REMINGTON PARK CANCER CLUSTER INVESTIGATION REPORT TOWN HALL MEETING

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INTRODUCTION AND ACKNOWLEDGEMENTS

- Thank You to our Partners who Assisted with the Investigation and/or Provided Commentary on the Report
  - Public Health Ontario
  - Cancer Care Ontario
  - Erie St. Clair Regional Cancer Program
  - The Ministry of the Environment and Climate Change
- Thank You to Those with Educational Booths Tonight
  - Health Canada (Radon Program)
  - The Lung Association
  - The Canadian Cancer Society
  - Cancer Care Ontario
  - The Ministry of the Environment and Climate Change
  - Smokers' Helpline
  - Windsor-Essex County Health Unit
- Thank You to the Public

OVERVIEW

- Why We Are Here
- Housekeeping
- Meeting Structure:
    - Background:
        - Cancer
        - Local Cancer Statistics
        - Cancer Clusters
    - Remington Park Cancer Cluster
    - Investigation
    - Next Steps
    - Questions

BACKGROUND: CANCER

- Cancer is a disease where cells that were once healthy undergo changes that trigger them to multiply uncontrollably.
- Cancer is usually caused by multiple factors, either together or independently.
- It can take many years from when an individual is exposed to a carcinogen to when the cancer is diagnosed.

1 in 2
Ontarians will develop cancer in their lifetime

1 in 4
Ontarians will die from cancer

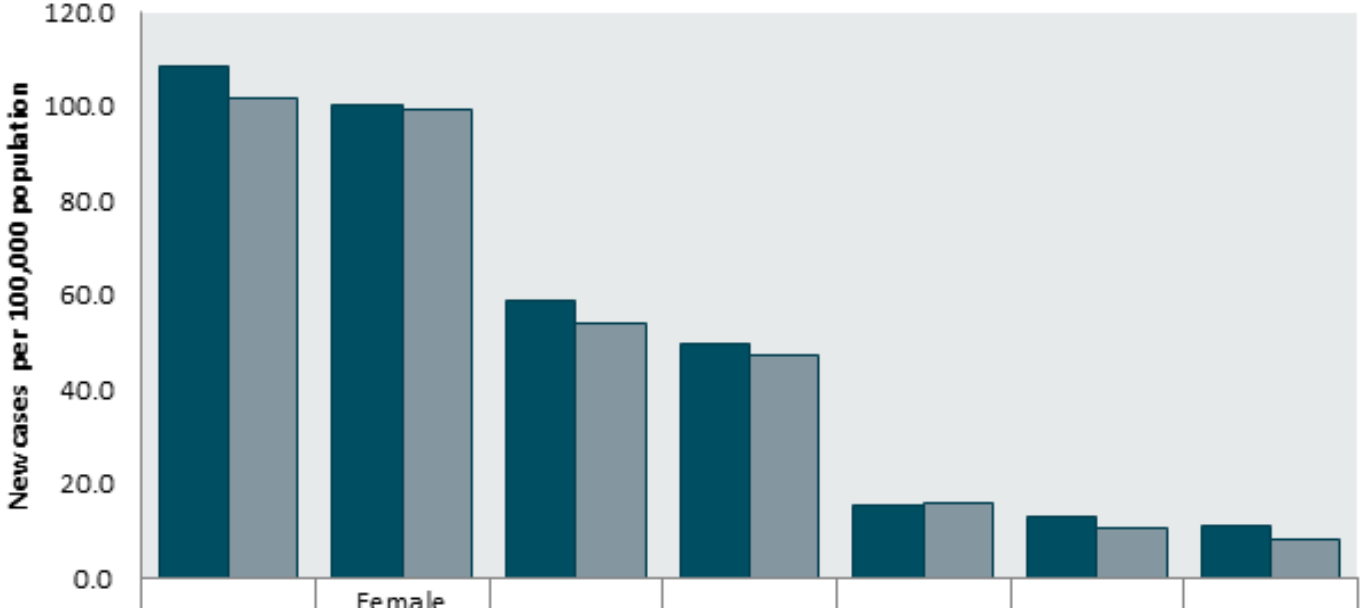
Source: Cancer Care Ontario, Ontario Cancer Statistics 2016.

CANCER INCIDENCE

KEY FINDINGS

- 2,598 new cancer cases in Windsor-Essex in 2012.
- Lung cancer is the most common cancer diagnosed in Windsor-Essex and Ontario.

Figure 4. The rate of new cancer cases in Windsor-Essex County (WEC) and Ontario (ON), 2012.



