

Reuse Model at Northwestern Dining During a Global Pandemic

By Sarah Levesque,
Sustainability Director

Compass Group | Northwestern University

About Northwestern University

Northwestern University is a private research university with the main campus located in Evanston, Illinois. In fall of 2019 Northwestern had 8,327 undergraduate and 13,619 graduate students. In Fall of 2020 the university opened up to just graduate students and roughly 500 undergraduate students. Almost all of the classes were moved online and the only students invited back were those whose classes could not be moved online. The dining program opened with limited capacity after a two week quarantine period for all students living on campus. This opening came with a new program focused on reusable to-go service ware.

The program used the O2GO OZZI containers to give students the option of eating in or taking their food to-go in a reusable clamshell container. The program has been a success with 99% of meals using an OZZI container and only 21% using an additional compostable container, preventing an estimated 3,788lbs of food service waste on campus.

Program Development

Background

Pre-COVID-19 NU Dining retail operations utilized a 3-compartment compostable molded fiber to-go container which was met with success around the campus. In March of 2020, when the state went into lockdown, dining transitioned to an all to-go operation utilizing this same compostable container. However the more liquid foods and increased periods between filling and eating caused problems with the structure of the box and created a negative customer experience. The inability to capture the compostable to-go containers also posed a problem for increased sustainability.

In 2018, the OZZI program was introduced where students could deposit \$5 for a reusable, polypropylene to-go container. After using, the 9x9, 3-compartment container could be exchanged for a clean one or returned for the \$5 deposit. Students who had eaten in the residential dining commons since the program was introduced were generally familiar with the program.



Reuse Model at Northwestern Dining During a Global Pandemic

Requirements

Before the fall 2020 re-opening it was imperative to find an option that met the following requirements:

1. Provided safety and minimal opportunity for the transmission of COVID-19 for both students and staff
2. Provided a positive customer experience
3. Prioritized reuse, then compostable, then recyclable solutions
4. Was cost effective and simple to integrate into operations
5. Minimized waste

Development

Due to the problems with the compostable container, it was determined that a plastic container would be required that was either reusable or recyclable, following the green priority list. The conversation then turned to waste generation. Based on original estimations there would be an additional 960 gallons of waste per day from the clamshell containers produced at a single location if 1,000 meals were served. This would create a substantial waste management problem and would result in substantial additional costs to the business in the form of recyclable materials and the university in the form of waste removal services.

The answer was to create a reusable program that would be cost effective, simple to integrate into daily operations, and provide for safety and minimal opportunity for transmission of COVID-19.

The existing OZZI reusable program was used as a template to for the re-opening plan. 10,000 purple polypropylene OZZI containers were purchased with the intent to give one to each student. This would allow for a one-for-one exchange of a dirty container for a clean one every time the student visited a residential dining commons. The initial purchase was large due to the uncertainty of how many students would return to campus in the fall.

Program Description

Student Perspective

- Upon arrival students would go to the cashier at the front of the dining commons where they would tap their card to register their meal plan and receive a new clean OZZI and disposable cutlery.
- Then the students would go to each of the stations where staff would serve them behind sneeze guards. Students would never touch any serving materials to prevent possible transmission.
- Students could then take their food to-go or eat it in the dining commons (socially distanced with sanitization occurring before and after).
- To minimize potential disease transmission students would return their dirty OZZI containers to the carousel dish return.



Reuse Model at Northwestern Dining During a Global Pandemic

Service and Safety Perspective

- The cashier greeting students is required to wear a mask, and disposable gloves, and is protected by a Plexiglas panel.
- Students would be served their meals from staff wearing PPE and behind sneeze guards. Staff would never touch the OZZI containers to minimize possible transmission.
- All tables and chairs are spread out to maintain a minimum of 6ft distance between guests and are routinely sanitized.
- The dishwashers are required to wear PPE including: a mask, disposable gloves under rubber reusable gloves that go above the forearm, goggles, and an apron. The dishwashers would rinse the OZZI containers, then run them through the industrial dishwasher with a high-temperature boost.



Note: If a student forgot their OZZI container they would be given a new one and be reminded to bring their old one back. This was largely avoided due to the negative impacts of keeping a dirty food container in a room for a long period of time.

