Food Service at [redacted]

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Procurement, Storage, Retrieval, and Inventory at [redacted]

Description of the facility's procedures for procurement, storage, retrieval, and inventory.

The [redacted] team utilizes a hybrid procurement strategy. The system at [redacted] (henceforth known as 'the Restaurant') manages its inventory through par stock - essentially ordering what the Restaurant needs at any given time (BCCAC, 2015). Larger food service systems have the staff to meticulously process inventory through checklists, whereas smaller operations may not have the resources. The Restaurant keeps a small inventory list available for staff to utilize. However, it can be challenging to maintain due to the nature of the Restaurant's variable stock week-to-week.

Procurement begins at the management level. [redacted] plans and designs the recipes, meal kits, and education and enrichment programs for the Restaurant's clients. These recipes are written and decided upon with two others, including a dietitian overseeing specialty diets within the community and the Restaurant's operational manager. Dietetic interns also assist in the process when they are available. Once agreed upon, [redacted] finalizes the design of the recipes and orders the necessary ingredients.

The Restaurant depends on two organizations for its food delivery services: Sysco delivers restaurant-supply products (such as bulk pre-seasoned vegetables, sour cream packets, frozen meat, and more) to the Restaurant every Monday morning. Giant Foods also delivers consumer items (such as branded and specialty items) at least twice a week, Monday and Friday, but can be utilized as often as necessary by the Restaurant team. If stock is missing from either delivery service, the Restaurant's operational manager leaves the site to purchase essential supplies from local markets.

The Restaurant's managerial team determines the product specifications. Once [redacted] reviews the quality and quantity of the product, she purchases enough for the number of clients currently participating in the Restaurant program. To ensure no clients' family is going without,
The Restaurant's storage system is based on when and how the Restaurant and clients use the food. The Restaurant has a high turnover rate, making it easier to maintain dry, refrigerator, and freezer storage space. Most food purchased and delivered goes for immediate distribution and use. For example, if meat is received frozen but its intended distribution day is within 72 hours, it can thaw in the refrigerators to save freezer space. If refrigerated vegetables are received pre-cooked but will not be used within the next 72 hours, staff should freeze them before distribution to preserve their quality.

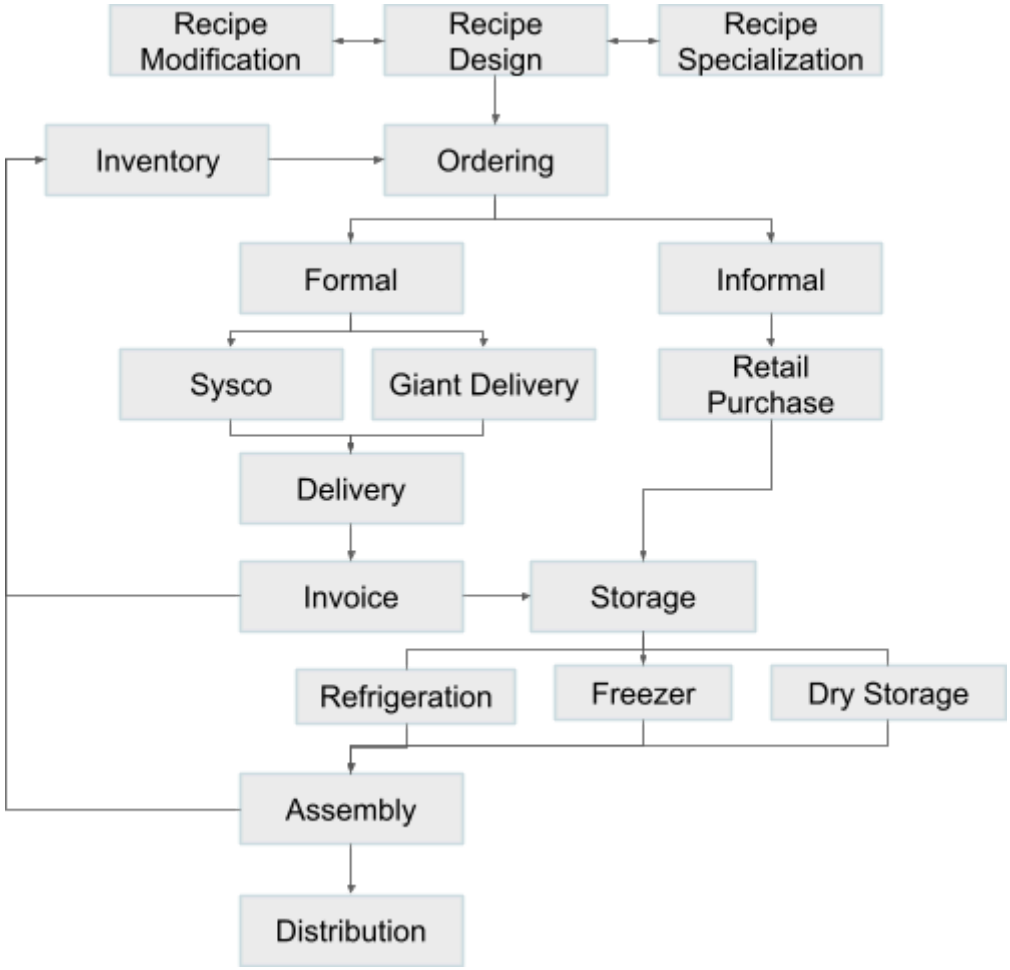
There are three large standing refrigerators, one small under-counter refrigerator, two large standing freezers for cold storage, and a deli refrigerator at the counter for small items like bread and yogurt. Dry storage is scattered throughout the facility, ranging from wire racks in the kitchen to temporary pantries and lockers on the facility floor. The operational manager directs [redacted] clients working at the facility where certain products should go until they are used.

