



FOOD SAFETY ON THE GO

November 7, 2019



**The National
Resource Center on
Nutrition & Aging**

Introduction & Housekeeping

FOOD SAFETY RISKS FOR OLDER ADULTS

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AMBITION
CAN'T
WAIT



Drexel
UNIVERSITY



AGENDA

- Review of foodborne pathogens and the foods associated with them
- Review of foodborne pathogens associated with food handlers
- Identification of steps to prevent foodborne illness
- Consumers at higher risk for foodborne illness
- Identification of high risk foods to avoid
- Take home messages



LEARNING OBJECTIVES

- Identify pathogens and the foods that they are commonly associated with
- Identify food handling practices that can reduce the risks for foodborne illness
- Identify foods that older adults should limit/avoid



MAJOR PATHOGENS – FOOD ASSOCIATIONS

- *Salmonella* – raw poultry, raw meats, eggs
- *Campylobacter* – raw poultry, raw meat, raw milk
- *E. coli* O157:H7 and other enteropathogenic *E. coli* – undercooked ground beef, raw milk, unpasteurized apple cider



MAJOR PATHOGENS – FOOD ASSOCIATIONS

- *Listeria monocytogenes*
 - Can grow at refrigerated temperatures
 - Illness in older adults more likely to lead to complications that result in serious illness or death



MAJOR PATHOGENS – FOOD ASSOCIATIONS

- *Listeria monocytogenes*
- Food potentially contaminated
 - Lunchmeat
 - Raw hotdogs
 - Pre-packaged leafy greens
 - Dairy products, especially when made with raw milk



MAJOR PATHOGENS – PREVENTION

- Don't consume raw foods
 - Raw milk
 - Cheeses made from raw milk
 - Undercooked hamburger or ground poultry
 - Runny yolk eggs
 - Raw hotdogs



MAJOR PATHOGENS – PREVENTION

- Don't cross contaminate
 - Keep raw meats, poultry and seafood away from other foods
 - Use separate cutting boards or prepare directly in packaging
 - Use separate knives, utensils, etc.
 - Wash hands thoroughly after handling raw meat/poultry/seafood



MAJOR PATHOGENS – PREVENTION

- Don't cross contaminate

DON'T WASH YOUR CHICKEN!



MAJOR PATHOGENS – PREVENTION

- Use a thermometer to make sure meats are cooked to the appropriate temperatures.



MAJOR PATHOGENS – PREVENTION

- Make sure refrigerator is working properly and cold enough
 - 40°F or less



MAJOR PATHOGENS – PREVENTION

- Throw away foods in a timely manner
 - Deli sliced or open lunchmeat – 3-5 days
 - Meat and poultry leftover – 2-3 days
 - Raw poultry – 1-2 days



MAJOR PATHOGENS – MISHANDLING ASSOCIATIONS

- Norovirus
- Hepatitis A
- *Shigella*
- *Staphylococcus aureus*



- These are viruses and bacteria that individuals carry and may or may not show symptoms of the illness themselves
- They get into food when the individual that carries the pathogens prepares/handles food

MAJOR PATHOGENS – MISHANDLING ASSOCIATIONS

- Prevention:
 - Handwashing before any preparation or handling of food
 - Don't allow sick individuals to prepare or handle foods



CONSUMERS AT GREATER RISK FOR FOODBORNE ILLNESS

- Children
- Pregnant women
- Immunocompromised individuals
- Older adults



IMMUNOCOMPROMISED INDIVIDUALS

- Diabetes
- Liver or Kidney disease
- Organ transplants
- HIV/AIDS
- Chemotherapy or Radiation treatment



OLDER ADULTS (55 YEARS AND OLDER)

- Immunity starts to decrease at 55 years
- More likely to have medical complications and death from common foodborne illnesses
- *Listeria monocytogenes* – incidence is increasing among older adults as it decreases in pregnant women



HAZARDOUS FOODS/FOOD SOURCES

- Foods all consumers should avoid:
 - Raw milk
 - Raw Seafood
 - Unpasteurized apple cider/fruit juices
 - Undercooked ground beef or turkey
 - Runny yolk eggs



HAZARDOUS FOODS/FOOD SOURCES

- Foods consumers at high risk (older adults) should avoid:
 - Sprouts
 - Lunchmeat (turkey!)
 - Raw hotdogs
 - Buffets/takeout food not thoroughly heated
 - Bagged salads/greens



TAKE HOME MESSAGES

- Wash hands regularly and thoroughly
- Cook raw foods thoroughly
- Don't cross contaminate ready to eat foods with raw foods
- Ensure refrigerators are 40°F or below
- Throw away foods/leftovers in a timely manner
- There are certain foods that older adults should avoid



REFERENCES

- The Partnership for Food Safety Education
<http://www.fightbac.org/>
- U.S. Department of Agriculture resources for older adults
https://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/at-risk-populations/older-adults-and-food-safety/ct_index
- <https://drexel.edu/dontwashyourchicken/>



THANK YOU!



