

NACCHO

National Association of County & City Health Officials

The National Connection for Local Public Health

May 4, 2020

Gordana Zuber
Food and Drug Administration (FDA)
Office of Acquisitions and Grants Services

Funding Opportunity: RFA-FD-20-028 "Retail Food Safety Association Collaboration (U18)"

Dear Ms. Zuber:

On behalf of the National Association of County and City Health Officials (NACCHO), I am pleased to submit NACCHO's application, "Collaborating with Retail Food Safety Associations to Advance Retail Food Initiatives and Reduce Foodborne Illness," in response to the Food and Drug Administration's (FDA's) funding opportunity announcement. Attached are the required agency approval documentation of the application submitted.

NACCHO is very excited about this opportunity to continue working closely with FDA to inform our nationwide members about this collaborative effort and to discover how it enhances state, local, tribal, and territorial health department capacity to protect the health of people in their jurisdictions.

Please do not hesitate to contact me or Jennifer Li at (202) 507-4242 if you have any questions about our application.

Sincerely,

Lori T. Freeman
Chief Executive Officer
National Association of County and City Health Officials



Project Narrative

According to the Centers for Disease Control and Prevention, consuming contaminated foods is the annual cause of 47.8 million illnesses, 128,000 hospitalizations, and 3,000 deaths just in the U.S., more than half of foodborne illness outbreaks are associated with food from restaurants. More than 3,000 state, local, territorial and tribal (SLTT) agencies have primary responsibility to regulate the retail food and foodservice industries in the United States. If this project is funded, NACCHO and CFP will work collaboratively with the Retail Food Regulatory Association Collaborative to further the capacity of SLTT agencies to improve retail food safety and reduce foodborne illness across the United States.

Specific Aims

Specific Aim 1: Support, promote, and encourage complete adoption of one of the latest two FDA Food Codes by state, local, tribal, and territorial retail regulatory programs.

Objective 1. Develop and implement toolkits and subsequent strategies to promote full, complete adoption of one of the two most recent FDA Food Codes by SLTT retail food regulatory programs.

- Objective 1.1: By end of Year 1, NACCHO and CFP staff will regularly participate in the Retail Food Association Collaborative's Food Code Adoption Workgroup.
- Objective 1.2: By end of Year 1, NACCHO and CFP will disseminate the Collaborative's Food Code Adoption Workgroup's requests and developed resources through respective communication channels.

Specific Aim 2: Increase retail food regulatory programs' application of risk-based inspections and implementation of effective intervention strategies.

Objective 2A: Assess application of risk-based inspection methods by SLTT retail food regulatory programs, identify barriers to implementation, and coordinate with the FDA to execute strategies to overcome the barriers.

- Objective 2.1A: By end of Year 1, NACCHO and CFP will conduct up to nine (9) key informant interviews with a subset of SLTT programs enrolled in the VNRFRPS to assess application of risk-based inspection methods being used and identify barriers preventing application of risk-based inspection methods.

Objective 2B: Identify, assess, and promote implementation of effective intervention strategies.

- Objective 2.1B: By end of Year 1, NACCHO and CFP will identify and collate reports generated by jurisdictions that have met Standard 9.
- Objective 2.2B: By end of Year 1, NACCHO and CFP will use the collated reports from Objective 2.1B to identify potential key informants and conduct up to nine (9) key informant interviews to document effective intervention strategies' processes, results, successes, and challenges.
- Objective 2.3B: By end of Year 2, NACCHO and CFP will draft a report based on the key informant interview participants' effective and proven intervention strategies in changing long-term behavior of retail food establishment employees.
- Objective 2.4B: By end of Year 2, NACCHO and CFP will disseminate Objectives 2A and 2B report findings through respective communication channels, online sharing sessions, and national and regional conferences, seminars, and meetings.

Specific Aim 3: Increase enrollment and active participation in and application of the Voluntary Retail Food Regulatory Program Standards by state, local, tribal, and territorial retail food regulatory programs.

Objective 3. Build upon the FDA's VNRFRPS technical assistance strategy to provide a "multiplier effect" to promote participation and implementation of the VNRFRPS by SLTTs.

- Objective 3.1: By end of Years 1 and 2, NACCHO and CFP will create an approach to improve the equity of (1) distributing and/or promoting resources to SLTT regulatory programs and (2) understanding and successfully applying for VNRFRPS funding through the new flexible funding model.
- Objective 3.2: By end of Year 2, NACCHO and CFP will conduct focus groups with local jurisdictions in states or regions that have started their own VNRFRPS network to understand and document the groups' successes, challenges, and recommendations.
- Objective 3.3: By end of Year 2, NACCHO and CFP will convene a meeting with retail food regulatory stakeholders and FDA staff to share and discuss the results of Objectives 2.1A and 3.2.

Specific Aim 4: Support and amplify the Collaborative's efforts to reduce the occurrence of foodborne illness risk factors, assess active managerial control gaps, and effectively communicate with retail food safety stakeholders.

Objective 4. NACCHO and CFP will provide support to AFDO's, NEHA's, and the Collaborative's activities to (1) improve foodborne illness outbreak investigations; (2) increase the number of establishments with well-developed and implemented Food Safety Management Systems; and (3) develop a strategy to enhance communication around retail food safety issues and resources.

- Objective 4.1: By end of Years 1 and 2, NACCHO and CFP will regularly attend virtual and in-person Collaborative meetings to provide input on Collaborative members' project activities.
- Objective 4.2: By end of Years 1 and 2, NACCHO and CFP will communicate Collaborative's resources and messaging through respective communication channels.

Research Strategy

Introduction. This cooperative agreement announcement aligns with the purpose of the Retail Food Safety Association Collaborative (Collaborative). The Collaborative was formed in 2019 after a series of discussions among the retail food regulatory associations (Association of Food and Drug Officials (AFDO), Conference for Food Protection (CFP), National Association of County and City Health Officials (NACCHO), and the National Environmental Health Association (NEHA), U.S. Food and Drug Administration (FDA), and the Centers for Disease Control and Prevention (CDC). These stakeholders identified the need to have a collaborative approach toward retail food safety, fully leveraging each organization working in this space to maximize the effectiveness and reach. The Collaborative recognizes the important contributions of other retail food safety organizations and assesses opportunities to leverage their impact toward the advancement of Collaborative objectives.

To date, the Collaborative has resulted in the coordinated approach of AFDO, CFP, NACCHO, and NEHA (associations) with harmonized objectives or specific aims:

- Develop a national Food Code adoption strategy, including the Food Code Adoption Tool Kit;
- Improve the approach, competency, and food safety culture in the regulatory community;
- Increase enrollment, engagement, and conformance in the Voluntary National Retail Food Regulatory Program Standards (VNRFRPS);
- Improve foodborne outbreak investigation methods;
- Increase the number of establishments that have well-developed and implemented Food Safety Management Systems; and
- Develop a strategy to enhance communication and better tell our collective story.

This two-year cooperative agreement is viewed as a demonstration project, recognizing that within two years the full objectives of the agreement are not attainable, but significant foundational elements can be developed that will set building blocks for achieving the objectives. The associations have submitted a coordinated set of funding applications. As part of the coordinated applications, there will be coordination meetings (ideally in-person) two times per year with the Collaborative members. The associations propose constant ongoing coordination between the associations across the projects and workgroups associated with the projects. Each specific aim has a lead association(s), but all associations will have a role in each aim.

Specific Aim 1: Support, promote, and encourage complete adoption of one of the latest two FDA Food Codes by state, local, tribal, and territorial retail regulatory programs.

Objective 1: Develop and implement toolkits and subsequent strategies to promote full, complete adoption of one of the two most recent FDA Food Codes by SLTT retail food regulatory programs.

Significance. The FDA Food Code is the “model that assists food regulatory agencies at all levels of government by providing them with a scientifically sound technical and legal basis for regulating the retail and food service segment of the industry (e.g., restaurants, grocery stores, and institutions such as nursing homes).”¹ The Food Code is updated every two years by incorporating recommendations provided by the Conference for Food Protection (CFP) via its Biennial Meeting process. The most recent edition of the Food Code was released in 2017. As of December 31, 2018, over 85% of states were using Food Code editions released earlier than 2017.² Six states had adopted the 2017 edition, 21 states adopted the 2013 edition, and 23 states were on the 2009 or earlier Food Code editions.² Adoption of one of the two most recent FDA Food Codes by SLTT retail food regulatory programs would enable regulators and industry to use the most scientifically sound technical and legal basis for their retail food operations and promote the most current best practices and knowledge on food safety.^{3,4}

The main benefit of complete adoption and implementation of the FDA Food Code is to “provide effective controls as a means of reducing the risks of foodborne illnesses within retail establishments, thus protecting consumers and industry from potentially devastating health consequences and financial losses.”⁵ This aim will

address the need to develop resources and support for SLTT retail regulatory programs to adopt one of the two most recent FDA Food Codes. Further, effective promotional strategies will ensure SLTT programs are aware of new resources and have access to subject matter expertise within NACCHO and CFP to support their adoption of one of the latest two FDA Food Codes.