Product retrieval begins on Mondays with the Sysco delivery. Per the contract, Sysco delivers the products and charges the Restaurant after the completed delivery. The operational manager at the Restaurant will go through the list of products received versus what was

expected. [redacted] receives this information, then either pays the delivery service in full or files a claim for missing or differing products. The Restaurant has thirty days to pay for their products or else they will not receive the following shipments. Other deliveries from Giant Foods or direct purchases from grocery stores are counted by the operational manager, determined by the number of low quality or missing items. This facility follows a minimum-count protocol, where the smallest amount of product available is determined by the facility and stock is maintained to that level or higher. For example, if a client is lactose intolerant and always receives four packages of an almond-based yogurt, then stock should never fall below four of those specialty items.

Inventory at the Restaurant is loosely maintained. Due to the high turnover rate and small staff, stock is often utilized before it can sit more than a few days on the shelves. First-in first-out (FIFO) is reinforced by the operational manager and the other staff for dry goods and shelf-stable items. Very few things go to waste in the facility; what spoils is due to over-ordering to prevent stock shortages.

Visual model of the Restaurant's Inventory Management.



Restaurant Evaluation:

The Restaurant's processes for procurement and receival are on par with best practices. Using a purchase order system with par levels is most effective in an operation with high turnover. Though the deliveries are not daily as is suggested for purchase order systems (BCCAC, 2015), the volume of clientele versus the amount of food distributed at the Restaurant is proportional. The operation manager documents Sysco deliveries for payment purposes, and to mark quantities and quality of product, with a formal invoice. Thorough inspection of the product may not occur for several hours, though, leaving the operation at risk of accepting low-quality items or fewer items than paid for.

Storage in the Restaurant is limited by the space available. Freezer space is not proportional to the facility's needs. Food stocked tightly in freezers do not allow proper air flow and restrict the effectiveness of keeping food cool. There is also risk of tampering or temperature abuse. Freezers and refrigerators are openly accessible to every person in the Restaurant, increasing the risk that they may be left open to warm and ultimately thaw the food. Dry storage is also accessible, but most of the goods are retained in their original containers until their use. Capacity for refrigeration and dry storage is adequate.

