

ZERO WASTE CASE STUDIES - HOSPITALS

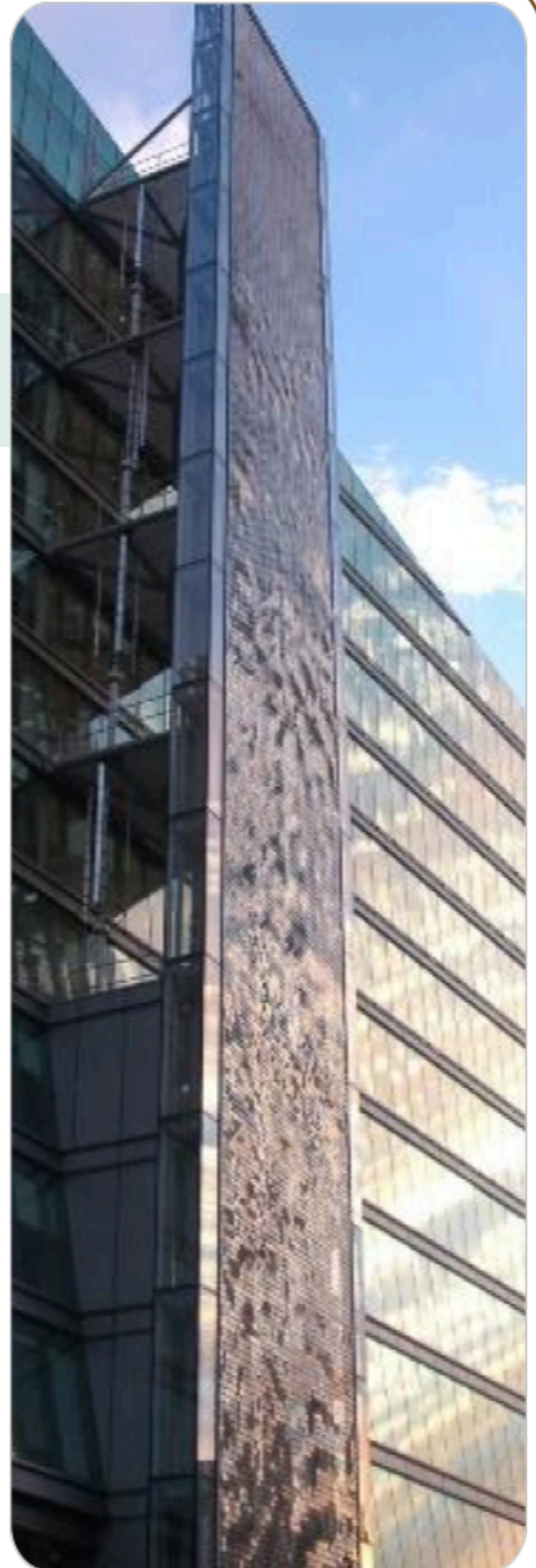
A Systems Approach to Zero Waste Kitchens

Sutter Health/California Pacific Medical Center shows how to design kitchen refuse collection and workflow to reduce, reuse, recycle!

San Francisco's Mandatory Recycling and Composting Ordinance requires households and businesses to correctly and consistently sort recyclables, organic materials, and trash to reduce both refuse sent to the landfill and the city's carbon footprint. Commercial kitchen refuse represents a significant opportunity for hospitals. Sutter Health/California Pacific Medical Center (CPMC) has taken a systems approach, intervening in the most impactful parts of the waste hierarchy (Figure 1). Miriam Tcheng, MS, RD, the former Director of Food and Nutrition, and her team first focused their efforts first on rethinking assumptions about what had to be disposable, thus reducing waste at the source, then they focused on reducing the remaining refuse. The team then set up effective systems for tracking and adjusting kitchen workflows to ensure the remaining refuse was sorted correctly. These efforts have resulted in less refuse and better sorting practices that are reinforced by spot checks, which ensure staff accountability and a culture of sustainability.

Replacing disposables

In 2019, as part of an effort to reduce refuse, Sutter Health / CPMC focused on reducing disposable serviceware for patients. As the organization began to gradually phase out disposables, its efforts were stalled by the Covid-19 pandemic. Fear of infection



risk led kitchen management staff to return to disposable serviceware. “[During Covid], the rise in waste was out of control,” according to Miriam. At the same time, Sutter Health/CPMC was navigating the need to improve its materials sorting. Miriam, taking a whole systems approach, knew that reducing overall refuse waste was the most effective first step to reducing contamination in materials streams. Using scientific evidence that the Covid-19 virus was mainly spread through direct contact, airborne, or droplet transmissions, with little risk from surface transmission, she was able to convince management to resume the transition to reusables. Now Sutter Health/CPMC uses only reusables for the majority of patient trays. By eliminating disposable dishware for patients, CPMC not only reduced its overall refuse, but also removed a potential contaminant in the recycling and compost streams.



