CANCER RISK COMMUNICATION IN THE NEWS COVERAGE OF SUSPECTED CANCER CLUSTERS IN ONTARIO

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No conflict of interest to declare

PRESENTATION OUTLINE

- Intro to cancer clusters
- Risk communication, risk perceptions
- Why news articles?
- Current study
  - Methods
  - Results
  - Conclusions
- Further projects

CANCER

HEALTH

New study finds 'strikingly high' rates of cancer in some Ontario industrial cities

BY MEGAN ROBINSON AND CAROLYN JARVIS, GLOBAL NEWS, AND MIKE DE SOUZA, NATIONAL OBSERVER   ·   GLOBAL NEWS

Posted May 28, 2019 4:00 am
Updated May 30, 2019 3:29 pm

Hamilton   Thunde

St. Catharines

Study finds 'striking' cancer clustering in some of Ontario's industrial cities

— A new study by Canadian researchers suggests that living in
cancer. As Megan Robinson reports, this disturbing new data - ↓
chemical pollution where they live is making them sick.

LONDON

Huron County Health Unit inves
cancer rates

CTV London
Published Thursday, January 2, 2014 4:39PM EST

HEALTH UNI
LIBRARY
ONTARIO WORK
HOUSING SERVI
EARLY YEARS

HAMILTON THE SPECTATOR

No evidence of 'cancer cluster' at Cathedral based on air quality testing

NEWS   Feb 07, 2017   by Natalie Paddon ✉   The Hamilton Spectator

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WINDSOR STAR

NEWS   BUSINESS   OPINION   SPORTS   ARTS   LIFE   DRIVING   REAL ESTATE   OBITS

NEWS   LOCAL NEWS   NATIONAL   WORLD   TRAFFIC   FEATURED: FUTURE AUTO   LIFE AFTER DEATH   SPITFIRE

Health unit investigating possible cancer cluster in Remington Park

The Remington Park community has more than double the provincial rate of lung cancer, leaving residents of the working-class neighbourhood upset about a possible cancer cluster.

CRAIG PEARSON   Updated: March 13, 2015

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570 NEWS   🔊   LISTEN LIVE   LOCAL   TRAFFIC   AUDIO   NEWS TIPS

Cancer cluster being probed in Perth County

by NEWS STAFF
Posted Oct 22, 2010 5:00 pm EST

The Perth District Health Unit has begun a cancer cluster investigation in Perth County.

The investigation was started after learning about several cases of related lymphoma in teenagers wh
attend St. Michael Catholic Secondary School in Stratford.

Acting Medical Officer of Health, Dr. Miriam Klassen, declined to reveal the specific number of cases.

WHAT IS A CANCER CLUSTER?

- *US Centers for Disease Control and Prevention* defines it as "a greater-than-expected number of cancer **cases** that occurs within a **group** of people in a geographic **area** over a period of **time**." (2013)

- <u>*Suspected*</u> clusters are those which are **perceived** as clusters by the public, but may not be confirmed using statistical tests.

RISK COMMUNICATION AND PERCEPTION

- People's levels of *concern* about a given event (e.g. cancer cluster) are influenced by their **perceptions** of risk

- People perceive risk partly based on *information* they receive about it, or based on **communications** transmitted to them about the risk
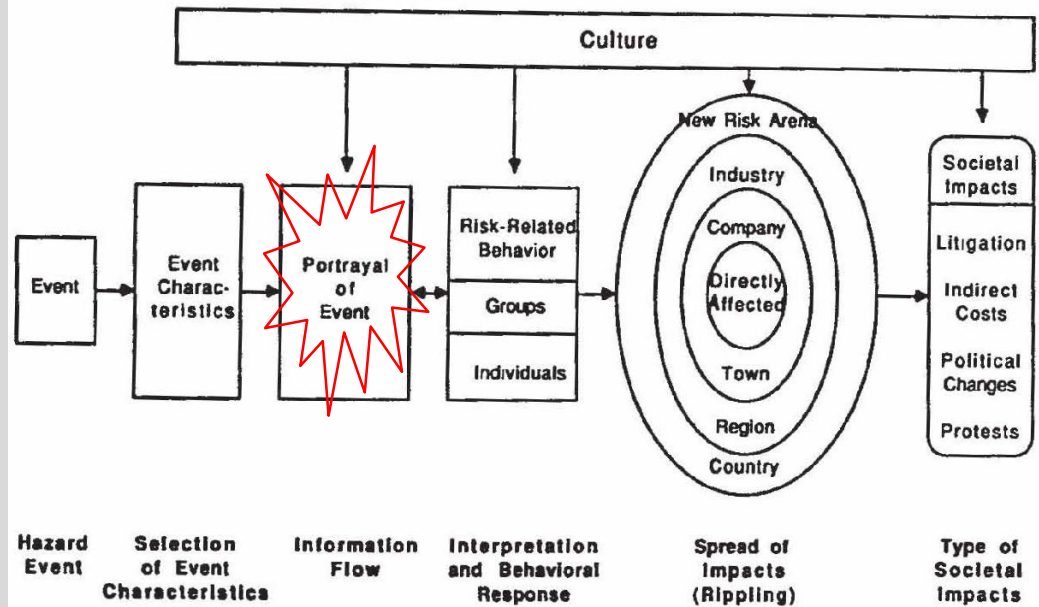
(Kasperson et al., 1988)

WHY NEWS ARTICLES?

