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Infectious Disease Prevention and Control

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GOAL

Prevent, reduce and ultimately eliminate the infectious disease burden in Connecticut.

WHY THIS GOAL IS IMPORTANT

Infectious diseases are largely preventable. Substantial reductions in the incidence of infectious disease, achieved through the use of antibiotics, immunizations, and other preventive practices, have contributed to reductions in infectious disease mortality and increased life expectancy. Infectious diseases remain an important cause of preventable illness, disability, and death in Connecticut, however.

Vaccine-preventable Diseases

Rationale

Vaccines are responsible for the eradication and control of many infectious diseases that were once common in the United States and around the world, and have saved millions of lives.⁴⁶ Although Connecticut ranks among the top 10 states for vaccination coverage, 1 in 5 children under the age of 36 months still have not completed the recommended vaccination series,⁴⁷ and vaccination rates for diseases such as pertussis, influenza, and pneumonia still have room for improvement. Continuing efforts are needed to increase vaccination and vaccine completion rates among children and adults, to meet the recommendations of the Advisory Committee on Immunization Practices.

OBJECTIVE ID-1 Ph1
Increase by 5% the vaccination coverage levels for ACIP recommended vaccines among children and adults.

Target Population(s)	Baseline	2020 Target	Data Source
Children 19-36 months of age (completed recommended series)	79.0% (2011)	83.0%	Connecticut Department of Public Health, Immunization Program, survey data
Adolescents 13-17 years of age (2+ doses of varicella vaccine)	93.5% (2012)	98.2%	National and State Vaccination Coverage among Adolescents Aged 13 to 17 Years: United States. Morbidity and Mortality Weekly Report
Adolescents 13-17 years of age (1+ doses of Tdap)	89.3% (2012)	93.8%	
Adolescents 13-17 years of age (1+ doses of meningococcal conjugate)	88.8% (2012)	93.2%	

Strategies

Advocacy and Policy

- Assure costs of vaccines/administration for all ages are covered by all insurers.

Planning & Development

- Maintain and expand access to Advisory Committee on Immunization Practices (ACIP) recommended vaccines for children (HPV, hepatitis A, rotavirus, influenza).

Surveillance

- Maintain and enhance Connecticut immunization registry, including across lifespan; implement comprehensive reminder/recall systems.
- Use new and existing data systems to measure vaccine coverage among populations to identify disparities and target vaccine strategies.

OBJECTIVE ID-2

Reduce by 5% the incidence of pertussis.

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	183 cases (2012)	174 cases	Connecticut Department of Public Health, Infectious Disease Section, Reported Cases of Disease by County

Strategies

Advocacy and Policy

- Assure costs of vaccines/administration for all ages are covered by all insurers.

Communication, Education and Training

- Educate providers about testing vaccine protocols and parents about vaccine acceptance.

Planning & Development

- Maintain and expand access to Advisory Committee on Immunization Practices (ACIP) recommended vaccines for children (HPV, hepatitis A, rotavirus, influenza).
- Continue cocooning immunization strategy to protect neonates.
- Enhance availability of Tdap vaccine (tetanus, diphtheria, and pertussis) for pregnant women.

Surveillance

- Maintain and enhance Connecticut immunization registry; include across lifespan; implement comprehensive reminder/recall systems.
- Use new and existing data systems to measure vaccine coverage among populations to examine disparities and target vaccine strategies.
- Calculate incidence using 5-year rolling average to measure reduction in incidence rates.

OBJECTIVE ID-3 (DEVELOPMENTAL) Ph1

Increase vaccination levels of pregnant women and child care providers.

Strategies

Advocacy and Policy

- Assure costs of vaccines/administration for all ages are covered by all insurers.

Communications

- Identify and encourage the implementation of Computerized Reminder System.
- Encourage use of chart reminders in health care settings.
- Develop and implement Mailed/Telephoned Reminder.
- Encourage use of Personal Health Record by provider and client.

Education and Training

- Train professional staff in how to use Computer Reminder System.
- Provide culturally and linguistically appropriate patient education.

Planning & Development

- Maintain and expand access to Advisory Committee on Immunization Practices (ACIP) recommended vaccines for children (HPV, hepatitis A, rotavirus, influenza).
- Ensure Standing Orders are in place.
- Expand access to clinical settings.
- Offer vaccinations for child care providers at child care settings

Surveillance

- Maintain and enhance Connecticut immunization registry; include across lifespan; implement comprehensive reminder/recall systems.
- Use new and existing data systems to measure vaccine coverage among populations to examine disparities and target vaccine strategies.

OBJECTIVE ID-4

Reduce by 5% the incidence of invasive pneumococcal infections.

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	315 cases (2012)	299 cases	Connecticut Department of Public Health, Infectious Disease Section, Reported Cases of Disease by County

Strategies

Advocacy and Policy

- Assure costs of vaccines/administration for all ages are covered by all insurers.

Education and Training

- Educate providers and adults, focusing on outreach to high-risk populations.

Planning & Development

- Maintain and expand access to Advisory Committee on Immunization Practices (ACIP) recommended vaccines for children (HPV, hepatitis A, rotavirus, influenza).
- Improve vaccination rates of adults over age 65.
- Maintain vaccination rates in children.

Surveillance

- Maintain and enhance Connecticut immunization registry; include across lifespan; implement comprehensive reminder/recall systems.
- Use new and existing data systems to measure vaccine coverage among populations to examine disparities and target vaccine strategies.

OBJECTIVE ID-5 Ph1

Increase by 5% the percentage of adults who are vaccinated annually against seasonal influenza.

Target Population(s)	Baseline	2020 Target	Data Source
Adults 18-34 years of age	26.8% (2012)	28.1%	Connecticut Behavioral Risk Factor Surveillance System
Adults 35-54 years of age	34.9% (2012)	36.6%	
Adults 55+ years of age	53.1% (2012)	55.8%	

Strategies

Advocacy and Policy

- Assure costs of vaccines/administration for all ages are covered by all insurers.

