

## **Executive Summary**

This report summarizes cancer patterns and trends for Warren County, NY. New York State Department of Health (DOH) researchers investigated Warren County because it had the highest rate of all cancers combined in New York State (NYS) based on 2011-2015 data. This investigation was conducted as part of [Governor Cuomo's Cancer Research Initiative](#) announced in October 2017, which examined cancer trends and the potential causes of cancer in four regions of the state that have higher cancer rates, based on 2011-2015 data.

During the Warren County Investigation, DOH obtained input from interested members of the community. Researchers met with community members to present the design, goals, and approaches of the investigation. Community members and stakeholders provided input at meetings and emailed additional feedback.

DOH will use these findings to work with partners to enhance community cancer prevention, recommend appropriate screening efforts, and support access to appropriate high-quality health care.

### ***What was Evaluated***

#### **Sociodemographic Data**

DOH researchers examined data about the population, such as race, ethnicity, age, education, and income, to see if these factors could be related to higher cancer rates.

#### **Behavioral, Healthcare and Occupational Data**

DOH researchers reviewed available data about behavioral, healthcare and occupational factors known to be related to cancer. These included available information about smoking, obesity, alcohol use, diet, physical activity, occupation, and medical care access and practices.

#### **Environmental Data**

DOH researchers worked with the Department of Environmental Conservation (DEC) to review available environmental data to look for unusual patterns or trends in Warren County. Data included outdoor air pollutants, radon concentrations in indoor air, drinking water contaminants, industrial and inactive hazardous waste disposal sites, and traffic density.

#### **Cancer Data**

DOH researchers applied a two-step selection process to Cancer Registry data and chose nine types of cancer for in-depth examination. Oral cancer, colorectal cancer, laryngeal cancer, lung cancer, brain and other nervous system cancer, and thyroid cancer were selected because their overall or sex-specific incidence rates were statistically significantly higher in Warren County

## **Governor's Cancer Research Initiative – Warren County Cancer Incidence Report**

than in New York State excluding New York City (NYS excluding NYC). Esophageal cancer, melanoma of the skin, and leukemia were added to the target list because their overall or sex-specific incidence rates were significantly higher than the NYS rates and the excess was at least 40%. For each type of cancer, the evaluation included cancer trends over time; age and gender of patients diagnosed with cancer; and characteristics of the cancer, such as type of cells that were cancerous, tumor size, and stage of disease at the time of diagnosis.

### ***Findings***

#### **Sociodemographic Factors**

Review of population data showed that the sociodemographic makeup of Warren County more closely resembles that of NYS excluding NYC than that of NYS. Thus, NYS excluding NYC is the more appropriate comparison area for Warren County. However, the lack of racial and ethnic diversity, as well as the low prevalence of foreign nativity, distinguishes Warren County from NYS excluding NYC.

#### **Behavioral, Healthcare and Occupational Factors**

**Behavior and Lifestyle.** Behavioral surveillance data indicate that compared to NYS excluding NYC, Warren County residents were more likely to be current smokers, engage in leisure time physical activity, and have health care coverage. Furthermore, a significantly higher percentage of women in Warren County were overweight or obese. Overall, Warren County was ranked relatively low with respect to a multi-element composite measure of health behaviors, indicating less healthy lifestyles.

**Healthcare System.** Using information on various healthcare-related metrics, Warren County was placed in the top tier among the 57 counties of NYS excluding NYC in a national county ranking program.

**Occupation.** Results from survey data on occupations showed that compared to NYS excluding NYC, a slightly higher percentage of residents in Warren County were engaged in occupations associated with a higher probability of workplace exposures. However, the percentages in Warren County were based on a small number of respondents and therefore these differences may not be meaningful. In addition, analysis of asbestosis hospitalization rates indicates that past exposure to asbestos is unlikely to have been elevated in Warren County.

#### **Environmental Factors**

**Outdoor Air Pollution.** Historical monitored air quality data for 1973-1996 indicated that outdoor air in Warren County met national air quality standards. Evaluation of model-predicted cancer risks associated with inhalation exposure to hazardous air pollutants that are known or likely human carcinogens generally found low risk of cancer. Additionally, estimated inhalation cancer risks associated with outdoor air pollution in Warren County were similar or lower than

## **Governor's Cancer Research Initiative – Warren County Cancer Incidence Report**

in NYS excluding NYC and in NYS.

