

Health Priority: Existing, Emerging, and Re-emerging Communicable Diseases

Objective 3: Foodborne and Waterborne Disease Control (Template)

Long-term (2010) Subcommittee Outcome Objective:

Reduce disease caused by reportable foodborne and waterborne pathogens.

3a: By 2010, the incidence of E. coli 0157.H7 infection will be 3 per 100,000 population or less.

3b: By 2010, the incidence of Salmonellosis will be 8 per 100,000 population or less.

3c: By 2010, the incidence of Shigellosis will be 4 per 100,000 population or less.

3d: By 2010, the incidence of Campylobacteriosis will be 11 per 100,000 population or less.

3e: By 2010, the incidence of Hepatitis A will be 1 per 100,000 population or less.

E.coli, Salmonellosis, Shigellosis, Campylobacteriosis, and Hepatitis A are also Long-term Subcommittee Outcome Objectives under Environmental and Occupational Health Hazards, Objective 1: Microbial or Chemical Contamination.

Long-term outcome objective updated as of: Sept 2004

Wisconsin Baseline	Wisconsin Sources and Year
E.coli 0157.H7: 6 per 100,000 population (4 year average 1999-2002)	Wisconsin Division of Public Health Case Records 1999-2002.
Salmonellosis: 16 per 100,000 population (4 year average 1999-2002)	Wisconsin Division of Public Health Case Records 1999-2002.
Shigellosis: 8 per 100,000 (4 year average 1999-2002)	Wisconsin Division of Public Health Case Records 1999-2002.
Campylobacteriosis: 22 per 100,000 (4 year average 1999-2002)	Wisconsin Division of Public Health Case Records 1999-2002.
Hepatitis A: 2 per 100,000 (4 year average 1999-2002)	Wisconsin Division of Public Health Case Records 1999-2002.

Federal/National Baseline	Federal/National Sources and Year
24.6 cases of Campylobacter species per 100,000 population	1997 – Foodborne Disease Active Surveillance System (FoodNet)
2.1 cases of E. coli 0157.H7 per 100,000 population	1997 – FoodNet
0.5 cases of Listeria monocytogenes per 100,000 population	1997 – FoodNet
13.7 cases of Salmonella species per 100,000 population	1997 – FoodNet

Related USDHHS Healthy People 2010 Objectives			
Chapter	Goal	Objective Number	Objective Statement
8 – Environmental Health	Promote health for all through a healthy environment.	8-6	Reduce waterborne disease outbreaks arising from water intended for drinking among persons served by community water systems.
		8-9	(Developmental) Reduce the number of beach closings that result from the presence of harmful bacteria.
10 – Food Safety	Reduce foodborne illness	10-1	Reduce infections caused by key foodborne pathogens.
		10-2	Reduce outbreaks of infections caused by key foodborne bacteria.
		10-5	Increase the proportion of consumers who follow key food safety practices.
		10-6	(Developmental) Improve food employee behaviors and food preparation practices that directly relate to foodborne illnesses in retail food establishments.

Definitions	
Term	Definition
State agent	A local health department that has entered into a written agreement with the Department of Health and Family Services which designates the local health department as the department's agent in issuing permits to and making investigations or inspections of hotels, restaurants, temporary restaurants, tourist rooming houses, bed and breakfast establishments, campgrounds and camping resorts, recreational and educational camps, and public swimming pools.

Definitions	
Term	Definition
Hazard Analysis and Critical Control Point (HACCP)	<ol style="list-style-type: none"> 1. A food production inspection system which has been adopted in federal regulation by the Food and Drug Administration for specific bodies of food items and applies to food safety generally. The process consists of seven elements: 2. Analyze hazards (could be any pathogen or contaminant). 3. Identify critical control points. (These are points in a food's production at which the potential hazard can be controlled or eliminated.) 4. Establish preventive measures with critical limits for each control point. 5. Establish procedures to monitor the critical control points. 6. Establish corrective actions to be taken when monitoring shows that a critical limit has not been met. 7. Establish procedures to verify that the system is working properly. 8. Establish effective record keeping to document the HACCP system.

