

**Health Priority: Existing, Emerging, and Re-emerging Communicable Diseases**  
**Objective 1: Statewide Communicable Disease Surveillance and Response (Logic Model)**

**Long-term (2010) Subcommittee Outcome Objective:** Assure the timely detection of, and effective response to, communicable diseases.

**1a:** By 2010, at least 85 percent of communicable disease reports will be received by the local or state public health agency within the timeframe specified by HFS 145.04(3)(a) and HFS 145.04(3)(b).

**1b:** By 2010, 100 percent of local health departments will have documented capacity to respond to outbreaks of communicable disease as defined in HFS 140.

Long-term outcome objective updated as of: Sept 2004

Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
<p>Time and effort of state and local public health staff.</p> <p>Federal/state funding of hardware, software, and information system technical support for disease reporting and surveillance data collection and storage.</p> <p>Federal/state funding of public health laboratory human and capital resources sufficient to maintain adequate, routine, and emergency testing capacity for state and local health department testing, and sufficient state-of-the-art technical assistance and reference laboratory capacity to assist and backup private clinical laboratories performing infectious disease testing analyses.</p>	<p>The Wisconsin Division of Public Health will assist local health departments and local medical/clinical group practices to develop an orientation to communicable disease reporting and control programs for newly employed physicians and other appropriate clinical staff.</p> <p>The Wisconsin Division of Public Health and the Wisconsin State Laboratory of Hygiene will establish and maintain an epidemiologic system, which directly and through the coordinated efforts of local providers is capable of providing early detection of and response to any infectious disease outbreaks or acts of bioterrorism which would threaten the health and safety of the state's citizens.</p> <p>The Wisconsin Division of</p>	<p>Department of Health and Family Services Division of Public Health Bureau of Communicable Diseases</p> <p>Local health departments</p> <p>Tribes</p> <p>Clinical laboratories</p> <p>Medical group practices</p> <p>Communicable disease clinicians and institutional infection control practitioners</p>	<p>By December 31, 2004, Wisconsin will have an operating system of surveillance for all major, reportable communicable diseases which will also include components of sentinel surveillance for new and emerging pathogens which are not yet reportable by law, and for acts of bioterrorism. The system will perform the six core activities of: (1) detection; (2) registration; (3) confirmation (both epidemiological and laboratory); (4) reporting; (5) analysis; and, (6) feedback.</p> <p>By December 31, 2004, the state/local public health preparedness system for bioterrorism and disease</p>	<p>By January 31, 2005, 100 percent of cases of E. coli .0157, hepatitis C, tuberculosis, and HIV infection will be reported to the appropriate public health authority within the timeframe which is specified in the Wisconsin Administrative Code.</p> <p>By June 30, 2005, the Division of Public Health will utilize an electronic reporting and surveillance system for all reportable communicable diseases.</p> <p>By January 31, 2006, the percentage of the total number of laboratory-confirmed cases of E. coli .0157, hepatitis C, tuberculosis, and HIV infection that are reported</p>	<p>By March 31, 2008, Wisconsin clinical group practices will electronically report cases of reportable diseases within 4 hours of having made the diagnosis.</p> <p>By December 31, 2008, the public health communicable disease surveillance system will provide complete real-time information of the status and occurrence of infectious diseases of public health significance in every local public health jurisdiction in the state.</p> <p>By March 31, 2009, the percentage of all cases of laboratory confirmed reportable diseases which are reported to the appropriate public health</p>

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Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
<p>An adequate statutory and legal base for disease reporting and surveillance activities.</p> <p>The cooperative commitment of private health care providers to participate in public health infectious disease control activities.</p>	<p>Public Health will establish qualifications for “Qualified Public Health Epidemiologists” in Administrative Rule HFS 139 and will establish a registry of those who are employed in local health departments and the corresponding number of local health departments which employ one or more “Qualified Epidemiologists.”</p> <p>The Wisconsin Division of Public Health will establish and maintain ongoing state mechanisms for training and credentialing local health department staff in epidemiology to increase the capacity of local health departments to perform epidemiological surveillance and investigations.</p> <p>The Wisconsin Division of Public Health will revise Administrative Rule HFS 145, and if necessary draft proposed statute revisions to require disease reports to include specified locator information on the infected individual.</p>		<p>outbreaks will have and demonstrate the capability for acute (epidemic-type) responses to naturally occurring or terrorist-initiated infectious disease events.</p>	<p>to the appropriate public health agencies will increase by 50 percent or will equal 95 percent or greater of the total number of cases.</p> <p>By March 31, 2006, 80 percent of medical/clinical group practices will have implemented an orientation for newly employed clinicians on state disease reporting requirements and systems within the group practice to ensure compliance.</p> <p>By March 31, 2007, 100 percent of local health departments will either employ, share through an epidemiological consortium, or contract for the services of an individual who is credentialed by the Wisconsin Division of Public Health as an epidemiologist.</p> <p>By October 31, 2007, all hospital emergency departments will electronically report all</p>	<p>authority will increase by 50 percent.</p> <p>By December 31, 2009, the state/local public health preparedness system for bioterrorism and disease outbreaks will have and demonstrate the capability for planned (management-type) responses to naturally occurring or terrorist-initiated infectious disease events, including the continual anticipatory development and updating of all personnel, material, and knowledge-based resources likely to be necessary to respond to potential future events.</p>

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Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
	<p>The Wisconsin Division of Public Health will create and maintain an electronic communicable disease reporting system with interactive and analytic capabilities as defined and accepted by the Wisconsin Public Health Data Steering Committee for use by all clinical and laboratory providers and all local health departments in the state.</p> <p>All reporters will receive appropriate training on how to use the electronic system.</p> <p>Local health departments will receive all communicable disease reports electronically, and will have the ability to electronically store and analyze the information received, in order to inform and expedite response actions.</p>			<p>cases of reportable diseases and all patients with selected symptoms or nonspecific syndromes which are suggestive of bioterrorist or epidemic pathogens to the Division of Public Health within 8 hours of clinical determination.</p> <p>By October 31, 2007, Wisconsin clinical laboratories will electronically report positive test results for reportable diseases within 4 hours of having identified and confirmed the pathogen.</p>	

**Health Priority: Existing, Emerging, and Re-emerging Communicable Diseases  
Objective 4: Antibiotic and Antimicrobial Resistance (Logic Model)**

**Long-term (2010) Subcommittee Outcome Objective:** Ensure that the use of antibiotics and antimicrobials is appropriate.

**4a:** By 2010, at least 95 percent of medical antibiotic usage in Wisconsin will be appropriate according to generally accepted medical standards of practice.

**4b:** By 2010, at least 90 percent of poultry and livestock producers in Wisconsin will adhere to generally accepted standards for antibiotic feed supplementation.

Long-term outcome objective updated as of: Sept 2004

Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
<p>Time and effort of state public health staff.</p> <p>State funding of survey research costs to assess current antibiotic use practices in health care delivery and food animal husbandry.</p> <p>State funding of management information systems and laboratory capacity adequate to conduct surveillance and assessment of antibiotic resistance occurring in health care delivery and agricultural settings.</p> <p>An adequate statutory and legal base for</p>	<p>The Division of Public Health and its partner organizations will conduct a statewide survey and assessment of existing surveillance and monitoring activities for pathogens resistant to antibiotics, and identify critical gaps.</p> <p>The Division of Public Health and the State Laboratory of Hygiene will develop a program of technical assistance and proficiency testing for clinical laboratories doing antibiotic susceptibility analyses to ensure the accuracy and reliability of that testing.</p> <p>The Division of Public Health and its partner organizations will conduct a statewide survey and assessment of actual practices in uses of antibiotics in health care facilities consistent with established standards of practice.</p>	<p>Division of Public Health</p> <p>State Laboratory of Hygiene</p> <p>Wisconsin Association of Homes and Services for the Aging</p> <p>Wisconsin Association of Health Plans</p> <p>State Medical Society of Wisconsin</p> <p>Pharmacy Society of Wisconsin</p> <p>Major health systems and multi-specialty medical clinics in Wisconsin</p>	<p>By December 31, 2004, a coordinated state surveillance plan for monitoring patterns of antimicrobial resistance in microorganisms that pose a threat to public health will be developed, adopted by the Division of Public Health, and implemented. The plan will specify activities to be conducted at state and local levels; define the roles of participants; promote the use of standardized methods; and provide for timely dissemination of data to interested parties (e.g., public health officials, clinicians, researchers).</p> <p>Needed core capacities at state and local levels will</p>	<p>By January 31, 2005, 100 percent of Wisconsin health care facilities will have infection control policies and procedures reflecting accepted standards of practice to address prevention of transmission of antibiotic resistant infections within their facilities.</p> <p>By March 31, 2006, the Department of Health and Family Services will enter into a written agreement with the Department of Agriculture, Trade and Consumer Protection and the Department of Natural Resources to establish a joint interagency initiative to monitor and control the transmission of antimicrobial resistant disease pathogens to</p>	<p>All commercial meat and other animal food products for human consumption sold in Wisconsin will have legal standards for unacceptable antibiotic residues, and there will be an ongoing testing and surveillance program of animal food products for antibiotic residues.</p>

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Objective 4: Antibiotic and Antimicrobial Resistance (Logic Model)**

Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
<p>antibiotic use control activities.</p> <p>The cooperative commitment of private health care providers and partner organizations to actively participate in antibiotic use and best practice activities.</p>	<p>The Division of Public Health will employ or assign and support one or more dedicated personnel positions, under the direction of the Chief Medical Officer and State Epidemiologist for Communicable Diseases, to provide liaison and technical assistance to appropriate health care facilities on avoidance and control of antibiotic resistance in their institutions.</p> <p>The Division of Public Health will enlist the Wisconsin Health and Hospital Association, The Wisconsin Association of Homes and Services for the Aging, Wisconsin Association of Health Plans, the State Medical Society of Wisconsin, the Pharmacy Society of Wisconsin, the major health systems and multispecialty medical clinics in Wisconsin, the Catholic Health Association of Wisconsin, the University of Wisconsin Medical School, the Medical College of Wisconsin, and the Wisconsin chapters of the appropriate medical specialty academies, in an initiative to develop and promote a statewide surveillance plan and standards of practice for use of antibiotics and</p>	<p>Catholic Health Association of Wisconsin</p> <p>University of Wisconsin Medical School</p> <p>Hospital and clinical laboratories</p> <p>Medical group practices</p> <p>Institutional infection control practitioners</p> <p>Medical infectious disease</p> <p>The Medical College of Wisconsin</p> <p>Wisconsin Dental Association</p> <p>Wisconsin chapters of the appropriate medical speciality academies</p> <p>Department of Health and Family Services Secretary</p>	<p>be defined and supported. The plan will coordinate, integrate, and build on existing disease surveillance infrastructure. The plan will specifically address the need to ensure the quality and reliability of drug susceptibility testing procedures and resultant data and measures to improve the surveillance for antibiotic resistance in agricultural settings. All surveillance activities will be conducted with respect for patient and institutional confidentiality.</p>	<p>humans through food or water.</p> <p>By March 31, 2006, Wisconsin citizens will demonstrate on health status surveys an understanding of the appropriate and inappropriate uses of antibiotics in medical treatment and of antimicrobials in personal and domestic hygiene. By January 31, 2007, 95 percent of antibiotic prescriptions for selected conditions, including otitis media and respiratory</p>	

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Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
	<p>antimicrobials in the delivery of health care.</p> <p>The Division of Public Health and State Laboratory of Hygiene will jointly develop the expanded capacity to electronically gather, use, and pool existing data on antibiotic resistance from hospitals, laboratories, and medical practice groups.</p> <p>The Division of Public Health and the State Laboratory of Hygiene will establish an initiative to promote the use of rapid bacterial diagnostic testing methods to guide antibiotic prescribing practices in outpatient treatment by clinicians of acute infectious diseases.</p> <p>The Division of Public Health will convene staff, and support a state workgroup of health facility infection control practitioners, physicians, and laboratorians with expertise in the field of infectious diseases and antibiotic resistance to periodically meet to review the scientific literature in this area and to issue recommendations and information briefs to state health care providers.</p>	<p>Wisconsin Legislature</p> <p>Department of Agriculture, Trade, and Consumer Protection</p>		<p>infection, will be written only after the presence of a bacterial pathogen has been confirmed by laboratory analysis.</p> <p>By December 31, 2006, 90 percent of Wisconsin health care facilities will have guidelines and policies reflecting accepted standards of practice to curtail inappropriate antibiotic usage.</p>	

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Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
	<p>infection control and electronic data management to serve as liaison with the State Laboratory of Hygiene and staff to the workgroup for activities shown below.</p> <p>The Division of Public Health, the State Laboratory of Hygiene, and the Department of Agriculture, Trade, and Consumer Protection will develop a sampling and sentinel surveillance program to test meat and other animal food samples from retail grocery and restaurant food establishments for antibiotic residues.</p> <p>The Division of Public Health, the State Laboratory of Hygiene, and the Department of Natural Resources will develop a sampling and sentinel surveillance program to test groundwater and other environmental indicators of animal waste and agricultural runoff for the presence of antimicrobial resistant disease pathogens.</p> <p>The Department of Health and Family Services and the Department of Agriculture, Trade, and Consumer Protection interagency workgroup will establish an interagency workgroup to review the scientific literature on potential human health problems from the addition of antibiotics to animal feeds; to develop state policies, and if indicated, draft state legislation, to address identified problems.</p>				

**Health Priority: Existing, Emerging and Re-emerging Communicable Diseases  
Objective 4: Antibiotic and Antimicrobial Resistance (Logic Model)**

<b>Inputs</b>	<b>Outputs</b>		<b>Outcomes</b>		
	<b>Activities</b>	<b>Participation/ Reach</b>	<b>Short-term 2002-2004</b>	<b>Medium-term 2005-2007</b>	<b>Long-term 2008-2010</b>
	<p>The Division of Public Health professional staff will research and prepare a briefing paper for the Department of Health and Family Services Secretary and the Legislature on the costs and benefits of controlling antibiotic use in animal feeds.</p>				

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(Template)**

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Assure the timely detection of, and effective response to, communicable diseases.

**1a:** By 2010, at least 85 percent of communicable disease reports will be received by the local or state public health agency within the timeframe specified by HFS 145.04(3)(a) and HFS 145.04(3)(b).

**1b:** By 2010, 100 percent of local health departments will have documented capacity to respond to outbreaks of communicable disease as defined in HFS 140.

Long-term outcome objective updated as of: Sept 2004

<b>Wisconsin Baseline</b>	<b>Wisconsin Sources and Year</b>
None. Objectives (1a) and (1b) are developmental objectives.	

<b>Federal/National Baseline</b>	<b>Federal/National Sources and Year</b>
National Notifiable Disease Surveillance System (NNDSS)	1999 - Annual Summary of Notifiable Diseases – Table 1: Reported Cases by Month; Table 3: Reported Cases by Age Group; Table 4: Reported Cases by Sex.

<p>National Electronic Telecommunications System for Surveillance (NETSS).</p> <p>Acquired Immunodeficiency Syndrome (AIDS); Anthrax; Botulism; Brucellosis; Chancroid; Chlamydia trachomatis, genital infections; Cholera; Coccidioidomycosis; Cryptosporidiosis; Cyclosporiasis; Diphtheria; Ehrlichiosis; Encephalitis, Arboviral; Enterohemorrhagic Escherichia coli; Giardiasis; Gonorrhea; Haemophilus influenzae, invasive disease; Hansen disease (leprosy); Hantavirus pulmonary syndrome; Hemolytic uremic syndrome, post-diarrheal; Hepatitis, viral, acute; HIV infection; Legionellosis; Listeriosis; Lyme disease; Malaria; Measles; Meningococcal disease; Mumps; Pertussis; Plague; Poliomyelitis, paralytic; Psittacosis; Q Fever; Rabies; Rocky Mountain spotted fever; Rubella; Rubella, congenital syndrome; Salmonellosis; Shigellosis; Streptococcal disease, invasive, Group A; Streptococcal toxic-shock syndrome; Streptococcus pneumoniae, drug resistant, invasive disease; Streptococcus pneumoniae, invasive in children &lt;5 years; Syphilis; Tetanus; Toxic-shock syndrome; Trichinosis; Tuberculosis; Tularemia; Typhoid fever; Varicella (deaths only); Yellow fever.</p>	<p>1999 - Annual Summary of Notifiable Diseases – Table 1: Reported Cases by Month; Table 3: Reported Cases by Age Group; Table 4: Reported Cases by Sex.</p>
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<b>Related USDHHS Healthy People 2010 Objectives</b>			
<b>Chapter</b>	<b>Goal</b>	<b>Objective Number</b>	<b>Objective Statement</b>
8 – Environmental Health	Promote health for all through a healthy environment.	8-28	(Developmental) Increase the number of local health departments or agencies that use data from surveillance of environmental risk factors as part of their vector control programs.
13 - HIV	Prevent human immunodeficiency virus (HIV) infection and its related illness and death.	13-10	(Developmental) Increase the proportion of inmates in State prison systems who receive voluntary HIV counseling and testing during incarceration.
		13-11	Increase the proportion of adults with tuberculosis (TB) who have been tested for HIV.
		13-12	(Developmental) Increase the proportion of adults in publicly funded HIV counseling and testing sites who are screened for common bacterial sexually transmitted diseases (STDs) (chlamydia, gonorrhea, and syphilis) and are immunized against hepatitis B virus.
		13-13	Increase the proportion of HIV-infected adolescents and adults who receive testing, treatment, and prophylaxis consistent with current Public Health Service treatment guidelines.
14 - Immunization and Infectious Diseases	Prevent disease, disability, and death from infectious diseases, including vaccine-preventable diseases.		No DHHS objective is specific to this area.
23 – Public Health Infrastructure	Ensure that Federal, Tribal, State, and local health agencies have the infrastructure to provide essential public health services effectively.	23-5	(Developmental) Increase the proportion of Leading Health Indicators, Health Status Indicators, and Priority Data Needs for which data—especially for select populations—are available at the Tribal, State, and local levels.

<b>Related USDHHS Healthy People 2010 Objectives</b>			
<b>Chapter</b>	<b>Goal</b>	<b>Objective Number</b>	<b>Objective Statement</b>
		23-8	(Developmental) Increase the proportion of Federal, Tribal, State, and local agencies that incorporate specific competencies in the essential public health services into personnel systems.
		23-10	(Developmental) Increase the proportion of Federal, Tribal, State, and local agencies that provide continuing education to develop competency in essential public health services for their employees.
		23-11	(Developmental) Increase the proportion of State and local agencies that meet national performance standards for essential public health services.
		23-13	(Developmental) Increase the proportion of Tribal, State, and local agencies that provide or assure comprehensive laboratory services to support essential public health services.
		23-14	(Developmental) Increase the proportion of Tribal, State, and local public health agencies that provide or assure comprehensive epidemiology services to support essential public health services.
25 – Sexually Transmitted Diseases	Promote responsible sexual behaviors, strengthen community capacity, and increase access to quality services to prevent sexually transmitted diseases (STDs) and their complications.	25-13	Increase the proportion of Tribal, State, and local sexually transmitted disease programs that routinely offer hepatitis B vaccines to all STD clients.

Related USDHHS Healthy People 2010 Objectives			
Chapter	Goal	Objective Number	Objective Statement
		25-14	(Developmental) Increase the proportion of youth detention facilities and adult city or county jails that screen for common bacterial sexually transmitted diseases within 24 hours of admission and treat STDs (when necessary) before persons are released.