**Radon in Indoor Air.** Radon is the second leading cause of lung cancer after smoking. Average radon concentrations in Warren County were lower in comparison to both NYS excluding NYC and NYS. Radon is unlikely to explain the excess lung cancer risk in Warren County.

**Drinking Water Quality.** Researchers evaluated routine sampling data from 31 active public water systems in Warren County. Results showed that in general these water systems met safe drinking water standards and were in compliance. However, contaminant standards were exceeded at two public water systems. These violations were time-limited and quickly resolved. Furthermore, the contaminants that were involved are not associated with the cancers under study. Review of available data related to sampling for unregulated contaminants, based on the United States Environmental Protection Agency's (EPA's) Unregulated Contaminant Monitoring Rule (UCMR) program, showed public water systems tested in Warren County had levels below EPA reference concentrations.

**Industrial and Inactive Hazardous Waste Disposal Sites.** Researchers reviewed information for 22 sites in Warren County, including sites that were of concern to the public. This evaluation found no evidence suggesting that contamination from these remedial sites is causing widespread exposures in Warren County.

**Traffic.** Information from the traffic monitoring program was used to estimate the number of people living within 500 meters of roads with various traffic volumes. The proportion of Warren County residents living in proximity to heavily trafficked roads was considerably smaller than in NYS excluding NYC and in NYS.

### **Elevation in Cancer Incidence**

**Oral (Mouth and Throat) Cancer.** The five-year rates of oral cancer were statistically significantly above the rates for NYS excluding NYC in the 2001-2005, 2006-2010 and 2011-2015 time periods. During the 2011-2015 period, the excess was observed in people aged 50-64 years, with regional-stage tumors, and with squamous cell carcinomas.

According to the scientific literature, oral cancer is associated with all forms of tobacco use, including smoking, snuff, and chewing tobacco. Most oral cancer patients in Warren County were current or former tobacco users.

Alcohol consumption is another important risk factor for oral cancer. People who are heavy users of both tobacco and alcohol are at highest risk. Population-level survey results also support that alcohol consumption, both independently and in conjunction with smoking, may account for some of the Warren County excess in oral cancer.

Infection with the human papillomavirus (HPV) is another risk factor for oral cancer. Rates for HPV-related squamous cell tumors were statistically significantly higher in Warren County than

## Governor's Cancer Research Initiative – Warren County Cancer Incidence Report

in NYS excluding NYC in 2011-2015. However, data were insufficient to evaluate the contribution of HPV infection to the oral cancer excess, particularly because those cancers associated with HPV are also associated with alcohol and tobacco use.

Results from the environmental investigation did not show any unusual environmental exposures that could explain the county-wide excess in oral cancers in Warren County.

**Esophageal Cancer.** In 2011-2015 the incidence rate of esophageal cancer for Warren County was comparable to the rate for NYS excluding NYC, but significantly higher than the rate for NYS. These rates and analyses are based on a relatively small number of cases diagnosed each year in Warren County. The excess was fully attributable to men, distant-stage tumors, and squamous cell tumors.

According to the literature, smoking and alcohol use account for as much as 90% of squamous cell esophageal cancers. Most of the elevation in esophageal cancer was of the squamous cell carcinoma type, and most Warren County men diagnosed with this cancer were current or former smokers. Population-level survey results also support that alcohol consumption, both independently and in conjunction with smoking, may account for some of the Warren County excess in esophageal cancer.

**Colorectal (Colon and Rectum) Cancer.** Since 1999, the rates of colorectal cancer in Warren County and NYS excluding NYC have been declining. However, the incidence rate among women in Warren County in 2011-2015 was statistically significantly higher than in NYS excluding NYC. The marked excess was in women aged 20-49 years. Most colorectal cancers in women aged 20-49 were treatable, local-stage tumors indicating extensive clinical care for young symptomatic patients.

The literature estimates that up to half of early-onset colorectal cancers may be related to hereditary cancer syndromes or familial colorectal cancer. However, data were insufficient to evaluate the contribution of genetic factors to the excess of colorectal cancer.