Figure 1: From Health Care Without Harm's Waste Hierarchy. Sutter Health's approach started at the top of the diagram where they could have the greatest impact; they built on their success through interventions lower on the diagram.

Expanding to food refuse to increase diversion

Next Miriam and her team targeted reducing the total amount of food refuse generated. She made use of a proprietary tracking tool, Enable, offered by Aramark, Sutter Health/CMPC's food services contract provider, which tracked food refuse at key points in its journey through the kitchen.¹ This allowed staff visibility into where most food refuse occurred (Figure 2). The tool enabled the measurement of “production refuse” (trimmings and scraps from food production), “service

refuse” (food that is prepared but not eaten), and “storage refuse” (expired food and condiments). Based on feedback on the amount of food wasted in a given week, the tool generates data-informed forecasts of the amount of food needed for subsequent weeks' menus, ultimately preventing refuse and saving money.

During the production stage, Miriam's team logged the weight of the food scraps collected so they could both track the refuse diverted to compost and ensure high-quality compost sorting. The set-up for the collection was key. They started by adding clear measuring bins at each food prep station to make it easier for staff to separate organic materials, measure the weight of scraps, and spot contamination. Large wheeled compost collection totes

¹ Other similar tools, such as [Leanpath](#), are available to hospitals that do not have access to Enable.

were placed in key locations to make it easy for staff to then empty the clear containers. Organic refuse from patient tray service was also emptied into the compost collection tote. Staff then transported the totes to the dock for collection by Recology.

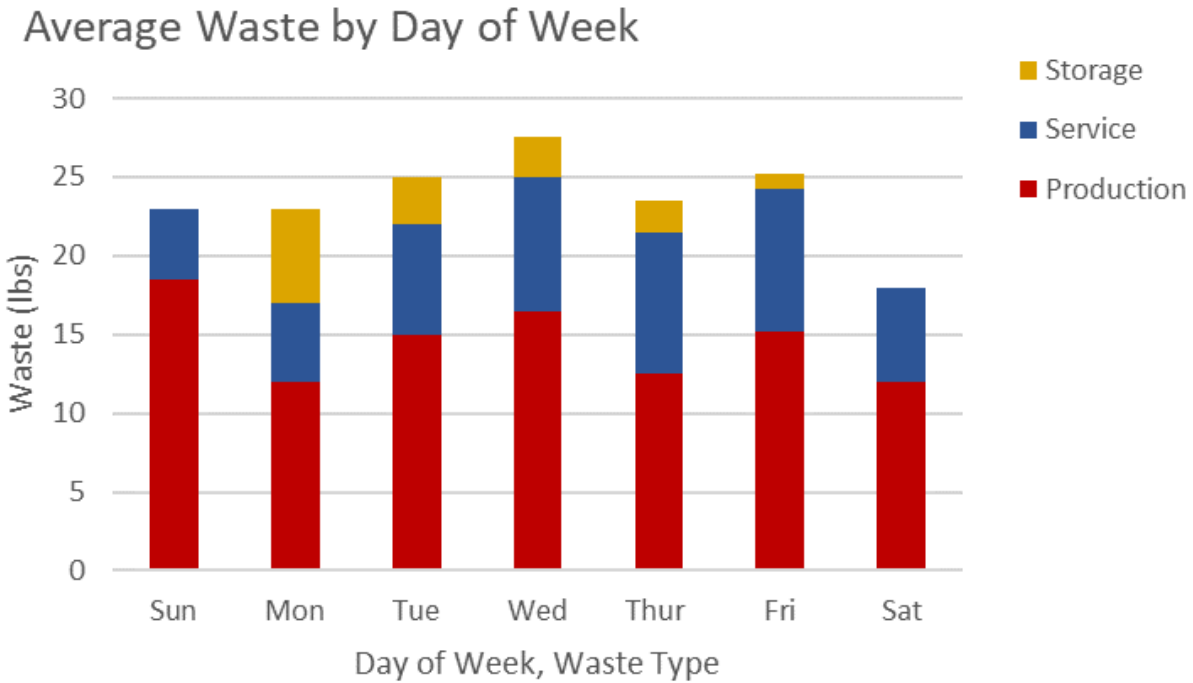


Figure 2. Recreated from a screenshot of Enable data showing the average refuse by type for the week of January 22, 2024. Red bars represent production refuse (trimmings and scraps from food preparation), the largest food refuse category. Blue bars indicate service refuse, food that is prepared but not eaten, and yellow bars represent storage refuse or expired or spoiled food. Sutter Health/CPMC has worked to reduce refuse in all three categories.

