

New York State Prevention Agenda

Promote a Healthy and Safe Environment Action Plan

Updated: September 2, 2021

Introduction

The 2019-2024 State Health Improvement Plan to “Promote a Healthy and Safe Environment” in New York State focuses on five core areas that impact health. These are: the quality of the *water* we drink and enjoy for recreation; the *air* we breathe; the *food and products* we ingest and use; the built *environments* where we live, work, learn and play; as well as *injuries, violence* and *occupational health*. ‘Environment,’ as used here, incorporates all dimensions of the physical environment that impact health and safety.

The Plan was developed by the Department’s Center for Environmental Health in collaboration with diverse stakeholders representing environmental health; occupational health; violence and injury prevention; health care providers, local, State and Federal government agencies; community based and non-profit organizations; and academic and research organizations.

The Plan is organized by focus area and includes goals, objectives, and evidence-based interventions. Additional information about the impact of the environment on health, including underlying risk factors, associated disparities, and social determinants of health can be found at:

https://www.health.ny.gov/prevention/prevention_agenda/2019-2024/docs/sha/contributing_causes_of_health_challenges.pdf

Focus Area 1: Injuries, Violence and Occupational Health

Injuries – both unintentional and intentional – are a leading cause of death and disability among all age groups in NYS. They are the leading cause of death for New Yorkers ages 1-44 years. The overall rates of injury-related deaths and hospitalizations have been increasing since 2000.

The leading causes of injury deaths, hospitalizations, and/or emergency department (ED) visits include falls; violence, including gun violence, intimate partner violence, sexual violence, elder abuse, child abuse, and suicide; and injuries to motor vehicle occupants, pedestrians, bicyclists and motorcyclists.

In addition, nearly 200 New Yorkers die every year because of a work-related injury. The leading cause of work-related injury deaths, hospitalizations, and/or ED visits include falls, struck by/against, machinery and cut/pierce incidents.

The burden of injuries on NYS and data trends can be viewed in the NYS Health Assessment *Contributing Causes of Health Challenges* Chapters:

https://www.health.ny.gov/prevention/prevention_agenda/2019-2024/docs/sha/contributing_causes_of_health_challenges.pdf

Goal 1.1: Reduce falls among vulnerable populations

Objective 1.1.a. Stop the annual increase in the rate of deaths due to falls among residents ages 65 and over by maintaining the rate at 4.1 per 10,000 residents. (Baseline year is 2016. Data Source: Vital Statistics Death Files; Available Data: State/County level)

Objective 1.1.b. Decrease the annual rate of hospitalizations due to falls among residents ages 65 and over by 5% to 173.7 per 10,000 residents (Baseline 182.8 in 2016. Data Source: NYS SPARCS Data; Available Data: State/County level)

Interventions

1.1.1: (Supporting Objectives 1.1.a. and 1.1.b.)

Connect older adults and people with disabilities with evidence-based falls prevention programs such as Tai Chi for Arthritis, Stepping On, and A Matter of Balance.

Evidence Base: National Council on Aging comprehensive list of evidence-based falls prevention programs

<https://www.ncoa.org/healthy-aging/falls-prevention/falls-prevention-programs-for-older-adults-2/>

Implementation Resources: Centers for Disease Control and Prevention (CDC) Guide to Implementing Effective Community Based Fall Prevention Programs

https://www.cdc.gov/homeandrecreationalsafety/falls/community_preventfalls.html

NYSDOH and Broome County Health Department Falls Prevention Video

<https://www.youtube.com/watch?v=XxDr4V06KaU&feature=youtu.be>

Target Population by Age: Older Adults (65+ years), people with disabilities

Social Determinants of Health: Housing, Transportation, Health Care, Built Environment

Sectors Playing Lead Role: Governmental Public Health Agencies, Community or Neighborhood Residents, Healthcare Delivery Systems, Older Adult Community Based Programs

Sectors Playing Contributing Role: Governmental Public Health Agencies, Community or Neighborhood Residents, Healthcare Delivery Systems

Intermediate Measures: Number of staff or community partners trained to provide evidence-based programs. Number of older adults that have taken evidence-based classes.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Disease*, (4) Chronic Disease Preventive Care and Management, (4.4) Improve self-management skills for individuals with chronic diseases including arthritis

1.1.2: (Supporting Objectives 1.1.a. and 1.1.b.)

Promote health care provider screening for fall risk among older adults and people with disabilities and engage health care providers in identifying modifiable risk factors and developing a fall prevention plan of care. A fall prevention plan of care may include but is not limited to physical or occupational therapy, community based programs, medication management, Vitamin D supplements, updated eyeglasses, and changes to footwear.

Evidence Base: Johnston, Y., Bergen, G., Bauer, M., Parker, E., Wentworth, L., McFadden, M., Reome, C., Garnett, M. (2018). Implementation of the Stopping Elderly Accidents Deaths and Injuries (STEADI) Initiative in Primary Care: An Outcome Evaluation. *The Gerontologist*, gny101, <https://doi.org/10.1093/geront/gny101>

Implementation Resources: CDC STEADI (Stopping Elderly Accidents, Deaths & Injuries) initiative <https://www.cdc.gov/steady/>

Target Population by Age: Older Adults (65+ years), people with disabilities

Social Determinants of Health: Health Care, Housing, Transportation, Built Environment

Sectors Playing Lead Role: Healthcare Delivery Systems

Sectors Playing Contributing Role: Governmental Public Health Agencies, Older Adult Community Based Programs.

Intermediate Measures: Number of older adults screened for fall risk.

Number of older adults at risk for falls given a falls plan of care

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Disease*, (4) Chronic Disease Preventive Care and Management, (4.4) Improve self-management skills for individuals with chronic diseases including arthritis

1.1.3: (Supporting Objectives 1.1.a. and 1.1.b.)

Use a home fall prevention checklist to assess the homes of older adults for fall hazards. Make modifications as necessary.

Evidence Base: Panel on Prevention of Falls in Older Persons, American Geriatrics Society and British Geriatrics Society. Summary of the Updated American Geriatrics Society/British Geriatrics Society clinical practice guideline for prevention of falls in older persons. *J Am Geriatr. Soc.* 2011;59(1):148-157.

Implementation Resources:

CDC Check for Safety: A Home Fall Prevention Checklist for Older Adults

https://www.cdc.gov/steady/pdf/check_for_safety_brochure-a.pdf

New York City Department of Health and Mental Hygiene Falls Prevention Home Safety Checklist

<https://www1.nyc.gov/assets/doh/downloads/pdf/ip/prevent-falls-checklist.pdf>

Target Population by Age: Older Adults (65+ years), people with disabilities

Social Determinants of Health: Housing, Transportation, Health Care, Built Environment

Sectors Playing Lead Role: Healthcare Delivery Systems

Sectors Playing Contributing Role: Governmental Public Health Agencies, Older Adult

Community Based Programs, Other Governmental Agencies: Dormitory Authority of State of New York and NYC Housing Preservation and Development

Intermediate Measures: Number of homes assessed for fall risk with modifications made

1.1.4: (Supporting Objectives 1.1.a. and 1.1.b.)

Integrate exercise and fall prevention activities into physical or occupational therapy.

Evidence Base: Shubert, T. E., Smith, M.L., Jiang, L., Jiang and M. G. Ory (2016). Disseminating the Otago Exercise Program in the United States: Perceived and Actual Physical Performance Improvements From Participants. *J Appl Gerontol.*

Implementation Resources: American Hospital Association, Tools to Implement the Otago Exercise Program: A Program to Reduce Falls

<http://www.hret-hiin.org/resources/display/tools-to-implement-the-otago-exercise-program-a-program-to-reduce-falls>

Target Population by Age: Older Adults (65+ years), people with disabilities

Social Determinants of Health: Housing, Transportation, Health Care, Built Environment

Sectors Playing Lead Role: Healthcare Delivery Systems

Sectors Playing Contributing Role: NA

Intermediate Measures: Number of older adults given exercise and fall prevention activities during physical or occupational therapy.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Disease, (4) Chronic Disease Preventive Care and Management, (4.4) Improve self-management skills for individuals with chronic diseases including arthritis*

1.1.5: (Supporting Objectives 1.1.a. and 1.1.b.)

Engage pharmacists in medication review for older adults and people with disabilities at higher risk for falls.

Evidence Base: Panel on Prevention of Falls in Older Persons, American Geriatrics Society and British Geriatrics Society. Summary of the Updated American Geriatrics Society/British Geriatrics Society clinical practice guideline for prevention of falls in older persons. *J Am Geriatr. Soc.* 2011;59(1):148-157.

Implementation Resources: CDC STEADI initiative

<https://www.cdc.gov/steady/training.html>

Target Population by Age: Older Adults (65+ years), people with disabilities

Social Determinants of Health: Health Care

Sectors Playing Lead Role: Healthcare Delivery Systems

Sectors Playing Contributing Role: Governmental Public Health Agencies, Older Adult Community Based Programs

Intermediate Measures: Number of pharmacists engaged. Number of pharmacists committed to medication review and management for older adults. (Both would be measured at a local level).

Goal 1.2: Reduce violence by targeting prevention programs regularly to highest risk populations

Objective 1.2.a. Reduce rate of homicide deaths from 0.35 to 0.32 per 10,000. (Baseline year is 2016. Data Source: Vital Statistics Death Files; Available Data: State/County level)

Objective 1.2.b. Reduce the rate of assault-related hospitalizations from 3.3 to 3.0 per 10,000. (Baseline year is 2016.)

Reduce disparity (Ratio=1 means no disparity) by 10%:

- Ratio of Black non-Hispanic rate of assault-related hospitalizations to White non-Hispanic rate of assault-related hospitalizations (Target: 5.54; Baseline: 6.16; Year: 2016. Data Source: NYS SPARCS Data; Available Data: State/County level)
- Ratio of Hispanic rate of assault-related hospitalizations to White non-Hispanic rate of assault-related hospitalizations (Target: 2.50; Baseline: 2.78; Year: 2016. Data Source: NYS SPARCS Data; Available Data: State/County level)
- Ratio of assault-related hospitalization rate in low income ZIP codes to assault-related hospitalization rate in non-low income ZIP codes (Target: 2.66; Baseline: 2.95; Year: 2016. Data Source: NYS SPARCS Data; Available Data: State/County level)

Objective 1.2.c. Reduce the rate of ED visits due to assault from 42.3 to 38.1 per 10,000. (Data Source: NYS SPARCS Data; Available Data: State/County level)

Objective 1.2.d. Reduce the rate of hospitalization due to assault by firearm from 0.42 to 0.38 per 10,000 (Target 0.38; Baseline: 0.42; Baseline year: 2016. Data Source: NYS SPARCS Data; Available Data: State/ County level)

Interventions

1.2.1: (Supporting Objectives 1.2.a., 1.2.b., 1.2.c. and 1.2.d.)

Implement multi-sector (e.g., local health departments, criminal justice, hospitals, social services, job training, community based organizations) violence prevention programs such as SNUG, also known as Cure Violence, in high-risk communities, including those where gangs are prevalent. These programs work best when they include wraparound services to support victims, families, and other community members impacted by crime.

Evidence Base: John Jay College of Criminal Justice

<https://johnjayrec.nyc/cureviolence/>

Cure Violence, Scientific Evaluation Results

<http://cureviolence.org/results/scientific-evaluations/>

SNUG Evaluation

<https://www.rit.edu/cla/criminaljustice/sites/rit.edu.cla.criminaljustice/files/docs/WorkingPapers/2013/2013-10.pdf>

Implementation Resources: Cure Violence

<http://cureviolence.org>

Cure Violence New York (SNUG State and Cure Violence NYC Sites)

<http://cureviolence.org/partners/us-partners/snug/>

New York City Office to Prevent Gun Violence, Crisis Management System

<https://www1.nyc.gov/site/peacenyc/interventions/crisis-management.page>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Economic Stability, Education, Food Security, Housing, Community Cohesion, Built Environment

Sectors Playing Lead Role: Governmental Public Health Agencies (State and Local Health Departments), Governmental Public Safety Agencies, Healthcare Delivery System, Community Based Organizations and Social Services, Community or Neighborhood Residents

Sectors Playing Contributing Role: Colleges and Universities, Policy Makers and Elected Officials, Other: Criminal Justice Partners and NYS Department of Corrections and Community Supervision (NYSDOCCS)

Intermediate Measures: Number of multi-sector violence prevention programs. Number of partners involved in the violence prevention programs. Number of New Yorkers served a range of intervention/programs.

Supporting Other Goals and Interventions from other Priorities: *Promote Well-Being and Prevent Mental and Substance Use Disorders and Promote Healthy Women, Infants, and Children*, (3) Child and Adolescent Health, (3.1) Support and enhance children and adolescents' social-emotional development and relationships

1.2.2: (Supporting Objectives 1.2.a., 1.2.b., 1.2.c. and 1.2.d.)

Increase school based and community programs in conflict resolution, bystander interventions, and healthy relationship building.