Communication

- Identify other methods for reaching out to the public (e.g. social media).

Education and Training

- Maintain annual education of providers and the public about flu vaccine.

Planning & Development

- Maintain and expand access to Advisory Committee on Immunization Practices (ACIP) recommended vaccines for children (HPV, hepatitis A, rotavirus, influenza).
- Develop new and diverse venues for influenza vaccine administration and culturally appropriate outreach to ensure access to all population groups.
- Maintain and drill plans.

Surveillance

- Maintain and enhance Connecticut immunization registry; include across lifespan; implement comprehensive reminder/recall systems.
- Use new and existing data systems to measure vaccine coverage among populations to examine disparities and target vaccine strategies.
- Develop new systems for measuring vaccine coverage among all age groups.

OBJECTIVE ID-6

Reduce by 5% the incidence of hepatitis B infections.

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	19 cases (2011)	18 cases	Connecticut Department of Public Health

Strategies

Advocacy and Policy

- Assure costs of vaccines/administration for all ages are covered by all insurers.
- Promote and ensure screening for hepatitis B in high-risk populations, according to CDC guidelines.
- Maintain access to Hepatitis B vaccine for high-risk populations according to CDC guidelines.
- Ensure access to care for infected persons.

Education and Training

- Continue provider and patient education.

Planning & Development

- Maintain and expand access to Advisory Committee on Immunization Practices (ACIP) recommended vaccines for children (HPV, hepatitis A, rotavirus, influenza).
- Expedite electronic laboratory reporting for hepatitis reports.
- Improve completion rates for Hepatitis B series among high risk groups.
- Maintain vaccination rates among children.

Surveillance

- Maintain and enhance Connecticut immunization registry; include across lifespan; implement comprehensive reminder/recall systems.
- Use new and existing data systems to measure vaccine coverage among populations to examine disparities and target vaccine strategies.

OBJECTIVE ID-7 Ph1

Increase by 20% HPV vaccination rates for male and female adolescents 13 to 17 years of age to meet CDC guidelines.

Target Population(s)	Baseline	2020 Target	Data Source
Males 13-17 years of age	8.5% (2012)	10.2%	National and State Vaccination Coverage among Adolescents Aged 13 to 17 Years: United States, Morbidity and Mortality Weekly Report
Females 13-17 years of age	43.6% (2012)	52.3%	National and State Vaccination Coverage among Adolescents Aged 13 to 17 Years: United States, Morbidity and Mortality Weekly Report

Strategies

Advocacy and Policy, Communications

- Advocate expanding patient eligibility for free HPV vaccine available through the Connecticut Vaccine Program to include all age-eligible children.
- Promote the use of HPV for the Vaccines for Children Program (VCP), and in targeted settings including School Based Health Clinics, to effectively reach prime audience.
- Advocate for coverage of the HPV vaccine by commercial and public insurers.

Education and Training

- Educate providers about vaccine availability, delivery, cost and practice guidelines.
- Educate parents and providers about the cancer prevention benefits of the HPV vaccine. (See CD-7)

Potential Partners

Connecticut Department of Public Health, Connecticut Department of Social Services, Connecticut Department of Correction, Connecticut Department of Mental Health and Addiction Services, Connecticut Department of Veterans' Affairs (VA Hospital), State Department of Education, local public health agencies, public health professional associations, pediatricians and other primary care providers, community health centers, birthing hospitals, long term care facilities, and college and university health services, health professional associations, pharmacists, health insurers, other organizations and coalitions that address vaccine preventable diseases, faith based organizations, and others.

Sexually Transmitted Diseases

Rationale

Although sexually transmitted diseases are largely preventable, they remain a significant public health issue, with implications for reproductive health and other health conditions.⁴⁸ STDs also increase the risk of HIV transmission.⁴⁹ Chlamydia and gonorrhea are the most common reportable STDs in the US.⁵⁰ Both infections increase the risk of pelvic inflammatory disease, which is associated with infertility, ectopic pregnancies, and chronic pelvic pain.⁵¹ Risk of chlamydia and gonorrhea is greatest for black non-Hispanics, American Indians, Hispanics, women, and persons between 15 and 24 years of age.⁵²

Since the 1980s, rates of chlamydia infections among women have increased.⁵³ In addition, infection with certain types human papillomavirus (HPV), which is most prevalent among persons aged 20-24, causes all cervical cancers.⁵⁴

Reducing incidence of sexually transmitted diseases through education, screening, and targeted prevention strategies for young people between 15 and 24 years of age and especially the black and Latino populations is critical for ensuring reproductive health and normal life expectancy.

OBJECTIVE ID-8  
Reduce chlamydia incidence rates by 5% among youths 15-24 years of age, by 10% among blacks, and by 10% among Hispanics.

Target Population(s)	Baseline	2020 Target	Data Source
15-19 years of age	1,659 per 100,000 (2011)	1,576 per 100,000	Connecticut Department of Public Health, TB, HIV, STD & Viral Hepatitis Section
20-24 years of age	2,422 per 100,000 (2011)	2,301 per 100,000	
Black	1,213 per 100,000 Blacks (2011)	1,092 per 100,000	
Hispanic	422 per 100,000 Hispanics (2011)	380 per 100,000	

Strategies

Communications

- Promote use of “Expedited Partnership Therapy”.

Education and Training

- Educate the population at risk through appropriate venues and technology using culturally appropriate methods.
- Educate and train providers about resources and available referral services and culturally appropriate treatment interventions.

Planning and Development

- Implement testing and screening according to recommended standards.

