HOSPITAL PROFILE

Hospital name:	NewYork-Presbyterian/Queens
Food generation:	Hospital kitchen, ~3,000 patient meals / day
Food waste diversion system:	in-house organic waste decomposition system
Timeframe:	transitioned to organics sorting December 2011

CASE STUDY

Since the release of PlaNYC in 2007, New York-Presbyterian/ Queens (NYP/Queens) has implemented various sustainability initiatives. It signed on to the NYC Mayor's Carbon Challenge, becoming the first hospital to meet the 30% carbon reduction goal. In pursuit of a sustainable solution, NYHQ began contracting with Stericycle in 2012. As part of the program, Stericycle installed an organic waste digester in the hospital kitchen. The digester, which is fed food preparation waste and leftovers from patient meals, processed 4% of the hospital's total waste by weight last year.

Waste Disposal Process

The NYP/Queens hospital kitchen prepares about 3,000 meals for patients each day. All dishware and trays are returned to the kitchen after each meal, along with any uneaten food. These leftovers plus some of the scraps from food preparation are added by kitchen staff to the digester, which is conveniently located in the dish-machine room. NYP/Queens' digester has a capacity of 1,200 pounds of food waste per day - more than enough to handle the daily average 450 pounds added. It can process most organic products, with the exception of large bones, fat trimmings, pineapple skins, and mollusk shells.

Since it is a continuous feed machine, waste can be added to the digester in unlimited small increments throughout the day. Staff members at NYP/Queens add food waste after each serving and food preparation, and the disposal process is very simple – a staff member lifts a hatch to input food, which cuts off the machine. Closing the hatch starts the digester up again.

Eco-Safe Digester used at NYP/Queens

The digester relies on microorganisms to speed up the natural decomposition cycle. This key ingredient is added by a company technician during regular quarterly service visits. NYP/Queens machine can break down 300 pounds of waste per hour, which is converted into effluent and flushed down the drain into the sewage system.

NYP/Queens has little trouble with the digester's functionality beyond an initial issue with the cover over the control panel. For this, the company sent in a technician for repairs and the hospital has had no other issues since.

Source Reduction

With the new bio-digester however staff members were able to quantify food waste, and they were astounded by how much food they were throwing out – roughly 550 pounds of food waste per day. Though NYP/Queens daily food waste disposal was already well below the bio-digester's capacity, this was an alarming amount of waste, not to mention avoidable – staff members noticed that a high volume of waste came from patients' plates. In response to this realization, kitchen staff readjusted portion sizes for patient meals. Now the digester takes in approximately 450 lbs of food waste per

night. By simply increasing awareness of the waste stream, the bio-digester helped NYP/Queens to cut food waste at the source by 700 pounds per week.

Program Success

The machine's weight measurement system makes it easy to track the program's success. In 2012 the NYP/Queens kitchen put a total of 203,708 pounds of food waste in the digester. Had that weight been disposed in a landfill, along with the 36,500 pounds of source-reduced waste, it would have emitted methane gas through anaerobic decomposition. Stericycle estimates that the system also saved about 25 gallons of fossil fuel combustion by reducing pickup vehicle transport. In addition to these environmental impacts, NYP/Queens was able to calculate $12,600 in savings from waste hauler pickup costs avoided in 2012. Other positive benefits include the monetary savings from cutting back on food waste, and space savings by reducing the daily volume of food waste storage.

Moving forward, NYP/Queens hopes to increase their food waste diversion, in alignment with their goal of 25% overall total waste reduction. The machine has plenty of available capacity, and so they are considering capturing food waste from other hospital operations, including the cafeteria and staff break rooms.

COMMON CONCERNS ABOUT ON-SITE ORGANICS PROCESSING

→ WILL MY UTILITY COSTS SKYROCKET?

The digester at NYP/Queens requires minimal energy and water use. It consumes 175-200 kilowatts per month, roughly the same amount as leaving two computer systems running nonstop for a month[1]. The machine's maximum freshwater consumption amounts to roughly 300 gallons per day. According to the hospital's facilities management, this additional electricity and water use was unnoticeable, making up a very small fraction of total use for the institution.

→ WHAT IF THE MACHINE STOPS WORKING?

One major concern for institutions considering an on-site organics processing system is what happens in the event of a mechanical malfunction, leaving the institution with a few hundred pounds of food waste. The food waste could be added to regular trash pickup, at the risk of additional costs from the waste hauler for the sudden increase in waste volume. NYP/Queens is not concerned about this being an issue because their unit was provided through their waste hauler, and the hauler is also responsible for food waste disposal in the event of a mechanical issue.

→ WHAT IS THE PAYBACK PERIOD?

The payback period for an on-site organic waste processing system varies a great deal depending on the size of the system, and whether renovations are required for proper installation. For NYP/Queens, however, there was no payback period for the machine itself – it was provided by Stericycle as part of their waste management service. In this way, NYP/Queens profited after one year from the $12,600 saved in waste hauling costs.

[1] http://www.duke-energy.com/pdfs/Appliance_OpCost_List_Duke_v8.06.pdf