	Prostate Cancer	Female Breast Cancer	Lung Cancer	Colorectal Cancer	Melanoma	Oral Cancer	Cervical Cancer
WEC	108.4	100.6	58.9	49.8	15.5	12.9	11.2
ON	101.9	99.2	54.3	47.3	15.9	10.5	8.1

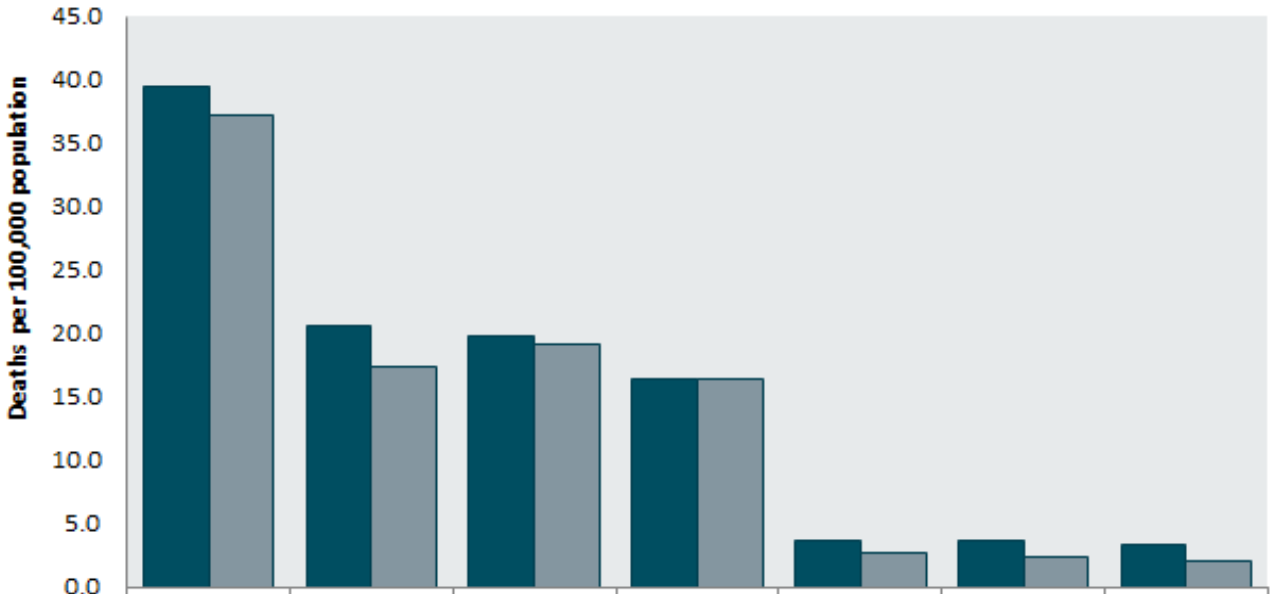
Source: CCO SEER*Stat Package Release 10 - OCR (Aug. 2015). Pop Est Summary (Statistics Canada, Ontario Ministry of Finance), Ontario Ministry of Health and Long-Term Care: IntelliHEALTH ONTARIO, extracted May 2015.

CANCER MORTALITY

KEY FINDINGS

- In 2012, there were 944 deaths due to cancer in Windsor-Essex.
- Lung cancer is the most common cause of cancer-related deaths.

Figure 6. The rate of cancer mortalities in Windsor-Essex County (WEC) and Ontario (ON), 2012.



	Lung Cancer	Prostate Cancer	Female Breast Cancer	Colorectal Cancer	Melanoma	Oral Cancer	Cervical Cancer
WEC	39.4	20.6	19.7	16.4	3.7	3.7	3.3
ON	37.2	17.4	19.1	16.4	2.6	2.4	2.1

