MDI Intern
Quality Assurance
Allergies at GFPS

Description of the problem:

Food allergies, intolerances, and sensitivities pose a challenge to food service operations of all kinds. Great Falls Public School System (GFPS) has 21 schools, with 3 production kitchens and 18 satellite kitchens or serving areas. Per the Montana Office of Public Instruction and the USDA, the GFPS kitchens must serve reasonably modified school lunches to any student who has a food allergy, sensitivity, intolerance, or other special dietary need. Medical documentation is required if the meals served do not meet meal pattern requirements.

Currently, dietary needs information is usually sent to the school nurses from the student's family or medical provider, or is gathered from the student's medical history. The food service director for the school system (Jessa Youngers), collects this information at the central office and inputs it into a spreadsheet. The spreadsheet includes: student name, ID number, DOB, school, allergy/intolerance, additional information, whether or not there is an allergy form included, and the year. The information then is sent via email to each kitchen, and it should also pop up on NutriKids when the student enters their ID to purchase a meal. The production managers and team leads then work together to create and serve meals that are appropriate for the student.

There are many parts of this process that have become problematic for the food service department. Firstly, it is difficult to obtain accurate, timely information on allergies or special diets from the student, the student's family, or their medical provider. There is often a time gap between when an allergy or dietary need is initially communicated, and when clarifying information is sent to the involved parties. Additionally, the difference between a serious, life-threatening allergy versus an uncomfortable intolerance or a general food aversion can get lost in translation. For example, it is not uncommon for a diet order to be placed for a "milk allergy" that states a student can eat yogurt, cheese, or baked goods containing dairy. The process for clarifying these confusing diet orders with family and healthcare providers is somewhat unclear and often time consuming for food service employees and the food service director. Accommodating diet orders is already difficult for foodservice staff and adds a burden to their workday; adding the responsibility of interpreting unclear diet orders is not only difficult for the employees but can also be dangerous for students with dietary needs.

In addition to interpreting diet orders, food service staff (specifically production managers and team leads at each school) are responsible for creating meal accommodations for each student who has a special dietary need. This requires the ability to interpret diet orders, analyze recipes and ingredient lists, and come up with a menu alternative for each student. This process takes up a large percentage of the production managers' time and resources. For example, if Suzie at the Paris Gibson production kitchen has 3 students at 3 different schools with gluten allergies, she is currently preparing several individual servings of a gluten-free alternative to the menu item to be packaged in a lunchbox and sent for each student.

In an ideal world, a student with an allergy would be able to report the allergy to the school nurse in full detail, and this information would be sent to Jessa in a consistent and clear manner. Then, Jessa could send this information to the pertinent kitchen staff, and that staff would have a standard procedure for accommodating that student without having to spend more than a few minutes per day on each student's special dietary needs.

Plan for Improvement:

The plan for improving this process is threefold: develop an allergen-friendly (gluten, dairy, and soy-free) 5 day cycle menu for production managers to use when a student's diet order is in-process or is unclear (Appendix A), create a presentation on food allergies and cross contamination to be delivered to foodservice staff as a part of professional development training (Appendix B), and streamline a list of questions for school health professionals to use in order to collect pertinent information on a student's allergies (Appendix C).