According to the literature, colorectal cancer is also associated with smoking, heavy alcohol use, and physical inactivity. Moreover, studies suggest diet may be a risk factor, particularly a diet consisting heavily of red or processed meats and low on fruits, vegetables and fiber. People who are overweight or obese also have a greater risk of developing colorectal cancer. Population-level survey results for Warren County also support that alcohol consumption, both independently and in conjunction with smoking, and obesity may account for some of the Warren County excess in colorectal cancer.

Results from the environmental investigation did not show any unusual environmental exposures that could explain the county-wide excess of colorectal cancers in Warren County.

**Laryngeal (Larynx, Voice Box) Cancer.** Rates of laryngeal cancer in Warren County were statistically significantly higher than in NYS excluding NYC in 2006-2010 and 2011-2015. The

## Governor's Cancer Research Initiative – Warren County Cancer Incidence Report

relative elevation in Warren County is in part due to declining laryngeal cancer incidence in NYS excluding NYC. The excess cancers in Warren County were observed mainly in men and were almost entirely limited to those under age 65. Nearly all excess cancer cases were diagnosed at a localized stage.

According to the literature, the strongest risk factor for laryngeal cancer is smoking. In Warren County, almost all laryngeal cancer patients were current or former tobacco users.

Laryngeal cancer is also strongly associated with alcohol use. Population-level survey results support that alcohol consumption, both independently or synergistically with smoking, may account for some of the Warren County excess in laryngeal cancer.

Researchers considered occupational exposures to sulfuric acid and asbestos, known risk factors for laryngeal cancer, because both mining and pulp production use these chemicals in small quantities in their operations and these industries used to operate in Warren County. Data were insufficient to examine this possible factor directly. Indirect evidence based on asbestosis hospitalization rates suggests that past exposure to asbestos in Warren County was not elevated relative to NYS excluding NYC. Therefore, the impact of higher occupational exposure to asbestos on the excess of laryngeal cancer in Warren County would probably be minor.

**Lung Cancer.** Lung cancer rates in Warren County were statistically significantly higher than in NYS excluding NYC between 2011 and 2015. The marked elevation in Warren County is mostly driven by declining lung cancer incidence in NYS excluding NYC. The excess of lung cancer in Warren County is mainly associated with men, and all adults under age 65. The highest elevation in rates was observed for individuals 20-49 years of age.

Rates of the three major subtypes of lung cancer that are strongly associated with smoking were significantly elevated (i.e., squamous cell, small cell, and large cell carcinomas). An overwhelming majority of lung cancer patients in Warren County had a history of tobacco use at some time in their life, with the highest percentages among patients with small cell carcinoma and squamous cell carcinoma, the two subtypes most strongly related to cigarette smoking.

Researchers examined the rates of people diagnosed with lung cancer in Warren County who had a prior history of cancer, because radiation exposure is another key risk factor for lung cancer and cancer patients are frequently treated with radiation. The results did not show a significant difference between Warren County and NYS excluding NYC. Thus, it is unlikely that the excess in lung cancer incidence in Warren County can be attributed to radiation treatment for a prior tumor.

Exposure to air pollutants has been associated with lung cancer. Review of the modeled data showed that cancer risks from inhalation exposure to hazardous air pollutants were lower or similar to levels in NYS excluding NYC. Furthermore, the proportion of residents who live in

## Governor's Cancer Research Initiative – Warren County Cancer Incidence Report

proximity to high traffic roads was lower in Warren County. Therefore, available data on outdoor air quality indicate that air pollution is unlikely to explain the elevated lung cancer rates in Warren County.

Radon is an important environmental risk factor for lung cancer. In-home radon testing results show that average radon concentrations in Warren County were generally lower than in NYS excluding NYC. Although radon may be contributing to lung cancer risk in a limited number of localities, it is unlikely to explain the lung cancer excess in Warren County.

In the literature, elevated lung cancer rates have also been seen in communities with high levels of arsenic in drinking water. Also, beryllium, cadmium, and nickel are chemicals associated with lung cancer risk. These substances were monitored during routine water quality tests, but no violations were ever issued for them. The substances for which water violations were issued (i.e., total trihalomethanes and total haloacetic acids) have not been associated with lung cancer. Therefore, contamination in drinking water is unlikely to be related to the excess in lung cancer in Warren County.

