

# Developing and Implementing an Effective Food Allergen Labeling Program: A Case Study from CU Boulder

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## Learning Objectives:

- Review of food allergy prevalence
- Food allergens to label for
- Identify steps to develop labeling system
- Identify steps to implement labeling system
  - Staff training
  - Marketing

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### Overview of CU's Program (2014)

- Operations:
  - 4 All You Care to Eat (AYCTE) Facilities
  - 4 Grab-n-Go Operations
  - 3 Convenience Stores + Late night café
- Staff:
  - 35 Professional Exempt Staff
  - 196 FTE
  - Over 350 student employees

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### Overview of CU's Program (cont.)

- 6500 resident diners
  - plus off campus students and faculty/staff
  - Over 2.3M meals served FY 2014
- Customers with food allergies/intolerances:
  - Estimate up to 650 - 700 (10 - 15% of population)
  - Actually seen: 50 - 75/year

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### Snapshot of Ag Identified

- Recognized need for Allergen Identification 13 years ago
- Program initiated 11 years ago
  - First year in all dining centers
  - Second year in all grab-n-go operations

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# Identifying Allergens

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## National Food Allergen Trends

- Increase in food allergies and intolerances
- 1 in 13 children have a food allergy
- 15 million Americans have a food allergy or intolerance (1 in 25 people)
- In US, 90% food allergies due to 8 major allergens
- CDC 2013 Report: food allergies in children increased 50% from 1997 – 2011

(FARE)

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## Food Allergies Have Affected our Society...

- Schools/child care centers/camps have developed food allergy policies
- Allergen information posted in restaurants
- Allergen information on packaged food
- Peanut-free or food-free seating at baseball games
- Increased media coverage
- Increased inclusion in tv shows, films, etc.

(FARE)

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### Diagnosis

- Skin prick test
- Blood test
- History of symptoms
- Oral food challenge

(FARE)

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### Symptoms of an allergic reaction

**Mouth**

- Itchy, tingling, swelling of lips/tongue

**Throat**

- Hoarseness
- Tightening of throat/difficulty swallowing
- Hacking cough

**Nose**

- Hay fever-like symptoms: runny, itchy nose; sneezing; and/or watery, red eyes

**Lungs**

- Shortness of breath, wheezing
- Repetitive, hacking cough

**Skin**

- Hives, rash, redness, itching
- Flushing (redness & warmth)
- Swelling of face or extremities

**Heart**

- Low blood pressure, weak pulse
- Pale, blue color
- Dizzy, fainting

**Gut**

- Cramps/pain
- Nausea, vomiting, diarrhea

**Other/Mental**

- Anxiety, "sense of impending doom"

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### Allergen vs Intolerance

Food Allergen	Food Intolerance
<ul style="list-style-type: none"> <li>• A reaction that involves the immune system (IgA or IgE mediated)</li> <li>• Typically involves a protein</li> <li>• Can exhibit in a variety of symptoms – respiratory system, GI tract, skin, cardiovascular</li> <li>• Can be anaphylactic, resulting in death</li> <li>• Very small amount can cause reaction</li> </ul>	<ul style="list-style-type: none"> <li>• A reaction that does not involve the immune system</li> <li>• Digestive tract leaks enzyme to break down food molecules (eg. lactose and gluten)</li> <li>• Is very individualized</li> <li>• Can exhibit in a variety of symptoms</li> </ul>

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**Eight Major Allergens in the US**

- Tree Nuts\*
- Peanuts\*
- Fish\*
- Shellfish\*
- Dairy
- Eggs
- Soy
- Wheat

\*most likely to cause anaphylactic reaction

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**Most Common Food Allergens**

- **Milk, Egg, Wheat, Soy**  
Most common in children; often outgrown
- **Peanuts, Tree Nuts**  
Typically not outgrown
- **Fish, Shellfish**  
More common in adults; can develop later in life

*(FARE)*

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**Anaphylaxis**

- Serious reaction that happens quickly and can lead to death
- More common in those individuals that also have asthma
- Most common allergens: peanut, tree nut, shellfish, fish