Inventory is tracked loosely within the Restaurant because of its high turnover. Best practices state to only purchase what is necessary, specifically because high inventory can lead to spoiled goods and wasted funds (BCCAC, 2015). The Restaurant follows these guidelines with a loose inventory based on the number of clients actively participating in the program multiplied by the number of items needed per client household.

My suggestion for the establishment would be to diligently track inventory and storage space. An itemized list should be kept in the facility, accessible to the operation manager, dietetic interns, and other trained staff so that questions can be answered should any arise about a particular product. Dry goods are especially susceptible to scrutiny due to their long shelf life and likelihood to be used in multiple dishes. Though the facility intends to move locations in the near future, managing the space available for clients is essential to providing high quality food and products without impacting the operation's production schedule.

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Food Production, Safety, and Sanitation

The production area at [redacted] ("the Restaurant") is split into three assembly areas: the back kitchen, the serving counter, and the dining room. Each area is used to package food and assemble the meal kits for distribution. Food that needs further processing (such as chopping, mixing, breading, or cooking) is assembled in the kitchen by the operations manager or a dietetic intern to reduce the risk of food loss and contamination (FDA, 2006, 35). Pre-packaged and ready-to-eat foods are prepared on the serving counter by the operations manager and, sometimes, Restaurant volunteers and clients. Bare hand contact is common with closed containers. The dining room is the general assembly space for all parts of the meal kit, allowing for large groups of people to sit at the tables and work in a mock assembly environment. Volunteers, managers, interns, and clients work in this space.

Cold food is stored according to its date of use - food that is several days from assembly is frozen in one of the two freezers available, and food that is meant for more immediate use is stored in the refrigerators both in the kitchen and on the dining room floor. Deliveries are typically organized by the operations manager, but if something else is going on in the Restaurant at the time, delivery personnel may place the food in the wrong storage space (i.e. pre-cooked vegetables intended for use five days after delivery are placed in the refrigerator instead of the freezer). Dry goods are delivered to the dining room and the operations manager directs volunteers and clients in where to stock them.

Sanitation procedures for the front of the house is dependent on Spic&Span cleaners and disposable towels. Tables and counters are sprayed down at least once in the afternoon by designated volunteers and their clients. However, dining room tables are porous and increase the risk of harboring pathogens if they aren't regularly cleaned. Raw food is regularly packaged on these tables, whether they are TCS foods (like carrot sticks, celery, whole fruits) or raw chicken and pork.

Refrigerators are cleaned at least once a week, wiped down with Spic&Span on the bottom shelf to prevent buildup of debris from food storage. Detergent and soap are used to clean visible messes, then finished with a rinse and sanitizer solution. There was no master cleaning list readily available on the premises.

Regulations such as use-by dates and first-in first-out procedures are utilized by the Restaurant. Food is thrown away if it is obviously contaminated or packaging is broken. It is worth mentioning that the Restaurant's actions to prevent cross-contamination are not very diligent and preventive - considering the preparation and assembly areas and the lack of proper storage bins, color-coded equipment, and trained staff, many meal kits are at risk of contamination from raw meat or pathogens introduced from the tables. Some repackaged goods have leaked through their bags onto the containers holding them and/or the refrigerators they were stored in.

The Montgomery County Food Protection Program inspects the Restaurant twice yearly. It is a sector of the Maryland Department of Health and Human Services (Montgomery County Government, n.d.), and thus has the power to approve and deny operation applications for food service facilities and businesses. The Restaurant is

responsible for maintaining and providing its HACCP plans, employee licenses in food handling and food service management, and ServSafe and allergen certifications.

Table 1. SWOT analysis for raw food preparation at the Restaurant.

Strengths	**Weaknesses**
- High production turnover. - Low exposure to warm temperatures.	- Increased risk for cross-contamination - Color-coordinated utensils not in use. - Limited storage space to shelf the products.
Opportunities	**Threats**
- Order pre-packaged or pre-portioned meat for use in the meal kits. - Partner with suppliers for appropriate portion sizes to minimize Restaurant's involvement in reportioning and repackaging. - Purchase color-coordinated equipment to organize what has come in contact with potentially hazardous foods.	- Supplier stock and demand. - Failure to deliver on time. - Small available space.

