

# Case Study: Cardiff and Vale University Health Board Food Waste Collection



Case study outlining food waste collection services from Cardiff and Vale University Health Board hospital sites

# Food waste collection from Cardiff and Vale University Health Board hospital sites

**Cardiff and Vale University Health Board is one of the largest boards in the UK, employing in excess of 13,000 people and serving more than half a million members of the public. One of the University Health Board's (UHB) key sustainability objectives is to minimise waste and increase recycling. The food waste collection system, introduced in 2010, is designed to help achieve this objective and contribute to the Welsh Government's *Towards Zero Waste* targets. The team that delivers the UHB's ISO 14001 commitments considers waste management alongside other environmental measures such as energy use.**

**Food waste is collected by Cardiff City Council and currently is sent for Anaerobic Digestion (AD).**

**There are seven main sites within the UHB. The site visited in the development of this case study was the University Hospital of Wales (UHW) which is an acute teaching hospital and the largest site with 1,200 beds. It provides acute and dental services.**

## **Background**

The principal driver for introducing food waste collections was the increasing cost of sending waste to landfill. The high comparative costs of replacing and maintaining elderly macerator systems at certain sites (e.g. Whitchurch) also contributed. In response to these drivers the food waste collections were launched in 2010.

The Trust operates a "cook-chill" service where food is delivered to the site frozen and reheated in satellite kitchens located throughout the hospital.

## Key facts

Topic	Fact
Number of beds in total	1,200 at UHW; 2,300 throughout the UHB
Number of hospitals	8 Primary sites: 2 Acute: University Hospital of Wales, University Hospital of Llandough Other: St David's, Whitchurch, Rookwood, Westwing, Lorworth Jones, Barry
Charging mechanism	Number of bins serviced per collection
Accepted materials	Food waste and biodegradable liners only
Internal container type	7 litre caddies for offices and 35 litre internal caddies (1 per kitchen)
External container type	240 litre locked wheeled bins. There are 15 bins at University Hospital of Wales with 10 usually used per week.
Liner provision	Cardiff City Council
Collection frequency	Three times per week
Vehicle type	Standard food waste compatible RCV
Crew size	Driver + 2
Annual tonnage	62 tonnes
Point of arising	2,300 beds, 1.61 million meals served per year 3 restaurants (for public and staff) 1 central food production unit
Kilograms per bed per week collected	0.52
Treatment point	Currently AD

## Contract procurement

Collection of food waste went out to tender at the same time as the separate dry mixed recycling collection. Cardiff City Council was the successful bidder for both services and is directly contracted by the UHB for a 3+1+1 year contract. Residual waste is collected via a separate contract by Biffa.

The evaluation criteria in the tender process had a 60:40 ratio for cost:quality. The quality element had a strong emphasis on regulatory compliance. At the time of tendering, there was little information available regarding the quantity of food waste that was expected. The UHB believes this may have contributed to the low level of responses received and the lower quality of some responses. The UHB is about to procure the services again for a similar term and will utilise the experience gained of operating the system and estimates of the quantity and quality of material in this exercise. The re-tendering may take place through OJEU given that a combined contract will be let for both food waste and dry mixed recyclates.

## Food waste collection operations

Food waste is collected three times a week by the contractor, independently of other waste streams. Charging is based on the number of bins that need to be emptied per collection; each bin is bar coded and swiped at every collection. This is reported on a monthly basis to the UHB.

Packaging is not accepted in the waste stream and food from infection controlled areas<sup>1</sup> is disposed of via the clinical waste stream. Catering

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<sup>1</sup> *Good practice for infection control applies throughout the hospital, however there are specific areas dedicated to critical or contagious patients where special processes (including cleansing) are used to isolate infections to prevent them spreading.*

staff are responsible for ensuring there is no contamination of the food waste, this includes de-packaging any food that is out of date.

The process for the management of food waste is as follows:

- Catering, retail and office staff put food waste into the caddy provided.
- Once the caddies are full, they are placed in (or close to) each satellite kitchen for collection by a member of the dedicated waste team.
- The food waste is then transferred in the caddies to the waste collection area and placed in lockable 240 litre external bins for collection by the contractor.
- The staff dedicated to waste collection are instructed to divert any contaminated food waste material to the domestic waste stream. If contaminants are found in the food waste bins the contractor may levy a charge for removal of these (although there have been no reported problems with contamination to date).
- External containers are located within a locked and supervised external compound close to the exit with easy access for collection vehicles.

**Image 1. 240 litre food waste bins**



The internal caddies and external 240 litre containers are provided by the contractor. In some locations staff are choosing to initially place food in buckets lined with biodegradable bags rather than the caddy as it is felt easier to use an open bucket at counter level than the lidded caddy on the floor. The liners are then transferred to a 35 litre caddy for collection by the waste collectors. The waste porters have reported that the caddies can be difficult to move in large numbers to the waste collection area.

Washing of internal and external containers is undertaken by the UHB's staff. The caddies are washed using dishwashers in the satellite kitchens and the 240 litre external bins are jet washed on site.

## **Communications**

The NHS waste team who manage the scheme are responsible for communicating with the three main audiences: catering staff, retail staff, and office staff. There is basic labelling for all recycling and food waste containers and a policy document is placed within the kitchens to help communicate the scheme.

## **Performance**

The food waste collection service has reduced the cost of managing the residual waste stream. The UHB receives a monthly report which includes the total number of bins collected and the associated costs.

The UHB's waste team periodically weigh the food waste bins to provide an estimate of the total quantity collected. No analysis has been done of food remaining in the residual bin although the UHB feel that capture of food waste could be improved upon.

Indicator	Amount
Tonnes per annum diverted	62 tonnes (estimated based on fill levels of containers)
Kilograms per bed per week diverted	0.52
Incidents of contamination	No contamination of external bins reported to date

## Potential future improvements

The UHB is generally happy with the performance of the scheme although feels that segregation and capture could be improved. The UHB intends to assess this with the relevant management teams. Experience gained of operating the system and estimates of the quantity and quality of material will be used in the upcoming re-procurement of the service.

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