*(FARE)*

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### Causes of Fatal Reactions

- Victims did not receive epinephrine in time – didn't carry epi pen or not administered in time
- Most victims under age 20
- Most had asthma
- Most caused by peanuts or tree nuts
- Most had history of previous reactions

(FARE)

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### Gluten – the “9<sup>th</sup> Allergen”

Celiac Disease = Gluten Intolerance

**BROW** (Barley, Rye, Oats, Wheat)

Variety of symptoms, including but not limited to:

- diarrhea, constipation, gas, cramps, bloating, vomiting
- malnutrition
- mood, behavior changes
- aches
- skin – hives, rashes, itchiness, eczema

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### High Risk Foods for Allergens

- Sauces
- Desserts
- Fried foods
- Buffet tables, cafeteria settings
- Entrees covered in breading/pastry
- Combination foods (soups, stews, casseroles)

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### Hidden Sources of Allergens

- Sauces
- Garnishes
- Marinades, Brines
- Salad dressings
- Plate decorations
- Cross contact (= same utensil for multiple food items)

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### Where Allergens Hide - Examples

Allergen	Hidden in...
Wheat	any sauce, soy jam (beef bread)
Eggs	caramelized onion, milk breading, chili bun/bun
Dairy	cheese, high protein flour, sausage, chicken base
Peas	flourings, Mung and other noodles, breads
Soy	vegetable broth and gum, pan spray, marinated, delicate herbs, olive oil blend
Fish and shellfish	vegetarian/vegan sauce, flavorings, Thai Green Curry Paste
Grains	crust, rice, pasta, flourings
Peanuts	crust, chili, Asian stir-fry

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### Cross Contamination/Cross Contact

- Grills
- Griddles
- Kitchen utensils and knives
- Salad Bar
- Refillable storage containers
- Bakery items
- Deep Fryers
- Cutting Boards
- Gloves
- Spilled or splashed food
- Garnishes
- Self Service Utensils

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**Preparation Methods**

- What do you garnish with?
- How do you keep pasta from sticking together?
- Do you ever substitute pasta shapes?
- Do you ever use nut oils to finish a dish?
- Do you oil potatoes prior to baking?
- How do you keep your roast moist after slicing?
- Are you creative with leftovers?
- Did you add anything to the recipe to enhance it?

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**Safest Foods**

- Simple foods without sauces
- Baked or broiled foods

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**Considerations for Developing a Labeling System**

- What items/allergens to identify
- Automated database of ingredients/recipes
- Consistency of product sourced/received

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**Developing a Labeling System**

**1.** Determine which allergens to screen for

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**Developing a Labeling System**

**2.** Develop algorithm and screening form

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**Developing a Labeling System**

**3.** Develop a list of hidden ingredients

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### Developing a Labeling System

4.

Investigate ingredient labels on all items received (not just bid items)

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### Developing a Labeling System

5.

Analyze label – ingredients **and** allergen statement

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**Initial Screening Form**  
 Allergen System: Allergen Code (dec. 3.0) CICRD entered

- contains EGG ingredients
- contains FISH ingredients
- contains GLUTEN ingredients
- contains MILK (cow) ingredients
- contains PEANUT ingredients
- contains SESAME ingredients
- contains SOY ingredients
- contains TREE NUT ingredients
- contains WHEAT ingredients
- processed in facility that also processes PEANUTS
- processed in a facility that also processes TREE NUTS
- processed in a facility that also processes SHELLFISH

Screened by \_\_\_\_\_ Date \_\_\_\_\_

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**Developing a Labeling System**

**6.** Input into CBORD  
FSS as a trait

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**Developing a Labeling System**

**7.** Recipes – query utilized to  
ensure all ingredients have  
been screened

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**Developing a Labeling System**

