



# HOW TO GUIDE

## Undertake a Detailed Waste Survey

Looking at the type of materials that make up your waste will give you an idea of the level of materials incorrectly placed in both the general landfill and healthcare risk waste streams. By implementing often simple improvement options, you can reduce these levels and thus the quantity of healthcare risk waste and general landfill waste generated in your facility. This HOW TO guide outlines how to undertake a detailed waste survey in your facility.



Typical setup during a detailed waste survey

### Types of waste surveys you can undertake in your hospital

There are generally two types of surveys that can be undertaken in a healthcare facility:

- Detailed waste survey
- Bin placement survey

The more detailed a survey you undertake the more information you will get for your facility, but the more work it requires (staff days & resources).

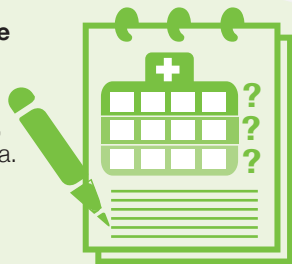
The **detailed waste survey** will identify the major sources of waste, provide an overall idea of the mismanagement of waste in your facility, and highlight the areas with particularly bad management. You can then focus your often limited resources on these areas first e.g. undertaking a bin placement survey.

The **bin placement survey** highlights improvement options in each area, by reviewing how the waste could be mismanaged in terms of the provision and placement of bins.

### Two main tasks to be undertaken in a detailed waste survey:

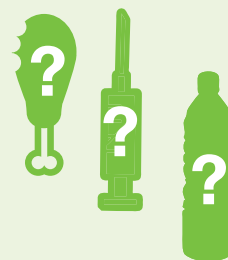
#### 1. Determine where the waste comes from:

Record the quantity, of each type of waste, generated in each area.



#### 2. Determine what type of materials (e.g. recyclables, food waste, healthcare risk waste, etc.) are in the waste:

Segregate or separate the waste into different materials and weigh.



**IMPORTANT TO NOTE: General landfill waste and healthcare risk waste need to be looked at separately**



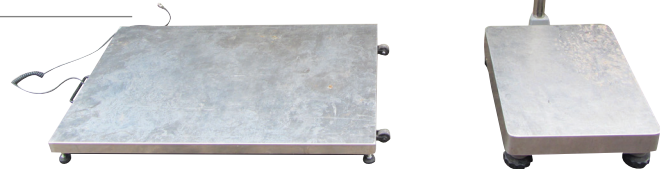


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### What do I need to undertake a detailed waste survey?

**Industrial weighing scales** - if possible obtain a low base scales, that can weigh 150 kg or above, to allow the weighing of full wheelie bins. These scales can generally be rented from suppliers.

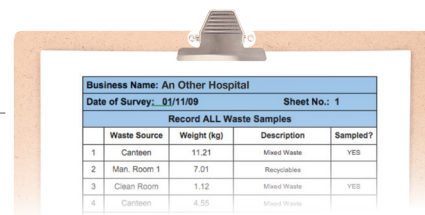


Examples of industrial weighing scales. Larger flat scales, suitable for weighing a large wheelie bin

**Personal Protective Equipment** - it is important to wear sharp proof or puncture resistant gloves at all times. Overalls and gowns (to protect clothes), safety shoes, glasses and masks are also recommended.



**Record sheets (available on Green Healthcare website)** - to record the weights data.



Business Name: An Other Hospital				
Date of Survey: 01/11/09			Sheet No.: 1	
Record ALL Waste Samples				
	Waste Source	Weight (kg)	Description	Sampled
1	Canteen	11.21	Mixed Waste	YES
2	Man. Room 1	7.01	Recyclables	
3	Clean Room	1.12	Mixed Waste	YES
4	Canteen	4.55	Mixed Waste	

**Storage bins or containers (approximately 15 - 18)** - for segregation of different waste materials.



**Table** - waste bags can be placed on the table; makes it easier to segregate the waste.

**Camera for photos** - to document the findings of the survey, and help assist the preparation of reports.



**Staff with appropriate inoculations** - only staff, who have appropriate inoculations against infections that can be transmitted through the handling of healthcare risk waste, should be involved in the survey. Consult your Health & Safety Officer or relevant staff member.



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**Step 1:** Decide over how many days you want to undertake the survey, and if you want to look at the entire hospital or just one area at a time.

## How many days?

Do you want to look at the quantity of waste generated for one day or two days? The more days you monitor, the more representative your results will be, but the more work it requires. Most surveys undertaken in the Green Healthcare Programme were one day surveys. If you opt to undertake the survey for one day, choose a day that best represents the normal activity of your facility. Mid week is often chosen, as there can be higher numbers of discharges at the end of the week or outpatient appointments at the start of the week.