Evidence Base: Fenton, R.A., Mott, H.L., McCartanm K., and Rumney, P.N.S. (2015) Public Health England review of evidence for bystander intervention to prevent sexual and domestic violence in universities. London: Public Health England and Bristol University of the West of England

<http://www2.uwe.ac.uk/faculties/BBS/BUS/law/Law%20docs/dvilitreviewproof0.6.forCLR.pdf>

CDC Sexual Violence Prevention Strategies

<https://www.cdc.gov/violenceprevention/sexualviolence/prevention.html>

CDC Prevention STOP Sexual Violence, A Technical Package to Prevent Sexual Violence

<https://www.cdc.gov/violenceprevention/pdf/SV-Prevention-Technical-Package.pdf>

Implementation Resources:

Culture of Respect, Bringing in the Bystander

<https://cultureofrespect.org/program/bringing-in-the-bystander/>

National Institute of Justice, Green Dot Intervention Program

<https://www.crimesolutions.gov/ProgramDetails.aspx?ID=509>

NYSDOH Enough is Enough Program

https://www.health.ny.gov/prevention/sexual_violence/enough_is_enough.htm

NYSDOH Rape Prevention and Education Program

https://www.health.ny.gov/prevention/sexual_violence/education_program.htm

New York State Education Department: Social Emotional Learning: Essential for Learning, Essential for Life

<http://www.p12.nysed.gov/sss/documents/SELEssentialforLearningandLife.pdf>

New York City Office to Prevent Gun Violence, Crisis Management System

<https://www1.nyc.gov/site/peacenyc/interventions/crisis-management.page>

Cure Violence New York (SNUG State and Cure Violence NYC Sites)

<http://cureviolence.org/partners/us-partners/snug/>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Community Cohesion, Education

Sectors Playing Lead Role: Governmental Educational Agencies, Schools (K-12), Colleges and Universities, Community or Neighborhood Residents

Sectors Playing Contributing Role: Governmental Public Health Agencies, Healthcare Delivery System, Policy Makers and Elected Officials, Community Based and Social Services Organizations, Criminal Justice partners

Intermediate Measures: Number of schools, Colleges/University, and Community programs engaged in conflict resolution, bystander interventions, and healthy relationship building.

Supporting Other Goals and Interventions from other Priorities: *Promote Healthy Women, Infants, and Children*, (3) Child and Adolescent Health, (3.1) Support and enhance children and adolescents' social-emotional development and relationships

1.2.3: (Supporting Objectives 1.2.a., 1.2.b., 1.2.c. and 1.2.d.)

Reduce access to firearms for children and individuals at high-risk for violence.

Evidence Base: Santaella-Tenorio, J., Cerda, M., Villaveces, A., Galea, S., What Do We Know About the Association Between Firearm Legislation and Firearm-Related Injuries? *Epidemiologic Reviews*, Volume 38, Issue 1, 1, January 2016, Pages 140-157,

<https://doi.org/10.1093/epirev/mxv012>

Rowhani-Rahbar, A., Simonetti, J.A., Rivara, F.P., Effectiveness of Interventions to Promote Safe Firearm Storage, *Epidemiologic Reviews*, Volume 38, Issue 1, 1 January 2016, Pages 111–124,

<https://doi.org/10.1093/epirev/mxv006>

Implementation Resources: Prevention Institute: Gun Violence Must Stop. Here’s What We Can Do to Prevent More Deaths

<https://www.preventioninstitute.org/focus-areas/preventing-violence-and-reducing-injury/preventing-violence-advocacy>

New York City Office to Prevent Gun Violence, Crisis Management System

<https://www1.nyc.gov/site/peacenyc/interventions/crisis-management.page>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Economic Stability, Housing

Sectors Playing Lead Role: Policy Makers and Elected Officials and Community Advocates

Sectors Playing Contributing Role: Governmental Public Health Agencies, Governmental Public Safety Agencies, Community or Neighborhood Residents, Others: Law Enforcement

Intermediate Measures: Propose and pass gun safety legislation. Promote use of locked gun safes. Strengthen gun purchasing laws.

Supporting Other Goals and Interventions from other Priorities: *Promote Well-Being and Prevent Mental and Substance Use Disorders and Promote Healthy Women, Infants, and Children*, (3) Child and Adolescent Health, (3.1) Support and enhance children and adolescents’ social-emotional development and relationships

1.2.4: (Supporting Objectives 1.2.a., 1.2.b., 1.2.c. and 1.2.d.)

Reduce neighborhood environmental risks (e.g., abandoned buildings, no lighting, deserted streets).

Evidence Base: Cerda, M., Morenoff, J., Hansen, B., Tessari Hicks, K.J., Duque, L.F., Restrepo, A., Diez-Roux, A.V., Reducing Violence by Transforming Neighborhoods: A Natural Experiment in Medellin, Colombia. *Am J. Epidemiol*, 2012 May 15; 175(10): 1045-1053.

<https://academic.oup.com/aje/article/175/10/1045/89012>

Implementation Resources: New York State Department of State: Opportunities Waiting To Happen, Redeveloping Abandoned Buildings and Sites to Revitalize Communities

<https://www.dos.ny.gov/opd/programs/pdfs/Guidebooks/ab/AbandonedBuildings.pdf>

New York State Department of Environmental Conservation (NYSDEC), Brownfield Cleanup Program

<https://www.dec.ny.gov/chemical/8450.html>

Michigan Youth Violence Prevention Center

<http://yvpc.sph.umich.edu/>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Housing, Built Environment

Sectors Playing Lead Role: Governmental Public Health Agencies and Governmental Public Safety Agencies

Sectors Playing Contributing Role: Community or Neighborhood Residents, Community Based Organizations, Economic Development Agencies; Natural Environment Agencies (NYSDEC); Urban Planning Agencies

Intermediate Measures: Number of environmental risks addressed.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases*, (2) Physical Activity, (2.3) Facilitate access to *safe* and accessible places for physical activity

1.2.5: (Supporting Objectives 1.2.a., 1.2.b., 1.2.c. and 1.2.d.)

Increase educational, recreational and employment opportunities for potentially at-risk youth through after school and summer work experience programs or youth apprenticeship initiatives.

Evidence Base: Miller, C., Millenky, M., Schwartz, L., Goble, L., Stein, J., Building a Future: Interim Impact Findings from the YouthBuild Evaluation. Washington, DC: MDRC in partnership with Mathematica Policy Research.

<https://www.mathematica-mpr.com/our-publications-and-findings/publications/building-a-future-interim-impact-findings-from-the-youthbuild-evaluation>

Implementation Resources: CDC's STRYVE: Striving to Reduce Youth Violence Everywhere

<https://www.cdc.gov/violenceprevention/stryve/index.html>

New York State Department of Labor's Apprenticeship Program.

<https://labor.ny.gov/formsdocs/app/p532.pdf>

New York State Department of Labor's Youth Jobs Program.

<https://labor.ny.gov/careerservices/youth-tax-credit.shtm>

WorkforceGPS Youth Apprenticeship.

<https://apprenticeshipusa.workforcegps.org/resources/2017/02/02/10/56/Apprenticeship-Youth>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Economic stability, Education

Sectors Playing Lead Role: Governmental Public Health Agencies; Employers, Businesses and Unions; Colleges and Universities; Schools (K-12); Community Based and Social Services Organizations

Sectors Playing Contributing Role: Economic Development Agencies, Policy Makers and Elected Officials, Natural Environment Agencies, Urban Planning Agencies

Intermediate Measures: Number of new educational, recreational, and employment opportunities.

Supporting Other Goals and Interventions from other Priorities: *Promote Well-Being and Prevent Mental and Substance Use Disorders; Promote Healthy Women, Infants, and Children*, (3) Child and Adolescent Health, (3.1) Support and enhance children and adolescents' social-emotional development and relationships; *Prevent Chronic Diseases*, (2) Physical Activity, (2.3) Facilitate access to *safe* and accessible places for physical activity

Goal 1.3: Reduce occupational injuries and illness

Objective 1.3.a. Reduce disparities in work-related emergency department (ED) visits.

- Work-related ED visits: Ratio of the rate of black non-Hispanics to white non-Hispanics (Baseline: 1.45 per 10,000 workers; Baseline year: 2016; Target: 1.3. Data Source: NYSDOH, Statewide Planning and Research Cooperative System; Available Data: State/County level)
- Work-related ED visits: Ratio of the rate of Hispanics to white non-Hispanics (Baseline: 0.93 per 10,000 workers; Baseline year: 2016; Target: 1.0. Data Source: NYSDOH, Statewide Planning and Research Cooperative System; Available Data: State/County level)

Objective 1.3.b. Reduce disparities in work-related hospitalizations.

- Work-related hospitalizations: Ratio of the rate of black non-Hispanics to white non-Hispanics (Baseline: 1.10 per 10,000 workers; Baseline year: 2016; Target = 1.0. Data Source: NYSDOH, Statewide Planning and Research Cooperative System; Available Data: State/County level)
- Work-related hospitalizations: Ratio of the rate of Hispanics to white non-Hispanics (Baseline: 0.95 per 10,000 workers; Baseline year: 2016; Target: 1.0. Data Source: NYSDOH, Statewide Planning and Research Cooperative System; Available Data: State/County level)

Objective 1.3.c. Reduce the rate of ED visits for occupational injuries among adolescents 15-19 years of age. (Baseline: 21.32 per 10,000 adolescents aged 15-19; Baseline year: 2016; Target: 19.2 Data Source: NYSDOH, Statewide Planning and Research Cooperative System; Available Data: State level)

Interventions

1.3.1: (Supporting Objectives 1.3.a., 1.3.b.)

Improve safety in workplaces: Develop targeted occupational safety and health training programs for employers and workers in high-risk jobs.

Evidence Base: CDC National Institute for Occupational Safety and Health (NIOSH), Institute for Work & Health, A systematic review of the effectiveness of training & education for the protection of workers

<https://www.cdc.gov/niosh/docs/2010-127/pdfs/2010-127.pdf>

Implementation Resources: National Council for Occupational Safety and Health - Local COSH Groups

<http://www.coshnetwork.org/COSHGroupsList>

New York State Occupational Health Clinic Network

https://www.health.ny.gov/environmental/workplace/clinic_network.htm

Target Population by Age: Adolescents (ages 13-21); Adults (ages 21-60); Older adults (60+)

Social Determinants of Health: Natural Environment, Built Environment

Sectors Playing Lead Role: Employers

Sectors Playing Contributing Role: Community Groups and Worker Centers; Committee for Occupational Safety and Health (COSH) groups; Employers, Businesses and Unions; Media
Intermediate Measures: Identify high-risk workers and employers and identify potential risks in these jobs as a first step to developing educational materials/training.

1.3.2: (Supporting Objectives 1.3.c.)

Educate teens about their rights and applicable regulations using curricula such as “Talking Safety” or “Passport to Safety,” targeting vocational schools and industries hiring large numbers of young workers.

Evidence Base: CDC NIOSH, Promoting Safe Work for Young Workers

<https://www.cdc.gov/niosh/docs/99-141/pdfs/99-141.pdf>

Implementation Resources: CDC NIOSH, Youth@Work—Talking Safety Curriculum for New York:

<https://www.cdc.gov/niosh/talkingsafety/states/ny/2015-138/default.html>

Target Population by Age: Adolescents (13-21)

Social Determinants of Health: Natural Environment, Built Environment

Sectors Playing Lead Role: Governmental Public Health Agencies

Sectors Playing Contributing Role: COSH groups; Schools/BOCES; Employers, Businesses and Unions; Media; Other Governmental Agencies: NYS Department of Education

Intermediate Measures: Identify industries and employers where large number of young workers are employed and target one to two for education.

1.3.3: (Supporting Objectives 1.3.a., 1.3.b. and 1.3.c.)

Incorporate industry and occupation into electronic health records and other patient-oriented databases.

Evidence Base: CDC NIOSH, Collecting and Using I&O Data:

<https://www.cdc.gov/niosh/topics/coding/collecting.html>

American Public Health Association, Incorporating Occupational Information in Electronic Health Records

<https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/11/16/27/incorporating-occupational-information-in-electronic-health-records>

Implementation Resources: Regional Health Information Organizations (RHIOs)

<https://www.nyacp.org/i4a/pages/index.cfm?pageID=3760&activateFull=true>

Target Population by Age: Adolescents (13-21); Adults (ages 21-60); Older Adults (60+)

Social Determinants of Health: Health Care, Built Environment

Sectors Playing Lead Role: Healthcare Delivery Systems

Sectors Playing Contributing Role: Governmental Public Health Agencies, Regional Health Information Organization, Employers, Businesses and Unions, Policy Makers

Intermediate Measures: Provide methods to link electronic reporting records with occupational health registries and databases. Require that all NYSDOH databases collect information on occupation and industry.

Goal 1.4: Reduce traffic related injuries for pedestrians and bicyclists

Objective 1.4.a. Decrease the annual rate of crash-related pedestrian fatalities by 10% to 1.43 per 100,000 people. (Baseline 1.59 in 2016. Data Source: Vital Statistic Death Files; Available Data: State/County level)

Objective 1.4.b. Decrease the annual rate of crash-related bicycle emergency department visits by 10% to 26.09 per 100,000 people. (Baseline 28.99 in 2016. Data Source: SPARCS; Available Data: State/County level)

Interventions

1.4.1: (Supporting Objectives 1.4.a. and 1.4.b.)

