinal cord injury services across the four sites: Prince of Wales Hospital, Royal North Shore Hospital, The Children's Hospital at Westmead and Sydney Children's Hospital.

Recommendation 5: That Nepean Hospital remain a regional trauma centre and form part of the broader Western Sydney Trauma Service

Outcome: Fully achieved. The Regional Trauma Centre at Nepean is part of the Greater Western Sydney Trauma Network. The positions for Regional Trauma Director and Regional Trauma Nurse Coordinator have been filled.

Recommendation 6: That the paediatric Major Trauma Service configuration for NSW be the Children's Hospital at Westmead, Sydney Children's Hospital and John Hunter Children's Hospital.

Outcome: Fully achieved.

Recommendation 7: That a virtual NSW Trauma Institute be established with broad responsibilities for the oversight of trauma teaching, research, outcomes-based data collection and analysis and establishment of 'best practice' protocols.

That a working party be established, consisting of members of TSAC, and other relevant committees formed by NSW Department of Health, academic trauma surgeons, retrieval and transport representatives, intensivists, emergency physicians and specialist nurses, to develop a proposal over a three-month time frame for a virtual NSW Trauma Institute.

Outcome: Achieved. A working party was convened by NSW Health and chaired by Prof Danny Cass. The Provisional NSW Trauma Institute was established in late January 2002. On 16 May 2002 the Minister for Health announced the establishment of the newly named NSW Institute of Trauma & Injury Management (ITIM).

The Institute has been operational since May 2002 and has progressed three major initiatives:

- 1 The development of a trauma minimum data set – all trauma centres are now submitting monthly data. The first full-year report on this data was published in June 2003.
- 2 A Clinical Practice Guidelines project which will develop guidelines for uniform trauma patient care across NSW. Phase I of this project is expected to be complete by March 2004.
- 3 Submissions for funding were reviewed and prioritised, and funding enhancements were disseminated, in October 2002. This funding upgraded staffing and services in trauma centres across the greater metropolitan area of Sydney.

Description of Services

Injury is the leading cause of death in the 1-44 years age groups and is predominantly a disease of the young. Permanent disability, however, as a result of critical injury, involves all age groups including the older population. Approximately 125,000 injured patients are admitted into the NSW public hospital system annually.

Road trauma involving motor vehicle crashes, pedestrians, motorcycle crashes and pedal cyclists continues to be the most common mechanism of injury experienced. Most people can be treated locally. Patients with serious to critical injuries, however, need rapid transport to a hospital that is a Major or Regional Trauma Centre with a dedicated Trauma Service.

Patients with complex injuries require an organised multidisciplinary team involving specialist doctors, nurses and allied health clinicians. Patients with multiple trauma

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are often the most difficult to care for, both at the scene of the accident and during their subsequent resuscitation in the Emergency Department, Operating Room and the Intensive Care Unit. Access by the injured patient to a dedicated Rehabilitation Program needs to be available early. Early rehabilitation is an integral component of the Trauma Service.

Effective injury management within a Trauma Service is typified by a consistent, coordinated team approach. It requires organisation of resources from the time of injury through to discharge from hospital, rehabilitation and assimilation back into society. A comprehensive Injury Prevention Program is an essential component of a developed Trauma Service, as are links with the community and relevant government agencies.

GMST Process

The Greater Metropolitan Services Implementation Group (GMSIG) recommended the establishment of a virtual Trauma Institute. NSW Health established an Executive Committee to progress this recommendation over a three-month period. In December 2001, the Executive Committee presented a report to the then Minister for Health, the Hon. Craig Knowles MP. In January 2002, an interim secretariat was established by seconding or employing staff on a consultancy basis to ensure the Institute was operational within the recommended timeframe.

During 2002, each of the Sydney metropolitan Area Major Trauma Services was visited by members of the ITIM interim secretariat who interviewed the Trauma Nurse Coordinator/Data Manager of the service. Consultation with Area Chief Executive Officers, Directors of Nursing and Area Planning Officers and clinicians occurred throughout 2002.

In May 2002, the Minister announced the establishment of the NSW Institute of Trauma and Injury Management (ITIM) with recurrent annual funding of \$1 million. Position descriptions were formulated for staff of the Institute and during June-July 2003 and the positions of Chairman, Executive Manager and Trauma System Operations Manager were filled on a permanent basis. The positions of NSW Trauma Data Manager and Administrative Officer were also filled on a permanent basis by August 2003.

Reporting and Scope of ITIM

ITIM was established in alignment with the Public Health Division of NSW Health, reporting through the Chief Health Officer. In addition to reporting to the Chief Health Officer, ITIM reports through the Chair, GMST. ITIM is currently located at Macquarie Hospital Campus, North Ryde.

ITIM was established to provide leadership in management of injury across NSW. This includes roles in the coordination of trauma services, data collection and development of standards of clinical practice and the verification of Trauma Services. While ITIM will focus on clinical aspects of trauma service delivery, NSW Health will retain responsibility for service planning aspects of the system, including designation of trauma services.

Outcome

Statewide coordination of trauma services is being facilitated by the ITIM working in conjunction with NSW Health and Area Health Services.

Trauma Centres in the Sydney metropolitan area had developed services to different levels. Some Health Areas had a fully funded trauma service that covered the entire



Area, while other Health Areas had minimal specialist trauma staffing in place. ITIM, with broad consultation, has determined minimal staffing levels and the standards required to provide an Area-wide Trauma Service. The following staffing is regarded as essential: a Trauma Director, Trauma Nurse Coordinator, Data Manager and Area Trauma Nurse Coordinator. Position descriptions for each of these key roles detailing their responsibilities have been researched and documented.

Funding

An additional \$2.5 million annual recurrent funding has been provided for trauma services to ensure comprehensive, accessible and uniform care for injured patients. Recruitment is almost complete for these key positions in the relevant Area Health Services, so that patients have equal access to high-level care.

Service Provision

Two levels have been defined for the provision of trauma services: Level I, which includes Major Trauma Services for adults and children, and Level II Regional Trauma Services.

- The Level 1 (Major) Trauma Centres (John Hunter, Royal North Shore, St George, Royal Prince Alfred, Liverpool and Westmead Hospitals) treat adult patients with multiple critical injuries requiring complex care. This care may include specialist cardio-thoracic, neurosurgical or intensive care services.
- Three designated Major Trauma Centres for Children have been established at The Children’s Hospital at Westmead, Sydney Children’s, and John Hunter Children’s Hospitals.
- The Level II (Regional) Trauma Centres based at Nepean, Wollongong and Gosford Hospitals are located on the periphery of the Sydney region. St Vincent’s has maintained a funded Trauma Service for the City of Sydney and would like to continue to fund a Trauma Service at Level II. Although these hospitals do not offer the full range of tertiary services of a Level I Trauma Centre, severely injured patients may receive at least initial management in these centres because of distance or geography, even if the patient subsequently requires transfer to a Level I Trauma Service for more specialised care.

Area and Regional Trauma Nurse Coordinator positions have been created to provide clinical advice, education programs and support for clinicians caring for injured patients in the Metropolitan Hospitals. Six of these positions are now filled. At an Area level, there is to be a new emphasis on local prevention and education programs for doctors, nurses and allied health professionals, through the Area Trauma Committees.

