



Paediatric Integrated Cancer Service

A statewide cancer service for children

Peter MacCallum Cancer Centre

Developing a safe, quality and sustainable service model for children and adolescents and their families

Summary

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Along with the Royal Children's Hospital (RCH) and Southern Health (Monash Medical Centre), Peter Mac is part of the Paediatric Integrated Cancer Service (PICS).

While less than 2% of its patient population are children or adolescents with cancer, Peter Mac is **the only provider of paediatric radiotherapy services** in Victoria and offers services to some interstate and international children and adolescents. This service review was commissioned to address a number of challenges that Peter Mac is facing in providing services to children and adolescents and their families.

The Final Report of which this Executive Summary has been extracted represents the final deliverable for this Project, along with an accompanying Compendium of Evidence.

Project purpose, scope and activities

The primary purpose of the Project was to develop a brief of the requirements for safe, quality care for children with cancer at Peter Mac and to present recommendations for the way forward to support the development of a strategic plan for the endorsement by the Peter Mac Executive.

This review was driven by the need to document the requirements for a high quality paediatric service within the adult setting and included the breadth of Peter Mac services for children and adolescents and their crucial interface with the Children's Cancer Centres.

Guided by the Project Steering Group, a range of Project activities were undertaken to achieve the Project objectives.

The key findings

Increasing demand and complexity of services and care

- While the number of children / adolescents that access Peter Mac services is relatively small (ie 70-80 per year), in 2007-08 this resulted in 1135 occasions of service for radiotherapy and 153 occasions of service for PET scans.
- There has been a 67% increase in the number of children / adolescents treated by Peter Mac in the past five years. At least one child / adolescent receive radiotherapy on over 90% of available treatment days.
- In addition to their daily radiotherapy over 4-6 weeks, a linked clinical audit across Peter Mac and the Children's Cancer Centres indicated that children and adolescents on concurrent radiotherapy and chemotherapy were attending an average of 5.6 additional appointments at Peter Mac and 16 medical appointments at the Children's Cancer Centre.

Anaesthetic services

- An almost four-fold increase in the number of younger children requiring radiotherapy over the past five years has resulted in increasing demands for anaesthetic provision. In 2007-08 320 occasions of anaesthetic service were provided to children requiring radiotherapy and / or PET scans.
- The current system of anaesthetic service provision requires review to ensure sustainability and improved coordination between the RCH and Peter Mac.

Inpatient services

- In 2007-08, 14 children / adolescents required inpatient admissions for a total of 33 inpatient days. This was for the provision of therapeutic radioactive isotopes (MiBG) or total body irradiation (TBI). Peter Mac is the only provider of MiBG in Victoria.
- Just under half of all admissions are for children aged under 9 years of age with 17.5% being under 5 years of age.
- The recent employment of paediatric trained nurses for all shifts has improved staff concerns and reduced the level of clinical risk.

Through this review, many strengths in the provision of services to children / adolescents and their families were clearly identified with most parents interviewed valuing the skills and care of the paediatric team and associated staff. The skills and commitment of these staff was also evidenced in a range of strategies that staff have developed in response to the needs of children / adolescents and families.

However the review of current practices overall against the standards of practice identified that these service strengths were often reliant on individual skills rather than a strong system-wide approach to providing paediatric and adolescent care.

The review identified a need to implement a system with increased nurses on staff with paediatric qualifications, training in paediatric life support and an ongoing training program for allied health and support staff in paediatric oncology. Also identified was a need to enhance timely information flow between the sites and within the services with particular attention on multiple appointments and improved coordination of anaesthetic provision.

The review also identified a range of other **challenges and opportunities**.

Safety and clinical risk: there is a need to implement strategies that will strengthen safety and reduce clinical risk for all children and adolescents who enter the Peter Mac system.

Increasing demand: the increasing birth rate, new radiotherapy protocols and new technologies may all result in increased service demand over the next 5-15 years.

Strengthening the system as a whole: Peter Mac is the only provider of paediatric radiotherapy services in Victoria and with recent increases in demand, the current number of children and adolescents having radiotherapy and the numbers of children requiring an anaesthetic is approaching a '*critical mass*'.