OBJECTIVE ID-9



Reduce gonorrhea incidence rates by 5% among youths 15-24 years of age, by 10% among blacks, and by 10% among Hispanics.

Target Population(s)	Baseline	2020 Target	Data Source
15-19 years of age	234 per 100,000 (2011)	222 per 100,000	Connecticut Department of Public Health, TB, HIV, STD & Viral Hepatitis Section
20-24 years of age	379 per 100,000 (2011)	360 per 100,000	
Black	317 per 100,000 (2011)	285 per 100,000	
Hispanic	67 per 100,000 (2011)	60 per 100,000	

Strategies

Communications

- Promote use of “Expedited Partnership Therapy”.

Education and Training

- Educate the population at risk through appropriate venues and technology using culturally appropriate methods.
- Educate and train providers about resources and available referral services and culturally appropriate treatment interventions.

Planning and Development

- Implement testing and screening according to recommended standards.

OBJECTIVE ID-10

Reduce by 10% the incidence of primary and secondary syphilis.

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	57 new cases (2012)	51 cases	Connecticut Department of Public Health, TB, HIV, STD & Viral Hepatitis Section

Strategies

Education and Training

- Educate providers about syphilis in men who have sex with men.
- Educate providers about appropriate testing and available resources and culturally appropriate prevention, treatment and follow-up interventions.
- Educate target population about available treatment, resources and drug availability, using culturally appropriate methods.

Planning & Development

- Ensure routine syphilis screening of HIV-infected persons, with emphasis on males and men who have sex with men.

OBJECTIVE ID-11 (DEVELOPMENTAL) 

Reduce the incidence of syphilis in HIV-infected men who have sex with men (MSM)

Strategies*Education and Training*

- Educate providers about syphilis in MSM.
- Educate providers about appropriate testing and available resources and culturally appropriate prevention, treatment and follow-up interventions.
- Educate target population about available treatment, resources and drug availability using culturally appropriate methods.

Planning & Development

- Ensure routine syphilis screening of HIV infected persons, with emphasis on males and MSM.

Potential Partners

Connecticut Department of Public Health; Connecticut Department of Correction; Connecticut Department of Social Services; State Department of Education; Connecticut Department of Mental Health and Addiction Services; local public health agencies; public health professional associations; faith-based organizations; laboratories; health care providers including primary care and infectious disease physicians; community health centers; hospitals; university and college health services; health professional associations; community service providers that address youth of color; LGBT organizations; other organizations and coalitions that address sexually transmitted diseases and the health of at-risk populations; schools of public health, nursing, and medicine; and others.

HIV

Rationale

HIV is the virus that can lead to acquired immunodeficiency syndrome (AIDS). Once the virus is acquired, a person has it for life. Although there is no cure for HIV, it can be treated effectively. Treatment not only prolongs life but also lowers the chance of infecting others.

During the past decade, the number of new cases of HIV in Connecticut declined by about 60%, and deaths from AIDS fell by nearly 50%, whereas the number of people living with HIV increased by more than 20%. Disparities in populations at risk of HIV persist. Blacks, Hispanics, men who have sex with men, and women who engage in unprotected sex with high-risk partners have the highest new case rates of HIV infection.⁵⁵ Because more than half of new HIV infections occur as a result of infection transmission by people who have HIV but do not know it, increasing condom use, screening, early intervention, and treatment are critical for controlling the spread of HIV.

OBJECTIVE ID-12  
Reduce by 5% the number of diagnosed cases of HIV overall, among men who have sex with men (MSM) and among black females.

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	348 (2011)	331	Connecticut Department of Public Health, TB, HIV, STD & Viral Hepatitis Section
MSM	156 (2011)	148	
Black females	41 (2011)	39	

Strategies

Advocacy and Policy

- Ensure housing support for persons with HIV/AIDS.

Communications

- Promote utilization of partner referral services for HIV-positive individuals.
- Promote condom use among sexually active youth and adults.

Education and Training

- Educate and train providers about routine HIV prevention, screening and treatment.
- Educate providers about CDC guidelines regarding testing and early treatment, referrals to prevention and treatment services, and culturally appropriate prevention, treatment and follow-up interventions.

Planning & Development

- Implement routine screening programs to increase early detection of HIV.
- Implement syringe exchange, drug treatment and other harm reduction measures.
- Implement interventions to link and retain persons with HIV in care.

Surveillance

- Develop coordinated HIV surveillance, prevention and care data systems to monitor Connecticut trends in the HIV continuum and effectively target resources/interventions.
- Explore use of pre-exposure prophylaxis (PrEP) as preventive measure for persons engaging in high-risk behaviors.

OBJECTIVE ID-13 (DEVELOPMENTAL) Ph1

Increase the proportion of known HIV-positive individuals with suppressed viral loads (i.e., 200 or less copies of virus per milliliter)

Strategies

Advocacy and Policy

- Ensure housing support for persons with HIV/AIDS.

Communications

- Promote utilization of partner referral services for HIV-positive individuals.
- Promote condom use among sexually active youth and adults.

Education and Training

- Educate and train providers about routine HIV prevention, screening and treatment.
- Educate providers about CDC guidelines regarding testing and early treatment, referrals to prevention.

Planning & Development

- Implement routine screening programs to increase early detection of HIV.
- Implement syringe exchange, drug treatment and other harm reduction measures.
- Implement interventions to link and retain persons with HIV in care.
- Explore use of pre-exposure prophylaxis (PrEP) as preventive measure for persons engaging in high risk behaviors.

Surveillance

- Develop coordinated HIV surveillance, prevention and care data systems to monitor Connecticut trends in the HIV continuum and effectively target resources/interventions.

OBJECTIVE ID-14 Ph1

Decrease by 20% the proportion of people who progress to AIDS within 1 year of initial diagnosis.

