2020 NPCR NEW YORK STATE CANCER REGISTRY SUCCESS STORY

STORY TOPIC/FOCI: Public health impact, collaborative partnerships/projects

STORY CATEGORY: Public Health Impact

STORY TITLE: New York State Governor's Cancer Research Initiative

STORY AUTHOR: The New York State Department of Health Governor's Cancer Research Initiative Workgroup

SUMMARY

The New York State Governor's Cancer Research Initiative examined cancer trends and the potential causes of cancer in four regions of New York State with elevated cancer rates, based on 2011-2015 data. The initiative was announced in October 2017 and ended in November 2019 following the release of reports and regional meetings with community members and stakeholders in each of the four regions. The New York State Department of Health (DOH) is using the findings from the initiative to work with partners to enhance community cancer prevention, recommend appropriate screening efforts, and support access to appropriate high-quality health care.

CHALLENGE

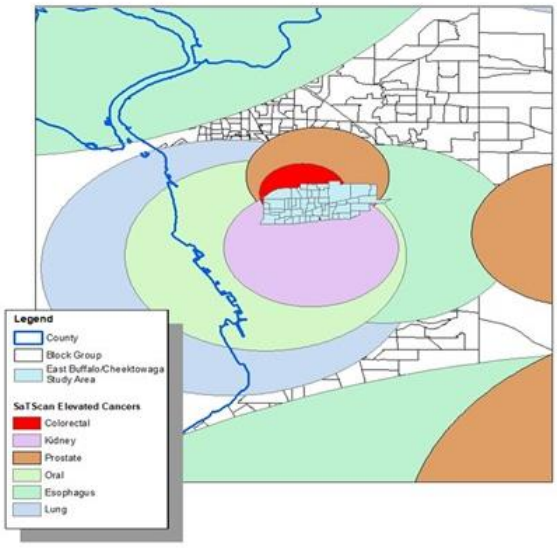
In October 2017, New York State's Governor, Andrew M. Cuomo, announced an initiative to examine cancer trends and the potential causes of cancer in four regions of the state with an elevated incidence of cancer. These regions included Warren County in northeastern New York, Staten Island (Richmond County) in New York City, an area of East Buffalo and Western Cheektowaga in western New York, and an area including the communities of Centereach, Farmingville, and Selden on Long Island. The regions were identified using data from the New York State Cancer Registry and the SaTScan spatial analysis program. DOH held meetings in each region in July 2018 to obtain input from interested members of the community, and DOH researchers met with community members to present the design, goals, and approaches. Community members and stakeholders provided input at meetings and emailed additional feedback.

DOH researchers identified the cancer types in each region with a higher-than-expected incidence and conducted a detailed review of Cancer Registry data for each area and type of cancer. The cancers investigated included nine types of cancer (lung, larynx, esophagus, oral cavity, colon, thyroid, brain, melanoma, and leukemia) in Warren County, thyroid cancer on Staten Island, six types of cancer (colon, esophagus, kidney, lung, oral cavity, and prostate) in East Buffalo and Western Cheektowaga, and four types of cancer (bladder, lung, leukemia, and thyroid) in the Centereach, Farmingville, Selden area of Long Island. The goal of the initiative was to identify factors that may have contributed to the higher incidence of these specific types of cancer in each region, and to look for unusual patterns or trends in each study area compared to other areas of New York State.

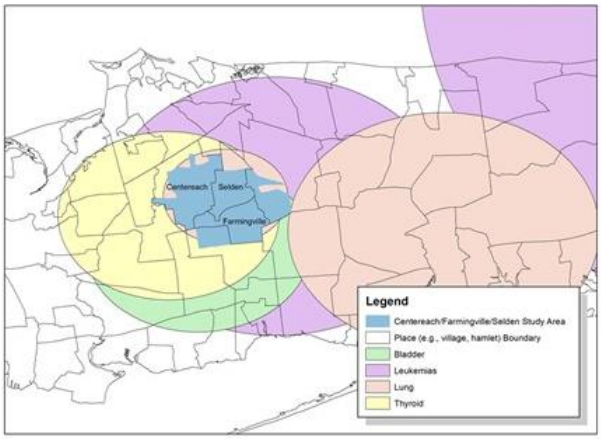
Selection of Four Study Areas

- **Warren County**: highest overall cancer rate in NYS, 2011-2015
- **Staten Island**: highest overall cancer rate among 5 NYC boroughs, 2011-2015
- **East Buffalo/West Cheektowaga**: where six high clusters overlap (colorectal, esophagus, kidney, lung, oral, prostate)
- **Centereach, Farmingville, Selden**: where four high clusters overlap (bladder, leukemia, lung, thyroid)

East Buffalo / West Cheektowaga Study Area



Centereach / Farmingville / Seldon Study Area



SOLUTION

DOH researchers conducted in-depth analyses of data from the New York State Cancer Registry, including the age and gender of patients diagnosed with cancer, cancer trends over time, and characteristics of cancers such as cell type, tumor size, and the stage of disease at the time of diagnosis. Researchers also assessed whether demographic factors, such as the age, race, ethnicity, education, and income of the population, and population-level behavioral factors, such as smoking, obesity, alcohol use, diet, physical activity, health care access, and medical screening, could be related to higher cancer rates in these regions.

