



## CASE STUDY

## NYSP21 Helps Six Hospitals Across NYS Evaluate Their Food Waste, Developing a Self-Guided Tool as a Result

Throughout 2016 and 2017, the New York State Pollution Prevention Institute (NYSP21) worked with companies across New York State to conduct several food waste assessments. These waste studies involved the tracking of food waste over a period of time to determine the amount, sources and causes of waste generation. As a result of each assessment, facilities gained essential information that helped them identify opportunities to reduce and better manage their food waste. Examining the details of a waste stream can help identify and prioritize solutions to reduce food waste generation and divert excess food and food scraps from landfills; thus putting the food/food scraps toward more beneficial options: feeding hungry people, feeding animals, anaerobic digestion and composting. Additionally, as a result of this work, NYSP21 developed a series of [self-guided tools](#) to enable businesses and institutions to conduct their own assessments.

As part of this project, several businesses were assessed from the healthcare sector. All facilities were located in population dense, urban areas throughout Buffalo, Rochester and Albany. The number of beds ranged from mid-200s to mid-800s. Most hospitals were of medium size with two categorized as large hospitals.

### CHALLENGE

In New York alone, large hospitals and nursing homes generate over 550 tons of food waste per week.<sup>1</sup> According to Practice Green Health, ten to fifteen percent of a hospital's waste stream is food waste.<sup>2</sup> The handling and disposal of this food waste results in a large financial burden. To reduce food waste and better manage excess food and food scraps, it helps to first understand the sources and causes of wasted food; the benefits of which are lower operating costs, helping the environment, and feeding hungry people.

### SOLUTION

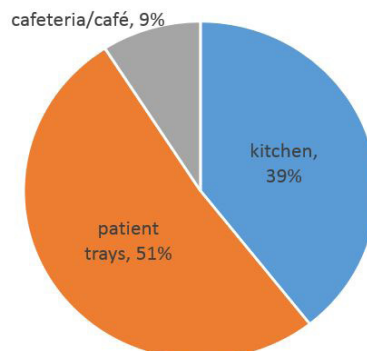
NYSP21 conducted one-day food waste assessments at each healthcare facility. The work performed involved collecting and measuring food waste on-site, evaluating results, and a summary that outlining key findings and improvement opportunities. Through this process, NYSP21 developed a [self-assessment toolbox](#), to guide grocery stores through conducting self-assessments. By creating a standard method that documents requirements at each step of the assessment (collecting waste, information to record, etc.), meaningful and actionable data can be gathered in a short amount of time.

### RESULTS

#### Characterization

NYSP21 examined food waste generation by each source, e.g. kitchen, cafeteria, and patient trays. The graph to the right shows the average weight percentage between the six facilities, sorted by source and category of waste. What is shown is the average, but there were considerable differences seen among the data, indicating that many hospital food waste streams are unique and dependent upon the facility practices. This makes a self-assessment worthwhile to identify individual opportunities for improvement.

Healthcare Food Waste Characterization by Source



### CHALLENGE

- Food waste accounts for ten-fifteen percent of a hospital's waste stream
- The handling and disposal of this food waste results in a large financial burden
- It is difficult to better manage food waste without understanding what is being generated and from where

### SOLUTION

- NYSP21 conducted one-day food waste assessments, which included collecting and measuring waste on-site, at six separate hospitals
- NYSP21 evaluated results and summarized key findings and improvement opportunities for each institution

### RESULTS

- NYSP21 developed a [self-assessment toolbox](#), to guide institutions through conducting self-assessments
- On average across all six hospitals, patient rooms accounted for just over half of all food waste generated

NYSP21's self-assessment tool, described in the previous page, automatically generates charts similar to the one displayed, along with several others that can aid your analysis.

Patients produced the largest amount of food waste, accounting for over half of the food waste. Patient wastes are highest when patients have little control over what food they will receive and when they receive it. Often, when food items are not wanted it is because they come standard on a meal tray, leading to large amounts of waste.

Kitchen wastes accounted for 39% of the food waste generated by the healthcare facilities. This includes items such as surplus food as well as preparation wastes like vegetable trimmings. Kitchen wastes can be high if production amounts are not in line with demand, resulting in overproduction. Not all kitchen wastes can be avoided though, as preparation wastes are an inherent part of the cooking process.



## Existing Food Waste Management Practices

**Source Reduction:** Many source reduction practices were observed over the course of our assessments.

- Several hospitals repurposed foods from one meal service to the next, such as by shredding surplus bacon after breakfast to provide bacon bits for the lunch time salad bar.
- Made-to-Order programs let patients order their own meals. Several hospitals utilized this style of program, with one estimating that 85% of all patient meals were custom ordered.
- To prevent food expiration before it can be used, First-In First-Out sticker systems were observed in use. Organizational strategies and visual cues such as this can have a large impact.
- Manual tracking of preparation and overproduction wastes was used as a simple, inexpensive method to gain insight on opportunities to reduce food waste.
- One facility was in the process of installing a food tracking system in their kitchen.

**Diversion:** Only one hospital was observed diverting a portion of their food waste from landfill. On the day of NYSP21's assessment the hospital composted 95% of their pre-consumer waste.

### Improvement Areas

Improvement opportunities identified by NYSP21 include the following:

#### Source reduction:

- Increase data driven decision making to improve forecasting. This includes characterizing waste streams and finding priority areas to target for reduction.
- Reduce post-consumer waste by going tray-less in the cafeteria.
- Implement a Made-to-Order patient meal system to increase patient food consumption.

#### Diversion:

- Talk with your current waste hauler about adding organics to your pick up service.
- Pilot food waste diversion in the kitchen before expanding to patient or cafeteria waste.
- Visit NYSP21's [NYS Hauler Listing](#) to find the closest organics hauler.

Assessing how much food waste is generated at a hospital can be a very informative activity to identify areas where source reduction, donation, or diversion could be implemented; potentially lowering cost. Using actual data from many of our prior assessments, NYSP21 has developed a [Self-assessment Toolbox](#), which helps maximize your knowledge, minimizing your effort to assess your food waste. This tool will provide you with the necessary guidance to conduct your own food waste assessment at your healthcare facility.

<sup>1</sup> <https://www.rit.edu/affiliate/nysp2i/food/food-waste-management-healthcare>

<sup>2</sup> <https://magazine.practicegreenhealth.org/less-food-waste/>

## NYSP21 PARTNERS



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