Raw meat and poultry should be stored and processed away from TCS foods (FDA, 2006, 33,34). Repackaging meat in zip bags and leaving them overnight to collect juices leaves them at risk for leaking and contaminating other TCS foods in the distribution bags. It is difficult for the Restaurant to attain this standard, however, due to limited freezer/refrigerator space. There are also few resources available to purchase color-coded equipment for assembly, a practice that greatly reduces the risk of cross-contamination from poor cleaning (Green & Selman, 2005); however, this is not necessary according to the FDA food code and HACCP guidelines.

My suggestion for the Restaurant is to utilize disposable table cloths on the porous front of house tables to reduce the risk of cross-contamination from poor cleaning. Perhaps if the facility broke up the assembly into preparation of TCS foods before the preparation of raw meats, that would also help reduce the risk. Raw meat and poultry, regardless of whether they had been repackaged, should remain on the lowest shelves in the refrigerators/freezers to prevent contaminating other products (FDA, 2006, 33). Once the facility changes locations to its on-site distribution kitchen, color-coding the equipment for dairy/vegetables/poultry/fish/beef and pork would help keep the distribution safe from foodborne illness.

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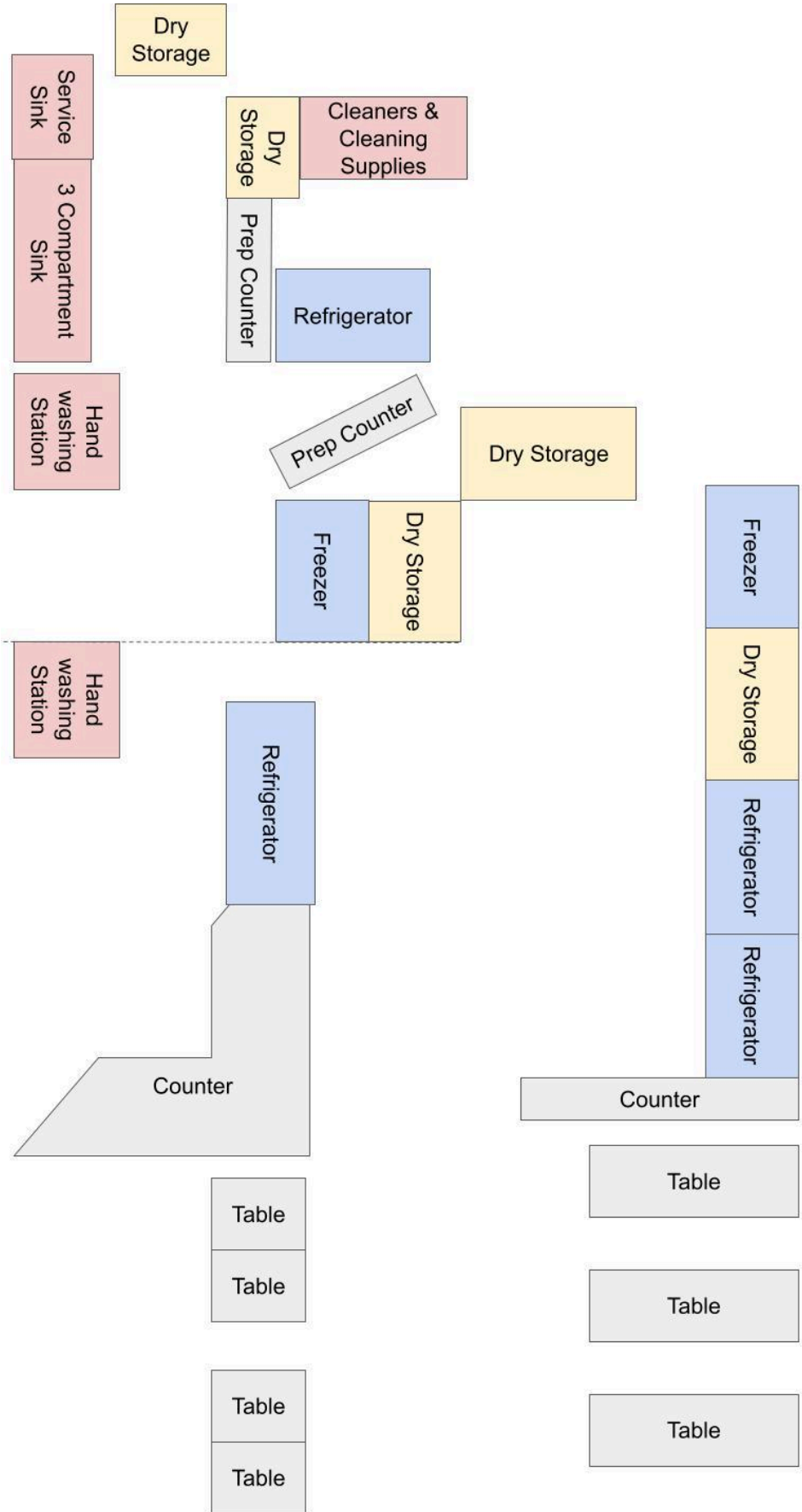
Figure 1. Restaurant facility's preparation, storage, and sanitation space.