1. **Menu**
    a. **Feasibility:** This menu uses only foods that are already a part of the regular GFPS kitchen inventory, and therefore should not add too much logistical burden in ordering or procurement. While this plan does not accommodate every student with an allergy, it will hopefully function as a helpful tool to accommodate many of the students with common allergies. One production manager has mentioned that she likes to create meal alternatives that are very similar to the daily hot entree menu item (i.e. gluten-free pasta on spaghetti day). It is possible that there would be some resistance to implementing this allergen-friendly menu for this reason. However, managers could simply use this menu as a tool or guideline for accommodating students, and its use would not have to be mandatory. This menu should not require any extra equipment.
    b. **Cost:** As mentioned above, this menu only uses foods that are already a part of the regular GFPS kitchen inventory, and thus shouldn't add cost to procurement or ordering. Streamlining the menu accommodation process will likely reduce the number of staff hours spent on student dietary needs, thus there would be a cost benefit to adopting this accommodation strategy.
    c. **Stakeholders:** The main stakeholders in this plan are Jessa, the food service director, and the production kitchen managers. The production kitchen managers are the people who would have the most involvement in the implementation of this solution, and their approval would likely be necessary to move forward with next steps.
    d. **Training/Equipment:** Production kitchen staff would require training on when and how to utilize this menu option. This training could be implemented as a part of the allergen presentation outlined below, or as a separate training done individually. It is unlikely that any new equipment would be necessary.
    e. **Desired Outcomes:** The allergen-friendly menu will provide a list of 5-6 reimbursable, compliant meals that can be served to any student with a gluten, dairy, and/or soy allergy. The desired outcome of this 5-day allergen menu is to standardize the process for accommodating students with common food

allergies, specifically before the student's diet order information has been finalized or clarified by their medical provider. This menu will provide a safe, standardized option for production managers to use to provide meals for these students without needing to worry about interpreting diet orders, analyzing ingredient lists, or creating new recipes. If implemented properly, this menu could provide a labor cost benefit by reducing the number of hours spent on accommodations by foodservice staff. It could also increase food safety for students with allergies, as the guesswork of interpreting food labels and recipes has been removed for foodservice employees.

f. **Evaluation:** To ensure the sustainability of the solution, this process should be consistently evaluated. Each production manager could practice implementing this sample menu one time for a student with a newly reported allergy or intolerance to dairy, soy, or gluten. Then, they would report their feedback to Jessa, and appropriate steps can be taken to alter or discontinue the sample menu process.

2. **Presentation**
    a. **Feasibility:** The foodservice director already has training days scheduled for mid-January, and has indicated that this presentation can be a part of that training. It is very feasible that this presentation can be given to many, if not all, of the food service employees in the district.
    b. **Cost:** There should be no costs associated with this presentation. This will not require any equipment purchases.
    c. **Stakeholders:** Jessa Youngers, the foodservice director at GFPS, and myself, MDI intern, will be responsible for implementing this plan. Other stakeholders include the people who will be present for the session.
    d. **Desired Outcomes**: The objectives of the presentation are that foodservice employees will be able to identify a food allergy, understand what happens in the body when an allergic reaction occurs, and list 3 ways to prevent an allergic reaction. It is the intention of the presentation to inform workers on basic allergy protocols, so that the safety of students with allergies is improved.
    e. **Evaluation:** This is likely to be a one-time training. However, an evaluation of the training could be provided after the presentation is complete. If there is information that food service employees feel they still need to learn, or if there is positive feedback on the presentation, it could potentially be altered and given again at next year's training.
3. **Questions for School Health Professionals**
    a. **Feasibility:** Developing this list of questions should not be particularly difficult, however implementing this new strategy with school health professionals may be a challenge. Jessa has implied that some nurses may be more able to use this list and collect pertinent information, while others may not have the time, energy, or resources. It is likely that Jessa will have to supply the nurses with this form, and also provide some amount of training, via email or in-person, on how she hopes the form will be used.

b. **Cost:** There should be no cost in the implementation of this project. It does not require the purchase of any equipment.
c. **Stakeholders:** The stakeholders for this project are Jessa, the production managers, school health professionals, and students and families with allergies or intolerances.
d. **Desired Outcome:** This list of questions will help to guide school health professionals (specifically nurses) in gathering information regarding students' allergies. Often, school nurses don't know the pertinent questions to ask students to guide foodservice employees in accommodating an allergy or an intolerance. This leads to confusing diet orders with varying interpretations. With a standardized and streamlined set of questions provided by the foodservice department, the hope is that nurses would be able to gather the most important and pertinent information without having to do the legwork and research themselves.
e. **Evaluation:** The list of questions can be provided to school health professionals at the beginning of the next quarter as a "pilot". After 10-20 questionnaires are returned to Jessa, she can evaluate the responses and collected information for relevance, accuracy, and helpfulness to the foodservice staff. Any necessary changes will be made to the questionnaire, and it will be sent out to the school health professionals again in a final draft. After this, the efficacy of the questionnaire can be re-visited before the beginning of each school year, and edits can be made accordingly.

