

St Marys Cement Health Hazard Investigation

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May 2018



Activities

- **Oct 2017:** complaints received
- **Nov 2017-Apr 2018:**
 - Consultation with MOECC
 - Public meeting
 - Data collection and analysis
 - Consultation with Public Health Ontario
- **May 2018:** final report and public meeting

Results:

Air Quality Testing

- Shared all air quality testing results with Public Health Ontario (PHO), the scientific arm of public health in Ontario
- PHO staff have expertise in:
 - Environmental and occupational health
 - Environmental health analysis
 - Toxicology and exposure assessment.

Results: Air Quality Testing

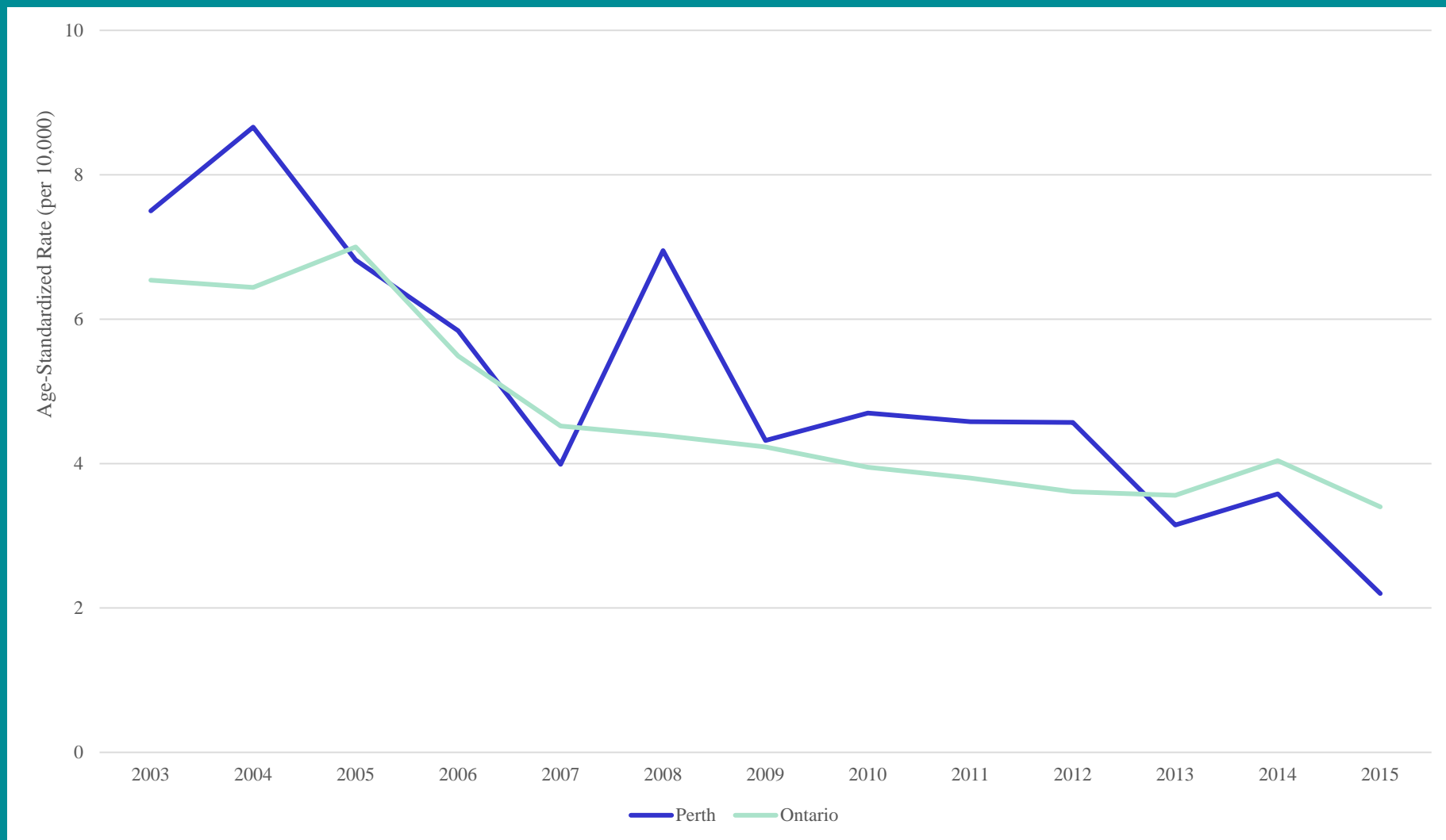
- **Overall:** contribution from SMC but levels below standards
- **Odours:** not necessarily a health hazard. Can be addressed with abatement plan
- **Dust:** complaints, observed by MOECC staff. PM_{2.5} dominated by regional levels, PM₁₀ possibly from SMC
- **Benzene:** likely from SMC, levels comparable to areas in Ontario where it is routinely monitored