Warren County has a somewhat greater proportion of people working in occupations with a higher probability of workplace exposures to elevated levels of hazardous substances than NYS excluding NYC. However, there were insufficient data available to evaluate the possible contributions of specific occupations to the lung cancer excess in Warren County. Indirect evidence based on asbestosis hospitalization rates indicates that past exposure to asbestos in Warren County was unlikely to have been elevated compared to NYS excluding NYC.

**Melanoma of the Skin.** Historically, rates of melanoma in Warren County have been higher than those for NYS and NYS excluding NYC. For the 2011-2015 period, the incidence rates for Warren County and NYS excluding NYC were statistically equivalent, but the rate for Warren County was 42% higher than the rate for NYS, a statistically significant difference.

The most important risk factor for melanoma is having a light skin complexion, which is a common trait among non-Hispanic whites. When comparing data for non-Hispanic whites in NYS, NYS excluding NYC, and Warren County, rates in Warren County were not statistically different. The rates of melanoma in Warren County were elevated when race/ethnicity was not considered because Warren county residents are almost exclusively non-Hispanic white (95%), while only 76% of the population of NYS excluding NYC and 58% of the population of NYS are non-Hispanic white.

**Brain Cancer.** The rates of cancers of the brain and other nervous system (ONS) in Warren County are based on small numbers since these cancers are relatively rare. They did not differ significantly from NYS excluding NYC until the 2011-2015 period. Rates in this timeframe were statistically significantly elevated among females, and among individuals under 20 years of age when both sexes were combined. Examination by cell type showed that the rate of pilocytic astrocytoma among individuals 0-19 years of age was almost five times higher in Warren County than in NYS excluding NYC. However, this rate was only based on four cases. Pilocytic

## Governor's Cancer Research Initiative – Warren County Cancer Incidence Report

astrocytomas accounted for 75% of the excess in brain and ONS cancers in the under 20 age group in Warren County.

Researchers examined the rates of people diagnosed with brain cancer in Warren County who had a prior history of cancer because radiation exposure is a key risk factor for brain and ONS cancer and cancer patients are frequently treated with radiation. The results did not show a significant difference between Warren County and NYS excluding NYC.

Results from the environmental investigation did not show any unusual environmental exposures that could explain the county-wide excess in brain and ONS cancers in Warren County.

**Thyroid Cancer.** Thyroid cancer rates in Warren County and in NYS excluding NYC have been increasing for decades. The five-year rate in Warren County was 30% higher than in NYS excluding NYC in 2011-2015. Thyroid cancer is more common in women than in men and becomes more common among people 30 years of age or older. Although rates in Warren County were elevated in women of all ages, the elevation was statistically significant only among women aged 65 and older.

Papillary carcinoma is the most common type of thyroid cancer in NYS and Warren County. Papillary carcinoma was responsible for nearly all the increase in cancers in Warren County and in NYS excluding NYC. This cancer is slow growing and rarely fatal. Nearly all the increase in Warren County thyroid cancers has been for tumors small enough to be considered subclinical, meaning they were small enough to cause no symptoms.

According to the scientific literature, the primary risk factor for thyroid cancer is medical system practices. These include the use of diagnostic imaging, cancer screening, and cancer diagnoses occurring post-surgery. Increases in thyroid cancer correspond directly to an increase in routine diagnostic imaging – specifically, diagnostic imaging with a neck ultrasound, or another form of imaging in the absence of symptoms. According to an article in the *New England Journal of Medicine*, 70-80% of female thyroid cancer cases and 45% of male thyroid cancer cases diagnosed in the US fall into this category. Researchers attempted to measure the volume of diagnostic imaging in New York and Warren County, but data were insufficient. Survey data showed that a higher proportion of adults in Warren County had health care coverage than those in NYS excluding NYC. Additionally, in recent years, Warren County has been ranked high on a composite metric of access to care and quality of care. Thus, high healthcare utilization in Warren County may be contributing to higher thyroid cancer rates.

Researchers examined the proportion of female thyroid cancer patients in Warren County who had a prior history of cancer because radiation exposure is a key risk factor for thyroid cancer and cancer patients are frequently treated with radiation. The results did not show a significant difference in rates between Warren County and NYS excluding NYC.

## Governor's Cancer Research Initiative – Warren County Cancer Incidence Report

There is evidence that an excess in body fat is associated with thyroid cancer, although the increase in risk is rather modest. Based on population-level survey results, its contribution to the thyroid cancer excess in Warren County would be minor.

