

Stew of Sustainability: Safely Diverting Food Waste to Impact Food Disparity

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Background

- Since 2008, 14.5% of Americans are food insecure
- In North Carolina, it's even higher:
 - **Overall food insecurity rate: 19.3%**
 - **Child food insecurity rate: 27.3%**
- Emergency food providers in NC: 2,500+
 - **Food pantries**
 - **Food banks**



The challenge: Donating foods safely



- Donated foods in North Carolina is a challenge
- The donating entity is often regulated
- The receiving organization may not

Evaluating North Carolina Food Pantry Food Safety–Related Operating Procedures

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ABSTRACT

Almost one in seven American households were food insecure in 2012, experiencing difficulty in providing enough food for all family members due to a lack of resources. Food pantries assist a food-insecure population through emergency food provision, but there is a paucity of information on the food safety–related operating procedures used in the pantries. Food pantries operate in a variable regulatory landscape; in some jurisdictions, they are treated equivalent to restaurants, while in others, they operate outside of inspection regimes. By using a mixed methods approach to catalog the standard operating procedures related to food in 105 food pantries from 12 North Carolina counties, we evaluated their potential impact on food safety. Data collected through interviews with pantry managers were supplemented with observed food safety practices scored against a modified version of the North Carolina Food Establishment Inspection Report. Pantries partnered with organized food bank networks were compared with those that operated independently. In this exploratory research, additional comparisons were examined for pantries in metropolitan areas versus nonmetropolitan areas and pantries with managers who had received food safety training versus managers who had not. The results provide a snapshot of how North Carolina food pantries operate and document risk mitigation strategies for foodborne illness for the vulnerable populations they serve. Data analysis reveals gaps in food safety knowledge and practice, indicating that pantries would benefit from more effective food safety training, especially focusing on formalizing risk management strategies. In addition, new tools, procedures, or policy interventions might improve information actualization by food pantry personnel.

The estimated U.S. national prevalence of food insecurity has remained steady at around 14.5% since 2008 (7). Access to adequate food is limited in food-insecure households due to a lack of money and other resources. An estimated 5.7% of households had very low food security in 2012, defined as when one or more household members reduced or altered their eating patterns at times during the year due to limited resources (7). Nationally, North Carolina ranks 12th in terms of food-insecure children, with 27.3% of the state's children (618,200) categorized as food insecure and 19.3% of individuals overall categorized as food insecure (13, 16). Although government assistance is available to some, it is not sufficient for many families, leaving them to seek out emergency food providers (2, 9, 23).

A food bank is generally a warehouse (or series of warehouses) that stores and distributes food obtained from producers, retailers, federal commodity programs, and the food industry to food pantries (1, 8). Stored food is then distributed to assist the food-insecure populations and, given the rising interest in reducing food waste, even more food is expected to be recovered in the future (15, 17). A food pantry is a charitable distribution agency that provides

clients with food and grocery products for home preparation and consumption (12). Food pantries are classically the distributors of emergency food at the local level (1, 8).

There are approximately 2,500 agencies, including food pantries, partnered with seven regional food banks and an estimated hundreds more independent food pantries in North Carolina (21). The food banks are affiliated with Feeding America, a nationwide network of emergency food providers; each one represents one of seven regions in the state, with one food bank region crossing over others (21). Although food banks are provided guidance from Feeding America, individual policy can vary in practice at the pantry level. Millions of individuals contract foodborne illness each year, stemming from grocery stores, hospitals, prisons, church dinners, county fairs, restaurants, private homes, schools, and even meal programs, such as Meals on Wheels (5, 25, 26, 30). The number of foodborne illnesses that come directly from food pantries has not been quantified, but they accept food from sources that have been a source of outbreaks and foodborne illnesses: food banks, restaurants, caterers, churches, grocery stores, and private homes. Given that clients also obtain food elsewhere and their potential lack of health care access, it is especially difficult to trace foodborne illnesses to a food pantry.