Creating a Behavior Pattern

Student Perspective:

This program is unique to the current state of world affairs. During this pandemic social norms have been forced to change and adjust as the world has changed and adjusted. It has created an opportune moment where new social norms can be established and promoted with potentially greater ease than before.

In the two weeks prior to the dining commons opening for service, all students on campus were required to participate in a quarantine. All meals were delivered to their residential commons and students were handed the meals they had been ordered by a staff member. At the last meal the students were given a purple OZZI with their meals told to bring the OZZI container to their first meal in the dining commons.

By having this individual conversation with each student, it informed them that and the dining program would be different.

The first two lunches and dinners had managers at the cashier station to inform students of the procedures behind the use of the OZZI and answer any questions they may have. This gave students the opportunity to ask any questions and be reminded to bring their OZZI to the next meal.

Results

On average 819 meals per day were served between two residential dining commons on campus, Allison and Sargent. Each week about 8 cases of compostable clamshells were used by guests equating to roughly 1,200 containers used each week representing 21% of meals. 4,533 meals were served in the reusable OZZI containers preventing an estimated 378 lbs of waste from being generated each week, about 3,788 lbs during the 10 week quarter.

	Meals	Ibs of Waste
Per Week	5,733	378
Per Month	25,798	1,704
Per Quarter	57,330	3,788

Reuse Model at Northwestern Dining During a Global Pandemic

The common reasons for a guest using a compostable clamshell:

- a student wanted additional food that would not fit in the OZZI container
- a student already had food in their OZZI container and requested food from Pure Eats
- the guest was university staff or faculty

Ozzi containers will have a 6 month ROI after an initial investment for 10,000 containers and an annual savings of an estimated \$36,000 in the first year. We do not expect to have any additional costs for the program after the initial investment. By replacing the constant need for purchasing disposables, inventory space was reduced, the environmental impact of transporting the disposables was reduced, cost of labor for stocking and handling the disposables was reduced, and the cost of waste management for the university was also reduced. None of these savings are reflected in the above estimate which is therefore conservative.

We did not use the OZZI collection machine that is often sold with the containers and thus do not incur any related costs.



Special Precautions for Allergen Friendly Dining

Pure Eats is a station within all dining commons on campus which focuses on producing allergen safe meals. It excludes the top 9 allergens and gluten from the menu and great care is taken to prevent any possible cross contamination. All students, regardless of if they have an allergen or not, are welcome to eat at the station. To prevent cross contamination of food allergens that also allows students to use the OZZI program, some additional precautions were necessary.

To prevent possible cross contamination of a serving ladle touching food in a student's container that contains an allergen; students are asked to go to Pure Eats before visiting any other station to request an item be served to them.

If a student already has food from another station they are given a compostable to-go option. If it is for a single side item the student is given a recyclable plastic to-go bowl. If it is for a main dish or more than one item, the student is given a compostable molded fiber 3-compartment container. These are served by staff to minimize disease transmission.

Acknowledgements

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Thank you to Northwestern and sustainNU for their continual support of sustainability even in the face of a global pandemic.

Reuse Model at Northwestern Dining During a Global Pandemic

FAQ

- Do you plan on continuing this program as more students return to campus, even supplying the OZZI containers for free, rather than a fee?

Yes, this program will continue until we can safely allow students to eat in the dining commons at which point we will implement our zero waste dining hall program again.

- Do you plan to assess how many containers you have at the end of the semester, and if you had lost any, then consider the cost of restocking them?

Yes, we will do an inventory of the remaining OZZI, however we do not expect to have major losses.

- Have you had anyone concerned or worried about proper sanitation or possible contamination by using these containers?

We have not had any major concern from customers and those who are concerned have the option of using the compostable clamshells instead.

- When considering the program, was there any concern from administration about health concerns of reusables? If so, what resources did you use to address those concerns?

The administration was confident in our ability to safely provide reusables to our students thanks to the implementation of the earlier OZZI program.

- What are the differences between your pre and post-COVID OZZI programs?

The main differences between the programs are below:

- o Self-serve is no longer available
- o Increased use of PPE
- o OZZI no longer requires a \$5 deposit



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