

One Form, Two Forms, Food Forms, New Forms: Continuously Improving the RI RRT’s Outbreak Responses

Genevieve Caron MPH¹, Brendalee Viveiros MPH¹

¹Rhode Island Department of Health, Center for Food Protection



Introduction

The Rhode Island Rapid Response Team (RI RRT) was formed in 2013 and is based in the Rhode Island Department of Health (RIDOH). Core members include the RIDOH Center for Food Protection (CFP), the RIDOH Center for Acute Infectious Disease Epidemiology (CAIDE), the RIDOH State Health Laboratory (SHL), the Rhode Island Department of Environmental Management’s (RI DEM) Division of Agriculture, and the FDA Northeast District Office (FDA DO) (see Figure 1). While many capacity building activities have been accomplished in past years, a recent transition into a maintenance phase of operations has shifted our focus to refining the methods in which our team members evaluate responses and funnel feedback into actions for improvement. This past RRT grant year (2018-2019), these collaborative activities have yielded several products to improve RI RRT outbreak response activities.

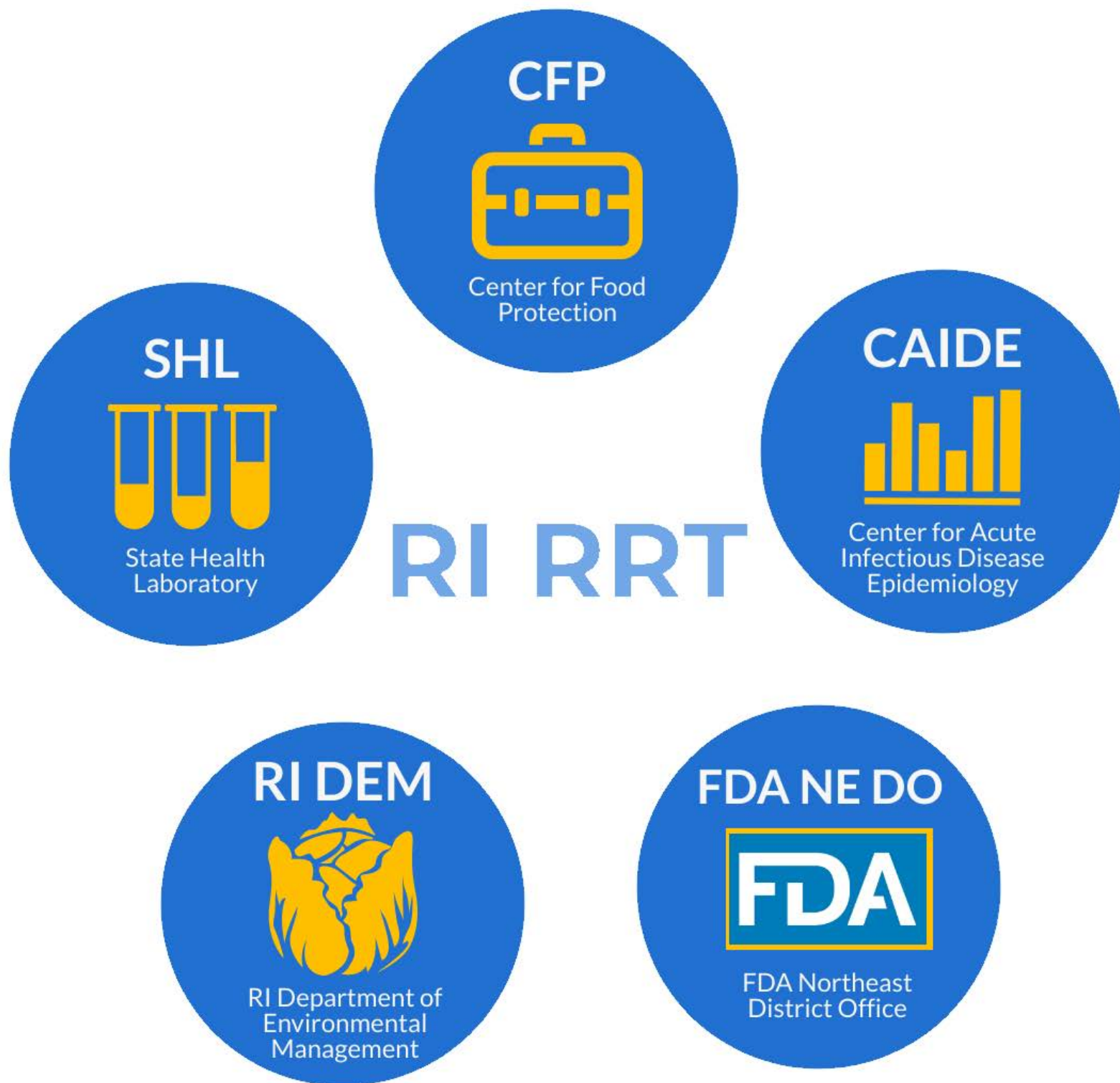


Figure 1. RI RRT Member Agencies

Methods

The RI RRT has adopted methods for continuous process improvement to identify strengths and opportunities for improvement regarding foodborne outbreak responses. We typically foster feedback through a few mechanisms (see Figure 2):

- suggestions for improvement from after action reviews (AARs);
- an annual use of the RRT capability assessment tool (CAT); and
- regularly scheduled CIFOR evaluation meetings between RRT partners.

After action reviews are conducted through online surveys or in person after significant foodborne outbreak responses or exercises. The CAT is completed annually along with FDA DO partners and any metrics that shows areas for improvement is discussed. Finally, CFP and CAIDE regularly hold meetings to assess how the RI RRT’s responses compare to CIFOR’s Guidelines for Foodborne Disease Outbreak Response. Some resources are developed or improved as a need arises through other mechanisms. Improvements are tracked through shared spreadsheets.

Methods (cont.)

Once needs were identified, resources were developed and reviewed through several mediums (see Figure 2): weekly meetings held between CFP and CAIDE; RI RRT steering committee meetings; and ad hoc meetings held between applicable team members, such as a CFP all-staff training.

