

Green Nephrology Awards 2012

Newcastle Renal Unit: Baling and Recycling of Bottles & Cardboard

The Renal Unit produces huge amounts of waste plastic and cardboard during its clinical activities. In order to recycle this waste the Trust installed two new pieces of equipment. A cardboard baler was installed to service the whole Freeman Hospital site in March 2011, which allowed the Renal Unit's cardboard to be baled and recycled. In November 2011 a smaller twin baler was also installed to crush and bale the segregated 5L acid bottles from each renal dialysis session. Cardboard and plastic bottle recycling has increased by over 90 tonnes and savings of over £7,000 have been achieved.

Benefits to environmental sustainability

Since November 2011 we have recycled 5.11 tonnes of plastic bottles previously disposed of as landfill, saving an estimated **66kg CO₂e¹**.

The renal unit also sends all its cardboard to the main Freeman Hospital cardboard baler, which has recycled a total of 87.63 tonnes of cardboard since March 2011 (saving **46.62 tonnes CO₂e²**).

The savings above relate to the disposal process. In addition, recycling reduces the emissions associated with extraction of virgin resources for new products.

Further CO₂e savings are made on waste vehicle movements, since the smaller compacted volumes can be collected much less frequently.

¹ Based on 21 kg CO₂e per tonne of plastic recycled vs 34 kg CO₂e per tonne sent to landfill (Annex 14, DEFRA 2012 Greenhouse Gas Conversion Factors for Company Reporting)

² Based on 21 kg CO₂e per tonne of cardboard recycled vs 553 kg CO₂e per tonne sent to landfill (Annex 14, DEFRA 2012 Greenhouse Gas Conversion Factors for Company Reporting)



Compact 75 twin baler (for plastic bottles)

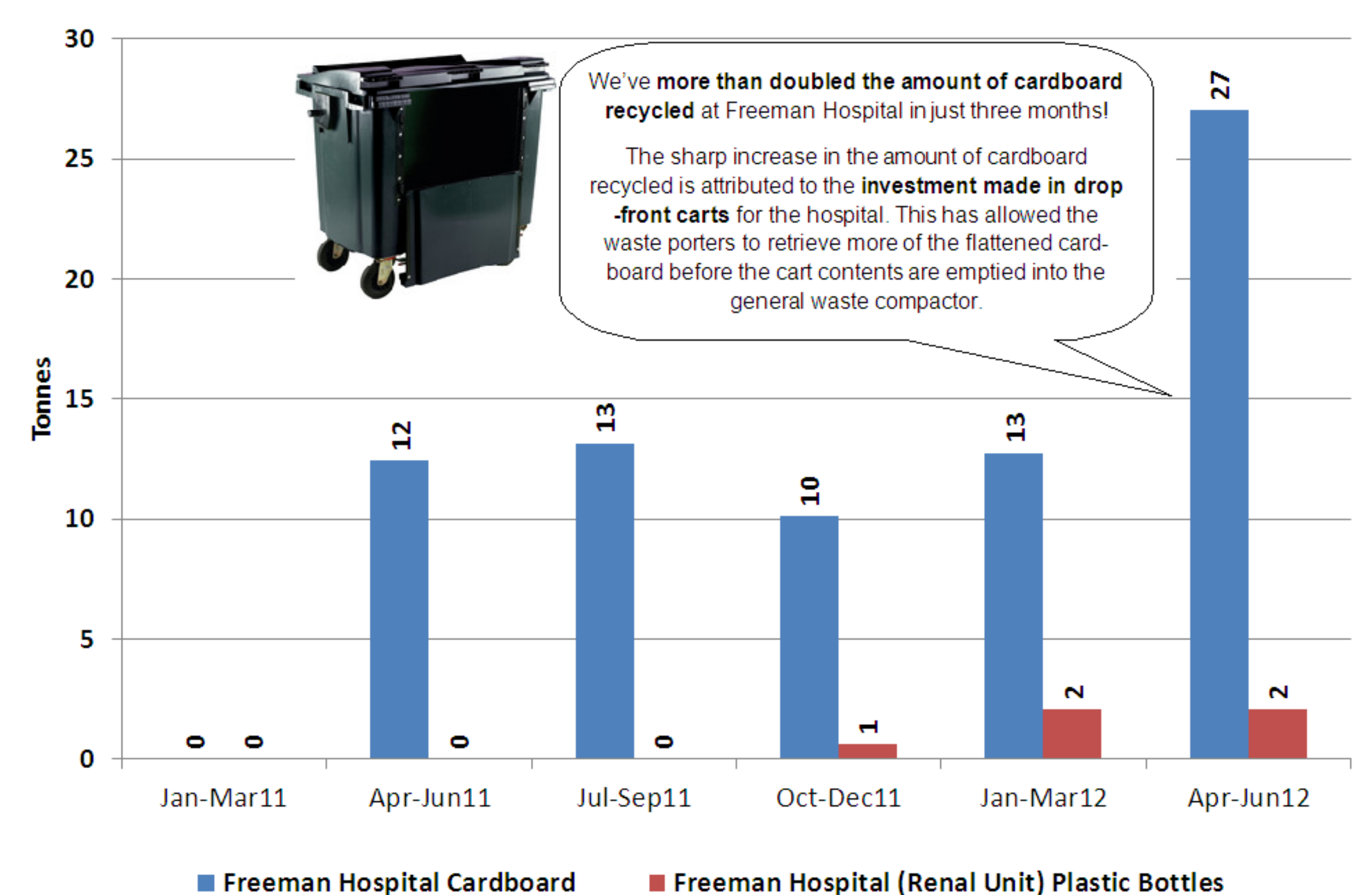
Benefits to the Trust

Financial savings are summarised below:

Waste Type	Predicted Annual Weight of Waste	Previous Total Disposal Costs	New Annual Baler Rental	New Disposal Costs	New Total Annual Costs	Cost Difference
Plastic Bottles	12t	£720	£1,456	-£540	£916	£196
Cardboard	100t	£6,000	£2,920	-£4,500	-£1,580	-£7,580
Totals	112t	£6,720	£4,376	-£5,040	-£664	-£7,384

Overall, despite the high rental costs of both machines we have still seen an estimated annual saving of over £7,000.

Newcastle upon Tyne Hospitals' Recycling Data



Details of implementation

The project was initiated by consultant nephrologist, Dr Alison Brown, and modern matron, Julia Harding. Using the commitment shown by the renal department, the Trust Waste Officer was able to justify a business case and gain Executive approval.

Equipment comprises a Static Vertical Mill Sized Baler (MX600) on long term rental for cardboard and a twin chamber compact baler (Compact 75) on two-year rental for dialysis 5L plastic bottles. Baled cardboard and bottles are collected by our general waste contractor.

Once the project was approved initial barriers included problems with siting the balers (H&S, fire risk, electrical enabling works, delivery, access etc) and porter buy-in for carrying out the baling tasks. All barriers were overcome through effective communication and options analysis.

Waste segregation has been maintained through positive reinforcement (telling staff and porters what we have saved so far by distributing graphs in our Green News and passing on information at team meetings) and regular visits by the Waste Officer to iron out any small issues.



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