

Staff-driven sustainability initiatives in a Melbourne Health dialysis centre

Case study: Conversation Series no. 5



Melbourne Health is Victoria's second largest public health service. It provides comprehensive acute, subacute and community-based healthcare programs to the culturally and linguistically diverse communities of northern and western metropolitan Melbourne, as well as a range of general and specialist services to regional and rural Victorians. The health service employs over 9,000 staff and manages over 1,400 beds.

Coburg Dialysis Centre is a satellite unit of The Royal Melbourne Hospital, which caters for 57 haemodialysis patients, operating 15 chairs six days a week. The unit performs approximately 9,000 haemodialysis treatments a year.

This case study provides practical examples of staff-led sustainability initiatives. It gives tips on how to access resources developed by the Department of Health and Human Services, and how to link in with your health service's own environmental management planning process. Staff from the department's Sustainability Unit spoke to Anthea White, Satellite Dialysis Manger, Coburg Dialysis Unit.

How did you develop your environmental sustainability initiatives?

Haemodialysis is a resource-intensive procedure that requires large amounts of water and electricity, and produces large amounts of waste from consumables.

Each haemodialysis treatment uses about 2.5 kg of plastic, so in our unit that's around 70 kg of plastic each day.

I have a strong personal interest in sustainability, and I felt we could do better as a unit in reducing our effect on the environment. The facility has had comingled and general recycling in place since its establishment in 2001, but in October 2010, we convened our environmental special interest group and began to focus on waste segregation. The obvious first step was to look at clinical waste. We also researched the products used in dialysis consumables to maximise recycling and minimise landfill waste.

In 2013, one of the dialysis staff was in a Melbourne Health Intensive Care Unit doing a haemodialysis session and discovered the PVC recycling program. A number of dialysis consumables are made of PVC, so we introduced a PVC recycling program with assistance from the Vinyl Council of Australia. They provided education material for staff, wheelie bins for the PVC and arranged for collection by a local PVC recycler free of charge.

Also in 2013, I heard through our newsletter that Melbourne Health had employed a new Sustainability Officer, Monika Page, and so I made contact with her to tap into hospital-wide initiatives.



Staff member Belinda Veljanovski segregates dialysis consumables

How important is it to track your data, and how do you use that information?

Clinical waste is expensive and has a large environmental impact. Clinical waste is transported to an EPA-licensed facility for processing by mechanical shredding and grinding, followed by chemical disinfection with sodium hypochlorite. The treated waste is then disposed of into landfill.

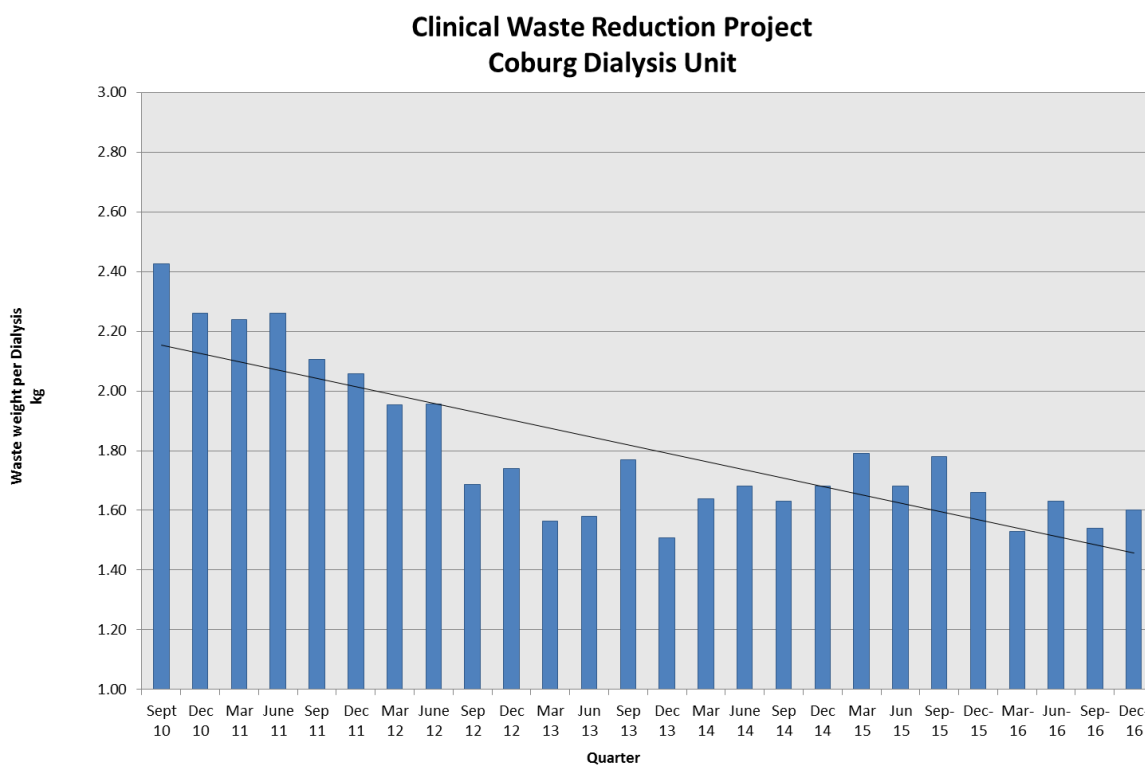
The first audits of the clinical waste bags revealed a significant amount of recyclables and non-clinical waste in the clinical waste stream. We use the monthly clinical waste invoice to calculate the amount of clinical waste per treatment, and we graph the data. The graph allows us to track progress and we use it at staff meetings and display it on the noticeboard. It's a powerful tool to keep staff engaged in the project.