- Canadian news readership is high: **9 out of 10 Canadians** read a news article at least once a week (Totum Research, 2019)

- Potential for **misinformation** is high

  - Previous studies have found the media tends to report health hazards and health risks by presenting risks as either **overly certain** or **highly controversial**, even if the risks are unconfirmed (Tang & Rundblad, 2015; Dahlstrom et al. 2012)

WHY NEWS ARTICLES?

- Health risk reporting in the media is not homogenous

  - Previous studies have found differences in the **quality** and **quantity** of health information reported by **geography**

TABLE III

The Number and Percent of Cancer Articles in Ontario Daily Newspapers for 1991

Newspaper	Total Number of Cancer Articles	% of Total Number of Cancer Articles	Number of Cancer Articles/1,000 Pages
Toronto Star	218	21.2	6.2
Ottawa Citizen	157	15.3	6.7
Hamilton Spectator	177	17.2	11.7
London Free Press	144	14.0	7.8
Windsor Star	99	9.6	6.9
Pembroke Daily Observer	44	4.3	11.2
Lindsay Daily Post	62	6.0	12.0
Northern Daily News (Kirkland Lake)	45	4.4	9.4
Cobourg Daily Star	38	3.7	8.8
Daily Miner & News (Kenora)	43	4.2	10.5

Urban

Rural

MacDonald & Hoffman-Goetz (2001)

WHY NEWS ARTICLES?

- **Qualitative** verbal and textual expressions of risk influence cancer risk perceptions differently than **quantitative** or numerical risk information
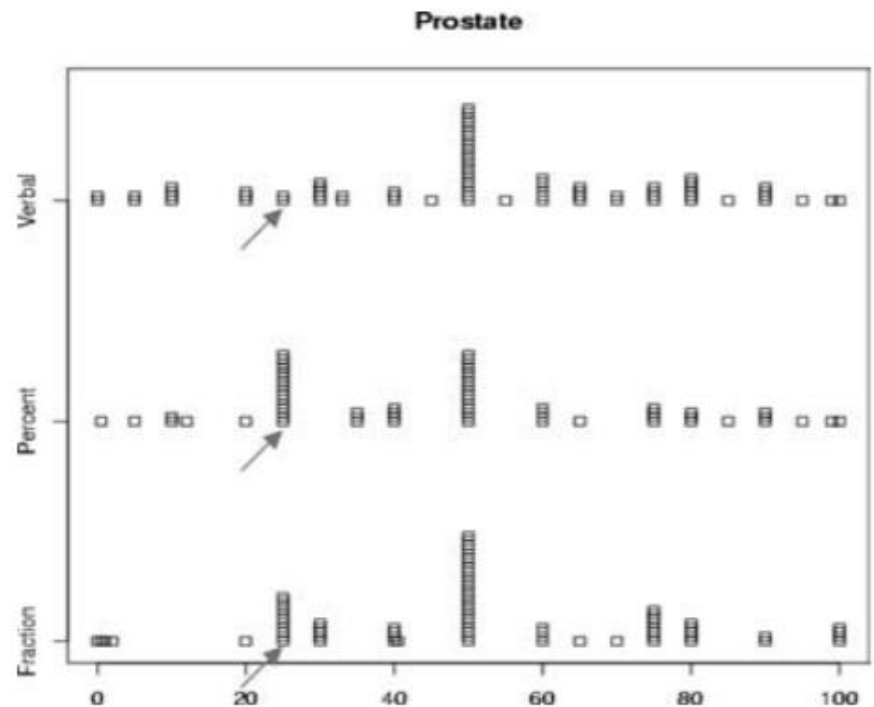
Gurmankin et al., (2004)

Fig. 2. Subjects' risk perception following physician risk communication in verbal versus numeric versions of prostate cancer scenario ($n = 72$ for each risk communication version). Arrows represent the numeric risk stated in the numeric versions and reflected in the verbal version.