As surplus food was collected, Miriam’s team tracked leftover food, which the kitchen staff integrated into the next day’s recipes. Leftover protein or veggies are now routinely added to the salad bar or incorporated into soups. If necessary, the team alters the soup on the menu to make use of leftover items. Blast chillers, which rapidly lower food temperature and enhance food safety, enable staff to preserve prepared food leftovers for use in the next day’s meals and the environment. They have been linked to a variety of health concerns such as hormonal disruption, reduced IQ levels, increased hyperactivity in children, obesity, reduced sperm quality, infertility, and cancer.

Recycling was the obvious next step

Improving recycling streams was the next step. Recyclable materials generated in the kitchen included bottles, cartons, and cans. Miriam and her team adopted a recycling bin



Figure 3: Quality recyclables in Sutter Health's centralized kitchen recycling collection tote.

set-up to support a workflow that ensured recycled content stayed clean and dry. Three-stream recycling with co-located bins (blue for recyclables, green for organics, and black for trash), while considered a best practice in most circumstances, would have actually increased the risk of contaminating the recycling during food prep. Sutter Health/CPMC's successful workaround was to identify convenient central locations in which to collect each refuse stream, based on the refuse generated in that area of the kitchen (Figure 3).

Making refuse prevention and recycling part of everyone's job

At this point, success relied on the entire kitchen staff consistently sorting refuse correctly; quality had to be part of everyone's job. For the launch of these efforts, a dietetic intern developed educational material and provided regular staff training. Miriam attributes part of the team's recycling success to this training, noting that: "[Interns] have fresh eyes and can present material in a fun way, so staff tend to listen," Miriam's regular bin audits contributed significantly, as well. "When staff know that someone is looking in the trash," she points out, "they feel enhanced motivation to place things in the appropriate containers." encourage you to use images, but only to communicate essential information. An image should not be used only for decoration. If you use an image, be sure to place as shown below, aligned left, in conformity with accessibility best practices.

Efforts show effective refuse reduction and cost savings

Today, Sutter Health/CPMC serves most of its patients on reusable patient trays. The hospital's efforts to reduce food refuse at its source – through accurately projecting food purchase requirements relative to needed production – has paid off: in 2023, the first year it used Enable, Sutter Health/CPMC reduced its food refuse by 7,484 lbs and saved \$7,334. These results make the business case for source reduction clear. In addition, thoughtful refuse sorting set-up and processes centered around staff and resource considerations for maximizing diversion have led to high-quality three-stream refuse collection. Miriam notes that compost contamination is very low and has observed staff consistently rinsing containers for recycling (see Figure 3).

Looking to the future

While Sutter Health/CPMC's Food and Nutrition Services team recognizes and takes pride in the progress they have made, they also continuously seek opportunities for improvement. One current challenge is safely moving heavy compost totes the long way from the kitchen to the dock at its Van Ness Campus.

Recology's compost totes come with two wheels, rather than four, posing a safety risk to workers. The team tried one option – a two-wheeled add-on – but the configuration didn't work with Recology's equipment and resulted in damaged totes. Miriam and Recology are now working to test different equipment, such as a dumpster dolly (Figure 4).

Sutter Health/CPMC's process shows that reducing, recycling and composting refuse is a journey. The Food and Nutrition Services team started small, built on its success, and ultimately built systems that made reducing and recycling a seamless part of staff's work. Refuse audits are used to enhance accountability and the team continues to address employee needs to make workflows easier and safer. When asked about her team's secret sauce for success, Miriam didn't hesitate:

- Identify and reduce your biggest sources of refuse
- Take advantage of available tools that help match food production to food demand to reduce food refuse at its source
- Compost and recycle all that you can in the kitchen - it's doable with careful attention to set-up, processes, and observing what works and what doesn't
- Routinely educate and audit to ensure your staff has the knowledge and accountability to do the right thing.

Wherever your institution is in its efforts to rethink, reduce, recycle, and compost, take some inspiration from Sutter Health CPMC's story: start with the most impactful levers, reducing waste before its even generated, then build on your success through more targeted interventions to reduce the remaining refuse, such as effective bin set-up, audits, and staff education.



Figure 4: Sutter Health and Recology are exploring testing this dolly to improve tote transport and enhance worker safety.

Learn more about San Francisco businesses working towards zero waste and helping the City meet its zero waste and climate goals at [SFEnvironment.org](https://www.sfenvironment.org).