However given that the patient volume is still relatively small and that most services are within the ambulatory setting, it is difficult to have enough work to routinely employ additional specialist paediatric staff such as nurses. In addition any new service approach must be sustainable and not just reliant on the skills of specific individuals.

Building on current expertise and good practices: as indicated the service review identified important strengths in Peter Mac's current paediatric service team and a strong interest and commitment by stakeholders to the future service development.

Developing partnerships and a shared model of care: there is a strong commitment by Peter Mac, the Children's Cancer Centres and RCH to build on the dialogue that has been created through this Project to develop an improved service system. Peter Mac's potential redevelopment also provides additional opportunities.

Future directions

The opportunity exists to not only address the immediate issues facing Peter Mac's services but also to develop a new approach to service provision that will use the current skill base to facilitate a more system-wide approach to strengthening services and skills.

This will help to create an organisational culture that clearly identifies children and adolescents as part of Peter Mac's core business, will position Peter Mac well to respond to future service demands and will reduce the burden of the current fragmented service system presently borne by children / adolescents and their families.

The proposed service model

A shared model of care is proposed with the vision being that all children and adolescents with cancer and their families will have access to high quality radiotherapy and associated services that are provided within acceptable safe standards of practice and are well coordinated with other treatment systems.

Key features of the service model include:

- Providing specialist radiotherapy and other services to children / adolescents with cancer and their families is acknowledged as part of Peter Mac's **core business**.
- A series of principles to guide **family-centred care** and strengthening the system
- A shared care model to evolve over time to ensure access to specialist and other services to children and adolescents within an appropriate, safe and family centred framework that **minimises the burden** to families as much as possible
- An **agreed clinical pathway** between the Children's Cancer Centres and Peter Mac services that:
 - optimises early referral and information transfer to Peter Mac
 - utilises a risk assessment approach to referral to ensure that care can be provided as safely as possible for each individual child / adolescent
 - develops an agreed shared care plan which may include a range of clinical services that are provided to children / adolescents during radiotherapy within safe boundaries (including joint clinics and the future provision of concurrent or synchronised chemotherapy / medication for some children / adolescents)
 - optimises the child / adolescent / family entry into Peter Mac services.

Enhancing anaesthetic services

Given the '*critical mass*' of children now requiring an anaesthetic, the likelihood of the increasing demand continuing, and the increasing pressures facing RCH services which may constrain their capacity to prioritise Peter Mac's service needs, a new approach to anaesthetic service provision is needed. Such an approach must aim to provide relief to both service systems and also provide an opportunity to strengthen Peter Mac's service system as a whole.

Enhancing inpatient services

There was a strong view by key Executive staff that if a child / adolescent needed admission for radiotherapy, then they should be admitted to Peter Mac.

For all children / adolescents being admitted to Peter Mac, a range of strategies should be implemented to facilitate care. These include:

- a risk assessment screen as part of the referral process for all children / adolescents
- a review of any clinical practices to ensure safe practice
- continuing employment of a paediatric trained nurse for all or some shifts
- strengthening of on-call arrangements
- ensuring adequate training in paediatric life support for all key personnel
- clear linkages with emergency back-up systems for paediatric care including access to a paediatric oncologist, RCH Emergency Department / ICU staff for advice or the Paediatric Emergency Retrieval Service.

Strengthening the overall system

There are a wide range of short and longer term strategies that are required to strengthen the overall service system, some of which are contingent on:

- Peter Mac's agreement to the overall service model and future service directions
- final decisions about the relocation of Peter Mac to the Parkville site.

Given the proposed shared care model and the need to develop more flexibility about how services might be offered (eg ambulatory care for children / adolescents requiring TBI or the provision of specific medications), consideration must be given to how appropriate facilities can be developed, both in the short and longer term. One option is to ensure paediatric / adolescent facilities are enhanced or integrated into all areas that provide services for children and adolescents. A second option is to develop a 'paediatric day care area' which could provide:

- a central entry point to Peter Mac for all children/ adolescents and families
- the location of the paediatric outpatient clinic
- a common anaesthetic recovery area
- an area where other clinical care could be provided.