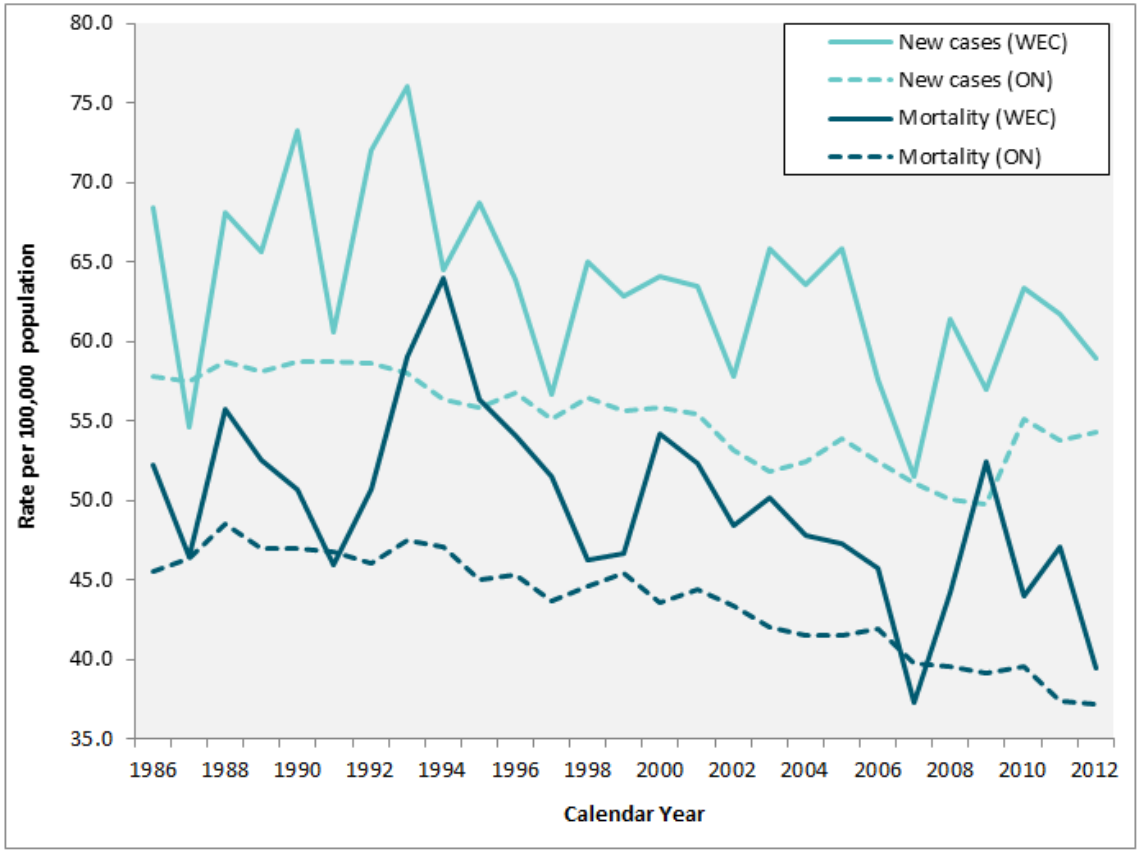
Source: CCO SEER*Stat Package Release 10 - OCR (Aug. 2015). Pop Est Summary (Statistics Canada, Ontario Ministry of Finance), Ontario Ministry of Health and Long-Term Care: IntelliHEALTH ONTARIO, extracted May 2015.

CANCER PREVENTION AND SCREENING

- Individuals can reduce their risk of cancer by changing their health behaviours.
- Early detection and treatment of cancer can lead to better outcomes. It is important to get screened regularly.
- Regular cancer screening is available for breast, cervical, and colorectal cancers. For more information, please visit: www.CancerCareOntario.ca
- Individuals can also learn more about their own risk of developing cancer by completing a personalized cancer risk assessment: https://www.mycanceriq.ca/

LUNG CANCER

Figure 8. Rates (per 100,000 population) of lung cancer incidence (new cases) and mortality in Windsor-Essex County and Ontario (1986-2012).



Source: CCO SEER*Stat Package Release 10 - OCR (Aug. 2015). Pop Est Summary (Statistics Canada, Ontario Ministry of Finance), Ontario Ministry of Health and Long-Term Care: IntelliHEALTH ONTARIO, extracted May 2015.

KEY FINDINGS

- 224 deaths due to lung cancer in Windsor-Essex in 2012.
- Almost all (96.4%) of these deaths were among individuals 50 years old and over.
- From 1986 to 2012, the rates of lung cancer cases and deaths have decreased in Windsor-Essex.

BACKGROUND: CANCER CLUSTERS

- Clusters are defined as a greater than expected number of cancer cases in a defined population within a specific geographic area and time period.
- Investigating a cancer cluster is difficult and complex.
- Defining a population in a specific geographical area is challenging.
- Cancer clusters can happen randomly by chance or because certain populations are structured in a way that groups many "high-risk" individuals within a geographical area.
- It is extremely rare for cancer cluster investigations to identify a common environmental exposure that exists for all cancer cases.
  - For example, of 428 cancer cluster investigations conducted during the period 1990-2010 in the U.S.A., only one (0.2%) investigation revealed a clear environmental cause (Goodman, et al., 2012).