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	42.8% (2011)	34.2%	Connecticut Department of Public Health, TB, HIV, STD & Viral Hepatitis Section

Strategies

Advocacy and Policy

- Ensure housing support for persons with HIV/AIDS.

Communications

- Promote utilization of partner referral services for HIV+ individuals.
- Promote condom use among sexually active youth and adults.

Education and Training

- Educate and train providers about routine HIV prevention, screening and treatment.
- Educate providers about CDC guidelines regarding testing and early treatment, referrals to prevention and treatment services and culturally appropriate prevention, treatment and follow-up interventions.

Planning & Development

- Implement routine screening programs to increase early detection of HIV.
- Implement syringe exchange, drug treatment and other harm reduction measures.
- Implement interventions to link and retain persons with HIV in care.
- Explore use of pre-exposure prophylaxis (PrEP) as preventive measure for persons engaging in high risk behaviors.

Surveillance

- Develop coordinated HIV surveillance, prevention and care data systems to monitor Connecticut trends in the HIV continuum and effectively target resources/interventions.

Potential Partners

Connecticut Department of Public Health; Connecticut Department of Correction; Connecticut Division of Criminal Justice; State Department of Education; local public health agencies, public health professional associations; faith-based organizations; laboratories; health care providers including primary care and infectious disease physicians, community health centers, college and university health services, and hospitals; health professional associations; health insurers; pharmaceutical companies; community service agencies that address specific populations such as women, youth, homeless people, communities of color, and LGBT populations; organizations and coalitions focused on HIV/AIDS; schools of public health and medicine; HIV/AIDS research programs and institutes; and others.

Tuberculosis

Rationale

Tuberculosis (TB) is a bacterial disease caused by *Mycobacterium tuberculosis*. The bacteria usually attack the lungs, but can attack any part of the body such as the kidney, spine, and brain. If not treated properly, tuberculosis can be fatal.⁵⁶

During the past 20 years, the rate of new cases of tuberculosis has declined in the US.⁵⁷ Mirroring US trends, there was a decline in the rate of new tuberculosis cases among Connecticut residents during the past decade. The incidence of new cases of TB was highest among Asians and Hispanics. Most new cases were among persons who were born outside the United States.

Tuberculosis can be largely prevented by educating, screening, and treating people representing or engaged with high-risk populations.

OBJECTIVE ID-15

Reduce by 5% the overall incidence rate of tuberculosis.

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	2.3 per 100,000 (2011)	2.19 per 100,000	Connecticut Department of Public Health, TB, HIV, STD & Viral Hepatitis Section

Strategies

Advocacy and Policy

- Promote and ensure screening and treatment of persons at high risk for TB.
- Maintain state funding for TB treatment and services.

Education and Training

- Educate providers about at risk groups, screening protocols and follow-up referral services for disease control.

Planning & Development

- Maintain Direct Observed Therapy (DOT) as the standard for people with TB disease.
- Implement culturally congruent outreach and health care interventions for persons at risk of latent TB infection and TB disease.

Potential Partners

Connecticut Department of Public Health, Connecticut Department of Correction; Connecticut Department of Social Services; Connecticut Department of Mental Health and Addiction Services; local public health agencies; public health professional associations; faith-based organizations; laboratories; health care providers including primary care and infectious disease physicians, community health centers, and hospitals, TB clinics, and college and university health services; health professional associations; community service providers that address at-risk populations; organizations that assist immigrants; other organizations and coalitions that address TB and co-infections such as HIV/AIDs; and others.

Hepatitis C

Rationale

Hepatitis C is a serious liver disease that results from infection with the Hepatitis C virus. People can get infected and not know it. Some people are able to get rid of the virus, but most people who get infected develop a chronic infection that over time can cause liver damage, liver failure, and even liver cancer.⁵⁸

Although there has been a decline from 2007 to 2011 in the number of Hepatitis C cases past or present reported or diagnosed, there were more than 60 cases of Hepatitis C reported in Connecticut towns in 2011, suggesting a need to increase Hepatitis C screening among high risk populations to address this trend.

“We are seeing a huge influx of people in Willimantic with hepatitis C. The numbers are getting bigger. We help by providing clean needles but we do this for free and we need a formal needle exchange program in Windham County. This town needs to come to the reality that there is a drug problem. We need to work toward helping people out and erasing this stigma. (Windham)”

OBJECTIVE ID-16 (DEVELOPMENTAL)*

Reduce by 5% the number of cases of acute hepatitis C (HCV).

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	47 (2011)*	45*	Connecticut Department of Public Health, TB, HIV, STD & Viral Hepatitis Section

*Hepatitis surveillance ended in November, 2012, when the CDC redirected funding. As a result, this objective will be considered “developmental” until a mechanism for tracking HCV is re-established.

Strategies

Communications, Education and Training

- Educate providers about risk factors and screening guidelines, such as importance of screening birth cohort born between 1945 and 1965.
- Implement targeted and culturally appropriate education on primary prevention measures to avoid transmission and contracting Hepatitis C.
- Implement culturally congruent outreach and screening interventions.
- Educate all payers on the current CDC guidelines for Hepatitis C screening and treatment.
- Implement a general public education campaign on Hepatitis C.

Partnership and Collaboration

- Provide opportunities for Continuing Education Unites (CEUs) and Continuing Medical Education (CMEs) to engage providers in education on Hepatitis C.

Surveillance

- Re-establish surveillance for hepatitis C.

OBJECTIVE ID-17 (DEVELOPMENTAL)  

Increase hepatitis C screening among high risk populations, consistent with Centers for Disease Control and Prevention (CDC) guidelines.