This second option is very challenging within Peter Mac's current environment but could be more readily integrated into Peter Mac's redevelopment plans.

Other key initiatives to strengthen the service system both now and into the future include:

- enhancing access to paediatric skills through accessing paediatric medical / oncology skills, reviewing and extending the paediatric nurse coordinator role, and through the provision of ongoing training and professional development
- improving coordination of care through enhanced information systems and shared care through joint clinics and the provision of additional services at Peter Mac during the period of radiotherapy
- improving access to information resources to supplement verbal information given
- as a small number of children / adolescents under 16 years are referred into other clinical units within Peter Mac a service policy needs to be implemented that ensures they are linked in with the Paediatric Service in line with the RACP standards.
- strengthening governance mechanisms.

Recommendations

The outcomes of this service review set an ambitious agenda for the future. The adoption of the following recommendations and progress towards achieving the agenda with the proposed shared model of care for children / adolescents over time:

- aligns well with Peter Mac's overall service vision as a premier resource for cancer patients in the provision of integrated treatment, research and education
- provides a potential model for how services can be integrated to best meet the needs of this small but vulnerable group of patients and families.

The provision of anaesthetic services

Urgent priority

1. That the PICS Coordinating Group via the PICS Chair and Program Manager hold immediate discussions with the RCH Chief Executive Officer, other relevant RCH Executive staff and the RCH Director of Anaesthesia to outline the outcomes of the Peter Mac Paediatric Service Review, the significant challenges of the current anaesthetic and related financial arrangements for children at Peter Mac (and services for RCH children) and seek their input into future service provision directions.
2. Following the outcome of 1, Peter Mac Executive commence discussions with the relevant RCH Executive to develop:
 - an agreed interim strategy to enhance the current provision of anaesthetics at Peter Mac in a mutually beneficial manner
 - an agreed long-term approach to the provision of anaesthetics at Peter Mac and the steps and timelines for achieving this. Depending on the agreed approach this may include a formal memorandum of understanding between the two services and potential changes in the current funding mechanisms.
3. That the appropriate Peter Mac Operational Manager works with representatives from Peter Mac's Anaesthetic Department and Paediatric Service and RCH Anaesthetic Department and appropriate RCH Operational Managers to implement the agreed interim anaesthetic strategy and to progress the implementation of the agreed long-term approach for anaesthetic provision at Peter Mac (as per the outcomes of Recommendation 2).

Strengthening the overall system including in-patient services

4. That Peter Mac Executive formally acknowledges its critical role as the only provider of radiotherapy services to children / adolescents with cancer and their families in Victoria, and gives in principle endorsement to the proposed shared care service model for children and adolescents with cancer to be achieved over time.
5. That Peter Mac Executive ensures that access to appropriate facilities and equipment (for children **and** adolescents) is enhanced and that staff are appropriately credentialed, trained and supported in accordance with their role, to provide current services to children / adolescents and their families, and in the future provide an increasing range of services to children and adolescents during radiotherapy that:

- reduces the current burden of multiple appointments across services borne by children / adolescents and families
 - can be achieved in a safe and acceptable manner in accordance with the RACP standards of care for children and adolescents in health services (2008).
6. That Peter Mac Executive endorses an agreed scope of practice for in-patient services for children and adolescents and ensures that the facilities, equipment, staffing and back-up systems are adequate to meet the needs of in-patient children / adolescents and families.

Implementation and governance

7. That Peter Mac identifies funding or actively seeks funding to strengthen current clinical services at Peter Mac, develop the necessary systems and processes with PICS service partners to enhance care across services and progress the early implementation of the shared care model. This includes funding for additional nurse coordinator, oncologist and a project officer to implement the recommendations of this review.
8. That a Paediatric Implementation Steering Group be established through the Department of Radiation Oncology that includes an Executive sponsor, Peter Mac clinical and senior management staff and key clinicians from PICS partners to support and advise on service enhancements and credentialing issues.
9. That progress in implementation of these recommendations and the range of action areas is reported regularly to the Peter Mac Senior Executive and three monthly to the PICS Coordinating Group.



**Paediatric Integrated
Cancer Service**

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