Results from the environmental investigation did not show any unusual environmental exposures that could explain the county-wide excess in thyroid cancers in Warren County.

**Leukemia.** Leukemia was selected for study based on an excess of over 40% among females in Warren County relative to females in NYS. Leukemia incidence rates vary markedly by race/ethnicity. Virtually all leukemia cases in Warren County were non-Hispanic white. When the analysis was limited to non-Hispanic white females, the leukemia rate for women in Warren County was elevated during 2011-2015, but this rate was not statistically different from the rate for women in NYS excluding NYC or NYS. Most of the observed excess was attributable to an excess in chronic lymphocytic leukemia (CLL). However, the CLL incidence rates for non-Hispanic white females in Warren County and in NYS excluding NYC were also not statistically different.

CLL is the most common type of leukemia in adults. Family history is a strong risk factor, but other causes of CLL are uncertain. CLL can be detected by routine blood testing, before symptoms appear. Cancer data do not suggest that the excess could be due to greater reporting by either physician practices or independent clinical laboratories in the study area. The observed excess may in part be attributed to greater contact with the medical care system among Warren County residents.

Researchers observed a statistically significant excess in the CLL rate for women 20-49 years of age in Warren County compared to NYS excluding NYC. They also observed a deficit in the CLL incidence rate for females 50-64 years of age. This pattern suggests a shift toward earlier diagnosis for some CLL cases.

Survey data suggest that a greater proportion of Warren County residents under age 65 had health care coverage, which would improve access to medical care. This may in part explain the elevation in the CLL rate among women 20-49 years of age.

Given the lack of a statistically significant excess in leukemia among non-Hispanic white females in Warren County, and the highly variable annual leukemia incidence rates, it is likely that the excess observed for 2011-2015 represents an anomaly. Examination of 2012-2016 cancer data supports this conclusion.

### ***Conclusions***

- It is likely that a higher proportion of current and former tobacco use contributed to the elevated rates of lung, laryngeal, esophageal, and oral cancers in Warren County, which are four cancers most strongly associated with tobacco use. In 2011-2015, the elevations in the rates for these cancers were more often observed in men.

## Governor's Cancer Research Initiative – Warren County Cancer Incidence Report

- Alcohol consumption, independently or through a synergetic effect with tobacco use, might have contributed to the excess of oral, esophageal, and laryngeal cancers in Warren County, particularly among men.
- HPV infection could also have contributed to the oral cancer excess.
- Most of the elevation in thyroid cancer rates among women in Warren County is likely due to increased detection of small papillary tumors by medical imaging and other diagnostic techniques.
- The higher proportion of overweight or obese women in Warren County could also have contributed to the excess in female thyroid cancer incidence as well as the excess in female colorectal cancer incidence.
- The excess in leukemia rates among women in Warren County may represent a time-limited anomaly.
- The investigation found no factors that might account for the elevated incidence of cancers of the brain and ONS among females in Warren County. There were also no factors that might explain the higher incidence of pilocytic astrocytoma tumors among individuals less than 20 years of age. DOH will continue to monitor the incidence of brain and ONS cancers in Warren County.
- Results from the environmental investigation did not show any unusual environmental exposures that could explain the elevated cancer incidence rates in Warren County.

### ***Recommendations***

The recommendations below are divided into two main sections: 1) recommended actions to address the specific cancers that were elevated in the Warren County Study Area, and 2) recommended actions to address all cancer types throughout New York State. Many of the recommended activities are aligned with two existing State plans that address cancer prevention and control, the *New York State 2018-2023 Comprehensive Cancer Control Plan*, and the *New York State Prevention Agenda 2019-2024*.

### **Recommended Actions Based on Specific Cancers Elevated in the Warren County Study Area**

#### **Health Promotion and Cancer Prevention**

##### **Tobacco Prevention**

**Recommendation:** Prevent initiation of tobacco use, including combustible tobacco and electronic vaping products by youth and young adults.

**Recommendation:** Promote tobacco use cessation, especially among populations disproportionately affected by tobacco use including: low socioeconomic status; frequent mental distress/substance use disorder; lesbian, gay, bisexual and transgender; and disability.