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Q & A

FOOD SAFETY RISKS ACROSS THE FOOD CHAIN AND HOW TO REDUCE THEM



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**FEARLESS
IDEAS**



AGENDA

- Review the nature and sources of hazards across the food chain;
- Discuss critical control points across the food chain where food safety risks are heightened;
- Describe tools and strategies that senior nutrition program providers can leverage to insure appropriate temperature control during food delivery.



LEARNING OBJECTIVES

- Identify biological, chemical and physical hazards across the food chain
- Identify a range of tools and techniques to reduce the risk of foodborne illness
- Discuss opportunities to control temperature during food delivery



NATURE OF HAZARDS

- **Biological**

- Bacteria, viruses

- **Chemical**

- Allergens, pesticide residues, antibiotic residue, heavy metals, mycotoxins

- **Physical**

- Foreign matter, glass, metal shavings



SOURCES OF HAZARDS

- **Ingredients**

- Known relationships between ingredients and hazards

- **Process**

- **Validated** processes reliably control the hazards. Cooking, acidulation, temperature control.

- **Environment**

- Clean and sanitary environment reduces the re-contamination of food after cooking.

- **People**

- Can be the first line of defense against contamination but can also be a source of contamination



BIOLOGICAL HAZARDS

Ingredients

Evaluate the risk of individual food ingredients

Egg- Salmonella-
use pasteurized eggs

Develop a supply-chain program to ensure the ingredients do not pose these risks

Certificate of analysis, certificate of guarantee

Process

Use validated processes to ensure pathogens are inactivated

E.g. Poultry, minimum internal temperature of 71 °C for at least 1 s.

Where to find this information?

- Food Code
- FDA guidance document

Environment

Cleaning and sanitation of food contact AND non food contact surfaces

Develop SOP, Follow manufacturer's recommendations

Consider environmental monitoring program

Listeria, Salmonella

People

Training

Servsafe, FDA HARPC training

Training

Food safety culture



TEMPERATURE CONTROL DURING TRANSPORTATION

- Critical across the entire food system
- Avoid food to remain between 40 and 140 F for extended time: The danger zone
- Delivery mode and time highly variable: within 1 hr is the target



POLL #1

How do you ensure that your customers receive a warm meal?

- A. Schedule short routes
- B. Recruit more volunteers
- C. Monitor temperature during transit
- D. Use insulated packaging
- E. Some combination of the strategies mentioned above



STRATEGIES TO CONTROL AND MONITOR TEMPERATURE

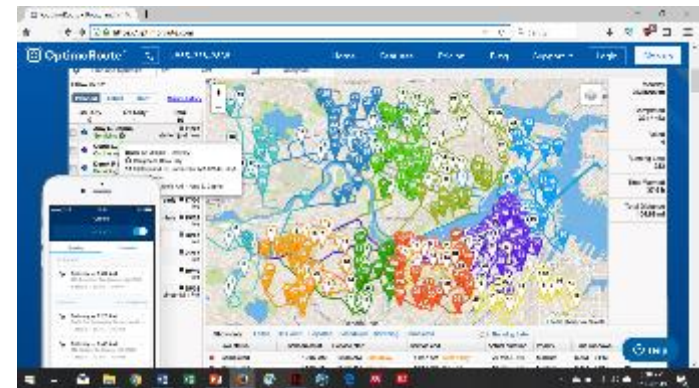
Insulated delivery boxes

- Anticipate variability during delivery: storage in vehicle cabin vs trunk.
- Know-how from 'meal kit delivery companies'
- Insulated box liners \$1-2/liner retail depending on size,
- Possibly re-usable



Amazon.com

Scheduling the route: Technology



Optimoroute.com



STRATEGIES TO CONTROL AND MONITOR TEMPERATURE



7-level reversible temperature indicator, ~\$1/unit

<http://www.tiptemp.com/Products/Seven-Event-Reversible-Temperature-Label/TLCSEN006-Temperature-Label-7-Level-Strip-4.html>



Green LED when acceptable, Red LED when temp falls or exceeds programmed **temperature** for programmed **time**, ~\$9/unit, fully re-usable, 2-yr life

<http://www.tiptemp.com/Products/F9od-Service-Transportation-Fridge-Electronic-Recorders/ESCREC013-K1-1-Intelligent-Transit-Temperature-Alert-Indicator.html>



STRATEGIES TO CONTROL SANITATION

- Develop Standard Operating Procedures
- Determine cleaning and sanitation frequency
- Verify the efficacy of sanitation
- Invest in sanitizable food contact equipment
- Environmental monitoring program
 - Diligently look for indicator microbes within your facility



ATP tests to verify sanitation

Hygiena.com, 3M.com

Luminometer: \$1000-2000, per test
\$1-2



POLL #2

Do you have an environmental monitoring program in your kitchen?

- A. I know what it is and do have one
- B. I know what it is but don't have one
- C. I don't know what it is and don't have one
- D. Not sure



POLL #3

Are food allergies among the clients you serve an issue for your program?

- A. Yes
- B. No

If yes, please type into the chat box the kinds of food allergies that your clients experience.