Innovation. NACCHO and CFP are unaware of initiatives by retail food associations to collaborate on developing toolkits and strategies to promote full, complete adoption of one of the two most recent FDA Food Codes by SLTT retail food regulatory programs. The Retail Food Association Collaborative (Collaborative) members include but are not limited to NACCHO, CFP, AFDO, and NEHA. The Collaborative associations collectively represent state, local, tribal, and territorial retail food programs and industry partners.

Approach. NACCHO and CFP will support the Collaborative's Food Code Adoption Workgroup efforts by (1) regularly participating in the Collaborative's Food Code Adoption Workgroup meetings; (2) providing SLTT retail food regulatory programs, industry, consumer, and academic partners' perspective to toolkits, resources, and strategies developed by Workgroup; and (3) disseminating Collaborative's Food Code Adoption Workgroup's requests and developed resources through NACCHO and CFP communication channels and advisory groups.

Objective 1.1: By end of Year 1, NACCHO and CFP staff will regularly participate in the Retail Food Association Collaborative's Food Code Adoption Workgroup.

Staff will regularly participate in the Collaborative's Food Code Adoption Workgroup meetings and provide support to Workgroup activities as needed. Participation in Workgroup meetings will be evident through meeting minutes (e.g., roll call) and action items. Additionally, the CFP Conference Vice-Chair, Brenda Bacon, is a key person of this proposal and is also leading the Collaborative's Food Code Adoption Workgroup. Staff will provide SLTT retail food regulatory program, industry, consumer, and academic partners' perspective to toolkits, resources, and strategies developed by the Workgroup. NACCHO and CFP will engage with their membership through advisory workgroups to provide perspective and feedback to developed products.

Workgroup activities currently include: (1) developing a Food Code Adoption Tool Kit with resources and strategies to promote full, complete adoption of one of the two most recent FDA Food Codes by SLTT retail food regulatory programs; (2) piloting the Food Code Adoption Tool Kit within Year 1; (3) finalizing Food Code Adoption Tool Kit and provide training to SLTTs on effective use of Tool Kit by Year 2; and (2) developing a regularly updated Food Code Adoption map.

NACCHO and CFP will contribute to each of these activities and, in the event the Workgroup decides to pursue alternate or additional activities, NACCHO and CFP will adjust to be responsive to the new direction(s).

In Years 1 and 2, the major outcomes from this objective are attendance at Workgroup meetings; input and support provided to the Food Code Adoption Workgroup; and provision of SLTT retail food regulatory program, industry, consumer, and academic partners' perspective to Tool Kits, resources, and strategies developed by the Workgroup.

The following measures of effectiveness will be tracked and monitored in Year 1:

- Up to monthly (12) Food Code Adoption Workgroup meetings attended;
- Develop or contribute to the development of up to five (5) success stories and/or positive testimonials;
- Record of contribution to the how-to-guide included with the Food Code Adoption Tool Kit;
- Pilot one (1) Food Code Adoption Tool Kit; and
- Record of contribution to and feedback provided on the Food Code Adoption Map.

The following measures of effectiveness will be tracked and monitored in Year 2:

- Up to monthly (12) Food Code Adoption Workgroup meetings attended;

- Develop or contribute to the development of at least one (1) customizable presentation for SLTTs to use Food Code Adoption Tool Kit; and
- Record of continued contribution to and feedback provided on the Food Code Adoption Map.

Objective 1.2: By end of Year 1, NACCHO and CFP will disseminate the Collaborative's Food Code Adoption Workgroup's requests and developed resources through respective communication channels.

Staff will use the organizations' multiple communication vehicles (e.g., Food Safety Leaders Newsletter, NACCHO Connect, Public Health Dispatch, The Greener Side, and Essential Elements Blog, NACCHO webpage, CFP website, and listserv) to amplify dissemination of Workgroup requests and developed resources. Staff will also utilize various programmatic distribution lists and advisory groups (e.g., Foodborne Illness Response Community of Practice, Food Safety and Infectious Disease workgroups) to disseminate requests and resources. To ensure that NACCHO's and CFP's communication campaigns are effective, they will be monitored, tracked (e.g., recording the number of clicks to email campaigns, hits to landing pages, etc.), and modified as needed to reach the target audiences.

NACCHO is a conduit of information and communications for local health departments and other partners. NACCHO's Communications Team consists of highly skilled writers, editors, storytellers, graphic designers, and public/media relations experts. NACCHO disseminates quality public health information, tools, and resources to public health professionals, and maintains extensive, multi-channeled communications networks that allow it to strategically communicate news, evidence-based science, and best practices relevant to local health departments. NACCHO uses expert consultants to translate materials into different languages and always ensures that materials are culturally competent. These communication channels, which reach thousands of individuals and agencies across the ten HHS regions, include:

- **NACCHO.org** provides current information related to local public health, best practices, tools, resources, and publications. NACCHO's website averages 22,400 hits per month and is a direct access point for users to receive real-time information.
- **Social media:** NACCHO has 18,540 Twitter, 3,500 Facebook, and 5,104 LinkedIn followers; and 384 YouTube subscribers.
- **Blogs:** *NACCHO Voice* is a weekly online blog covering NACCHO and local public health topics; *The Essential Elements of Local Public Health* and *The Preparedness Brief* provide information from NACCHO's Environmental Health and Infectious Disease and Public Health Preparedness portfolios. From 2013–2017, 230+ blog posts were published with 75,000+ views.
- **Stories from the Field:** This forum provides a means for local health departments to submit blog posts and stories that share their experiences and demonstrate the value of public health.
- **Print e-newsletters and journals:** Publications include: *Public Health Dispatch*, a monthly newsletter (2,500 recipients) that contains events, resources, and funding opportunities; *NACCHO Exchange*, a quarterly (4,500 recipients) that contains resources, tools, programs, and practices for LHDs and their partners; and the "News from NACCHO" column in the *Journal of Public Health Management and Practice*. From 2013–2017, NACCHO newsletters reached 750,000+ subscribers and 30 peer-reviewed articles were published.
- **E-newsletters:** *NACCHO Connect* is a bi-weekly e-newsletter reaching 12,500 LHD recipients; programmatic e-newsletters include the *Performance Improvement Compass*; *HIV, STI, & Viral Hepatitis Digest*; *Health & Disability Bulletin*; *The Greener Side*, and more.
- **Programmatic publications:** Includes issue and research briefs, reports, fact sheets, and promotional materials – over 80 distributed annually – that aim to reach local health departments, affiliate members, policymakers, and partners.
- **NACCHO Podcast Series:** Each bi-weekly podcast episode gives the latest on public health policy, followed by an interview with a local health official discussing emerging issues in their community. There have been over 125 episodes since its inception in 2011.

CFP has eight hundred twenty-five (825) members who are actively involved in retail food safety. These individuals work in a variety of settings including state, local, tribal and territorial regulatory agencies; all segments of the retail food industry; colleges and universities; and consumer organizations. All are on the front line of retail food safety in the U.S. CFP routinely disseminates information and resources about public health,

environmental health, and food safety to its membership and the public. Examples of communication channels CFP uses to reach its membership and the public include:

- **CFP website** - www.foodprotect.org: Provides current information related to a number of diverse topics in public health, environmental health, and retail food safety. Examples of items appearing on the CFP website are current news articles, information about Food Protection Manager Certification, and links to information documents that our partners requested be placed on the CFP website such as the Voluntary National Retail Food Regulatory Program Standards.
- **Social media**: CFP has 289 Facebook followers that receive information focused on food safety for consumers. CFP also has 876 LinkedIn followers to exchange retail food safety information with professionals.
- **Conference developed guides and documents**: Examples of CFP developed publications that are directly or indirectly pertinent to this research project include: (1) Uniform Inspection Program Audit Pilot Project (Standard 4); (2) Crosswalk - Requirements for Foodborne Illness Training Programs Based on Standard 5; (3) Standard 8 Staffing Level Assessment Workbook; Instruction Guide; (4) Standard 8 Staffing Level (FTE to Inspection Ratio) Assessment Workbook (Excel) - 11.13.2015; (5) Voluntary National Retail Food Regulatory Program Standards Clearinghouse Workgroup – Q&A; and (6) Voluntary National Retail Food Program Standards - Competence of Inspectors Infographic.
- **CFP listserv**: Provides information to CFP members about a variety of topics pertaining to retail food safety. This information is frequently shared by CFP members with their colleagues and other professionals they interact with at work. The sources of this information are CFP's federal agency partners, industry members, academics, and consumer groups. None of the information shared via the listserv is of a commercial nature.
- **CFP Biennial Meeting**: The agenda for each CFP's Biennial Meeting includes a Pre-Conference Workshop and the special session on the Voluntary National Retail Food Regulatory Program Standards (VNRFRPS). The workshop consists of plenary and breakout sessions on contemporary food safety topics. The session on the VNRFRPS provides an opportunity to share information about the Standards. This would provide an excellent opportunity for sharing the findings from this research project.