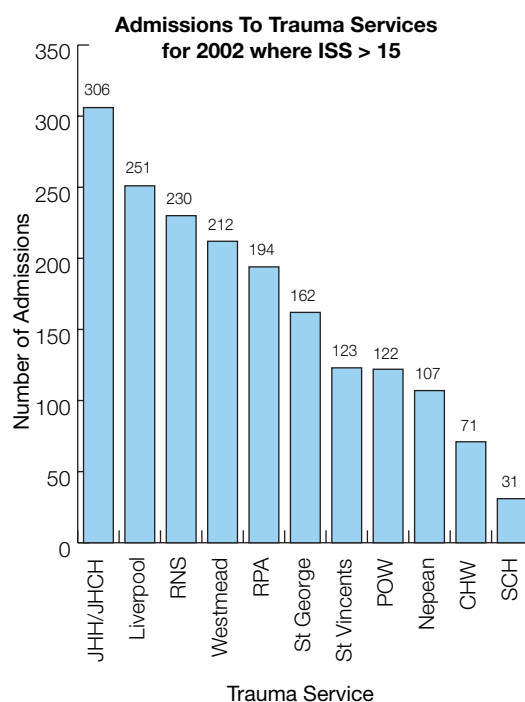


Figure 3: Total trauma admissions to each Trauma Service for 2002 with ISS >15. The Injury Severity Score, ISS, is a reflection of overall severity and probability of survival based on an anatomical injury severity classification, the AIS or Abbreviated Injury Scale. An ISS > 15 reflects serious injury. Ref: Baker SP, O’Neill B, Haddon W, Long WB, The Injury Severity Score: A method for describing patients with multiple injuries and evaluating emergency care. J Trauma 14:187-196, 1974.

Paediatric Services

Paediatric Trauma Services form an integral part of the NSW Trauma System. To maintain a functioning Trauma Service, infrastructure was also required within these facilities. Consultation took place during 2002 with the Trauma Director at each of the paediatric Trauma Services. The three paediatric services provided data for review. New trauma positions have been funded at all three Paediatric Trauma Centres and appointments confirmed.

NSW Ambulance

Meetings were held with senior staff from the NSW Ambulance Service. Discussions have taken place regarding the designation of Major Trauma Services within the metropolitan area and the implications for the Ambulance Service of any changes in the system. It was agreed that ITIM would maintain close communication with NSW Ambulance to identify any issues that may have service implications. At the current time, there is no suggestion of any alteration in ambulance procedures.

A reporting system to facilitate the early identification of problems within the trauma system is currently developed between Ambulance, the Institute and the Trauma Centres. This will ensure that issues can be identified early and resolved quickly. The Pre-Hospital Trauma System Committee has been established and has representation from Ambulance.

Medical Retrieval Unit

The ITIM recognises that the NSW Medical Retrieval Unit (MRU) plays an integral role in the transfer of the critically injured patient in NSW. Meetings have been held with the Director of the Unit. The Institute will work closely with the MRU to achieve the desired 'One phone call' transfer of trauma patients. A review of trauma centre protocols for the acceptance of a transferred trauma patient was conducted and results collated to initiate standardised protocols across NSW. The MRU is represented on ITIM sub-committees.

State Trauma Plan

The document is divided into two sections as detailed below.

1 NSW State Trauma Plan

This is the service plan for the NSW Trauma System. The Plan is currently under review.

2 NSW Trauma System Operational Plan

This is an evolving document with clearly defined authorisation and distribution lines. The document focuses on the operational aspects of trauma such as Pre-Hospital, Ambulance Bypass, Transfer Protocols, In-Hospital Trauma Service Infrastructure including roles and responsibilities of a Major Trauma Service, Regional Trauma Service, Rural Trauma Service and Remote Rural Trauma Service.

Clinical Practice Guidelines

The Liverpool Hospital Trauma Service is undertaking a Clinical Practice Guidelines Project. Funding for this project was made available in late December 2002. The Clinical Practice Guidelines Sub-Committee of the ITIM is supervising the project. When completed, the document will detail standard best-practice clinical guidelines for the management of trauma patients within NSW.

Trauma Services Funding

Trauma Services have been funded to different levels across Area Health Services. The GMTT provided enhancement funding for Trauma Centres to develop appropriate infrastructure within Area Health Services. Funding was released in October, 2002 for specific programs including education, statewide data set development and research.

Area Health Services Trauma Enhancement Funding

New funding to implement trauma services has been provided to fund essential positions not already funded and to update computer equipment and software. This will bring all Trauma Services up to the recommended minimum levels for staffing and data management.

NSW Trauma Death Review

The NSW Trauma Death Review project commenced in December 2002. National ethics approval has been granted for autopsy information to be included. Ethics approval has been sought from all NSW Area Health Services to obtain access to the more detailed pre-hospital data and medical records of deceased patients. The NSW Trauma Death Review Committee compiles a detailed review of trauma patient care and trauma system operations. Recommendations from the Committee are sent to professional bodies with the aim of improving the trauma system for the benefit of trauma patients.

Networking

Meetings and liaison with Ambulance, Police, RTA, MAA and NRMA have occurred. These will be strengthened in the future.

Prevention

ITIM staff have liaised with representatives from injury prevention organisations including the Institute of Health, Sydney University and the Injury Risk Management Research Centre, University of NSW. The ITIM will devote a quarter of its efforts in injury prevention, mainly as clinical advocates for safety by working through Area Trauma Committees.

Summary

Considerable progress has been made in identifying issues that influence the provision of care to trauma patients in NSW. Trauma clinicians are motivated and have made a commitment to ongoing service improvement through networking in hospitals and Area Health Services. See Appendix 12.11 for further details of comprehensive Trauma Services provided during 2002.

The ITIM is evolving. Six Committees which include: the Pre-Hospital System, Trauma Services, Education and Research, Allied Health and Rehabilitation, Clinical Practice Guidelines and the State Trauma Death Review Committees have been established and are all operational. Committees include cross-clinical rural and metropolitan members.

Through its committees the ITIM is providing support to improve the current and future functioning of the NSW trauma system. In addition to monitoring and coordinating trauma services, it acts as a resource centre for all those involved in the care of trauma patients.

8.14 Metropolitan (District) Hospitals

GMSIG District (Metropolitan) Hospital Recommendations

Abbreviated Recommendations 1-8: That the term 'District Hospital' be discontinued and replaced by the terms Metropolitan General Hospital, Specialty Hospital, Growth Area Hospital and Community Hospital.

Outcome: This recommendation was not implemented in full by the GMTT. Further comprehensive additional consultation on hospital role delineation across the greater metropolitan area and the roles of 'District Hospitals' was undertaken by the GMTT. The GMTT consultations supported the change in title from District Hospital to Metropolitan Hospitals with concomitant changes in roles to incorporate the principles outlined in the recommendations. The term 'Metropolitan Hospital', has been adopted for the 22 Metropolitan Hospitals detailed below. The

further delineation of titles and roles between District (Metropolitan Hospitals) was not supported.

Recommendation 10 Implementation

That a subcommittee composed of at least some GMSIG members and the chairman of GMSIG's subcommittee on 'District Hospitals' be established to receive reports from Areas, advise and report to the Clinical Council on progress in implementing the major recommendations.

Outcome: Achieved. The Greater Metropolitan Transition Taskforce received reports as detailed below from Area Health Services on the implementation of the Metropolitan Hospitals plan as detailed in the Metropolitan Hospitals Report and announced by the Minister for Health on 25 August, 2002.

Description of (District) Metropolitan Hospital Services

The *NSW Health Council Report*, released in March 2000, identified the need for metropolitan-wide planning of clinical services. This included the need to address the role and function of District (later renamed Metropolitan) Hospitals within clinical networks.

There are 22 Metropolitan Hospitals across the greater metropolitan region which incorporates nine Area Health Services. They are: Auburn, Belmont, Blacktown/Mt Druitt, Blue Mountains District ANZAC Memorial, Bulli, Camden/Campbelltown (Macarthur Health Service), Canterbury, Fairfield, Hawkesbury, Hornsby Ku-Ring-Gai, Maitland, Manly, Mona Vale, Newcastle Mater Misericordiae, Ryde, Shellharbour, Springwood, Sydney, Sutherland and Wyong Hospitals. It was decided not to include the very small hospitals, particularly those in the far south or far north, that function as rural hospitals.

GMTT Process to Implement GMSIG Metropolitan Hospital Recommendations

To determine how best to implement the GMSIG recommendations regarding Metropolitan Hospitals, GMTT reviewed the 22 hospitals from March to May 2002. This consultation included extensive site visits and detailed discussion of the GMSIG recommendations and current local issues, with over 500 clinicians and managers.