## Governor's Cancer Research Initiative – Warren County Cancer Incidence Report

**Recommendation:** Eliminate exposure to secondhand smoke and exposure to secondhand aerosol/emissions from electronic vapor products.

### Alcohol Use

**Recommendation:** Implement environmental approaches, including reducing alcohol access, implementing responsible beverage services, reducing risk of drinking and driving, and restricting underage alcohol access.

**Recommendation:** Collaborate with partners and key stakeholders to educate the public, including youth and young adults, on cancer risk related to alcohol usage.

**Recommendation:** Provide personalized feedback about the risks and consequences of excessive drinking through the use of electronic screening and behavioral counseling interventions in healthcare settings, schools, and emergency rooms.

**Recommendation:** Among persons meeting the diagnostic criteria for alcohol dependence, promote the use of alcohol misuse screening and brief behavioral counseling interventions via traditional (face to face) or electronic means, and referrals to specialty treatment.

### Healthy Nutrition and Physical Activity

**Recommendation:** Promote healthy eating and food security by:

- Increasing access to healthy and affordable foods and beverages,
- Increasing skills and knowledge to support healthy food and beverage choices,
- Increasing food security, and
- Increasing awareness of DOH sportfish advisories to promote healthier fish consumption choices while reducing chemical exposures ([https://www.health.ny.gov/environmental/outdoors/fish/health\\_advisories/](https://www.health.ny.gov/environmental/outdoors/fish/health_advisories/)).

**Recommendation:** Increase physical activity by:

- Improving community environments that support active transportation and recreational physical activity for people of all ages and abilities,
- Promoting school, child care, and worksite environments that support physical activity for people of all ages and abilities, and
- Increasing access, for people of all ages and abilities, to safe indoor and/or outdoor places for physical activity.

### HPV Vaccination

**Recommendation:** Develop and implement educational campaigns targeted to adolescents and adults regarding the benefits and risks of HPV vaccine.

## **Governor's Cancer Research Initiative – Warren County Cancer Incidence Report**

**Recommendation:** Maximize use of the New York State Immunization Information System (NYSIIS) and the Citywide Immunization Registry (CIR) for vaccine documentation, assessment, decision support, reminders and recall.

**Recommendation:** Adopt local HPV policies which support HPV vaccination in adolescents and expand vaccine availability to new venues such as more healthcare settings and schools.

### **Exposure to Ultraviolet (UV) Radiation**

**Recommendation:** Promote educational initiatives that stress sun safety messages and provide clear information about the cancer risk associated with indoor tanning to decrease exposure to UV radiation for people of all ages, especially initiatives that target children, adolescents, young adults, parents, healthcare providers, and summer camp instructors.

**Recommendation:** Implement environmental changes for sun protection in outdoor settings such as access to shade and sunscreen in playgrounds, schools, summer camps, and other outdoor recreational settings, and increase the availability of sun protection in occupational settings for outdoor workers.

**Recommendation:** Promote awareness of, and compliance with, NYS's tanning law restricting minors from the use of indoor tanning facilities.

### **Cancer Screening and Early Detection**

#### **Lung Cancer Screening**

**Recommendation:** Educate men and women who meet the criteria for lung cancer screening about the benefits and risks of screening to help them make informed decisions.

**Recommendation:** Healthcare providers need tools and support to engage with patients who may benefit from screening, and facilities adopting lung cancer screening programs should be following national guidelines for a quality program.

#### **Colorectal Cancer Screening**

**Recommendation:** Educate men and women who meet the criteria for colorectal cancer screening about the benefits and risks of screening to help them make informed decisions.

**Recommendation:** Educate providers and the public that there are many testing options for colorectal cancer screening including take-home tests.

**Recommendation:** Reduce cost-related barriers to screening by educating providers and the public that health insurance plans in New York State are required to cover screening, and

## Governor's Cancer Research Initiative – Warren County Cancer Incidence Report

for those who are uninsured, the New York State Cancer Services Program (CSP) provides free colorectal cancer screening to men and women age 50 and older.

**Recommendation:** Support primary care practices and staff to implement evidence-based strategies outlined in the Guide to Community Preventive Services such as the use of patient and provider screening reminders.

### Thyroid Cancer Screening

**Recommendation:** The U.S. Preventive Services Task Force recommends *against* screening for thyroid cancer in asymptomatic adults. Educate the public and healthcare providers about recommendations *against* thyroid cancer screening in average risk, asymptomatic adults.