Throughout Years 1 and 2, the major outcomes from this objective are completed requests and resources communicated to NACCHO and CFP members.

The following measures of effectiveness will be tracked and monitored in Year 1:

- At least five (5) NACCHO and CFP communication vehicles utilized to promote the Collaborative's Workgroup requests and resources;
- Tracking log/record of Workgroup requests and resources distribution to SLTT retail food regulatory programs; and
- At least two (2) communications campaigns evaluated (e.g., NACCHO's and CFP's).

The following measures of effectiveness will be tracked and monitored in Year 2:

- At least ten (10) Food Code Adoption Tool Kit and Food Code Adoption Map promotions shared (e.g., press releases, social media posts, blog posts, newsletters);
- At least two (2) presentations of the Food Code Adoption Tool Kit to respective members and/or at regional or national meetings;
- At least five NACCHO and CFP communication vehicles utilized to promote the Collaborative's Workgroup requests and resources;
- Tracking log/record of Workgroup requests and resources distribution to SLTT retail food regulatory programs; and
- At least two (2) communications campaigns evaluated (e.g., NACCHO's and CFP's).

Specific Aim 2: Increase retail food regulatory programs' application of risk-based inspections and implementation of effective intervention strategies.

Objective 2A: Assess application of risk-based inspection methods by SLTT retail food regulatory programs, identify barriers to implementation, and coordinate with the FDA to execute strategies to overcome the barriers.

Significance. Foodborne illness is a preventable public health challenge that causes an estimate of nearly 48 million foodborne disease illness each year, with 128,000 requiring hospitalization, and resulting in 3,000 deaths in the United States.⁶ The FDA Food Safety Modernization Act (FSMA) enables FDA to better protect public health by strengthening the food safety system. FSMA allows FDA to focus more on preventing food safety issues rather than reacting to food safety issues after they have occurred.⁷

SLTT retail food regulatory programs play a significant role in reducing foodborne illness in their jurisdictions and are primary responsible for regulating retail food establishments in the United States. CDC surveillance data have consistently identified five major risk factors within the retail food industry that contribute to foodborne illness. These risk factors include: (1) poor personal hygiene; (2) improper food holding/time and temperature; (3) contaminated equipment/protection from contamination; (4) inadequate cooking; and (5) food obtained from unsafe sources. The application of effective risk-based inspection methods (i.e., Hazard Analysis Critical Control Point [HACCP]), in conjunction with assisting the industry in developing and enhancing food safety management systems, allows SLTT retail food regulatory programs to better control the five major risk factors and prevent foodborne illnesses.

Interviews conducted by NACCHO with SLTT programs also suggest the benefits of applying effective risk-based inspections is multi-fold. One program in Indiana stated that moving towards a HACCP-based inspection program has allowed their program to implement long-term corrective actions now that there is a written policy in place that can be referenced for food establishment owners and operators. Additionally, having written HACCP guides made the industry education process more streamlined.⁸ For a program in North Carolina, they attributed improvement in each of the five risk factor categories to their focus on risk-based inspection, among other strategies, including educational outreach and an improved regulatory foundation.⁹

Due to limited and decreased funding for public health, SLTT health departments face capacity and staffing restraints that affect the provision of essential public health services.¹⁰ For example, from 2008-2016, local health departments experienced a decline of more than 2,000 environmental health full-time equivalents.¹¹ With 79% and 77% of local health departments operating regulation, inspection, and licensing of food service establishments and providing food safety education,¹⁰ respectively, the staffing restraints has a great impact in the quantity and quality of services provided. Additionally, state health departments reported a 5% decrease of total number of different environmental health activities performed by their staff from 2010-2016.¹²

With consistent trends of staffing declines and restraints, application of risk-based inspections methods can assist SLTTs in maximizing staff time and the impact of retail food inspections. Risk-based inspections allow for SLTTs to focus their inspections on evaluating the behaviors, practices, and procedures of food operators that are likely to lead to out of control foodborne illness risk factors. Additionally, by assigning frequency of inspections based on risk, SLTT programs can focus limited program resources on food operations that pose the greatest potential risk of causing foodborne illness. For example, retail food establishments that conduct specialized food processes, which pose an increased potential health risk, can be categorized as higher risk and are assigned more frequent inspections per year.

Successful application of a risk-based inspection program also depends on establishing a uniform inspection program and effectively implementing compliance and enforcement policies and procedures. According to a 2018 NACCHO survey of retail food regulatory program enrolled in the VNRFRPS, 51% of respondents said they met Standard 3: Inspections based on HACCP; 22% said they met Standard 4: Uniform Inspection Program; and 46% said they met Standard 6: Compliance and Enforcement.¹³ This illustrates that many SLTT regulatory programs may struggle to implement a risk-based inspection program due to the multiple factors that may impact successful application of risk-based inspections. Also, as food trends rapidly evolve, SLTT programs are looking for additional guidance and resources to assist them in applying risk-based inspections. This is evident in the high demand and attendance of NACCHO webinars dedicated to addressing regulation and inspection of retail food establishments using specialized food processes (e.g., reduced oxygen packaging, fermentation/curing).^{14,15}

The main benefit of assisting SLTT programs to improve application and implementation of risk-based inspections addressed in this aim is to encourage a systematic, preventative approach to food safety from various types of hazards in retail and food service and minimize risk of foodborne illness by anticipating problems. This aim will address the need to assess how SLTT programs are applying risk-based inspection methods and the need to develop resources and support for SLTT programs to successfully implement risk-based inspections.

Innovation. NACCHO and CFP did not find prior literature investigating the topic of approaches on how local retail food regulatory programs are applying risk-based inspections and the barriers preventing the application of risk-based inspection methods. Gathering and sharing a diverse range of practices will also be highly valuable to SLTTs. Due to their vast range in jurisdictional sizes, community composition, budgetary capacity, and staffing, a one fits all approach does not meet the needs of SLTTs. Results from this research will provide SLTTs new resources to identify examples from similar jurisdiction matching their capacity that positively impact programs, services, or products.

Approach. Through this aim, NACCHO and CFP will assess application of risk-based inspection methods by SLTT retail food regulatory programs, identify barriers to implementation, and coordinate with the FDA to execute strategies to overcome the barriers by (1) identifying SLTT programs doing risk-based inspections; and (2) conducting up to nine key informant interviews with SLTT programs identified in the review and sharing the findings and recommendations with the FDA and Collaborative to create a unified strategy. NACCHO and CFP will also include the perspectives of SLTT retail food regulatory programs to address this Aim by consulting a Food Safety Advisory Group comprised of SLTT representatives.

Objective 2.1A: By end of Year 1, NACCHO and CFP will conduct up to nine (9) key informant interviews with a subset of SLTT programs enrolled in the VNRFRPS to assess application of risk-based inspection methods being used and identify barriers preventing application of risk-based inspection methods.

NACCHO and CFP staff will identify SLTT programs doing risk-based inspections by reviewing the FDA Listing of Jurisdictions Enrolled in the VNRFRPS for jurisdictions that have achieved conformance to Standards 3, 4, and 6.¹⁶ Jurisdictions conformed to these three Standards, Standard 3: Inspection Program Based on HACCP Principles, Standard 4: Uniform Inspection Program, and Standard 6: Compliance and Enforcement, should have the policies and procedures needed to implement an effective risk-based inspection program. To help identify additional barriers that prevent SLTT programs from implementing risk-based inspections, staff will review the FDA list for jurisdictions that conform to either Standard 3, 4, or 6, but not all three Standards. The two lists of SLTT programs will be used in to select potential key informant interview participants. Staff will consult with the Food Safety Advisory Group, the FDA, and Collaborative to finalize search parameters and criteria to ensure inclusivity in the methodology. In the event the FDA Listing of Jurisdictions is insufficient, NACCHO will consult with Food Safety Advisory Group, the Collaborative, or FDA partners to expand search results (e.g., consult with Regional FDA Retail Food Specialists) and adjust appropriately.

To identify potential key informant interviews participants, staff will review the lists of SLTT programs that have met Standards 3, 4, and 6 and the list of SLTT program that have met either Standard 3, 4, or 6, but not all three Standards. The selection criteria goal is to obtain as many perspectives as possible to represent a diverse range of jurisdictions (e.g., various regions, size of jurisdictions; access to resources, government structures, rural versus urban). Staff will work with NACCHO's Research and Evaluation Team and gather input from the Food Safety Advisory Group and Collaborative members to identify additional interview protocols and informant selection process. Staff will then conduct up to nine (9) key informant interviews to assess how SLTT programs are applying of risk-based inspection methods and barriers that prevent SLTT from application of risk-based inspection methods.