Results:

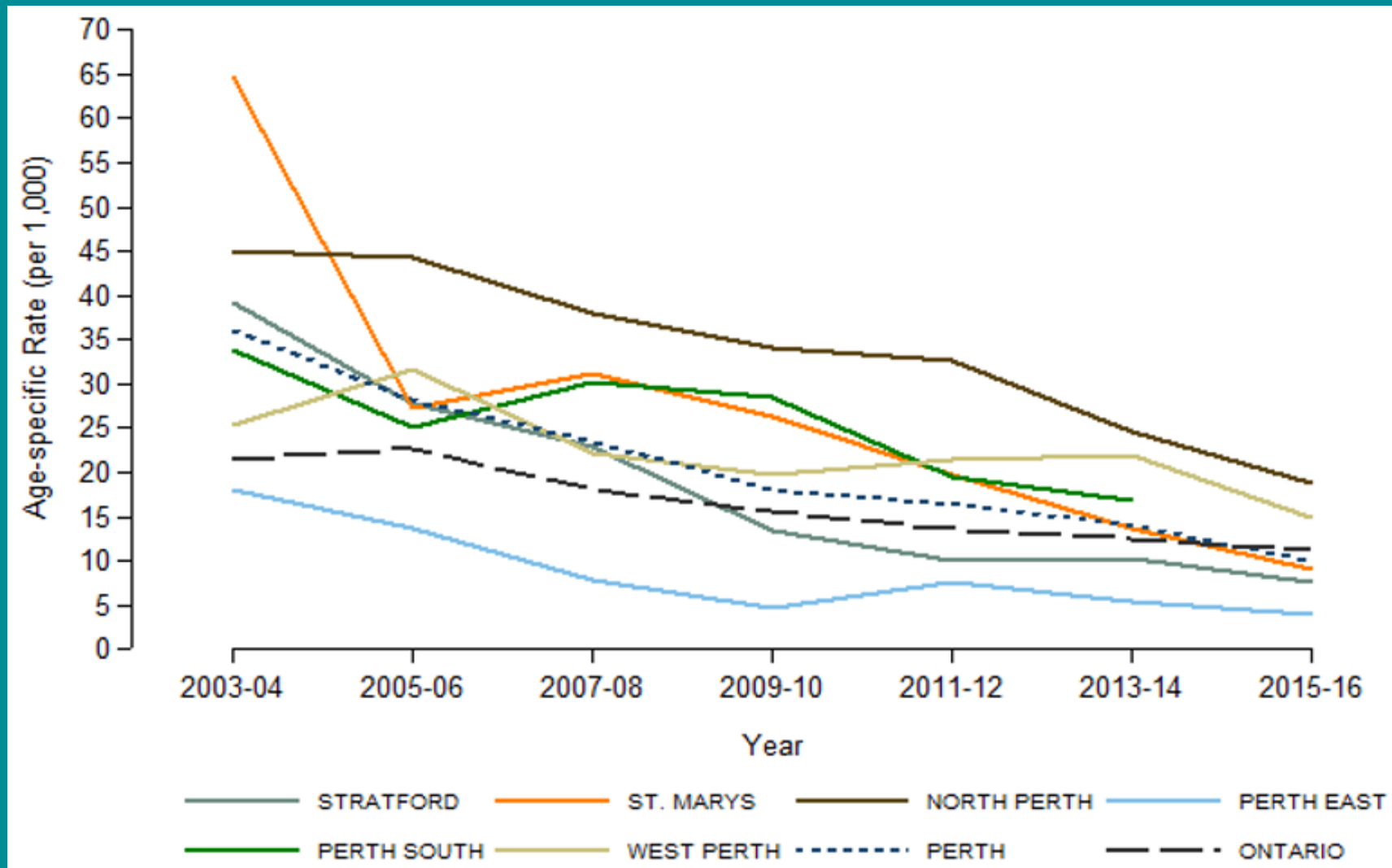
Respiratory Illness

(Asthma and Chronic Obstructive
Pulmonary Disease – COPD)