Strategies*Communications, Education and Training*

- Educate providers about risk factors and screening guidelines, such as importance of screening birth cohort born between 1945 and 1965.
- Implement targeted and culturally appropriate education on primary prevention measures to avoid transmission and contracting Hepatitis C.
- Implement culturally congruent outreach and screening interventions.
- Educate all payers on the current CDC guidelines for Hepatitis C screening and treatment.
- Implement a general public education campaign on Hepatitis C.

Partnership and Collaboration

- Provide opportunities for Continuing Education Unites (CEUs) and Continuing Medical Education (CMEs) to engage providers in education on Hepatitis C.

OBJECTIVE ID-18 (DEVELOPMENTAL)

Increase the proportion of persons with identified Hepatitis C infection who are receiving appropriate treatment and care.

Strategies*Communications, Education and Training*

- Educate providers about risk factors and screening guidelines, such as importance of screening birth cohort born between 1945 and 1965.
- Implement targeted and culturally appropriate education on primary prevention measures to avoid transmission and contracting Hepatitis C.
- Implement culturally congruent outreach and screening interventions.
- Educate all payers on the current CDC guidelines for Hepatitis C screening and treatment.
- Implement a general public education campaign on Hepatitis C.

Partnership and Collaboration

- Provide opportunities for Continuing Education Unites (CEUs) and Continuing Medical Education (CMEs) to engage providers in education on Hepatitis C.

Potential Partners

Connecticut Department of Public Health; Connecticut Department of Correction; Connecticut Division of Criminal Justice; Connecticut Department of Veterans' Affairs (VA Hospital); State Department of Education; local public health agencies; public health professional associations; HIV/AIDS research programs and institutes; faith-based organizations; laboratories; health care facilities including transplant centers, hepatitis C and methadone maintenance clinics, community health centers, hospitals, and college and university health services; health care providers including primary care and infectious disease physicians; professional medical associations; community service agencies that address specific populations such as women, youth, elderly, the homeless, communities of color and LGBT populations; other organizations and coalitions that address Hepatitis and co-infections such as STDs and HIV/AIDS, liver health, and cancer; philanthropic and research organizations that address hepatitis; and others.

Vector-borne Diseases

Rationale

Vector-borne diseases are illnesses caused by microorganisms that are transmitted to humans by insects and other blood-sucking arthropods. In the United States and Connecticut, two common vector-borne diseases, Lyme disease and West Nile virus, are transmitted by ticks and mosquitoes, respectively. Lyme disease symptoms commonly include fever, headache, fatigue, and a “bull’s-eye” skin rash. Most cases are successfully treated through a course of antibiotics. If left untreated, however, infection can spread to joints, the heart, and the nervous system.⁵⁹ There are no treatments for West Nile virus, but in most cases those infected are not symptomatic and progress to full recovery.

In the US, the number of reported Lyme disease cases, which is more common in the Northeast, has increased, while the number of new reported cases of West Nile virus has declined.⁶⁰

About 3,000 cases of Lyme disease are reported in Connecticut each year, but it is estimated that for every reported case, 10 others are not reported. Annual cases of West Nile Virus ranged from 0 to 21 since 2006. During the past decade, the number of new cases of Lyme disease was highest in northeastern and eastern Connecticut, whereas the number of West Nile Virus cases was highest in the southwest.

Vector-borne diseases are among the most difficult diseases to prevent and control, first, because it is difficult to predict the behavior of ticks and mosquitoes, and second, because most vector-borne microbes also infect animals. Increasing awareness of these issues and providing public education on how to limit exposure to ticks and mosquitoes are the key strategies for prevention.

OBJECTIVE ID-19

Decrease by 5% the incidence of Lyme disease.

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	2,658 cases (2012)*	2,525 cases	Connecticut Department of Public Health, Infectious Disease Section.

*Over the years, Lyme disease has been reported in different ways (physician reporting with or without laboratory reporting), depending on goals, resources, and the national case definition. As a result, since 2002, reported cases have varied from 1,348 to 4,631 (average about 3,000 per year) and do not represent true numbers or trends.

Strategies

Education and Training

- Enhance public education programs regarding prevention strategies, including tick avoidance.
- Expand health care provider education regarding evidence-based tick-borne disease diagnosis and treatment.

Planning & Development

- Increase the number of clinical laboratories that report positive Lyme disease test results electronically.
- Develop and implement consistent tick reduction strategies statewide.

Surveillance

- Improve surveillance to better identify the true incidence of Lyme disease.

OBJECTIVE ID-20

Decrease by 5% the incidence of West Nile Virus infection.

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	21 cases (2012)	20 cases	Connecticut Department of Public Health, Infectious Disease Section

Strategies

Communications, Education and Training

- Enhance public education programs regarding prevention strategies to minimize exposure to mosquitoes.

Planning & Development

- Develop and implement consistent mosquito reduction strategies statewide.

Surveillance

- Calculate average annual incidence, using a rolling 5-year average (due to year-to-year variability in incidence rates).

Potential Partners

Connecticut Department of Public Health, Connecticut Department of Energy and Environmental Protection, Connecticut Agriculture Experiment Station, Connecticut Department of Consumer Protection, University of Connecticut Cooperative Extension System, College of Agriculture and Natural Resources, local public health agencies, laboratories, primary care and infectious disease physicians, professional associations, local coalitions that address vector-borne diseases and illness, schools of public health and medicine, and others.

Foodborne Illness and Infection

Rationale

Foodborne illness (“food poisoning”) is a common but preventable public health problem. The CDC estimates that 1 in 6 Americans gets a food-borne illness each year by eating or drinking contaminated food; many such illnesses require hospitalization, and some cause death.

In recent years in Connecticut, the number of cases of *Campylobacter* increased, whereas the number of cases for other food-borne illnesses remained relatively steady. Food-borne illness and infection can be controlled by safe food handling and preparation--including routine and thorough hand-washing-- and enforcement of food code and regulations for all food-handling institutions.