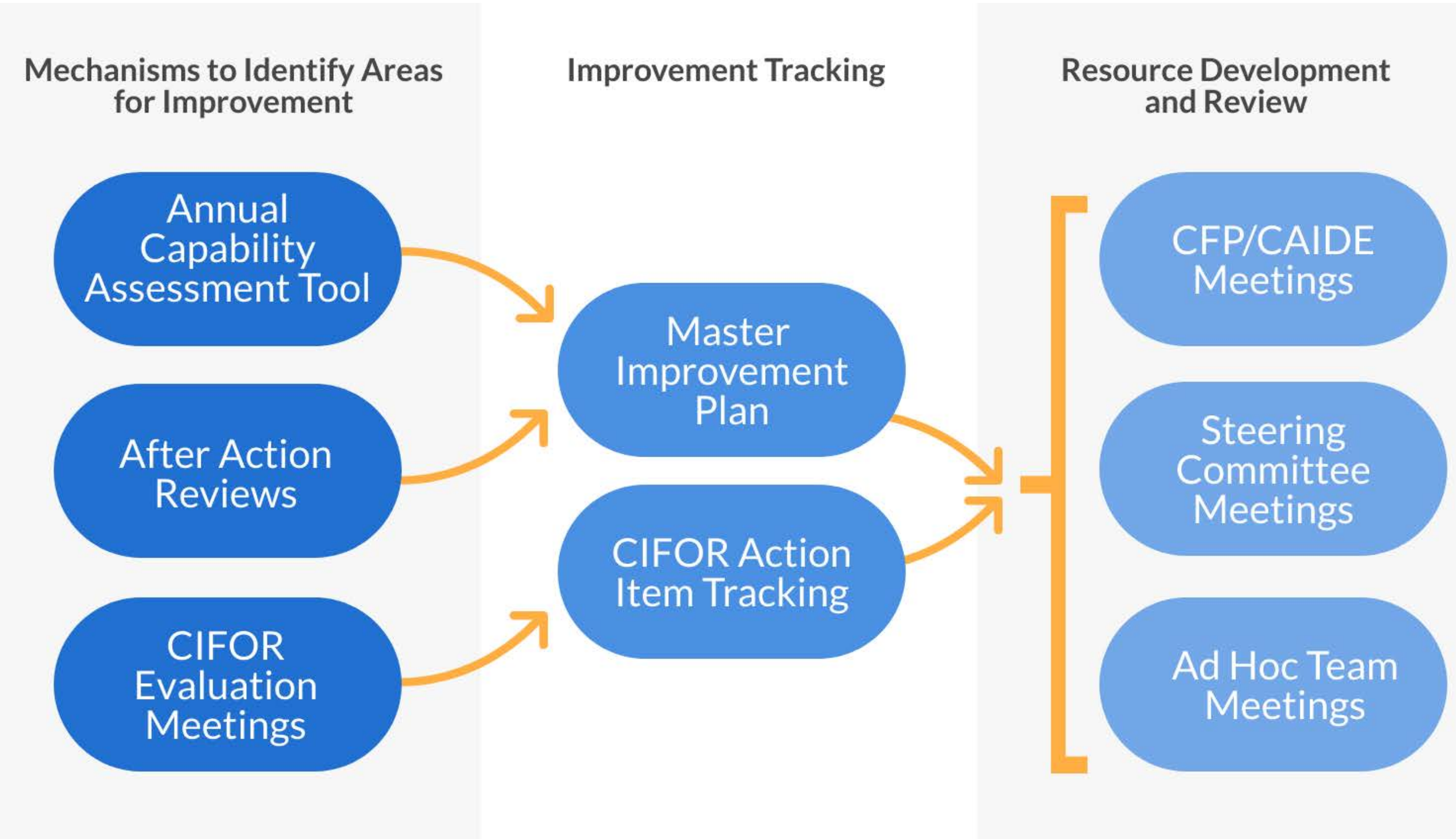


Figure 2. RI RRT Continuous Program Improvement Activities

Results and Discussion

During the 2018-2019 RRT grant year, continuous improvement contributed to several new resources that have helped to improve RI RRT foodborne outbreak responses (see Figure 3).

A redesigned **Foodborne Illness Complaint Form** for intake of complaints has new variables intended to improve outbreak detection. New fields asking about contact information and shared household for other ill individuals are aimed at confirming an outbreak which should hopefully increase the number of outbreaks detected.

Several resources were designed to improve onsite investigations and environmental assessments based on feedback from after action reviews:

- Two complimentary **Onsite Investigation Checklists** provide a default list of key investigation tasks, divided into two roles (see Figure 4). These are helpful for outbreak detection team members to communicate investigation priorities based on preliminary findings.
- An **Outbreak Investigation Report** was updated as means for investigators to summarize findings with other team members. Notably, the new report now includes a list of control measures to select from, and a section to discuss the food flow of suspect food vehicles.
- An **Employee Illness Screening Form** was developed for investigators to keep track of which employees at an establishment were asked about gastrointestinal illness, and to better coordinate with other team members who conduct follow up calls to employees.
- A **Suspect Food Description Report** was developed to formally capture the food flow of a suspect food conducted during an environmental assessment.

Results and Discussion (cont.)



Figure 3. New RI RRT Resources for Improved Foodborne Outbreak Responses

The hope is that all these resources will reduce the likelihood of forgetting to implement certain control measures that require a follow up onsite visit, and as a result, ultimately shorten the time from notification of an outbreak to the last control measure. Additionally, improved communication about suspect food vehicles and food flows through these reports will hopefully increase the likelihood of determining a contributing factors for an outbreak.

Finally, **Environmental Sampling Videos** were developed in conjunction with the New York Center of Excellence so that investigators can quickly refresh their knowledge of environmental sampling. More strategic sampling will hopefully increase the likelihood of finding a pathogen present in a facility and would increase likelihood of confirming a pathogen and identifying a contributing factor for a particular outbreak.