Proposed Meal Kit: Chicken Parmesan Sandwiches w/ Caesar salad

Assessment:

Factors for adding a new recipe/meal kit to the rotation of meals in [redacted] needs to address the following: nutrition, financial availability, and most importantly familiarity. Individuals with intellectual and developmental disabilities are more likely to reject new food items or items that remind them of previous adverse experiences (APA, 2013). Creating a new menu item should incorporate familiar items while also expanding their already existing comfort foods. It should also meet the quantity - four servings per household (approximately 240 servings total) - as well as the quality - sensory and safety included - of the existing meal kits. Nutrition quality is also important, as individuals with intellectual and developmental disabilities are at increased risk of diet-related diseases such as obesity, heart disease, and diabetes (Gast et al., 2022). Managing a balanced diet and portion control is key to CSS's success.

Table 1: Purchasing and portioning.

Item	Serving Size	Distributor	Servings /Package	*Price /Package	Count	Total Price
Ciabatta Rolls	1 Roll	Sysco	64	9.75	4	39.00
Breaded Chicken Breast (Precooked)	4 oz	Sysco	40	24.00	6	144.00
Sliced Mozzarella Cheese	1.5 oz	Sysco	80	22.00	3	66.00
Prego Roasted Garlic and Herbs Tomato Sauce	½ cup	Giant Foods	5	2.50	62	155.00
Giant Premium Salad Chopped Romaine	2 cup	Giant Foods	3.5	2.99	62	185.38
Creamy Caesar Dressing Packet	1.5oz	Sysco	60	20.00	1	20.00
Cheese Parmesan and Romano	⅛ cup	Sysco	418	29.00	1	29.00
Carrot and Celery sticks	½ cup	Giant Foods	N/A	3.79	62	234.98
Apple	1 small	Giant Foods	135	80.00	2	160.00

Food service processes:

Menu planning, processing, purchase, procurement, retrieval, storage, assembly, and distribution must occur as it would with any other meal kit. For a new kit, it may be important to cross-reference the nutrition and pricing information of

different suppliers' products for new items outside usual purchases. For example, in Table 1, the reference prices for the Sysco items were taken from similar items for purchase in Arkansas (Sysco Arkansas, 2023); Maryland prices were not available without a Sysco retailer membership. These prices may be different and affect the favorability of the budget.