Increase coordinated pedestrian injury prevention activities within the 20 NYS Pedestrian Safety Action Plan (PSAP) focus communities. Engage local partners within PSAP focus communities to conduct pedestrian safety education, engineering, and enforcement activities through provision of resources and technical assistance, training, and promotion of funding opportunities.

<https://www.ny.gov/programs/pedestrian-safety-action-plan>

Evidence Base: [Countermeasures that Work: A Highway Safety Countermeasure Guide For State Highway Safety Offices, Ninth Edition 2017 \(pdf\)](#)

Implementation Resources:

National Highway Traffic Safety Administration

www.nhtsa.gov/road-safety

New York State Governor's Traffic Safety Committee

www.safeny.ny.gov

NYSDOH Pedestrian Safety

www.health.ny.gov/prevention/injury_prevention/pedestrians.htm

New York State Department of Transportation

www.dot.ny.gov/index

New York State Pedestrian Safety Action Plan

www.ny.gov/programs/pedestrian-safety-action-plan

NYS Pedestrian Safety, Tips for Drivers and Pedestrians, and Projects

www.ny.gov/pedestrian-safety/pedestrian-safety-and-projects#pedestrian-safety

NYS Pedestrian Safety Resources

www.ny.gov/pedestrian-safety/additional-information#resources

Pedestrian Bicycle and Information Center

www.pedbikeinfo.org

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Education, Transportation, Built Environment

Sectors Playing Lead Role: Transportation and Highway Safety Agencies, Governmental Public Health Agencies

Sectors Playing Contributing Role: Community Based Organizations, Community or Neighborhood Residents, Local Law Enforcement Agencies, Urban Planning Agencies

Intermediate Measure: Establishment of community based pedestrian safety partnerships/coalitions committed to engaging in education, engineering, and/or enforcement activities. Number of partners participating. Number of pedestrian safety educational activities planned and/or conducted. Number of infrastructure improvements planned, built, and/or installed.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases*, (2) Physical Activity, (2.1) Create community environments for physical activity and (2.3) Facilitate access to safe and accessible places for physical activity

1.4.2: (Supporting Objectives 1.4.a. and 1.4.b.)

Provide training to increase enforcement of NYS Vehicle and Traffic Law pertaining to pedestrians.

The NYSDOH, National Highway Traffic Safety Administration, NYS Governor's Traffic Safety Committee, and NYS Department of Transportation produced training modules that encourage active participation among law enforcement by providing education about specific laws and instruction for targeted enforcement efforts. The role of engineering and public education is also included in the training curriculum.

Evidence Base: US Department of Transportation, National Highway Traffic Safety Administration, Countermeasures that Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices, Ninth Edition 2017

https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812478_v5_countermeasures-that-work-a-highway-safety-countermeasures-guide-9thedition-2017.pdf

Implementation Resources:

National Highway Traffic Safety Administration

www.nhtsa.gov/road-safety

New York State Governor's Traffic Safety Committee

<http://safeny.ny.gov/peds-ndx.htm#Programs>

NYSDOH Pedestrian Safety

www.health.ny.gov/prevention/injury_prevention/pedestrians.htm

New York State Department of Transportation

www.dot.ny.gov/index

New York State Pedestrian Safety Action Plan

www.ny.gov/programs/pedestrian-safety-action-plan

Pedestrian Bicycle and Information Center

www.pedbikeinfo.org

Target Population: Law Enforcement.

Social Determinants of Health: Transportation, Built Environment

Sectors Playing Lead Role: Transportation, Highway Safety Agencies, Governmental Public Health Agencies

Sectors Playing Contributing Role: Local Law Enforcement Agencies, Community Based Organizations

Intermediate Measures: Number of Law Enforcement Officers trained. Increase in tickets written for pedestrian law violations for both drivers and pedestrians

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases, (2) Physical Activity*

1.4.3: (Supporting Objectives 1.4.b.)

Establish bicycle safety programs including a helmet distribution component. Bicycle helmets when used properly reduce head injuries by up to 88%. Helmet distribution programs should include bicycle safety education and actual fitting of recipients' helmets.

Evidence Base: US Department of Transportation, National Highway Traffic Safety Administration, Countermeasures that Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices, Ninth Edition 2017

https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812478_v5_countermeasures-that-work-a-highway-safety-countermeasures-guide-9thedition-2017.pdf

CDC Bicycle Helmet Laws for Children

www.cdc.gov/motorvehiclesafety/calculator/factsheet/bikehelmet.html

Implementation Resources: Countermeasures that Work: A Highway Safety Countermeasure Guide For State Highway Safety Offices, Ninth Edition 2017

https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812478_countermeasures-that-work-a-highway-safety-countermeasures-guide-.pdf

National Highway Traffic Safety Administration

www.nhtsa.gov/road-safety

New York State Governor's Traffic Safety Committee

www.safeny.ny.gov/bike-ndx.htm

NYSDOH Bicycle and Wheeled Recreation Safety

https://www.health.ny.gov/prevention/injury_prevention/bicycles.htm

CDC Bicycle Safety

<https://www.cdc.gov/motorvehiclesafety/bicycle/index.html>

Pedestrian Bicycle and Information Center

www.pedbikeinfo.org

Target Population by Age: Children and Adolescents; New Yorkers of all Ages

Social Determinants of Health: Transportation

Sectors Playing Lead Role: Governmental Public Health Agencies, Transportation and Highway Safety Agencies

Sectors Playing Contributing Role: Community Based Organizations, Schools, Law Enforcement Agencies, Healthcare Delivery System

Intermediate Measures: Number of helmets fitted and distributed.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases, (2)*
Physical Activity

Focus Area 2: Outdoor Air Quality

Poor outdoor air quality leads to illness and death. People with underlying respiratory disease, including asthma or cardiovascular disease, the very young, and the very old, are particularly at risk from poor air quality. Cardiovascular disease is the leading cause of death nationally and in New York. Extensive evidence shows that both ozone and fine particulate matter (particles that are smaller than 2.5 micrometers in diameter) exposures are associated with increased respiratory and cardiovascular disease and deaths. Some evidence shows that ongoing, long term exposures to these pollutants is associated with increasing rates of asthma development.

Toxic air pollutants, also known as hazardous air pollutants, are known or suspected to cause cancer or other serious health effects, such as reproductive effects, birth defects, or adverse environmental effects. Depending on the level and duration of exposure, people exposed to toxic air pollutants may have an increased chance of developing cancer or experiencing other serious health effects. Although the air quality concentrations in New York for many of the toxic air pollutants has significantly improved in recent decades, for some of the air toxics, the general ambient air concentration is still above levels of concern.

The United States Environmental Protection Agency (US EPA) regulates certain outdoor air pollutants under the Federal Clean Air Act. US EPA has designated six air pollutants, i.e., carbon monoxide, lead, nitrogen oxides, ozone, fine particulate matter, and sulfur dioxide as criteria pollutants, and established health-based air concentration standards for them, known as the National Ambient Air Quality Standards (NAAQS).

NYS Department of Environmental Conservation (NYSDEC) has the authority to require facilities to install pollution control technologies or to change operating practices that pollute the air. The air facility permit is one way to require pollution controls. Operating sources must comply with the terms of their NYSDEC permit, publicly report their emissions and may be required to monitor or test their emissions. For State and Title V permits, NYSDEC reviews and assesses a facility's emissions of criteria pollutants, hazardous air pollutants and carbon dioxide equivalents (a measure of climate warming potential) and appropriate control technologies before issuing a permit.

Through state and federal regulations, permitting, and enforcement, the air quality in New York has greatly improved over the last 40 years. As of 2018, all NYS counties met the fine particulate standard, however nine counties are still designated as non-attainment for ozone. When more stringent standards for ozone and fine particulate matter are adopted, it is possible for air quality to improve and yet have counties go into non-attainment and have more days with Air Quality Health Advisories. It is confusing, but it reflects continuing efforts to substantially improve outdoor air quality.

Executive Order No. 166 (2017) established the goal of reducing GHG emissions from all sources in New York State to 40 percent below levels emitted in 1990 by the year 2030. New York State is building a portfolio of programs and policies aimed at reducing GHG emissions. State programs use emission controls, technical assistance and financial incentives to ease the transition to cleaner energy generation. The health benefits of GHG reduction policies include: cleaner air (less ozone formation; fewer pollutants released), support for land-use planning that encourages more walking and cycling, and safer transportation through community design to accommodate alternative transportation. Policies to reduce GHG emissions, that also reduce emissions of criteria and hazardous pollutants will potentially result in greater benefits. Coordination of efforts to reduce GHGs and other harmful air pollutants, especially in low-income and minority communities, can provide an efficient and equitable approach to realize the health benefits anticipated with reductions in both GHGs and other air pollutants.

Goal 2.1: Reduce exposure to outdoor air pollutants

Objective 2.1.a. Reduce the annual number of days with Air Quality Index (AQI) >100 to 3 or less (reflecting unhealthy daily ozone or PM levels). (Baseline: 17 days; Baseline year: 2017; Target: 3; Intermediate Target (2021): 8. Data Source: NYSDEC Monitoring Data compared to current NAAQS; Available Data: State level)

Objectives 2.1.b. Implement policies that target vulnerable groups to reduce exposure to short-term increases in pollutant levels. (No data are available to measure)

Interventions

2.1.1: (Supporting Objective 2.1.a.)

Disseminate time sensitive outreach to regulated facilities serving vulnerable populations when air quality is, or is forecast to be unhealthy. An extensive body of research has found that the very young, the elderly, and people of any age with existing cardiovascular or respiratory disease are at increased risk for health effects from ozone and particulate air pollution.

Evidence Base: The National Ambient Air Quality Standards (NAAQS) for Particle Pollution
https://www.epa.gov/sites/production/files/2016-04/documents/health_2012_factsheet.pdf
US EPA Ozone Pollution

<https://www.epa.gov/ozone-pollution>

Implementation Resources:

NYSDEC AQI Forecast

https://www.dec.ny.gov/cfm/xtapps/aqi/aqi_forecast.cfm

US EPA AirNow

<https://www.airnow.gov/>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Transportation, Community Cohesion, Health Care, Natural Environment

Sectors Playing Lead Role: Governmental Public Health Agencies (State Health Department) and Natural Environmental Agencies (NYSDEC)

Sectors Playing Contributing Role: Governmental Agencies including Transportation, Child and Family Services, Office of the Aging, and Education Department; Employers, Businesses and Unions; Insurers; Media; Asthma Partners of New York; Healthcare Delivery System

Intermediate Measures: Number of air quality health advisories issued each year in NYS. Increase the number of counties in NYS that are in attainment of the National Ambient Air Quality Standards (NAAQS).

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases*, (4) Chronic Disease Preventive Care and Management

2.1.2: (Supporting Objectives 2.1.b.)

Expand air quality health advisories to respond to episodic smoke events from industrial fires and wildfires.

Originally developed to alert the public to pollution episodes based upon weather forecasts and monitoring data, NYSDOH is increasingly working to alert communities of air pollution that results from regional or local episodic events, such as wildfires, industrial fires or infrastructure failures that are not captured by the existing monitoring networks.

Evidence Base:

National Association of County and City Health Officials, Taking Action to Address the Public Health Impact of Wildfire Smoke

<https://nacchovoice.naccho.org/2018/05/03/taking-action-to-address-the-public-health-impact-of-wildfire-smoke/>

CDC Protect Yourself from Wildfire Smoke

<https://www.cdc.gov/features/wildfires/index.html>

CDC Wildfire Smoke

<https://www.cdc.gov/disasters/wildfires/smoke.html>

Implementation Resources: US EPA Guide for Public Health Officials – Wildfire Smoke

https://www3.epa.gov/airnow/wildfire_may2016.pdf

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Transportation, Community Cohesion, Health Care, Natural Environment, Built Environment

Sectors Playing Lead Role: Governmental Public Health Agencies (NYSDOH), Natural Environmental Agencies (NYSDEC) and Transportation Agencies (NYSDOT).

Sectors Playing Contributing Role: Governmental Public Health Agencies (Local Health Departments), Emergency Preparedness, Policy Makers and Elected Officials, Media, Healthcare Delivery Systems, Schools, Community Based Organizations and Groups

Intermediate Measures: Enhance collaborations that will allow a weight of evidence approach (NYSDEC air monitoring data, NYSDOT or other public video feeds, reports of visible smoke impacts, and media reports) to track and monitor conditions to determine those events that warrant a local smoke advisory warning.

Supporting Other Goals and Interventions from other Priorities: Prevent Chronic Diseases, (4)
Chronic Disease Preventive Care and Management

2.1.3: (Supporting Objectives 2.1.a. and 2.1.b.)

Implement policies that provide resources and guidance on ways individuals, communities, and governmental entities can work to reduce air pollution and CO₂ equivalent emissions.