The first Metropolitan Hospital Forum was held on 1 June 2002 with more than 200 clinicians and managers attending. This forum also helped to identify the major issues facing Metropolitan Hospitals and enhancements needed. Through this consultation process, it was evident

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that some of the strategies and recommendations contained in the GMSIG report should be varied. A comprehensive report entitled *Metropolitan Hospitals Report: Service Enhancement and New Roles for Metropolitan Hospitals*, August 2002, detailed the GMTT findings and recommendations for Metropolitan Hospitals. It was published in August 2002.

Ministerial Launch of GMTT Report on Metropolitan Hospitals

The Hon. Craig Knowles MP, Minister for Health launched the GMTT initiatives for Metropolitan Hospitals at a second Metropolitan Hospitals forum held on 24 August 2002 at Westmead Hospital. The Minister announced the commitment of \$30.9 million to implement the recommendations detailed in the report. The Government supported all of the recommendations of the report. The abbreviated recommendations of the report are included below. A full copy is available at: www.health.nsw.gov.au/policy/gap

At the forum the Minister advised that all Metropolitan Hospitals would be revitalised through the provision of targeted funding, additional staff and equipment. No hospital or Emergency Department was to be closed and the identity of each individual hospital was to be maintained. Every one of the 22 Metropolitan Hospitals received extra funding. This enhancement funding was targeted based on local clinician input and discussions with Area Chief Executive Officers.

Delegates at the forum included 115 clinicians representing all Metropolitan Hospitals. Area CEOs, Area and Hospital Directors of Clinical Services, Directors of Nursing, Chairs of Area Medical Staff Councils, nursing and allied health professionals also attended. Prof Kerry Goulston, Dr Michael Hollands, Prof John Dwyer, A/Prof Graeme Stewart and A/ Prof Steven Boyages made presentations at the forum.

Outcome

Metropolitan Hospitals received \$30.9 million in additional annual recurrent funding in the NSW Health budget. The 2002/2003 allocation was pro-rated with \$20.251 million in funding distributed. The Metropolitan Hospitals recurrent funding represents almost one-half of the total GMTT enhancement funding.

Capital funding of \$6.172 million for the GMTT initiatives was provided for 2002/2003 only. In the NSW 2002/2003 State Budget, an additional \$27.400 million was provided for Metropolitan Hospitals, bringing the total capital funding for Metropolitan Hospitals to \$33.572 million.

The GMTT initiatives aimed to benefit patients by:

- providing services as close as possible to where people live
- formalising the networking of services to ensure that a consistent expert, effective and efficient service of the highest quality is available
- promoting clinical leadership.

In July 2003 the formal audit of expenditure for funding provided in 2002/3 was undertaken. Each Area Health Service was asked to report progress on each of the funded projects. In some projects, the start-up time to recruit staff etc took longer than anticipated, or changed circumstances resulted in different priorities, and the planned initiatives could not be fulfilled within the expected time frame. The GMTT considered a number of requests for such funding to be diverted for use in support of that program. Where such diversions were agreed, details are provided.

Metropolitan Hospitals Report August 2002, Recommendations (abbreviated)

Hospital Title

Recommendation and Outcome: That the use of the term 'District Hospital' be discontinued and replaced by the term Metropolitan Hospital.

Achieved. The term Metropolitan Hospital has been adopted.

Comment: This change was to emphasise that no longer could small hospitals provide all services to their local communities but that, by networking, they could tap into the full resources of the wider hospital system.

Clinical Leadership – Total \$0.899m annual recurrent

Recommendations and Outcomes: Appointment of part-time clinical leadership positions at Belmont, Blacktown/Mt Druitt, Bulli, Fairfield, Hawkesbury, Hornsby, Maitland, Ryde, Sutherland, Shellharbour and Wyong Hospitals.

Appointments to be either a conjoint academic or a clinical academic position, fostering relationships with the Universities.

Partially achieved. Clinical Leaders have been appointed at Sutherland, Wyong, Bulli/Shellharbour and Maitland Hospitals. Appointments are yet to be made at Belmont, Fairfield, Ryde and Hornsby Hospitals.

Universities to be requested to ensure that each Metropolitan Hospital was considered by their Medical, Nursing and Allied Health Faculties to be a university teaching hospital. Partially achieved. Approaches have been made to the universities regarding some of these positions being conjoint academic appointments.

Comment: The concept was that improved supervision and training of registrars in these hospitals, together with increased rotations from Principal Referral Hospitals would, in time, correct the inequity of registrar distribution. It would expose medical trainees to general medicine and surgery and enhance networking.

Area Coordination – Total \$1.857m annual recurrent

Recommendation and Outcome: Area Directors be appointed for Cardiac, Emergency, Intensive Care, Radiology and Stroke services.

Achieved – see Appendix 12.6 for list of appointees.

Comment: The aim was to further the concept of networking by ensuring responsibility and accountability for those appointed to these roles. The Area Director would work with the Area Chief Executive Officer to ensure a high quality service across the Area, including Metropolitan Hospitals.

Integrating Clinical Activities

Recommendation and Outcome: The concept of 'one hospital on two sites' be further developed at: Blacktown/Mt Druitt, Camden/Campbelltown, Manly/Mona Vale (Northern Beaches), Ryde/Royal North Shore, Sydney/Prince of Wales, Wyong/Gosford.

Partially achieved.

Comment: Community support for retaining the local identity of Metropolitan Hospitals has been noted. The concept has broad acceptance, although with varying degrees of implementation. This change involves significant Area Health Service restructuring and will be an ongoing strategy. A single administrative structure is in place for Blacktown/Mt Druitt, Ryde/RNSH and Camden/Campbelltown.

Special Unit – Total \$0.288m annual recurrent

Recommendation and Outcome: A Trans Cultural Health Education Centre to be established at Auburn Hospital. Achieved.

Comment: The Auburn Local Government Area has 60% of residents born overseas and 64.8% speaking a language other than English at home. It is also a major site for settlement of refugees. Linguistic, cultural and religious differences can present as barriers to health care and lead to poor health outcomes. Auburn Hospital was therefore an opportune place to create a Diversity Health Institute Service of Excellence to develop new models of service delivery for a culturally and linguistically diverse society.

Planned Surgery – Total \$9.441m annual recurrent

Recommendations and Outcomes: Surgical enhancements at the following hospitals:

Auburn, Belmont, Blacktown/Mt Druitt, Blue Mountains ANZAC Memorial, Springwood, Bulli, Camden/Campbelltown, Fairfield, Hawkesbury, Hornsby, Maitland, Ryde, Sutherland, Sydney, Wyong.

Achieved.

Planned surgical services to be strengthened, particularly for short-stay surgery, in: General Surgery, Orthopaedics, ENT, Ophthalmology, Urology, Gynaecology.

Partially achieved.

Operating theatres at Ryde Hospital to be refurbished.

Achieved.

Comment: Planned surgery in selected fields was enhanced considerably in the Metropolitan Hospitals. In addition to increased service provision, funds were directed towards the establishment and/or enhancement of surgical networks across Area Health Services and, where appropriate, between Areas.

Emergency Departments – Total \$2.615m annual recurrent

Recommendations and Outcomes: Area Directors for Emergency Services be appointed.

Achieved.

Additional staff to be appointed at:

Belmont, Hornsby, Maitland, Manly/Mona Vale (Northern Beaches), Shellharbour, Wyong.

Achieved.

Emergency Departments to be refurbished at:

Camden/Campbelltown – Camden site, Fairfield, Manly/Mona Vale (Northern Beaches), Ryde, Shellharbour.

Achieved.

Improved Emergency Department transport by establishing a helipad at Blue Mountains ANZAC Memorial.

Clinical integration of Emergency Departments at the following hospitals:

Blacktown/Mt Druitt; Bulli/Wollongong; Camden/Campbelltown; Ryde/Royal North Shore; Sydney/Prince of Wales; Wyong/Gosford.