CHEMICAL HAZARDS: ALLERGEN

Ingredients

Evaluate the allergen profile of the ingredients

-Carry through allergen information, "May contain" labeling

Process

Proper storage of allergens

Separation of allergenic from non-allergenic ingredients, accurate labeling with pictures, use of color coding

Color coding of handling equipment

Scheduling the food manufacturing to reduce cross-contamination

-Label review

Environment

Minimize dusting of allergens

Pay attention of facility set-up, product flow, air flow

Develop and verify cleaning procedures for shared equipment

People

Training

Servsafe-Allergen, FDA HARPC training

Training

Food safety culture



ALLERGEN VERIFICATION TOOLS



Hygiena, Pro-clean,
Can detect 20 μg of
protein within 10
minute, ~\$3/unit



3M™ Clean-Trace™
Surface Protein Plus
Test Swab PRO100, 50
 μg of protein, ~\$3/unit



Tests for specific
allergens such as almond,
peanut, milk, shell-fish,
more expensive, more
specific

TAKE HOME MESSAGES

- Develop a food safety culture within your operation
- Continued food safety training is critical
- Evaluate your ingredients, operations and transport from food safety perspective
- Use cooking steps that adequately ensure inactivation of pathogens
- Ensure that your kitchen environment is not the source of contamination
- Evaluate the allergen profile of your operation



**THANK YOU FOR THE
GREAT WORK YOU DO!**



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Q & A



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Overview of Food Safety on the Go Resources

FOOD SAFETY ON THE GO – THEN AND NOW

- The goal of home-delivered meal programs is to help homebound adults remain independent in their communities of choice.
- In 2012, researchers at the University of Maryland College Park collaborated with Meals on Wheels America, with funding from the U.S. Department of Agriculture, to create Food Safety on the Go.
- With added support from the NRCNA, we are pleased to release a refreshed version of this resource.



FOOD SAFETY ON THE GO – GOAL & DESIGN

- Food Safety on the Go is the first of its kind, a practice-informed and research-informed training resource for home-delivered meal programs.
- Its goal: to improve food safety knowledge and practices of home-delivered meal program staff, volunteers, and clients.
- It is comprised of 6 Modules from which staff can select trainings needed to meet their needs.
- **All staff and volunteers should complete Module 1, as well as other relevant modules.**



DISCUSSION QUESTION VIA CHAT BOX

- Please share what food safety staff/volunteer training needs you have?
- There is interest in more resources related to staff/driver hygiene, auto cleanliness standards, rapid food safety assessments for drivers when interacting with clients.