Long term reductions in air pollutants and GHGs will hinge on government, community, and personal commitments. Knowing what to do and having the resources and support to accomplish the change is crucial. NYS energy, pollution control, and environmental protection laws and policies can be leveraged to achieve emission reductions. In addition, policies and programs that encourage and facilitate street and parkland tree planting, especially in urban environments, provides direct air quality improvements and indirectly reduces the urban heat island effect. Improving forest land management in rural areas can also mitigate pollution impacts and enhance carbon sequestration.

Evidence Base:

State and Territorial Air Pollution Program Administrators and Association of Local Air Pollution Control Officials, Reducing Greenhouse Gases and Air Pollution: A Menu of Harmonized Options

<http://www.oecd.org/environment/cc/2055676.pdf>

World Health Organization, Air Pollution Guidance

http://www.who.int/ipcs/assessment/public_health/air_pollution/en/

Journal of Urban Health, How can Urban Policies Improve Air Quality and Help Mitigate Global Climate Change: a Systematic Mapping Review

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4794467/>

Implementation Resources:

NYS Taking Action to Reduce Climate Change Pollution

<https://www.governor.ny.gov/sites/default/files/atoms/files/EO%20%23166.pdf>

US EPA Clean Air Act Overview

<https://www.epa.gov/clean-air-act-overview/benefits-and-costs-clean-air-act-1990-2020-second-prospective-study>

NYSDEC, Air

<https://www.dec.ny.gov/chemical/281.html>

NYSDEC, Tips to Keep Air Clean

<https://www.dec.ny.gov/public/43563.html>

NYSDEC, Executive Order 4

<https://www.dec.ny.gov/energy/71389.html>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Economic Stability, Housing, Transportation, Community Cohesion, Health Care Natural Environment, Built Environment

Sectors Playing Lead Role: Governmental Public Health Agencies (NYSDOH), Natural Environmental Agencies (NYSDEC), and other Governmental Agencies (NYS Energy Research and Development Agency)

Sectors Playing Contributing Role: Governmental Public Health Agencies; Employers, Businesses and Unions; Community or Neighborhood Residents; Community Based Organizations; Human Service Agencies; Policy Makers and Elected Officials; Transportation Agencies; Urban Planning Agencies

Intermediate Measure: Reduce local government building GHG emissions to meet the Governor's "40-by-30" goals (40% below 1990 levels by 2030). Reduce releases of pollutants from stationary sources (e.g., industrial, food service, residential heating) and mobile sources (e.g., rail, marine, and on and off-road vehicles) that contribute to local and regional pollutant levels.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases, (4)* Chronic Disease Preventive Care and Management

Focus Area 3: Built and Indoor Environments

The 'built environment' focus area includes the outdoor and indoor environments of homes, schools, workplaces, public and commercial buildings, transit systems, roadways, multi-use trails, streetscapes and parks. How the built environment is designed and maintained can affect human health through the products and materials used and through land use, zoning, economic development and infrastructure decisions.

This area includes a diverse set of objectives and interventions covering increasing climate smart communities/projects/resilience and enhancing pedestrian opportunities; addressing *Legionella* in premise water in healthcare facilities and cooling towers; reducing exposure to lead, asthma triggers, and radon in the home environment; and reducing environmental exposures and improving the indoor and outdoor environments of early childcare centers and schools.

Goal 3.1: Improve design and maintenance of the built environment to promote healthy lifestyles, sustainability, and adaptation to climate change.

Climate - Objective 3.1.a. Increase the percentage of the population that live in a certified Climate Smart Community by 15%. (Baseline: 7.5%; Baseline year: 2018; Target: 8.6%. Data Source: NYSDEC Climate Smart Communities program; Available Data: State/County level)

Climate - Objective 3.1.b. Increase the percentage of people who commute to work using alternate modes of transportation (e.g., public transportation, carpool, bike/walk) or who telecommute by 5%. (Baseline as of end of 2017: 45.6%; Target: 47.9%. Data Source: US Census American Community Survey; Available Data: State/County level)

Climate - Objective 3.1.c. Ensure the availability and accessibility of cooling centers or other places where people can cool off during extreme heat events. (Underdeveloped; data is not available across the State.)

Legionella - Objective 3.1.d. Increase the percentage of registered cooling towers in compliance with 10 NYCRR Subpart 4-1, Cooling Towers, to reach a goal of 93% compliance. (Baseline: 59%; Baseline year: 2018; Target: 93%; Intermediate target (2021): 78%. Data Source: NYS Cooling Tower Registry; Available Data: State excluding NYC/County level excluding NYC)

Legionella - Objective 3.1.e. Improve control of Legionella in Article 28 facilities by improving the quality of environmental assessments and sampling and management plans prepared by Article 28 facilities. (Underdeveloped; complete dataset is unavailable at this time. May be measured in the future.)

Interventions

3.1.1: (Supporting Objective 3.1.a. and 3.1.b.)

Become a certified Climate Smart Community (CSC). CSC is a NYS program that helps local governments take action to reduce greenhouse gas emissions and adapt to a changing climate, which also has co-benefits to public health.

All communities in NYS can register to become a Climate Smart Community (CSC) by taking the CSC pledge. Becoming a certified Climate Smart Community goes beyond the CSC pledge by completing and documenting a suite of actions that mitigate and adapt to climate change at the local level. Besides the environmental and public health benefits, certification also facilitates better scores for some state funding programs, including NYSDEC's CSC grants.

Evidence Base:

Balbus, J.M et al. A wedge-based approach to estimating health co-benefits of climate change mitigation activities in the United States. *Climatic Change*. 2014; 127: 199-210.

Gao, J. et al. Public health co-benefits of greenhouse gas emissions reduction: A systematic review. *Sci Total Environ*. 2018; 627: 388-402.

Implementation Resources:

Certification process information

<https://climatesmart.ny.gov/>

NYSDEC Climate Smart Communities Pledge

<https://www.dec.ny.gov/energy/65494.html>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Community Cohesion, Health Care, Natural Environment, Built Environment, Transportation

Sectors Playing a Lead Role: Governmental Agencies (Local Government)

Sectors Playing a Contributing Role: Governmental Public Health Agencies; Community or Neighborhood Residents; Community Based Organizations and Human Service Agencies; Policy Makers and Elected Officials; Transportation Agencies; Economic Development Agencies; Natural Environment Agencies; Urban Planning Agencies

Intermediate measures: Number of certified communities. Number of communities working towards certification

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Disease*, (2) Physical Activity, (2.1) Create community environments for physical activity; (2.2) Promote school, child care and worksite environments that increase physical activity; (2.3) Facilitate access to safe and accessible places for physical activity

3.1.2 (Supporting Objective 3.1.c.)

Identify and promote the availability and use of cooling centers and other resources to prepare for extreme heat events.

NYS is experiencing increasing temperatures and extreme heat events. A few hours of air-conditioning during an extreme heat event can prevent or reduce the impact of heat on health. Cooling centers are one component of an overall strategy for preventing heat-related morbidity and mortality, by providing a cool location for people who do not have access to air-conditioning during a heat event. As of summer 2018, 37 counties reported cooling center information to the NYSDOH (NYC maintains a separate cooling center website). It would be prudent for all counties to prepare for extreme heat events by identifying locations that could be used as cooling centers if needed.

Evidence Base: The Use of Cooling Centers to Prevent Heat-Related Illness: Summary of Evidence and Strategies for Implementation (Climate and Health Technical Report Series Climate and Health Program, Centers for Disease Control and Prevention)

<https://www.cdc.gov/climateandhealth/docs/UseOfCoolingCenters.pdf>

Implementation Resources: NYSDOH Cooling Centers Information and Resources

<https://www.health.ny.gov/environmental/weather/cooling/>

NYSDOH interactive map application to identify nearest Cooling Center

https://apps.health.ny.gov/statistics/environmental/public_health_tracking/tracker/#/CCMap

NYSDOH Heat Vulnerability Index to assist local public health leaders and emergency planners identify areas with populations with greatest vulnerability to heat to mitigate the public health impact of heat in their area

https://www.health.ny.gov/environmental/weather/vulnerability_index/

NYSDOH County heat and health profile reports and summaries of county level temperature trends, heat-related health effects, and list some adaptation resources

<https://www.health.ny.gov/environmental/weather/profiles/>

Target Population by Age: New Yorkers of all Ages; certain populations are more vulnerable to heat than others including children and older adults

Social Determinants of Health: Community Cohesion; Health Care; Natural Environment; Built Environment

Sectors Playing a Lead Role: Governmental Public Health Agencies (Local Health Departments, County Emergency Management Offices)

Sectors Playing a Contributing Role: Governmental Public Health Agencies; Employers, Businesses and Unions (e.g., shopping malls, grocery stores); Media; Colleges and Universities; Community or Neighborhood Residents; Community Based Organizations and Human Service Agencies; Policy Makers and Elected Officials; Transportation Agencies; Economic Development Agencies; Natural Environment Agencies; Urban Planning Agencies; Others: Public Libraries, Senior Centers, Fire Departments, Municipalities, Non-Profit Organizations (e.g., American Red Cross)

Intermediate Measure: Number of counties currently participating in the program. Number of designated cooling centers across NYS. Number of households receiving cooling assistance through HEAP. Number of people using cooling centers.

Supporting Other Goals and Interventions from other Priorities: Prevent Chronic Disease, (2) Physical Activity, (2.1) Create community environments for physical activity; (2.3) Facilitate access to safe and accessible places for physical activity

3.1.3: (Supporting Objective 3.1.b.)

Enhance active transportation infrastructure by encouraging utilization and seeking opportunities to expand existing networks.

Encourage Utilization: Encourage public and private sector businesses to develop or adopt programs to utilize alternative commuting methods, and promote and participate in NYS's annual Green Your Commute Day. For state agencies, promote the use of 511NYRideShare within state government agencies. For the private sector, promote greater use of carpooling.

Seeking Funding Opportunities: Seek opportunities to enhance active transportation through funding. In 2016, the CSC Grant program was established to provide 50/50 matching grants to cities, towns, villages, and counties (or boroughs of New York City) of the State of New York for eligible climate adaptation and mitigation projects. Funds are available for two broad categories: The first category supports implementation projects related to climate change adaptation and the reduction of greenhouse gases outside the power sector. The second category supports planning projects related to CSC certification actions especially in the areas of climate change adaptation, land use, and municipal fleet management.

Evidence Base:

Community Preventive Services Task Force Recommendation for Built Environment Interventions to Increase Physical Activity

<https://www.thecommunityguide.org/content/combined-built-environment-features-help-communities-get-active>

Implementation Resources:

NYSDEC Green Your Commute Information

<https://www.dec.ny.gov/public/96405.html>

511NY Rideshare

<https://511nyrideshare.org/>

NYSDEC Climate Smart Community Grant Program

<http://www.dec.ny.gov/energy/109181.html#CSC>

NYSDEC Climate Smart Communities Certification Actions

<https://climatesmart.ny.gov/actions-certification/actions/>

NYS DOT Complete Streets

<https://www.dot.ny.gov/programs/completestreets>

Smart Growth America

Safer Streets, Stronger Economies: Complete Streets project outcomes from across the country

<https://www.smartgrowthamerica.org/app/uploads/2016/08/safer-streets-stronger-economies.pdf>

CDC Transportation Health Impact Assessment Toolkit

https://www.cdc.gov/healthyplaces/transportation/promote_strategy.htm

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Community Cohesion, Health Care, Natural Environment, Built Environment

Sectors Playing a Lead Role: Governmental Agencies (Local Governments)

Sectors Playing a Contributing Role: Governmental Public Health Agencies; Community or Neighborhood Residents; Community Based Organizations and Human Service Agencies; Policy Makers and Elected Officials; Transportation agencies; Economic Development Agencies; Natural Environment Agencies; Urban Planning Agencies

Intermediate Measure: Miles of active transportation opportunities within jurisdiction

Number of projects designed to enhance active transportation opportunities within jurisdiction

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Disease*, (2)

Physical Activity, (2.1) Create community environments for physical activity; (2.2) Promote school, child care and worksite environments that increase physical activity; (2.3) Facilitate access to safe and accessible places for physical activity

3.1.4: (Supporting Objective 3.1.d.):

Engage with cooling tower owners and their stakeholders to increase knowledge of, and compliance with, 10 NYCRR Subpart 4-1, titled Cooling Towers.

