

Case Study: Somerset Partnership NHS Foundation Trust Food Waste Collection



Case study outlining food waste collection services from Taunton and Somerset NHS Foundation Trust hospital sites

Food waste collection from Taunton and Somerset NHS Foundation Trust hospital sites

The Taunton and Somerset NHS Foundation Trust was founded in 2007. The Trust has eight hospitals and nine clinics under its management. Serving a population of over 340,000 and employing around 4,000 staff, Musgrove Park Hospital is the largest general hospital in Somerset and the focus of this case study. The hospital has seen a lot of change in facilities and layout over the past eight years including a £6m cardiology unit opened in September 2007, a £20m Cancer Centre opened in May 2009 and a surgical centre to be completed later in 2014. The five main buildings onsite vary in age from 1942 through to the present day.

Commercial Recycling Ltd provides the hospital with a food waste collection service, as well as being contracted to deliver the residual waste and recycling collection service. At the time of writing three of the five buildings segregate food waste for collection, with the hospital planning to roll this out to the remaining two buildings (which currently macerate food waste) during 2014.

Background

Waste is high on the agenda at Musgrove, alongside catering and cleanliness. The Trust believes that investment in a sound waste management system will provide longevity, will save money and will reduce carbon emissions in the long term.

The food waste collection scheme was introduced in 2012 after repeated failures with the macerating system that had both cost implications (due to repair requirements) and environmental implications (from having to dispose of food waste in the residual waste stream). A cost assessment of the introduction of the food waste scheme was performed and a budget identified in relation to the capitals costs. Segregation and separate collection of food waste is viewed by the Trust as expensive to implement but it feels that it is important in order to prepare for

potential future changes to legislation that may impose the separate collection of food waste and ban the use of macerators. Although the whole system costs of managing food waste have increased due to the collection and processing costs the Trust has noted that there have been savings in the estates budget for maintenance and energy use.

Food is provided across all wards at the hospital through a “cook from chilled” model. Packaged food arrives (often in foil containers) for reheating in regeneration kitchens or trolleys¹ at the sites. Some preparation is done on site in the restaurant and canteen kitchens, this is largely soups, salads and sandwiches.

The majority of food is bulk ordered² to wards, however, the Trust is currently trialling individual ordering³ on six of the 26 wards as 16% of bulk food is wasted costing around £100,000 per annum. Individual ordering has resulted in a 6-7% reduction in food waste through these trial wards. This is something the Trust hopes will be rolled out across all its sites if it is feasible. Furthermore, the hospital has introduced a new range of texture-modified meals for people with dysphagia, this means meals are more appropriate to the needs of certain patients and therefore reduces wastage of food. The separate collection of food waste aligns with the Trust’s waste reduction work by isolating the stream to allow for better monitoring and understanding of how much food waste arises.

¹ *In regeneration kitchens / trolleys chilled or frozen foods that have been prepared and packaged elsewhere are heated and the cooking process completed*

² *Bulk ordering consists of ordering a number of portions based on the number of beds on the ward rather than the number of patients.*

³ *Ordering is based on individual patient needs and menu selection, including staff input on portion sizes, rather than total beds.*

Key facts

Topic	Fact
Number of beds	580 (at Musgrove Park)
Number of hospitals	8 hospitals in total, 1 with food waste collection: Musgrove Park Hospital (food waste collection), Bridgwater Hospital, Burnham On Sea War Memorial Hospital, Chad & District Hospital, Frome Victoria Hospital, Shepton Mallet Community Hospital, Wellington & District Cottage Hospital, Williton Hospital.
Charging mechanism	Monthly, per number of bins collected
Accepted materials	Food waste only
Internal container type	15 litre caddy
External container type	120 and 240 litre containers
Liner provision	Purchased from contractor
Collection frequency	Twice weekly
Vehicle type	7.5 tonne RCV
Crew size	1 (driver only)
Annual tonnage	53 tonnes
Point of arising	28 wards (580 beds) 1 staff canteen
Kilograms per bed per week collected	Unknown as the system is not rolled out across the whole hospital
Treatment point	Anaerobic Digestion

Contract procurement

The food waste collection service was introduced in 2012 as an amendment to the existing waste management contract delivered by Commercial Recycling Ltd. This was requested by the Trust. Commercial Recycling Ltd were awarded the collection contract for

general waste, dry mixed recycling (cans and tins, paper and glass) clinical waste and WEEE in 2010 on a 4+2 years contract.

Food waste collection operations

Three of the wards that form the main area of the hospital currently have food waste collections: The Old Building, Maternity and Day Surgery. The majority of food waste is generated at the Old Building as it is the largest building in terms of number of beds and also contains the restaurant and canteen. Maternity and Day Surgery generate significantly less food waste.

Food waste is managed using the following process:

- At ward level, food waste is collected on wheeled trolleys by the ward matrons through scraping the waste from patient plates into caddies lined with biodegradable bags.
- The distribution team are responsible for moving all wastes, including food waste, around the hospital. The distribution team consists of six staff members on three shift patterns.
- All waste is wheeled on the regeneration trolley by the distribution team to an intermediate waste collection point. At the Old Building this collection point is internal and at the Maternity and Day Surgery building it is external. The biodegradable sack is tied and tipped out of the caddy into a wheeled bin.
- The 120 litre external containers at the Maternity and Day Surgery wards are only required to be emptied once a week or once a fortnight.
- At the Old Building, once the 240 litre container is two thirds full it is swapped for an empty container. The bins are transported using a tug and trailer to a central external compound that houses the full and empty food waste bins alongside the general refuse and other recyclates.
- Commercial Recycling undertake food waste collections twice a week. The waste storage compound is spacious and is easy for the food waste collection vehicle to access.