With various publications on the innumerable aspects of foodborne illnesses, only recently have researchers begun to

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Data: Collection and Sample

- 105 food pantries
- 12 counties
- Quantitative and qualitative analysis of semi-structured on-site interviews with pantry managers and observational data



- Chaifetz, A. and Chapman, B. 2015. Evaluating North Carolina Food Pantry Food Safety-Related Standard Operating Procedures. Journal of Food Protection. 78:2033-42

Survey Instrument

- Interviews and observations
- Pantries scored using a modified Food Establishment Inspection Report (based on 2009 Food Code)

Food Establishment Inspection Report

Establishment Name: _____ Establis

Location Address: _____

City: _____ State: North Carolina

Zip: _____ County: _____

Permittee: _____

Telephone: _____

☐ Inspection ☐ Re-Inspection

Wastewater System:

☐ Municipal/Community ☐ On-Site System

Water Supply:

☐ Municipal/Community ☐ On-Site Supply

Date: _____

Time In: _____

Category#: _____

FDA Establishr

No. of Risk Fac

No. of Repeat R

Foodborne Illness Risk Factors and Public Health Interventions

Risk factors: Contributing factors that increase the chance of developing foodborne illness.

Public Health Interventions: Control measures to prevent foodborne illness or injury

Compliance Status				OUT	CDI	R	VR
Supervision .2652							
1	IN	OUT	NIA				
PIC Present; Demonstration - Certification by accredited program & performs duties				2	0		
Employee Health .2652							
2	IN	OUT					
Management, employees knowledge; responsibilities & reporting				3	1.5	0	
3	IN	OUT					
Proper use of reporting, restriction & exclusion				3	1.5	0	
Good Hygienic Practices .2652, .2653							
4	IN	OUT					
Proper eating, tasting, drinking or tobacco use				2	1	0	
5	IN	OUT					
No discharge from eyes, nose or mouth				1	0.5	0	
Preventing Contamination by Hands .2652, .2653, .2655, .2656							
6	IN	OUT					
Hands clean & properly washed				4	2	0	
7	IN	OUT	NIA/NO				
No bare hand contact with RTE foods or pre-approved alternate procedure properly followed				3	1.5	0	
8	IN	OUT	NIA				
Handwashing sinks supplied & accessible				2	1	0	
Approved Source .2653, .2655							
9	IN	OUT					
Food obtained from approved source				2	1	0	
10	IN	OUT	NIA/NO				
Food received at proper temperature				2	1	0	
11	IN	OUT					
Food in good condition, safe & unadulterated				2	1	0	
12	IN	OUT	NIA/NO				
Required records available: shellstock tags, parasite destruction				2	1	0	
Protection from Contamination .2653, .2654							

Good Retail Practices: Pr

Compliance Status

Safe Food and Water

28 IN OUT NIA Pasteuri

29 IN OUT Water ar

30 IN OUT NIA Variance methods

Food Temperature Control

31 IN OUT Proper c equipme

32 IN OUT NIA/NO Plant for

33 IN OUT NIA/NO Approve

34 IN OUT Thermor

Food Identification

35 IN OUT Food pri

Prevention of Food Contami

36 IN OUT Insects i animals

37 IN OUT Contami preparat

38 IN OUT Persona

39 IN OUT Wiping c

40 IN OUT NIA Washing

Proper Use of Utensils

Results: Partner organizations

- Volunteer-driven (90%)
- Food safety training for volunteers (41%)
- Home preserved foods (17%)
- Repackaging food on-site/
distribution of leftover
prepared foods
(42%)
 - repackaging leftover pizza
slices into single-serving bags
as well as chopping and
freezing fresh vegetables.
- Written SOPs (22%)



HOME-PROCESSED FOODS



OUR MISSION

Make a measurable difference in the fight against hunger by arming food service providers with the tools and information they need to take good, pre-consumer foods that are normally thrown away and create and distribute bulk meals or stew components for soup kitchens and pantries.



Packaging and Transporting Food for Food Donations Step-By-Step Filling Guide

1. Gather and assemble equipment and materials: impulse sealer, bags, labels, thermometer, chilled food (not shown). Place bag on ring stand and adjust height as needed.



