



CASE STUDY

UNIVERSITY HOSPITAL GALWAY

HEALTHCARE RISK WASTE AND FOOD WASTE REDUCTION PROGRAMME

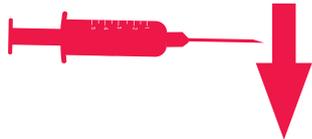


University Hospital Galway (UHG) is a large acute hospital providing a comprehensive range of services to emergency and elective patients on an inpatient, outpatient and day care basis. The hospital has 558 inpatient and 106 day case beds. UHG is part of Galway University Hospitals.

The hospital joined the Green Healthcare Programme (GHCP) in 2010. The GHCP undertook detailed survey work in the hospital, which generated a number of waste reduction recommendations. A food waste survey was repeated in 2013 to identify savings achieved.

This case study outlines the waste reduction measures implemented by University Hospital Galway and the associated savings achieved.

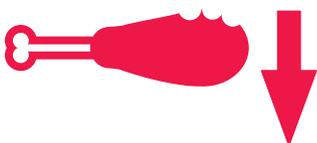
Healthcare Risk Waste



Comparing the first 7 months of 2013 with the same period in 2012: **16 Tonnes Decrease**

27 TONNES (8%) DECREASE PER ANNUM

Food Waste



Reduced food waste:

Comparing the first 7 months of 2013 with the same period in 2012: **2.8 Tonnes Decrease**

When scaled for the year this indicates savings of

5 TONNES PER ANNUM DECREASE



Reduced condiment provision:

70% REDUCTION IN THE WASTAGE OF UNOPENED CONDIMENTS





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HEALTHCARE RISK WASTE



UHG has implemented a number of measures to reduce the quantity of HCRW generated onsite, with the main measures including:

- Change to the segregation of waste in source isolated rooms
- Active implementation of change in segregation policy and training of staff at ward level
- Introduction of the 'Bio Systems' waste management system throughout the hospital

Change to the segregation of waste in source isolated rooms:

Up to March 2012, as in the majority of hospitals in Ireland, all waste generated in rooms used for the source isolation of patients was treated as Healthcare Risk Waste (HCRW). HCRW or waste contaminated with blood or bodily fluids will be generated through the treatment of these isolated patients. A significant majority of the waste generated in these rooms is in the form of non-contaminated domestic type waste (e.g. newspapers, papers, plastic, paper towels, etc.), which can be considered as non-risk waste¹.

The hospital's Environmental & Waste Management Co-ordinator recognised that this domestic waste may be unnecessarily disposed of as HCRW, at a significant cost to the hospital.

A project team comprising of the Environmental & Waste Management Co-ordinator and the hospital's Infection Control department was set up. A new waste classification system, which had been implemented in another acute hospital, was considered.

The HCRW bin is removed from the isolation room and only a landfill bin provided. All materials contaminated with blood or bodily fluid, and other materials automatically disposed of as HCRW, is placed into a small yellow bag with the staff member's gloves and other personal protective equipment (PPE). The bag is then sealed and removed from the room to the Dirty Utility Room. All other domestic waste is disposed of in clear bags in the landfill bin, which are closed within the rooms and conveyed to the waste holding area.

The system was trialed in one area and found to operate successfully with no associated negative impacts. In May 2013 the system was rolled out across the hospital.



Active implementation of change in segregation policy and training of staff at ward level:

The project team realised that in order for this system to be implemented successfully, it was essential that staff were trained on and fully aware of the new system. Communication was sent to all staff to inform them of the change to the system. The project team actively trained staff at a ward level and targeted ward staff, healthcare staff and cleaning staff. This ward level training was undertaken over a two-month period.

Introduction of the 'Bio Systems' waste management system:

The 'Bio Systems' waste management service incorporates the use of reusable containers for the collection of sharps and liquid HCRW. The full containers are removed to a waste treatment facility, sterilised and returned to the facility for re-use. This reduces the quantity of disposable sharps containers being purchased and disposed of as waste. In addition to the waste reduction aspect, staff outlined a preference for the system, for the reduction in the potential for needle stick injury that the system offers.