Partially Achieved.

ICU – Total \$0.870m annual recurrent

Recommendations and Outcomes: Appointment of Area Directors for Intensive Care Services.

Achieved.

Refurbishing existing Units at Hornsby and Manly.

Achieved.

Upgrade Hornsby to a Level 2 Unit.

Achieved.

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Purchase monitoring equipment for Sutherland and Shellharbour.
Achieved.

Appointment of a Director of Critical Care and a Clinical Nurse Consultant at Manly/Mona Vale (Northern Beaches).

Integration of ICUs at:

Blue Mountains ANZAC Memorial/Nepean; Ryde/Royal North Shore; Mater/John Hunter; Manly/Mona Vale (Northern Beaches).

Stroke Services – Total \$3.655m annual recurrent

Recommendations and Outcomes: Area Directors of Stroke Services were to be appointed.

Achieved.

Stroke Units were to be established and developed at:

Belmont, Blacktown site, Campbelltown site, Hornsby, Manly site, Sutherland. In addition, services have been enhanced at the following Principal Referral Hospitals: Bankstown, Concord, Gosford, John Hunter, Liverpool, Nepean, Prince of Wales, Royal North Shore, Royal Prince Alfred, St George, St Vincent's, Westmead and Wollongong. A new unit is being established at Wyong Hospital during 2004 with additional recurrent funding.

Achieved.

Directors to be appointed for each Stroke Unit.

Achieved. Medical Directors have been appointed at each Stroke Unit and supplementary medical, nursing and allied health staff positions, as delineated by the Stroke Coordinating Committee of the GMTT, are being filled.

Medicine – Total \$4.882m annual recurrent

Recommendations and Outcomes: Enhance acute geriatric services at Hornsby and Wyong.

Achieved.

Enhance palliative care services at Belmont, Blacktown/Mt Druitt – Mt Druitt site.

Achieved.

Enhance paediatric services at Belmont, Fairfield, Manly/Mona Vale – Mona Vale site.

Achieved.

Enhance general medicine at Camden/Campbelltown, Canterbury, Blue Mountains ANZAC Memorial, Blacktown/Mt Druitt, Fairfield, Manly/Mona Vale (Northern Beaches), Ryde, Sutherland, Wyong.

Achieved.

Enhance rehabilitation services at Hawkesbury, Springwood, Maitland, Sutherland.

Achieved.

Radiology – Total \$3.754m annual recurrent

Recommendations and Outcomes: Area Directors of Radiology Services appointed.

Achieved.

New CT scanners at Auburn, Blacktown/Mt Druitt – Mt Druitt site, Blue Mountains ANZAC Memorial, Ryde, Wyong.

Achieved.

Increased staffing at Auburn, Belmont, Blacktown/Mt Druitt, Blue Mountains ANZAC Memorial, Camden/Campbelltown, Fairfield, Ryde, Wyong.

Achieved.

Tele-reporting: extended at Blue Mountains ANZAC Memorial, Camden/Campbelltown, Fairfield, Maitland, Ryde, Sutherland, Sydney, Wyong.

Achieved.

Area radiology networking established.

Achieved.

Maternity Services Total – \$0.708M recurrent annual

\$250,000 for 2002/2003 only (research into models of care)

Recommendations and Outcomes: Clinical integration of maternity services considered to establish a single Maternity Service across two sites in time, at: Blue Mountains ANZAC Memorial/Nepean, Camden/Campbelltown, Manly/Mona Vale (Northern Beaches), Ryde/Royal North Shore, Shellharbour/Wollongong, Sutherland/St George/Royal Hospital for Women, Wyong/Gosford.

Not achieved.

Clinicians (obstetricians and midwives) at these integrated services will work together with the aim of providing Level 4/5 maternity services for their population. The GMTT envisages that this may mean providing antenatal, postnatal care, gynaecology procedures at one hospital with all planned deliveries at the other hospital which ideally would provide both traditional obstetric care and a birthing centre. This model and other midwifery-led models will be considered jointly by the Maternity and Perinatal Ministerial Advisory Committee and the GMTT.

Western Area Health Service developing an antenatal outreach service, with special focus on the Aboriginal and Torres Strait Islander population – Achieved.

Staffing enhanced at Hornsby – Achieved.

Models of care for maternity services researched – Achieved.

Clinical Workforce

Recommendations and Outcomes: Appointment of an Allied Health Advisor to the NSW Health Department.

Achieved.

Enhanced staffing, including nurses, doctors, allied health and support staff at Auburn, Belmont, Blacktown/Mt Druitt, Blue Mountains ANZAC Memorial and Springwood, Bulli, Camden/Campbelltown, Canterbury, Hawkesbury, Hornsby, Fairfield, Manly/Mona Vale (Northern Beaches), Mater, Newcastle, Ryde, Shellharbour, Sutherland, Sydney, Wyong.

Achieved.

Each Area to accelerate the establishment of clinical cross appointments.

Achieved.

The GMTT to discuss with Area Health Service Chief Executive Officers, Medical Training and Education Council (MTEC) and specialist groups, the means of increasing registrar rotations, particularly through Metropolitan Hospitals.

Partially achieved.

Patient Transport Total – \$1.980M recurrent annual

Recommendation and Outcome: Inter-hospital patient transport enhanced between: Auburn, Blacktown/Mt Druitt and Westmead; Blue Mountains ANZAC Memorial and Nepean; Bulli, Shellharbour and Wollongong; Camden/Campbelltown, Fairfield and Liverpool; Hawkesbury and Nepean; Manly/Mona Vale (Northern Beaches), Ryde, Hornsby and Royal North Shore; Wyong and Gosford; Belmont and John Hunter.

Achieved.

Community Relationships

Recommendation and Outcome: Each of the 18 Metropolitan Hospitals are establishing Community Groups consisting of clinicians, managers (local and Area level) and community members (in equal numbers). These groups will meet on a regular basis and will have distinct reporting lines.

Comment: Not progressed. All Area Health Services are establishing or have established formal structures to receive community input to decision-making.

Metropolitan Hospital Forum

Recommendation and Outcome: Establishment of a Metropolitan Hospital Forum to meet three times a year.

Achieved. The Metropolitan Hospital Forum has met four times and has helped to maintain the dialogue between clinicians, managers and the GMTT. DONs of Metropolitan Hospitals have continued to meet on a regular basis.

The above initiatives form one part of a commitment by clinicians to provide services across the entire population of the greater metropolitan region, which aim to enhance equity of access to services while promoting continual

quality improvement. The roles of each of the District Hospitals were reviewed through the various GMTT programs and as the program networks were established, each hospital was included for the most appropriate role or roles. These goals could not have been achieved without enhancing the roles of the Metropolitan Hospitals.

The Metropolitan Hospitals Forum held on 3 May, 2003, to report on the outcomes of the GMTT initiatives, was attended by 88 clinicians and managers. The Director-General of NSW Health, Ms Robyn Kruk and the Minister for Health (as from 2 April, 2003), the Hon. Morris Iemma, addressed the meeting and confirmed their support for the GMTT process and the ongoing clinician and consumer-led initiatives. On 28 February, 2004, more than 80 clinicians met at Westmead Hospital to hear how specific GMTT initiatives were being progressed and discuss solutions to common issues. At that forum, the Minister for Health endorsed a proposal for clinicians from Metropolitan Hospitals to form a GMTT group to meet regularly to address issues concerning Metropolitan Hospitals.

Emergency Departments and Intensive Care Units (ED & ICU)

Background

The Government Action Plan for Health (GAP Initiative) established separate review processes to act on the GMSIG recommendations relating to Emergency Departments and Intensive Care Units. The Emergency Department Clinical Implementation Group (EDCIG) and the Intensive Care Services Implementation Group (ICSIG) were convened to review and oversee these services respectively.



