

# NC Environmental Health Brief

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## Introduction to Risk Factor Studies

Jennifer Stewart, MS Food Defense Coordinator  
So you want to get into compliance with the FDA Retail Program Standards. Specifically, you want to comply with Standard 9 Program Assessment. How do you do that? Conduct a risk factor study. To be in compliance a risk factor study on the five risk factors for foodborne illness must be conducted every five years. The data must be analyzed and a strategy for intervention formulated and implemented.

Why a risk factor study? Systematically evaluating risk factors for foodborne illness can demonstrate prevalence in your jurisdiction and guide efforts to mitigate risk. Evaluation over time shows the success (or failure) of intervention strategies and allows for modification of effort.

Data collection and analysis for various facility types can be conducted at various times over the five year period, as long as all of them are included in the five year cycle. Facilities are grouped into three categories, with nine facility types. They are institutions (hospitals, nursing homes,

schools), restaurants (full service and fast food), and retail food stores (deli, meat market, seafood, and produce). FDA is currently working to provide their data collection tool at no cost for jurisdictions that want to use it. This will also allow for direct comparison with FDA's Risk Factor Study. Once the study is complete and data analyzed steps should be taken to address risk factors prevalent in your jurisdiction. These steps could include education campaigns, code changes, training, enforcement and compliance strategies, and others. The purpose of these interventions being to reduce the risk factors observed during the study. The follow up risk factor study will be useful in determining the effectiveness of interventions taken.

The purpose of this standard is to demonstrate improvement in food safety. By committing to a program of continual improvement we can work together to improve food safety and reduce the number of foodborne illnesses in North Carolina. Stay tuned for additional articles on the FDA Retail Program Standards in future issues. For more information on Standard 9: <http://www.fda.gov/downloads/Food/GuidanceRegulation/RetailFoodProtection/ProgramStandards/>

## Upcoming CIT Modules

June 6-17 — Tier 3 Onsite Water Protection Module  
Soil Science Department  
NC State University Pole Barn  
4000 Chi Road, Raleigh

June 27-July 1 — Tier 3 Food Module  
NCDHHS Public Health  
5605 Six Forks Rd, Raleigh  
Bldg. 3 First Floor Cardinal Room

I started working as a Public Health Epidemiologist with the Children's Environmental I started working as a Public Health Epidemiologist with the Children's Environmental Health Unit in August 2015. I got my start in public health interning with the Mecklenburg County Health Department in mosquito control. I completed my undergraduate degree in Biology at UNC-Asheville and graduate work in Epidemiology, earning masters' and doctorate degrees from UNC-Chapel Hill, Gillings School of Global Public Health. For my doctorate research, I served as a principal investigator in a study of teachers' respiratory health and indoor air quality, called "Free to Breathe, Free to Teach." Before joining CEH, I was an Oak Ridge Institute for Science Education (ORISE) post-doctoral research fellow at the US Environmental Protection Agency (EPA). At the EPA, I assisted in designing a pilot study of consumer product use among women, conducted an analysis of survey data on surface water exposure and fish consumption among Ohio residents,

## Employee Spotlight: Kim Gaetz, Public Health Epidemiologist, Children's Environmental Health Unit

Please tell us about your experience in public/environmental health?

This newsletter is published to keep you updated on EH news and topics of interest. Suggestions are welcome

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and designed the analysis plan and managed data for a study of children's pesticide exposure. My past experience includes work with the UNC Center for Public Health Preparedness providing training to local health departments on the North Carolina's Electronic Disease Surveillance System (NCEDSS) used by DPH for communicable disease surveillance. I have also worked with the Office of Healthy Carolinians as the community health assessment epidemiologist providing guidance and training to local health professionals.

**What is your favorite memory from your previous job?**

My favorite memory of my previous job is when my mentor and I went to meet with a behavioral economist from Duke, Dan Ariely. The whole time we were there, I felt like I was in an experiment. His office was colorfully decorated with art and toys, and we were given espresso in fancy cups and told to sit on beanbags on the floor while he sat in a high office chair. It was unnerving but really broke the ice quickly! My mentor, being over 6 feet tall, did not look quite as comfortable on the floor as I was. On our way out, he gave us some "Cure-all pills" (mints in a pill bottle).

**What are your short term goals in this position?**

My short term goals are to get the revised NC Childhood Lead Poisoning Prevention manual out on our website and to help Tena Hand to publish our data tables for 2012-2014.

**What is at least one long term goal you have for this position?**

In the long run, I would like to get the process of submission of test results from providers who have point of care blood lead analyzers running more smoothly and to get all providers submitting correctly.

Also, I would like to provide more training to local health departments and providers on data entry into NC LEAD and Leadcare interfaces.