Definitions	
Term	Definition
Operating system of surveillance	The collective mechanisms, instrumentalities, modalities, and procedural methodologies necessary for the ongoing systematic collection, collation, analysis, and interpretation of data; and the dissemination of information to those who need to know in order that action may be taken.
Capital resources	Tangible physical and electronic goods and property, including real and intellectual property. Examples may include computer hardware and software; communications equipment; facilities for work, storage, and patient care space; office and medical supplies and equipment; transportation vehicles and equipment; and the financial assets necessary to obtain, maintain, and utilize such goods and property as they are needed.
Qualified epidemiologist	An individual whose training and experience in the professional discipline fields of epidemiology and public health, satisfy requirements established by, and has received certification from, the Wisconsin Division of Public Health.
Pathogen differentiation	Clinical laboratory analyses which distinguish between and characterize closely related disease causing organisms, based on genotype (hereditary factors of a given organism) and/or serotype (types of antibodies produced by the body in response to a given organism).
State/local public health preparedness system for bioterrorism and disease outbreaks	The system of planned and coordinated capacity of state and local public health agencies; hospitals and medical clinics; emergency government, emergency response, and criminal justice agencies; and other appropriate stakeholders, which has been formed and collectively equipped to respond to major public health emergencies.
Timeliness of reporting	The length of time between a clinical or laboratory diagnosis of a case, and receipt of a report.
Completeness of report	The information received on a case report form adequate for

Definitions	
Term	Definition
data	public health follow up and investigation. Note: Core data fields will vary depending on the type of disease or condition, and definition of core data fields will change over time.

**Rationale:**

Effective and timely control of communicable diseases can only be assured if there is a comprehensive system of disease surveillance in place and the corresponding capacity exists for swift and appropriate response to disease occurrence. This is an essential capacity for the state/local public health system. This system must not only respond to the routine occurrence of communicable disease outbreaks over the course of any given year, but also prepare for the potential occurrence of a major epidemic or even pandemic of an emerging infectious disease, or the “low probability-high threat” scenario, of intentional release of a bioterrorist pathogen, with potential for rapid spread within a population, and devastating effects on infected individuals and the community at large. The readiness to deal effectively with potential population-wide mass infectious disease events--possibly from pathogens that are rare or atypical in present public health and medical system experience--will require the state and local public health agencies to establish working relationships with nongovernmental entities and to develop functional capabilities which are of a scope and degree of sophistication that are well in advance of the normal and traditional requirements for communicable disease control. The benefits of going forward with a broad-based systemic surveillance expansion and transformation initiative are threefold: (1) to establish a system which provides early detection and public protection equally against both naturally occurring and intentionally induced infectious disease threats; (2) to introduce system enhancements in a manner which is rationally planned and proactively initiated, rather than a reactive response to an already occurring emergency situation; and, (3) to establish a system in which optimal achievement of objectives occurs in the most cost-effective manner to the public.

**Outcomes:**

**Short-term Outcome Objectives (2002-2004)**

- By December 31, 2004, Wisconsin will have an operating system of surveillance for all major, reportable communicable diseases which will also include components of sentinel surveillance for new and emerging pathogens which are not yet reportable by law, and for acts of bioterrorism. The system will perform the six core activities of: (1) detection; (2) registration; (3) confirmation (both epidemiological and laboratory); (4) reporting; (5) analyses; and (6) feedback.
- By December 31, 2004, the state/local public health preparedness system for bioterrorism and disease outbreaks will have and will demonstrate the capability for acute (epidemic-type) responses to naturally occurring or terrorist-initiated infectious disease events.

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

- Time and effort of state and local public health staff.
- Federal/state funding of hardware, software, and information system technical support for disease reporting and surveillance data collection and storage.

- Federal/state funding of public health laboratory human and capital resources sufficient to maintain adequate, routine, and emergency testing capacity for state and local health department testing, and sufficient state-of-the-art technical assistance and reference laboratory capacity to assist and backup private clinical laboratories performing infectious disease testing analyses.
- An adequate statutory and legal base for disease reporting and surveillance activities.
- The cooperative commitment of private health care providers to participate in public health infectious disease control activities.

**Outputs:** *(What is done – workshops, meetings, product development, training. Who is reached – community residents, agencies, organizations, elected officials, policy leaders, etc.)*

- The Wisconsin Division of Public Health will assist local health departments and local medical/clinical group practices to develop an orientation to communicable disease reporting and control programs for newly employed physicians and other appropriate clinical staff.
- The Wisconsin Division of Public Health and the Wisconsin State Laboratory of Hygiene will establish and maintain an epidemiologic system, which directly and through the coordinated efforts of local providers is capable of providing early detection of and response to any infectious disease outbreaks or acts of bioterrorism which would threaten the health and safety of the state's citizens.
- The Wisconsin Division of Public Health will establish qualifications for "Qualified Public Health Epidemiologists" in Administrative Rule HFS 139 and will establish a registry of those who are employed in local health departments and the corresponding number of local health departments which employ one or more "qualified epidemiologists."
- The Wisconsin Division of Public Health will establish and maintain ongoing state mechanisms for training and credentialing local health department staff in epidemiology to increase the capacity of local health departments to perform epidemiological surveillance and investigations.
- The Wisconsin Division of Public Health will revise Administrative Rule HFS 145, and, if necessary, draft proposed statute revisions to require disease reports to include specified locator information on the infected individual.

### **Medium-term Outcome Objectives (2005-2007)**

- By January 31, 2005, 100 percent of cases of E. coli .0157, hepatitis C, tuberculosis, and HIV infection will be reported to the appropriate public health authority within the timeframe which is specified in the Wisconsin Administrative Code.
- By June 30, 2005, the Division of Public Health will utilize an electronic reporting and surveillance system for all reportable communicable diseases.
- By January 31, 2006, the percentage of the total number of laboratory-confirmed cases of E. coli .0157, hepatitis C, tuberculosis, and HIV infection that are reported to the appropriate public health agencies will increase by 50 percent or will equal 95 percent or greater of the total number of cases.

- By March 31, 2006, 80 percent of medical/clinical group practices will have implemented an orientation for newly employed clinicians on state disease reporting requirements and systems within the group practice to ensure compliance.
- By March 31, 2007, 100 percent of local health departments will either employ, share through an epidemiological consortium, or contract for the services of an individual who is credentialed by the Wisconsin Division of Public Health as an epidemiologist.
- By October 31, 2007, all hospital emergency departments will electronically report all cases of reportable diseases and all patients with selected symptoms or nonspecific syndromes which are suggestive of bioterrorist or epidemic pathogens to the Division of Public Health within 8 hours of clinical determination.
- By October 31, 2007, Wisconsin clinical laboratories will electronically report positive test results for reportable diseases within 4 hours of having identified and confirmed the pathogen.

**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 electronic information system technical support for disease reporting and surveillance data collection and storage.
- State funding of public health laboratory human and capital resources sufficient to maintain adequate routine and emergency testing capacity for state and local public health department testing and sufficient state-of-the-art technical assistance and reference laboratory capacity to assist and backup private clinical labs performing infectious disease testing analyses.
- An adequate statutory and legal base for disease reporting and surveillance activities.
- The cooperative commitment of private health care providers to participate in public health infectious disease control activities.

**Outputs:** (*What is done – workshops, meetings, product development, training. Who is reached – community residents, agencies, organizations, elected officials, policy leaders, etc.*)

- The Wisconsin Division of Public Health will create and maintain an electronic communicable disease reporting system with interactive and analytic capabilities as defined and accepted by the Wisconsin Public Health Data Steering Committee for use by all clinical and laboratory providers and all local health departments in the state.
- All reporters will receive appropriate training on how to use the electronic system.
- Local health departments will receive all communicable disease reports electronically, and will have the ability to electronically store and analyze the information received, in order to inform and expedite response actions.

**Long-term Outcome Objectives (2008-2010)**

- By March 31, 2008, Wisconsin clinical group practices will electronically report cases of reportable diseases within 4 hours of having made the diagnosis.

- By December 31, 2008, the public health communicable disease surveillance system will provide complete real-time information of the status and occurrence of infectious diseases of public health significance in every local public health jurisdiction in the state.
- By March 31, 2009, the percentage of all cases of laboratory-confirmed reportable diseases which are reported to the appropriate public health authority will increase by 50 percent.
- By December 31, 2009, the state/local public health preparedness system for bioterrorism and disease outbreaks will have and will demonstrate the capability for planned (management-type) responses to naturally occurring or terrorist-initiated infectious disease events, including the continual anticipatory development and updating of all personnel, material, and knowledge-based resources likely to be necessary to respond to potential future events.

**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 electronic information system technical support for disease reporting and surveillance data collection and storage.
- State funding of public health laboratory human and capital resources sufficient to maintain adequate routine and emergency testing capacity for state and local public health department testing and sufficient state-of-the-art technical assistance and reference laboratory capacity to assist and backup private clinical labs performing infectious disease testing analyses.
- An adequate statutory and legal base for disease reporting and surveillance activities.
- The cooperative commitment of private health care providers and other relevant stakeholders to participate in public health infectious disease control activities.

**Outputs:** (*What is done – workshops, meetings, product development, training. Who is reached – community residents, agencies, organizations, elected officials, policy leaders, etc.*)

Activities:

- Both the Wisconsin Division of Public Health and local health departments will use laboratory information on pathogen differentiation to respond to the occurrence of significant communicable disease events occurring within respective jurisdictions and to coordinate response to outbreaks which cross jurisdictions.
- Laboratory specimens of selected reportable pathogens will receive appropriate differentiation testing to identify outbreaks of the selected diseases.
- The Wisconsin Division of Public Health will promulgate protocols to define an “outbreak” condition for each reportable disease and describe the public health actions and response steps necessary to counter it.
- Local health departments will routinely review communicable disease reports for differentiation information, to identify related disease clusters occurring within the local jurisdiction and evidence of disease transmission occurring across jurisdictions.

Participation/Reach:

- Department of Health and Family Services Division of Public Health Bureau of Communicable Diseases
- Local health departments
- Clinical laboratories
- Clinical/medical group practices
- Communicable disease clinicians and institutional infection control practitioners

### **Evaluation and Measurement:**

In addition to the measurable outcomes noted above, the overall statewide surveillance system will be evaluated using *Updated Guidelines for Evaluating Public Health Surveillance Systems* (CDC-MMWR. July 27, 2001). These guidelines recommend that the surveillance system be evaluated in terms of 9 attribute areas (Simplicity, Flexibility, Data Quality, Acceptability, Sensitivity, Predictive Value Positive, Representativeness, Timeliness, and Stability) and suggests methodology for evaluating each.