### Healthy and Safe Environment

#### Radon Testing and Mitigation

**Recommendation:** Improve the public's awareness about the relationship between indoor radon exposure and lung cancer by conducting outreach and education about building testing and remediation. Promote the DOH's free and low-cost radon test kit programs, provision of test kits at half price to schools and daycares, and free test kits as part of the DOH's Healthy Neighborhoods Program and other grant-funded programs.

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

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

#### Radiation from Medical Imaging

**Recommendation:** Increase awareness of such programs as NYS's "Image Gently" and the national "Image Wisely" campaigns that educate physicians and the public about potential radiation exposure from CT scans and X-rays in both children and adults.

#### Safety in the Workplace

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

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

## **Recommended Actions to Reduce the Burden of All Cancers Statewide**

Below are highlights of what individuals can do and what DOH and its partner organizations are doing. For more information on activities, by type of organization, that New Yorkers can do to help reduce the burden of cancer, see:

[https://www.health.ny.gov/diseases/cancer/consortium/docs/2018-2023\\_comp\\_cancer\\_control\\_plan.pdf#page=62](https://www.health.ny.gov/diseases/cancer/consortium/docs/2018-2023_comp_cancer_control_plan.pdf#page=62).

### **For All New Yorkers**

The following are things that all individuals can do to reduce their risk of cancer:

- If you use tobacco, quit. If you don't use tobacco, don't start.
- Eat nutritious meals that include fruits, vegetables and whole grains.
- Get moving for at least 30 minutes a day on five or more days each week.
- Use sunscreen, monitor sun exposure and avoid tanning salons.
- Limit alcohol use.
- Get cancer-preventive vaccines such as hepatitis B and HPV.
- Learn your family health history (if possible) and discuss with your healthcare provider whether genetic counseling might be right for you.
- Discuss what cancer screening tests might be right for you with your healthcare provider.
- Test your home for radon.
- For women of child-bearing age, know the benefits of breastfeeding and, if possible, breast-feed infants exclusively for at least the first six months of life.

### **For NYS Department of Health and Partner Organizations**

**Cancer Surveillance:** The New York State Cancer Registry (NYSCR) was designated by the CDC (Centers for Disease Control and Prevention) as a Registry of Excellence and has achieved Gold-level certification since 1998. In 2018, the NYSCR became a member of the National Cancer Institute's Surveillance, Epidemiology and End Results Program (SEER), the nation's preeminent source of population-based cancer data.

**Recommendation:** Continue to meet the highest cancer registry standards for timeliness, completeness and quality of data, and make these data available to researchers, clinicians, public health officials, legislators, policymakers, community groups and the public.

**Environmental Health:** DOH's Center for Environmental Health (CEH) works collaboratively with other agencies including the NYS Department of Environmental Conservation, the federal Environmental Protection Agency (EPA), the Centers for Disease Control and Prevention (CDC), and the Agency for Toxic Substance and Disease Registry (ATSDR). CEH programs evaluate health effects associated with environmental exposures, develop policies, and maintain a variety of programs to reduce and eliminate exposures.

**Recommendation:** Continue to identify and assess potential exposures throughout the

## **Governor's Cancer Research Initiative – Warren County Cancer Incidence Report**

state and take action to reduce those exposures. NYS will continue to support programs to promote and maintain clean air, clean water and reduce human exposures to environmental hazards, with particular attention to the needs of environmental justice communities.

**Recommendation:** Promote awareness of programs and initiatives to reduce environmental hazards in our communities.

**Statewide Initiatives:** The overarching goals of cancer prevention and control efforts in New York State are detailed in two State plans, the *New York State 2018-2023 Comprehensive Cancer Control Plan*, and the *New York State Prevention Agenda 2019-2024*.

**Recommendation:** Continue to work with partners to implement cancer-related initiatives.

- More details about the NYS Comprehensive Cancer Control Plan can be found at: <https://www.health.ny.gov/diseases/cancer/consortium/index.htm>.
- More details about the NYS Prevention Agenda can be found at: [https://www.health.ny.gov/prevention/prevention\\_agenda/2019-2024/](https://www.health.ny.gov/prevention/prevention_agenda/2019-2024/).