Staff will work with NACCHO's Research and Evaluation team to analyze key informant interviews, identify key themes, and draft a final report of the findings. The key informant interview report will describe SLTT programs' successful processes in applying risk-based inspection methods, barriers and challenges that prevent application of risk-based inspection methods, and recommendations. The report findings and recommendations will be shared with the Food Safety Advisory Group, FDA and Collaborative members and

staff will coordinate discussions with the groups to create a unified strategy in assisting SLTT programs to overcome barriers in the application of risk-based inspections.

In Year 1, the major outcomes from this objective are the completion of the tasks required to (1) identify SLTT programs that are doing risk-based inspections; (2) conducting key informant interviews with SLTT programs; and (3) drafting a summary report of the interviews – including strategies to overcome barriers of risk-based inspections.

The following measures of effectiveness will be tracked and monitored at the end of Year 1:

- Up to (12) potential key informant participants identified;
- Up to nine (9) SLTT retail food regulatory programs interviewed (including accompanying recordings and transcripts);
- At least (12) SLTT members recruited to the Food Safety Advisory Group;
- At least six (6) meetings of the Food Safety Advisory Group, including agendas and meeting notes;
- At least three (3) strategies identified to assist SLTT programs to overcome barriers in applying risk-based inspections; and
- One (1) final report summarizing the key informant interviews.

The following measures of effectiveness will be tracked and monitored at the end of Year 2:

- Maintained at least 12 SLTT members in the Food Safety Advisory Group and
- At least six (6) meetings of the Food Safety Advisory Group, including agendas and meeting notes.

Objective 2B: Identify, assess, and promote implementation of effective intervention strategies.

Significance.

Foodborne illness is a preventable public health challenge that causes an estimate of nearly 48 million foodborne disease illness each year, with 128,000 requiring hospitalization, and resulting in 3,000 deaths in the United States.⁶ The FDA Food Safety Modernization Act (FSMA) enables FDA to better protect public health by strengthening the food safety system. FSMA allows FDA to focus more on preventing food safety issues rather than reacting to food safety issues after they have occurred.⁷

SLTT retail food regulatory programs play a significant role in reducing foodborne illness in their jurisdictions and are primary responsible for regulating retail food establishments in the United States. CDC surveillance data have consistently identified five major risk factors within the retail food industry that contribute to foodborne illness. These risk factors include: (1) poor personal hygiene; (2) improper food holding/time and temperature; (3) contaminated equipment/protection from contamination; (4) inadequate cooking; and (5) food obtained from unsafe sources. Implementing effective risk-based intervention strategies that can be developed with retail and food service operators is an important component to reducing the occurrence of foodborne illness risk factors.¹ Additionally, tracking the five major risk factors and their respective intervention strategies provide a consistent mean of monitoring food safety efforts and determining trend over time within the retail food industry. In a baseline study to assess trends in the occurrence of risk factors, food safety behaviors/practices, and interventions, FDA investigated the relationship between Food Safety Management Systems (FSMS), Certified Food Protection Managers (CFPM), and the occurrence of foodborne illness risk factors.¹⁷ This initial study provided a foundation for implementing risk-based interventions.

Standard 9 of the VNRFRPS applies to the process used to measure the success of a jurisdiction's program in reducing the occurrence of foodborne illness risk factors to enhance food safety and public health in the community. This requires the jurisdictions to conduct a risk factor study, analyze the data collected and report the outcomes, and design targeted intervention strategies to address the occurrence of the risk factors identified in their risk factor study. The jurisdiction is also required to evaluate the effectiveness of the strategies by subsequent risk factor studies. According to the 2018 NACCHO survey of retail food regulatory program enrolled in the VNRFRPS, 21% of respondents indicated they have conducted a risk factor study.¹³ Of the programs that conducted a risk factor study 81% indicated they analyzed the data, with 62% of those agencies having developed a targeted intervention strategy. This data illustrates that SLTT programs need guidance on developing effective and proven intervention strategies to control risk factors as few programs have implemented strategies.

In this aim, NACCHO and CFP will identify, analyze, and promote effective intervention strategies to ensure that all SLTT programs are (1) aware of these strategies and (2) have access to subject matter expertise within NACCHO and CFP to support implementation of effective intervention strategies in their retail food community.

Innovation. Collating and analyzing effective foodborne illness risk factor intervention strategies that VNRFRPS-enrolled jurisdictions have conducted will be one of, if not the first formal evaluation of its kind. Based on NACCHO's and CFP's preliminary assessment, there is currently no other literature that collates VNRFRPS enrolled jurisdictions' risk factor study reports. The analysis will examine how SLTT programs have implemented effective intervention strategies to bring about immediate and/or long-term control of foodborne illness risk factors identified in their retail food risk factor studies. Intervention strategies that have been determined to be effective for controlling specific risk factors will be promoted widely to SLTT programs to help reduce retail foodborne illness risk factors across the U.S.

Approach. NACCHO and CFP will improve SLTT retail food regulatory programs' knowledge of effective intervention strategies to reduce foodborne illness risk factors by (1) reviewing, analyzing, and collating retail food risk factor study reports conducted by VNRFRPS-enrolled programs; (2) conducting key informant interviews with programs identified in the review of reports to better understand how intervention strategies were implemented and effectively controlled foodborne illness risk factors in retail food establishments; and (3) promoting effective intervention strategies through respective communication channels, online sharing sessions, webinars, and at conferences, meetings, and seminars. NACCHO and CFP will also include the perspectives of SLTT retail food regulatory programs to address this Aim by consulting a Food Safety Advisory Group comprised of SLTT representatives.

Objective 2.1B: By end of Year 1, NACCHO and CFP will identify and collate reports generated by jurisdictions that have met Standard 9.

Staff will review and collate retail food risk factor study reports created by jurisdictions enrolled in the VNRFRPS to conform to Standard 9. Standard 9 requires that the risk factor study reports include the occurrence of the five foodborne illness risk factors, trends in the occurrence of the risk factors, analysis of data collected and report of outcomes, targeted intervention strategies, and evaluation of effectiveness of each strategy. To identify jurisdictions that have conformed to Standard 9, staff will use the most updated FDA Listing of Jurisdictions Enrolled in the VNRFRPS.¹⁶

To begin identifying effective intervention strategies, staff will review the jurisdictions' risk factor study reports and select jurisdictions that have conducted multiple risk factor studies. Standard 9 of the VNRFRPS requires evaluation of the effectiveness of targeted intervention strategies by conducting subsequent risk factor studies and documentation that the effectiveness of performed interventions is evaluated. Staff will analyze the reports to see which risk factors were improved upon due to their intervention strategies. For example, if cold-holding of foods requiring refrigeration was identified as a problem area in need of priority attention in the first risk factor study, the subsequent risk factor studies should document that cold-holding violations have decreased.

Staff will consult with a Food Safety Advisory group, the Collaborative, and FDA partners to finalize search parameters and criteria to ensure inclusivity in the methodology. NACCHO and CFP will convene a Food Safety Advisory group early in Year 1 to discuss the strategies to achieve objectives proposed in aim 2 to include SLTT perspectives at the onset. This will ensure any resulting recommendations are relevant not only to the researchers conducting the work, but also to SLTT programs who would be responsible for implementing these recommendations. In the event the Food Safety Advisory group or the Collaborative provides additional or an alternate strategy (e.g., other than reviewing and collating the retail risk factor studies reports created by VNRFRPS enrolled programs), NACCHO and CFP will adjust to be responsive to the new direction.

In Year 1, the major outcomes from this objective are the completion of a risk factor report review plan and collated reports of risk factor studies with effective intervention strategies.

The following measures of effectiveness will be tracked and monitored in Year 1:

- At least one (1) presentation to Collaborative members and FDA to solicit feedback and input on the search parameters and inclusion criteria;
- One (1) in-person meeting of the Food Safety Advisory Group;
- Number of risk factor studies included in collated report; and
- Number of risk factor report review plans.

Objective 2.2B: By end of Year 1, NACCHO and CFP will use the collated reports from Objective 2.1B to identify potential key informants and conduct up to nine (9) key informant interviews to document effective intervention strategies' processes, results, successes, and challenges.

Staff will review the collated reports from Objective 2.1B to identify up to nine (9) key informant interviews participants. The selection criteria goal is to obtain as many perspectives as possible to represent a diverse range of jurisdictions (e.g., various regions, size of jurisdictions, access to resources, governance structures, rural versus urban) that have evaluated and documented the effectiveness of their foodborne risk factor intervention strategies. Staff will work with NACCHO's Research and Evaluation Team to consult with the FDA and Collaborative members on additional interview protocol and informant selection processes.

