



# CASE STUDY Cork University Hospital




Achieving Sustainable Healthcare and Living

Cork University Hospital (CUH) incorporating Cork University Maternity Hospital (CUMH) is one of the largest university teaching hospitals in Ireland. CUH was one of three facilities involved in the Green Healthcare Programme (GHCP) pilot in late 2009/early 2010. Survey work undertaken highlighted a number of waste prevention and segregation improvement measures, and associated potential cost savings.



Some of these measures identified in 2009/2010 were implemented (patient meal measures), with others restricted due to limited restricted staff availability. In early 2013 the hospital identified the need to review it's sustainability, both in terms of the environment and costs, and a renewed Sustainable Environment Project was initiated. This case study outlines the main steps taken by the hospital to implement waste prevention measures since joining the Green Healthcare Programme (GHCP).

## IMPROVEMENTS AND SAVINGS ACHIEVED

Waste Prevented or Diverted		
Landfill	COMPARISON BETWEEN 2009 & 2013 WASTE LEVELS	ANNUAL SAVINGS €
	<b>0.65</b> kg per bed day Reduction in landfill waste and diversion to recycling and food waste	<b>€9,500</b>
	<b>0.08</b> kg per bed day Reduction in food waste generated	<b>€39,000</b>
	<b>0.56</b> kg per bed day Reduction in HCRW generated and diversion to landfill or recycling'	<b>€48,000</b>
<b>Revision to CUMH Waste Management</b>		<b>€18,000</b>
<b>TOTAL</b>		<b>€114,500</b>

In the four years that the Green Healthcare Programme has worked with CUH, the activity level onsite has increased. So comparing the waste generation levels on tonnage alone may under-estimate the improvements made onsite.

Consequently an activity-based benchmark has been used to better determine the actual savings achieved. Savings per annum have been calculated, by comparing levels of waste generated per inpatient bed day in 2009 and 2013, and scaling based on 2013 activity levels. HCRW savings have been estimated using actual tonnage data. Savings in intermediate years would be a subset of the annual values outlined above.





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## GETTING STARTED

### Getting Management Commitment

A Sustainable Healthcare Environment Steering Group, which oversees the direction, management and monitoring of sustainable healthcare and living within the hospital, was established in 2013. The group meets on a bi-monthly basis, and crucially includes the hospital's CEO and senior managers, to ensure the hospital's full commitment to the Sustainable Environment Project. The group appointed a part-time Sustainable Environment Project Officer (Project Officer) to manage and oversee the project.

### Set up a Green Advocate Network within the hospital

In a facility the size of CUH it is important to have a network of staff, (called Green Advocates in CUH), to actively promote and help to facilitate sustainable environment initiatives in each ward/department of the hospital. The Green Advocates are provided with initial training upon sign-up, and continued support from the Project Officer by email, phone, and a quarterly drop-in meet-up. The Green Advocates are kept up-to-date on sustainability initiatives by email and are encouraged to make staff in their area aware of such by chatting one-on-one or using the ward notice board.

There is an active Green Advocate in each ward/department of the hospital. The Green Advocate in each ward/department is listed on the CUH webpage or available via the Project Officer.



The Project Officer soon identified that many of the measures outlined in the original GHCP waste survey work had not been implemented due to staff and capital budget restrictions. Using the information from the 2009 survey reports, the Project Officer developed a business plan outlining the potential cost savings achievable through providing additional staff resources. The CEO sanctioned a new Assistant Waste Officer position, filled internally by a member of the portering team (a staff member with on-the-ground experience of waste management and staff engagement).

#### How did the hospital get sign up in all wards/departments?

The Project Officer sent out a call, by email, for staff to volunteer as Green Advocates. Where a ward/department did not have a volunteer, the Project Officer encouraged sign-up by visiting the ward to outline the minimal requirements of being an advocate. Finally the ward/department manager formally nominated a staff member.

## IDENTIFY WHERE WASTE IS GENERATED - where to focus activities

The 2009/2010 waste survey work undertaken in the initial pilot identified the quantity and type of waste generated in each area of the hospital, and where waste prevention measures could be implemented.

### The following main prevention measures were identified:

1. Reducing the quantity of food waste generated in the hospital
2. Increasing recycling throughout the hospital
3. Reducing the quantity of HCRW generated in the Maternity hospital

The following pages outline some of the measures implemented by the hospital to prevent waste and increase recycling. The measures were investigated, trialled and implemented by the Green Team with guidance from the GHCP.

## HEALTHCARE RISK WASTE, LANDFILL AND RECYCLING

### Development of bin provision guidelines

Taking guidance provided by the GHCP the hospital developed bin provision guidelines specific to CUH. The guidelines outline the type of bin which should ideally be provided in each room or area of a ward or department. Using the guidelines, the Green Team assessed each area of the hospital separately and appropriately revised the provision of bins. Bins that were no longer required (mainly HCRW bins) were removed from the area and extra bins (mainly recycling bins) were provided as available.

### Provision of additional recycling bins at a lower cost

Upon visiting the different wards/departments, the Green Team soon discovered that staff wanted to recycle, but recycling bins were not available due to budget restrictions. CUH's Services Manager identified that excess bins in storage could be commercially reconditioned as recycling bins (sprayed green) for half the price of a new bin. This up-cycling and reuse of bins was also in line with the hospitals sustainable ethos.