CURRENT STUDY

STUDY GOAL

🔍 *To examine how cancer risk is communicated by the news media during suspected cancer cluster investigations in Ontario*

HYPOTHESIS

- Since *cancer risk* in Ontario varies by *geography* and health-related *news reports* have been found to vary by *geography*, we hypothesized that:

  There will be differences in the way that newspapers communicate cancer risk in Ontario in articles from **urban** versus **rural** cancer clusters, and articles from **environmental** or **occupational** clusters.

HYPOTHESIS

- We also hypothesized that:

  Cancer risk communication would vary based on the **scale** (i.e. spatial extent) of the cases in the cluster and based on characteristics of the **news agency** reporting on the cluster.

METHODS : ARTICLE RETRIEVAL PROCESS

Search for news articles on Factiva that include the words 'cancer' and 'cluster' published in Canada from 1990 to 2017.

n= 2029 news articles

Focus on articles reporting on cancer cluster risk events in Ontario, as opposed to general cancer risk issues.

n= 67 articles

Repeat process using Google News search.

n=84 articles

Repeat process using LexisNexis news database.

n=77 articles

METHODS: CODING RISK TERMS

Qualitative risk terms:

serious   danger   toxic   worry
   dangerous   hazard   fear
      hazardous   concerning
         scared   concern

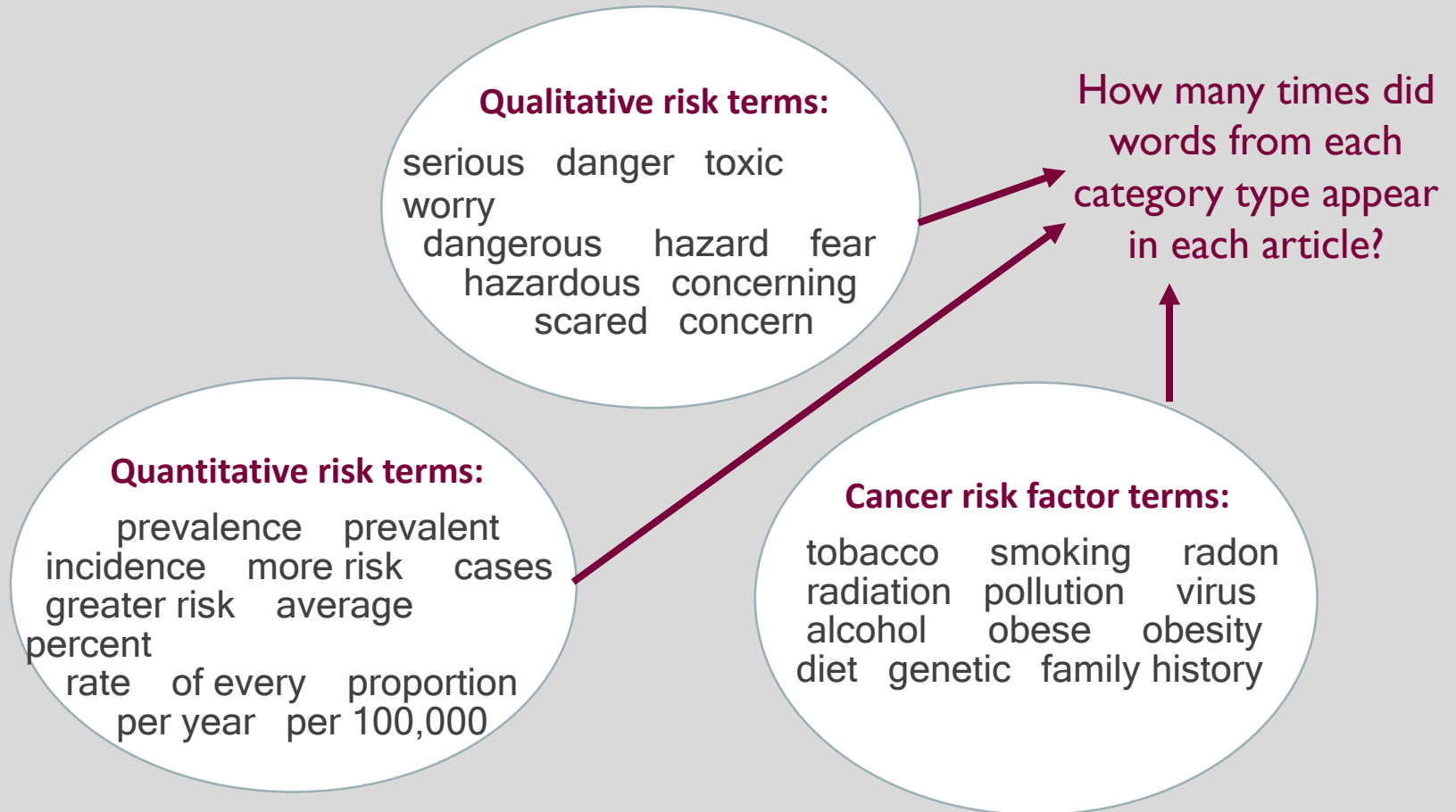**Quantitative risk terms:**

   prevalence   prevalent
incidence   more risk   cases
greater risk   average
percent
   rate   of every   proportion
      per year   per 100,000

Cancer risk factor terms:

tobacco   smoking   radon
radiation   pollution   virus
alcohol   obese   obesity
diet   genetic   family history

How many times did words from each category type appear in each article?