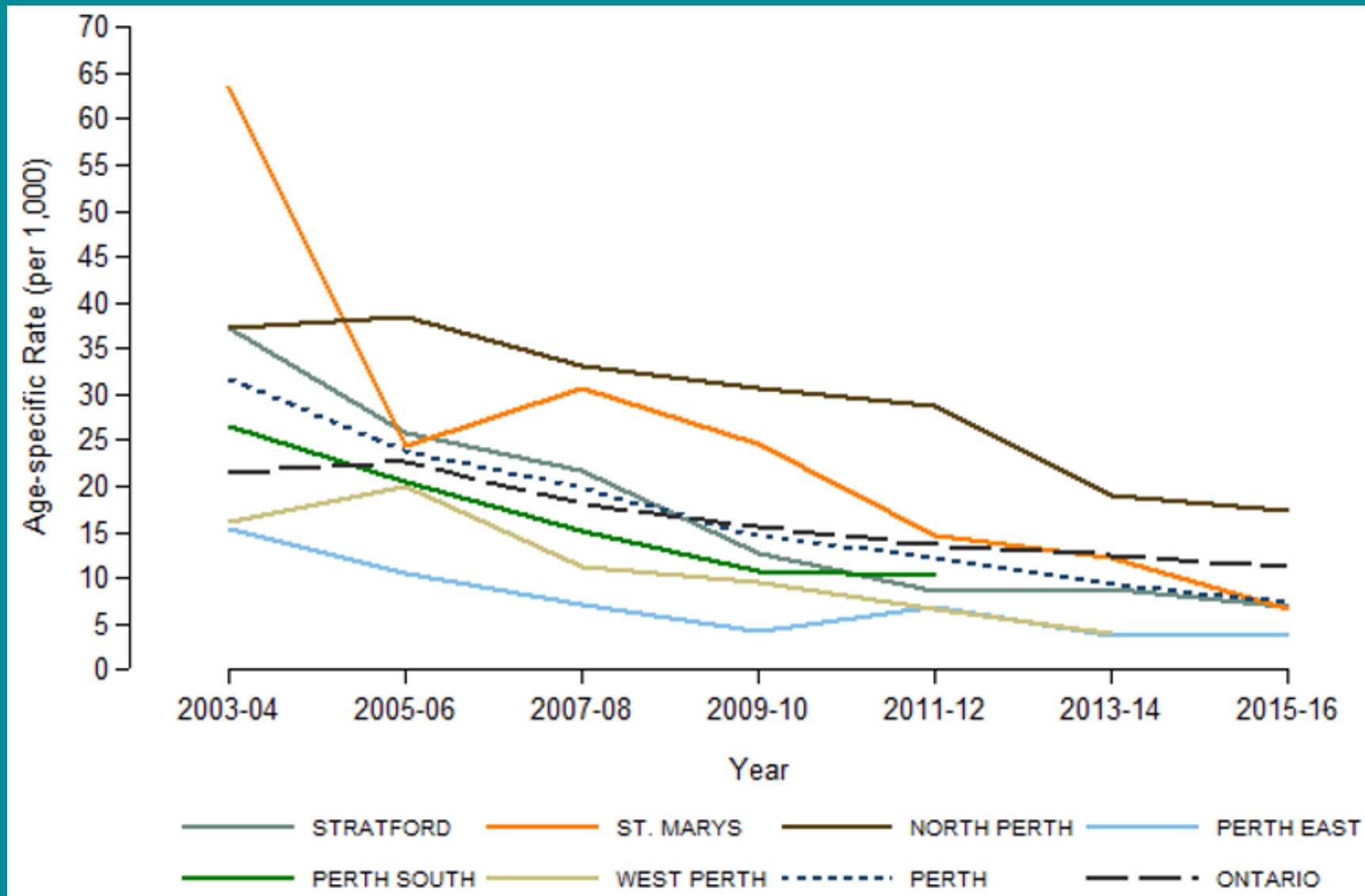
Hospitalizations due to asthma: age-standardized rates (per 10,000) among Perth County (including Stratford and St. Marys) and Ontario residents, 2003-2015