**8.** Develop labeling  
program –  
menu tags

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 <p><b>Sample 1: Incomplete Screening</b></p> <p><sup>A</sup> allergen : <i>Not yet screened for allergens. Contact manager with questions *</i></p> <p><small>* The item may have been processed on equipment also processing foods containing Eggs, Fish, Gluten, Milk, Peanuts, Shellfish, Soy, Tree Nuts, &amp; Wheat.</small></p>	 <p><b>Sample 2: Allergen Free</b></p> <p><sup>A</sup> allergen : <i>None *</i></p> <p><small>* The item may have been processed on equipment also processing foods containing Eggs, Fish, Gluten, Milk, Peanuts, Shellfish, Soy, Tree Nuts, &amp; Wheat.</small></p>
 <p><b>Sample 3: All Allergens Present</b></p> <p><sup>A</sup> allergen : <i>Eggs, Fish, Gluten, Milk, Peanuts, Shellfish, Soy, Tree Nuts, Wheat *</i></p> <p><small>* The item may have been processed on equipment also processing foods containing Eggs, Fish, Gluten, Milk, Peanuts, Shellfish, Soy, Tree Nuts, &amp; Wheat.</small></p>	 <p><b>* Sample 4: Vegan items in green color font</b></p> <p><sup>A</sup> allergen : <i>Gluten, Wheat *</i></p> <p><small>* The item may have been processed on equipment also processing foods containing Eggs, Fish, Gluten, Milk, Peanuts, Shellfish, Soy, Tree Nuts, &amp; Wheat.</small></p>

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## Developing a Labeling System

9.

Create appropriate disclaimer

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### Disclaimer Example

To the best of our knowledge the information provided with respect to food allergens served in our facilities is accurate. Vendors and products may change ingredients without our knowledge. Furthermore, the University of Colorado Housing and Dining Services facilities process food products that contain all the following allergens and gluten: egg, fish, milk (casein), peanuts, shellfish, soy, tree nuts, and wheat.

The screening criteria we used is based on information provided by the Food and Drug Administration (FDA), the Food Allergy and Anaphylaxis Network (FAAN) and Celiac Sprue Association. If you have questions or concerns relating to food allergen ingredient consumption, contact Lauren Helling, Registered Dietitian, Coordinator of Sustainable Dining ([Lauren.Helling@colorado.edu](mailto:Lauren.Helling@colorado.edu)) or 303-492-3311.

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### Anticipated vs. Actual Timeline

Task	Anticipated Timeline	Actual Timeline
Determining which allergens to screen for	1 day	1 day
Developing algorithm and screening form	1 week	1 week
Contacted vendors for all ingredient information	1 month	Over 6 months
Screened all ingredient statements	2 weeks	Ongoing over 6 months, dependent on vendors
Developed training program for culinary staff	1 week	1 month
Developed signage	1 week	2 weeks
Developed web language	1 day	2 weeks

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### Resources Utilized

- Food Allergen Labeling and Consumer Protection Act (FALCPA) of 2004 (implemented 2006)
- Food Allergy Research and Education (FARE) (formerly Food Allergy and Anaphylaxis Network (FAAN))
- Celiac Sprue Association
- Manufacturer and Distributor supplied product data

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### Implementing a Labeling System

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### Training Considerations

- Culinaricians – label reading, preparation techniques, cross contact potential
- Labeling – appropriate, accurate
- Ongoing – refreshers, new info, reminders
- Audits, on site visits

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### Marketing Considerations

- Communicating with students and parents (customers)
  - Educational tool
  - Responsibilities of individual, all customers, University
- Navigation of Dining Operations:
  - Areas to be aware of with more allergens
  - Asking for product before it "hits the public line"
  - Asking questions; ask for help
- Additional resources

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### Marketing Considerations (cont.)