GM TT Involvement

The GM TT has had contact with, but not responsibility for, these independent reviews. The GM TT involvement was limited to addressing the specific recommendations relating to Area Heads of Emergency Services and ICU Services. Funding is detailed in section 8.14 above, Metropolitan (District) Hospitals.

8.15 Metropolitan and Rural Networking

GMSIG Metropolitan/Rural Networking Recommendations

Recommendation 1: That formally recognised clinical networks be established by each rural Area with greater metropolitan hospitals in NSW. For regions near NSW borders, services provided most conveniently from adjacent states or territories should be included.

Outcome: The clinical program working groups have commenced establishing informal clinical networks with recognised networks in place for Spinal Cord Injury, Severe Burns, Trauma Services, Brain Injury Rehabilitation and Ophthalmology.

Recommendation 2: That the Rural Area Clinical Councils advise the Area Health Service of the appropriate arrangement for each network.

Outcome: Discussions have commenced between GM TT and the Rural Implementation Group to further progress networking.

Recommendation 3: That the networks described above not override existing informal networks but be a 'non-exclusive default' system.

Outcome: Rural networks that have commenced have taken into account and not overridden existing informal networks.

Recommendation 4: That a regional network involve a number of individual metropolitan centres, as one centre may not necessarily provide the full range of services but rather act as a 'centre of excellence' for certain treatments. A mechanism for ongoing re-negotiation of the network arrangements will be required to help ensure that treatment advances were made available to rural residents as and when they became available.

Outcome: GM TT is awaiting further direction from the Rural Implementation Group.

Recommendation 5: That the networks be backed up by training and staffing arrangements which build upon and contribute to local rural capacity and infrastructure. These arrangements should include rural rotations at consultant level and college training programs should allow accreditation of country training for senior trainees where the necessary networks and supervision are in place.

Outcome: This recommendation is to be addressed within each of the clinical program working groups as rural networks are established.

Recommendation 6: That there be more widespread standardisation across NSW of clinical practice protocols for the admission of patients to metropolitan centres and for their subsequent discharge to rural communities. There need to be standards for the provision by city hospitals of information, accommodation and other supports for rural patients referred to the city, and standards for rural basic support services for patients returning from metropolitan hospitals after major surgery, so that effective rehabilitation is certain regardless of region of residence.

Outcome: GM TT is awaiting further direction from the Rural Implementation Group.

Recommendation 7: That outreach services be set up using the following principles:

- they should be planned in conjunction with the relevant Rural Clinical Council
- they should build upon and contribute to the local capacity and infrastructure
- they should be organised from the regional centre with close links to outer communities
- there should be continuity of service provider.

Outcome: Each of the clinical program working groups are aware of the GMSIG principles for the establishment of outreach services and are basing their networks on these principles.

Description of Services

The NSW Ministerial Advisory Committee on Health Services in Smaller Towns chaired by the Right Honourable Ian Sinclair, reported on options for the delivery of health services in rural NSW. As a result of this report NSW Health established a separate review process for rural health issues. The report of the Rural Health Implementation Coordination Group: *The NSW Rural Health Report*, was published in September 2002 and contained 18 recommendations and more than 80 implementation strategies to improve rural health services, including provision for greater cooperation between rural and metropolitan Area Health Services. An implementation group has been convened, co-chaired by Mrs Elizabeth Rummery and Dr Bill Hunter to implement the recommendations of the report.

The metropolitan coordinating committees will link with the newly evolving regional/rural services as these rural structures emerge. Prof Peter Fletcher has agreed to be the GM TT Committee member to facilitate these linkages.

GM TT Process

A number of the GM TT programs incorporated units/structures which already had statewide linkages or some elements of metropolitan-rural networking. These

links have been enhanced in Spinal Cord Injury, Severe Burns, Trauma Services, Brain Injury Rehabilitation, Ophthalmology, Gynaecological Oncology, Cardiac Services, Bone Marrow Transplantation, Renal Services, Transitional Care for Young People with Chronic Childhood Illnesses and Nuclear Medicine. Networks are developing which include links to regional and rural services.

A meeting of the GMTT Executive and the co-chairs of the Rural Implementation Group and the NSW Institute of Rural Clinical Services and Teaching was held in mid September 2003 as the beginning step of joint collaborations between the rural and metropolitan services.

9 Post-GMSIG Programs

9.1 Cochlear Implant

Description of Services

Adult cochlear transplantation services for NSW are, in the main, provided through Royal Prince Alfred Hospital and paediatric services through the Children's Hospital and Sydney Children's Hospital. Fewer than five adult public patients per year are seen at St Vincent's Hospital. Approximately 50 NSW public patients are assessed as requiring an implant each year, whilst funding is currently provided for 13 adult cochlear implants annually.

The potential benefits of cochlear implantation extend beyond a medical perspective into enhanced education and employment opportunities, increased earnings and reduced reliance on social services. Individuals who have cochlear transplants are better able to contribute to society, both economically and functionally.

Each year, approximately 69 NSW children require a cochlear implant. Private or charity funding is available for approximately 33 children, with the rest (36) requiring implants funded through the public health system. In 2002, public funding for paediatric cochlear implants was increased by an additional 12 cases to a total of 27 per annum (prosthesis and hospital-related costs only). The implantation costs for children are higher than for adults due to the need for hospitalisation and anaesthesia for initial testing as well as the need for more extensive rehabilitation and educational support. It is

proposed that these procedures be funded at the average procedure cost for both inpatient and outpatient care.

Demand for cochlear implantation is increasing. The reasons for this increase are that the clinical criteria used to determine those who would benefit from an implant are becoming broader and, as the population is living longer, there is an increase in aged-related hearing loss.

GMTT Process

Cochlear Implantation was not one of the original program areas identified by the GMSIG report, but the GMTT was asked by clinicians in the field to add this to the GMTT programs for review on the basis of equity and access issues. The GMTT full Committee, Director-General and Minister for Health agreed.

GMTT consultations with clinicians commenced early in 2003 with the first meeting, attended by clinicians, representatives of affiliated programs, the Department of Health and consumers. At this meeting it was agreed that a Working Party chaired by Dr Tony Sherbon be formed. This group was to consider the main issues of concern, estimate the cost of eliminating the waiting-list in NSW (as has been achieved in Victoria) and to determine key areas for future cooperation between the programs based at The Sydney Cochlear Implant Centre and The Shepherd Centre.

Recommendations for the Future

- The final report of this Working Group was provided to the Director-General, Minister and Chair of the Hearing Board in July 2003. There were ten recommendations. To eliminate the cochlear implantation waiting list for appropriate patients, funding was recommended to implant 45 extra adult patients in 2003/4 and in 2004/5 and 35 in 2005/6.
- This funding be specifically dedicated to funding these extra cochlear implants.
- There should be a two-yearly funding review.
- Extra funding to be provided for paediatric cases.

9.2 Orthopaedic Services

Description of Services

Although not one of the original services addressed by the Greater Metropolitan Services Implementation Group

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report, it was agreed by the then Minister for Health, the Hon. Craig Knowles MP, that Orthopaedic issues would be included within the scope of the GMTT programs.

GMTT Process

A working party was established in early 2003. The group is made up of Heads of Orthopaedic Departments of all Greater Metropolitan Hospital Orthopaedic Departments, Nurse Unit Managers, Orthopaedic Operating Theatre Nurses and Allied Health representatives.

To date, the following issues of general concern to the group have been identified:

- 1 Prostheses – cost and number of prostheses implanted. Many areas have extensive waiting lists for elective joint replacements, some up to two years. This is due to restrictions on budgets for prostheses and access to elective operating theatre lists. The group is currently examining ways to standardise the type of prostheses used as far as clinically possible, and the possibility of tendering on a larger scale in an attempt to minimise costs.
- 2 Access to Trauma operating theatres during daylight hours in view of the 'Safe Working Hours' requirements.
- 3 Access to elective orthopaedic operating theatres.
- 4 Availability of rehabilitation services for post-orthopaedic procedure patients, including fractured neck of femur patients.
- 5 Fee-for-service payment to Principal Referral Hospitals Orthopaedic Surgeons (currently available in Metropolitan Hospitals).
- 6 Expansion of Allied Health weekend cover to the equivalent of weekday staffing.