Rationale:

The estimated incidence of pathogenic food and waterborne illnesses, particularly those involving gastroenteritis, is on the rise in the United States, and the impact of these diseases is particularly heavy on children, the elderly, and persons with compromised immune systems. Business and economic factors, including large scale food production, increased interstate and international movement of food products, and the increased consumption of meals prepared and served outside the home have increased the potential scope of disease outbreaks and the rapidity with which numbers of individuals can become infected. The increasing shared use by large populations of common sources of drinking and recreational water has had a similar effect. Recent disease incidents overseas related to food consumption or production (e.g., mad cow disease, foot and mouth disease) have also served to increase public confusion and concern in this country with regard to the safety of the food supply.

The illnesses selected for measurement are believed to represent meaningful sentinel conditions for foodborne and waterborne pathogens. It is anticipated that reductions in the incidence of these diseases can be taken to indicate overall effectiveness in reducing the incidence of food and waterborne illnesses in the Wisconsin population.

Improved surveillance will result in an apparent increase in the incidence of all communicable diseases including foodborne and waterborne illnesses. Therefore, evaluation of performance for these objectives will need to control for improvements in surveillance. Moreover, as surveillance improves, it is important to link the long-term outcome objectives identified in Objective 1 with those in this template.

Outcomes:

Short-term Outcome Objectives (2002-2004)

- By December 31, 2004, environmental consortia will be formed to share employment of public health sanitarians among all local health departments that do not employ at least one full-time employee (FTE) sanitarian.

- By December 31, 2004, local health departments and environmental consortia which employ a public health sanitarian will become state agents for food service establishment inspections and the frequency and scope of licensed establishment inspections will meet national standards of practice.

Inputs: (*What we invest – staff, volunteers, time, money, technology, equipment, etc.*)

- Time and effort of state and local public health staff.
- State funding of hardware, software, and management information system technical support for food inspection data collection and storage.
- State funding for startup and front-end operating costs for environmental consortia.
- An adequate statutory and legal base for immunization activities.
- The cooperative commitment of food and beverage service operators to participate in public health activities.

Outputs: (*What we do – workshops, meetings, product development, training. Who we reach - community residents, agencies, organizations, elected officials, policy leaders, etc.*)

- The Division of Public Health will identify all groupings of local health departments in the state with the potential to form environmental consortia, and for each identified grouping, the appropriate Division of Public Health regional office will develop a plan of encouragement and technical and financial assistance to support formation of a consortium.
- The Division of Public Health will provide the necessary technical and financial assistance to local health departments to assist them in forming and maintaining environmental consortia.
- The Division of Public Health will raise the fees it charges for state-licensed establishment inspections to the amount which actually covers the costs of inspections, or alternatively will subsidize the fees charged by local health departments agents for the same service so that they remain commensurate with state fees. By 2004, 70 percent of licensed food and beverage establishments in the state will be inspected and regulated by local health departments or consortia acting as agents of the state.
- Local health officers, county boards, executives and boards of health will recognize the importance of foodborne and waterborne diseases as a high priority public health threat, and will adopt plans to protect their communities.
- Local health officers, county boards, executives and boards of health in jurisdictions which do not have agent status will prepare written studies in conjunction with local members of the Wisconsin Restaurant Association and Wisconsin Tavern League on the feasibility and desirability of conducting local licensed establishment inspections.
- The Division of Public Health regional office staff will provide technical assistance to local health departments in becoming state inspection agents, including assistance in projecting staff size and workload, and a fee structure sufficient to support costs.

Medium-term Outcome Objectives (2005-2007)

- By January 31, 2005, there will be a system and database developed to assess and document improvements in the observed performance of food handling and preparation practices in commercial establishments and in private homes.
- By June 30, 2005, the frequency and scope of licensed-establishment inspections in Wisconsin will meet or exceed national standards of practice.