- Appropriate Signage
  - "Not an allergen free zone"
  - "Avoid Cross Contamination"
  - "Ag Free Zone"
- Individual labels

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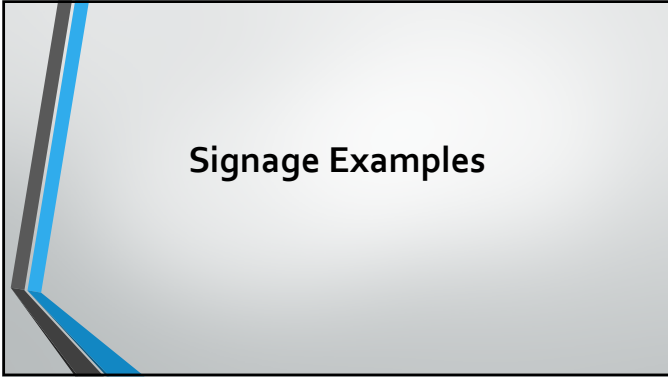
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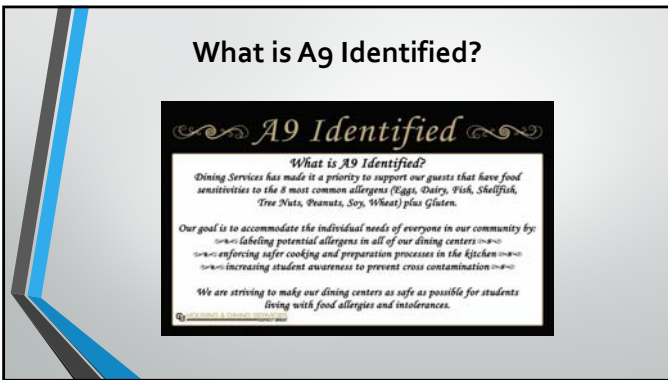
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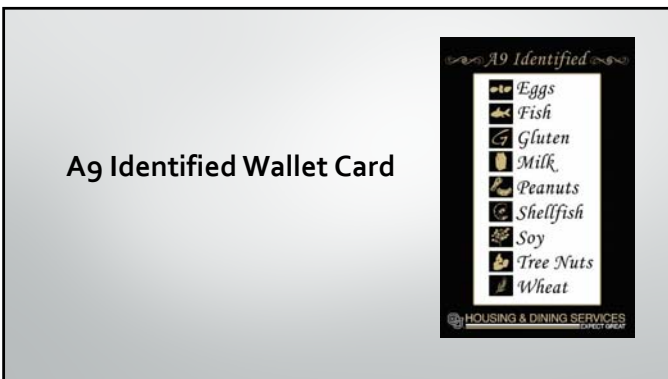
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**Avoid Cross Contamination**

*A9 Identified*

*In support of our customers with food allergies or preferences, these products are provided. Please do not cross contaminate.*

HOUSING & DINING SERVICES  
EXPECT GREAT

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**Not an Allergen Free Zone**

*A9 Identified*

*This is not an allergen free zone*

HOUSING & DINING SERVICES  
EXPECT GREAT

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**Allergen Alert  
(for dessert station)**

*A9 Identified*

**Allergen Alert!**  
Food in this station has high potential for cross contact with the following A9 Allergens:

Eggs, Milk, Gluten, Peanuts, Soy, Tree Nuts, and Wheat

\*This product may have been manufactured on equipment or in a facility that also processes foods containing: Eggs, Peas, Gluten, Milk, Peanuts, Shellfish, Soy, Tree Nuts, & Wheat.

HOUSING & DINING SERVICES  
EXPECT GREAT

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### Sample Labels – No Allergens




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### Sample Labels – Allergens Present




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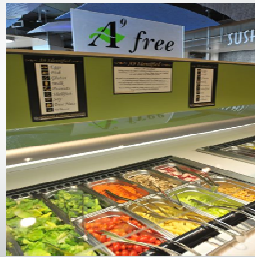
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### A9 Free Salad Bar with Signage




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**Measurements of Success**

- Decreased customer complaints
- Decreased Meal Plan Petitions
- Positive feedback
- Educated staff

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**Concluding Thoughts and Next Steps**

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**Lessons Learned**

- Research takes time and manpower
- Organization of tasks to undertake
- Lots of detail to keep track of
- Continuous training
- Continuous marketing

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**First Six Steps**

- Define your program (allergens to note)
- Choose your resources/authorities
- Develop screening tool and algorithm
- Work with vendors to get ingredient labels
- Develop labeling system
- Implement labeling system

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**Questions?**

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**Thank You**

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