APPENDIX: A

List of Protein Foods Free From Dairy, Soy, and Gluten:
Turkey deli meat
Taco meat
Hamburger patty
Turkey patty
Diced chicken
Meatballs
Hot dog

5 Day, Allergen-Friendly Menu (High School Servings): *dairy, soy, and gluten-free*

Day 1:
Hamburger
Hamburger patty (2 oz meat equivalent)
Hamburger bun (GF choice) (2 oz grain equivalent)
Lettuce and tomato topping (½ cup vegetable equivalent)
Gluten-free french fries (½ cup starchy vegetable equivalent)
Fruit cup option (1 cup)
Milk/Almond milk/lactose-free milk (1 cup)

Day 2:
Taco Salad
2 oz taco meat (2 oz meat equivalent)
1 cup salad mix (½ cup dark green vegetables)
½ cup additional vegetables (onion, bell pepper, cucumber)
2 oz diced tomato and 2 oz salsa cup (½ cup red/orange vegetables)
2 oz shredded cheese cup option (2 oz meat equivalent)
Whole grain tostitos (1.25 oz grain equivalent)
Fruit choice (1 cup)
Milk/almond milk/ lactose-free milk (1 cup)

Day 3:
Turkey patty (2 oz meat equivalent)
Hamburger bun (GF option) (2 oz grain equivalent)
Fruit option (1 cup)
Tomatoes or carrots (1 cup red/orange vegetable equivalent)
Milk/almond milk/lactose-free milk (1 cup)

Day 4:

BBQ Chicken

Diced chicken (2 oz meat equivalent) with Sweet Baby Ray's BBQ sauce
Rice (2 oz grain equivalent)
Baked beans (½ cup legume equivalent)
Fruit option (1 cup)
Milk/Almond milk/ Lactose free milk (1 cup)

Day 5:

Meatball Sub

5 meatballs (2 oz meat equivalent)
½ cup marinara (½ cup red/orange vegetable)
Hot dog bun (GF option) (2 oz grain equivalent)
Broccoli (1 cup dark green vegetable)
Fruit option (1 cup)
Milk/DF milk/Almond milk (1 cup)

Day 6 (Alternative option if the other menu days are inconvenient/repetitive):

Chicken Dinner

Diced chicken (2 oz meat equivalent)
Mashed potato (½ cup starchy vegetable equivalent)
Cranberry sauce (2 oz)
Whole wheat roll (or GF bun option) (2 oz grain equivalent)
Green beans (1 cup green vegetable equivalent)

Breakfast:

Day 1

Cereal

Cheerios cup
Milk/Almond milk/lactose-free milk
Fruit Choice

Day 2

Breakfast Sandwich

Bun (GF bun option)
Egg (no milk added)
Bacon
Fruit choice
Milk/Almond milk/Lactose-free milk choice

Easily Made Allergen-Friendly Meal Ideas

Cobb Salad (Gluten, Dairy, and Soy-Free)
Hard boiled Egg
Chopped turkey lunch meat (2 oz)
Lettuce (1 cup)
Tomato (½ cup)
Mixed veg (½ cup)- pepper, cucumber, carrots
Oil + Vinegar dressing (or other one-check for gluten/dairy/soy fillers)

Turkey Bacon Club Wrap (*GF Wrap Option) (Gluten, Dairy, and Soy-Free)
Turkey meat (1.5 oz)
Bacon (1 oz)
Lettuce (½ cup)
Tomato (¼ cup)
GF Wrap (Grain equivalent)
Condiments