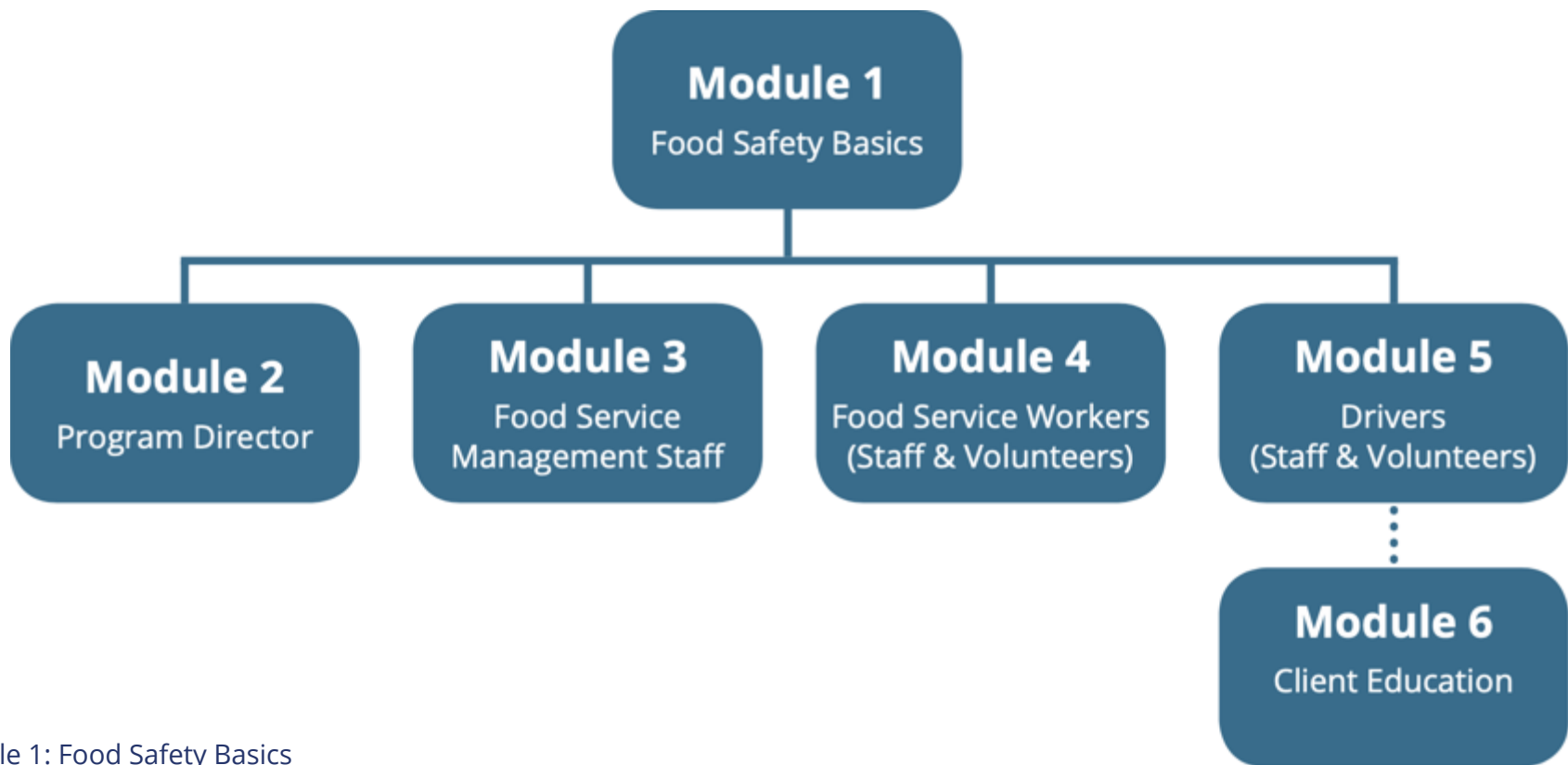


FOOD SAFETY ON THE GO - REFRESHED

- Goal: to update the 2012 Food Safety on the Go training for 2019 and beyond
- The Food Safety on the Go resources provide a training opportunity for both:
 - *Individual learning:*
 - Through self-directed study
 - *Group training:*
 - Through a group session led by a trainer
- Let's take a quick tour...



FOOD SAFETY ON THE GO - MODULES



- Module 1: Food Safety Basics
- Module 2: Program Director
- Module 3: Food Service Management Staff
- Module 4: Food Service Workers (Staff and Volunteers)
- Module 5: Drivers (Staff and Volunteers)
- Module 6: Client Education



FOOD SAFETY ON THE GO – MODULE REVIEW

Module 1

- Food safety basics for all staff and volunteers
- Food safety essentials for older adults

Module 2

- Emphasizes the importance of food safety training for all staff and volunteers
- Review of adverse consequences of foodborne illness outbreak

Module 3

- Targeted to food service staff
- Discusses recommended procedures from food purchasing to delivery



FOOD SAFETY ON THE GO – MODULE REVIEW (CONT.)

- **Module 4**

- Targeted to food service workers
- Focus is on safe food handling

- **Module 5**

- Targeted to home-delivered meal drivers
- Focuses on procedures for delivering safe meals

Module 6

- Resource for use in creating either a magnet or flyer for clients



MODULE 6 SNEAK PEEK

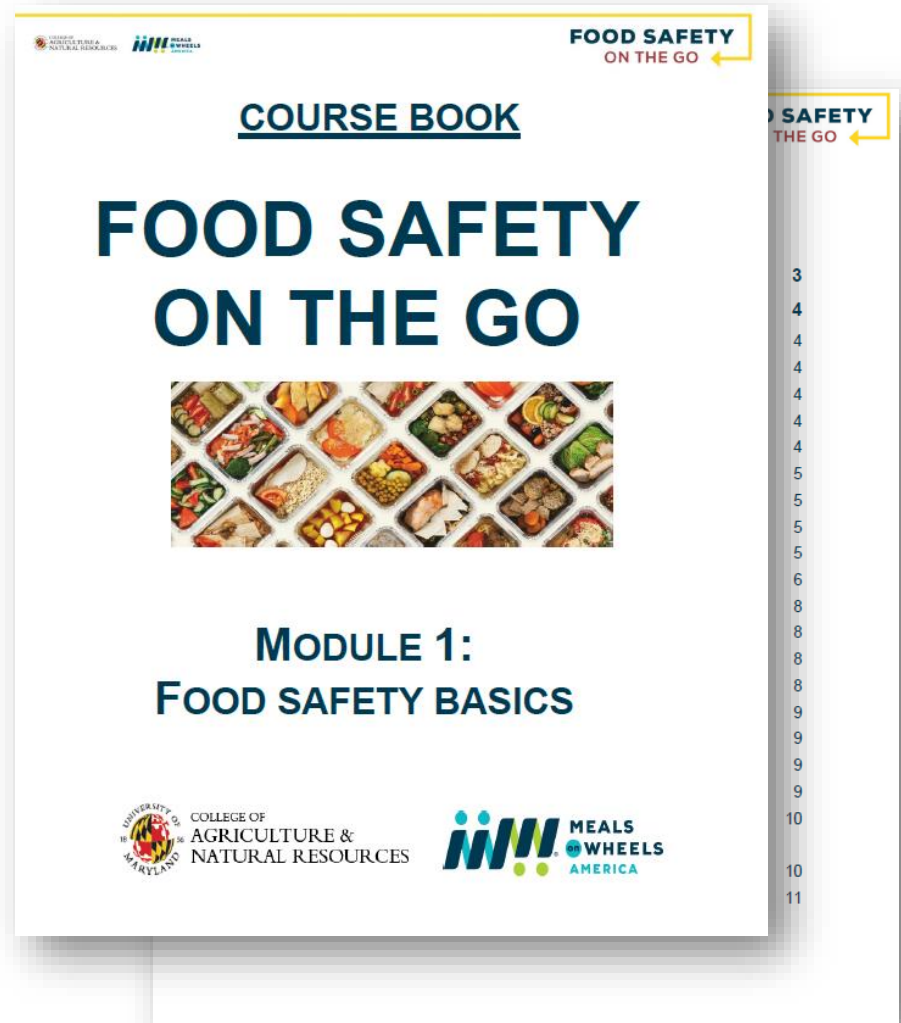
- Here are examples of the templates:



FOOD SAFETY ON THE GO RESOURCE DEEP DIVE

FOOD SAFETY ON THE GO – COURSE BOOKS

- Course Books – provide a written overview of each module



FOOD SAFETY ON THE GO – POWERPOINT SLIDES

- Slide Decks - Provide a platform for presentation of each module

FOOD SAFETY ON THE GO

MODULE 1: Food Safety on the Go

Module 1

Audience:

- All staff and volunteers
- \
- (



Salmonella Outbreak in 2015

People infected with the outbreak strains of *Salmonella* Poona, by state of residence, as of October 14, 2015 (n=767)



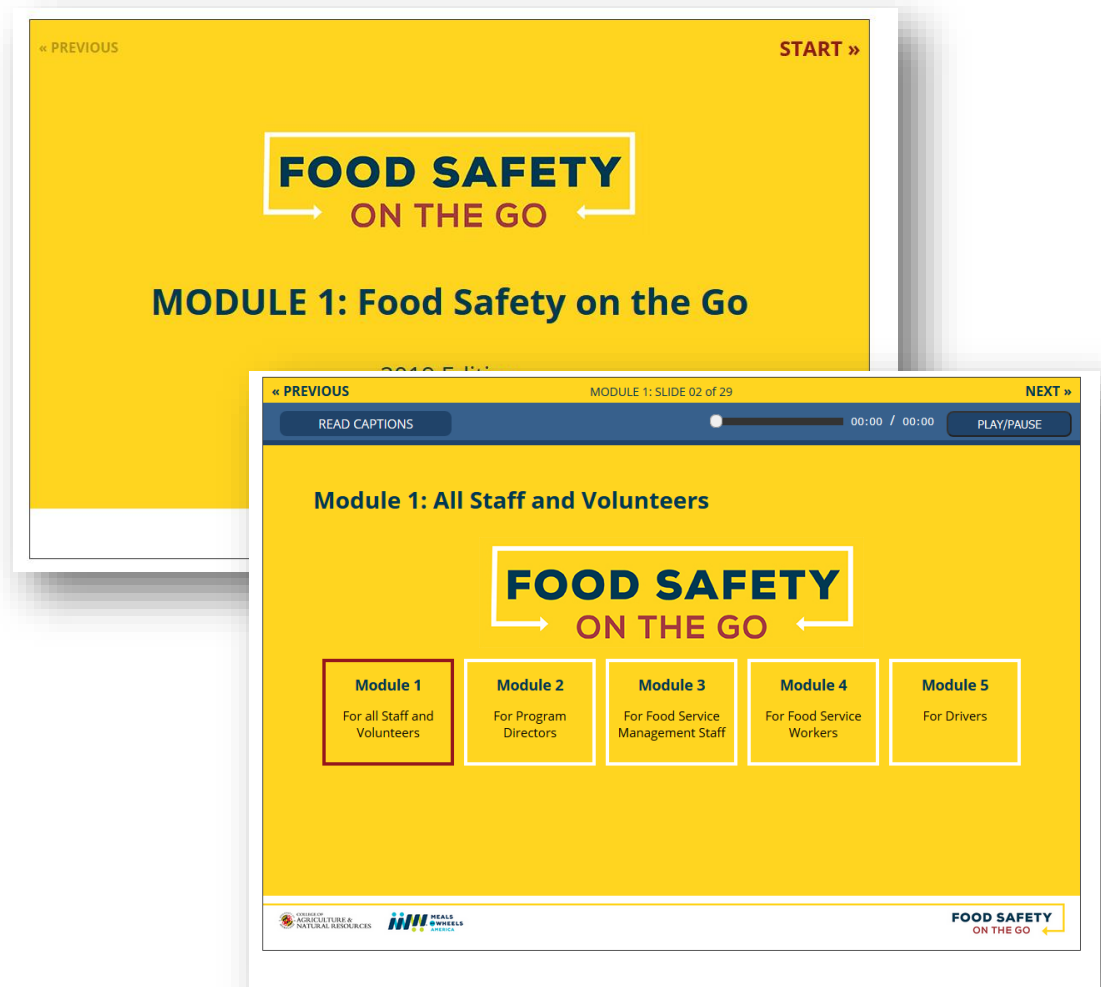
Color	Number of People Infected
Light Green	1 - 42
Medium Green	42 - 83
Yellow	83 - 123
Orange	123 - 164
Red	164 - 205

- From imported cucumbers from Mexico
- Over 900 people infected in 40 states
- About 200 people hospitalized
- At least 4 died

DEPARTMENT OF AGRICULTURE & NATURAL RESOURCESWISCONSIN DEPARTMENT OF HEALTH SERVICESFOOD SAFETY ON THE GO

FOOD SAFETY ON THE GO – ELEARNING MODULES

- Provides a platform for self-directed learning in an engaging and accessible manner for all learners.
- Each takes between 15 – 45 minutes to complete and includes a fun activity.