METHODS: CODING THE CANCER CLUSTERS

Rural (n=17)
- Location of cluster had population <10,000 and density of <400 people/km²

Urban (n=67)
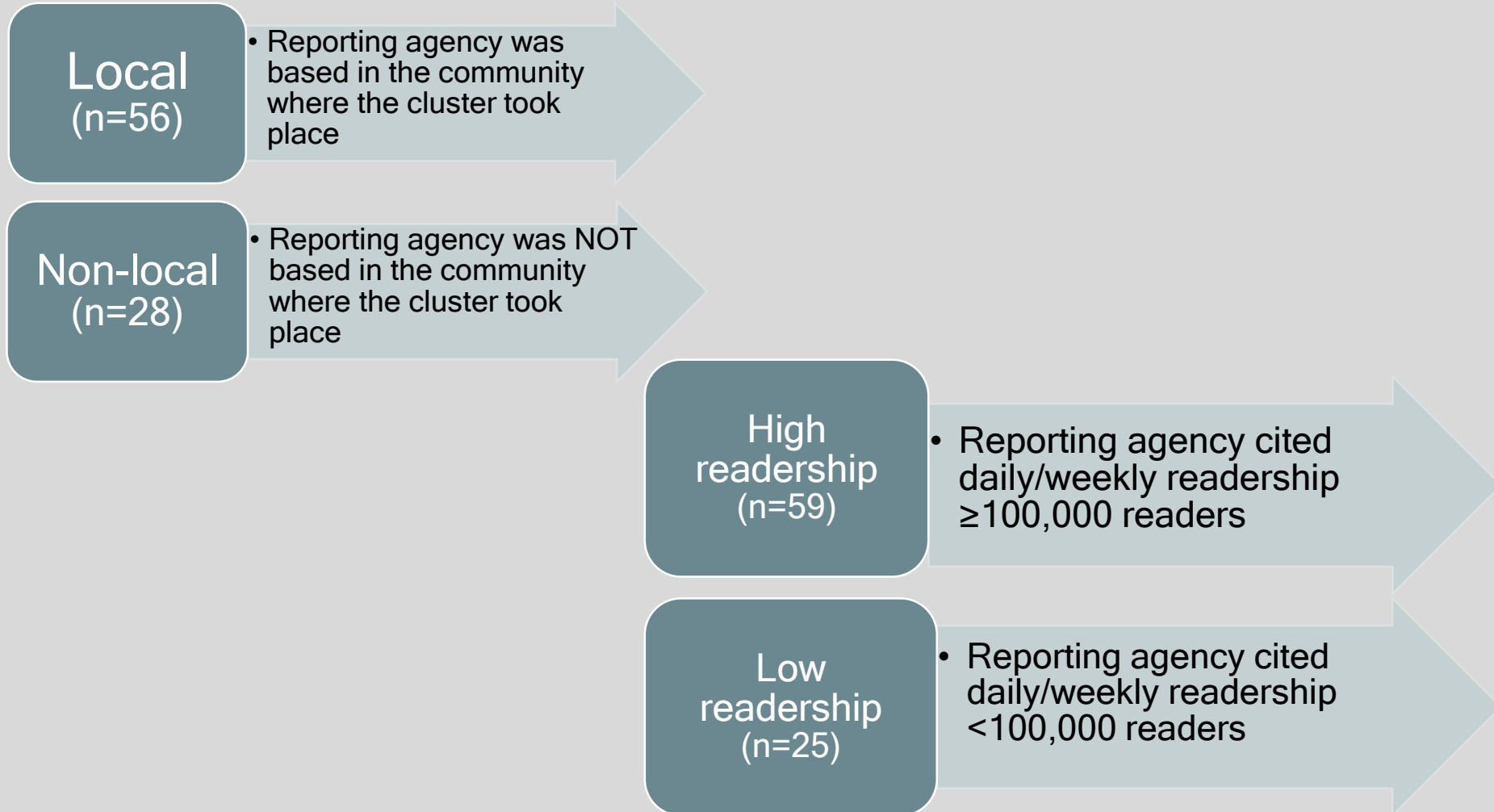- Location of cluster had population >10,000 and and density of ≥400 people/km²

Occupational (n=35)
- Exposure took place in a workplace or the cluster involved group of workers