Meal Kit Components:

- Ciabatta Roll
- Breaded Chicken Breast (Pre-cooked)
- Sliced Fresh Mozzarella Cheese
- Tomato Sauce
- Caesar salad mix/Romaine lettuce
- Caesar salad dressing packets
- Parmesan Cheese
- Carrot sticks
- Apples
- 62 Plastic gallon bags and medium sheet protectors
- 1 recipe printout

***Analysis of workflow**:*

Workflow for this recipe revolves around the storage and assembly of the raw material. The chicken and ciabatta rolls should be repackaged into portions of four in appropriately sized bags. The fresh mozzarella cheese should be repackaged to contain 10-12 slices each or approximately half of the individual package of cheese. All repackaged bags should be labeled properly by restaurant staff and volunteers.

Fortunately, none of the food for this meal kit needs to be cooked at the [redacted] restaurant. The foods being repackaged are the only ones at increased risk of contamination.

***Nutritional Analysis**:*

*Analysis was derived from either Sysco's website directly, or similar items available from the USDA's Nutrient Database.

Item	Calories (kcal)	Fat (g)	Saturated Fat (g)	Carbohydrates (g)	Protein (g)	Sodium (mg)
Ciabatta Roll	290	4.5	0.5	53	8	560
Breaded Chicken Breast (Pre-cooked)	190	5	1	16	18	890

Sliced Fresh Mozzarella Cheese	70	5	3.5	0	5	85
Tomato Sauce	35	1	0	6	1	235
Caesar salad mix/Romaine lettuce	7	0	0	1	1	2
Caesar salad dressing packets	50	6	1.5	1	1	120
Parmesan Cheese	55	4.5	3	0	4	175
Carrot sticks	35	0	0	8	1	60
Apples	101	0.25	0	24	0.25	0
Total:	**833**	**26.25**	**9.5**	**109**	**39.25**	**2127**

After initial analysis of this meal kit, most of the items on the list are too high, particularly the fat and sodium content. The greatest contributors to these would be the Caesar dressing packets and the breaded chicken breast. To modify this meal plan, I'd substitute breaded chicken for a less processed chicken patty or chicken breast, and perhaps exclude the parmesan cheese from the salad kit. The ciabatta roll is also heavy on the Calories and sodium, so I'd search for another variety of bread that would be familiar to the residents but reduced those nutrients.

1. Set the oven to 350 F.

350

2. Cut ciabatta rolls in half and place on an aluminum foil covered baking sheet.

3. Spread tomato sauce on bread.

4. Top with chicken and mozzarella cheese.

5. Bake for 15 minutes.

6. Serve with salad!

References:

American Psychiatric Association. (2013). Feeding and Eating Disorders. In *Diagnostic and statistical manual of mental disorders: DSM-5* (5th ed, pp. 329–354). American Psychiatric Association.

Gast, D. A. A., de Wit, G. L. C., van Hoof, A., de Vries, J. H. M., van Hemert, B., Didden, R., & Giltay, E. J. (2022). Diet quality among people with intellectual disabilities and borderline intellectual functioning. *Journal of Applied Research in Intellectual Disabilities*, *35*(2), 488–494. https://doi.org/10.1111/jar.12958

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Quality Assessment of a Meal Kit Component

The meal kit component assessed for quality for this assignment will be that of dairy intolerance. Roughly 68% of the global population has some form of lactose or dairy intolerance (NIDDK, 2018), making it an extremely common occurrence in the food industry. Despite this, evidence has shown that food service workers are often unaware of food allergies or food components (Soon, 2020). This gap in knowledge can result in allergic reactions ranging from mild to fatal. Thirty-thousand individuals are hospitalized for allergic reactions each year, and approximately 150 to 200 of those cases are fatal according to the CDC; half of the reported cases are tied to food service establishments (Radke et al., 2017).

In 2004, Congress passed the Food Allergen Labeling and Consumer Protection Act (FALCPA) to assist with the confusion regarding packaged food and food labels (FDA, 2023). This required manufacturers to provide an ingredient list and identify intentionally-used allergens, especially the nine most common allergens (dairy, eggs, fish, shellfish, tree nuts, soy, sesame, peanuts, and wheat) (FDA, 2023). However, the risk of cross-contact between surfaces and materials in food processing negates this law's effectiveness (Yeung & Robert, 2018). It is necessary for an individual trained in allergens and cross-contact prevention to evaluate sensitive meal plans in a food service environment.