FOOD SAFETY ON THE GO – PRE & POST TESTS

- Provides an opportunity to test learning following each module
- Each 10-item or fewer quiz takes a minute or two to complete

Food Safety on the Go: Module 1 Pre-Test
Please check "true" or "false" for e

Home-delivered meal clients a general population.

True
 False

Foodborne illness can always b

True
 False

You can tell if a food is contam looks, smells or tastes.

True
 False

Two of the main causes of foo properly and holding food at u

True
 False

Food Safety on the Go: Module 1 Post-Test
Please check "true" or "false" for each sentence.

Home-delivered meal clients are at higher risk of foodborne illness than the general population.

True
 False

Foodborne illness can always be traced to the last food a person ate.

True
 False

You can tell if a food is contaminated by harmful bacteria or viruses by how it looks, smells or tastes.

True
 False

Two of the main causes of foodborne illness outbreaks are not cooking food properly and holding food at unsafe temperatures.

True
 False

FOOD SAFETY ON THE GO – TRAINER GUIDES

- Provides a birds-eye overview of each module for trainers to use to prepare and deliver presentations.

FOOD SAFETY ON THE GO

TRAINER GUIDE

FOOD SAFETY ON THE GO

MODULE 1 - FOOD SAFETY BASICS

Length
~30 minutes

Trainer note

- Welcome participants, introduce yourself and have participants introduce themselves.
- Explain that "Food Safety on the Go" is a food safety course for home-delivered meal programs.

Trainer: Go to slide 1.

FOOD SAFETY ON THE GO

MODULE 1: Food Safety on the Go

2019 Edition

Trainer: Go to slide 2.


FOOD SAFETY ON THE GO

Module 1: Food Safety Basics



FOOD SAFETY ON THE GO – TRAINER WORKSHEET

- Provides an opportunity to document the holding temperature standards applicable to your program.





FOOD SAFETY
ON THE GO

TRAINER WORKSHEET

HOLDING TEMPERATURES

Food safety regulations and how these regulations are interpreted can differ from state to state and region to region. Please complete this worksheet on the holding temperatures that apply to your program. When using “Food Safety on the Go” materials to train individuals in your program, please state the holding temperatures that apply to your program.

- For my program, the required hot-holding temperature for home-delivered meals is ___°F or above.
- For my program, the required cold-holding temperature for home-delivered meals is ___°F or below.

 COLLEGE OF AGRICULTURE & NATURAL RESOURCES  MEALS ON WHEELS AMERICA

2019 EDITION





FOOD SAFETY ON THE GO – WEBSITE

- All these resources, links to today's archived webinar, and more can be found in two locations:
- University of Maryland:
<https://nfsc.umd.edu/programs/foodsafety>
- NRCNA
www.nutritionandaging.org/food-safety-on-the-go



GETTING STARTED

- You can review the archived webinar recording and/or PowerPoint slides to revisit this orientation to the Food Safety on the Go resources, or download the **FAQs** from the website.

  **FOOD SAFETY ON THE GO** ←

Frequently Asked Questions


Q. What is Food Safety on the Go?
A. Food Safety on the Go is the first of its kind, a practice-informed and research-informed training resource for home-delivered meal programs.

Q. When was Food Safety on the Go first developed?
A. This training was created in 2012, researchers at the University of Maryland College Park collaborated with Meals on Wheels America, with funding from the U.S. Department of Agriculture. It has been refreshed in 2019 with support from the National Resource Center on Nutrition and Aging – an online training resource hosted by Meals on Wheels America through a cooperative agreement with the Administration for Community Living.

Q. Why was Food Safety on the Go created?
A. In 2012, there was no standardized food safety training for home delivered meal program. The goal of this training is to improve food safety knowledge and practices of home-delivered meal program staff, volunteers, and clients.


Q. What resources are available as part of Food Safety on the Go?
Food Safety on the Go is comprised of a series of trainings targeted for select staff of a home-delivered meal program:

- Module 1 is an overview of food safety for all staff and volunteers
- Module 2 is for the program director
- Module 3 is for the food service management staff
- Module 4 is for food service workers (staff and volunteers)
- Module 5 is for drivers (staff and volunteers).
- Module 6 is for clients, in the form of a template that can be used to create a magnet or a flyer for drivers to give clients.