Cooling towers are a potential source of *Legionella*, the bacteria that causes legionellosis. If cooling towers are not operated and maintained properly, *Legionella* can grow inside of them and can be dispersed into the air in tiny water droplets or mist. 10 NYCRR Subpart 4-1 was developed in accordance with industry standards for cooling tower operating procedures, most notably ASHRAE Standard 188-2015 Legionellosis: Risk Management for Building Water Systems

Evidence Base: CDC Cooling Towers

https://www.cdc.gov/healthywater/other/industrial/cooling_towers.html

Implementation Resources: NYSDOH Protection Against Legionella

<https://www.health.ny.gov/environmental/water/drinking/legionella/index.htm>

10 NYCRR Subpart 4-1 Cooling Towers Regulation

<https://regs.health.ny.gov/content/subpart-4-1-cooling-towers>

ASHRAE Standard 188-2015 Legionellosis: Risk Management for Building Water Systems p. 7-8

<https://www.ashrae.org/technical-resources/standards-and-guidelines#188>

Target population by age: New Yorkers of all Ages; Adults over 50 are at the highest risk for legionellosis

Social determinants of health: Built Environment

Sectors Playing a Lead Role: Governmental Public Health Agencies (State and Local Health Departments)

Sectors Playing a Contributing Role: Employers, Businesses and Unions

Intermediate measures: Number of registered towers and the percent of towers in compliance. (By 2021: 78% compliance)

Supporting Other Goals and Interventions from other Priorities: NA

3.1.5: (Supporting Objective 3.1.e.):

Engage Article 28 facility stakeholders to strengthen assessment and management of premise water systems, including using proper techniques, practices, and plan development.

Healthcare facilities, such as hospitals and nursing homes, usually serve the populations at highest risk for Legionnaires' disease. CDC recommends that healthcare facilities develop and follow a water management program to minimize the growth and spread of *Legionella* and other waterborne pathogens in premise water systems.

Evidence Base: CDC Healthcare Water Management Program Frequently Asked Questions

<https://www.cdc.gov/legionella/wmp/healthcare-facilities/healthcare-wmp-faq.html>

Implementation Resources:

NYSDOH Protection Against *Legionella*: Residential and Health Care Facility Requirements

https://www.health.ny.gov/environmental/water/drinking/legionella/hospitals_health_care.htm

10 NYCRR Subpart 4-2 Health Care Facility Regulation

<https://regs.health.ny.gov/content/subpart-4-2-health-care-facilities>

CDC Guidance on *Legionella*

<https://www.cdc.gov/legionella/wmp/healthcare-facilities/healthcare-wmp-faq.html>

Federal Register, Centers for Medicare and Medicaid Services (CMS), 42 CFR 483.80

<https://www.federalregister.gov/documents/2016/10/04/2016-23503/medicare-and-medicaid-programs-reform-of-requirements-for-long-term-care-facilities>

CMS Survey and Certification Memo S&C 17-30-All, dated 6/2/2017 (revised 6/9/2017)

<https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/Survey-and-Cert-Letter-17-30.pdf>

Target population by age: New Yorkers of all Ages; Adults over 50 are at the highest risk for legionellosis and the most likely to be patients/residents of Article 28 facilities.

Social determinants of health: Built Environment

Sectors Playing a Lead Role: Healthcare Delivery System.

Sectors Playing a Contributing Role: Governmental Public Health Agencies (Federal and State)

Intermediate measures: Number of trainings and resources provided. Sampling and management plans (water management plan) submitted that contain evidence of effective facility water management practices.

Supporting Other goals and Interventions from other Priorities: *Prevent Communicable Diseases including HIV/STIs, Vaccine-Preventable Diseases and Antimicrobial Resistance, and Healthcare-Associated Infections, (5) Antibiotic Resistance and Healthcare-Associated Infections, (5.1) Improve infection control in healthcare facilities*

Goal 3.2: Promote healthy home and school environments

Objectives 3.2.a. Increase health care provider’s blood lead testing rates of children ages 0-6.

- One year old blood lead testing rates. (Baseline: 58.72%; Target 95%; Intermediate Target: 90%. Data Source: New York State Immunization Information System, 2017 Aggregate Clinical Performance Report; Available Data: State/County level)
- Two year old blood lead testing rates. (Baseline: 56.82%; Target 95%; Intermediate Target: 90%. Data Source: New York State Immunization Information System, 2017 Aggregate Clinical Performance Report; Available Data: State/County level)

Objectives 3.2.b. Increase the number of homes that are inspected for lead and other health hazards. (Baseline: 18,675 initial home visits completed; Baseline year: 2017; Target: 23,000 units annually. Data Source: NYSDOH Lead Poisoning Prevention Program reports, Childhood Lead Poisoning Primary Prevention Program reports, and Healthy Neighborhoods Program reports; Available Data: State level)

Objective 3.2.c Reduce the number of children less than six years of age with a blood lead level of 5 ug/dL and over. (This objective may be measured in the future.)

Objective 3.2.d. Increase the number of homes tested for radon and mitigating as needed. (Underdeveloped.) (Baseline: 37,563 tests annually (3-year average from 2015 through 2017); Target: 50,000 tests annual average (calculated over 3-years). Data Source: NYSDOH Radon Database/Application and Dataset per 10 NYCRR Part 16.130(b)(1)); Available Data: State level)

Objective 3.2.e. Increase the number of homes mitigated for radon as needed. (Baseline: 3,439 mitigation systems annually (3-year average from 2015 through 2017); Target: 3,700 mitigation systems annual average (calculated over 3-years). Data Source: Dataset per 10 NYCRR Part 16.130(b)(3)); Available Data: State level)

Objective 3.2.f. Increase the number of houses built with radon resistant features. (No data are available to measure this objective statewide.)

Objective 3.2.g. By 2024, 10% of NYS public, private, and charter schools enroll in the NYS Clean, Green, and Healthy Schools Program. (Baseline: 0.2%; Target: 10%; Intermediate: 5%; Data Source: NYSDOH database maintained by the Clean, Green, and Healthy Schools program as schools enroll; Available Data: State/County level)

(Goal of the above school objectives is improvements in other measures of school attendance, academic performance, and asthma/respiratory symptoms. This will cross reference the applicable Asthma-related objectives.)

Objective 3.2.h. Reduce children’s risk of being exposed to environmental hazards at early care and education (ECE) programs. (Data are not available to measure this objective at this time.)

Interventions

3.2.1: (Supporting Objectives 3.2.a)

Educate healthcare providers and parents about blood lead testing requirements and importance. Such activities may include:

- Promote point-of-care blood lead testing in healthcare provider offices.
- Create a blood lead testing “Report Card” and disseminate to healthcare providers.
- Educate HCPs to use the New York State Immunization Information System (NYSIIS) blood lead reports, e.g., Test Due List Report and Aggregate Clinical Performance Report
- Develop a media campaign targeting parents to discuss blood lead testing with their child’s healthcare provider.
- Educate healthcare providers to provide anticipatory guidance concerning lead poisoning prevention to parents and caregivers of children at child health visits.

Evidence Base: CDC guidance on lead action levels and follow-up

https://www.cdc.gov/nceh/lead/acclpp/actions_blls.html

CDC Preventing Lead Poisoning in Young Children

<https://www.cdc.gov/nceh/lead/publications/books/plpyc/chapter7.htm>

Implementation Resources: NYSDOH Information for Health Care Providers on Lead Poisoning Prevention and Management

https://www.health.ny.gov/environmental/lead/health_care_providers/index.htm

NYSDOH, Local Health Department Lead Poisoning Program (LPPP)

https://www.health.ny.gov/environmental/lead/health_care_providers/local_health_departments.htm

Regional Lead Resource Center (RLRC)

https://www.health.ny.gov/environmental/lead/exposure/childhood/regional_lead_resource_centers.htm

Target Population by Age: Infants and Toddlers up to age 5

Social Determinants of Health: Housing, Built Environment, Education, Economic Stability

Sectors Playing a Lead Role: Governmental Public Health Agencies (State and Local Health Departments), Healthcare Delivery System (providers).

Sectors Playing a Contributing Role: Media, Community Based Organizations and Human Service Agencies

Intermediate Measures: Number of outreach materials distributed or training offered. Number of children screened.

Supporting Other Goals and Interventions from other Priorities: *Promote Healthy Women, Infants, and Children*, (2) Perinatal & Infant Health, (2.1) Reduce infant mortality & morbidity

3.2.2: (Supporting Objectives 3.2.b. and 3.2.c.)

Promote the use of and increase referrals from healthcare providers, case management providers, community based agencies, and others to the Local Health Departments with Primary Prevention

Programs (15 Programs cover 19 municipalities for home visits) and 19 Healthy Neighborhood Programs.

Evidence Base: A Cost-Benefit Analysis of a State-Funded Healthy Homes Program for Residents With Asthma: Findings From the New York State Healthy Neighborhoods Program.

<https://www.ncbi.nlm.nih.gov/pubmed/28121775>

Implementation Resources: NYSDOH Childhood Lead Poisoning Prevention Program

<https://www.health.ny.gov/environmental/lead/>

CDC, Lead

<https://www.cdc.gov/nceh/lead/default.htm>

NYSDOH, Healthy Neighborhood Program

https://www.health.ny.gov/environmental/indoors/healthy_neighborhoods/

Target Population by Age: New Yorkers of all Ages, children up to age 13, Adolescents (13-21)

Social Determinants of Health: Housing, Built Environment, Economic Stability

Sectors Playing a Lead Role: Governmental Public Health Agencies (State and Local Health Departments), Managed Care Organizations, Health Care Providers, Community Based Organizations and Human Service Agencies.

Sectors Playing a Contributing Role: Managed Care Organizations, Other: Local Code Enforcement Agencies, Maternity and Early Childhood Foundation Inc, American Academy of Pediatrics, Local Level Medical Society

Intermediate Measures: Enhance referral network to make referrals to both the childhood lead primary prevention program for home assessment and/or the healthy neighborhood program. Increase the percentage of home visits for individual's with poorly controlled asthma under the Healthy Neighborhoods Program.

Supporting Other Goals and Interventions from other Priorities: *Promote Healthy Women, Infants, and Children*, (2) Perinatal & Infant Health, (2.1) Reduce infant mortality & morbidity. *Prevent Chronic Diseases* (4) Chronic Disease Preventive Care and Management, (4.3) Promote evidence-based care to prevent and manage chronic diseases including asthma, arthritis, cardiovascular diseases diabetes and prediabetes and obesity (4.4) Improve self-management skills for individuals with chronic diseases, including asthma, arthritis, cardiovascular disease, diabetes and prediabetes and obesity

3.2.3: (Supporting Objectives 3.2.d., 3.2.e, and 3.2.f.)

Conduct radon outreach and education programs for the public, applicable building construction contractors, and building officials and code inspectors. Component of outreach may include promotion of the NYSDOH's free and low-cost radon test kits, which includes providing test kits at half price to schools and daycares and free test kits as part of the NYSDOH's Healthy Neighborhoods Program and other State Indoor radon grant-funded programs.

Evidence Base: World Health Organization (WHO), Handbook on Indoor Radon

http://apps.who.int/iris/bitstream/handle/10665/44149/9789241547673_eng.pdf;jsessionid=0FE3F65B7400BF681699BD5C5CAEBFF3?sequence=1

National Academy of Science, Biological Effects of Ionizing Radiation (BEIR) VI Committee, Health Effects of Exposure to Radon

<https://www.nap.edu/read/5499/chapter/1>

US EPA, Assessment of Risks from Radon in Homes, EPA 402-R-03-003

<https://www.epa.gov/sites/production/files/2015-05/documents/402-r-03-003.pdf>

Agency for Toxic Substances and Disease Registry (ATSDR) toxicological profile for radon

<https://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=71>

Implementation Resources:

NYSDOH Radon Information

www.health.ny.gov/radon

CDC Radon

<https://www.cdc.gov/radon/>

US EPA Radon

www.epa.gov/radon

US EPA Radon Guidance for Schools, Webinar: Radon in Schools

<https://www.epa.gov/iaq-schools/forms/webinar-radon-schools-what-you-need-know-properly-manage-radon-your-school>

Kansas State University, National Radon Program Services, Training and Resources

<https://sosradon.org/RRNC-Code-Officials>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Housing, Built Environment

Sectors Playing a Lead Role: Governmental Public Health Agencies (State and Local Health Departments).

Sectors Playing a Contributing Role: Employers, Businesses and Unions, Media, Colleges and Universities, Schools (K-12), Community or Neighborhood Residents, Community Based Organizations and Human Service Agencies, Policy Makers and Elected Officials, Housing Agencies, Urban Planning Agencies

Intermediate Measures: Number of homes tested for radon.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases (4)*
Chronic Disease Preventive Care and Management

3.2.4: (Supporting Objectives 3.2.g.)

Explore local level policy and/or code adoption to require radon resistant construction in high radon areas.

Evidence Base: WHO, Handbook on Indoor Radon

http://apps.who.int/iris/bitstream/handle/10665/44149/9789241547673_eng.pdf;jsessionid=0FE3F65B7400BF681699BD5C5CAEBFF3?sequence=1

National Academy of Science, Biological Effects of Ionizing Radiation (BEIR) VI Committee, Health Effects of Exposure to Radon

<https://www.nap.edu/read/5499/chapter/1>

US EPA, Assessment of Risks from Radon in Homes, EPA 402-R-03-003

<https://www.epa.gov/sites/production/files/2015-05/documents/402-r-03-003.pdf>

ATSDR toxicological profile for radon

<https://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=71>

Implementation Resources:

NYS DOH, Radon Resistant New Construction information

<https://www.health.ny.gov/environmental/radiological/radon/rrnc/index.htm>

NYS Department of State, Division of Building Standards and Codes

<https://www.dos.ny.gov/dcea/>

Kansas State University, National Radon Program Services, Training and Resources

<https://sosradon.org/RRNC-Code-Officials>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Housing, Built Environment

Sectors Playing a Lead Role: Governmental Public Health Agencies (State and Local Health Departments), State and Local Building Codes Officials.