Discussions have been held with Area Chief Executive Officers to address these issues.

9.3 Imaging Services

Medical Imaging includes Radiology (see section 8.10), Nuclear Medicine and Interventional Neuroradiology.

9.3a Nuclear Medicine

Description of Services

Nuclear Medicine is a predominantly diagnostic discipline that involves the administration of radionuclides and

utilises the tracer technique for localisation of disease processes. It requires the intravenous administration of a radio-pharmaceutical that localises in the organ of interest using physiological mechanisms. Imaging is then performed on a gamma camera that registers the gamma rays being emitted from the patient. While the majority of the patient studies involve diagnostic scans, nuclear medicine is also involved in therapy. In particular, radioactive iodine therapy is given for both benign and malignant thyroid disease, strontium and samarium are administered intravenously for palliation of bone pain and there are advances in other areas such as treatment of some lymphomas and liver tumours with radio-labelled compounds. All NSW Principal Referral Hospitals apart from Gosford, have a nuclear medicine facility which services both inpatients and outpatients on referral from a registered general practitioner. Smaller public hospitals generally access nuclear medicine services from a Principal Referral Hospital or nearby private practices.

Nuclear medicine studies demonstrate abnormalities due to physiological processes which differ from radiology which generally is used to provide anatomical outlines.

The main areas of growth in nuclear medicine are in nuclear cardiology, bone scintigraphy, and PET scanning.

GMTT Process

Nuclear medicine services had been considered by GMSIG, but the report was inadvertently omitted from the final GMSIG Report. GMTT meetings were held with Heads of Public Hospital Departments of Nuclear Medicine to discuss the key issues facing nuclear medicine in the public sector and to work with the clinicians to develop strategies to address these. Representation was broadened after the first meeting in August 2002 to include pharmacists, technologists, scientists, nuclear physicists and the President of the Australia and New Zealand Association of Nuclear Medicine. Subsequent meetings were held in November 2002, and in February, May and September 2003.

A staffing survey was initiated. The findings suggested that there were adequate staff to meet current and anticipated future need and that the priorities were for new equipment. Requirements included Picture Archival Communication System (PACS), Gamma Camera replacement, Positron Emission Tomography (PET) Scanners, Cyclotron and Fluorine-18 fluorodeoxyglucose (FDG) supply.

The main focus of discussion in the Nuclear Medicine group was PET scanning. PET scanning is a three-dimensional whole body imaging technique used as a clinical tool. It is used to detect cancers and also has uses in cardiology and neurology. Paul Roach and Dale Bailey (Feb 2003) recommended that for NSW, one publicly funded PET scanner should be available per 1.1 million population and be based at a major teaching hospital. This would mean another three PET scanners in NSW as a priority and the later replacement of the PET scanner at Newcastle. Royal Prince Alfred Hospital and Liverpool Hospital already have PET scanners.

The group has recently established an Executive to represent Nuclear Medicine in NSW. Draft Terms of Reference for this group have been drawn up. The issues they wished to cover included: equipment and capital allocation, workforce and resources, training, deployment of new techniques, integration with other hospital services, and transition to the business unit model for imaging services.

The Nuclear Medicine and Radiology groups held a joint meeting in June 2003 to consider issues-in-common. After consideration, both groups agreed to remain as separate groups, but to liaise on a regular basis.

The Nuclear Medicine group has invited representatives from NSW Health to assist them with establishing public nuclear medicine services as business units. The group will work with NSW Health to establish meaningful key performance indicators (KPIs).

The Nuclear Medicine group formalised their group in October, 2003, and selected an Executive. They will be seeking to be recognised as the peak body to advise NSW Health on matters pertaining to nuclear medicine.

The Nuclear Medicine group has identified the following key issues for attention:

- equipment and capital allocation
- workforce and resources
- training
- deployment of new techniques
- integration with other hospital services
- transition to a business-unit model for imaging services.

Recommendations for the Future

The Nuclear Medicine group agreed that the proposed ratio of one PET scanner per 1.1 million population was

appropriate and recommended that one PET scanner should be installed in the following Areas: Northern Sydney, South Eastern Sydney, Western Sydney and Hunter, to serve both the local metropolitan residents and referrals from regional and rural NSW.

This recommendation was reviewed and endorsed by the metropolitan region Area Directors for Cancer Services and the full GMTT committee. It was then referred to the Director-General and the Minister for Health.

9.3b Interventional Neuroradiology

Description of Services

Interventional neuroradiology is used for cerebral aneurysms, stenting of intra- and extra-cranial cerebral vessels and acute stroke treatment. It involves the use of small catheters to navigate through the vasculature of the human body guided by 'real time' X-ray images to diseased areas and thereby deliver focal treatment including opening or closing diseased vessels and delivering treatment to specific areas. There is now convincing evidence that these techniques are superior to neurosurgery for some patients with stroke due to ruptured cerebral aneurysms. Interventional neuroradiology services are currently provided from staffing based at Royal North Shore and Royal Prince Alfred Hospitals. The planned appointment of two new additional Fellows will support an emerging service at Prince of Wales Hospital. To meet growing demand there was support for networked services to be offered through Westmead and Liverpool Hospitals.

GMTT Process

The interventional neuroradiologists, neurosurgeons and the Chair of the Stroke Group met and planned for the future in March and April 2003. The plan includes moving towards a North-Eastern Network and a South-Western Network in a staged manner. Two Fellows to be trained in the North-Eastern network in 2004 will be the starting point for the South-Western network in 2005.

Recommendations for the Future

A submission for funding for two Fellows in 2004 has been provided to the Director-General.

The North-Eastern Network would include Royal North Shore, Prince of Wales and Royal Prince Alfred Hospitals. The proposed South-Western Network will begin with

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Westmead and Liverpool Hospitals. This is a good example of clinicians working together across various discipline, hospital and Area Health Service boundaries, planning in a reasoned fashion on evidence-based medicine for the future with progressive evolution of two networks to provide services to the people of NSW.

9.4 Acute Traumatic Hand Injury

Description of Services

For the best possible outcome individuals with acute traumatic hand injuries will frequently require skilled surgical intervention, an available bed and follow-up hand therapy in the rehabilitation phase, preferably close to their homes.

These patients present at hospital Emergency Departments across the state for care, and anecdotal evidence suggests that in rural and regional centres there is limited access to the appropriate skills and resources. Referral pathways for the required care are not always clear. To achieve full hand function after surgery most patients require post-operative hand therapy. There are limited hand therapy services in rural and regional areas so patients need to stay longer in the metropolitan area for follow-up care, or risk a poorer outcome.

GMTT Process

A discussion paper "Hand Surgery Services – Metropolitan and Regional" was received by the GMTT in November 2002. After review, the full GMTT committee recommended that a working group be established.

Meetings commenced in March 2003 with representatives of all Area Health Services, including medical, nursing, allied health clinicians and health planners. Medical clinicians included hand, plastic and

orthopaedic surgeons, and allied health professionals included physiotherapists and occupational therapists.

Discussion was broad ranging and major issues included:

- the definition and classification of hand injuries into 'severe', 'moderate' and 'minor'
- how these injuries should be managed on presentation at Emergency Departments
- whether there was a need for a statewide networked approach to severe hand injuries
- the continuing problem of 'one phone call' referral
- any consideration of the development of a networked statewide complex hand injury service should be based on evidence such as incidence data, and a literature review to identify best practice
- the importance of timely follow-up therapy services
- the need to source and review data on the current state of services in the greater metropolitan region.

Three subgroups were established and have met several times to consider the issues raised. These were Complex Hand Injuries, Moderate and Minor Hand Injuries and an allied health subgroup.