### **Crosswalk to Other Health and System Priorities in Healthiest Wisconsin 2010**

An improved, more effective and responsive disease surveillance and control system will be heavily reliant on state-of-the-art, real time communication systems, linking diagnosing disease reporters to the public health surveillance system. Such systems will require not only the best available electronic communication technology, but also a workforce of skilled technicians and analysts to operate, maintain, and upgrade the system. Both of these will rely on the availability of financial resources to capitalize and sustain operations. Technological, financial, and human resource issues should be considered under the infrastructure (system) priorities of *Healthiest Wisconsin 2010* in order to assure strong public health system capacity.

### **Significant Linkages to Wisconsin's 12 Essential Public Health Services**

*Monitor health status to identify community health problems:* A communicable disease surveillance system, by definition, monitors the community and general population through a variety of both passive and active observation measures in order to detect occurring infectious disease outbreaks at the earliest possible moment.

*Identify, investigate, control, and prevent health problems and environmental health hazards in the community:* The purpose of a disease surveillance system is the early warning portion of an overall communicable disease control strategy and is intended as the set of trigger mechanisms which mobilize and direct the public health epidemiological and disease containment apparatus to the point at which a contagious disease was detected.

*Promote community partnerships to identify and solve health problems:* To be effective, a disease surveillance and response system must be an ongoing coordinated working partnership between private sector clinicians who serve as disease reporters and local and state public health agencies who serve as the investigatory and disease control responders to the reports. In major populationwide disease outbreak and bioterrorism situations, local private providers may also be called on to function beyond simply disease reporters and to serve as community care givers, or in other ways to help contain the spread of infection.

### **Connection to the Three Overarching Goals of Healthiest Wisconsin 2010**

*Protect and Promote Health for All:* Disease epidemics and intentional bioterrorist acts pose a substantive body of anticipatable and preventable or controllable threats to the entire resident population of the state, municipal, and regional populations within the state.

*Eliminate Health Disparities:* Effective response to, and containment of, a major communicable disease event will require that all persons involved, regardless of income or insurance status, ethnic or cultural characteristics, or regional location, will have equal access to readily available and complete diagnostic and treatment services.

*Transform Wisconsin's Public Health System:* The communicable disease control sector of the public health system will need to be substantively changed and upgraded to respond to threats from emerging infectious diseases, including enhancements to the numbers and credentials of internal disease control staff, and the expansion of functional working relationships with external governmental and nongovernmental partner organizations.

**Key Interventions and/or Strategies Planned:**

Achievement of this objective will require organized efforts:

- To inform and engage laboratory and clinician reporting partners in this effort.
- To develop and implement the mechanisms and infrastructure necessary for an interactive statewide electronic communication system for disease reporting and communication.
- To maintain a current and cogent state and local legal base for disease reporting and follow up.

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**Health Priority: Existing, Emerging and Re-emerging Communicable Diseases  
Objective 2: Vaccine Preventable Diseases and Immunization (Logic Model)**

**Long-term (2010) Subcommittee Outcome Objective:** Increase to at least 90 percent the percentage of children and adults who are fully immunized with vaccines recommended for routine use by the Advisory Committee on Immunization Practices (ACIP).

**2a:** By 2010, at least 90 percent of Wisconsin residents under two years of age will be fully immunized in accordance with current Advisory Committee on Immunization Practices (ACIP) recommendations.

**2b:** By 2010, at least 97 percent of Wisconsin school age residents will be fully immunized in accordance with current Advisory Committee on Immunization Practices (ACIP) recommendations.

**2c:** By 2010, at least 90 percent of Wisconsin residents 65 years of age and older and individuals with chronic health conditions will be fully immunized in accordance with current Advisory Committee on Immunization Practices (ACIP) recommendations.

Long-term outcome objective updated as of: Sept 2004

Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
<p>Time and effort of state and local public health staff.</p> <p>State funding of hardware, software, and Management Information System technical support for immunization data collection and storage.</p> <p>State funding for vaccines, including storage and distribution.</p>	<p>The Division of Public Health will set up electronic links with, and train physicians and clinic staff to participate in, the Wisconsin Immunization Registry.</p> <p>The Division of Public Health and local health departments will conduct outreach to providers through professional organizations and journals.</p> <p>The Division of Public Health will provide necessary management information system data storage and retrieval hardware and software to local health departments, with training in its use.</p>	<p>Division of Public Health and local health departments</p> <p>Schools, tribes, and parent/teacher organizations</p> <p>Physicians and clinic staff</p> <p>Health professional organizations</p> <p>Neighborhood and cultural advocacy and assistance organizations</p>	<p>By December 31, 2004, immunizations of children in subgroups with low levels of immunizations will have increases of 25 percent from baseline data.</p>	<p>By December 31, 2005, 85 percent of Wisconsin children will have their immunization histories entered into the Wisconsin Immunization Registry.</p> <p>By December 31, 2005, the Division of Public Health will conduct an ongoing information and education campaign targeted on health care providers to encourage them to have annual influenza immunizations at the start of each flu season.</p>	<p>By December 31, 2008, all children and adults in Wisconsin will have access to readily available and affordable immunizations for all vaccine preventable diseases, which are recommended by the Advisory Committee on Immunization Practices.</p>

**Health Priority: Existing, Emerging and Re-emerging Communicable Diseases  
Objective 2: Vaccine Preventable Diseases and Immunization (Logic Model)**

Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
<p>An adequate statutory and legal base for immunization activities.</p> <p>The cooperative commitment of private health care providers to participate in public health disease reporting and surveillance activities.</p>	<p>The Division of Public Health will provide printed and media materials designed to encourage public and provider participation in the Wisconsin Immunization Registry.</p> <p>Parents of all newborns will receive information on vaccine preventable diseases and their importance, which is culturally and linguistically appropriate.</p> <p>Subgroups of the population with low immunization levels will be identified at the state and local jurisdictional levels and will receive priority outreach and attention for elimination of disparities.</p> <p>The Division of Public Health and local health departments will provide necessary public information and technical assistance to long-term care institutions to ensure that all nursing homes and community-based residential facilities in the state will have adult immunization programs in place for residents and staff.</p> <p>The state student immunization law will specify and require minimum immunization levels for children entering school or day care.</p> <p>There will be a state statute</p>	<p>Clinicians and institutions serving target groups</p> <p>Wisconsin chapters of AAP and AAFP</p> <p>Federally qualified health centers and community clinics</p> <p>Administration and staff on long term care facilities</p> <p>Elderly and disabled advocacy organizations</p> <p>Centers for Disease Control and Prevention</p> <p>Wisconsin political advocacy organizations and elected officials</p> <p>Parents</p> <p>Child care agency administrators and staff</p>	<p>By December 31, 2004, immunizations of children in subgroups with low levels of immunizations will have increases of 50 percent from baseline rates.</p> <p>By December 31, 2004, 90 percent of the residents and staff of state nursing homes and community-based residential facilities will have current influenza and pneumonia immunizations as recommended by Advisory Committee on Immunization Practices.</p>	<p>By December 31, 2006, all children who receive their immunizations from a regular family medical provider or a local health department will have their records entered into the Wisconsin Immunization Registry.</p> <p>By December 31, 2006, 80 percent of the residents and staff of state nursing homes and community-based residential facilities will have current influenza and pneumonia immunizations as recommended by Advisory Committee on Immunization Practices.</p> <p>By September 30, 2007, 90 percent of immunizations provided by private providers and 100 percent of those provided by local health departments will be entered into the Wisconsin Immunization Registry.</p> <p>By December 31, 2007, 98 percent of children and 80 percent of adults in Wisconsin will have levels of</p>	

**Health Priority: Existing, Emerging and Re-emerging Communicable Diseases  
Objective 2: Vaccine Preventable Diseases and Immunization (Logic Model)**

Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
	<p>authorizing the Department of Health and Family Services to prioritize and direct the distribution and administration of vaccines.</p> <p>The Division of Public Health will conduct a study to determine barriers to provider participation in the Wisconsin Immunization Registry, and a targeted outreach and technical assistance campaign directed to clinical providers who are not participating in the Wisconsin Immunization Registry.</p> <p>The Division of Public Health will establish a mechanism to monitor and manage the distribution of vaccine during the flu season.</p> <p>The Division of Public Health will collaborate with the Centers for Disease Control and Prevention, other states, and vaccine manufacturers and distributors doing business in Wisconsin to ensure adequate vaccine supplies in the state.</p> <p>The Division of Public Health will convene a workgroup including representation from the Bureau of Aging and Long Term Care in the Division of Supportive Living, agencies providing</p>	<p>Division of Health Care Financing</p> <p>Health insurers and managed care organizations</p>		<p>immunizations that meet the Advisory Committee on Immunization Practices recommendations.</p> <p>By December 31, 2007, all nursing homes and community-based residential facilities in the state will have adult immunization programs in place for residents and staff.</p> <p>By December 31, 2007, the public health and private health care systems will provide influenza vaccine to 85 percent of high risk adults requiring them.</p>	

**Health Priority: Existing, Emerging and Re-emerging Communicable Diseases  
Objective 2: Vaccine Preventable Diseases and Immunization (Logic Model)**

Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
	<p>nursing home and community-based living care, and organizations representing the elderly and disabled in Wisconsin, to develop an ongoing plan for the distribution of influenza and pneumonia vaccines to groups and individuals at greatest risk.</p> <p>There will be passage of a state statute requiring coverage of all Advisory Committee on Immunization practices recommended immunizations by all private third parties doing business in Wisconsin.</p> <p>Local health departments will receive funding and establish a system to directly provide or voucher provision of immunizations for all persons in the state without the ability to pay.</p> <p>The Division of Public Health will assist the Division of Health Care Financing to establish a system that expands on the Wisconsin Immunization Registry to monitor and ensure that all medical assistance recipients are current in all recommended immunizations.</p>			<p>By December 31, 2007, all nursing homes and community based residential facilities in the state will have adult immunization programs in place for residents and staff.</p> <p>By December 31, 2007, the public health and private health care systems will provide influenza vaccine to 85 percent of high risk adults requiring them.</p>	

## Health Priority: Existing, Emerging and Re-emerging Communicable Diseases Objective 2: Vaccine Preventable Diseases and Immunization (Template)

### Long-term (2010) Subcommittee Outcome Objective:

Increase to at least 90 percent the percentage of children and adults who are fully immunized with vaccines recommended for routine use by the Advisory Committee on Immunization Practices (ACIP).