OBJECTIVE ID-21

Reduce by 5% the overall incidence of illnesses caused by enteric pathogens and toxins.

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	1,266 laboratory-confirmed cases (2012)	1,203 laboratory-confirmed cases	Connecticut Department of Public Health, Infectious Disease Section, Connecticut FoodNet

Strategies

Advocacy and Policy

- Expand Connecticut Qualified Food Operator (QFO) mandate to include all relevant employee groups in licensed food service establishments.
- Update food code/regulations and assure regulatory compliance within the food industry.
- Use standard risk-based protocols for FSE inspections and code enforcement across local jurisdictions.

Communications, Education and Training

- Educate consumers on food safety practices for home and work environments and how to report suspected foodborne illness.
- Provide education on importance of evaluating and reporting suspected foodborne illness by consumers and health care providers to enhance surveillance and effective abatement of real and potential outbreak situations.
- Disseminate and enhance guidance and protocols for food protection during extreme events, natural and other disasters.
- Ensure appropriate training of food service employees.
- Promote engagement of food service establishments (FSE) and food service workers in food safety education programs and application of food safety principles in practice.
- Enhance institutional education on food safety practices and compliance with food code/regulations (day care, schools, residential programs, correctional facilities, long term care facilities, facilities serving older adults and immune-compromised populations).
- Provide culturally congruent education on food safety for ethnic consumer groups and ethnic food service establishments.
- Enhance inspector/sanitarian and industry training, and focus on risk-based inspections through training and field monitoring.

Research, Surveillance

- Promote utilization of Connecticut Food Core Program by local health departments with limited foodborne disease follow up capacity.
- Ensure follow-up interviews for *Campylobacter* infections by state or local public health personnel.
- Ensure that appropriate laboratory infrastructure and systems are in place for more rapid and timely identification and characterization of pathogens.
- Continue state public health laboratory participation in the FDA ISO 17025 Laboratory Accreditation Cooperative Agreement Program to adapt standardized laboratory testing methods for food pathogens, and provide increased food testing capacity.

OBJECTIVE ID-22 

Reduce by 5% the incidence of infections associated with the most common foodborne bacterial pathogens, *Salmonella* and *Campylobacter*.

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	111 cases Salmonellosis (2012)	105 cases	Connecticut Department of Public Health, Infectious Disease Section, Connecticut FoodNet
	599 cases <i>Campylobacter</i> (2012)	569 cases	

Strategies

Advocacy and Policy

- Expand Connecticut Qualified Food Operator (QFO) mandate to include all relevant employee groups in licensed food service establishments.
- Update food code/regulations and assure regulatory compliance within the food industry.
- Use standard risk-based protocols for FSE inspections and code enforcement across local jurisdictions.

Communications, Education and Training

- Educate consumers on food safety practices for home and work environments and how to report suspected foodborne illness.
- Provide education on importance of evaluating and reporting suspected foodborne illness by consumers and health care providers to enhance surveillance and effective abatement of real and potential outbreak situations.
- Disseminate and enhance guidance and protocols for food protection during extreme events, natural and other disasters.
- Ensure appropriate training of food service employees.
- Promote engagement of food service establishments (FSE) and food service workers in food safety education programs and application of food safety principles in practice.
- Enhance institutional education on food safety practices and compliance with food code/regulations (day care, schools, residential programs, correctional facilities, long term care facilities, facilities serving older adults and immune-compromised populations).
- Provide culturally congruent education on food safety for ethnic consumer groups and ethnic food service establishments.
- Enhance inspector/sanitarian and industry training, and focus on risk-based inspections through training and field monitoring.

Research, Surveillance

- Promote utilization of Connecticut Food Core Program by local health departments with limited foodborne disease follow up capacity.
- Ensure follow-up interviews for *Campylobacter* infections by state or local public health personnel.

- Ensure that appropriate laboratory infrastructure and systems are in place for more rapid and timely identification and characterization of pathogens.
- Continue state public health laboratory participation in the FDA ISO 17025 Laboratory Accreditation Cooperative Agreement Program to adapt standardized laboratory testing methods for food pathogens, and provide increased food testing capacity.

OBJECTIVE ID-23  Reduce by 5% the incidence of infections caused by foodborne pathogens associated with significant morbidity and mortality, such as *E.coli* 0157 and non-0157, shiga-toxin-producing *E.coli* (STEC), and *Listeria*.

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	19 cases <i>E. coli</i> 0157 (2012)	18 cases	Connecticut Department of Public Health, Infectious Disease Section, Connecticut FoodNet
	32 cases Non-0157 STEC (2012)	30 cases	
	23 cases <i>Listeria</i>	22 cases	

Strategies

Advocacy and Policy

- Expand Connecticut Qualified Food Operator (QFO) mandate to include all relevant employee groups in licensed food service establishments.
- Update food code/regulations and assure regulatory compliance within the food industry.
- Use standard risk-based protocols for FSE inspections and code enforcement across local jurisdictions.

Communications, Education and Training

- Educate consumers on food safety practices for home and work environments and how to report suspected foodborne illness.
- Provide education on importance of evaluating and reporting suspected foodborne illness by consumers and health care providers to enhance surveillance and effective abatement of real and potential outbreak situations.
- Disseminate and enhance guidance and protocols for food protection during extreme events, natural and other disasters.
- Ensure appropriate training of food service employees.
- Promote engagement of food service establishments (FSE) and food service workers in food safety education programs and application of food safety principles in practice.
- Enhance institutional education on food safety practices and compliance with food code/regulations (day care, schools, residential programs, correctional facilities, long term care facilities, facilities serving older adults and immune-compromised populations).
- Provide culturally congruent education on food safety for ethnic consumer groups and ethnic food service establishments.
- Enhance inspector/sanitarian and industry training, and focus on risk-based inspections through training and field monitoring.