The initial challenge for the group has been to define a Hand Service and then identify where services exist and what referral pathways are used for hospitals without a Hand Service. Equally challenging has been the identification of data to support clinical service planning, as everyday traumatic hand injuries may not be admitted to hospital and so diagnosis and procedure information is scant. Hospital diagnostic classification systems do not delineate the often complex and intricate nature of interventions for hand injuries.

The NSW Institute of Trauma and Injury Management (ITIM) is working with groups to define pathways for traumatic hand injuries from admission to the Emergency Department to surgical treatment and follow-up hand therapy.



Telehealth and web-based treatment tools are being investigated to improve follow-up hand therapy services in outer metropolitan and rural areas.

Recommendations for the Future

Referral pathways for access to surgical care and follow-up hand therapy need to be defined within and across Area Health Services and clinical practice guidelines to support and promote these pathways developed with involved clinicians.

9.5 Transitional Care for Young People with Chronic Childhood Illnesses

Description of Services

Children with long-term chronic illnesses obtain specialist care from and develop close relationships with their teams of paediatric health professionals. As they move into adulthood, it becomes more appropriate for their care to be transferred to adult health services. This transition process can be problematic in a number of respects.

GMTT Process

The catalyst for the establishment of the Transitional Care for Young People with Chronic Childhood Illnesses Group originated from a proposal for the development of a coordinated Sydney-wide network of centres interested in the management of patients with thalassaemia (a blood disorder). The proposal was reviewed using the GMSIG process and approved by the full GMTT committee for further investigation.

Stakeholders including paediatric and adult clinicians and consumers commenced meeting in December 2002 to identify the major issues for transitional care for young people with chronic childhood illnesses.

Stakeholder consultation revealed that the problem was complex and was experienced by adolescents across a range of specialty and special needs groups. The goal of transition is to provide health care that is uninterrupted, coordinated, developmentally appropriate and which properly addresses patients' psychological needs and expectations. Without a coordinated approach to transition, continuity of care is not always guaranteed.

Complications or exacerbation of the young person's disease can result.

Measures of a successful transition include the young person maintaining his or her health and quality of life and continuing use of health care services appropriately, with hospital admissions occurring only when planned.

Issues

The group identified the following major issues:

- limited long-term planning and coordination between paediatric and adult services
- lack of resources in the adult hospitals/services. Staff in adult facilities have limited opportunities to develop the same level of expertise in managing specialty groups as those in paediatric centres
- unsuccessful identification and engagement of appropriate adult health services
- problems arising when health care is managed on the basis of chronological age and is not considerate of developmental age or readiness
- need for retrospective and prospective data to accurately define the nature and dimension of the problem.

Objectives of the Group

The initial objective of the group was to investigate the most effective methods for managing the issues which had been identified by the stakeholders. To ensure the sustainability of the project, a coordinating committee structure was developed, including an Executive Committee and a Generic Issues subgroup. The project has achieved the following progress to date:

- assembly of over 70 paediatric and adult clinicians and consumers
- engagement of consumer representatives whose participation and contributions are highly valued by the group
- collaboration and liaison between paediatric and adult clinicians
- development of a framework which will assist major stakeholders manage the transition process to improve health outcomes
- development of Guiding Principles which underpin the goals and future direction of the project
- development and prioritisation of an Action Plan which will guide the group's activities.

Planned Initiatives

- Promote networks, partnership and cooperation among stakeholders in transitional care.
- Develop and implement a communication strategy to raise the profile of the transition care issue more broadly in the health care arena.
- Develop a package of 'tools' which will assist the stakeholders in addressing the needs of those undertaking the transition process.
- Determine data requirements and manage information to enable decision making for optimal use of resources for continuous quality care.
- Research, investigate and propose best practice models of care.
- Develop evaluation processes including outcome measures and key performance indicators to determine the effectiveness and efficacy of the project.

The Interim Executive Committee developed a proposal for new service funding for 2003/04, which was endorsed by the GMTT Executive as a high priority and supported with additional recurrent funding by NSW Health. Staff recruitment has commenced. The GMTT believes that this initiative will deliver much improved health outcomes for this group of young people with chronic childhood illnesses.

9.6 Bone and Soft Tissue Sarcoma

Description of Services

Sarcoma is a rare but often fatal disease, affecting bones and soft tissue (muscle, fat, nerves, vessels and other connective tissue). Incidence figures indicate that in NSW there will be approximately 50 new patients with bone sarcomas and between 130-160 patients per year presenting with soft tissue sarcoma. Soft tissue sarcomas are a very heterogenous group of tumours that occur at almost any anatomical site in the body. Unlike carcinomas they do not generally spread via lymphatics, rather by direct vessel invasion, and then usually to the lungs. They require complex multidisciplinary care and can have particularly devastating impact on quality of life, above and beyond the effect of a cancer diagnosis.

GMTT Process

A proposal for the creation of networked sarcoma services for patients across NSW was received, reviewed

and approved by the full GMTT committee for further development.

Stakeholders including paediatric and adult oncologists, orthopaedic surgeons, radiation oncologists, pathologists, and surgical oncologists met several times during February and March 2003 to discuss service provision in NSW under the chairmanship of Dr John Keogh (obstetrician).

It was noted that in NSW there were inequities in access to sarcoma services, particularly for rural patients who were not always seen within 48 hours, which is the standard accepted in the metropolitan area. Delays occur as a result of ad hoc referral patterns, limited availability of specialists in NSW as well as lack of access to modern imaging techniques. Moreover inappropriate initial investigations outside of specialist sarcoma units have the potential to adversely effect outcome.

Recommendations for the Future

A draft proposal for 2003/4 containing new service funding was developed and submitted. This proposal recommended the clinical networking of the three main centres Royal Prince Alfred, Prince of Wales and Westmead Hospitals under the umbrella of a NSW Sarcoma Institute.

Main objectives of the NSW Sarcoma Institute are:

- to provide prompt and timely services to patients from the whole of NSW for the management of bone and soft tissue sarcoma
- to collect incidence and outcome data and to establish both incidence and outcome registries
- to encourage the treatment of sarcomas in centres of excellence with sufficient caseload and appropriate support services to provide optimal outcomes.
- to develop best practice and evidence based guidelines and protocols for the treatment of these patients and ensure their implementation.
- to coordinate research activities.

The aim is to improve patient outcomes by improving equity of access to specialist centres with a caseload sufficient to provide optimal care. In particular, this will be achieved by streamlining referrals and reducing the delay to see appropriate specialists. Facilitating the setting up of tele-medicine links will allow for rural patients to have their X-Rays, photographs and clinical histories reviewed by clinicians at identified specialist centres rather than requiring a visit to the city for assessment.

Psychosocial support would be provided for patients, who are often extremely distressed when a bone or soft tissue sarcoma diagnosis is made. Any delay in getting an experienced opinion exacerbates the patient's distress. Specialist counselling skills are required for patients who are often children and adolescents.

The establishment of an outcome register would enable the Institute to determine efficacy of treatment, which would in turn enable the development of best practice and evidence-based guidelines and protocols for the treatment of all these patients across the NSW public hospital system.

9.7 Care of the Acutely Ill Older Person in Metropolitan Hospitals

Description of Services

The ageing of the Australian population is resulting in increased utilisation of health care services. Over-65-year-olds already account for 33% of hospital separations. Age is the greatest risk factor for physical dependency, multiple co-morbidities, need for community service support and admission to hospital or admission to residential care.

In addition to their presenting illness, acutely unwell older people are more likely to have concomitant complex and interrelated medical, functional and psychosocial issues than patients in younger age cohorts. As a result their length of hospital stay is on average longer and they frequently require higher levels of care from all clinical disciplines. Hospitals often need to utilise surgical, short-stay and even maternity ward areas to cope with demand. A severe workforce shortage exists in the specialty area of geriatrics, most notably for medical and allied health staff, but with nursing experiencing similar difficulties.