Staff will then conduct up to nine (9) key informant interviews to document SLTT programs' processes in identifying top foodborne illness risk factors, implementation of intervention strategies, evaluation of intervention strategies, successes, challenges, and recommendations. Interviews will be recorded, transcribed, and coded for analyses to complete Objective 2.3B.

In Year 1, the major outcomes from this objective are the completion of the tasks required to conduct up to nine (9) key informant interviews to identify the processes of implementing effective intervention strategies.

The following measures of effectiveness will be tracked and monitored by end of Year 1:

- Up to (12) potential key informant participants identified;
- One (1) key informant interview guide and script; and
- Up to nine (9) SLTT retail food regulatory programs interviewed (including accompanying recordings and transcripts).

Objective 2.3B: By end of Year 2, NACCHO and CFP will draft a report based on the key informant interview participants' effective and proven intervention strategies in changing long-term behavior of food employees.

Staff will work with NACCHO's Research and Evaluation team to analyze key informant interviews, identify key themes, and draft a final report of the findings. Members of the Food Safety Advisory group, the Collaborative, and FDA will be consulted during the review of key themes and final report development stages. The report will include profiles of the effective and proven foodborne illness risk factor intervention strategies identified in the key informant interviews. Each profile will describe SLTT programs' processes in identifying top foodborne illness risk factors, implementation of intervention strategies, evaluation of intervention strategies, successes, challenges, and recommendations.

The report findings and recommendations will be shared with FDA and Collaborative members. Staff will coordinate discussions with the group to create a unified strategy in assisting SLTT programs to implement effective intervention strategies. Additionally, based on the input from the key informant interviews and group discussions, there is potential to identify future activities to assist SLTT programs in working with retail food industry to control foodborne illness risk factors. A potential project is to create an electronic self-inspection form for industry to identify out of control foodborne illness risk factors. This self-inspection form would help industry develop risk control plans for long-term control of the risk factors out of compliance in their operations; link out to educational tools; and could be submitted to the SLTT regulatory jurisdictions for review. The regulatory jurisdiction would be able to provide feedback on the self-inspection and risk control plan and could use this to help guide on-site inspections. This is one strategy to allow for more focused inspector time with establishments that are not performing well.

In Year 2, the major outcomes from this objective are the completion of the tasks required to analyze and draft a report of the key informant interviews.

The following measures of effectiveness will be tracked and monitored by end of Year 2:

- Record of input provided by the Food Safety Advisory group;
- At least three (3) strategies identified to assist SLTT programs to implement effective intervention strategies; and
- One (1) final report summarizing the key informant interviews.

Objective 2.4B: By end of Year 2, NACCHO and CFP will disseminate Objectives 2A and 2B report findings through respective communication channels, online sharing sessions, and national and regional conferences, seminars, and meetings.

NACCHO and CFP will host online sharing sessions to share the collated risk factor study reports and key informant findings on effective intervention strategies from Objective 2A and key informant findings on assessing application and barriers to implementing risk-based inspections from Objective 2B. Staff will identify sharing session presenters, in consultation with FDA, the Collaborative, and the Food Safety Advisory group, by reviewing the key informant reports. Once presenters are confirmed, staff will assist them with content development and scheduling of the sessions. The sharing sessions will be recorded and shared publicly on NACCHO's Food Safety and Defense webpage and CFP's website. Relevant materials will also be posted on NACCHO's Food Safety Toolkit.

NACCHO and CFP staff will also use the organizations' multiple communication vehicles (e.g., Food Safety Leaders' List, NACCHO Connect, Public Health Dispatch, The Greener Side, and Essential Elements Blog, CFP website, and listserv) to amplify dissemination of the reports. Finally, staff will utilize various programmatic distribution lists and advisory groups (e.g., Foodborne outbreak response Community of Practice, Food Safety and Infectious Disease workgroups) in disseminating the report. Staff will also submit abstracts and coordinate with partners to present the reports' findings and recommendations at national and regional meetings and conferences (e.g., NEHA, NACCHO, CFP, AFDO, FDA seminars, Partnership for Food Protection). To ensure that NACCHO and CFP's communication campaigns are effective, they will be monitored, tracked (e.g., recording the number of clicks to email campaigns, hits to landing pages, etc.), and modified as needed to reach the target audiences

In Year 2, the major outcomes from this objective are completion of promotional activities for the key informant interview reports including two (2) online sharing sessions, promotions through NACCHO and CFP communication vehicles, and submitted conference abstracts.

The following measures of effectiveness will be tracked and monitored by end of Year 2:

- At least three (3) communications materials developed and shared to promote the online sharing sessions;
- At least two (2) online sharing sessions coordinated, facilitated, and recorded;
- Up to one (1) evaluation of each sharing session;
- At least 75% of online sharing session participants that indicated that they found the information on the sharing sessions useful and informative as indicated through the post-evaluation;
- At least two (2) NACCHO and CFP communication vehicles utilized to promote the key informant reports;
- At least two (2) communication campaign evaluations completed; and
- At least two (2) abstracts submitted to conferences and meetings.

Specific Aim 3: Increase enrollment and active participation in and application of the Voluntary Retail Food Regulatory Program Standards by state, local, tribal, and territorial retail food regulatory programs.

Objective 3: Build upon the FDA's VNRFRPS technical assistance strategy to provide a "multiplier effect" to promote participation and implementation of the VNRFRPS by SLTTs.

Significance. According to the FDA, "more than 3,000 state, local, and tribal agencies have primary responsibility to regulate the retail food and foodservice industries in the United States. They are responsible for the inspection and oversight of over 1 million food establishments - restaurants and grocery stores, as well as vending machines, cafeterias, and other outlets in health-care facilities, schools, and correctional facilities."¹⁸ Out of the 3,000 SLTT agencies, an estimated 834 agencies are enrolled in the FDA's VNRFRPS.¹⁶

As the strategic goals of public health agencies continue to shift to more of a focus on population health, including a reduction in the rates of foodborne illnesses, there is a need for regulatory food program managers to better define public health outcomes, performance measures, areas for improvement, and achievements. The Public Health Accreditation Board's (PHAB) national accreditation program fosters health departments' commitment to quality improvement, performance management, accountability, transparency, and the capacity to deliver the Ten Essential Public Health Services.¹⁹ NACCHO's crosswalk of the PHAB Standards and Measures to the VNRFRPS served to strengthen the argument for SLTT enrollment in the VNRFRPS.²⁰ SLTT health jurisdictions can utilize the VNRFRPS to serve as a guide to their regulatory retail food program managers in the design and management of a highly performing and effective retail food regulatory program, while providing a means of recognition for those programs that conform to the Standards.²¹ Ultimately, the VNRFRPS are intended to support retail food regulatory agencies in preventing foodborne illnesses and deaths in local communities across the United States. This aim is met by providing the sector with the foundation for the continuous improvement of food safety regulatory programs by advancing processes that identify and mitigate foodborne illness risk factors by engaging food establishment owners and operators within the nation's food industry in active managerial control of safe food handling processes and procedures.

Currently, the VNRFRPS' formal technical assistance, funding, and support is provided to retail food regulatory programs through a network of FDA Regional Retail Food Specialists, FDA grants, and cooperative agreements with associations such as NACCHO and AFDO. Since 2012, NACCHO, in its cooperative agreement with the FDA, has implemented a peer mentorship program that connects retail food regulatory program practitioners who are experienced in applying the Standards with those who are newly enrolled and looking for assistance, resources, and recommendations for achieving conformance with one or more Standards. NACCHO's pairing of mentees with mentors has helped to identify and address barriers to implementation of the VNRFRPS and, as an unexpected benefit, has promoted informal mentorships between programs nationwide as more jurisdictions learn about the Retail Program Standards. The strategy of the mentor to mentee pairings has helped to explain scalability of the Standards to SLTTs throughout the range of health jurisdiction sizes.