Research, Surveillance

- Promote utilization of Connecticut Food Core Program by local health departments with limited foodborne disease follow up capacity.

- Ensure follow-up interviews for *Campylobacter* infections by state or local public health personnel.
- Ensure that appropriate laboratory infrastructure and systems are in place for more rapid and timely identification and characterization of pathogens.
- Continue state public health laboratory participation in the FDA ISO 17025 Laboratory Accreditation Cooperative Agreement Program to adapt standardized laboratory testing methods for food pathogens, and provide increased food testing capacity.

OBJECTIVE ID-24 
Reduce by 5% the number of annual outbreaks attributed to norovirus.

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	10 Foodborne norovirus outbreaks (2012)	9	Connecticut Department of Public Health, Infectious Disease Section.

Strategies

Advocacy and Policy

- Expand Connecticut Qualified Food Operator (QFO) mandate to include all relevant employee groups in licensed food service establishments.
- Update food code/regulations and assure regulatory compliance within the food industry.
- Use standard risk-based protocols for FSE inspections and code enforcement across local jurisdictions.

Communications, Education and Training

- Educate consumers on food safety practices for home and work environments and how to report suspected foodborne illness.
- Provide education on importance of evaluating and reporting suspected foodborne illness by consumers and health care providers to enhance surveillance and effective abatement of real and potential outbreak situations.
- Disseminate and enhance guidance and protocols for food protection during extreme events, natural and other disasters.
- Ensure appropriate training of food service employees.
- Promote engagement of food service establishments (FSE) and food service workers in food safety education programs and application of food safety principles in practice.
- Enhance institutional education on food safety practices and compliance with food code/regulations (day care, schools, residential programs, correctional facilities, long term care facilities, facilities serving older adults and immune-compromised populations).
- Provide culturally congruent education on food safety for ethnic consumer groups and ethnic food service establishments.
- Enhance inspector/sanitarian and industry training, and focus on risk-based inspections through training and field monitoring.

Research, Surveillance

- Promote utilization of Connecticut Food Core Program by local health departments with limited foodborne disease follow up capacity.
- Ensure follow-up interviews for *Campylobacter* infections by state or local public health personnel.
- Ensure that appropriate laboratory infrastructure and systems are in place for more rapid and timely identification and characterization of pathogens.
- Continue state public health laboratory participation in the FDA ISO 17025 Laboratory Accreditation Cooperative Agreement Program to adapt standardized laboratory testing methods for food pathogens, and provide increased food testing capacity.

Potential Partners

Connecticut Department of Public Health; Connecticut Department of Energy and Environmental Protection; State Department of Education; Connecticut Department of Agriculture; Connecticut Department of Consumer Protection; local public health agencies; infectious disease specialists; primary care providers; hospitals; food and restaurant industry; professional associations; food training providers; schools of agriculture and public health; organizations and coalitions focused on food, agriculture, and the environment; community service providers that focus on food security for at-risk populations; and others.

Waterborne Illness and Infections

Rationale

Access to clean, safe water is essential to human health and life; but water can cause illness when it is contaminated with disease-causing microorganisms.

Connecticut has some of the highest quality water in the country, largely due to the strong public health infrastructure that regulates and monitors water in an effort to protect watersheds and to promote water quality and safety.

OBJECTIVE ID-25

Maintain at zero the overall incidence of illnesses caused by waterborne pathogens.

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	0 (2012)	0	Connecticut Department of Public Health, Infectious Disease Section

Strategies

Partnership and Collaboration

- Strengthen collaboration between DPH and DEP to identify and investigate potential waterborne contamination problems and outbreaks.

Research and Surveillance

- Revise the Reportable Disease and Laboratory Findings list to maximize the ability to detect waterborne illnesses.
- Strengthen surveillance mechanisms for waterborne diseases and ensure epidemiological and laboratory capacity.

Potential Partners

Connecticut Department of Public Health, Connecticut Department of Energy and Environmental Protection, Connecticut Department of Consumer Protection, local public health agencies, consumers, drinking water providers, national and state professional associations focused on drinking water access and quality, health care providers including primary care, emergency physicians and infectious disease physicians, emergency medical services, community health centers, and hospitals, professional associations, other organizations and coalitions focused on water quality and safety, and others.

Healthcare Associated Infections

Rationale

Healthcare-associated infections (HAIs) are infections that patients get in healthcare facilities while receiving medical or surgical treatment for other conditions. They are the most important complication of hospital care, and are considered a leading cause of preventable death in the US.

HAIs can occur in all types of healthcare settings, including outpatient hospitals, ambulatory surgical centers and outpatient clinics, and long-term care facilities.

The major kinds of HAIs include central-line-associated bloodstream infections, multi-drug-resistant bacteria such as methicillin-resistant *Staphylococcus aureus* (MRSA), catheter-associated urinary tract infections, surgical site infections, and diarrhea caused by *Clostridium difficile*.

HAIs in various types of healthcare facilities can be reduced by ensuring that staff, patients, their caregivers, and their visitors follow evidence-based infection prevention procedures, such as hand hygiene.

“The statistics are alarming regarding the infectious diseases of our children. Growing up, students and children are not educated and/or aware about what these diseases are. How can we educate our children in schools so that they are aware about infectious diseases?” (Hartford)

OBJECTIVE ID-26
Reduce by 5% the incidence rates for multidrug resistant organisms (MDROs), specifically vancomycin-resistant enterococcus (VRE) and methicillin-resistant *Staphylococcus aureus* (MRSA).