Inputs: *(What we invest – staff, volunteers, time, money, technology, equipment, etc.)*

- Time and effort of state and local public health staff.
- State funding of hardware, software, and management information system technical support for food inspection data collection and storage.
- State funding for startup and front-end operating costs for environmental consortia.
- An adequate statutory and legal base for immunization activities.
- The cooperative commitment of food and beverage service operators to participate in public health activities.

Outputs: *(What we do – workshops, meetings, product development, training. Who we reach - community residents, agencies, organizations, elected officials, policy leaders, etc.)*

- The Division of Public Health, in conjunction with local health departments, commercial food establishments, and academic institutions will establish and maintain either an internal or external food service manager training and certification program, a process and criteria for certification and continuing education, and a fee structure sufficient to support and recoup the costs of the certification and training activities.
- Every local health department will conduct a public educational campaign to promote food safety in the home at least twice a year.
- The Division of Health will promote and provide training in the use of recognized national inspection procedures by all local health departments and consortia with agent status.
- Every licensed food and beverage establishment in the state will receive all training and technical assistance in a timely manner which is necessary to maintain it in compliance with state laws and best foodhandling practices as part of its licensure fee, and at no additional charge to the establishment.
- Every local health department and consortia with agent status will adopt Hazard Analysis Critical Control Point (HACCP) standards for commercial food inspections.
- Every local health department and consortia acting as agents will inspect and regulate transient non-community wells.

Long-term Outcome Objectives (2008-2010)

- By January 31, 2008, 100 percent of retail food service managers will have passed a Department of Health and Family Services approved examination on food safety practices.

- By January 31, 2008, a certified food manager will be present for all shifts at all licensed food service establishments, which derive more than 60 percent of their revenues from the sale of food.
- By June 30, 2008, based on sampling surveys, 80 percent of respondents will indicate confidence in the safety and wholesomeness of the state's food supply.
- By January 31, 2009, achieve a 50 percent reduction from 2001 levels in morbidity of food and waterborne pathogenic illnesses from campylobacter, E. coli 0157.H7, listeria, salmonella, cyclospora, cryptosporidia, and caliciviruses.

Inputs: *(What we invest – staff, volunteers, time, money, technology, equipment, etc.)*

- Time and effort of state and local public health staff.
- State funding of hardware, software, and management information system technical support for food inspection data collection and storage.
- State funding for startup and front-end operating costs for environmental consortia.
- An adequate statutory and legal base for immunization activities.
- The cooperative commitment of food and beverage service operators to participate in public health activities.

Outputs: *(What we do – workshops, meetings, product development, training. Who we reach - community residents, agencies, organizations, elected officials, policy leaders, etc.)*

Activities:

- The Division of Public Health in conjunction with the State Laboratory of Hygiene will establish an active food and waterborne disease surveillance program in at least one general hospital and one large medical group practice in each Division of Public Health region.
- The Division of Public Health will conduct an ongoing public information campaign and provide assistance to local health departments in providing similar campaigns, emphasizing the safety, wholesomeness, palatability and public health benefits of irradiated meats and other appropriate food products.
- The Division of Public Health and the State Laboratory of Hygiene will survey laboratories serving the state to determine test methods used and referral practices adopted for gastrointestinal illness specimens.
- Issue updated guidelines to all physicians and clinical laboratories on clinical diagnosis and reporting procedures for gastrointestinal and other foodborne illnesses.

Participation/Reach

- Division of Public Health and local health departments
- Tribes
- Wisconsin restaurant associations and member businesses
- Wisconsin Tavern League

- Local health officers, county board executives, and boards of health
- UW Cooperative Extension
- Medical group practices and community hospitals
- Wisconsin vocational and technical college systems

Evaluation and Measurement:

Performance measures related to surveillance of and response to occurrences to foodborne illnesses are addressed under Existing, Emerging, and Re-emerging Infectious Diseases Objective #1. Evaluation of performance under this objective will be through observation and measurement of the increases in capacity and existence of processes, which are described as outcomes and listed above.