**2a:** By 2010, at least 90 percent of Wisconsin residents under two years of age will be fully immunized in accordance with current Advisory Committee on Immunization Practices (ACIP) recommendations.

**2b:** By 2010, at least 97 percent of Wisconsin school age residents will be fully immunized in accordance with current Advisory Committee on Immunization Practices (ACIP) recommendations.

**2c:** By 2010, at least 90 percent of Wisconsin residents 65 years of age and older and individuals with chronic health conditions will be fully immunized in accordance with current Advisory Committee on Immunization Practices (ACIP) recommendations.

Long-term outcome objective updated as of: Sept 2004

Wisconsin Baseline	Wisconsin Sources and Year
None. Objectives (2a), (2b), and (2c) are developmental objectives.	

Federal/National Baseline	Federal/National Sources and Year
7 cases of congenital rubella syndrome	1998 – National Congenital Syndrome Registry
1 case of diphtheria (persons under 35)	1998 – National Notifiable Disease Surveillance System (NNDSS)
253 cases of Haemophilus Influenzae B (children under 5)	1998 – NNDSS
945 estimated cases of Hepatitis B (children 2-18)	1997 – NNDSS
74 cases of measles	1998 – NNDSS
666 cases of mumps	1998 – NNDSS
3,417 cases of Pertussis (children under 7)	1998 – NNDSS
0 cases of Polio (wild virus)	1998 – NNDSS
364 cases of Rubella	1998 – NNDSS
14 cases of tetanus (persons under 35)	1998 – NNDSS
4 million cases of Varicella	1990-94 averages National Health Interview Survey (NHIS)
1,682 chronic hepatitis B infections in children under 2	1995- National Hepatitis B Prevention Program
24.0 cases of hepatitis B per 100,000 population in adults 19-24	1997 – NNDSS

<b>Federal/National Baseline</b>	<b>Federal/National Sources and Year</b>
20.2 per 100,000 in adults 25-39	1997 – NNDSS
15.0 per 100,000 in adults 40+	1997 – NNDSS
7,232 cases of hepatitis B in injection drug users	1997-NNDSS Sentinel Counties Study of viral hepatitis
15,225 cases of hepatitis B in heterosexually active persons	1997-NNDSS Sentinel Counties Study of viral hepatitis
7,232 cases of hepatitis B in men who have sex with men	1997-NNDSS Sentinel Counties Study of viral hepatitis
249 cases of hepatitis B in occupationally exposed workers	1997-NNDSS Sentinel Counties Study of viral hepatitis
13.0 new cases of bacterial meningitis per 100,000 population in children 1-23 months	1998 – Active Bacterial Core Surveillance (ABCS), Emerging Infections Program
76 new invasive pneumococcal infections per 100,00 population in children under 5	1997 – ABCS
62 per 100,00 in adults 65+	1997 – ABCS
16 invasive penicillin-resistant pneumococcal infections per 100,000 in children under 5	1997 – ABCS
9 per 100,000 in adults 65+	1997 – ABCS
4.5 new cases of hepatitis A per 100,000 population	1997- NNDSS
84% of children 19-35 months with 4 doses of diphtheria-tetanus-pertussis (DTaP) vaccine received	1998 – National Immunization Survey (NIS)
93% with 3 doses of Haemophilus influenzae type b (Hib) vaccine	1998 – NIS
87% with 3 doses of hepatitis B (hep B) vaccine	1998 – NIS
92% with 1 dose of measles-mumps-rubella (MMR) vaccine	1998 – NIS
91% with 3 doses of polio vaccine	1998 – NIS
43% with 1 dose of varicella vaccine	1998 – NIS
96% of children in daycare fully immunized with DTaP vaccine	1997-98 Annual Immunization Assessment Reports
93% fully immunized with MMR vaccine	1997-98 Annual Immunization Assessment Reports
95% fully immunized with Polio vaccine	1997-98 Annual Immunization Assessment Reports
97% of children in grades K-1 fully immunized with DTaP vaccine	1997-98 Annual Immunization Assessment Reports
96% fully immunized with MMR vaccine	1997-98 Annual Immunization Assessment Reports
97% fully immunized with varicella vaccine	1997-98 Annual Immunization Assessment Reports
73% of children 19-35 months have received all of the recommended vaccines	1998 – NIS

<b>Federal/National Baseline</b>	<b>Federal/National Sources and Year</b>
66% of public providers measured the vaccination coverage levels of children in their practices within the previous 2 years	1997 – Immunization Program Annual Reports
6% of private providers measured the vaccination coverage levels of children in their practices within the previous 2 years	1997 – Immunization Program Annual Reports
32% of children under age 6 had at least one immunization record entered in an immunization registry	1999 – Immunization Program Annual Reports
48% of adolescents age 13-15 had 3 or more doses of hep B vaccine	1997 – National Health Interview Survey (NHIS)
89% had 2 or more doses of MMR vaccine	1997 – NHIS
93% had 2 or more doses of DTaP vaccine	1997 – NHIS
45% had 2 or more doses of varicella vaccine	1997 – NHIS
35% of patients receiving chronic dialysis had received at least 3 doses of hep B vaccine	1995 – Annual Survey of Chronic Hemodialysis Centers
9% of men who had sex with men had received at least 3 doses of hep B vaccine	1995 – Young Men’s Survey
71% of health care workers had received at least 3 doses of hep B vaccine	1995 – Periodic Vaccine Coverage Surveys
64% of noninstitutionalized adults 65+ had in influenza vaccination in the previous 12 months	1998 – NHIS
46% had ever received pneumococcal vaccine	1998 – NHIS
26% of high-risk individuals ages 18-64 had an influenza vaccination in the previous 12 months	1998 – NHIS
13% had ever received pneumococcal vaccine	1998 – NHIS
59% of adults in long-term care facilities had an influenza vaccination in the previous 12 months	1997 – National Nursing Home Survey (NNHS)
25% had ever received pneumococcal vaccine	1997 – NNHS

<b>Related USDHHS Healthy People 2010 Objectives</b>			
<b>Chapter</b>	<b>Goal</b>	<b>Objective Number</b>	<b>Objective Statement</b>
14-Immunization and Infectious Diseases	Prevent disease, disability and death from infectious diseases, including vaccine-preventable diseases.	14-1	Reduce or eliminate indigenous cases of vaccine-preventable disease.
		14-2	Reduce chronic hepatitis B virus infections in infants and young children (perinatal infections).
		14-3	Reduce hepatitis B.

<b>Related USDHHS Healthy People 2010 Objectives</b>			
<b>Chapter</b>	<b>Goal</b>	<b>Objective Number</b>	<b>Objective Statement</b>
		14-4	Reduce bacterial meningitis in young children.
		14-5	Reduce invasive pneumococcal infections.
		14-6	Reduce hepatitis A.
		14-22	Achieve and maintain effective vaccination coverage levels for universally recommended vaccines among young children.
14-Immunization and Infectious Diseases (continued)		14-23	Maintain vaccination coverage levels for children in licensed day care facilities and children in kindergarten through first grade.
		14-24	Increase the proportion of young children who receive all vaccines that have been recommended for universal administration for at least 5 years.
		14-25	Increase the proportion of providers who have measured the vaccination coverage levels among children in their practice populations within the past 2 years.
		14-26	Increase the proportion of children who participate in fully operational population-based immunization registries.
		14-27	(Developmental) Increase routine vaccination coverage levels of adolescents.
		14-28	Increase hepatitis B vaccine coverage among high-risk groups.
		14-29	Increase the proportion of adults who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease.

<b>Definitions</b>	
<b>Term</b>	<b>Definition</b>
Vaccine-Preventable Diseases (VPDs)	In the broader context, any disease for which an FDA approved vaccine exists is by definition “vaccine preventable,” but for purposes of this objective, the definition is limited to the diseases which are recommended for routine immunization by the Advisory Committee on Immunization Practices. These are: diphtheria, haemophilus influenzae type b, hepatitis A, hepatitis B, measles, mumps, pertussis, rubella, tetanus, varicella, influenza, and pneumococcal pneumonia.
High Risk	The degree of risk from age debility, compromised immunity, impaired respiratory function, and other medical conditions, which would put a person at elevated probability of serious complications from acute diseases of the respiratory tract.
Individuals with chronic health conditions	Individuals with chronic health conditions means those with conditions that place them at high risk of severe consequences from a vaccine preventable disease.

**Rationale:**

Achievement and maintenance of immunization levels of at least 90 percent serves to protect both individuals and communities from the preventable morbidity and mortality of vaccine preventable diseases.

**Outcomes:**

**Short-term Outcome Objectives (2002-2004)**

- By December 31, 2004, immunizations of children in subgroups with low levels of immunizations will have increases of 25 percent from baseline rates.

**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 immunization data collection and storage.
- State funding for vaccines, including storage and distribution.
- An adequate statutory and legal base for immunization activities.
- The cooperative commitment of private health care providers to participate in public health disease reporting and surveillance activities.

**Outputs:** *(What is done – workshops, meetings, product development, training. Who is reached – community residents, agencies, organizations, elected officials, policy leaders, etc.)*

- The Division of Public Health will set up electronic links with, and train physicians and clinic staff to participate in, the Wisconsin Immunization Registry.
- The Division of Public Health and local health departments will conduct outreach to providers through professional organizations and journals.
- The Division of Public Health will provide necessary management information system data storage and retrieval hardware and software to local health departments, with training in its use.

- The Division of Public Health will provide printed and media materials designed to encourage public and provider participation in the Wisconsin Immunization Registry.
- Parents of all newborns will receive information on vaccine preventable diseases and their importance, which is culturally and linguistically appropriate.
- Subgroups of the population with low immunization levels will be identified at the state and local jurisdictional levels and will receive priority outreach and attention for elimination of disparities.
- The Division of Public Health and local health departments will provide necessary public information and technical assistance to long-term care institutions, to ensure that all nursing homes and community based residential facilities in the state will have adult immunization programs in place for residents and staff.