## Entire hospital or one area at a time?

You can undertake the survey for the entire hospital, at one time, or solely focus on known large waste generating areas. Focusing on the entire hospital at once is work intensive for a short period but will give you a good overall picture of waste generation.



## Step 2: Identify the source of the waste

It is important that all of the waste bags generated in the hospital are tagged to identify their source. Three examples of how to tag the waste bags generated in your facility are outlined below. Which option you pick will depend on the activities in your facility.

Knowing the source of the waste is a critical step and you need to ensure buy in from management so that relevant staff know in advance what is required of them on the day.

### OPTION 1

**Cleaners tag all waste bags as new bags are put into the bins:**

Easiest and recommended option.

### OPTION 2

**Waste porters collect waste from only one area at a time:**

Porters are instructed to collect waste from one area at a time. This option could delay the collection of waste, resulting in the build up of waste.

### OPTION 3

**Waste porters tag waste bags as they are being collected:**

In general waste porters collect full or partially full wheelie bins from waste rooms and add waste from smaller areas to the top. Consequently waste porters may have to remove the bags from the wheelie bins to tag them, which may be unlikely to occur.

Cleaning staff can be provided with tags pre-printed with ward area names. Alternatively staff can use a roll of plain stickers and a marker, and write the area name themselves. This option is preferred, as staff cannot run out of tags for a particular area. If you have a small number of areas in your facility, you may be able to use a different colour sticker for each area.

It might seem like a good idea to use the healthcare risk waste identifying tags to identify the source of the healthcare risk waste bags. However substantial time is needed to write down the 6-digit numbers and to trace back the numbers using the tag number log. Additionally during the survey, when you will not be able to trace back the numbers, you may unwittingly not set aside samples from all areas.

Step 2 will not be required, where you look at one area at a time (e.g. known large waste generation areas), as waste is usually only collected from one area each day.





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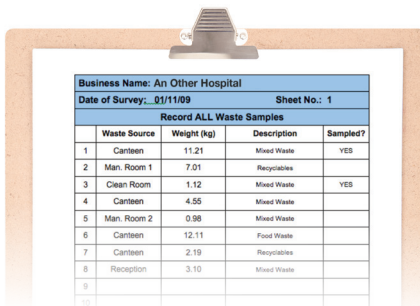
### Step 3: Weigh the quantity of waste from each area

Look at each bag for the identifying tag to determine where the waste was generated. Place the bags or bins on the scales to determine the weight.

**Record the following on the Waste Survey: weight record sheet (shown below):**

- area,
- type of waste (see box to right)
- weight of the waste

Porters will generally present general landfill, healthcare risk waste and recycling waste in separate bins. Very rarely will the different types of waste be co-mingled.



Business Name: An Other Hospital			
Date of Survey: 01/11/09		Sheet No.: 1	
Record ALL Waste Samples			
Waste Source	Weight (kg)	Description	Sampled?
1 Canteen	11.21	Mixed Waste	YES
2 Man. Room 1	7.01	Recyclables	
3 Clean Room	1.12	Mixed Waste	YES
4 Canteen	4.95	Mixed Waste	
5 Man. Room 2	0.98	Mixed Waste	
6 Canteen	12.11	Food Waste	
7 Canteen	2.19	Recyclables	
8 Reception	3.10	Mixed Waste	
9			
10			

Where possible try to group the waste from the different areas together before weighing. This will allow you to put multiple bags on the scales at once.

This is where it is beneficial to collect waste from only one area at a time, as you will not have to check every bag for its source. If only one type of waste is in the bin (e.g. general landfill bags), and if it fits, you can place the bin directly on the scales. Subtract the weight of the empty bin to determine the weight of the waste, without removing all the bags from the bin.

The majority of individual bags are small in size (usually much less than 10 kg). However, watch out for heavy items and handle appropriately, if at all. Ensure manual handling training has been completed as appropriate.

**NOTE: If you collect waste from one place at a time, you will need to tag the bags that you put aside for subsequent sampling.**



### Step 4: Set aside samples of waste from the different areas

During the weighing process set aside samples of the waste bags (general landfill and soft healthcare risk waste bags) from each of the areas, for later assessment. Try to source the bags throughout the day to get the correct profile of the waste.

Pick bags that best represent the type of waste that you have been seeing while weighing. Place your samples in an empty wheelie bin to keep everything tidy.

If you have recorded waste bags with high food waste content, make sure to put samples of these bags aside.

Make sure to put enough bags from the main waste generating areas aside. It is always easier to dispose of extra bags than try to get more bags later.