The 2009/2010 surveys identified Cork University Maternity Hospital (CUMH) as one of the largest sources of HCRW in the CUH campus. A review of the bins provided in CUMH, identified that each patient room was provided with a HCRW bin. The bins contained a high level of clean non-contaminated packaging; a potential reason for the high level of HCRW, and the GHCP recommended their removal. CUMH contacted other maternity hospitals, through the GHCP network, and identified that HCRW bins were not provided in in-patient rooms. By seeing the system in use in other hospitals, CUMH had the confidence to review the provision of HCRW bins, greatly reducing the quantity of HCRW generated by the area.

### Revised signage

To ensure staff were aware of what materials should be placed in each bin, the hospital developed pictorial instructional signage for each of the recycling, landfill and food waste bins. Pictures of packaging and materials commonly generated in the hospital were used. Pictorial signage is also of benefit in areas with non-native speaking staff, patients and visitors.

### Mandatory waste training

The hospital requires all staff to attend mandatory training on waste handling and management, including a number of slides on correct segregation processes.

### Review of waste management services

When originally established onsite, CUMH was provided with a stand-alone waste management service. Landfill waste was stored to the rear of the hospital in wheelie bins and lifted daily or every second day by the waste contractor. Portering staff transferred HCRW in a van to the secure HCRW compound in the CUH waste yard.

Charging of waste by lift of bin can be one of the more expensive waste management options. When a bin is lifted a flat charge is applied, regardless of the actual quantity of waste in the bin. The GHCP identified significant potential cost savings that could be made by managing the CUMH landfill waste in the main compactor in the CUH waste yard. The van and waste transfer systems were already in place for the HCRW.

Therefore there would not be a significant change in work practices for portering staff. This change of practice also reduced the green house gas (GHG) emissions associated with the management of the hospital's waste, as the waste contractor was no longer travelling to site each day to collect the CUMH waste.

### Awareness days

The Green Team organised a number of waste awareness days, where information stands were positioned in the main foyer or canteen area. These stands were manned by a member of the green team and provided statistics on waste generation in the hospital, waste management good practice, green advocate information, and other useful information.



Staff questionnaires are a great mechanism for gathering information on staff awareness and knowledge, points of view and areas to be focused upon in the future. But it can be difficult to get staff to complete and return questionnaires. A questionnaire was launched on one of the awareness days. All staff who returned the questionnaire were given an incentive - entry into a draw for a prize (provided by the waste contractor), increasing the response rate. The questionnaire included a question on the incorrect management of incontinence wear as HCRW, and the results highlighted the need to focus training on the correct management of incontinence wear.





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## FOODWASTE

### PATIENT MEAL FOOD WASTE

The 2009/2010 GHCP food waste survey highlighted where and why food waste was generated. The ordering system and meal portion size were identified as areas to focus upon to reduce food waste from patient meals.

#### Patient Meal Portion Size

Uneaten plate waste was observed on a significant majority of plates returned to the kitchen, indicating that the portion sizes provided might be on the large side. In keeping with dietary guidelines the quantity of food provided on plates was reviewed. Smaller scoops were purchased for potato, vegetables and sides, and the meat portion was reduced.

In an example ward patients were surveyed to determine their feedback on the meals. When asked about the size of the meal, a common comment, particularly among elderly patients, was that the meals were too large.

#### Ordering system

The menu was reviewed to request that patients identify what meal size they required. Where the size option was not filled in, a small portion was the default option.

#### Automatic provision of food

##### Review of automatic provision of bread plates to all patients

A bread plate containing three half slices each of white, brown and wholemeal bread was provided to all patients at breakfast. Not all patients wanted bread so there was a significant level of wastage. Patients now outline on their menu if they would like bread (specify bread type) or toast. Increased staff time is required in assessing menu orders but the quantity of bread wasted has reduced significantly.

##### Review of condiment provision

The provision of condiments was reviewed, as the survey observed that a significant number of the condiments provided automatically on trays were disposed of unused. Condiments are now dispensed at the bedside in CUMH and in CUH the number of condiments automatically provided was reduced.

A 42% reduction in the quantity of food waste generated at lunch was recorded in one ward. Overall it is difficult to identify the benefits of the 2009/2010 Patient Meal reduction programme as food waste was not segregated and measured prior to the programme. In addition, the programme coincided with the implementation of the Food Waste Regulations 2009, where the segregation of food waste in all areas of the hospital resulted in increased volumes in subsequent months.

Following the rollout of the measures, the catering department outlined a significant reduction in the quantity of food purchased, particularly bread, with associated purchasing cost savings. Reducing food purchases, without reducing services, is a true indication of successful food waste reduction measures.

### CANTEEN

#### Light Lunch option – reducing plate waste:

Coinciding with the launch of the Cork Food Forum, the hospital ran a food waste awareness day, when a smaller meal option was trialled. The trial proved very popular and once the resources (smaller plates, training of staff) were put in place, a Light Lunch option was rolled out on a permanent basis. Not only does this reduce uneaten plate waste, but is also in line with the healthy eating ethos of the hospital.

#### Replacement of disposable cups (sent to landfill) with recyclable alternatives

Disposable cups were introduced to accommodate reduced staff and ceramic mug availability. The hospital replaced the disposable cups with recyclable versions, increasing recycling rates and reducing landfill volumes.

The hospital is considering measures to increase usage of ceramic mugs, including the introduction of a 5 cent charge per recyclable cup.

All CUH staff, patients and visitors have contributed to the achievements in waste prevention that have been made. Particular focus should be given to the following staff; Paschal Kent (Sustainable Environment Project Officer, retired), Margaret Fanning (Waste Officer), Edward Murphy (Sustainable Environment Project Officer/Assistant Waste Officer), Marie J McCarthy (Services Manager) and Aoife Coughlan (Catering Assistant).