Each Module has a corresponding set of resources that supports it:

- Course Books
- E-Learning Modules
- Powerpoint Slides
- Pretests and Posttests
- Trainer Guides
- Trainer Worksheet



SHARE YOUR FEEDBACK AND STORIES WITH US

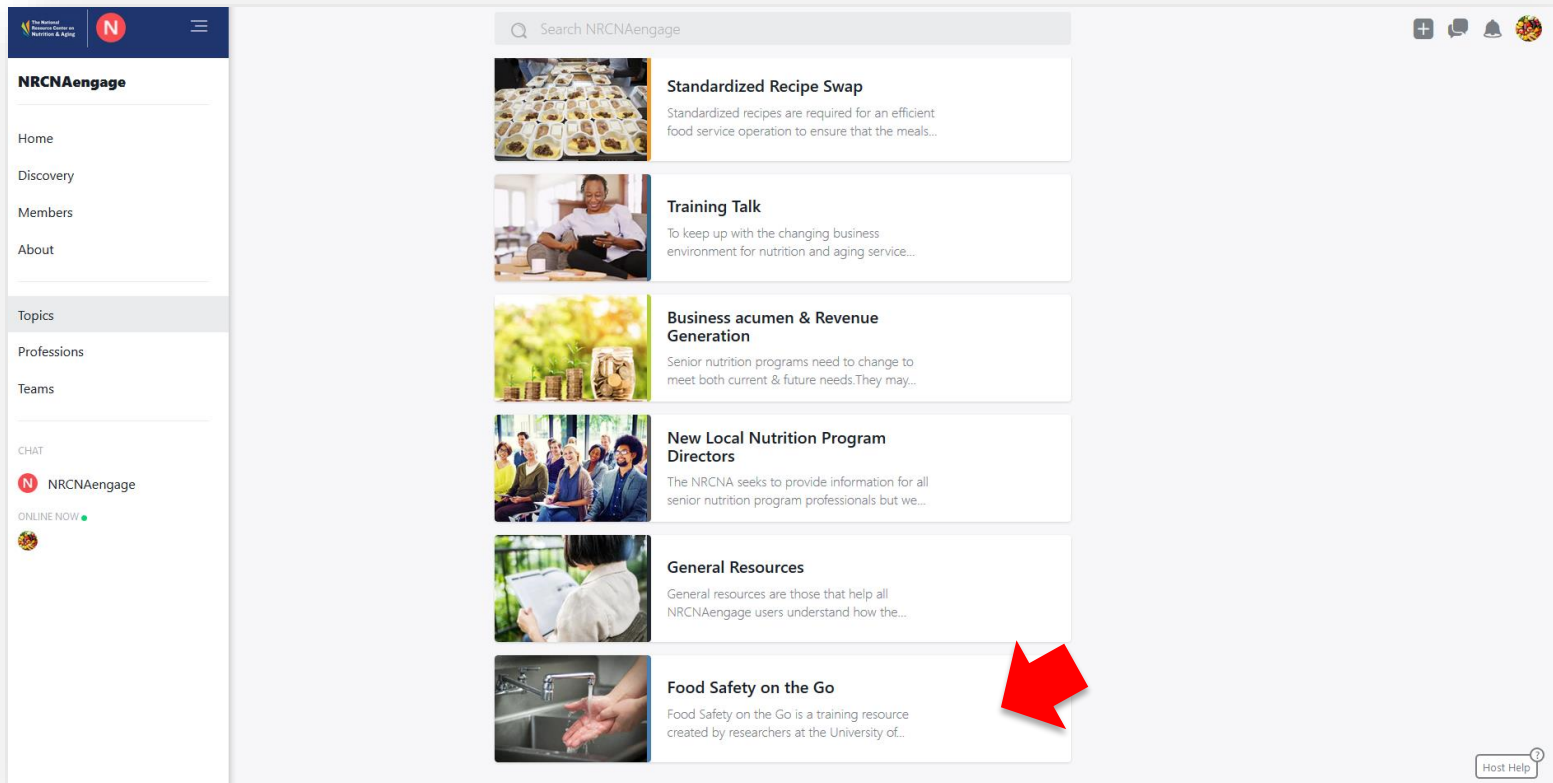
How?

- Email:
 - Nadine Sahyoun – nsahyoun@umd.edu
 - NRCNA – resourcecenter@mealsonwheelsamerica.org
- NRCNA website:
 - Contact Us
 - <https://nutritionandaging.org/contact/?subject=feedback>
- Share your experiences via NRCNAengage – our online social networking community



NRCNAengage

- NRCNAengage is an online venue for senior nutrition programs and State Unit on Aging staff across the country to connect, share best practices, resources, recipes, and ideas for action!

