**Waste Management Planning in a New Build**
**Mater Private Hospital Springfield**

**GGHH Agenda Goals**

- **Leadership**
- **Waste**

**Hospital Goals**

- **Improved waste management and recycling rates**
- **Reduced landfill**

**Progress Achieved**

- Financial benefits including reduced waste disposal costs (particularly in the general waste stream)
- Environmental benefits including high recycling rates of 33%
- Other results/benefits including leadership by staff champions which enhance staff morale

**The Issue**

During planning for the new Mater Private Hospital Springfield waste management was considered one of the goals for the project. This including minimising waste disposal costs, optimising responsible and compliant waste management, seeking waste avoidance opportunities, and maximising recycling rates. To integrate these efforts into the project, a collaborative approach was taken. The first step to optimising a facility's waste management was to understand its overall anticipated waste sources and the relevant space design requirements. In the new build, clinicians and the design team were determined to minimise the ongoing environmental impact of the hospital's activities once operational.


Above: Patient room comingled recycling

**Sustainability Strategy Implemented**

Waste requirements were identified early in the design of the new Mater Private Hospital Springfield (MPHS) in Ipswich, Queensland. A collaborative approach to planning and implementing optimum waste management was taken to achieve a range of objectives, including a range of recycling streams in clinical and administrative areas.

**Implementation process**

*Planning and partnerships*

Planning and partnerships helped to ensure the spatial design, procedures, and monitoring were established. Consequently MPHS has adequately sized, purpose designated space and

management systems for optimum waste management (occupational health and safety, infection control, segregation, handling, storage, and disposal).

Advance planning involved top level hospital management, the capital works team (as well as architects/engineers), the environmental sustainability team, waste management personnel (including the external waste provider), nursing staff, infection control staff, maintenance/hotel services, catering/hotel staff, and a key champion (Nurse Unit Manager, Operating Theatres).

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Above: NUM, Tom Ward has established waste segregation in theatres including diathermy leads (on the floor) for copper recycling.

The involvement of these professionals ensured that the risks were dealt with and that the staff were 'on board', but also ensured that the number of recycling streams were maximised in line with the hospital's desire to be a leader in environmental sustainability (resource recovery) and corporate social responsibility.

In addition, considerable thought was given to design to enable access/transport of waste receptacle, provide security for the material, contain odours and allow hygienic cleaning of the storage area and carts.

It should be noted that bulk supply deliveries are made to Mater's main campus, 25 kilometers away in South Brisbane. Decanting and unpacking occurs at this site before required supplies are transported to MPHS in reusable hard plastic tote boxes. This reduces the total waste to MPHS, but the waste avoidance is largely attributed to the recycling stream and this waste is captured in the main campus figures.

Suppliers such as Baxter Healthcare, became involved in the hospital's efforts to avoid waste, by reducing the outer packaging at the time of delivery and providing direct ward decanting of their products and removing the remaining waste packaging.

This collaborative effort was informed by key government guidelines and other references listed in this case study under links.

Clinical waste accounts for 10-20% of all waste generated (NSW Audit 2002) and can be 5 to 10 times the cost of general waste which highlights the importance of waste segregation in a hospital environment.

**Tracking Progress**

It is expected that the waste provider at MPHS will undertake future random audits of waste to appraise segregation quality and compliance. Waste streams to track include:

1. General Waste
2. Clinical and Related Waste
    a. Cytotoxic
    b. Sharps
    c. Chemical
    d. Anatomical
3. Recycling (co-mingled, batteries, PVC, copper wire, Kimguard, printer cartridges, mobile phones, e-waste, cardboard)
4. Secure Document Destruction

**Challenges and lessons learned**

The existence of several environmental and waste champions was the most critical success factor in the process. In addition, Mater already had design guidelines with environmental sustainability factors incorporated.

The opening of a new hospital is a busy time with staff prioritising patient care and the Capital Works team prioritising cost savings. The major lesson learned was that the introduction of waste management goals would have helped to deliver productivity and cost savings, and avoid many of the problems being encountered by older hospital buildings where space limitations are impacting optimum waste management.

Fortunately, hospital buildings, services and equipment in Australia are required to be designed and constructed in accordance with the requirements in the Building Code of Australia and in accordance with various relevant standards. Although these are not perfect they provide a guide to optimum waste management infrastructure planning and their role should be acknowledged.

**Next Steps**

It is hoped that in future, a formalised waste management plan and policy will be established for each of the Mater buildings in South East Queensland, including regular annual waste segregation training and resources for staff.

Mater Private Hospital Springfield has not yet reached 100% occupancy, so further reviews of recycling rates will be conducted as the hospital activity increases to full capacity.

**Demographic information**

Mater Private Hospital Springfield is part of Mater Group and its network of hospitals in South East Queensland. MPHS campus (phase 1) includes:

- 80 beds
- Floor space – 10128 m2
- Number of floor levels (excluding plant) - 5
- Service mix: A range of medical and surgical services which can be accessed only via referral to a private specialist include: General Medicine; Medical Oncology; Radiation Oncology;

Rehabilitation; Respiratory; Ear, Nose and Throat; Gastroenterology; General Surgery; Gynaecology; Ophthalmology; Oral and Maxillofacial; Orthopaedics; Plastics; Dermatology and Urology.

**Links**

- Guideline Clinical and Related Waste (2015), Department of Environment and Heritage Protection, Queensland Government, 26 March, https://www.ehp.qld.gov.au/assets/documents/regulation/pr-gl-clinical-and-related-waste.pdf
- Waste Management Plan, Sustainability Roadmap for Hospitals, http://www.sustainabilityroadmap.org/strategies/planwaste.shtml#.VyZuBPl96Uk
- Standards of Construction for Health Care Facilities (2010), https://www.health.ny.gov/regulations/recently_adopted/docs/2010-12-29_standards_of_construction_for_health_care_facilities.pdf

**Key leaders involved in this project:**

- Tom Ward, Nurse Unit Manager Operating Theatre, Mater Private Hospital Springfield
- Anne-Marie Markos, Procurement Officer - Contracts, Mater Misericordiae Ltd
- Arna Chauncey, Director Nursing Perioperative & Procedural Services, Mater Misericordiae Ltd
- Chris Hill, Director Environmental Sustainability, Mater Misericordiae Ltd
- James Hewitt, Manager Support Services, Mater Private Hospital Springfield

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