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of Health**

Governor Cuomo's Cancer Research Initiative

July 17, 2018

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OCTOBER 25, 2017 | Albany, NY

Governor Cuomo Announces Statewide Cancer Research Initiative to Enhance Prevention Efforts and Improve Access to Diagnostic Treatment Across New York

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Today's presentation

- Why these studies are being done
- What data will be studied
- Key facts about cancer
- How the four study areas were selected
- Challenges and limitations
- Next steps
- Questions

Purpose of Studies

- Learn more about the patterns of cancer in New York
- Identify any reasons for these patterns
- Enhance community screening and prevention efforts
- Support access to appropriate high-quality health care services

General Approach

- Identify counties and areas that have higher cancer rates
- Examine data to detect patterns
- Look at factors such as:
 - Demographic and socioeconomic
 - Behavioral
 - Occupational
 - Environmental

Sources of Data

New York State Cancer Registry

- Mandated by NYS law - hospitals, laboratories, physicians, others provide information to the Department of Health
- Over 100,000 cases of cancer each year
- Information collected includes: information about the cancer (tumor site, stage, cell type, some treatment information), sociodemographic data (age, gender, race, residence, etc.), date and cause of death
- All information is confidential; patients' privacy is protected
- Registry received Gold-level certification since 1998

Environmental and Occupational Data

- DOH will be working with DEC, and other partners as necessary, to evaluate existing data sources including:
 - Air quality monitoring data and emissions information for regulated facilities
 - Pesticide use by certified professional applicators
 - In-home radon levels
 - Hazardous waste/Industrial sites
 - Public drinking water



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Health Care Utilization and Behavioral Data

- **Behavioral Risk Factor Surveillance System.** Annual statewide random telephone and cell phone survey designed by the CDC. Monitors risk behaviors and other factors contributing to the leading causes of morbidity and mortality in the population.
- **Medicaid claims data.** Medicaid is the health care program for low-income New Yorkers that covers over 25% of all cancer patients under age 65.
- **Hospitalization data.** Known as SPARCS , this data source contains information on diagnoses and treatments for each hospital inpatient stay and outpatient (ambulatory surgery, emergency department, and outpatient services) visit.

Key Facts About Cancer

Cancer: Background

What is cancer?

- Cancer is a group of more than 100 different diseases that begin when abnormal cells in the body grow out of control.
- Normally, cells grow and divide to create new cells as they are needed to keep the body healthy. Sometimes this process of growing new cells does not work properly and cancer forms.
- Each different cancers is a different disease with different causes, prognosis and treatments.

How common is cancer?

- Cancer is very common. One of every two men and one of every three women will be diagnosed with cancer at some time in their life.
- Cancer can occur at any age, but it is most often found in those people middle-aged and older.



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Cancer: Background

What causes cancer?

- There are many factors that affect a person's chances of getting different types of cancer.
- Some risk factors can be changed, and others cannot
 - Family history / genetics / race and ethnicity
 - Lifestyle factors: smoking, unhealthy diet, excessive alcohol, physical inactivity
 - Exposures: Ultraviolet radiation from sunlight and indoor tanning devices, x-rays, certain chemicals that may be found in the air, water, food, drugs and workplace.
 - Often multiple interacting factors



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Cancer: Background

How soon after exposure to a cancer-causing agent (carcinogen) does cancer appear?

- Most cancers develop slowly in people.
- Cancers usually appear between 5 to 40 years after exposure to a carcinogen.
- Latency = time between first exposure to a cancer-causing agent and the diagnosis of cancer.
- This long latency period is one of the reasons it is difficult to determine what causes cancer in humans.

Cancer Prevention

There are actions you can take to reduce your risk of getting cancer:

- Quit Using Tobacco
- Eat healthy
- Limit alcohol
- Be sun smart
- Avoid tanning salons
- Maintain a healthy weight and get regular exercise
- Know your family history
- Get screened for cancers
- Get the HPV vaccine



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Environmental Facilities and Cancer Mapping Application

Environmental Facilities and Cancer Mapping Application

https://apps.health.ny.gov/statistics/cancer/environmental_facilities/mapping/map/

- Shows counts for 23 types of cancer newly diagnosed from 2011 through 2015 by census block group in New York State
- Displays the location of 15 types of environmental facilities
- Highlights 200+ areas of the state where the incidence of cancer is higher or lower than expected
- Highlighted areas were identified using a spatial scan statistic

You are Here

5-Year Cancer Counts in Block Group(s)