**What do you like best about living in NC?**

I love the fact that we have the mountains and beaches, all within our state. I love the variety of ecosystems in our state and also the variety in people—from regional accents to regional foods, crafts and history, I love it all! I also love driving through historic neighborhoods. Also, my family lives here in Charlotte, so that helps too.



**Tell us about one of your hobbies and why you enjoy it?**

My favorite hobby is knitting because I love to create things. I used to paint, but do not ever get the time to anymore, so knitting is a great outlet for my creativity. I love watching a ball of yarn turn into something

warm and cozy and useful, and enjoy making custom items for loved ones.

## Mosquito Survey 2016

by Jennifer Stewart, MS Food Defense Coordinator

North Carolina Department of Health and Human Services (NCDHHS) is responding this year to the emerging threat of Zika virus. Zika is an arbovirus in the same genus as Dengue and is spread primarily by *Aedes* species mosquitoes. In South America where a large outbreak of Zika is ongoing the primary vector is *Aedes aegypti*. A comprehensive survey of mosquitoes in NC has not been conducted for over 20 years. With this newly emerging pathogen, as well as ongoing risks of mosquito borne diseases NCDHHS is partnering with local health departments, military, and academic partners to perform a mosquito survey this year.

A total of 17 local health departments and three military bases have agreed to participate in this survey in conjunction with Western Carolina University (WCU), East Carolina University (ECU), and North Carolina State University (NCSU) professors and students. These academic labs will perform speciation of mosquito larvae and adults for counties involved. Counties will collect larval specimens from various locations on a weekly basis and either identify species themselves or submit them to an academic lab for speciation. Some counties will also use ovitraps to collect eggs that will be sent to the universities for growth and identification. All novel species or presumed *Aedes aegypti* specimens will need to be verified by university entomologists.

The universities will compile all data on numbers of larvae collected, locations of collection, species, and density of larvae into a comprehensive report. Carrying out this work over the entire season will enable us to characterize species and mosquito density over the entire season as well as increase the likelihood of finding *Aedes aegypti* or other novel species of mosquitoes in NC. This information will form the basis for an ongoing mosquito surveillance effort as well as provide a baseline to use in devising mosquito control measures.

Rolling out this year is a comprehensive campaign for mosquito management. Based on the CDC's Tip and Toss campaign, NC will be focusing on educating the public on the dangers of container breeding mosquitoes and steps that can be taken to eliminate breeding sites. Due to the ecology of these species, education focusing on what property owners can do to eliminate breeding sites around their homes and on

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their property will be key. Tools to help local health departments prepare by drafting ordinances for mosquito control will also be forthcoming. Eliminating solid waste (such as tires) where water can collect and form areas for breeding will be key to reducing populations of these mosquitoes.

NCDHHS is also hiring two new staff members, medical entomologists, who will help grow the capacity of the state to respond to vectorborne disease outbreaks and build our capacity for vector control. Once these new staff are on board we hope to continue building our capacity into the future.

## CFP: A Novel Conference Experience

By Veronica Bryant, Regional EH Specialist, Food Protection

As Registered Environmental Health Specialists, we have all had to do our fair share of conferences for continuing education. You know what they are like: a combination of technical and motivational speakers, banquet menu food, networking, door prizes, and night time receptions. So based off name alone, you might think that the Conference for Food Protection (CFP) would be just another conference. Having attended and participated in the 2016 CFP, I can promise it was an entirely new conference experience.

For those that may not be familiar with CFP, it is a non-profit organization that was created in 1971 “to provide a formal process where members of industry, regulatory, academia, consumer and professional organizations are afforded equal input in the development and/or modification of Food Safety Guidance.” (Taken from the CFP website, for more information on the history of CFP, visit [foodprotect.org](http://foodprotect.org)). Every other year, the Conference meets to discuss changes to the Food Code, Retail Program Standards, and other food safety guidance. Any person, whether they are affiliated with a regulatory, industry, or consumer group, can submit an issue to be considered for amending the next version of the FDA Model Food Code. The fact that individuals can have such a specific impact on how national policy is written is unique, and is something that makes CFP such an exciting time.



I became a first time issue submitter in January 2016, when I submitted three issues for review. The issues were to amend Food Code to: include a definition of curing, a clarification on sprouting, and to clarify reduced oxygen packaging (ROP) of

fish requirements. The process of submitting an issue included research of peer reviewed literature and writing the issue to meet the requirements. After submission, the months leading up to the conference were spent doing further research to prepare to present the issue.