2. Take temperature of food before filling to ensure it is at 41°F or below.



3. Fill bag at 41°F or below.



4. Remove excess air bubbles before sealing, but leave some air in the bag. Line up bag opening flat along sealer bar.



5. Adjust dial on sealer to "5".



6. Press down and hold lever firmly for 6-7 seconds. Red light will appear and then disappear, but continue holding.



7. Release lever and check to ensure bag has sealed.



8. Fill out the appropriate label information (above first "CUT" line).



9. Cut off adhesive backing above first "CUT" line.



10. Adhere label to bag and store at 0°F or below.



To operate this equipment as part of the Stew of Sustainability Program, it is required that the Standard Operating Procedures (SOPs) for packaging and transporting food for food donations be taught specifically by a trained food safety team member from NC State University prior to implementing this process. This guide is a supplement to, not a substitute for, this training.



Harper's Restaurant Group / One Catering - Pick up on 02/12/18

TRANSPORT RECORD

DEPARTURE				RECEIVING		
Name: <u>Harper's Group - OneCatering</u>				Name: <u>Second Harvest Food Bank of Metroline</u>		
Location: <u>Embassy Suites, S. Tryon Charlotte</u>				Location: <u>Safe Alliance Woman's Shelter</u>		
Food Item	Bags/Weight	Depart. Quality	Departure Date/Time	Received Date/Time	Received Quality	Corrective Action
Beef Stew	4/20#/ea	Frozen	2/12/18 11:30 AM	2/12/18 11:45 AM	Frozen	N/A
Pork Steak	2/10#/ea	"	"	"	"	"
Meat Lasagna	4/15#/ea	"	"	"	"	"
Chicken Breasts	2/20#/ea	"	"	"	"	"
Chicken w/ tom. sauce	2/20#/ea	"	"	"	"	"
Chicken Pesto	1/10#	"	"	"	"	"
Mixed vegetables	3/20#/ea	"	"	"	"	"
Chicken Caesar	1/20#	"	"	"	"	"
Green Beans	1/10#	"	"	"	"	"
Hamburger Patties	1/20#	"	"	"	"	"

02/12/18

21 Frozen Food Bags

360 lbs.



2018 Pickup Information – Mac's on South Blvd. – April 03, 2018

From: Ethan Altmire <ealtmire@secondharvest.org>

Date: April 4, 2018 at 8:31:06 AM EDT

To: Tom McKernan <tdmckernan@gmail.com>

Subject: Macs South Blvd Pick-Up

Hey Tom,

Yesterday I picked up 18 bags of food from Macs on South Blvd. that weighed 190lbs. They were all delivered to Urban Ministry Center in Charlotte. Below is the itemized breakdown of the donation, and the Transport Record is attached. Please let me know if you need anything else.

Red Beans – 2/30lbs each

Green Bean Cass. – 2/15lbs each

Green Bean Cass. – 5/5lbs each

Green Bean Cass. – 1/10 each

Mac + Cheese – 3/5lbs each

Mac + Cheese – 3/10lbs each

Pork – 2/10lbs each

TOTAL – 18 bags – 190lbs



Ethan Altmire

Executive Assistant

Second Harvest Food Bank of Metrolina

500-B Spratt Street, Charlotte, NC 28206

Website: secondharvestmetrolina.org

Email: ealtmire@secondharvest.org

Phone: 704.805.1729 Fax: 704.342.1601



TRANSPORT RECORD

DEPARTURE				RECEIVING		
Name: Mac's Spicy Shop				Name: Second Harvest Food Bank of Metrolina		
Location: 2511 S. Blvd., Charlotte, NC 28203				Location: Urban Ministry Center		
Food Item	Bags/Weight	Departure Quality	Departure Date/Time	Received Date/Time	Received Quality	Corrective Action
Red Beans	2/30#/ea	Frozen	4/2/18 3:30 PM	4/3/18 1:45 PM	Frozen	N/A
Green Bean Cass.	2/15#/ea	"	"	"	"	"
Green Bean Cass.	5/5#/ea	"	"	"	"	"
Green Bean Cass.	1/10#/ea	"	"	"	"	"
Mac + Cheese	3/5#/ea	"	"	"	"	"
Mac + Cheese	3/10#/ea	"	"	"	"	"
Pork	2/10#/ea	"	"	"	"	"