Environmental Facilities and Cancer Map

Cancer Cases Observed Within a Highlighted Area

Leukemias 2



Above Expected

Liver 0



Lung 7



Average annual populations, 2011-2015

Female Population: 1,320

Male Population: 1,264

Total Population: 2,584

Map reference #36001DOH0008

Close



You are Here

Liver Cancer Highlighted Area: Cluster Li-H-24

X

Five Year Statistics 2011-2015

Cases Observed: 66

Cases Expected: 32.06

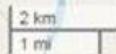
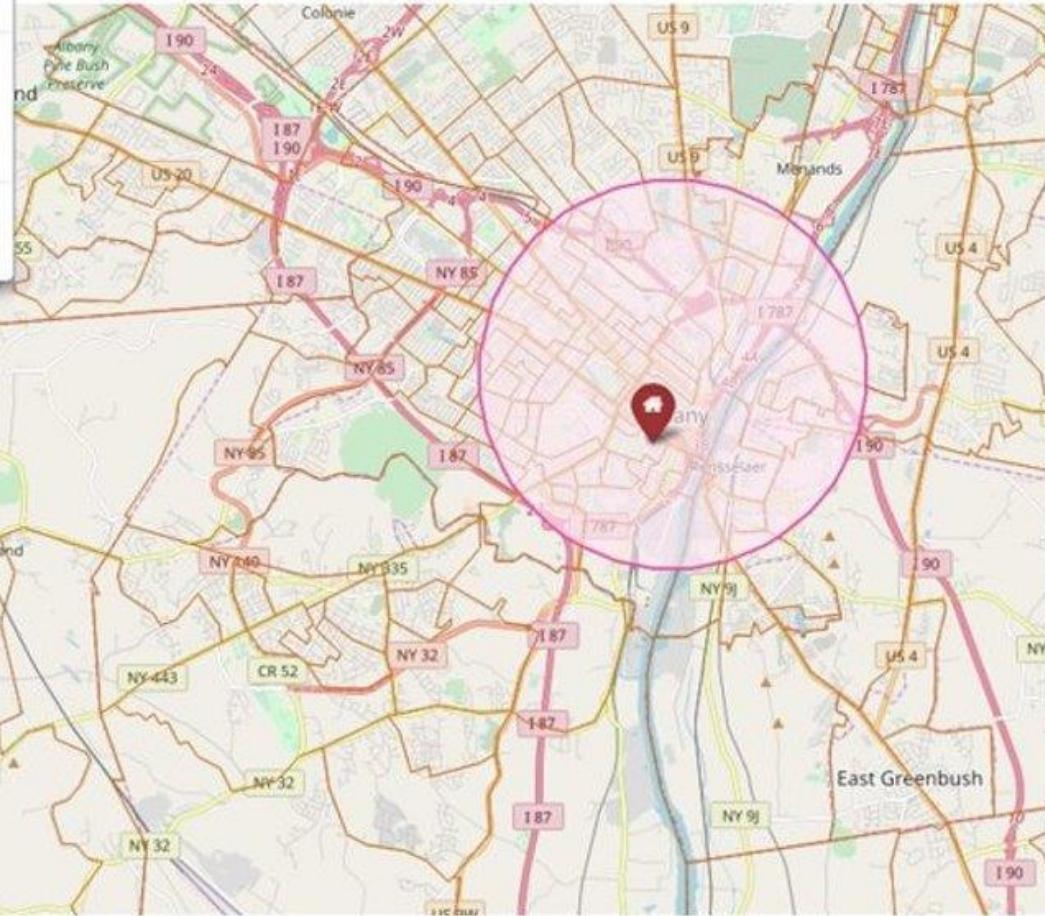
Average Population: 81,416

[Zoom To Highlighted Area](#)

[Close](#)



Environmental Facilities and Cancer Map



Interpreting the Cancer Maps

- The cancer maps provide the public with additional information about cancer incidence in New York State.
- The maps need to be interpreted with caution.
- Simply living in an area that is highlighted does not mean a person is more likely to get cancer than someone who does not live in a highlighted area.
- Cancer risk depends on many factors such as age, lifestyle (for example, smoking, diet, physical activity), family history, and contact people have with cancer causing agents (for example, ultraviolet radiation from sunlight, X-rays, tobacco smoke, some chemicals).



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Study Areas

Selection of Four Study Areas

Warren County: highest overall cancer rate in NY, 2011-2015

Staten Island: highest overall cancer rate among 5 NYC boroughs, 2011-2015

East Side Buffalo/Cheektowaga:
where six high clusters overlap
(colorectal, esophagus, kidney, lung,
oral, prostate)

Centereach, Farmingville, Selden:
where four high clusters overlap
(bladder, leukemia, lung, thyroid)



Centereach, Farmingville, Selden

- Where four high clusters overlap (bladder, leukemia, lung, thyroid).