The NACCHO Retail Program Standards Mentorship Program has been a successful technical assistance strategy to provide a "multiplier effect" to promote participation and implementation of the VNRFRPS by SLTTs. To support collaboration among SLTTs, there exists a FoodSHIELD workgroup site where mentorship participants can post and share various Standards-related resources. Also, during each grant period, NACCHO hosts webinars with Standards-related presentations by mentorship participants and an end-of-year meeting that convenes the entire cohort of mentors and mentees to share their experiences, successes, and challenges, with not only each other, but also with FDA and NACCHO leadership. To date, NACCHO has awarded over \$2.2 million across 206 grants to state, local, tribal, and territorial health departments and the District of Columbia. Throughout the program's first seven years, over 32 mentees completed initial self-assessments of all nine Standards, over 62 mentees achieved conformance to at least one Standard, and over 106 mentees made significant progress towards meeting at least one of the FDA Retail Program Standards.²² AFDO, another member of the Collaborative has administered Retail Program Standards Grants since 2014, awarding more than \$8.1 million across 1,985 grants.²³

There have only been five agencies that have met all nine Standards of the VNRFRPS. The number of enrolled agencies, and the discrepancy between enrolled agencies and those that have met all nine Standards shows that additional technical assistance strategies are needed to increase active participation and implementation of the program. A review of FDA's Listing of Jurisdictions Enrolled in the VNRFRPS finds that

many state and local health agencies have not reported conducting any Standards-related activities since enrolling or for time periods exceeding those defined by the Standards.¹⁶

To understand more about facilitators and barriers for SLTT programs to enroll and to actively participate in the VNRFRPS, in 2020, NACCHO conducted key informant interviews with local jurisdictions that are actively enrolled, dropped out, or never enrolled in the VNRFRPS. Preliminary key informant findings revealed that barriers cited include competing priorities, resource constraints (e.g., lack of staff capacity, funds, time), lack of guidance from the state to use the Standards, lack of leadership support and buy-in, and lack of understanding of the purpose and benefit of the VNRFRPS.²⁴ Similarly, lack of time and competing priorities were cited as the top barriers by SLTT programs that reported unmet VNRFRPS criteria in a 2018 NACCHO assessment.¹³ Facilitators cited by key informant participants for initial enrollment and continual participation in the VNRFRPS included the following factors: (1) buy in and/or support from leaders within the organization; (2) having an engaged and accessible FDA Retail Food Specialist; (3) receiving VNRFRPS grants; (4) partnering with their state on enrolling and maintaining the Standards; and (5) working with other jurisdictions to learn, borrow from, and make progress (e.g., NACCHO Mentorship Program for the Retail Program Standards, biannual regional VNRFRPS meetings with nearby jurisdictions). Leadership buy-in and funding were also cited as factors that encouraged enrollment or continued commitment to conforming to the Standards in a 2014 NACCHO key informant interview with local health departments.²⁵

Preliminary research conducted by NACCHO and self-reported to both NACCHO and CFP by SLTT agencies suggests that creating VNRFRPS networks may be one strategy to increase enrollment and sustained participation in the Standards. One such network in North Carolina is comprised of 60 enrolled jurisdictions and convenes regional meetings each Spring and Fall to share experiences, exchange best practices, and support each other in conforming to one or more Standards. Another VNRFRPS network in Arizona includes 15 counties, most of whom are enrolled in the Standards. This network convenes quarterly via conference calls with a similar purpose to the North Carolina network.²⁴

This aim will further explore additional barriers and facilitators to SLTT retail food regulatory program practitioners enrolling in and committing to meeting the nine Standards. Through this process, NACCHO and CFP will also identify strategies and resource needs to overcome these barriers. With a more thorough understanding of the barriers and opportunities to overcome them, this project will uncover technical assistance approaches to improve upon the current strategy to increase active participation and implementation of the VNRFRPS by SLTTs.

Innovation. In this aim, NACCHO and CFP propose to strengthen the current technical assistance approach to promoting participation and implementation of the VNRFRPS by SLTTs. As of this date, NACCHO and CFP are unaware of collaborative efforts by retail food associations to uncover technical assistance approaches to enhance the current “strategy” to improve participation and implementation of the VNRFRPS by SLTTs. With NACCHO and CFP leading the way, this coordinated approach and support of each association is dedicated to (1) improving the equity of resource distribution to SLTT regulatory programs – including successfully applying to the new flexible funding model; (2) exploring the benefits operational strategies behind successful VNRFRPS networks; and (3) understanding and addressing the barriers to SLTT regulatory programs enrolled in the Standards but failing to achieve full compliance.

Approach. Through this aim, NACCHO and CFP, with the support of the Collaborative members, will improve FDA’s, the Collaborative’s, and SLTT’s understanding around inequities within the current technical assistance approach and strategies to address these gaps; successful engagement in the new VNRFRPS flexible funding model; and ability to address and overcome barriers in achieving full conformance in the Standards. To do this, NACCHO and CFP will (1) review and assess data on the equity of resource distribution to SLTT regulatory programs; (2) create an approach to improve upon equity gaps; (3) create and/or share educational and instructional resources to support SLTTs successfully applying for VNRFRPS funding in the new flexible funding model; and (4) convene stakeholders and representatives from SLTT agencies currently enrolled in the Standards to identify opportunities to overcome barriers in achieving full conformance.

Objective 3.1: By end of Years 1 and 2, NACCHO and CFP will create an approach to improve the equity of (1) distributing and/or promoting resources to SLTT regulatory programs and (2) understanding and successfully applying for VNRFRPS funding through the new flexible funding model.

To achieve this objective, NACCHO and CFP will collect and review the Collaborative's communication channels used to distribute and/or promote resources to SLTT regulatory programs and unsuccessful VNRFRPS funding applications from AFDO, FDA, and NACCHO opportunities. These data will be compared to each other and to FDA's list of enrolled programs to examine any emerging patterns and trends. In house data on the governance structure across states may also be compared with equity data to discern any trends around areas that are actively enrolled versus those that are not or have never enrolled.

Specifically, staff will be looking for (1) areas with less reach and fewer enrolled SLTT regulatory programs; (2) any governance trends in actively enrolled jurisdictions versus inactive or never enrolled; and (3) trends or patterns of successful VNRFRPS funding applications versus unsuccessful. As gaps, patterns, and trends emerge, NACCHO and CFP will work with Collaborative partners, FDA, and the Food Safety Advisory Group to discuss sources of the inequities and develop strategies to engage with SLTT programs in underrepresented states and regions.

Staff will also develop and participate in promoting the new flexible funding model for VNRFRPS funding. This will include amplifying any FDA-developed trainings, instructional resources, or webinars along with developing targeted outreach materials to engage members of the respective Collaborative partners. To appropriately reach all Collaborative members, the Collaborative partners will be consulted in the development of any targeted materials.

In Year 1, the major outcomes of this objective are the completion of tasks required to review SLTT regulatory resource distribution equity and creating strategies to improve equitable distribution.

The following measures of effectiveness will be tracked and monitored in Year 1:

- Review and findings of at least three Collaborative members' (AFDO, FDA, NACCHO) communication strategies used in distributing resources to SLTTs;
- Review and findings of metrics tracked to evaluate communication strategy success (e.g., open and click rates of emails and newsletters; resource download stats; participation in trainings/webinars, etc.);
- At least one communication strategy developed to improve equitable resource distribution to SLTTs;
- Review of at least the last two years' pool of VNRFRPS funding applicants (successful and unsuccessful) from AFDO, FDA, and NACCHO; and
- One summary of gaps, patterns, and trends identified.

In Year 2, the major outcomes of this objective are the completion of tasks required to evaluate equitable distribution of resources and successfully engaging future enrollees of the new flexible funding model for VNRFRPS funding.

The following measures of effectiveness will be tracked and monitored in Year 2:

- Evaluation of communication strategy success (e.g., open and click rates of emails and newsletters; resource download stats; participation in trainings/webinars, etc.);
- Record of modified communication strategy based on evaluation to improve distribution to SLTT agencies;
- At least one resource developed and/or promoted around the new flexible VNRFRPS funding model to SLTT agencies; and
- Record of input by NACCHO and CFP into promotional and educational/training materials developed by the Collaborative and FDA partners regarding the new flexible VNRFRPS funding model.

Objective 3.2: By end of Year 2, NACCHO and CFP will conduct focus groups with local jurisdictions in states or regions that have started their own VNRFRPS network to understand and document the groups' successes, challenges, and recommendations.

The objective of this phase of the project is to identify effective intervention strategies implemented by industry and/or regulators to bring about immediate and/or long-term control of foodborne illness risk factors. Emphasis will be placed on identifying SLTT's that have successfully met the requirements of Standards 3, 4, and 6. Conformance to these Standards will result in facility inspections that focus on key foodborne illness risk factors and the correction of out-of-control risk factors through Active Managerial Control; an agency that has a quality assurance program that promotes the uniform interpretation and application of regulations and policies; and agency procedures that result in timely correction of out-of-control risk factors. Enforcement actions are taken when necessary and are applied uniformly and consistently.

During this phase of the project, the research team will identify states and regions that have successfully created a VNRFRPS network. A network may consist of multiple enrolled jurisdictions within a single state or multiple state and local jurisdictions within a geographic region.