- A 23 tonne top loading RCV with an 11 tonne payload is used to collect the food waste.
- The external containers are washed monthly onsite by the Trust staff. The internal containers are washed using the dishwashing system in the kitchens.

Image 1. Canteen kitchen food waste caddy



Images 2. 240 and 120 litre containers (left to right)



Image 3. External waste compound



Communications

The main form of communication, developed by the Trust, is the waste segregation chart that details the different types of waste streams and how they should be dealt with on the ward, including photographs of the respective containers. These are displayed on the wall of relevant areas in wards.

Image 4. Waste segregation chart (food waste page only)

Sharps Container Orange lid	Tiger Stripe Bag	WEEE & Batteries	Black sack	Clear Plastic Bags	Food	Confidential
						
Used For	Used For	Used For	Used For	Used For	Used For	Used For
Blood contaminated sharps with no medicinal contamination <ul style="list-style-type: none"> Razor blades Phlebotomy sharps Pinpoint test (diabetes) 	Wastes from patients considered not to be infectious. Also sanitary & incontinence waste, autoclaved waste. May include, non-infectious wound dressings, soiled swabs, surgical dressings, empty catheter bags & empty saline, glucose i.v. bags (no sharps)	Electrical wastes must be separated from general and recycling wastes for specialist disposal. Some are hazardous and must be dealt with appropriately. Contact appropriate person to arrange collection	General household waste. <ul style="list-style-type: none"> Not recycling Not Clinical Waste 	Paper, tin, cardboard and plastics. All waste must be dry and not contaminated with other waste products e.g. Food. Glass items must be put into glass bins loose	Food waste collection, a food bin caddy liner must be used	Once shredded place into a clear bag or place whole into a white nylon sack for onsite shredding. Patient information must be destroyed before disposal, including pharmaceutical packaging
18 01 03	18 01 04	Multiple	20 03 01	15 01 06	20 03 01	15 01 04
Alternative Treatment	Deep Landfill	Recycling	Recycling/ Landfill	Recycling	Composted	Recycling

There are also labels on the external food waste containers. All staff involved in handling food waste are educated about the scheme at their initial induction, as well as through training days and ongoing re-education if required. It is the responsibility of the operations managers and ward sisters to ensure these practices are followed through.

The distribution team report any issues related to the food waste scheme to the assistant operations manager, who then contacts the ward sisters in charge of the staff at ward level.

Performance

Information regarding the tonnage collected is provided by the contractor and indicates that, alongside the dry recycling scheme, the food waste scheme has contributed to an overall recycling rate of between 75% and 88% between November 2013 and January 2014.

Recycling figures are reported monthly by Commercial Recycling Ltd to the Trust. The figures are based on the number of 240 litre bins serviced by the contractor each month.

Table 1: Food waste tonnages November 2013 to January 2014

	November 2013	December 2013	January 2014
Number of 240 litre wheeled bins serviced	43	31	37
Estimated tonnage	4.30	3.10	3.70

The initial introduction of the scheme was met with resistance from staff and required a culture change at the Trust. There were perceptions that separating and storing food waste would cause problems with smell, rats and seagulls. Corrective behaviour was also required for the transfer of waste from the food caddies to the external containers. Staff are required to tie the biodegradable bags and tip the food waste caddy rather than lift the bags from the caddy in order to avoid spillages.

The scheme now runs smoothly and is very popular amongst staff. The scheme is considered easy to operate and effective, contamination is not an issue.

The internal and external containers are procured separately by the Trust. The external containers are considered quite brittle and have to be replaced every 12-24 months at a cost to the Trust.

Savings have been made by the estates department on maintenance, repair and energy used to run the macerating system. The only issue is that these savings do not benefit the waste management budget and the new scheme comes at an overall cost.

Potential future improvements

The Trust is very happy with the scheme overall and would like to roll it out across the whole of the Musgrove Park Hospital during 2014. The only issue they have is identifying the budget required to do so. The

Trust is also hoping to increase the number of wards using individual ordering to further reduce waste arising across the hospital.

The Trust highlighted that when introducing the food waste scheme across the other wards, some may require more help than others to implement as different buildings, teams and management staff impact the most effective approach to implementation.

While we have tried to make sure this case study is accurate, we cannot accept responsibility or be held legally responsible for any loss or damage arising out of or in connection with this information being inaccurate, incomplete or misleading. This material is copyrighted. You can copy it free of charge as long as the material is accurate and not used in a misleading context. You must identify the source of the material and acknowledge our copyright. You must not use material to endorse or suggest we have endorsed a commercial product or service. For more details please see our terms and conditions on our website at www.wrap.org.uk

**Waste & Resources
Action Programme**

The Old Academy
21 Horse Fair
Banbury, Oxon
OX16 0AH

Tel: 01295 819 900
Fax: 01295 819 911

www.wrap.org.uk