	Approximate number of cases	% above state rate
Lung	311	56%
Bladder	112	50%
Thyroid	98	43%
Leukemia	87	64%



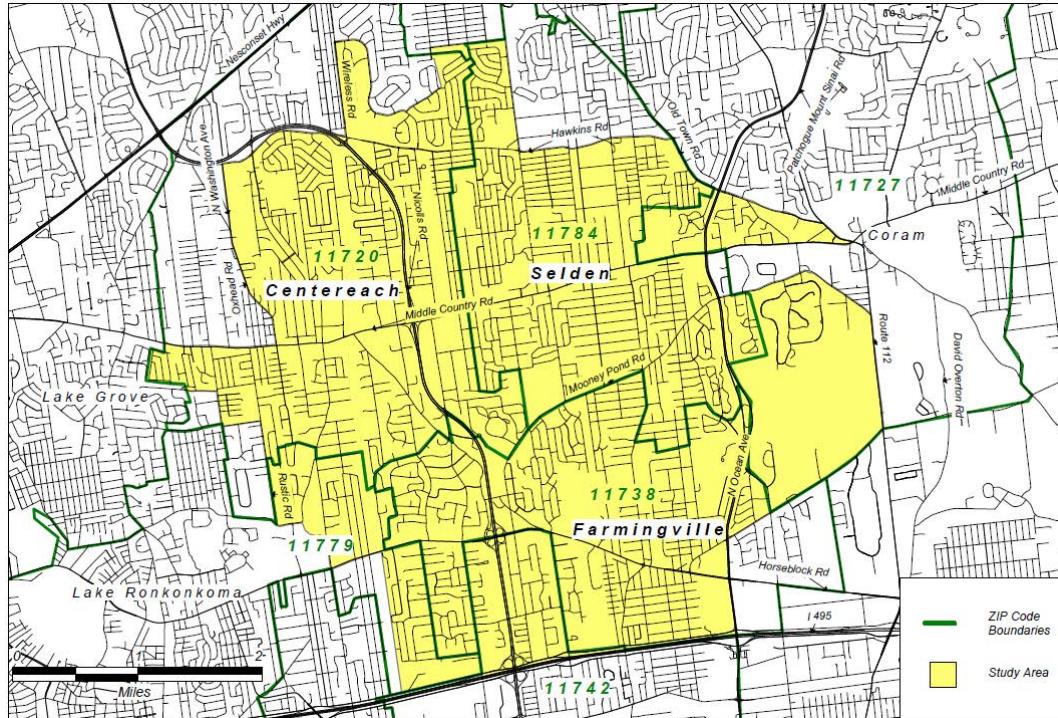


Area of Overlap

About 65,000 people live in this area

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Centereach, Farmingville, Selden



Centereach, Farmingville, Selden

Avenues of investigation

- **Socioeconomic and behavioral factors** – Lung cancer, bladder cancer and leukemia are smoking-related. We will review available community-level data to assess the role of smoking.
- **Occupational factors** – Bladder cancer and leukemia have been associated with certain exposures in the workplace. We will explore sources of information on occupations people in the area may have had.
- **Environmental factors** – Some studies show higher rates of bladder cancer in communities with exposure to certain contaminants in the water. Other studies show higher lung cancer rates in urban areas. We will evaluate data on water and air quality to see whether this area may stand out.

Centereach, Farmingville, Selden

Avenues of investigation (2)

- **Types of leukemia** – There are four main types of leukemia, with different but overlapping sets of risk factors. We will examine the different types separately to see if any type or types may account for the excess in incidence.
- **Medical care** – For thyroid and lung cancer and the chronic types of leukemia, slow growing cancers can be diagnosed during tests for other conditions (incidentally). As appropriate, we will look into whether these tests are being done more often in the study area.

Data limitations

- Aside from smoking, personal behavioral risk factors are not collected by central cancer registries. Registries also collect very limited genetic and occupational data.
- Cancer incidence is measured at the residential address at the time of diagnosis and does not account for residential mobility.
- Available environmental data are often not directly associated with human exposures.

Next Steps

Study Steps

- ✓ Study areas identified
- ✓ Cancer mapping application released
- Seek input from stakeholders and community members
- Finalize study questions/areas of investigation
- Continue to analyze data and possible contributing factors that explain cancer patterns in these communities
- Share results and recommendations by end of 2018

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Q&A Session