

Tennessee Integrated Food Safety Center of Excellence: Student Outbreak Rapid Response Training (SORRT) as a model to enhance foodborne illness investigations

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Integrated Food Safety Centers of Excellence

- 5 CoEs established under the Food Safety Modernization Act
 - State health departments + academic partners
 - CO, FL, MN, OR, TN
- Identify and implement best practices in foodborne diseases surveillance
- Serve as resource for public health professionals at state, regional, and local levels

CoE Objectives

- Provide technical help/training in epidemiologic, laboratory, and environmental investigations
- Decrease burden of foodborne illness using improved techniques in detection, investigation, control, and reporting
- Use information gathered during outbreak investigations to prevent illnesses/outbreaks
- Develop and share best practices through six main activity areas

Six Main Activity Areas

1. Strengthen surveillance & outbreak investigations
2. Analyze timeliness and effectiveness of responses
3. Train public health staff in investigative techniques
4. Educate future food safety workforce
5. Improve capacity of information systems
6. Evaluate and communicate best practices

CoE Projects

- Food Source Information website (CO)
 - Production methods for specific food items
 - Glossary of food production terms
- Theory and Practice in Foodborne Disease Outbreak Detection, Investigation, and Control web course (MN, OR)
- Education/Training Needs Assessment (FL, CO)
- Consultation and training other states (MN, OR)

Tennessee Integrated Food Safety Center of Excellence

- Tennessee Department of Health (TDH)
 - FoodNet
 - FoodCORE
 - EHS-Net
- University of Tennessee (UT)
 - Center for Agriculture and Food Security and Preparedness (School of Veterinary Medicine)
 - Department of Public Health
 - Department of Food Science and Technology
 - Agricultural Extension Program

Tennessee CoE Activities

- Web-based training modules in foodborne outbreak detection and response
 - 1st of 6 modules released
- Food Safety graduate certificate at UT
 - Student Outbreak Rapid Response Training (SORRT)

SORRT Objectives

- Improve foodborne outbreak investigations by building surge capacity
- Train future public health workforce
- Develop model practices that can be adapted for use in other public health jurisdictions

SORRT

- Established Fall 2013
- 1-credit hour elective course at UT
- Open to graduate students
 - MPH, Food Science, or other related degrees
- Coursework and practical experience

SORRT Coursework

- 8-hour training
 - Public Health in Tennessee
 - Epidemiology 101
 - Components of an Outbreak Investigation
 - Outbreak Investigation case studies
 - Traceability and Recall
- Monthly class meetings
 - Skill-building activity
 - Current outbreak investigation discussions
 - Weekly MMWR reading assignments and quizzes

Public Health in Tennessee

- Orientation to health department structure
 - Central Office
 - FoodNet, FoodCORE surveillance activities
 - East Tennessee Regional Office
 - 15 rural counties
 - Population: ~750,000
 - Knox County Health Department
 - 1 metropolitan county
 - Population: ~445,000

Epidemiology 101

- Introduce basic concepts of epidemiology in context of foodborne outbreak investigations
 - Clinical evidence
 - Symptoms, incubation period, illness duration
 - Epidemic curves
 - Analytic studies
 - Case-control, cohort studies
 - Measures of association
 - Attack rate, risk/odds ratios

Components of an Outbreak Investigation

- Describe steps of typical outbreak investigations
 - Roles of epidemiology, environmental health, laboratory teams
 - Interviews
 - Prevention measures
 - Education

Case Studies

- Highlight successes and challenges of previous outbreak investigations
 - Unknown etiology
 - Hypothesis-generating interviews
 - Roles of epidemiology, environmental health, and laboratory teams
- Provide hands-on training opportunity
 - Interviews
 - Data collection, line list
 - Data analysis

Traceability and Recall

- Introduce basic concepts in context of foodborne outbreak investigations
 - Tools currently used by food industry
 - Regulatory requirements
 - Shopper purchasing records
- Case study
 - Global Trade Identification Numbers and retail shopping cards used to link contaminated produce to a foodborne outbreak