Once the VNRFRPS network(s) have been identified, they will be recruited to share and illustrate the level of success the jurisdictions in the network have had in achieving conformance with the nine Standards with emphasis on Standards 3, 4, and 6. Focus group meetings will be held with a representative sample of the networks achieving the greatest success. The purpose of the focus group meetings will be to:

- 1) Determine how SLTTs in the network were persuaded to enroll in the Standards;
- 2) Identify what SLTT's have done to successfully comply with and verify Standards 3, 4 and 6 and how the network has helped them to be successful;
- 3) Identify the challenges and barriers that SLTTs in the network have experienced prior to making a commitment to enroll in the Standards;
- 4) Identify the challenges and barriers that SLTT's in the network experienced when achieving conformance with the nine Standards, especially Standards 3, 4 and 6;
- 5) Identify how the SLTT's overcame challenges experienced when meeting the nine Standards and how the network helped them to overcome these challenges; and
- 6) Provide an opportunity for the SLTT's in the network to suggest ways the Standards can be improved.

The following measures of effectiveness will be tracked and monitored in Years 1 and 2:

- List of VNRFRPS network(s) that have SLTT's that have verified conformance with the nine Standards, with emphasis given to Standards 3, 4, and 6;
- One focus group guide;
- One focus group meeting held with VNRFRPS network(s);
- Attendee list, recordings, notes, and action items resulting from the focus groups; and
- Summary report of focus group findings.

Objective 3.3: By end of Year 2, NACCHO and CFP will convene a meeting with retail food regulatory stakeholders and FDA staff to share and discuss the results of Objectives 2.1A and 3.2.

Staff will coordinate and facilitate an in-person meeting with retail food regulatory stakeholders and FDA partners. This meeting may be in conjunction with a national or regional conference. The meeting will provide a venue for identifying hurdles to conformance to the VNRFRPS, sharing success stories from agencies that have successfully conformed with the various Standards, and provide an opportunity for regulatory agencies to suggest opportunities for improvements to the Standards. These suggestions will be studied by the CFP Program Standards Committee and could subsequently be submitted as Issues at a future biennial meeting of the CFP.

At the end of Year 2, NACCHO and CFP would move towards creating a Retail Food Alliance that is similar in nature to the Manufactured Food Alliance. This group would meet periodically to discuss various topics and strategies for achieving conformance with the VNRFRPS. The Alliance would focus on two main activities: 1) finding ways to increase SLTT enrollment in the Standards and 2) assist and support SLTTs enrolled in the

Standards to make greater progress towards achieving conformance with the VNRFRPS. A sample agenda for the first meeting of the Retail Food Alliance would include plenary and breakout sessions that cover topics including:

- The impact of the adopting the FDA Food Code, doing risk-based inspections, conducting risk factor studies, and implementing intervention strategies on the reduction of foodborne illnesses.
- Barriers to Program Standards enrollment and progress, including identifying data gaps and support systems to address the barriers.
- The elements of Standard 9 that pose the greatest challenges for conformance, tools available to assist enrolled agencies with conforming with the Standard, and possible funding opportunities to enhance conformance to the Standard.
- Breaking down the Retail Program Standards into manageable tasks or projects to facilitate conformance.

In Year 2, the major outcomes of this objective are to share information compiled via the interviews and focus groups outlined in Objectives 2.1A and 3.2; an in-person meeting of stakeholders, FDA, and Collaborative members; and to move toward creating a Retail Food Alliance that is similar in nature to the Manufactured Food Alliance.

The following measures of effectiveness will be tracked and monitored in Year 2:

- At least one meeting held with SLTT retail food associations and stakeholders to share and discuss the results of Objectives 2.1A and 3.2;
- Evaluation of the effectiveness of the meeting to overcome hurdles to conformance to the VNRFRPS, share success stories from agencies that achieved conformance to the Standards, and provide an opportunity for regulatory agencies to suggest opportunities for improvements to the Standards;
- Determine if suggested improvements to the VNRFRPS are reviewed by the CFP Program Standards Committee and are subsequently submitted as Issues at a future biennial CFP meeting; and
- Evaluate feasibility of creating a Retail Food Alliance.

Specific Aim 4: Support and amplify the Collaborative's strategies to reduce the occurrence of foodborne illness risk factors, assess gaps in managerial control, and effectively communicate with retail food safety stakeholders.

Objective 4: NACCHO and CFP will provide support to AFDO's, NEHA's, and the Collaborative's activities to (1) improve foodborne illness outbreak investigations; (2) increase the number of establishments with well-developed and implemented Food Safety Management Systems; and (3) develop a strategy to enhance communication around retail food safety issues and resources.

Significance. The CDC estimates that nearly 48 million Americans are stricken with foodborne disease illness each year, with 128,000 requiring hospitalization, and resulting in 3,000 deaths.⁶ Five major risk factors related to employee behaviors and preparation practices in retail and food service establishments contribute to foodborne illness: (1) improper holding temperature; (2) inadequate cooking; (3) poor personal hygiene; (4) contaminated equipment; and (5) food from unsafe sources. This aim addresses three of several proven strategies to reduce the incidence and severity of foodborne illnesses within the power of state, local, tribal, and territorial retail food regulatory programs.

Outbreak investigations are a tool to stop ongoing outbreaks and are critical to preventing foodborne diseases.^{26,27} During outbreak investigations, the pathogen and source are detected, then confirmed; a coordinated response is executed to control and stop the outbreak; and a review of how the outbreak initiated is completed to identify gaps in current processes. Improving foodborne illness outbreak investigations with the intent to reduce foodborne illness outbreaks is a goal for all members of the Collaborative. Members' strengths lie in various aspects of developing and conducting training, outreach, and education around best practices and innovative approaches to assist SLTT regulatory jurisdictions with (1) reducing the occurrence of

foodborne illness risk factors in food establishments, and (2) responding more effectively to foodborne illness outbreaks.

Another shift from response to prevention to better control foodborne illness risk factors is the practice of active managerial control. Active managerial control describes a preventative approach to develop and implement food safety management systems to prevent, eliminate, or reduce the occurrence of foodborne illness risk factors.¹ Woven into a food safety management system based on Hazard Analysis and Critical Control Point (HACCP) principles, active managerial control is an important tool to effectively control the occurrence of foodborne illness risk factors. The objectives and activities within this aim address improving active managerial control at the retail level – increasing the number of establishments with well-developed and implemented food safety management systems – to assist retail food regulatory programs in reducing foodborne illness.

A final key element to the Collaborative's overall goal to assist retail food regulatory programs in reducing foodborne illness is relevant, timely, and coordinated communication among partners, to external stakeholders, and SLTT retail food regulatory programs. As members of the Collaborative, NACCHO and CFP will contribute to and amplify communications materials generated (e.g., webpages, reports, briefs, blog posts, webinars, press releases, etc.). A coordinated approach to post and disseminate information to SLTT retail food regulatory programs is critical to ensure training, education, and resources reach target audiences quickly and consistently. Further, a common warehouse containing training and education tools and resources can streamline access for SLTT retail food regulatory programs, reducing barriers around ease of access. The Collaborative members recognize that clear messaging, ease of access, and timely dissemination can promote sustained engagement by SLTT retail food regulatory programs to reduce the occurrence of foodborne illness.

Innovation. As of date, NACCHO and CFP are unaware of initiatives by retail food associations to collaborate to advance educational outreach, training activities, and best practices aimed at reducing the occurrence of foodborne illness risk factors aimed solely through retail food initiatives. The coordinated approach and support of each association is dedicated to (1) develop and implement training, outreach, educational materials and opportunities, and other innovative approaches to assist SLTT regulatory jurisdictions with reducing the occurrence of foodborne illness risk factors in food establishments and responding more effectively to foodborne illness outbreaks; (2) develop and promote strategies to improve active managerial control at the retail level; and (3) develop a strategy to enhance communication and better communicate retail food safety issues and resources.

Approach. Through this aim, NACCHO and CFP will improve the FDA's, Collaborative's, and SLTTs' understanding of how to (1) improve foodborne illness outbreak investigations to reduce their occurrence; (2) promote and improve active managerial control to prevent foodborne illness outbreaks instead of responding to them; and (3) enhance overall communication strategies to better communicate retail food safety issues and resources to stakeholders.

***Objective 4.1:** By end of Years 1 and 2, NACCHO and CFP will regularly attend virtual and in-person Collaborative meetings to provide input on Collaborative members' project activities.*

Staff will regularly participate in the Collaborative's meetings and provide support and input into the Collaborative and on Collaborative members' activities as needed. During years 1 and 2, NACCHO and CFP will also support (e.g., provide input and feedback) AFDO's and NEHA's specific activities around their objectives to (1) develop and implement training, outreach, educational materials and opportunities, and other innovative approaches to assist SLTT regulatory jurisdictions with reducing the occurrence of foodborne illness risk factors in food establishments and responding more effectively to foodborne illness outbreaks and (2) develop and promote strategies to improve active managerial control at the retail level. Active managerial control means the purposeful incorporation of specific actions or procedures by industry management into the operation of their business to attain control over foodborne illness risk factors. It embodies a preventive rather than reactive approach to food safety through a continuous system of monitoring and verification.