The illnesses selected for measurement are believed to represent meaningful sentinel conditions for foodborne and waterborne pathogens. It is anticipated that reductions in the incidence of these diseases can be taken to indicate overall effectiveness in reducing the incidence of food and waterborne illnesses in the Wisconsin population.

Crosswalk to Other Health and System Priorities in Healthiest Wisconsin 2010

Environmental and Occupational Health Hazards. The prevention of foodborne and waterborne illnesses through inspection, regulatory and technical assistance to commercial food producers and vendors and sources of drinking water have significant overlap in both the environmental/occupational and communicable disease arenas. As a result, implementing the proposed templates and logic models requires shared responsibility and accountability. Shared responsibility will lead to the development of comprehensive and long-range public health strategies to protect the Wisconsin population from the range of potential pathogens and toxic substances in the food supply or groundwater as a result of environmental contamination.

Integrated Electronic Data and Information Systems. The need for sophisticated electronic reporting and communication systems are necessary to monitor and track foodborne and waterborne disease outbreaks. This is of concern, particularly given the fact that foodborne and waterborne pathogens and toxic substances do no honor political jurisdictional boundaries. Integrated electronic data and information systems are instrumental in bridging policy, actions, and interventions in the environmental/occupational and communicable disease arenas.

Equitable, Adequate and Stable Financing. The need for resources to expand the monitoring and response, and even more specifically, preventive capabilities for foodborne and waterborne illnesses, has never been more important. Resources, particularly in the areas of new and expanded laboratory testing capabilities and electronic information systems for early detection and tracking of outbreaks, requires resource support to assure coordination, rapid action, intervention, and evaluation.

Sufficient, Competent Workforce. The expertise necessary for surveillance and control of diseases transmitted specifically through consumption of food or drinking water requires ongoing training and continuing education of specialized state and local public health epidemiologists and the workforce that acts upon their analyses.

Significant Linkages to Wisconsin's 12 Essential Public Health Services

Identify, investigate, control, and prevent health problems and environmental health hazards in the community: Foodborne and waterborne illnesses are by definition transmitted via environmental contamination, most often as a result of identifiable and correctable food handling practices, or interruptible points of entry of contaminants into the food or drinking water supply.

Educate the public about current and emerging health issues: Many if not most food and waterborne illness outbreaks could have been prevented by correcting individual attitudes and practices occurring at the site of contamination.

Create policies and plans that support individual and community health efforts: These are two associated community trends. The population is consuming more food which is prepared outside the home and people are less familiar with good food handling practices when they prepare food in their homes. These two facts create a greater threshold of vulnerability to foodborne and waterborne diseases and create the need for a greater community-wide understanding and awareness of, and resolve to, individual and community action to address the potential threats.

Enforce laws and regulations that protect health and insure safety: An essential component of a strong foodborne and waterborne illness initiative is a strong and vigorously enforced body of legal regulations and compliance incentives on commercial practices to maintain public safety and confidence in the sanitary quality of the retail food and beverage industry.

Connection to the Three Overarching Goals of Healthiest Wisconsin 2010

Protect and promote health for all: Maintaining the safety of the food and water supplies is an area of public health which touches every Wisconsin resident, every day.

Eliminate health disparities: The ready and affordable availability of pure foods and water from both retail grocery and restaurant food service establishments, and the knowledge and skills necessary to prepare and consume foods in the home without risk of foodborne illness, should be a right of all Wisconsin residents.

Transform Wisconsin's public health system: The growing focus on environmental health in local health departments and the capability to perform public health functions related to environmental health are an expanding area of importance. Prevention of foodborne illness through foodhandling and environmental sanitation practices is a major element in this growing movement. The inspection of licensed food establishments is a major component of this activity, and the fees derived from licensure and inspection can be a major source of support for local environmental health programs.

Key Interventions and/or Strategies Planned:

Key interventions under this objective will be those directed toward increasing the numbers and capacities of local health departments serving as state agents for environmental licensure inspections, and increasing the numbers and resultant positive impacts of trained and qualified managers in licensed food and beverage establishments.

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