### **Medium-term Outcome Objectives (2005-2007)**

- By December 31, 2005, 85 percent of Wisconsin children will have their immunization histories entered into the Wisconsin Immunization Registry.
- By December 31, 2005, the Division of Public Health will conduct an ongoing information and education campaign targeted on health care providers to encourage them to have annual influenza immunizations at the start of each flu season.
- By December 31, 2006, all children who receive their immunizations from a regular family medical provider or a local health department will have their records entered into the Wisconsin Immunization Registry.
- By December 31, 2006, 80 percent of the residents and staff of state nursing homes and community-based residential facilities will have current influenza and pneumonia immunizations as recommended by Advisory Committee on Immunization Practices.
- By September 30, 2007, 90 percent of immunizations provided by private providers and 100 percent of those provided by local health departments will be entered into the Wisconsin Immunization Registry.
- By December 31, 2007, 98 percent of children and 80 percent of adults in Wisconsin will have levels of immunizations that meet the Advisory Committee on Immunization Practices recommendations.
- By December 31, 2007, all nursing homes and community-based residential facilities in the state will have adult immunization programs in place for residents and staff.
- By December 31, 2007, the public health and private health care systems will provide influenza vaccine to 85 percent of high risk adults requiring them.

#### **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 systems technical support for immunization data collection and storage.
- State funding for vaccines, including their storage and distribution.
- An adequate statutory and legal base for immunization activities.
- The cooperative commitment of private health care providers to participate in public health activities.

**Outputs:** (*What is done – workshops, meetings, product development, training. Who is reached – community residents, agencies, organizations, elected officials, policy leaders, etc.*)

- The state student immunization law will specify and require minimum immunization levels for children entering school or day care.
- There will be a state statute authorizing the Department of Health and Family Services to prioritize and direct the distribution and administration of vaccines.
- The Division of Public Health will conduct a study to determine barriers to provider participation in the Wisconsin Immunization Registry, and a targeted outreach and technical assistance campaign directed to clinical providers who are not participating in the Wisconsin Immunization Registry.
- The Division of Public Health will establish a mechanism to monitor and manage the distribution of vaccine during the flu season.
- The Division of Public Health will collaborate with the Centers for Disease Control and Prevention, other states, and vaccine manufacturers and distributors doing business in Wisconsin to ensure adequate vaccine supplies in the state.
- The Division of Public Health will convene a workgroup including representation from the Bureau of Aging and Long Term Care in the Division of Supportive Living, agencies providing nursing home and community-based living care, and organizations representing the elderly and disabled in Wisconsin, to develop an ongoing plan for the distribution of influenza and pneumonia vaccines to groups and individuals at greatest risk.

#### **Long-term Outcome Objective (2008-2010)**

- By December 31, 2008, all children and adults in Wisconsin will have access to readily available and affordable immunizations for all vaccine preventable diseases, which are recommended by the Advisory Committee on Immunization Practices.

**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 immunization data collection and storage.
- State funding for vaccines, including their storage and distribution.
- An adequate statutory and legal base for immunization activities.
- The cooperative commitment of private health care providers to participate in public health activities.

**Outputs:** (*What is done – workshops, meetings, product development, training. Who is reached – community residents, agencies, organizations, elected officials, policy leaders, etc.*)

Activities:

- There will be passage of a state statute requiring coverage of all Advisory Committee on Immunization practices recommended immunizations by all private third parties doing business in Wisconsin.

- Local health departments will receive funding and establish a system to directly provide or voucher provision of immunizations for all persons in the state without the ability to pay.
- The Division of Public Health will assist the Division of Health Care Financing to establish a system which expands on the Wisconsin Immunization Registry to monitor and ensure that all medical assistance recipients are current in all recommended immunizations.

#### Participation/Reach

- Division of Public Health and local health departments
- Schools, tribes, and parent/teacher organizations
- Physicians and clinic staff
- Health professional organizations
- Neighborhood and cultural advocacy and assistance organizations
- Clinicians and institutions serving target groups
- Wisconsin chapters of AAP and AAFP
- Federally qualified health centers and community clinics
- Administration and staff on long term care facilities
- Elderly and disabled advocacy organizations
- Centers for Disease Control and Prevention
- Wisconsin political advocacy organizations and elected officials
- Parents
- Childcare agency administrators and staff
- Division of Health Care Financing
- Health insurers and managed care organizations

#### **Evaluation and Measurement:**

The full implementation of the Wisconsin Immunization Registry is critical not only to the monitoring and evaluation of progress toward achieving the outcomes under this objective, but also in a timely manner to identify and address disparities in population and deficiencies in individual immunization status in order to prevent the occurrence of the harmful effects of vaccine preventable diseases.

#### **Crosswalk to Other Health and System Priorities in Healthiest Wisconsin 2010**

A key element in achieving and maintaining adequate populationwide immunization rates is establishment and operation of a populationwide electronic registry and database of immunization records sufficient to monitor immunization status of the entire population and to generate immunization update prompts and confirmations of immunizations given for individual patients. A major state information system, such as the Wisconsin Immunization Registry, also needs to be integrated and coordinated with other potentially synergistic patient data systems in a way that protects and preserves patient confidentiality and avoids duplication and overlap of effort. To establish and ensure these elements will require crosswalk and joint effort with the *Integrated Electronic Data and Information Systems Subcommittee*. Although the majority of immunizations are now delivered by private health care providers, the public health immunization system requires a substantial local and state workforce for distribution and usage

monitoring of vaccines, public and professional training, and education to promote correct patient behaviors and best medical practices, management of the immunization registry, and direct delivery of immunizations through public health clinics for people who lack other access. The workforce necessary to coordinate and direct mass public immunization efforts in response to bioterrorism threats or actions could require one or more additional full time employees as part of a readiness component. All of these are issues which need to be dealt with in coordination and collaboration with the Sufficient, Competent Workforce Subcommittee. The financial support for staff, computer equipment, purchase and storage of biologicals, etc., will have to be addressed in concert with the *Equitable, Adequate, and Stable Financing Subcommittee*. The access of children and adults to standard immunization protection against vaccine-preventable diseases has significant commonality with the charge to the subcommittee on *Access to Primary and Preventive Health Services*, since childhood and adult preventive immunizations are one of the most elemental components in any package of basic necessary primary care services.

### **Significant Linkages to Wisconsin’s 12 Essential Public Health Services**

*Monitor health status to identify community health problems:* The Wisconsin Immunization Registry is one of the most fundamental ongoing statewide mechanisms in operation for monitoring population health status

*Educate the public about current and emerging health issues:* An immunization initiative relies heavily on a variety of public information and education activities to inform the public and motivate them to seek and maintain immunizations necessary to protect themselves and the community.

*Promote community partnerships to identify and solve health problems:* A public health immunization program is a classic “three-legged stool” approach which is mutually interdependent on state and local public health agencies and private health care providers to achieve its goals.

*Create policies and plans that support individual and community health efforts:* As a public health objective, the universal availability and use of preventive immunizations is one of the most proven health care delivery strategies in existence, in terms both of the cost/benefit return on the public investment, and on the ability of mass immunization programs to prevent and control serious infectious diseases.

*Enforce laws and regulations that protect health and insure safety:* One of the components in a mass public health immunization program which has proven most effective in achieving and maintaining high immunization levels is a school entrance law, which requires that a child have his or her immunizations up to date prior to the beginning of the school year.

*Link people to needed health services:* Immunization programs serve to bring people, particularly families with children, into contact with their local health departments, and are frequently used by those agencies as a mechanism to assess and direct people to other needed services.

*Assure access to primary health care for all:* While immunization programs cannot provide people with assured access to a full range of access to primary care services, they at least assure access to immunizations, which are the most basic and fundamental preventive services within the scope of primary care.

### **Connection to the Three Overarching Goals of Healthiest Wisconsin 2010**

*Protect and Promote Health for All:* Immunization against vaccine preventable diseases is one of the most proven and cost-effective measures for disease prevention that is available in public health practice at this time.

*Eliminate Health Disparities:* Proven infectious disease vaccines, and particularly vaccines to protect against childhood diseases, should be conveniently available at an affordable or no cost to every Wisconsin resident.

*Transform Wisconsin's Public Health System:* As vaccine technology and science advance, the public health system will be able to offer citizens protection against a growing number of diseases and pathogens. At the same time, electronic linked immunization registries are becoming an increasing underpinning of public health data systems generally. Ensuring the reliability and availability of adequate vaccine supplies may engender new functions and responsibilities for public health agencies.

### **Key Interventions and/or Strategies Planned:**

- Full implementation of the Wisconsin Immunization Registry statewide, and its use to record and monitor the immunization status of all Wisconsin children.
- Expansion of the Wisconsin Immunization Registry to allow recording of adult immunizations on a voluntary participation basis.
- Initiation and maintenance of a targeted outreach program to children in populations with disparities in immunization status.
- Initiation and maintenance of a targeted outreach program to elderly and disabled individuals, particularly those in institutional or community-based care settings, and their caregiver organizations.
- Establishment of a state plan to manage and guarantee an adequate vaccine supply.

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**Health Priority: Existing, Emerging, and Re-emerging Communicable Diseases  
Objective 3: Foodborne and Waterborne Disease Control (Logic Model)**

**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.

Long-term outcome objective updated as of: Sept 2004

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.

Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
<p>Time and effort of state and local public health staff.</p> <p>State funding of hardware, software, and management information system technical support for food inspection data collection and storage.</p> <p>State funding for startup and front-end operating costs for environmental consortia.</p>	<p>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.</p> <p>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.</p> <p>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</p>	<p>Division of Public Health and local health departments</p> <p>Tribes</p> <p>Wisconsin restaurant associations and member businesses</p> <p>Wisconsin Tavern League</p> <p>Local health officers, county board executives, and boards of health</p>	<p>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.</p> <p>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</p>	<p>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.</p> <p>By June 30, 2005, the frequency and scope of licensed-establishment inspections in Wisconsin will meet or exceed national standards of practice.</p>	<p>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.</p> <p>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.</p>

**Health Priority: Existing, Emerging, and Re-emerging Communicable Diseases  
Objective 3: Foodborne and Waterborne Disease Control (Logic Model)**

Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
<p>An adequate statutory and legal base for immunization activities. The cooperative commitment of food and beverage service operators to participate in public health activities.</p> <p>Time and effort of state and local public health staff.</p> <p>State funding of hardware, software, and management information system technical support for food inspection data collection and storage.</p> <p>State funding for startup and front-end operating costs for</p>	<p>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.</p> <p>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.</p> <p>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.</p> <p>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</p>	<p>UW Cooperative Extension</p> <p>Medical group practices and community hospitals</p> <p>Wisconsin vocational and technical college systems</p>	<p>national standards of practice.</p>		<p>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.</p> <p>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.</p>

**Health Priority: Existing, Emerging, and Re-emerging Communicable Diseases  
Objective 3: Foodborne and Waterborne Disease Control (Logic Model)**

Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
<p>environmental consortia.</p> <p>An adequate statutory and legal base for immunization activities.</p> <p>The cooperative commitment of food and beverage service operators to participate in public health activities.</p> <p>Time and effort of state and local public health staff.</p> <p>State funding of hardware, software, and management information system technical support for food inspection data collection and storage.</p>	<p>and workload, and a fee structure sufficient to support costs.</p> <p>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.</p> <p>Every local health department will conduct a public educational campaign to promote food safety in the home at least twice a year.</p> <p>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.</p> <p>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.</p>				

**Health Priority: Existing, Emerging and Re-emerging Communicable Diseases  
Objective 3: Foodborne and Waterborne Disease Control (Logic Model)**

Inputs	Outputs		Outcomes		
	Activities	Participation/ Reach	Short-term 2002-2004	Medium-term 2005-2007	Long-term 2008-2010
<p>State funding for startup and front-end operating costs for environmental consortia.</p> <p>An adequate statutory and legal base for immunization activities.</p> <p>The cooperative commitment of food and beverage service operators to participate in public health activities.</p>	<p>Every local health department and consortia with agent status will adopt Hazard Analysis Critical Control Point (HACCP) standards for commercial food inspections.</p> <p>Every local health department and consortia acting as agents will inspect and regulate transient non-community wells.</p> <p>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.</p> <p>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.</p> <p>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.</p>				

**Health Priority: Existing, Emerging and Re-emerging Communicable Diseases  
Objective 3: Foodborne and Waterborne Disease Control (Logic Model)**

<b>Inputs</b>	<b>Outputs</b>		<b>Outcomes</b>		
	<b>Activities</b>	<b>Participation/ Reach</b>	<b>Short-term 2002-2004</b>	<b>Medium-term 2005-2007</b>	<b>Long-term 2008-2010</b>
	Issue updated guidelines to all physicians and clinical laboratories on clinical diagnosis and reporting procedures for gastrointestinal and other foodborne illnesses.				

## 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

<b>Related USDHHS Healthy People 2010 Objectives</b>			
<b>Chapter</b>	<b>Goal</b>	<b>Objective Number</b>	<b>Objective Statement</b>
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.

<b>Definitions</b>	
<b>Term</b>	<b>Definition</b>
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.

<b>Definitions</b>	
<b>Term</b>	<b>Definition</b>
Hazard Analysis and Critical Control Point (HACCP)	<ol style="list-style-type: none"> <li>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:</li> <li>2. Analyze hazards (could be any pathogen or contaminant).</li> <li>3. Identify critical control points. (These are points in a food's production at which the potential hazard can be controlled or eliminated.)</li> <li>4. Establish preventive measures with critical limits for each control point.</li> <li>5. Establish procedures to monitor the critical control points.</li> <li>6. Establish corrective actions to be taken when monitoring shows that a critical limit has not been met.</li> <li>7. Establish procedures to verify that the system is working properly.</li> <li>8. Establish effective record keeping to document the HACCP system.</li> </ol>

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

### Objective 4: Antibiotic and Antimicrobial Resistance (Template)

#### Long-term (2010) Subcommittee Outcome Objective:

Ensure that the use of antibiotics and antimicrobials is appropriate.

**4a:** By 2010, at least 95 percent of medical antibiotic usage in Wisconsin will be appropriate according to generally accepted medical standards of practice.

**4b:** By 2010, at least 90 percent of poultry and livestock producers in Wisconsin will adhere to generally accepted standards for antibiotic feed supplementation.

Long-term outcome objective updated as of: Sept 2004

Wisconsin Baseline	Wisconsin Sources and Year
None. Objectives (4a) and (4b) are developmental objectives.	

Federal/National Baseline	Federal/National Sources and Year
0% of Salmonella isolates from humans are resistant to fluoroquinolones	1997 – National Antimicrobial Resistance Monitoring System
0% of isolates are resistant to third-generation cephalosporins	1997 – National Antimicrobial Resistance Monitoring System
3% of isolates are resistant to Gentamicin	1997 – National Antimicrobial Resistance Monitoring System
18% of isolates are resistant to Ampicillin	1997 – National Antimicrobial Resistance Monitoring System
150 daily doses of antimicrobials per 1000 patient days were used among intensive care unit patients	1995 – National Nosocomial Infections Surveillance System (NNIS)
17.6% of invasive pneumococcal isolates are penicillin resistant	2000 – Active Bacterial Core Surveillance
26% of non-Typhi Salmonella isolates and 49% of Salmonella Typhimurium isolates were resistant to one or more antimicrobial agents. 28% of S. Typhi isolates exhibited multi-drug resistance	1999 – National Antimicrobial Resistance Monitoring System (NARMS)
91% of Shigella isolates are resistant to one or more antimicrobial agents, and 65% are resistant to two or more agents	1999 - National Antimicrobial Resistance Monitoring System
10% of E. coli isolates are resistant to one or more antimicrobial agents, and 4% are resistant to two or more agents	1999 - National Antimicrobial Resistance Monitoring System
54% of Campylobacter isolates are resistant to one or more antimicrobial agents, and 20% are resistant to two or more agents	1999 - National Antimicrobial Resistance Monitoring System

Related USDHHS Healthy People 2010 Objectives			
Chapter	Goal	Objective Number	Objective Statement
10-Food Safety	Reduce foodborne illnesses.	10-3	Prevent an increase in the proportion of isolates of <i>Salmonella</i> species from humans and from animals at slaughter that are resistant to antimicrobial drugs.
14-Immunization and Infectious Diseases	Prevent disease, disability, and death from infectious diseases, including vaccine-preventable diseases.	14-21	Reduce antimicrobial use among intensive care unit patients.

Definitions	
Term	Definition
None identified.	

**Rationale:**

Resistance of infectious disease pathogens to antibiotics and antimicrobials is a growing public health problem which is tied both to their excessive and inappropriate uses in human health care and hygiene applications, and also to their excessive and inappropriate uses in food animal husbandry. Drug resistant disease organisms are a public health problem of the industrialized world as well as of developing countries. This is a problem that significantly increases not only the risks from communicable diseases, but also the costs associated with treating them. Unless antimicrobial resistance problems are detected as they emerge, and rapid effective actions are taken to address and contain them, the public health system will be confronted with diseases which were previously treatable and controllable and now no longer are. Furthermore, the health care delivery system will essentially revert to the treatment capabilities available to it in the pre-antibiotic era. Diseases from drug resistant pathogens are also increasingly being transmitted in community settings as well as health care settings and are a particular threat to certain populations (e.g., children, the elderly, persons with compromised immune systems). Because of the complexity of the drug resistance problem, it will require a broad-based and comprehensive two-pronged plan to address it. The Division of Public Health can and does take a lead role in directly addressing the issue of correct and effective antibiotic use in the delivery of health care, through its support of the Wisconsin Antibiotic Resistance Network and other efforts. The Department of Agriculture, Trade and Consumer Protection is the lead state agency for food safety and food production. The Division of Public Health will need to develop a partnership role and strategies with the Department of Agriculture, Trade and Consumer Protection for appropriate control of antibiotic use in food animal husbandry, including appropriate control of antibiotics in commercial food products and agricultural runoff.

**Outcomes:**

**Short-term Outcome Objectives (2002-2004)**

- By December 31, 2004, a coordinated state surveillance plan for monitoring patterns of antimicrobial resistance in microorganisms that pose a threat to public health will be developed, adopted by the Division of Public Health, and implemented. The plan will specify activities to be conducted at state and local levels; define the roles of participants; promote the use of standardized methods; and provide for timely dissemination of data to interested parties (e.g., public health officials, clinicians, researchers). Needed core capacities at state and local levels will be defined and supported. The plan will coordinate, integrate, and build on existing disease surveillance infrastructure. The plan will specifically address the need to ensure the quality and reliability of drug susceptibility testing procedures and resultant data and measures to improve the surveillance for antibiotic resistance in agricultural settings. All surveillance activities will be conducted with respect for patient and institutional confidentiality.

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

- Time and effort of state public health staff.
- State funding of survey research costs to assess current antibiotic use practices in health care delivery and food animal husbandry.
- State funding of management information systems and laboratory capacity adequate to conduct surveillance and assessment of antibiotic resistance occurring in health care delivery and agricultural settings.
- An adequate statutory and legal base for antibiotic use control activities.
- The cooperative commitment of private health care providers and partner organizations to actively participate in antibiotic use and best practice activities.

