

Greening Our Hospitals: Water

Case study

Low-flush pan sanitisers

Overview

The Peter MacCallum Cancer Centre identified their pan flushers as high water-use items and recognised that new technology pan flushers could make considerable water savings. In addition to water savings, the new pan flushers have much lower electrical consumption, thus reducing total electrical consumption and peak demand.

Peter Mac was able to access funding from the Greening Our Hospitals: Water program to reduce water and electrical consumption as well as providing significantly more efficient equipment for patient care. The pan flushers selected have a much higher productivity than the older units and are in line with current best practice in infection control.

The project was funded to expand the knowledge base regarding this newer technology. Despite benefits being realised from improved infection control and productivity, it was not possible to quantify them for the purposes of calculating the payback. Therefore the payback of 12.5 years only accounts for savings in energy and water consumption. It is intended that the equipment will be relocated to another public health service when the Peter MacCallum Cancer Centre moves to the Victorian Comprehensive Cancer Centre in 2015.

Summary

Peter Mac embarked on a program to replace seven old, inefficient pan flushers located on six wards and the Medical Day Unit. During the Christmas period, low bed-occupancy rates allowed the project to proceed with reduced risk to immunocompromised patients. After building protective barriers around each utility room, the old units were decommissioned and carefully removed. The new units were installed into the modified openings and commissioned.



Pan flusher

Cost savings achieved from reduced water and energy demand will fund the ongoing maintenance contract with increased productivity due to the improved design and larger capacity of the units. As the units use more current technology, compliance with infection control standards is improved.

How it works

The pan flusher internal spray system has been redesigned to improve cleaning efficiency and use less water. Direct steam injection onto the surface of the bedpan or bottle achieves the required sanitisation without large volumes of 85° C water.

Health service

Peter MacCallum Cancer Centre

Total investment

\$70,000
(\$52,500 funded by GOHW)

Date of completion

March 2011

Initial water saving estimate

600 kL per annum

Actual water savings

1,200 kL per annum

Actual energy savings

18,000 kWh per annum

Estimated annual cost saving

\$5,620

Simple payback

12.5 years

Project design and installation

Peter Mac / contractors

Water cost

1.7125 \$/kL in 2011
1.397 \$/kL in 2010

Sewage disposal cost

1.5435 \$/kL in 2011 (80%)
1.4153 \$/kL in 2010 (80%)

Electricity consumption has been reduced so much that the new machines run off a standard 10-amp GPO compared to three-phase power of the old model. The reduced electrical consumption has resulted a saving of approximately 18,000 kWh of electricity per annum.

The new units have an additional advantage that they are able to accommodate one bedpan and two urinal bottles per cycle with a resultant improvement in productivity on the wards.

Infection control was advised of the installation timetable and logistics of each removal and installation and provided appropriate input to reduce the risk to immunocompromised patients. The pan flushers were designed to be free standing, so to enable reuse of the existing space. Additional building and plumbing works were required to install them as flush mount units.

What worked well:

- pan-flusher water consumption was monitored as part of the WaterMAP requirements
- comprehensive on-site training was provided by the supplier to the ward staff as part of the supply agreement. Multiple training sessions were provided to each ward on different days and at different times to capture as many shifts as possible
- maintenance costs reduced by \$3,000 per annum.

What did not work well:

- installation at the Peter Mac site was not straight forward due to the physical constraints with the infrastructure at Peter Mac.

Health service profile

Peter MacCallum Cancer Centre is Australia's only public hospital solely dedicated to cancer and one of an elite group of hospitals worldwide to have its own integrated cancer research program and laboratories.

Peter Mac's mission is to minimise the impact of cancer on its patients and the community.

Peter Mac's main campus in East Melbourne encompasses an acute 24-hour public hospital that is combined and integrated with a substantial cancer research program.

As the largest cancer research site in Australia, Peter Mac is a major contributor to advances in cancer prevention, diagnosis and treatment.

With researchers and clinicians working side-by-side, Peter Mac has made significant contributions to basic research, translational research and clinical trials.

Peter Mac services patients from Melbourne, Victoria and all other states and territories in Australia.

Research programs encompass 27 laboratories and over 520 scientists, clinician researchers, research nurses and other health professionals involved in various aspects of cancer research. Peter Mac attracts students and researchers from around the world.

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