Environmental (n=49)
- Exposure took place in the environment or the cluster involved a residential setting

METHODS: CODING THE NEWS AGENCIES

Local (n=56)
- Reporting agency was based in the community where the cluster took place

Non-local (n=28)
- Reporting agency was NOT based in the community where the cluster took place

High readership (n=59)
- Reporting agency cited daily/weekly readership ≥100,000 readers

Low readership (n=25)
- Reporting agency cited daily/weekly readership <100,000 readers

METHODS: CODING THE GEOGRAPHIC SCALE

| City (n=6)	Neighbour-hood (n=31)	Region (n=5)	Reserve (n=7)	School (n=5)	Workplace (n=30)
• Cases of cancer reported across a City	• Cases of cancer reported within a neighbour-hood	• Cases of cancer reported across a region, Township, County, etc.	• Cases of cancer reported on a First Nations Reserve	• Cases of cancer reported at a school i.e. staff	• Cases of cancer reported among workers at a workplace e.g. office, industrial facility

Environmental

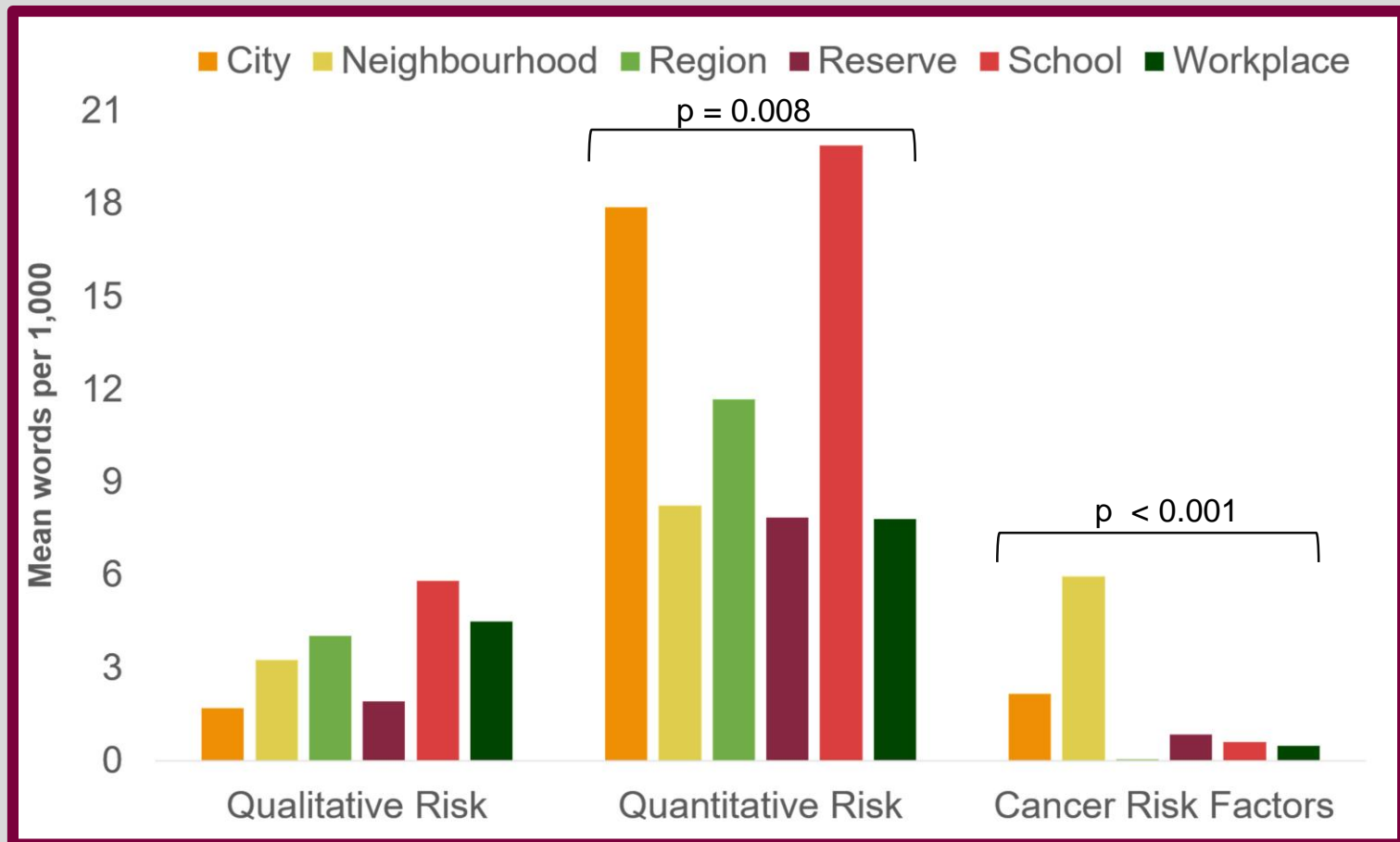**Occupational**

RESULTS

CLUSTER LOCATIONS
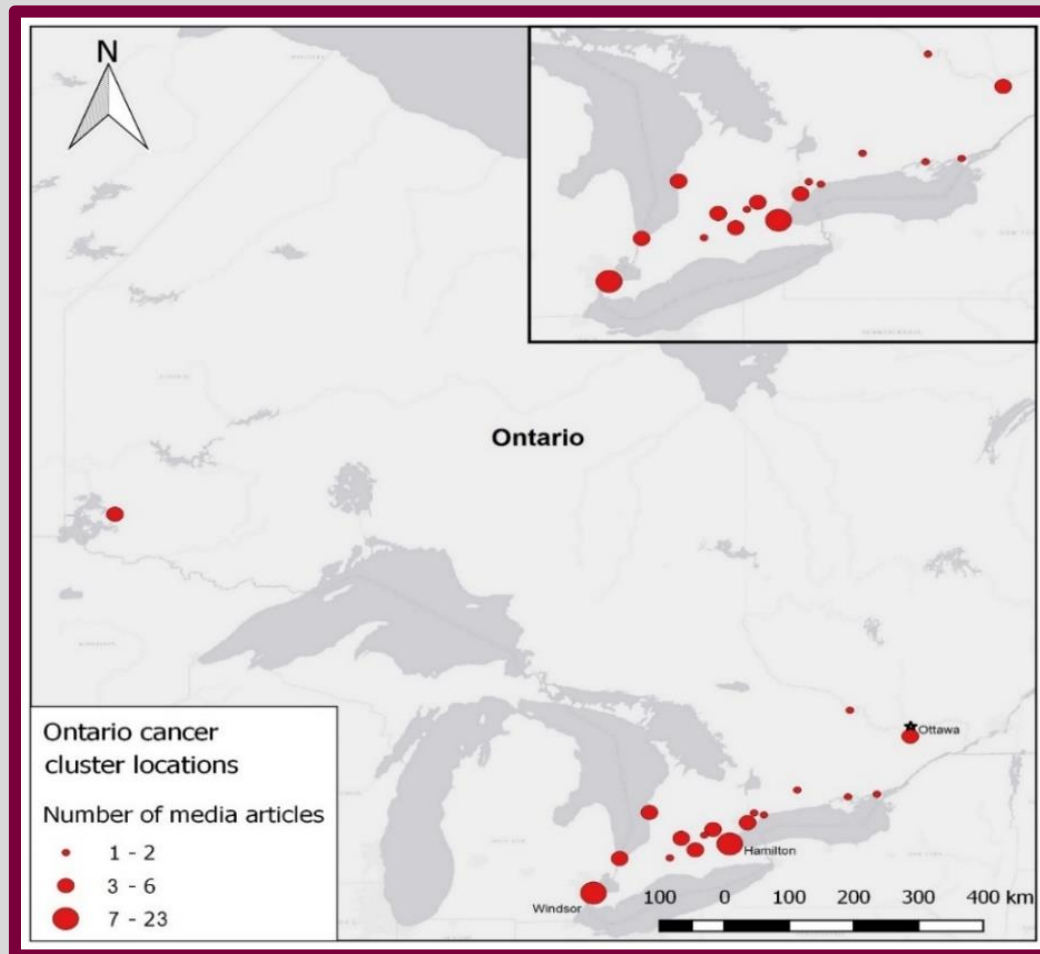
RESULTS BY CLUSTER: HOW DID LANGUAGE ON RISK DIFFER?
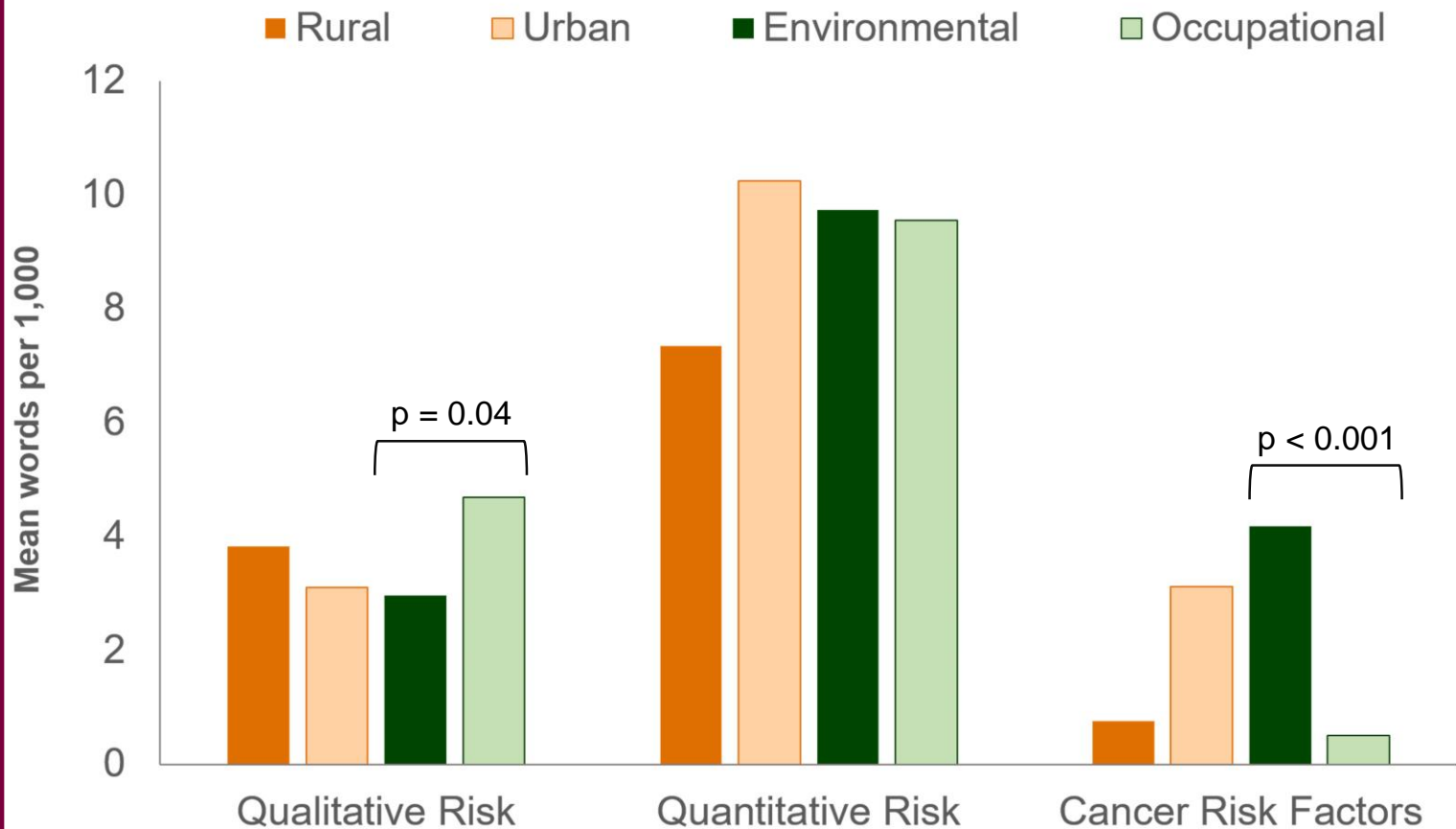
RESULTS BY NEWS AGENCY: HOW DID LANGUAGE ON RISK DIFFER?
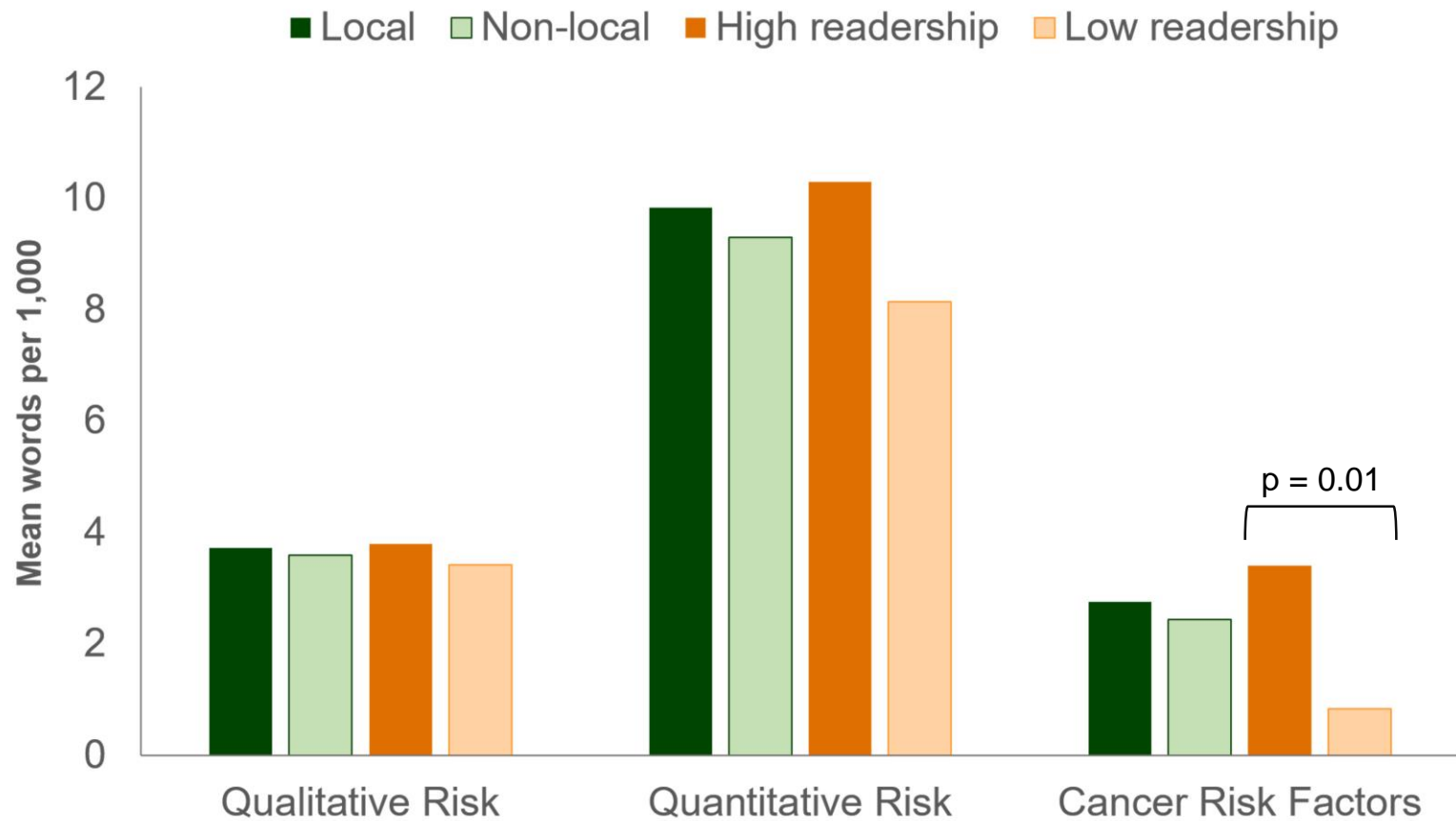
RESULTS BY SCALE: HOW DID LANGUAGE ON RISK DIFFER?