Skill Building Activities

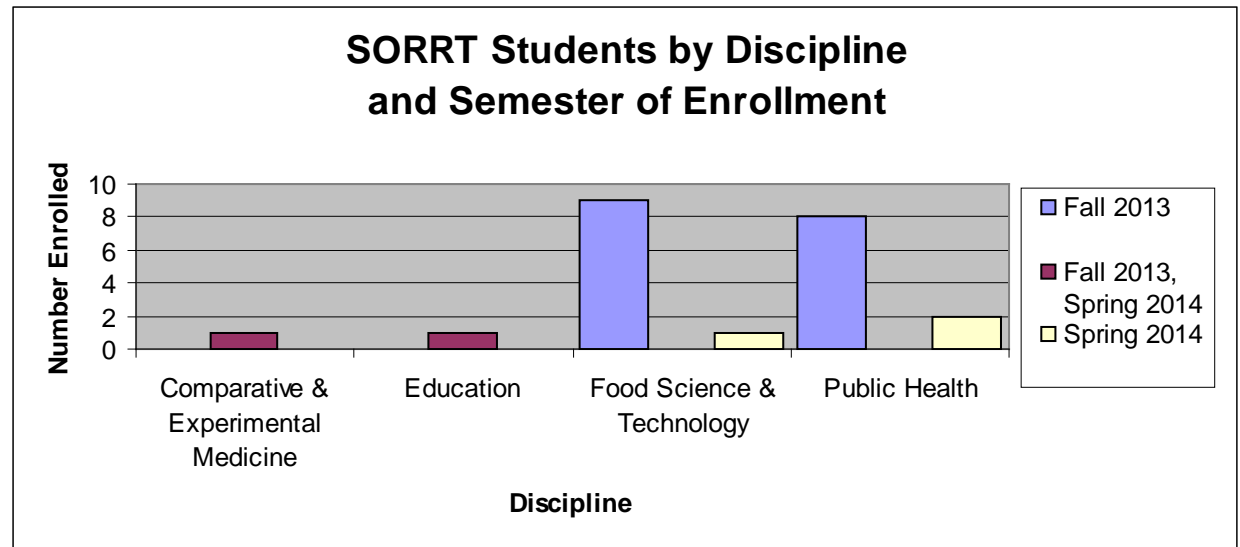
- Interviews
 - The Do's and Don'ts of Outbreak Interviewing video from Oregon
 - Mock interviews
- Data Analysis
 - Calculating and interpreting relative risks and odds ratios
- Epi Info 7
 - Data entry
 - Dashboard

SORRT Practical Experience

- Outbreak investigations
 - Phone numbers from restaurant receipts
 - Cases/controls interviews, case finding
 - Questionnaire development
- Restaurant inspections

SORRT Students

	No.
Degree	
MPH	10
MS	6
PhD	5
Major	
Public Health	10
Food Science & Technology	10
Other	2



Year 1

- 22 students
- 8-hour training evaluation
 - Pre-test median score: 44%
 - Post-test median score: 76%
 - Median change: +25%
- Practical experience
 - 6 outbreak investigations
 - 5 analytic studies initiated
 - 30 person-hours of student assistance

Lessons Learned

- Flexible, standard curriculum
 - Alternative plans when no surge capacity needed
- Student availability will fluctuate
 - School schedule, enrollment
- May lead to further involvement of students
 - Internships, CoE projects

Lessons Learned

- Variety of instructors can provide range of perspectives
 - Consider technical difficulties if videoconferencing
 - Academic & health department POCs
- Health department administration issues
 - Identify and complete at initial training

Future Plans

- Improve and define course materials based on student feedback and evaluations
- Develop core set of curriculum activities
- Collaborate with FoodCORE to develop model practices for non-paid student teams
- Finalize Food Safety graduate certificate
 - SORRT will be required course

Discussion

- Successful model
 - Training future public health workforce
 - Providing surge capacity to local and regional health departments
- Other jurisdictions can adopt similar models with minimal cost by working with nearby academic partners

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SORRT Point of Contact

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