REMINGTON PARK CANCER CLUSTER

- In 2013, a concerned citizen contacted the Health Unit about an unusual number of cancer cases in Remington Park.
- The Health Unit and Cancer Care Ontario looked at how many cancer cases there were in Remington Park between 2000 to 2009:
  - Lung cancer cases were 2.2 times greater than the provincial average.
  - All other cancers were similar to the provincial average.

REMINGTON PARK CANCER CLUSTER

- The Health Unit, with help from partners, conducted a study of the Remington Park cancer cluster.
- For this study, the Health Unit tried to contact people who were diagnosed with lung cancer between 2000 and 2009 while living in Remington Park.
- The Health Unit completed a detailed questionnaire with the input of 12 people or their next of kin to find common exposures that could explain the lung cancer cluster.
- Public Health Ontario analyzed the data for the Health Unit.

INVESTIGATION:

- Methods and Analysis
- Results
  - Residential Information
  - Outdoor Air Quality
  - Exposure History

METHODS AND ANALYSIS

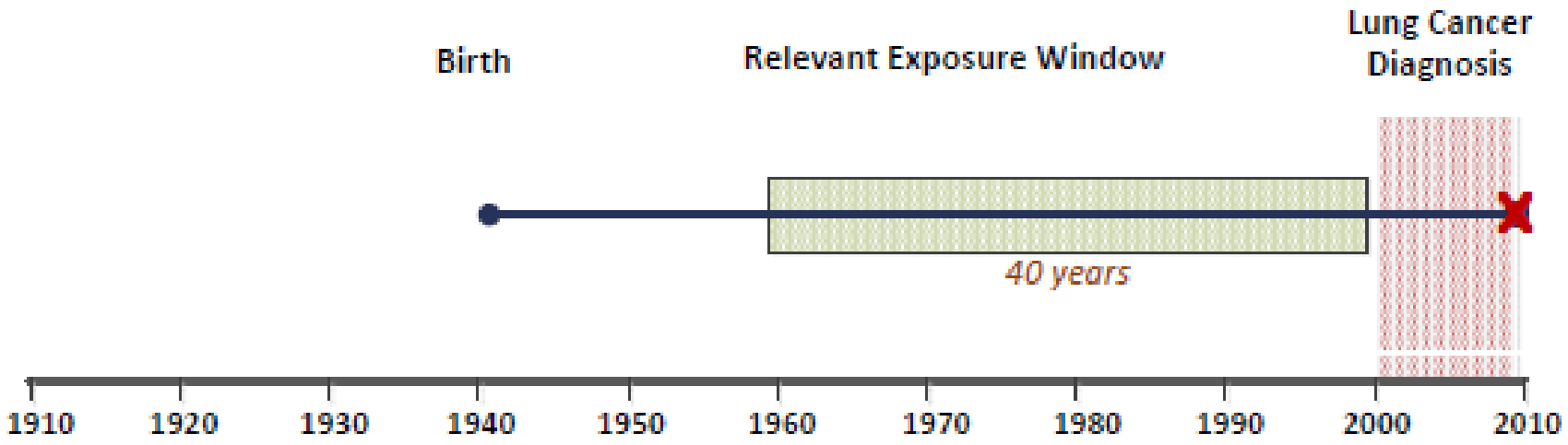
- Preliminary Assessment
- Initial Response
- Confirmation of Case Definition and Findings
- Case Series Study and Consent
- Questionnaire Creation and Administration
- Analysis of Data Collected
- Public Release of Report

INFORMATION GATHERING:

- Detailed questionnaires:
  - Age, gender
  - Family history
  - Environmental histories
    - Behaviors
    - Residential information
    - Hobby information
  - Occupational history

Goal: To identify a <u>common</u> cause of lung cancer

TIME ORIENTATION: LATENCY



ESTABLISHED CAUSES OF LUNG CANCER:

Chemicals & mixtures
- Coal-tar pitch [1973]
- Soot [1973]
- Bis(chloromethyl)/chloromethylmethyl ether [1974]
- Sulfur mustard [1975]
- Engine exhaust, diesel [2012]
- Outdoor air pollution [2013]
- Particulate matter in outdoor air pollution [2013]

Metals
- Arsenic [1973]
- Chromium (VI) [1973]
- Nickel [1973]
- Beryllium [1993]
- Cadmium [1993]

Dusts and Fibers
- Asbestos [1973]
- Silica [1997]

Radiation
- Radon [1988]
- X-radiation, gamma-radiation [2000]
- Plutonium [2001]