In Years 1 and 2, the major outcomes from this objective are to support and amplify the Collaborative's efforts to (1) improve foodborne illness outbreak investigations to reduce their occurrence and (2) promote and

improve active managerial control to prevent foodborne illness outbreaks instead of responding to them through attendance and active participation in Collaborative meetings and input and support for the Collaborative members' activities.

The following measures of effectiveness will be tracked and monitored in Years 1 and 2 (as well as in subsequent years):

- Attendance at 100% of Collaborative meetings and
- Number and type of support (e.g., input and feedback) provided to Collaborative members' activities.

Objective 4.2: By end of Years 1 and 2, NACCHO and CFP will communicate Collaborative's resources and messaging through respective communication channels.

Staff will use the organizations' multiple communication vehicles (e.g., Food Safety Leaders Newsletter, NACCHO Connect, Public Health Dispatch, The Greener Side, and Essential Elements Blog, CFP website, and listserv) to amplify dissemination of Collaborative's requests and developed resources. Staff will also utilize various programmatic distribution lists and advisory groups (e.g., Food Safety Leaders List, Food Safety, and Infectious Disease workgroups) to disseminate requests and resources. To ensure that NACCHO and CFP's communication campaigns are effective, they will be monitored, tracked (e.g., recording the number of clicks to email campaigns, hits to landing pages, etc.), and modified as needed to reach the target audiences.

Communications from Collaborative members will align with four objectives: (1) identify and issue joint recommendations with the FDA on emerging retail food safety issues and coordinate with the FDA to implement the recommendations, as appropriate; (2) implement strategies to promote availability and usage of best practices, tool kits, research, and other information sharing among retail food safety stakeholders; (3) develop and implement effective communication strategies to advance retail food safety initiatives across all stakeholders; and (4) develop and promote tools that can be used nationally to meet all objectives addressed by the Collaborative.

In Years 1 and 2, the major outcomes from this objective are to support and amplify the Collaborative's efforts to effectively communicate with retail food safety stakeholders by responding to Collaboratives' requests and disseminate resulting resources to NACCHO and CFP members.

The following measures of effectiveness will be tracked and monitored in Years 1 and 2 (as well as in subsequent years):

- At least five NACCHO and CFP communication vehicles utilized to promote the Collaborative's requests and resources.
- Tracking log/record of workgroup requests and resources distribution to SLTT retail food regulatory programs; and
- Up to two (2) of communication campaign evaluations completed.

Facilities and Other Resources

Capacity and Readiness. The mission of the National Association of County and City Health Officials (NACCHO) is to improve the health of communities by strengthening and advocating for local health departments (LHDs). As the national organization representing nearly 3,000 LHDs across the United States, NACCHO responds to the Institute of Medicine's call to action in its landmark report, *The Future of Public Health*, to improve the fragmented and underperforming public health system. To help improve the public health system at the local level, NACCHO develops comprehensive programming to meet the needs of LHDs. Throughout more than 25 years of program development, evaluation, and continuous quality improvement, NACCHO has been the best and most reliable source of information about, and for, LHDs. NACCHO has the broadest reach to engage LHDs through national leadership and capacity building assistance.

NACCHO supports LHDs associated with counties, cities, combined county-city entities, towns, multi-town, multi-county, or other regional entities within a state, tribes, and states. LHDs maintain working relationships with multiple agencies and organizations in both public and private sectors and have deep knowledge about the communities they serve. LHDs have statutory powers and a duty to serve every person and household in their jurisdiction. For this reason, LHDs have unique, regulatory authority in the larger public health system and within every community.

Accordingly, LHDs serve as the frontline defense against foodborne illness in their local communities. LHDs are responsible for a range of food safety efforts at the local level, including frontline surveillance; outbreak response and recall efforts; retail and food service licensing and inspections; food retail facility trainings and technical assistance; and public education and outreach. In fact, LHDs represent 77% of the 3,000 state and local agencies handling retail food safety regulation, responsible for monitoring over half a million food service and drinking establishments nationwide.

NACCHO strives to support LHDs to protect and improve the health of all people and their communities by promoting national policy; developing resources and programs; seeking health equity; and supporting effective local public health practice and systems. This is accomplished through NACCHO's emphasis on engaging its members in national advocacy; building and maintaining critical partnerships to increase advocacy effectiveness; identifying and producing tools for members use; and recognizing and promoting model practices, trends, and successes. By establishing and facilitating peer assistance networks, NACCHO also engages LHDs in direct exchange of expertise and experience. To further encourage community-based partnerships, NACCHO initiated recognition incentives through its Model Practice Program honoring LHD initiatives—including peer reviewed practices, programs, resources, and tools—that demonstrate effective collaboration between LHDs and local organizations to address public health concerns. Since launching in 2003, approximately 35 out of 775 awardees were peer reviewed food safety practices. NACCHO also supports LHDs in promoting food safety through its Food Safety Toolbox. This is a searchable database that contains tools and resources primarily contributed by LHDs to help their peers. It contains NACCHO's Food Safety Toolkit, which houses over 110 resources for LHDs to access food safety related resources.

NACCHO's Board of Directors and over 30 advisory groups engage over 370 local public health directors, senior staff, and subject matter experts extensively in advising NACCHO's programs and projects. The NACCHO Food Safety Workgroup works with NACCHO staff to support an integrated food safety system that ensures local public health participation in all areas of food safety to reduce food-borne illness nationwide.

NACCHO prioritizes maintaining constant two-way communication with its LHD members, using multiple mechanisms including electronic distribution lists, print publications, the NACCHO website, social media (Twitter, blogs, RSS Feeds), and collaborative software (SharePoint). Furthermore, NACCHO's Environmental Health Team has subject-specific communications, including two e-newsletters, the Greener Side of Local Public Health and the Food Safety Leaders List; and a blog, Essential Elements, devoted to providing news, resources, and updates on environmental health, including food safety. NACCHO also supports the local public health workforce providing scholarships, online training events and in-person workshops to further develop and inform local practitioners. NACCHO convenes a Foodborne Illness Outbreak Response Community of Practice for local, state, academia, and industry professionals to share and discuss outbreak response best practices and innovations. Additionally, NACCHO regularly collaborates with 38 state associations of county and city

health officials (SACCHOs) on projects, including networking; education and training; and national advocacy for local public health and food safety.

NACCHO has significant experience with environmental public health and food safety, specifically through its dedicated Environmental Health program. Program staff focus on a broad spectrum of issues, including environmental public health tracking, environmental justice, food safety, healthy community design, health in all policies, health impact assessment, vector control, community water fluoridation, and water safety. NACCHO's work to promote and raise awareness in these areas includes developing relevant tools, educational materials, and other resources for LHD use; providing technical assistance and instruction; facilitating partnerships with external agencies; and communicating LHD perspectives to policy makers and other relevant parties.

Since 2011, NACCHO has partnered with the U.S. Food and Drug Administration (FDA) on various food safety activities through two cooperative agreements. One major activity is the administration of a mentorship program on the Voluntary National Retail Food Regulatory Program Standards (VNRFRPS). Now in its ninth year, the mentorship program connects retail food regulatory program practitioners who are experienced in applying the VNRFRPS with those who are newly enrolled and looking for assistance, resources, and recommendations for achieving conformance with one or more standards. In addition, NACCHO has worked with FDA to conduct several studies to learn more about retail food regulatory programs' challenges, barriers, and success stories related to the VNRFRPS. Other activities include creating a crosswalk to show the similarities between the VNRFRPS and the Public Health Accreditation Board's national accreditation program, hosting webinars to share SLTT programs' success stories and recommendations on meeting VNRFRPS, and assessing the range of retail food establishment scoring, grading, and placarding systems. NACCHO has also presented and coordinated numerous presentations and learning labs on the VNRFRPS at national and regional conferences.

NACCHO also actively participates in multiple national food safety coalitions, including the Council to Improve Foodborne Outbreak Response (CIFOR), the Retail Food Regulatory Association Collaborative (Collaborative), the Partnership for Food Safety Education, and the FDA Partnership for Food Protection. NACCHO co-chairs the CIFOR, a multidisciplinary collaboration of national associations and federal agencies seeking to detect, investigate, control, and prevent foodborne disease outbreaks by driving improved methods at the local, state, and federal levels. NACCHO serves as a member of the remaining four initiatives. The Collaborative is comprised of members representing retail food safety member associations and exists to leverage resources and strengths of the associations to advance retail food initiatives and activities resulting in a reduction of foodborne illness. The Partnership for Food Safety Education is a nonprofit organization that unites industry associations, professional societies in food science, nutrition and health, consumer groups, and the U.S. government to educate the public about safe food handling. Finally, the FDA Partnership for Food Protection convenes federal, state, local, territorial and tribal representatives with expertise in food, feed, epidemiology, laboratory, animal health, environment, and public health together to develop an Integrated Food Safety System.

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