Sectors Playing a Contributing Role: Policy Makers and Elected Officials, Housing Agencies, Economic Development Agencies, Urban Planning Agencies

Intermediate Measures: Number of building code officials that receive training on radon resistant construction methods. Number of policy makers/elected officials who are engaged.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases (4)*
Chronic Disease Preventive Care and Management

3.2.5: (Supporting Objectives 3.2.d. and 3.2.e)

Promote healthcare provider screening for radon testing particularly in high-risk radon areas.

Increase the number of physicians that ask their patients if they have had their homes tested for radon and refer them to the NYSDOH, as needed. Add radon testing questions to routine electronic medical questionnaires.

Evidence Base: WHO, Handbook on Indoor Radon

http://apps.who.int/iris/bitstream/handle/10665/44149/9789241547673_eng.pdf;jsessionid=0FE3F65B7400BF681699BD5C5CAEBFF3?sequence=1

National Academy of Science, Biological Effects of Ionizing Radiation (BEIR) VI Committee, Health Effects of Exposure to Radon <https://www.nap.edu/read/5499/chapter/1>

US EPA, Assessment of Risks from Radon in Homes, EPA 402-R-03-003

<https://www.epa.gov/sites/production/files/2015-05/documents/402-r-03-003.pdf>

ATSDR toxicological profile for radon.

<https://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=71>

Implementation Resources:

NYSDOH, Radon Awareness Through Physicians

https://www.health.ny.gov/environmental/radiological/radon/md_campaign.htm

Conference of Radiation Control Program Directors, Reducing the Risk from Radon: Information and Interventions, A Guide for Health Care Providers

http://www.radonleaders.org/sites/default/files/HP_Radon_Guide_2018_FINAL_CRCPD%20E-18-2.pdf

Iowa Cancer Consortium, Breathing Easier Campaign videos and resources for physicians
<http://canceriowa.org/BreathingEasier.aspx>

CDC Radon Toolkit

<https://www.cdc.gov/radon/toolkit/index.html>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Housing, Built Environment

Sectors Playing a Lead Role: Healthcare Delivery System (providers), Governmental Public Health Agencies (State and Local Health Departments).

Sectors Playing a Contributing Role: Community Based Organizations and Human Service Agencies; Policy Makers and Elected Officials

Intermediate Measures: Number of materials provided.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases (4)*
Chronic Disease Preventive Care and Management

3.2.6: (Supporting Objectives 3.2.g.)

Implement the NYS Clean, Green, and Healthy Schools Program in schools across NYS.

The New York State Clean, Green, and Healthy Schools Program is a statewide school environmental health program developed through collaborative efforts by the NYSDOH in conjunction with over 40 state and federal agencies, and non-government organizations. The program helps schools improve the health and safety of their school environment, which may result in better health, attendance, productivity, and test scores. The program provides information for all school occupants on best practices, tools, knowledge, and resources in nine environmental health focus areas:

- 1) Indoor Air Quality (IAQ);
- 2) Energy and Resource Conservation;
- 3) Integrated Pest Management (IPM);
- 4) Mold/Moisture;
- 5) Chemical and Environmental Hazards;
- 6) Cleaning and Maintenance;
- 7) Transportation;
- 8) Construction/Renovation; and
- 9) Water Quality.

Evidence Base: E. Eitland, L. Klingensmith, P. MacNaughton, et al. Foundations for Student Success: How School Buildings Influence Student Health, Thinking, and Performance. Harvard T. H. Chan School of Public Health. 2018.

<https://www.hsph.harvard.edu/news/hsph-in-the-news/school-buildings-student-health-performance/>

Implementation Resources:

NYSDOH, New York State Clean, Green, and Healthy Schools

https://www.health.ny.gov/environmental/indoors/healthy_schools/audience.htm#students

NYSDOH, New York State Clean, Green, and Healthy Schools Program Guide for Schools

https://www.health.ny.gov/environmental/indoors/healthy_schools/docs/programguide.pdf

NYSDEC School Chemical Management

<https://dec.ny.gov/education/105106.html>

Target Population by Age: School-aged children 5-17 years old; Adults who work in schools (Children up to age 13, Adolescents (13-21), and Adults (ages 21-60))

Social Determinants of Health: Education, Built Environment

Sector Playing a Lead Role: Schools (K-12)

Sectors Playing a Contributing Role: Governmental Public Health Agencies (State and Local Health Departments), Unions, Policy Makers and Elected Officials, NGOs, Natural Environment Agencies (NYDEC), Urban Planning Agencies

Intermediate Measures: Number of schools enrolled in the Clean, Green, and Healthy Schools Program (500 schools enrolled by December 31, 2022).

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases* (4) Chronic Disease Preventive Care and Management, (4.3) Promote evidence-based care to prevent and manage chronic diseases including asthma, arthritis, cardiovascular diseases diabetes and prediabetes and obesity

3.2.7: (Supporting Objectives 3.2.h.)

Promote outreach and increase education regarding environmental hazards among individuals leading and supporting the licensing of early care and education (ECE) programs.

In partnership with the Agency for Toxic Substances and Disease Registry's (ATSDR's) the NYSDOH is working on a 3-year project called "Choose Safe Places for Early Care and Education (CSPECE)." The overall mission of the CSPECE project is to ensure that early care and education programs are located where chemical hazards have been considered, addressed, and ruled out or mitigated to best protect children's health. The environmental hazards include but are not limited to: former uses of the property that may have residual harmful substances, migration of harmful substances onto the property from other sites, presence of naturally occurring harmful substances (i.e. radon), and access to safe drinking water. This program relies on the collaboration and assistance of stakeholders.

Evidence Base: US EPA, Drinking Water Best Management Practices for Schools & Child Care Facilities Served by Municipal Water Systems

<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100HGM8.txt>

US EPA, Drinking Water Best Management Practices for Schools and Child Care Facilities with Their Own Drinking Water Source

<https://nepis.epa.gov/Exe/ZyPDF.cgi/P100GOT8.PDF?Dockey=P100GOT8.PDF>

US EPA, School Siting Guidelines

https://www.epa.gov/sites/production/files/2015-06/documents/school_siting_guidelines-2.pdf

American Academy of Pediatrics (AAP), Drinking Water from Private Wells and Risks to Children

<http://pediatrics.aappublications.org/content/pediatrics/123/6/1599.full.pdf>

Implementation Resources:

ATSDR's Choose Safe Places for Early Care & Education

<https://www.atsdr.cdc.gov/safeplacesforece/index.html>

Children's Environmental Health Network

<https://cehn.org/>

Target Population by Age: Children and Adolescents (ages 6 weeks to 13 years of age) and Adults (women of child bearing age).

Social Determinants of Health: Education, Built Environment

Sectors Playing Lead Role: Governmental Public Health Agencies (State and Local including Early Childcare and Education Agencies and Health Departments).

Sectors Playing Contributing Role: Governmental Public Health Agencies (State and Local Health Departments), and State and Local Childcare Resource and Referral Agencies

Intermediate Measures: Number of annual trainings for OCFS staff (inspectors, fire & safety reps, licensors), Local Health Departments, and Day care providers.

Supporting Other Goals and Interventions from other Priorities: *Promote Healthy Women, Infants, and Children*, (2) Perinatal & Infant Health and *Prevent Chronic Diseases* (4) Chronic Disease Preventive Care and Management

Focus Area 4: Water Quality

Challenges to drinking and recreational water quality can be viewed in the NYS Health Assessment *Contributing Causes of Health Challenges* Chapters:

https://www.health.ny.gov/prevention/prevention_agenda/2019-2024/docs/sha/contributing_causes_of_health_challenges.pdf

Goal 4.1: Protect water sources and ensure quality drinking water

Objective 4.1.a. Increase the number of public water systems that apply for and are awarded infrastructure improvement assistance (e.g., Drinking Water State Revolving Fund (DWSRF), Water Infrastructure Improvement Act (WIIA), and Intermunicipal Water Infrastructure Grant Program (IMG)) to reduce exposure to regulated and emerging contaminants and public health impacts associated with aged infrastructure. (Annual Baseline: 28 annual average (calculated over 3-years (2015-2017)); Annual Target: 45 annual average (calculated over 3-years; with 6-year total target of 270). Short Term Financings are being used as to not double count projects as each project usually closes on both Short and Long-Term financing. Data Source: DWSRF Program data; Available Data: State/Public water system level)

Objective 4.1.b. Promote sustainability by advancing policies and practices that protect NYS drinking water quality and quantity, through source water protection and watershed management planning. (Data may be developed and measured in the future.)

Interventions

4.1.1: (Supporting Objective 4.1.a.)

Promote funding opportunities (e.g., DWSRF) through webinars and notices to stakeholders engaged in public water and public water infrastructure

Evidence Base:

The Associated General Contractors of America, Drinking Water and Wastewater Infrastructure

<https://www.agc.org/connect/agc-groups/utility-infrastructure-division/drinking-water-and-wastewater-infrastructure>

Hunter, P. R., MacDonald, A. M., & Carter, R. C. (2010). Water Supply and Health. *PLoS Medicine*, 7(11)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2976720/>

U.S. Environmental Protection Agency, Drinking Water Infrastructure Needs Survey and Assessment, Sixth Report to Congress

https://www.epa.gov/sites/production/files/2018-10/documents/corrected_sixth_drinking_water_infrastructure_needs_survey_and_assessment.pdf

Implementation Resources:

NYS Environmental Facilities Corporation, DWSRF

<https://www.efc.ny.gov/DWSRF>

NYSDOH, DWSRF Information Sheet

https://www.health.ny.gov/environmental/water/drinking/iup/information_sheet.htm

NYS Environmental Facilities Corporation, Water Infrastructure Improvement Act

www.efc.ny.gov/WIIA

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Built Environment

Sectors Playing Lead Role: Governmental Public Health Agencies (State Health Department)

Sectors Playing Contributing Role: Public, Professional Societies (American Water Works Association NY Section, NYS Rural Water, American Society of Civil Engineers NY Section), Government Agencies (local) and Governmental Public Health Agencies (Local Health Departments), Private Sector Business Councils

Intermediate Measure: Number of short term financing projects. (By December 31, 2020, a total of 30 short-term financing projects.)

Supporting Other Goals and Interventions from other Priorities: NA

4.1.2 (Supporting Objective 4.1.b.)

Develop and implement monitoring programs, source water assessments, and drinking water protection strategies. At the state level,

- Identify potential sources of drinking water contamination
- Develop a comprehensive statewide sustainable source water protection program

Evidence Base: Postel, S.L., and Thompson Jr., B.H. 2005. Watershed protection: Capturing the benefits of nature's water supply services. *Natural Resources Forum* 29:98-108.

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.459.6538&rep=rep1&type=pdf>

Implementation Resources: US EPA Protect Sources of Drinking Water Information and Resources

<https://www.epa.gov/sourcewaterprotection>

Source Water Collaborative

<https://sourcewatercollaborative.org/>

American Water Works Association Source Water Protection Resource Community

<https://www.awwa.org/resources-tools/water-knowledge/source-water-protection.aspx>

Association of State Drinking Water Administrators Source Water Protection

<https://www.asdwa.org/source-water/>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Built Environment

Sectors Playing Lead Role: Natural Resource Agencies (NYSDEC), Governmental Public Health Agencies (State and Local Health Departments), Public Water Suppliers, Other Governmental Agencies (NYS Department of State, NYS Agriculture & Markets, and local municipalities)

Sectors Playing Contributing Role: Public, Professional Societies (American Water Works Association NY Section, NYS Rural Water, American Society of Civil Engineers NY Section) Governmental Agencies (local)

Intermediate Measure: Number of source water protection plans.

Goal 4.2: Protect vulnerable waterbodies to reduce potential public health risks associated with exposure to recreational water

Objective 4.2.a. Increase access to information on water quality that affects the recreational use of NYS and marine waterbodies. (Underdeveloped; data may be developed and measured in the future.)

Objective 4.2.b. Reduce the annual average number of beach closure days due to HABS by 5% to 1,228 days. (Baseline (2018): 1,293 annual beach closure days; Target: overall 5% reduction in the cumulative annual average (2019-2024) number of beach closure days. Data Source: NYSDOH Bathing Beach closure tracking database; Available Data: State/County/Waterbody level)

Interventions

4.2.1 (Supporting Objectives 4.2.a.)

Enhance the public's accessibility to real-time water quality information for recreational waters including beach status (open, closed) and other information.

Currently, the NYSDOH Beach Water Quality Information System includes details on bathing beaches in NYS on the Great Lakes and for marine waters. The data displayed are used by the public and other partner agencies. Information on NYS operated bathing beaches are displayed on NYS Parks, Recreation, and Historic Preservation's and other beach specific websites/pages. Centralizing and/or expanding the information available may help improve the usability and access to important information concerning bathing beaches.