Table 1: Allergen prevention in [redacted] meal kits - dairy intolerance.

Meal Kit Component	Policies	Procedures	Target Value
Tzatziki Sauce (Yogurt Base)	Do not serve any products containing liquid milk, including milk-to-drink and yogurt.	Remove these items from the meal kit and provide a substitute if available.	The clients' target value is discretionary. Small gastrointestinal upset results from liquid milk consumption. However, without context, the target value should be close to zero.

Assessment*:*

The tzatziki sauce in question is Kronos brand, which includes nonfat dry milk and a warning label for milk allergen (Kronos Central, 2023). Given the nature that this product is processed, one may assume that this product is safe for consumption for someone with a liquid-milk dairy intolerance. However, it is important to check assumptions and take caution with allergies and intolerances. This sauce comes prepackaged from Sysco and is not made in house, so referring to the ingredients list is sufficient to prevent cross-contact.

Ingredients (Kronos Central, 2023): Water, Hydrogenated Coconut Oil, Nonfat Dry Milk, Cucumbers, Contains Less Than 2% Of Modified Food Starch, Guar Gum, Mono And Diglycerides, Locust Bean Gum, Carrageenan, Lactic Acid, Citric Acid, Natural Flavor, Granulated Garlic, Salt, Garlic, Lemon Juice Concentrate, Sugar, Potassium Sorbate.

Procedure:

Analysis of whether milk is present in this product is typically visual. Most yogurt sauces are made with a dairy base, as is the case with Kronos brand tzatziki. However, if someone were unsure of the product's origin or components, they should read the ingredients label and look for anything along the lines of milk or milk product. The meal kits constructed for those with food allergies or intolerances are assembled separately from the remainder of the kits to reduce the risk of introducing an allergen to the food.

Data collection should occur for clients with dairy intolerances; primarily whether or not they have the intolerance and whether their meal kits are received with a dairy product. This is a binary code for yes, the product is present, or no, the product is not present. If there is an error and the product is present, then immediate action should be taken to remove the allergen from the meal kit or prevent the client from receiving it.

Target values for dairy intolerances, unless it is an allergen specifically, is decided on a case-by-case basis. For example, in this case, the client is unable to consume liquid milk. Therefore, milks, yogurts, and other semi-liquid dairy products should not be introduced to the client's meal kits. Cheeses should be left up to the client's discretion unless specified to the food service staff.

When assembling this meal kit, it was important to make sure that enough of the tzatziki product was available to those without dairy intolerances but that it also did not come into contact with other meal kit components. It was repackaged into a small bowl with a lid and label in the back of the kitchen and then assembled at the front of the house. Most of the staff recognized the presence of milk in this product and had no issue identifying when it was and wasn't appropriate to provide it to clients. There is also a list prepared for food service staff of which items should be omitted from client meal kits that is cross-referenced against the products available in the restaurant.

Fortunately, due to the diligence of the dietetic and food service staff, none of the 4 meal kits with varying degrees of dairy intolerances received the tzatziki sauce. Little if

no cross-contact occurred when assembling the high-risk bags and placing them in the refrigerator for storage.

Strengths	Weaknesses
- Utilizing prepackaged food with ingredients labels increases the likelihood of catching an allergen before it makes it into a meal kit.	- Limited staff education on allergens and their sources. - Not enough space in the restaurant to prepare major allergens separately.
Opportunities	Threats
- Standardizing common items in the restaurant makes it easier for ordering and planning.	- Alternative products being used instead of the standard. - Cross-contact that occurs upstream of the consumer.

My recommendations for [redacted] would be to increase staff awareness of allergens and intolerances for clients, either through a brief training or by using postings in preparation areas. Standardizing the ordering process for items used for multiple recipes (ex. milk, yogurt) will help reduce the chance of items running out or requiring substitutions.

References:

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