Occupations
- Hematite mining (underground) [1972]
- Aluminum production [1973]
- Rubber production industry [1982]
- Coal gasification [1984]
- Coke production [1984]
- Iron and steel founding [1987]
- Painting [1989]
- Acheson process [2014]

Personal Habits
- Tobacco smoke [1986]
- Tobacco smoking, second-hand [2004]
- Coal, household indoor emissions [2010]

Pharmaceuticals
- MOPP [1987]

RESIDENTIAL INFORMATION

GROUP FINDINGS

Residency

- 1 person lived in Remington Park at time of diagnosis, but did not live in the area during relevant exposure window.
- 5 people lived in Remington Park for less than 5 years during relevant exposure window.
- 6 people lived in Remington Park for more than 20 years; 3 of these people had more than one residence in Remington Park.

Gender and Age

- 10 male and 2 female
- Age at diagnosis ranged from 40 to 83 years (average of 62 years).

OUTDOOR AIR QUALITY

- There was concern among individuals about outdoor air quality in Remington Park and these concerns were primarily about air pollution due to nearby industrial facilities (metal recycling and metal forging), motor vehicle traffic, and rail transportation.
- MOECC operates 2 ambient air monitoring stations and 5 research monitoring stations in the Windsor area. There are also 2 privately operated monitors that collect information on air emissions from a nearby industrial facility.
- Based on annual MOECC air quality data, no lung cancer carcinogens exceed current Ontario air quality standards in the Windsor area.

EXPOSURE HISTORY

Exposures linked to lung cancer	Information about the investigated exposures	Exposure histories of the individuals or their next of kin in the Remington Park cancer cluster investigation
Tobacco Smoke	80-90% of lung cancer is caused by tobacco smoke.	All 12 individuals (100%) were exposed to tobacco smoke; nine were daily smokers, two were occasional smokers, and the one non-smoker had resided with a smoker.
Radon	Radon is the second leading cause of lung cancer.	No information was available for residential radon levels.
Occupation	Individuals may be exposed to lung cancer carcinogens through their occupations.	Occupational exposure may be relevant for 11 individuals (92%). Four worked in manufacturing, five in construction, two in transportation, two in metals, and one in pulp and paper.
Outdoor Air Quality	Outdoor air pollution and air particulate matter can cause lung cancer.	Ten individuals or their next of kin voiced concerns about pollution (industry, traffic, railroads) near at least one of their residences.
Hobbies	Individuals may be exposed to lung cancer carcinogens through their hobbies.	Five individuals had hobbies that may be relevant, including: car repair, woodworking, gardening and arc welding.
Family History	Family history is a risk factor for lung cancer.	Three (25%) of the 12 individuals had a family history of lung cancer.

INVESTIGATION RESULTS

- Tobacco smoke was the only lung cancer carcinogen that all 12 people were exposed to in this study that we know of from the interviews.
  - Tobacco smoke is linked to 15 types of cancer and scientists estimate that 30% of all cancer deaths are caused by tobacco smoke.
  - It is estimated that up to 30% of Remington Park residents may be smokers (compared to 17.5% in Ontario and 21.9% in Windsor-Essex).
- Other risk factors were present, but not consistent among all people.

NEXT STEPS

- Continue to monitor the lung cancer incidence in Remington Park in coordination with Cancer Care Ontario.

Table 7. Incident cases (counts) and Standardized Incidence Ratios (SIRs), using indirect standardization, for lung cancer*, in Remington Park† compared to Ontario‡, 2000-2012.

Years	New cases (Observed)	New cases (Expected)	SIR	95% CL (Lower, Upper)
2000–2009	24	11.0	2.2	(1.4, 3.2)
2010–2012§	9	4.5	2.0	(0.9, 3.8)
2000–2012§	33	15.5	2.1	(1.5, 3.0)

Report date: April 2016, Source: Cancer Care Ontario (Ontario Cancer Registry, 2015).
Prepared by: Cancer Care Ontario, Prevention and Cancer Control (Population Health and Prevention).

- Continue to promote the Ontario Health Study.
- Maintain the Health Unit's Tobacco Control Program efforts locally.
- Build off the 'Know Your Level' radon awareness campaign (the Health Unit gave away 1,000 free radon kits in November 2015).

QUESTIONS

- Visit booths by Community Partners and Health Unit during education session from 8 – 9 p.m.
- Comment cards
- Contact us through our website at www.wechu.org
- Call us at 519-258-2146, ext. 1421
- Facebook or Twitter via private messaging