DOH researchers worked with staff from the Department of Environmental Conservation to review available environmental data and to look for unusual patterns or trends in each of the four study areas. Data included pollutants in outdoor air, levels of radon in indoor air, contaminants in drinking water, industrial and inactive hazardous waste disposal sites, and traffic density. The evaluation also reviewed sites of concern raised by members of the public. In addition, DOH staff consulted with researchers at institutions near two of the study areas (Roswell Park Cancer Institute for the East Buffalo and Western Cheektowaga study area, and Stony Brook University Hospital for the Centereach, Farmingville, Selden study area), who provided advice and information about the local area and will be involved in the implementation of recommendations in each community.

DOH staff released reports for each study area and presented the results in meetings in each of the four study areas in October and November 2019. The reports included the findings of the analyses, recommended actions based on the specific cancers elevated in each study area, and more general recommendations for New Yorkers to reduce their risk of cancers and for DOH and partner organizations to help reduce the burden of cancer statewide. Many of the recommended activities align with two New York 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*. DOH researchers are continuing to work with local partners to implement the recommendations in each region and throughout New York State. Specific projects resulting from the Governor's Cancer Research Initiative include local Cancer Prevention in Action projects and work groups aimed at reducing tobacco use in areas with high use.

RESULTS

The results of the analyses of New York State Cancer Registry data and available environmental data for each of the four study areas led to several recommended actions to decrease cancer risk in each study area and throughout New York State. Three of the four regions studied had elevated risk of tobacco-related cancers and evidence of elevated rates of current and past tobacco use. Recommendations included preventing initiation of tobacco use, promoting tobacco use cessation, especially among populations disproportionately affected by tobacco use, and eliminating exposure to secondhand smoke and secondhand emissions from electronic vapor products. Two of the four regions studied had an excess of alcohol-related cancers, for which alcohol consumption increases risk either independently or through a synergetic effect with tobacco use. Recommendations included restricting underage alcohol access, educating the public on cancer risk related to alcohol use, and treating alcohol dependence. Several regions had a higher prevalence of obesity or lower prevalence of physical activity, both of which can contribute to increased risk of certain cancers. Recommendations included promoting healthy eating and food security by improving access to healthy food, increasing knowledge to support healthy food and beverage choices, and increasing physical activity by improving community environments and increasing access to safe spaces for physical activity.

Recommendations for all four study areas included promoting guideline-concordant cancer screening. Specific recommendations included educating men and women who meet the criteria for lung cancer screening about the benefits and risks of screening to help them make informed choices, educating healthcare providers and the public about testing options for

colorectal cancer screening including take-home tests, and educating the public and healthcare providers about recommendations against thyroid cancer screening in average risk, asymptomatic adults. Additional recommendations related to behavioral, lifestyle, and healthcare factors that may have contributed to increased cancer risk in the study areas included educating adolescents and adults on the benefits and risks of HPV vaccination, promoting educational initiatives and implementing environmental changes to decrease exposure to ultraviolet (UV) radiation for people of all ages, and increasing awareness of New York'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.

The results of the environmental investigation in each of the four study areas did not show any unusual environmental exposures that could explain the elevated cancer incidence rates. Data were insufficient to evaluate the role of occupational risk factors in cancer incidence, especially for the East Buffalo and Western Cheektowaga area that historically was home to several industrial facilities. However, recommendations for several of the study areas included minimizing exposures to potential environmental and occupational hazards. Specific recommendations included improving the public's awareness about the relationship between indoor radon exposure and lung cancer, promoting radon testing and mitigation, and developing targeted occupational safety and health training programs to promote safety in the workplace.

DOH staff are working to implement the recommended actions to reduce the burden of cancer in each study area and statewide. Ongoing work by DOH researchers will continue to assess cancer incidence and potential environmental exposures in the study areas and throughout the state.

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

Health Promotion and Cancer Prevention	Cancer Screening and Early Detection	Healthy and Safe Environment
• Tobacco prevention • Alcohol prevention • Healthy nutrition • Physical activity • HPV vaccination • UV exposure reduction	• Lung cancer screening • Colorectal cancer screening • Thyroid cancer screening (Recommendation *against* screening in asymptomatic adults)	• Radon testing and mitigation • Reducing radiation from medical imaging • Safety in the workplace • High-efficiency, low-emission wood heating systems

SUSTAINING SUCCESS

The New York State Cancer Registry will continue to work to meet the highest standards for data quality and will use these data to continue to monitor cancer incidence regionally and statewide. DOH researchers are working with stakeholders and partners to enhance community

cancer prevention, recommend appropriate screening efforts, and support access to appropriate high-quality health care throughout New York State. DOH will continue to work to reduce the burden of cancer in New York State by decreasing the number of new cancer cases, decreasing the number of cancers diagnosed at late stages, improving the quality of life in those diagnosed with cancer, and decreasing the number of deaths caused by cancer.

REGISTRY CONTACT INFORMATION

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