food safety

FOR
SCHOOL +
COMMUNITY
GARDENS



A HANDBOOK FOR BEGINNING + VETERAN GARDEN ORGANIZERS: **HOW TO REDUCE FOOD SAFETY RISKS.**

Creating and maintaining community and school gardens has been identified as an effective strategy to increase healthy food awareness and consumption. Fresh fruit and vegetables have unfortunately been linked to over 450 outbreaks of foodborne illness in the U.S. since 1990. In commercial food production, employing a set of risk-reduction steps, known as good agricultural practices (GAPs), has been pointed to by the U.S. Food and Drug Administration as the best prevention against foodborne illness-causing pathogens.

The Centers for Disease Control and Prevention estimates that there are 48 million people who are sickened with foodborne illness in the United States each year. While most people who become sick from foodborne illness recover quickly, there are on average almost 130,000 hospitalizations annually and 3,000 associated deaths. Contamination may come from many sources including physical contaminants, (metal, stones or glass) and chemical contaminants (runoff from parking lots or pesticide drift).

While much of the attention for GAPs implementation, as well as the outbreaks and recalls, has focused on commercial production, the use of steps to reduce contamination risk are also applicable to community and school gardens. The steps presented in this guide are rooted in science, practical and presented in a context suitable for the passionate organizers and volunteers associated with community gardens.

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a project of North Carolina State University
+ North Carolina Cooperative Extension

Funded by Nourishing
North Carolina



go.ncsu.edu/gardenfoodsafety

How did we build it?

- 41 gardens total in 2011 and 2012
- Counties: Wake, Orange, Durham
- School districts: Wake, Orange, Durham, Carrboro-Chapel Hill



Identified are key areas of risk and best garden practices:



- Site Selection
- Water
- Compost
- Animals
- Handwashing
- Sanitation
- Tools



Site Selection



What's the best way to lower the risk?

-  The best practice is to obtain the history of the site from planning officials and determine whether the garden site is suitable.
-  If it is unavailable, ask the community. Cooperative Extension Agents and community members might be able to help.

Handwashing



What's the best way to lower the risk?

- The best practice is to wash your hands with soap and clean, running water and dry using single-use towels.
- If running water is not available, wear disposable, single-use gloves while harvesting. If the task is maintenance-only, traditional gardening gloves are recommended.

Water



What's the best way to lower the risk?

- The best practice is to use a regulated, treated water source. Water authorities employ filtration, chlorination and testing to ensure it meets EPA drinking water standards.
- If you are using or intend use another source, such as a well, have the water tested and make sure it is up to EPA standards before you use it for watering or washing (things like hands, equipment and food).



Compost



What's the best way to lower the risk?

- The best practice is to put the bin as far from the garden as possible, downhill. Additionally, use a long-stemmed thermometer to check that compost has been over 130°F for at least 5 days before using in the garden.
- If the compost is already in use, create barriers to keep the contents from getting into the garden until they are ready, with careful attention to flooding.

Animals



What's the best way to lower the risk?

- The best practice is to use a fence to keep out animals, like deer. Electric fences keep out many kinds of pests, but are more expensive.
- If a fence is out of the question, use repellents and sprays to keep out the known pests, be it rabbits or deer or birds. Maintain records and attempt to prevent any animals from entering the garden.

Sanitation and tools



What's the best way to lower the risk?

- The best practice is to wear one-use only gloves when harvesting and put the harvest into clean, sanitized containers.
- Equally as effective is to wash hands before harvesting and if contaminated. If you are unsure when the containers were last washed, put the harvest into new plastic bags.

The End