**Outputs:** *(What is done – workshops, meetings, product development, training. Who is reached – community residents, agencies, organizations, elected officials, policy leaders, etc.)*

Activities:

- The Division of Public Health and its partner organizations will conduct a statewide assessment of existing surveillance and monitoring activities for pathogens resistant to antibiotics, and identify critical gaps.
- The Division of Public Health and the State Laboratory of Hygiene will develop a program of technical assistance and proficiency testing for clinical laboratories doing antibiotic susceptibility analyses to ensure the accuracy and reliability of that testing.
- The Division of Public Health and its partner organizations will conduct a statewide survey and assessment of actual practices in uses of antibiotics in health care facilities consistent with established standards of practice.
- The Division of Public Health will employ or assign and support one or more dedicated personnel positions, under the direction of the Chief Medical Officer and State Epidemiologist for Communicable Diseases, to provide liaison and technical assistance to appropriate health care facilities on avoidance and control of antibiotic resistance in their institutions.
- The Division of Public Health will enlist the Wisconsin Health and Hospital Association, The Wisconsin Association of Homes and Services for the Aging, Wisconsin Association of Health Plans, the State Medical Society of Wisconsin,

the Pharmacy Society of Wisconsin, the major health systems and multispecialty medical clinics in Wisconsin, the Catholic Health Association of Wisconsin, the University of Wisconsin Medical School, the Medical College of Wisconsin, and the Wisconsin chapters of the appropriate medical specialty academies, in an initiative to develop and promote a statewide surveillance plan and standards of practice for use of antibiotics and antimicrobials in the delivery of health care.

### **Medium-term Outcome Objectives (2005-2007)**

- By January 31, 2005, 100 percent of Wisconsin health care facilities will have infection control policies and procedures reflecting accepted standards of practice to address prevention of transmission of antibiotic resistant infections within their facilities.
- By March 31, 2006, the Department of Health and Family Services will enter into a written agreement with the Department of Agriculture, Trade and Consumer Protection and the Department of Natural Resources to establish a joint interagency initiative to monitor and control the transmission of antimicrobial resistant disease pathogens to humans through food or water.
- By March 31, 2006, Wisconsin citizens will demonstrate on health status surveys an understanding of the appropriate and inappropriate uses of antibiotics in medical treatment and of antimicrobials in personal and domestic hygiene.
- By January 31, 2007, 95 percent of antibiotic prescriptions for selected conditions, including otitis media and respiratory infection, will be written only after the presence of a bacterial pathogen has been confirmed by laboratory analysis.
- By December 31, 2006, 90 percent of Wisconsin health care facilities will have guidelines and policies reflecting accepted standards of practice to curtail inappropriate antibiotic usage.

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

- Time and effort of state public health staff.
- State funding of survey research costs to assess current antibiotic use practices in health care delivery.
- State funding of management information systems and laboratory capacity adequate to conduct surveillance and assessment of antibiotic resistance occurring in health care delivery.
- An adequate statutory and legal base for antibiotic use control activities.
- The cooperative commitment of private health care providers and partner organizations to actively participate in antibiotic use and best practice activities.

#### **Outputs:** *(What is done – workshops, meetings, product development, training. Who is reached – community residents, agencies, organizations, elected officials, policy leaders, etc.)*

#### Activities:

- The Division of Public Health and State Laboratory of Hygiene will jointly develop the expanded capacity to electronically gather, use, and pool existing data on antibiotic resistance from hospitals, laboratories, and medical practice groups.
- The Division of Public Health and the State Laboratory of Hygiene will establish an initiative to promote the use of rapid bacterial diagnostic testing methods to

guide antibiotic prescribing practices in outpatient treatment by clinicians of acute infectious diseases.

- The Division of Public Health will convene, staff, and support a state workgroup of health facility infection control practitioners and physicians and laboratorians with expertise in the field of infectious diseases and antibiotic resistance to periodically meet to review the scientific literature in this area and to issue recommendations and information briefs to state health care providers.
- The Division of Public Health will assign a professional with expertise in infection control and electronic data management to serve as liaison with the State Laboratory of Hygiene and staff to the workgroup for activities shown below.

**Long-term Outcome Objective (2008-2010):**

- All commercial meat and other animal food products for human consumption sold in Wisconsin will have legal standards for unacceptable antibiotic residues, and there will be an ongoing testing and surveillance program of animal food products for antibiotic residues.

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

- Time and effort of state public health staff.
- State funding of survey research costs to assess current antibiotic use practices in health care delivery.
- State funding of management information systems and laboratory capacity adequate to conduct surveillance and assessment of antibiotic resistance occurring in health care delivery.
- An adequate statutory and legal base for antibiotic use control activities.
- The cooperative commitment of private health care providers and partner organizations to actively participate in antibiotic use and best practice activities.

**Outputs:** *(What is done – workshops, meetings, product development, training. Who is reached – community residents, agencies, organizations, elected officials, policy leaders, etc.)*

Activities:

- The Division of Public Health, the State Laboratory of Hygiene, and the Department of Agriculture, Trade, and Consumer Protection will develop a sampling and sentinel surveillance program to test meat and other animal food samples from retail grocery and restaurant food establishments for antibiotic residues.
- The Division of Public Health, the State Laboratory of Hygiene, and the Department of Natural Resources will develop a sampling and sentinel surveillance program to test groundwater and other environmental indicators of animal waste and agricultural runoff for the presence of antimicrobial resistant disease pathogens.
- The Department of Health and Family Services and the Department of Agriculture, Trade, and Consumer Protection will establish an interagency workgroup to review the scientific literature on potential human health problems from the addition of antibiotics to animal feeds, to develop state policies, and if indicated, draft state legislation to address identified problems.

- Division of Public Health professional staff will research and prepare a briefing paper for the Department of Health and Family Services Secretary and the Legislature, on the costs and benefits of controlling antibiotic use in animal feeds.

#### Participation/Reach

- Division of Public Health
- State Laboratory of Hygiene
- Wisconsin Association of Homes and Services for the Aging
- Wisconsin Association of Health Plans
- State Medical Society of Wisconsin
- Pharmacy Society of Wisconsin
- Major health systems and multi-specialty medical clinics in Wisconsin
- Catholic Health Association of Wisconsin
- UW Medical School
- Hospital and clinical laboratories
- Medical group practices
- Institutional Infection Control Practitioners
- Medical infectious disease specialists
- The Medical College of Wisconsin
- Wisconsin Dental Association
- Wisconsin chapters of the appropriate medical specialty academies
- Department of Health and Family Services Secretary
- Wisconsin Legislature
- Department of Agriculture, Trade, and Consumer Protection

#### **Evaluation and Measurement:**

Evaluation of this objective is tied closely to the desired outcome of establishing a surveillance system for monitoring and reporting the occurrence of human illness caused by drug resistant pathogens. Once this system is operational, it will be used to establish evaluation baselines and assess trends in antibiotic resistance in clinical care delivery. Secondary evaluation measures will include behavioral measurement and assessment of best practices among prescribing practitioners, and of attitudes and knowledge regarding antibiotic and antimicrobial use among patient populations. A third set of indicators will be developed to monitor antibiotic use practices in food animal husbandry and the presence of antibiotic residues in appropriate food products.

#### **Crosswalk to Other Health and System Priorities in Healthiest Wisconsin 2010**

The prevention of antibiotic resistance through the reduction in inappropriate uses of antibiotics in food animal husbandry and production has significant commonality with the charge of the Environmental and Occupational Health Hazards Subcommittee. This will require coordination and linkage with that body and its recommendations, particularly with issues such as dealing with groundwater contamination with antibiotics and antibiotic resistant organisms from agricultural animal runoff, and testing wholesale and retail meats, eggs, and dairy products for antibiotic residues. Surveillance for antibiotic resistant organisms in human and animal laboratory specimens will require significant investment in electronic reporting systems and

information management technology which will require coordination with and guidance from the Integrated Electronic Data and Information Systems Subcommittee, and the costs of this technology will have to be factored into the deliberations and recommendations of the Equitable, Adequate, and Stable Financing Subcommittee. It is not anticipated that control of antimicrobial resistance will be a particularly labor intensive activity, but it will require a nucleus of professional staff for surveillance activities, public and professional information, technical assistance, and administration. Program staffing needs will have to be factored into the overall human resource planning and recommendations of the Sufficient, Competent Workforce Subcommittee.

### **Significant Linkages to Wisconsin's 12 Essential Public Health Services**

*Monitor health status to identify community health problems:* The emergence and occurrence of antibiotic resistance in pathogens infecting the human populace and food animal supply is a diffuse and dynamic trend set which requires close and continuous observation and supervision of both human and animal health in order to maintain the efficacy of currently available antimicrobial medications.

*Identify, investigate, control and prevent health problems and environmental health hazards in the community:* The control of antimicrobial resistance relies on a multi-pronged strategy which addresses both individual attitudes and clinical treatment practices within the community, and animal husbandry and food production practices occurring in the rural sector.

*Educate the public about current and emerging health issues:* The issue of antimicrobial resistance in infectious disease pathogens is in large part a result of public misunderstanding of the proper use of antibiotics in common medical conditions such as upper respiratory and childhood ear infections. Physician prescription decisions are clearly influenced by the expectations and demands of their patients, so public health education, to ensure that those expectations and demands are reasonable and proper, will have a substantial positive influence on the problem.

*Promote community partnerships to identify and solve health problems:* A comprehensive effort to attack the problem of antibiotic resistance will require commitment and participation from a number of key stakeholders, including medical practitioners, along with their affiliated organizations and associations, and clinical education institutions; food animal producers, processors, and retailers; and the general public as healthcare consumers.

### **Connection to the Three Overarching Goals of Healthiest Wisconsin 2010**

*Protect and Promote Health for All:* The continuing availability of a range of antibiotics which effectively and reliably can treat infectious diseases, not only benefits the individual infected patient, but also substantially reduces the risks of disease transmission to others.

*Eliminate Health Disparities:* If/when common and readily available drugs are no longer serviceable in the treatment of communicable diseases, the remaining formulary of uncommon and expensive drugs will only be available to a few patients and their clinicians.

*Transform Wisconsin's Public Health System:* The control and elimination of antimicrobial resistance in disease pathogens is an enormously complex issue which will involve the need for closely coordinated effort by a number of different sectors within society, and subdivisions and levels of government. However, the effort must be led by the public health system.

**Key Interventions and/or Strategies Planned:**

- Reduce the excessive and inappropriate uses of antibiotics and antimicrobials in medical care delivery.
- Reduce the inappropriate uses of antimicrobial over-the-counter products in home and personal hygiene.
- Reduce the inappropriate uses of antibiotics in food animal production.

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