Protein pack (Gluten and Soy-Free)
Whole Grain tostitos (2 oz grain)
Turkey deli meat, cubed (1.5 oz meat)
Grapes (½ cup fruit)
Cheese cubes/Cheese stick (1 oz meat alternative)
Carrots (1 cup orange vegetables)
Milk (1 cup)

APPENDIX: B

View the presentation here:
https://docs.google.com/presentation/d/1fbKKhOfJXNbag2GK0J_WpkL5_UglHptRSRzXLtA6Rno/edit?usp=sharing

APPENDIX: C
ALLERGY AND INTOLERANCE PROTOCOL
Completing Diet Orders

Always make contact with the family to ask the pertinent questions highlighted in red:

1. **If a milk allergy is indicated:**
    a. **Distinguish from an intolerance.** An allergy is an immune system response and is often life-threatening, no milk or dairy can be ingested. An intolerance is not life-threatening, and some dairy products can sometimes be tolerated. If the student only has an intolerance, that is very important for kitchen staff to know.
        i. **Is lactose-free milk a suitable option?**
        ii. **Can the student have cheese?**
        iii. **Can the student have yogurt?**
        iv. **Can the student have products with dairy baked into them?**
    b. **If the student has an allergy and cannot consume any dairy products**
        i. **Does the student request a substitution for dairy products?** Almond milk is the non-dairy milk alternative offered at GFPS
        ii. If the family does not want a milk/dairy substitution, the student may simply choose to not have milk.
2. **If an egg allergy is indicated:**
    a. **Determine the severity**. Some students who report having an allergy state that they are able to consume eggs in baked goods, but not scrambled or whole eggs. This is conflicting information for the kitchen staff. To help our kitchens accommodate these allergies, please ask the following clarifying questions:
        i. **Can the student have products with eggs baked into them?**
        ii. **Can the student have products that say "Contains Eggs"?**
        iii. **Can the student have products that say "May Contain Eggs"?**
3. **If a soy allergy is indicated:**
    a. **Determine the severity.**
        i. **Can the student consume products made with soybean oil?**
        ii. **Can the student consume soy lecithin?**
        iii. **Can the student consume products that say "Contains Soy"**
        iv. **Can the student consume products that say "May Contain Soy"**
4. **If a wheat or gluten allergy is indicated:**
    a. **Determine the severity.** It is becoming more common for students to report gluten sensitivities. Other students may have celiac disease, which is a severe autoimmune response to gluten. It is important for kitchen staff to know the severity of the gluten allergy or intolerance to properly accommodate each student.
        i. **Does the student have celiac disease?**
        ii. **Does the student have an anaphylactic allergic reaction to gluten?**
        iii. **Does the student have a gluten sensitivity?**
        iv. **Can the student consume foods that say "Contains Wheat"**
        v. **Can the student consume foods that say "May Contain Wheat"**
5. **If a nut allergy is indicated:**
    a. **Determine the type.**

i. **Is the student allergic to peanuts?**
ii. **Is the student allergic to tree nuts?**
iii. **Can the student consume foods that say "May Contain XX Allergen"?**

6. **If a citrus allergy is indicated:**
    a. **Determine the severity.**
        i. **Can the student consume citric acid?**
        ii. **Can the student consume small amounts of citrus juice used to flavor products such as BBQ sauce?**
7. **If another form of allergy is indicated:**
    a. **Determine the severity.** Families may not understand the difference between an allergy, an intolerance, and a sensitivity. An allergy is often life-threatening, and none of the food can be ingested. An intolerance or sensitivity is not life-threatening, and some of the food products can sometimes be tolerated. **This distinction is very important for food staff to know so that they can properly accommodate the student.**
        i. **Can the student consume an item with a food label that states "Contains XX Allergen"?**
        ii. **Can the student consume an item that says "May Contain XX Allergen"**
        iii. **Can the student consume an item that says "Processed in a Facility That Also Processes XX Allergen?"**