Other advantages of new system:

- Healthcare risk waste is only stored in one area of the ward. This reduces the potential for mismanagement in multiple areas.
- Rather than having waste present in smaller volumes in waste bags in multiple areas, the sole healthcare risk waste bag is filled at a faster pace and more frequently removed to the waste storage area. This reduces the time that waste is sitting in an area, including reducing the potential for offensive smell.

Note: Where the patient is isolated for a more serious contagious condition, or in the event of an outbreak (e.g. norovirus), all waste is treated as HCRW and the original system reverted to. The landfill bin is replaced with a HCRW bin or the landfill bin is lined with a HCRW bag.

¹ As referenced in the guidelines for the control and prevention of a number of infectious diseases issued by Health Protection Surveillance (HPS), <http://www.hpsc.ie/hpsc/Publications>

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FOOD WASTE



UHG has implemented a number of measures to reduce the quantity of food waste generated onsite, with the main measures including:

- Use of new food containers or scan boxes
- Ordering of meals the night before to better predict the required quantity of each meal option
- Recording of the number of unserved meal portions, to identify unpopular meal options.
- Greater interaction with medical staff, to identify those patients not present at meal time (absent for procedure, fasting, etc.) or those patients with special dietary requirements that require higher assistance
- Reduction in the number of condiments automatically provided on trays

Use of new food containers or scan boxes:

In the original survey the hospital outlined that the type of scan boxes in use had to be filled to near full, regardless of the amount of food required, to ensure even heating of the food contained within. The hospital invested in new scan boxes that allowed them to send smaller quantities of food to the wards, in line with the quantity of food actually required, reducing the quantity of excess food.



Ordering of meals the night before to better predict the required quantity of each meal option:

Previously the patients ordered in the morning, the meals they required that day. Food preparation starts early in the morning and as the catering team was not aware of the number of portions of each meal option required, they generally prepared high quantities of each option to ensure that each patient was provided with what they ordered.

By ordering the food the night before, the catering department can prepare the quantity of each option that is actually required, reducing the quantity of excess food.

Recording of the number of unserved meal portions to identify unpopular meal options:

As policy the hospital now records the number of portions of each meal option that is unserved at lunch and tea. This information is used to determine the

unpopular meal options. For unpopular meal options the catering department will review and improve the recipe, or replace the meal option with one of a similar or greater nutritional content.

For example, the original GHCP survey observed a significantly high level of wastage at the soup round. In addition this meal had a relatively low calorific content. The catering contractor's dietician reviewed the average nutritional content of a full days standard menu, and found that by replacing the soup round with milk and a snack that the average energy, protein and fat content increased by 10%, 9% and 16% respectively. Thus by removing the soup the hospital reduced wastage and increased the nutritional intake of patients.

Reduction in the number of condiments automatically provided on trays:

The hospital reduced the number of condiments automatically placed on trays. Patients still have enough condiments and the number of unused condiments, which must be disposed of, was reduced by 70%.



Condiments recorded to be automatically placed on a tray before the commencement of the waste reduction programme

Review of the provision of perishable ward provisions to the wards:

The hospital has reviewed the quantity of perishable foods (e.g. bread, milk, etc.) that is provided to and stored in the ward kitchens, to ensure proper stock rotation and reduce the quantity of 'out-of-date' food waste generated.