Target Population(s)	Baseline	2020 Target	Data Source
Connecticut Overall	8.1 per 100,000 VRE (2011)	7.7 per 100,000	Connecticut Department of Public Health, Infectious Disease Section, Active Bacterial Core Surveillance Program and Healthcare Associated Infections Program
	4.2 per 100,000 MRSA, Healthcare facility onset (2012)	4.0 per 100,000	
	11.8 per 100,000 MRSA, Healthcare-associated, community onset (2012)	11.2 per 100,000	

Strategies

Communications, Education and Training

- Enhance public education about the prudent use of antimicrobials and other prevention strategies (e.g., hand washing, wound dressing).

Partnership and Collaboration, Planning & Development

- Implement and integrate current evidence-based prevention strategies, including antimicrobial stewardship.

Surveillance

- Ensure clinical and reference laboratory ability and capacity to detect and report MDRO isolates in a timely fashion.

OBJECTIVE ID-27 (DEVELOPMENTAL) Ph1

Maintain and enhance the State's public reporting infrastructure for healthcare associated infections (HAIs) to include additional types of healthcare facilities, facility locations, or types of HAIs reported.

Strategies*Advocacy and Policy*

- Advocate for increasing the types of HAI's that are publically reported via the National Healthcare Safety Network (NHSN).

Communications, Education and Training

- Develop improved methods (user friendly tools) for communicating information about HAI's to the public.
- Educate the public; empower them to make informed healthcare decisions.

Partnership and Collaboration

- Recruit and train additional types of healthcare facilities to use NHSN for public reporting of HAI's.

Surveillance

- Maintain and enhance the State's public reporting infrastructure for HAI's.

OBJECTIVE ID-28 (DEVELOPMENTAL) Ph1

Achieve and maintain Standard Infection Ratios (SIRs) of less than or equal to one (≤ 1) for Acute Care Hospital HAIs, including central-line-associated bloodstream infections (CLABSI's), catheter-associated urinary tract infections (CAUTI's), surgical site infections (SSI's), *Clostridium difficile* infections (CDI's), and methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia.

Strategies*Planning & Development*

- Implement and integrate current evidence-based prevention strategies, including antimicrobial stewardship.

OBJECTIVE ID-29 (DEVELOPMENTAL) Ph1

Reduce the rate of catheter-associated urinary tract infections (CAUTI's) and *Clostridium difficile* infections in Long Term Care facilities.

Strategies*Planning & Development*

- Implement and integrate current evidence-based prevention strategies, including antimicrobial stewardship.

Surveillance

- Establish reporting of infections via the National Healthcare Safety Network.

OBJECTIVE ID-30 (DEVELOPMENTAL) Ph1

Reduce the rate of central line-associated bloodstream Infection (CLABSI) in Hemodialysis facilities.

Strategies*Planning & Development*

- Implement and integrate current evidence-based prevention strategies, including antimicrobial stewardship.

Surveillance

- Establish reporting of infections via NHSN.

OBJECTIVE ID-31 (DEVELOPMENTAL) Ph1

Reduce the number of surgical site infections (SSI's) in Ambulatory Surgical Centers (ASC's).

Strategies*Partnership and Collaboration*

- Establish collaboration between the public health system and ASC's and the Connecticut Association of Ambulatory Surgery Centers regarding HAI's.

Planning & Development

- Implement and integrate current evidence-based prevention strategies.

Surveillance

- Establish reporting of infections via NHSN.

OBJECTIVE ID-32 (DEVELOPMENTAL)

Reduce the number of catheter-associated urinary tract infections (CAUTI's) and surgical site infections (SSI's) in Homecare and Hospice programs.

Strategies*Surveillance*

- Implement a baseline prevalence survey to establish the burden of HAIs in Homecare programs.
- Establish surveillance and reporting system for homecare-associated infections with appropriate partners (state, regional, and national).

OBJECTIVE ID-33 (DEVELOPMENTAL)

Reduce the number of healthcare associated influenza outbreaks.

Strategies*Partnership and Collaboration, Planning & Development*

- Improve healthcare worker influenza vaccination rates in all healthcare facilities.
- Improve influenza vaccination rates for residents of Long Term Care facilities.
- Implement and integrate current evidence-based prevention strategies for influenza.

Potential Partners

Connecticut Department of Public Health, Connecticut Department of Correction, Connecticut Department of Veterans' Affairs, health care facilities including hospitals, dialysis centers, ambulatory surgical centers, nursing homes, and long term care facilities, health care providers, health professional associations, local public health agencies, training consultants, organizations and coalitions focused on quality and safety in health care settings, philanthropic and research organizations focused on quality of care and patient safety, and others.

Emergency Preparedness for Emerging Infectious Diseases

Rationale

With the help of the Centers for Disease Control (CDC), state and local health departments have created emergency preparedness and response plans for infectious diseases. The plans include early detection, rapid diagnosis, and treatment with antibiotics or antivirals. Emergency preparedness and response use quarantine and isolation as primary strategies to contain the spread of contagious disease, by limiting people's exposure to it.

OBJECTIVE ID-34 (DEVELOPMENTAL)



Reduce the adverse impact of emerging infectious disease on population health through early detection and control by maintaining support for and expanding the current Emerging Infections Program.

Strategies

Communications

- Enhance public health communication systems and dissemination of data for the public and providers.
- Ensure guidelines are developed and available.
- Provide single source, up to date information for the public and providers.

Planning & Development

- Ensure all hazards plans are up-to-date and drilled.

Surveillance

- Modernize and optimize surveillance systems and laboratory technology to detect and respond to public health emergencies.

Potential Partners

Connecticut Department of Public Health; Connecticut Department of Energy and Environmental Protection; State Department of Education; Connecticut Department of Emergency Services and Public Protection (Division of Emergency Management and Homeland Security); Connecticut Department of Correction; local public health agencies; public health professional associations; laboratories; health care providers including primary care, emergency department and infectious disease physicians, emergency medical services, community health centers, and hospitals; community service agencies for underserved populations; other state and regional organizations and coalitions that address public health preparedness; and others.