We also created our own waste poster to educate staff on appropriate waste segregation, focusing on which consumables can be recycled.

What outcomes have you achieved?

Clinical waste is one of the most expensive waste streams in healthcare. Clinical waste costs approximately five times more than general waste disposal, and twice as much as commingled recycling. PVC is recycled at no cost to us.

We have reduced our clinical waste per patient treatment by an average of 0.80 kg over the past two years, which amounts to around seven tonnes and cost savings of over \$5,000 annually.



What other sustainability initiatives have you undertaken?

We have what we call the Dog Donation Box. We collect items that are clean but no longer sterile and therefore cannot be used for other patients (such as unused gauze and cotton balls from open packets). We pack all these items together and send them off to an animal hospital. Ultimately, we'd like to have smaller packets of gauze and cotton balls available to minimise waste, but this is not currently possible.

The Renal Research Team at The Royal Melbourne Hospital has developed a relationship with the Rotary Club. The team collects expired blood tubes at a central collection point, and donates them to the Rotary Club, which sends these tubes overseas. We have contributed to this program.

In November 2016, we introduced recycling of SoftPac (dialysate) pouches as a dedicated recycling stream provided by the supplier. There is no cost associated with this recycling stream, as the delivery driver picks up this recycling each week on his regular run. The company also takes away cardboard from their products at no charge.

How important is sustainable procurement, given that products are such an important part of your operations?

Sustainable procurement is really important – a study undertaken in 2013 looked at the carbon footprint of a satellite haemodialysis unit, and demonstrated that procurement accounted for 61.6 per cent of the footprint (Lim, Perkins and Agar 2013).

As most items are centrally procured by Health Purchasing Victoria or our procurement group, we engage with Health Purchasing Victoria on ways to improve sustainability considerations within our procurement. Dr Katherine Barraclough, a Melbourne Health nephrologist, has participated on a Health Purchasing Victoria Product Reference Group.

How did you get staff on board?

Staff education is our major focus. We tie environmental improvement practices in with staff education. This involves making sure there are waste management posters showing staff which waste stream to use for which product, and continual reminders at staff meetings, including the results of clinical waste audits.

Another important focus is placing bins to make it easy for staff to use them.

We've discovered that different aspects of the program motivate different staff. Some people like the fact that these initiatives save the organisation a lot of money, which frees up resources for patient care. Others are strongly motivated by seeing improvement in environmental performance.

We presented the information about the handling of clinical waste to staff, focusing on the use of sodium hypochlorite and its effects on the environment.



Waste Disposal of Dialysis Consumables poster

What are the biggest challenges?

By far the biggest challenge is staff resistance. It can be difficult to motivate people who are not focused on environmental issues. We expect staff in our unit to do the best they can to segregate waste, but it is an individual choice as to how far they go with this.

There has been a definite shift in staff accepting waste segregation as part of their daily routine. Melbourne Health also has policies to support sustainability practices. We have a *Think green* strategy with sustainability objectives and targets, sustainability is embedded in our business plan, and our waste policy requires all staff to segregate waste correctly and minimise environmental impacts.

Environmental requirements introduced in the *Policy and funding guidelines* and Statement of Priorities demonstrate to health services that incorporating sustainability actions is now part of normal hospital operations.

What advice do you have for staff in other health services who want to improve environmental practices?

Tap into your organisation's sustainability contact or Sustainability Officer if you have one, and learn what other initiatives already exist within your health service. Our nephrology department formed a sustainability group made up of a multidisciplinary team including nephrologists, the renal service manager, nursing staff, an IT representative and representatives from most areas of our department. This allows us to tackle sustainability projects at a departmental level.

Take advantage of all the opportunities that present themselves. Through the Sustainability Officer, I was able to visit a recycling plant. This gave me lots of insight and changed our practice. We realised some of these dialysis consumables are technically recyclable but currently don't get recycled because they don't have commercial value. It's frustrating, but it's a whole process and if products are not being recycled, it is pointless to segregate them. It is always best to tap into dedicated recycling programs, such as PVC recycling.

Any sustainability initiative also needs patient consultation and involvement. In a satellite dialysis unit, patients can dialyse with us for many years, and they notice change because they are in the unit at least three days a week. We give patients a small rubbish bag on their table, and this has resulted in less rubbish placed in the clinical waste bins beside their machines.

Use departmental resources. For example, we were not aware of bin signage that is available for customisation on the department's sustainability website.

As healthcare places more emphasis on environmental issues, waste management sustainability officers and groups can lobby for initiatives like uniform colours for bins. This allows staff in any organisation to identify the appropriate waste bin and avoid confusion.

References

Lim AE, Perkins A and Agar JW 2013, 'The carbon footprint of an Australian satellite haemodialysis unit', *Australian Health Review*, vol. 37, no. 3, pp. 369–74, doi: 10.1071/AH13022.

Waste Disposal of Dialysis Consumables poster

A copy of the poster is available to Public Victorian health services within the Sustainability in Healthcare forum. To register send an email to sarah.bending@dhhs.vic.gov.au

Further information:

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For PVC recycling: www.vinyl.org.au/sustainability/recycling-pvc/recycling-your-product/pvc-recycling-in-hospitals

The department can help locate your sustainability officer. Contact sustainability@dhhs.vic.gov.au

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