**TIP: It can be beneficial to note how many bags you have put aside from each of the areas, to ensure you have enough bags.**

### Record the type of waste

It is important to record the type of waste to get the most information from the survey.



#### Healthcare risk waste:

Record whether a soft bag, rigid bin (tall or small), or sharps bin bin (e.g. 1.8 litre or 25 litre).

Record the cytotoxic and anatomical waste separately. The easiest method to record this type of clinical waste, is to record the colour of the bin; black is anatomical and purple is cytotoxic.



#### General landfill waste:

If clear bags are used, have a quick look at the contents of the bag.

Make sure to identify if the bag has a high content of particular materials such as food waste or incontinence wear. Bags with a large food waste content may have originated from catering areas e.g. ward kitchens. These bags would not be representative of the overall waste from the area, and if segregated (see later) and included with the other waste, would distort the results.



#### Recycling:

Record the different types of recyclables generated separately (e.g. mixed recycling bags, cardboard, loose plastic film etc.).

When weighing the mixed recycling bags, have a quick look at the content of the bags. You can see the level of non-recyclable materials in the recycling bags. This will help you to decide if the recycling bags are being used correctly.

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## Step 5: Determine the contents of the waste

The contents of the bags should be determined and entered into the Waste Survey: waste composition sheet (as shown below). You will need to sample the general landfill and healthcare risk waste bags separately – perhaps one type in the morning and the other in the evening. There are two methods for determining the contents of the waste bags;

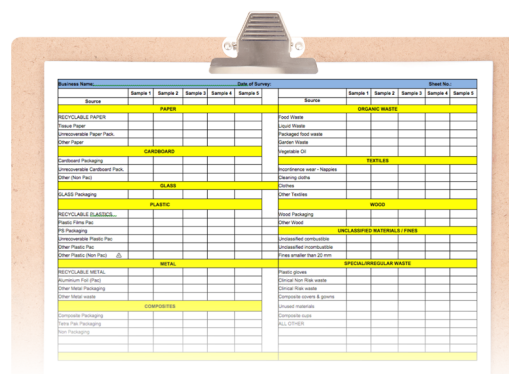
### Option 1: Segregation of materials (Recommended - accurate results)

Take the sample bag from an area, open it up and segregate or separate the contents into the different materials. Each type of material is placed into a separate bin. For example place all the tissue paper into one bin, all recyclable paper into another bin, all gloves into another bin, etc.

Each bin is then weighed separately and the weight recorded.

To make it easier, tare or zero the scales, with the weight of an empty bin, so you don't have to subtract the weight of the bin later.

Make sure to take photos of recyclable materials or other interesting materials observed in the waste bags surveyed.



Date of Survey					Sheet No.				
Sample	Sample 1	Sample 2	Sample 3	Sample 4	Sample 1	Sample 2	Sample 3	Sample 4	
<b>General Waste</b>					<b>Healthcare Waste</b>				
Cardboard Boxes					Cardboard				
Plastic					Plastic				
Paper					Paper				
Textiles					Textiles				
Other					Other				
<b>Recyclable Materials</b>					<b>Other Materials</b>				
Cardboard					Cardboard				
Paper					Paper				
Plastic					Plastic				
Textiles					Textiles				
Other					Other				
<b>Metals</b>					<b>Other Materials</b>				
Metals					Metals				
Other					Other				
<b>Other Materials</b>					<b>Other Materials</b>				
Other Materials					Other Materials				
Other					Other				

### Option 2: Visual guesstimate (Saves time but not accurate)

Where time and staff is limited, the bags can be visually assessed for content (e.g. 10% paper, 20% tissue paper, etc.).

This guesstimate by its nature will be volumetric, so make sure to take the densities into consideration when converting to weights (e.g. 5% metal by volume may weigh more than 20% office paper by volume).

The results from this method should be taken with a pinch of salt.

Always be aware, particularly in the case of healthcare risk waste bags, for the potential presence of sharps. The PPE mentioned on Page 2 should be worn at all times.



Following the segregation of healthcare risk waste bags, the healthcare risk waste should be placed into a new bag. Ensure you attach the identifying tag to the new bag, to allow trace-back of the bag.

## How to use the information from the survey

Following completion of your waste survey, you will need to analyse the data you have gathered.

### Part 1: Quantity

Total the quantity of waste generated by each area.  
Total each type of waste separately.

Analysing this information, you can see those areas that produce the largest quantity of waste. This information is beneficial when assessing what areas to focus your waste management resources upon.

This analysis is best undertaken in Excel, to allow the development of graphs.

### Part 2: Composition

Take the information from the segregation of the bags and input into the electronic **Waste Survey: Calculation sheet**. A separate document outlines how to use this worksheet.