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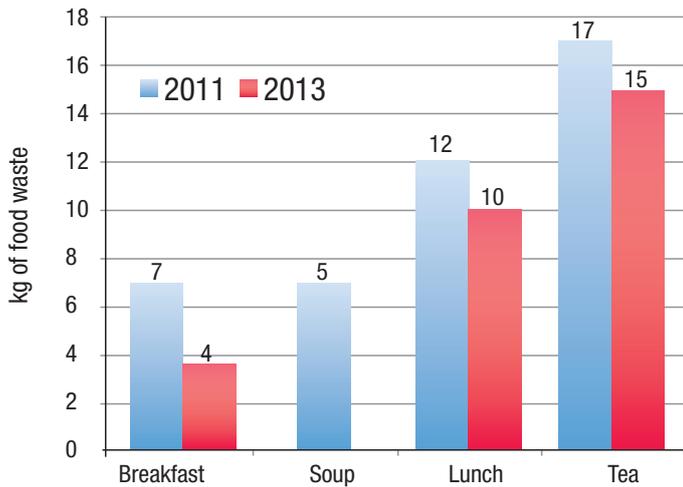
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RESULTS OF THE WASTE REDUCTION PROGRAMME

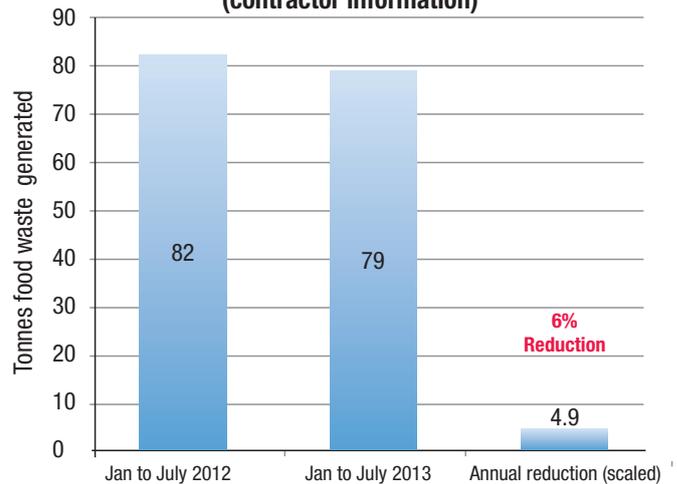
Information gathered through waste surveys carried out under the Green Healthcare programme

Food Waste

Food waste in example surveyed ward



Total food waste generated by wards and shop (contractor information)

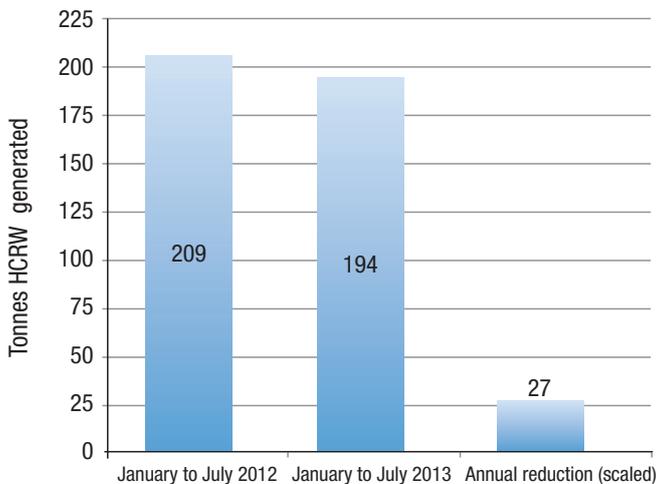


Comparing the quantity of food waste recorded by the waste contractor in the first 7 months of 2013 with that generated in 2012, the hospital generated **2.8 tonnes less food waste. Scaled for a year that is 4.9 tonnes less food waste, a reduction of 6%.**

These food waste reduction measures have achieved savings in the cost of purchasing and preparing the food.

Healthcare Risk Waste

Tonnes sterilisation HCRW generated - 7 months



Comparing the level of HCRW generated in the first **7 months** of 2013 with that generated in 2012, the hospital generated **16 tonnes of HCRW. Scaled for a year that is 27 less tonnes of HCRW generated, a significant reduction of 8%.**

These waste reduction measures have resulted in notable cost savings for the hospital. The hospital continues to work on measures to reduce the quantity of waste it produces even further.