Once it was time for the conference to begin, we packed our bags and headed to Boise, Idaho. The keynote speaker was attorney Bill Marler, who is always entertaining while talking about food outbreak litigation. The Conference provided a Navigator, a previous attendee, who was able to provide information on how the conference works and where to go. Sunday morning, council meetings began. There are three councils within CFP: Council I (Laws and Regulations), Council II (Administration, Education, and Certification), and Council III (Science and Technology). Issues that are submitted are split between the three councils based on the content. The three issues I submitted were deliberated by Council III. When it was time for the issue to be presented, I was given two minutes to explain my issue, and then the Council discussed the issue for ten minutes. Each Council has three Council Consultants who can provide expertise from the FDA, CDC and USDA FSIS. Once the Council has deliberated, there is a vote taken to either Approve as Written, Approve as Amended, or No Action Taken. The definition of curing issue was No Action Taken because it was combined with another issue, and a committee was formed to investigate Special Process Controls. The sprouting issue was Accepted as Written, and the ROP of fish requirements issue was Accepted as Amended.

The process of participating in the Conference for Food Protection was one of the most rewarding of my career. Through this experience, I've learned about the rulemaking process, researching issues, and discussing my position with industry and academia. The CFP process is such a wonderful way to get involved and to make a difference in the regulatory framework. I encourage everyone to look ahead to CFP in 2018 in Richmond, Virginia, and consider participating in this unique experience.



North Carolina Group attending CFP, from left Ellen Thomas, Nicole Arnold, Veronica Bryant, Bill Hardister, Meg Mcguire, Caroline Griffin, Donna Wanucha, Andre Pierce, Ben Chapman, Cindy Callahan, Amber Daniels, Lisa Morgan, and Matt Muris



## Employee Spotlight: Jeremy Lacara, Industrial Hygiene Inspector, Health Hazards Control Unit

**Please tell us about your experience in public/environmental health?** I graduated from NC State in Environmental Science. I conducted two years of environmental sampling and monitoring with EEC, Inc., including asbestos, lead, mold, dust and VOC air monitoring. I was also a substitute hazardous waste collector and radiation safety technician with NIEHS.

**What is your favorite memory from your previous job?**

Being out in the field and finding hole in the wall restaurants, for example, Millie's hotdogs in Smithfield, NC, or Bill's hotdogs in Washington, NC.

**What are your short term goals in this position?** My short term goals for the position are to get acclimated to the work environment. It is a different atmosphere and environment that is very welcoming and allows for more flexibility.

**What is at least one long term goal you have for this position?** One long term goal for this position is to gain enough experience to where I can work on getting my CIH accreditation.

**What do you like best about living in NC?** Best thing about living in NC is that it's a basketball state with the revival



of the hive in the pros with the Charlotte Hornets and all the college basketball history we have.

**Tell us about one of your hobbies and why you enjoy it?**

I like to grill. Whether it's burgers or steaks there's something about grilling over an open flame that makes it all worthwhile in the end, knowing that you put in the work to cook that food makes it even better when you consume it.

## Employee Spotlight: Melissa McKenzie, Education and Training Specialist II, Food and Facilities

**Please tell us about your experience in public/environmental health?** Before joining DPH, I worked 12 years in the Environmental Health Section of the Chatham County Health Department. I began my journey in public health as a Certified Onsite Operator for Chatham's moni-

Online at <http://ehs.ncpublichealth.com/>

toring program, and after a few years moved over to the Food and Lodging section as office support. I became very passionate about food safety and learned as much about food safety as I could. I am a ServSafe Certified Instructor and Proctor, and as outreach, went into the restaurants in the community and taught food safety.

**What is your favorite memory from your previous job?** I have lots of great memories from my previous job of both coworkers and clients. I taught a lot of food safety classes and most were requested by restaurant owners who wanted their employees to stay abreast of just how important their roles were as food employees. It always warmed my heart to receive a card or a phone call of appreciation and/or that they learned something new which enhanced their appreciation and understanding of the importance of serving safe food.

**What are your short term goals in this position?** My short term goals in this position are to look for areas in Centralized Intern Training (CIT) that can be improved upon using daily intern feedback during trainings and making small changes as we go along to enhance CIT training overall.

**What is at least one long term goal in this position?** My long term goal for this program is to enhance learning by using more technology-based features online as well as in the classroom; and I want to bring back to the program more "hands on" learning within the modules where it was removed. With a well-rounded program, CIT will be an effec-

tive platform to provide the knowledge that interns will need to move forward in their career with their county.

**What do you like best about living in NC?** I love calling NC home. I also love that most of my family is right here in NC, and family is very important to me. I'm from a small town (Sanford, NC), and I have lived there all my life. North Carolina has so much to offer: great weather, beaches, mountains, lots of history, small towns and big cities; but most of all, great people.

**Tell us about one of your hobbies and why you enjoy it?** One of my hobbies is singing. I love all genres of music, and I love to sing. It has always been my refuge and I enjoy sharing my gift with others. I sing at weddings, events, and I love some karaoke! Part of "family night" with my kids includes karaoke sing-offs where we use the living room floor as our "stage" which is always so much fun. I love it!