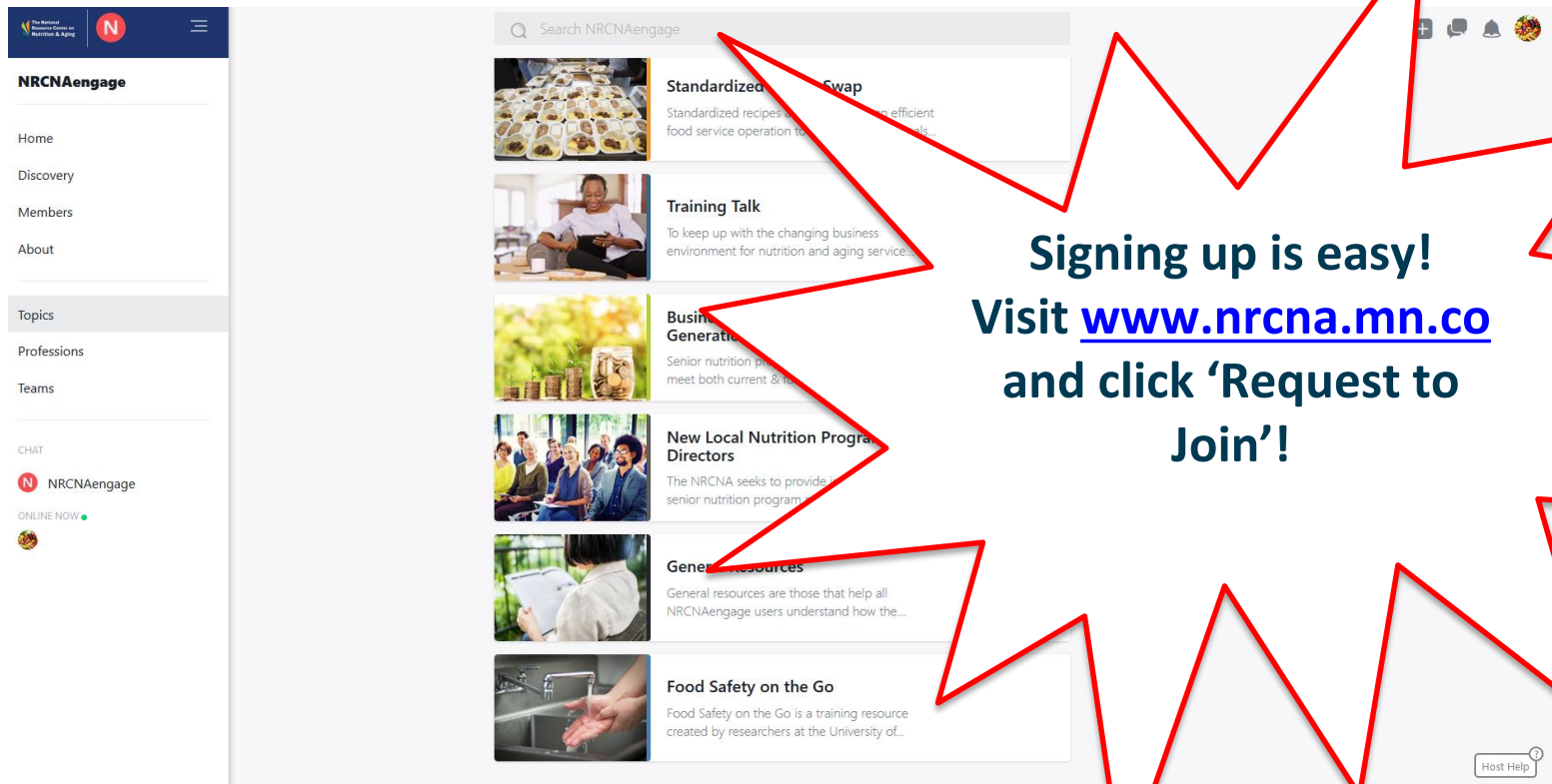


The screenshot displays the NRCNAengage website interface. On the left is a dark blue sidebar menu with the following items: Home, Discovery, Members, About, Topics, Professions, Teams, CHAT, NRCNAengage (with a red 'N' icon), and ONLINE NOW (with a green dot and a small profile icon). The main content area features a search bar at the top with the text "Search NRCNAengage". Below the search bar are six article cards, each with a small image and a title: "Standardized Recipe Swap", "Training Talk", "Business acumen & Revenue Generation", "New Local Nutrition Program Directors", "General Resources", and "Food Safety on the Go". A large red arrow points to the "Food Safety on the Go" card. In the bottom right corner of the main content area, there is a "Host Help" button with a question mark icon.



NRCNAengage

- NRCNAengage is an online venue for senior nutrition programs and State Unit on Aging staff across the country to connect, share best practices, resources, recopies and ideas for action!



The screenshot shows the NRCNAengage website interface. On the left is a navigation menu with options: Home, Discovery, Members, About, Topics (Professions, Teams), and CHAT (NRCNAengage). The main content area features a search bar and several article cards: 'Standardized Recipes Swap', 'Training Talk', 'Business Generation', 'New Local Nutrition Program Directors', 'General Resources', and 'Food Safety on the Go'. A large red starburst graphic is overlaid on the right side of the page, containing the text: 'Signing up is easy! Visit www.nrcna.mn.co and click 'Request to Join!''. A 'Host Help' button is visible in the bottom right corner of the website interface.





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Q & A



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Upcoming Webinars

UPCOMING WEBINAR

HOT TOPICS IN MEDICALLY TAILORED MEALS WEBINAR SERIES



Part 1

- **Title:** *Making the Case for Gluten Free Meals*
- **When:** Thursday, November 14, 2019

Part 2

- **Title:** *Operational Considerations for Providing Gluten-Free Meals*
- **When:** Tuesday, November 19, 2019
- **To Register:**
Visit www.nutritionandaging.org/training

UPCOMING WEBINAR



- **Title:** *Nutrition and the Science of Aging*
- **When:** Tuesday, December 12 & 19, 2019
- **To Register:**
Visit
www.nutritionandaging.org/training





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Thank You