Promotion of the NYSDOH Beach Water Quality Information System and other relevant sites could be implemented through outreach campaigns, press releases, and links from other web pages to promote public awareness.

Evidence Base: US EPA 2016 Recreational Water Conference

<https://www.epa.gov/sites/production/files/2016-06/documents/recreational-waters-session2-2016.pdf> (Page 21)

Implementation Resources: NYSDOH Beach Water Quality Information Site:

http://ny.healthinspections.us/ny_beaches/

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Natural Environment, Built Environment

Sectors Playing a Lead Role: Governmental Public Health Agencies (State and Local Health Departments), Natural Environment Agencies (NYSDEC, NYS State Parks, Recreation, and Historic Preservation)

Intermediate Measure: Number of waterbodies with bathing beach water quality information online.

4.2.2 (Supporting Objective 4.2.b)

Adopt and implement best managements practices to reduce nutrient loading through resource conservation, wastewater, and storm water infrastructure improvements (such as green infrastructure).

Increasing blooms of toxic cyanobacteria have affected not only NYS waterbodies, but have been found to be increasing around the world. Investigations suggest implementing nutrient loading reduction strategies can have a synergistic reduction effect on cyanobacteria blooms and populations. Sources of increased nutrients and increasingly eutrophic conditions in lakes in the US have been linked to storm water (Siegel, et al., 2011), sewage, atmospheric deposition, groundwater, and agriculture run-off (Anderson, et al. 2002). It is advisable to investigate and adopt best management practices for nutrient loading reduction to assist in the alleviation of harmful cyanobacteria blooms.

Evidence Base: Anderson, D. M., et al. 2002. Harmful algal blooms and eutrophication: Nutrient sources, composition, and consequences

<https://link.springer.com/article/10.1007/BF02804901>

<https://pdfs.semanticscholar.org/e5eb/9e1d2c50af255f71f1a435618a7df630f63a.pdf>

Siegel A, Cotti-Rausch B, Greenfield DI, Pinckney JL (2011) Nutrient controls of planktonic cyanobacteria biomass in coastal stormwater detention ponds. Mar Ecol Prog Ser 434:15-27. <https://doi.org/10.3354/meps09195>

Implementation Resources: NYSDEC Funding opportunities for non-point source pollution and water quality improvement

<https://www.dec.ny.gov/chemical/113733.html#Funding>

New York State DEC/EFC Wastewater Infrastructure Engineering Planning Grant - FAQs

<https://dec.ny.gov/pubs/83186.html>

NYSDEC examples of Green Infrastructure for Stormwater Management:

<https://www.dec.ny.gov/lands/58930.html>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Natural Environment, Built Environment

Sectors Playing a Lead Role: Governmental Agencies (local municipalities), Governmental Public Health Agencies (State and Local Health Departments), Natural Environment Agencies (NYSDEC, NYS State Parks, Recreation, and Historic Preservation)

Sectors Playing a Contributing Role: Urban Planning Agencies, Economic Development Agencies, Policy Makers and Elected Officials, Colleges and Universities, Community Based Organizations

Intermediate Measure: Number of jurisdictions that have implemented a watershed protection measure to address HABs (within 3 years, 7% of the waterbodies with HABs will have implemented some mitigation measures within respective watersheds).

Focus Area 5: Food and Consumer Products

The Food and Consumer Products focus area is broad and covers reducing exposures to chemical or biological hazards in food and consumer products, and food safety. Challenges to food safety can be viewed in the NYS Health Assessment *Contributing Causes of Health Challenges* Chapters: https://www.health.ny.gov/prevention/prevention_agenda/2019-2024/docs/sha/contributing_causes_of_health_challenges.pdf

This area includes a diverse set of objectives and interventions including improving gardening practices and garden environments to reduce the potential for exposures to contaminants in soil; promoting healthy fish consumption practices that reduce exposures to contaminants in fish; increasing the public's awareness of chemicals and contaminants in food and consumer products; and improving food safety management including reducing foodborne illness.

Goal 5.1: Raise awareness of the potential presence of chemical contaminants and promote strategies to reduce exposure.

Gardening - Objective 5.1.a. Reduce the potential for exposure to common chemical soil contaminants by supporting improvements to garden environments and promoting healthy gardening practices. (No data are available to measure this objective.)

Fish - Objective 5.1.b. Educate the public to make informed fish and game consumption decisions to reduce exposures to contaminants by increasing the number of mapped waterbodies detailing contamination.

By December 31, 2024, improve access to information for anglers and families eating fish from NYS waters by increasing the number of county or city maps from 8 to 20. These maps show better choice waterbodies; locations where fish have less contaminants.

(Baseline: 8 maps; Baseline year: 2018; Target: 20 maps. Data Source: Fish Advisory Maps by County; Available Data: State/County/City level)

https://www.health.ny.gov/environmental/outdoors/fish/health_advisories/maps.htm

Foods and Consumer Products - Objective 5.1.c. Increase public awareness of chemicals and/or contaminants in products. (Underdeveloped; data may be available to measure this objective in the future.)

Interventions

5.1.1: (Supporting objective 5.1.a.)

Improve garden environments to reduce the potential for exposure to soil contaminants.

For young children, [studies](#) suggest that the greatest risk from a garden with soil contamination is direct contact with the soil and soil tracked into the home. For adults, including pregnant women, the greater risk may come from eating produce with adhered soil particles that are not readily removed by washing. Soil can be tested for common contaminants like lead to determine the importance of improving the garden environment to reduce the potential for exposure. Proactive improvements include installing a landscaping fabric barrier over contaminated soil, building [raised beds](#) and covering pathways with mulch. These improvements reduce the chances that gardeners and those who eat the garden's produce will be exposed to soil contaminants, without placing the responsibility on gardeners themselves to significantly change their practices. School districts, gardening groups, municipalities and other organizations can adopt practices, policies, or municipal codes that can support these changes by, for example, ensuring an adequate supply of locally available clean soil and amendments, keeping organized records of contaminant testing, and adopting maximum soil contaminant levels above which mitigative changes would be implemented. NYSDOH and its partners provide technical guidance and work to facilitate access to resources for community organizations to build capacity for informed decision-making about the benefits and risks associated with urban gardening.

Evidence Base: US EPA, Technical Review Workgroup Recommendations Regarding Gardening and Reducing Exposure to Lead-Contaminated Soils

<https://nepis.epa.gov/Exe/ZyPDF.cgi/P100JJS3.PDF?Dockey=P100JJS3.PDF>

CDC, Healthy Places: Community Gardens

<https://www.cdc.gov/healthyplaces/healthtopics/healthyfood/community.htm>

Urban Soils Institute, FAQ

<http://www.usi.nyc/soils-faq.html>

Environmental Geochemistry and Health, Estimated lead (Pb) exposures for a population of urban community gardeners

<https://link.springer.com/article/10.1007/s10653-016-9790-8>

Environmental Health Perspectives, Children's Lead Exposure: A Multimedia Modeling Analysis to Guide Public Health Decision-Making.

<https://www.ncbi.nlm.nih.gov/pubmed/28934096>

Implementation Resources: NYSDOH, Community Garden Raised Bed Tool Kit

<https://www.health.ny.gov/environmental/outdoors/garden/docs/toolkit.pdf>

NYSDOH, Healthy Gardening

<https://www.health.ny.gov/environmental/outdoors/garden/index.htm>

Cornell University College of Agriculture & Life Sciences, Healthy Soils, Healthy Communities

<http://blogs.cornell.edu/healthysoils/>

NYC Office of Environmental Remediation, NYC Clean Soil Bank

<http://home2.nyc.gov/html/oer/html/nyc-clean-soil-bank/nyc-clean-soil-bank.shtml>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Food Security, Community Cohesion, Natural Environment, Built Environment

Sectors Playing Lead Role: Governmental Public Health Agencies, Colleges and Universities and Cooperative Extension

Sectors Playing Contributing Role: Colleges and Universities, Schools (K-12), Community or Neighborhood Residents, Policy Makers and Elected Officials, Housing Agencies, Economic Development Agencies, Natural Environment Agencies, Urban Planning Agencies

Intermediate Measures: Soil test results interpreted, garden soil covered/clean soil brought in.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases*, (1) Healthy Eating and Food Security, (1.3) Reduce food insecurity

5.1.2: (Supporting objective 5.1.a)

Provide information to gardeners to help them produce healthy vegetables while minimizing exposure to contaminants for themselves and those with whom they share produce.

There are a number of [healthy gardening practices](#) that can reduce the likelihood of exposure to soil contaminants, such as planting fruiting vegetables instead of leafy or root vegetables, changing shoes before going indoors, washing hands after gardening, and washing and/or peeling vegetables before they are cooked or eaten. NYSDOH helps provide information to gardeners to make healthy choices and adopt healthy practices through evidence-based, culturally appropriate and balanced online content, distribution networks for printed materials (e.g., "Healthy Gardening" brochures), and indirectly, by working with partner organizations to convey these messages. NYSDOH and partners also participate in community outreach events called [soilSHOPS](#), where gardeners who might not be reached through other more traditional means are provided with lead screening results for their backyard soils. NYSDOH's community partners conduct trainings to foster peer education, build demonstration gardens, and engage in dialogue with policymakers to implement health-protective policies. Expanding partnerships will increase the number of gardeners empowered with information to make healthy gardening decisions.

Evidence Base: US EPA, Technical Review Workgroup for Lead recommendations

<https://nepis.epa.gov/Exe/ZyPDF.cgi/P100JJS3.PDF?Dockey=P100JJS3.PDF>

Implementation Resources:

NYSDOH, Healthy Gardening

<https://www.health.ny.gov/environmental/outdoors/garden/index.htm>

Cornell University College of Agriculture & Life Sciences, Healthy Soils, Healthy Communities

<http://blogs.cornell.edu/healthypoils/healthy-gardening/>

ATSDR, soilSHOP Tool Kit

<https://www.atsdr.cdc.gov/soilshop/index.html>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Food Security, Community Cohesion, Natural Environment, Built Environment

Sectors Playing Lead Role: Governmental Public Health Agencies (State or Local Health Departments), Colleges and Universities, and Cooperative Extension

Sectors Playing Contributing Role: Colleges and Universities, Schools (K-12), Community or Neighborhood Residents, Policy Makers and Elected Officials, Housing Agencies, Economic Development Agencies, Natural Environment Agencies, Urban Planning Agencies

Intermediate Measures: Soil test results interpreted, garden soil covered/ clean soil brought in.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases*, (1) Healthy Eating and Food Security, (1.3) Reduce food insecurity

5.1.3: (Supporting Objective 5.1.b.)

Evaluate data on emerging and legacy contaminants in fish and game to develop and/or update health advisories based on the sampling and analyses of target fish and wildlife from waterbodies or areas known or suspected to be impacted by chemical contamination.

In NYS, fish and game health advisories are based primarily on information that NYSDEC collects and generates. In recent years, NYSDEC has annually collected approximately 1,500 fish from more than 50 locations/waters and analyzed these fish for various contaminants. NYSDEC also tests some game species (e.g., waterfowl, snapping turtles) that accumulate chemical contaminants. NYSDOH reviews the NYSDEC data for fish and game to determine if an advisory should be issued or revised for fish from specific waters, and game species. The NYSDEC expands their list of contaminants to test for in fish and game as new information on chemicals becomes available (specifically those chemicals that do not break down easily and have known or suspected health risks are of greatest interest). The NYSDOH and NYSDEC continue to work in collaboration to identify susceptible water bodies as new data become available related to emerging contaminants and their use and release.

Evidence Base: US EPA guidance on developing fish advisories

<https://www.epa.gov/fish-tech/epa-guidance-developing-fish-advisories>

Reducing Toxic Exposures from Fish Consumption in Women of Childbearing Age and Urban Anglers: Results of a Two-Year Diary Study

<https://ecommons.cornell.edu/bitstream/handle/1813/51499/HDRU%20Report%2016-3%20Version%202.pdf?sequence=2>

Tracking Declines in Mercury Exposure in the New York City Adult Population, 2004–2014, <https://link.springer.com/article/10.1007/s11524-018-0269-z#citeas>
Fish Consumption and Breast Milk PCB Concentrations among Mohawk Women at Akwesasne, <https://academic.oup.com/aje/article/148/2/164/95863>

Implementation Resources:

US EPA guidance on developing fish advisories

<https://www.epa.gov/fish-tech/epa-guidance-developing-fish-advisories>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Food Security; Natural Environment

Sectors Playing a Lead Role: Governmental Public Health Agencies and Natural Environment Agencies (NYSDEC)

Sectors Playing a Contributing Role: NA

Intermediate Measures: Annual Sampling Request. By December 31st of each year, the NYSDOH will provide an annual fish sampling request to NYSDEC. This request will include information including but not limited to sampling requests for fish in those waterbodies with known or suspected contamination, popular fishing waters and waters where trends in fish contamination are being monitored. Additionally, the request will include those species that are most likely to be caught and eaten by sport anglers, as well as on waterbodies or fish species that the public have expressed concern about (if there is no available data).