Checklist for Senior EHFS	Checklist for EHFS/EHFI
1. Gather necessary materials before heading into the field: Foodborne Outbreak Investigation Report, Sampling Form, Food Employee Interview Form, Go-kit, Inspection tools).	1. Gather necessary materials before heading into the field: Foodborne Outbreak Investigation Report, Sampling Form, Food Employee Interview Form, Go-kit, Inspection tools).
2. Review inspection history of the establishment.	2. Embargo any suspect leftovers to prevent further illness.
3. Explain to facility/management the nature of the outbreak investigation.	3. Ensure that there is no bare hand contact with ready-to-eat foods.
4. Ask management about illness policy and if available, illness logs to assess recent employee illness.	4. Do not allow food to be served without checking and assuring safe temperatures.
5. Collect contact and scheduling information for employees, including days/hours worked and responsibilities of each employee during suspect times.	5. Interview each employee using the “Food Worker Screening Form” to determine if employee have been sick within the last two weeks and determine if they need to be excluded.
6. Obtain complete and accurate menus for any suspect events and fax/email to office. Include all possible items (e.g., items bought by guest such as a cake.	6. If an ill worker is identified, notify response coordinator in CFP so they can contact CAIDE to determine if stool culture is needed.
7. Ask if facility has received any patron complaints.	7. If an ill food worker is identified, evaluate specific duties of suspected ill worker. Identify and dispose any foods they prepared while being ill.
8. Ask about any vomiting or diarrheal events that may have occurred the month prior to the suspect date(s), if applicable.	8. If suspect foods are identified, obtain food-handling procedures (including date, time, and preparer) for each step in the preparation.
9. Determine if any events out of the ordinary occurred prior to the suspect date(s) (e.g., power outages, high rate of employee call outs, etc.).	9. If cooling is a concern for the suspect pathogen, examine the walk-in refrigerator for large stockpots, in addition to whole roasts, or other foods in containers more than four inches deep.
10. Obtain additional patron contact information (e.g., other events they may have catered, reservation lists, reservation apps) for case/control finding.	10. Provide the Norovirus Cleaning Guidelines and ensure all food contact surfaces, equipment, utensils, frequently touched surfaces, and bathrooms are cleaned using the cleaning guidelines provided, if applicable.
11. Obtain invoices and ingredient information for implicated products, if applicable.	11. Verify that sanitizing agent is effective against Norovirus before leaving the establishment, if applicable.
12. Obtain distribution list of implicated products, if applicable.	12. Implement any additional control measures, if applicable (e.g., disposal, closure of the establishment, etc.).
13. Collect environmental and food samples, if applicable.	13. Collect environmental and food samples for analysis as needed
14. Check in before you leave to see if there is any new information.	14. In conjunction with the Senior EHFS/EHFS complete DHD Form (critical violations only), the Foodborne Illness Outbreak Investigation Form, and any sample forms.

Figure 4. New RI RRT Onsite Investigation Checklists

Once all investigations have been completed, team members meet for a close-out meeting. Here all information is assessed, including epidemiological information, laboratory findings, and environmental health findings, and the pathogen and contributing factors for an outbreak are agreed upon. Time from notification of outbreak to a first and last control measure are tracked using the after-action review.

Not enough time has elapsed after the development of these resources to show a measurable change in responses, although anecdotally these new documents have assisted us in being more communicative and organized during outbreak responses.

Conclusion

Through continuous process improvement mechanisms, the RI RRT has developed a handful of new resources over the past grant year. These have largely been suggested by team members through after-action reviews or were found to be a need through regular evaluation meetings where CIFOR best practices are compared to existing procedures. New documents are intended to be used by RI RRT staff for outbreak detection, onsite investigations, environmental assessments, and close-out meetings. While it is too soon to show any measurable changes in response, it is our hope that over time these new resources will help us to increase the number of outbreak detected, shorten the time from notification of an outbreak to the last control measure, and increase the percentage of outbreaks with a confirmed pathogen and with an identified contributing factor.