GM TT Process

Although the clinical specialty of Care of the Acutely Ill Older Person in Metropolitan Hospitals was not one of the program areas addressed by the GMSIG Report, it was proposed for GM TT review based on the number of concerns raised by hospitals during the Metropolitan Hospital consultations. It became evident during these consultations that the management of acutely unwell older people in the hospital setting was a significant issue

in every site visited. Representation was made to the Director-General to have this issue added to the Terms of Reference of the GM TT, and this was agreed.

As part of the Government Action Plan, a working group of NSW Health was, at the same time, working on developing a Model of Care for older people. This model was endorsed by the NSW Health Clinical Council in December 2002 and the NSW Health Working Group on the Care of Older People Committee (COPC) was established to develop the framework for improving care for older people across the state. The framework addresses the continuum of care for the older person, including community, acute and residential services.

The GM TT working group focused on acute in-patient episodes of care in the greater metropolitan region and the resources required to provide comprehensive care to this patient group. To maximise integration of effort, the convenor of the GM TT Aged Care working group is a member of the COPC and the co-chair of COPC is a member of the GM TT Aged Care working group.

Clinicians from a variety of hospitals and professions involved with care of older people in the acute setting were invited to participate in the GM TT consultative process designed to identify the key issues and develop management strategies for greater metropolitan hospitals. A GM TT Aged Care Survey was conducted in December 2002 by Helen Felton and identified the following areas as significant for further review:

- workforce issues across all disciplines, including shortages, training and recruitment
- diverse existing models of care during the acute in-patient episode of care
- medical workforce parity for Geriatric Services compared to other major specialties within hospitals.

To ensure the sustainability of the project, a coordinating committee structure was developed. The working group comprises hospital clinicians, general practitioners and consumers. An Interim Executive Committee was established to assist the larger group by prioritising activities and developing the future directions of the project. Medical, Nursing and Allied Health clinical working groups were established specifically to develop strategies and solutions for their workforce issues of recruitment, retention and training. The working groups and sub-committees have met in total more than 30 times.

Working Group Actions

The GMTT recommends that the model of care endorsed by the NSW Health Clinical Council and COPC be implemented at all Principal Referral Hospitals and Metropolitan Hospitals. The model prescribes a population-based 20- or 30-bed centralised ward/unit with a dedicated multi-disciplinary team and specified staffing levels. It defines the services required in the acute unit, consultation required with other hospital units and also the interface needed with community services. Better outcomes can be achieved for acute aged-care patients by centralising care in units with highly skilled and trained multi-disciplinary teams with strong clinical leadership.

Within and across Area Health Services, there is variation in the level and type of Aged Care services currently provided. These differences reflect history, socioeconomic differences, resourcing and demography. To implement the model of care across the greater metropolitan region, differing resources need to be supplied to bring all services up to the agreed minimum standards.

The working group developed a proposal to implement the model of care in the greater metropolitan region. This proposal outlined workforce requirements and associated costs. The proposal was presented to the Minister in late December, 2003 and subsequently forwarded to the Director-General.

The Aged Care marketing committee will develop practical and effective solutions for staff recruitment and retention by highlighting the benefits and positive professional challenges of working in Aged Care. They will seek opportunities to improve and expand the profile of Acute Aged Care services.

Recommendations for the Future

The working group and its committees are currently determining priorities for implementation and communication strategies to proceed, should approval be given to implement the model of care. The Interim Executive will continue to liaise with COPC regarding the framework and the GMTT proposal. The working group will also liaise with other groups including colleges, societies and other professional associations regarding training and recruitment. The priority will continue to be the Aged Care workforce.

9.8 Home Enteral Nutrition

Description of Services

Enteral nutrition support is the delivery of nutrition either orally or by tube into the gastrointestinal tract. It is indicated in those patients who are either not safe, or are unable to meet their nutritional requirements orally. Home Enteral Nutrition (HEN) is usually long-term (greater than 30 days).

A NSW survey in 1997 found that 51 hospitals reported a total of 785 clients were being tube-fed at home.¹⁹ In Britain it is estimated that tube-fed patients are increasing by 20-25% each year, whilst in the US the increase is estimated at 25-30%.²⁰

GMTT Process

Although the clinical specialty of Home Enteral Nutrition (HEN) was not one of the program areas addressed by the GMSIG Report, it was proposed by nutrition clinicians for GMTT review in 2003. Representation was made to the Director-General to have this issue added to the Terms of Reference of the GMTT, and this was agreed.

The submission detailed the following concerns:

- Current management of HEN patients is inadequate and inequitable.
- There is lack of an effective and efficient coordinated approach to the selection, management, discharge planning and monitoring of HEN patients.
- As a result there have been incidences of adverse patient outcomes.
- Ad hoc funding arrangements result in patients having to pay variable and costly fees for feed and equipment across and within Area Health Services, in both city and rural settings.
- There is inequity in arrangements for feed delivery/collection and equipment.
- There are no means of capturing HEN patient data.

A group of 45 clinicians met for the first time at GMTT on 25 February, 2004 and supported the thrust of the submission to GMTT regarding inequities in HEN services. An Interim Executive was formed to guide the large group and this group met on 5 April, 2004. The group has identified a need for accurate clinical data and as its first objective sought funding to appoint a project officer to work with clinicians and define appropriate

clinical data to quantify the problem. Subsequently the project would involve collecting the agreed data. The GMTT will review possible funding options to support this project.

9.9 Information Management

Description of Services

Information Management describes the measures or processes required for the collection, storage, access, use and disposal of information that support a business and is a key resource in the functioning of any organisation.

The GMTT Information Management program will design strategies to meet the demand for timely and accurate clinical information and reporting within the public hospital system, which will support improved health outcomes.

The GMSIG Report identified 17 clinical areas requiring improved service planning and coordination in the Sydney metropolitan region. Of these, many identified a lack of adequately collected or reported clinical outcome data as a major concern. The lack of available data significantly affected the ability of these groups to strategically plan their services in the short- and medium term.

The GMSIG report identified the following key issues in relation to data and information systems:

- Data collection and data entry – need for increased resources to facilitate all aspects of data capture and data entry.
- Development of best practice clinical outcome data sets. Assistance is needed to develop indicators that are more than activity indicators, or even key performance indicators. Experienced Information management personnel are needed to assist clinicians to establish and manage information profiles for their clinical specialty.
- Collating and reporting – expertise is required to pull together meaningful information and report appropriately. No clinical group is commissioned to act on the outcome data once it is produced.
- Long-term development and management – new technology and practices are evolving, and mechanisms are needed to review and adapt data collections and reporting mechanisms

GMTT Process

In December 2002 GMTT, in conjunction with NSW Health, held a Clinical Information Planning Meeting for clinicians with an interest in improving collection and reporting of health data with a view to establishing a coordinated and integrated approach to data collection and systems.

Competing projects and limited personnel resources at GMTT and NSW Health meant that this agenda did not proceed quickly although the individual clinical programs continued to identify their information management needs. A Program Manager dedicated to coordinating the approaches to clinical information management was employed by GMTT in September 2003. The Program Manager's brief was to develop and implement a sustainable, integrated information management strategy for clinical program areas within GMTT. This would include a review of how existing data collection systems could be utilised, and future integration of systems. Close liaison was anticipated with the Information Management Directorate of NSW Health to ensure that new GMTT information strategies are designed and implemented within the existing framework of NSW Health's Information Management Strategic Plan.

A group of 20 clinicians interested in data collection and reporting met at GMTT in March 2004 and supported the GMTT recommendation to adopt an extension of the Towards A Safer Culture (TASC) online system. This group, headed by Professor Goulston, will meet again in June 2004 to review the implementation of the TASC online system.

The TASC system, currently implemented statewide in the areas of stroke and acute coronary syndrome provides a mechanism for fully integrated data to be reported to clinicians for the purpose of clinical practice improvement. By using the established TASC online system, the GMTT clinical programs could feed information into the main NSW Health data warehouse, the Health Information Exchange.

This innovative and timely information management solution will permit standardised data collection and reporting across the GMTT clinical programs.