Supporting Other Goals and Interventions from other Priorities: *Promote Healthy Women, Infants, and Children*, (2) Perinatal & Infant Health

5.1.4 (Supporting Objective 5.1.b.)

Educate the public, focusing on those populations that consume fish from NYS waterbodies, to adopt healthier fish consumption habits. Utilize a broad range of evidence-based educational tools and distribution methods that are culturally appropriate.

Inform the public about fish contamination in NYS water bodies to promote healthy fish consumption. Include advisory information in the NYSDEC Fresh Water Fishing Regulations guide. Provide online access and utilize social media and distribution networks, including entities that sell fishing licenses, environmental and community organizations, recreational facilities, food banks, and bait and tackle shops to distribute written materials. Translate regional materials into languages appropriate to the region, and utilize immigrant and refugee support networks, faith institutions, literacy, and other organizations to facilitate newcomers' access to this information.

Fishing is a fun outdoor activity and fish are an important part of a healthy diet. To promote healthy choices for recreational fish consumption, develop public-access county fishing maps that visually illustrate waters where families can eat the fish they catch, and waters where families should not eat fish. The county fishing maps offer local alternatives to contaminated waters for fish consumption without discouraging the practice of fishing nor

fish consumption. Develop fishing maps for additional counties and utilize online and distribution networks to distribute.

Evidence Base: US EPA guidance on developing fish advisories

<https://www.epa.gov/fish-tech/epa-guidance-developing-fish-advisories>

Implementation Resources: Reference for reaching out to sensitive subpopulations.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3709344/>

The Efficacy of Classroom Presentation in Spanish and English for Risk Communication on Fish Consumption Advisories.

https://www.researchgate.net/publication/10606576_Evaluating_Risk_Communication_about_Fish_Consumption_Advisories_Efficacy_of_a_Brochure_versus_a_Classroom_Lesson_in_Spanish_and_English

Article from Atlantic States on communicating with multiethnic groups (see page 5).

http://aslf.org/wp-content/uploads/2013/01/ASLF_Fish-Consumption-Communication-Strategy.pdf

Target Population by Age: New Yorkers of all Ages, with special emphasis on women under 50 (childbearing age) and children under 15 who are at higher risk from the contaminants in fish

Social Determinants of Health: Food Security, Natural Environment, Education

Sectors Playing a Lead Role: Community Based Organizations and Human Service Agencies, Governmental Public Health Agencies (State and Local Health Departments), Colleges and Universities, and Environmental Organizations

Sectors Playing a Contributing Role: Media, Schools (K-12); Community or Neighborhood Residents, Policy Makers and Elected Officials, Natural Environment Agencies, Others: Immigration Support Organizations, Food Banks and Faith Institutions

Intermediate Measures: By December 31, 2022, post three county public-access fishing maps online for regions of the state where contaminated waterbodies are heavily fished. Number of organizations participating and disseminating information.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases*, (1) Healthy Eating and Food Security, (1.3) Reduce food insecurity, *Promote Healthy Women, Infants, and Children*, (1) Maternal and Women's Health (2) Perinatal & Infant Health (3) Child and Adolescent Health

5.1.5: (Supporting objective 5.1.c.)

Expand access to chemical ingredient and other relevant product information.

- Promote existing disclosure venues to enhance public awareness.
- Expand chemical ingredient disclosure of products sold in NY through legislation or other.
- Enhance collaborations to investigate contaminants in products, share information, and alert the public.

Evidence base: Hore P, Ahmed M, Nagin D, and Clark N. 2014. Intervention Model for Contaminated Consumer Products: A Multifaceted Tool for Protecting Public Health. [Am J Public Health. 104\(8\):1377-83.](#)

Implementation Resources: NYSDEC Household Cleansing Product Information Disclosure Program

<https://www.dec.ny.gov/chemical/109021.html>

NYS Agriculture and Markets Food Safety Alerts

<https://www.agriculture.ny.gov/AD/alertList.asp>

US Food & Drug Administration Recalls, Market Withdrawals, and Safety Alerts

<https://www.fda.gov/Safety/Recalls/default.htm>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Food Security, Education, Community Cohesion

Sectors Playing Lead Role: Governmental Public Health Agencies (State and Local Health Departments, Poison Control Centers), Natural Environmental Agencies (NYSDEC), Policy Makers and Elected Officials, Media

Sectors Playing Contributing Role: Governmental Agencies: NYS Agriculture and Markets and NYS Food Laboratory; Community Based Organizations and Human Services Agencies; Employers, Businesses, and Unions; Healthcare Delivery System; Colleges and Universities

Intermediate Measures: Number of organizations participating and disseminating information.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases*, (1) Healthy Eating and Food Security, (1.2) Increase skills and knowledge to support healthy food and beverage choices

Goal 5.2: Improve food safety management

Objective 5.2.a. By December 31, 2024, incorporate the food safety requirements of the U.S. Food and Drug Administration 2017 Model Food Code into the New York State Food safety regulations to provide modernized and uniform food safety requirements for operators across State and local jurisdictions. (This objective may be measured in the future.)

Objective 5.2.b. Identify the contributing factors in 56% of foodborne outbreaks on an annual basis. (Baseline (2017): 55.9%; Target 56%. Data Source: New York State Foodborne Disease Surveillance Data; Available Data: State level.)

Interventions

5.2.1: (Supports Objective 5.2.a.)

Adopt Chapters 1-7 of the FDA 2017 Model Food into State Sanitary Code and provide implementation training and resources to Local Health Departments.

Evidence Base: US FDA Food Guidance, Regulation, and Food Code: Benefits Associated with Complete Adoption and Implementation of the FDA Food Code

<https://www.fda.gov/Food/GuidanceRegulation/RetailFoodProtection/FoodCode/ucm494616.htm>

(The study associates the presence of a certified food manager (one of the requirements of the Model Food Code) with a reduction in the likelihood of having an outbreak.)

CDC and Partner Study on Food Safety

https://www.cdc.gov/nceh/ehs/ehsnet/docs/JFP_Sys_Env_Eval_Id_Food_Safety_bw_OB_NOB_Rest.pdf

Implementation Resources:

US FDA Food Guidance Regulation and Food Code

<https://www.fda.gov/food/guidanceregulation/retailfoodprotection/foodcode/>

Target Population by Age: New Yorkers of all Ages

Social Determinant of Health addressed: Built Environment

Sectors playing lead role: Governmental Public Health Agencies (State and Local Health Departments)

Sectors playing contributing role: Policy Makers; Employers, Businesses and Unions,

Intermediate measures: By December 31, 2022, publish for public comment, regulation amendments to Part 14 that incorporate Chapters 1-7 of FDA 2017 Model Food Code.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases*, (1) Healthy Eating and Food Security, (1.1) Increase access to healthy and affordable foods and beverages.

5.2.2: (Supporting Objective 5.2.b)

Provide at minimum one training course to Local Health Department personnel on how to investigate foodborne illness outbreaks to increase the number of trained Local Health Department personnel to carry out foodborne outbreak investigations, and to improve the identification of contributing factors in foodborne outbreaks.

This intervention focuses on providing targeted resources such as training to Local Health Department staff to improve the completeness and timeliness of outbreak investigations and response. Helping team members improve their skills to investigate outbreaks and to understand each other's roles and responsibilities as a team by building relationships among team members could protect additional people from getting sick. Providing training to Local Health Department staff will improve their ability to identify the root causes of foodborne disease outbreaks. With this information, education could be provided to the public to improve food safety and prevent future illnesses.

Evidence Base: National Center for Biotechnology Information (NCBI) Resources:

Biggerstaff, G. 2015. Improving Response to Foodborne Disease Outbreaks in the United States: Findings of the Foodborne Disease Centers for Outbreak Response Enhancement (FoodCORE), 2010–2012. *J Public Health Manag Pract.* 21(4): E18–E26.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4629497/>

Gould, L.H., Rosenblum, I Nicholas, D., Phan, Q, Jones, T. 2013. Contributing Factors in Restaurant-Associated Foodborne Disease Outbreaks, FoodNet Sites, 2006 and 2007. J Food Prot. 76(11): 1824-1828.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4591533/>

CDC and partner study on Food Safety

https://www.cdc.gov/nceh/ehs/ehsnet/docs/JFP_Sys_Env_Eval_Id_Food_Safety_bw_OB_NOB_Rest.pdf

CDC Environmental Health Services: NEARS Data and Foodborne Disease Outbreaks

<https://www.cdc.gov/nceh/ehs/publications/jeh-march-2018/march-cf-nears-h.pdf>

(These articles demonstrate that the application of targeted resources is an effective means to identify, implement, and document model practices that successfully improve the completeness and timeliness of foodborne disease outbreak response activities. The critical information learned from training and additional resources help resolve outbreaks quickly, remove contaminated foods from commerce, and protect additional people from getting sick.)

Implementation Resources: CDC: Foodborne Disease Outbreak Training and Resources

<https://www.cdc.gov/foodcore/practice/comms-training.html>

National Environmental Health Association Epi- Ready Team Training

<https://www.neha.org/professional-development/education-and-training/epi-ready-team-training>

CDC, Environmental Health Services: Environmental Assessment Training Series (EATS)

<https://www.cdc.gov/nceh/ehs/elearn/eats/index.html>

CDC, Food Safety Education Month

<https://www.cdc.gov/foodsafety/education-month.html>

CDC Burden of Foodborne Illness: Findings

<https://www.cdc.gov/foodborneburden/2011-foodborne-estimates.html>

NYS Agriculture and Markets Division of Animal Industry

<https://www.agriculture.ny.gov/AI/AIHome.html>

NYS Agriculture and Markets Division of Food Safety and Inspection

<https://www.agriculture.ny.gov/FS/FSHome.html>

NYS Agriculture and Markets Division of Milk Control and Dairy Services

<https://www.agriculture.ny.gov/DI/DIHome.html>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Education, Food Security

Sectors Playing a Lead Role: Governmental Public Health Agencies (State and Local Health Departments)

Sectors Playing a Contributing Role: Policy Makers and Elected Officials, Governmental Agencies (NYS Agriculture and Markets)

Intermediate Measure: Number of foodborne disease outbreaks with an identified etiologic agent or vehicle. Number of trained Local Health Department personnel to carry out foodborne outbreak investigations.

Supporting Other Goals and Interventions from other Priorities: *Prevent Chronic Diseases*, (1) Healthy Eating and Food Security, (1.2) Increase skills and knowledge to support healthy food and beverage choices.

5.2.3: (Supporting objective 5.2.b.)

Improve coordination and response during outbreak investigations to reduce the incidence of disease and duration of the outbreak.

This intervention will focus on updating outbreak investigation procedures for NYS to improve coordination and response during outbreak investigations. The purpose of this procedure is to:

- 1) provide a standard protocol for enteric outbreak investigation and response;
- 2) enable stakeholders to work together effectively during outbreak investigations;
- 3) define roles and responsibilities of the outbreak investigation and control team; and
- 4) foster effective communication and data sharing among investigation team members.

Evidence Base: NCBI Resources:

Biggerstaff, G. 2015. Improving Response to Foodborne Disease Outbreaks in the United States: Findings of the Foodborne Disease Centers for Outbreak Response Enhancement (FoodCORE), 2010–2012. *J Public Health Manag Pract.* 21(4): E18–E26.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4629497/>

Institute of Medicine (US) Forum on Emerging Infections, Public Health Systems and Emerging Infections: Assessing the Capabilities of the Public and Private Sectors: Workshop Summary.

<https://www.ncbi.nlm.nih.gov/books/NBK100248/>

(The application of targeted resources, documenting model practices and the critical information and efforts made by other State and Federal partners have improved the completeness and timeliness of foodborne disease outbreak response activities.)

Implementation Resources: US Council to Improve Foodborne Outbreak Response Guidelines

<http://cifor.us/downloads/clearinghouse/2nd%20edition%20CIFOR%20Guidelines%20Final.pdf>

WHO Guidelines for Investigation and Control of Foodborne Diseases Outbreak

http://www.who.int/foodsafety/publications/foodborne_disease/outbreak_guidelines.pdf

Minnesota Department of Health Outbreak Response Protocol

<http://www.health.state.mn.us/divs/eh/food/pwdu/outbreakprotocol.pdf>

CDC Foodborne Disease Outbreak Training and Resources

<https://www.cdc.gov/foodcore/practice/comms-training.html>

National Environmental Health Association Epi- Ready Team Training

<https://www.neha.org/professional-development/education-and-training/epi-ready-team-training>

CDC Environmental Health Services: Environmental Assessment Training Series (EATS)

<https://www.cdc.gov/nceh/ehs/elearn/eats/index.html>

Target Population by Age: New Yorkers of all Ages

Social Determinants of Health: Education, Food Security

Sectors Playing Lead Role: Governmental Public Health Agencies (State and Local Health Departments)

Sectors Playing Contributing Role: Policy Makers and Elected Officials, Governmental Agencies (NYS Agriculture and Markets)

Intermediate Measure: Measure timeliness and completeness of foodborne disease outbreak investigation and reporting.