MAIN CONCLUSIONS

- Coverage of cancer clusters located in **urban** areas used more **quantitative risk language** compared to coverage of clusters in more **rural** areas in Ontario

- **Cancer risk factors** discussed less frequently in the media's reporting of cancer clusters in **rural** areas in Ontario

- Little difference in risk language between local/non-local news outlets, although those with **high readership** reported more on **cancer risk factors**

MAIN CONCLUSIONS

- There is a growing *burden of cancer* in Canadian *Indigenous* communities yet…

- News coverage of cancer clusters from **First Nations Reserves** in Ontario contained significantly fewer references to **cancer risk factors**, compared to other settings

  - These articles also referenced exclusively **environmental** clusters

WHY SHOULD WE CARE?

- The way that information on health risk is **presented** and **framed**, in context with other key information that may be highlighted or omitted, plays a key role in how the public will **perceive** that **health** issue and any **risks** associated with it

- **Communication inequality** – a question of equal access to health risk information

WHY SHOULD WE CARE?

- There's a lot of *interest* among reporters and journalists to report health news… but sometimes they need a little help

- Developing media tool kits, press releases, etc. could be a way to encourage more **collaboration** between **public health officials** investigating a cluster and **journalists** reporting on them

FUTURE WORK

- We don't know how many suspected cancer clusters are reported or investigated in Canada…

- Interviews: Canadian public health investigators

- Experiments to test perception of risk after reading/viewing various information formats. To participate: https://research.healthgeomatics.com/
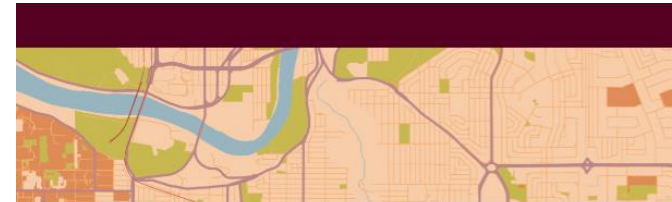
Participants Wanted
In a study on health risk communication

Why Join?
1. Help us learn how to improve health risk communication for common diseases
2. Chance to win 1 of 4 $50 Visa gift cards!

What's Involved?
1. Online visual experiment (approx. 5-10 minutes)
2. Complete a short survey (approx. 5-10 minutes)

Contact
To volunteer for this study or for more information visit research.healthgeomatics.com

Who Can Participate?
Anyone aged 18 and over and currently residing in Canada

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This study has been reviewed and has received ethics clearance by the McMaster Research Ethics Board

QUESTIONS?

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