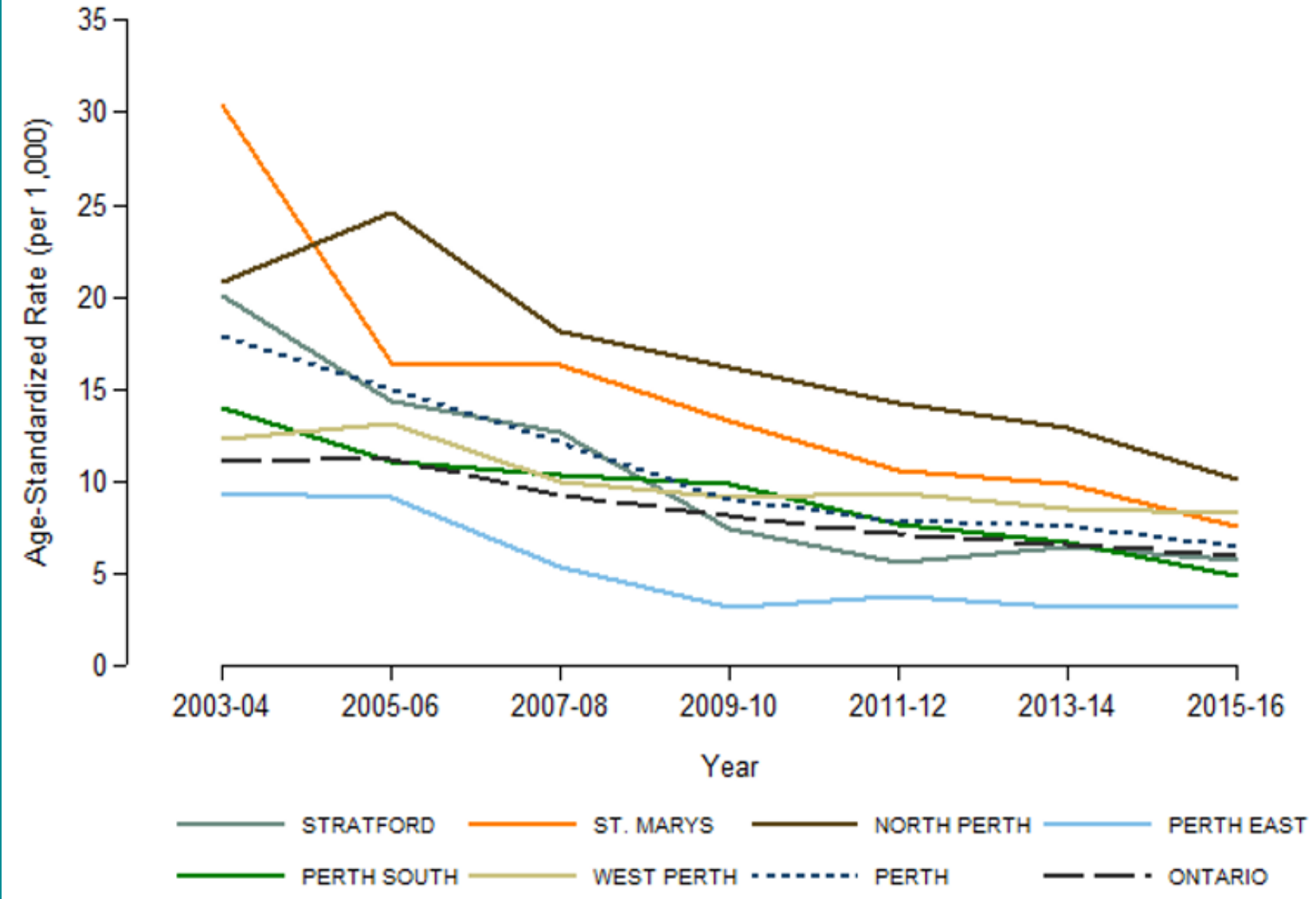
Emergency department visits due to asthma at any Ontario hospital: Age-specific rates (per 1,000) of aged 0 to 19 years of Perth County, its municipalities, and Ontario residents, 2003-2016



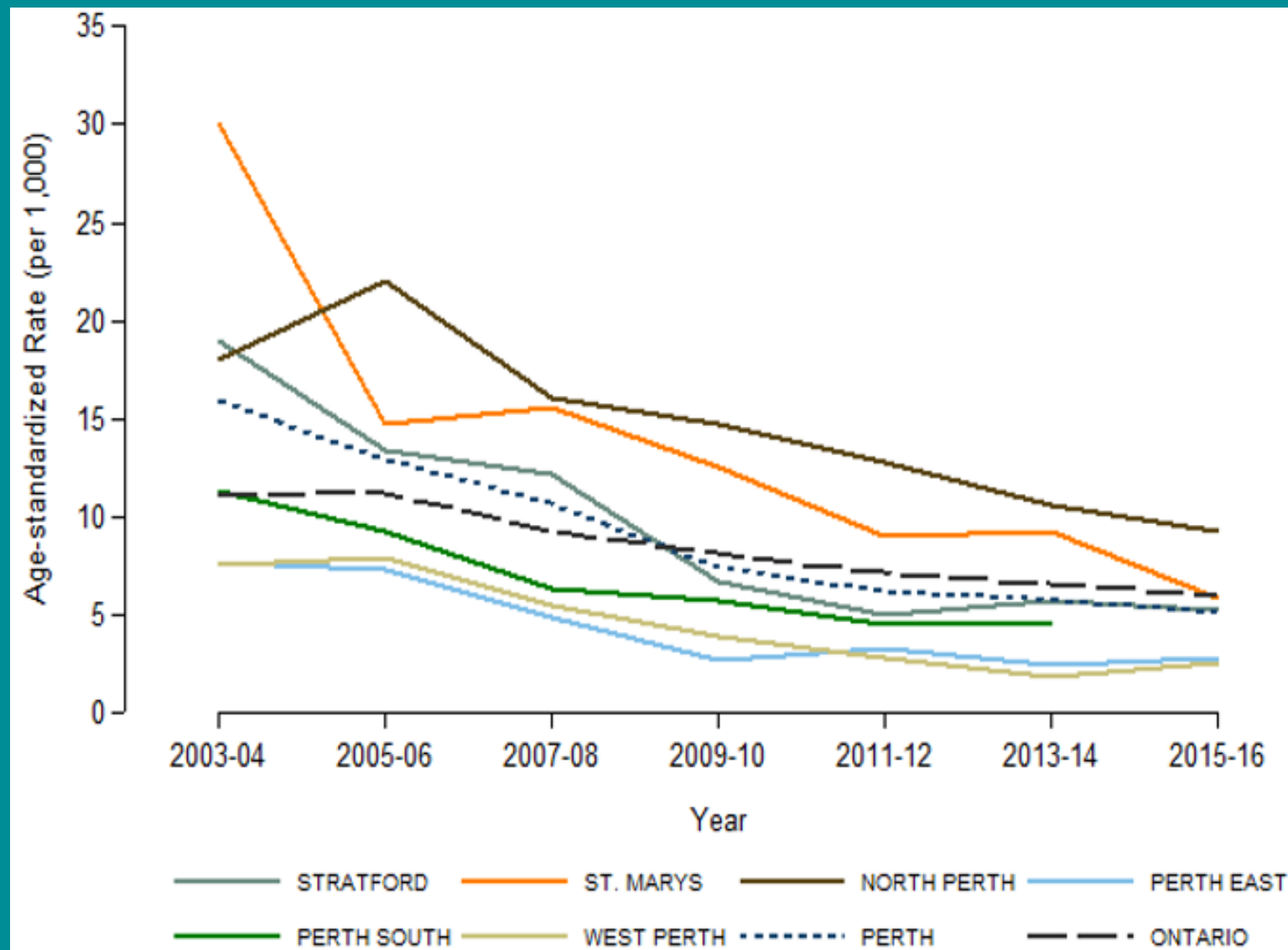
Emergency department visits due to asthma at any Perth County hospital: Age specific rates (per 1,000) residents aged 0 to 19 years of Perth County, its municipalities, and Ontario, 2003-2016



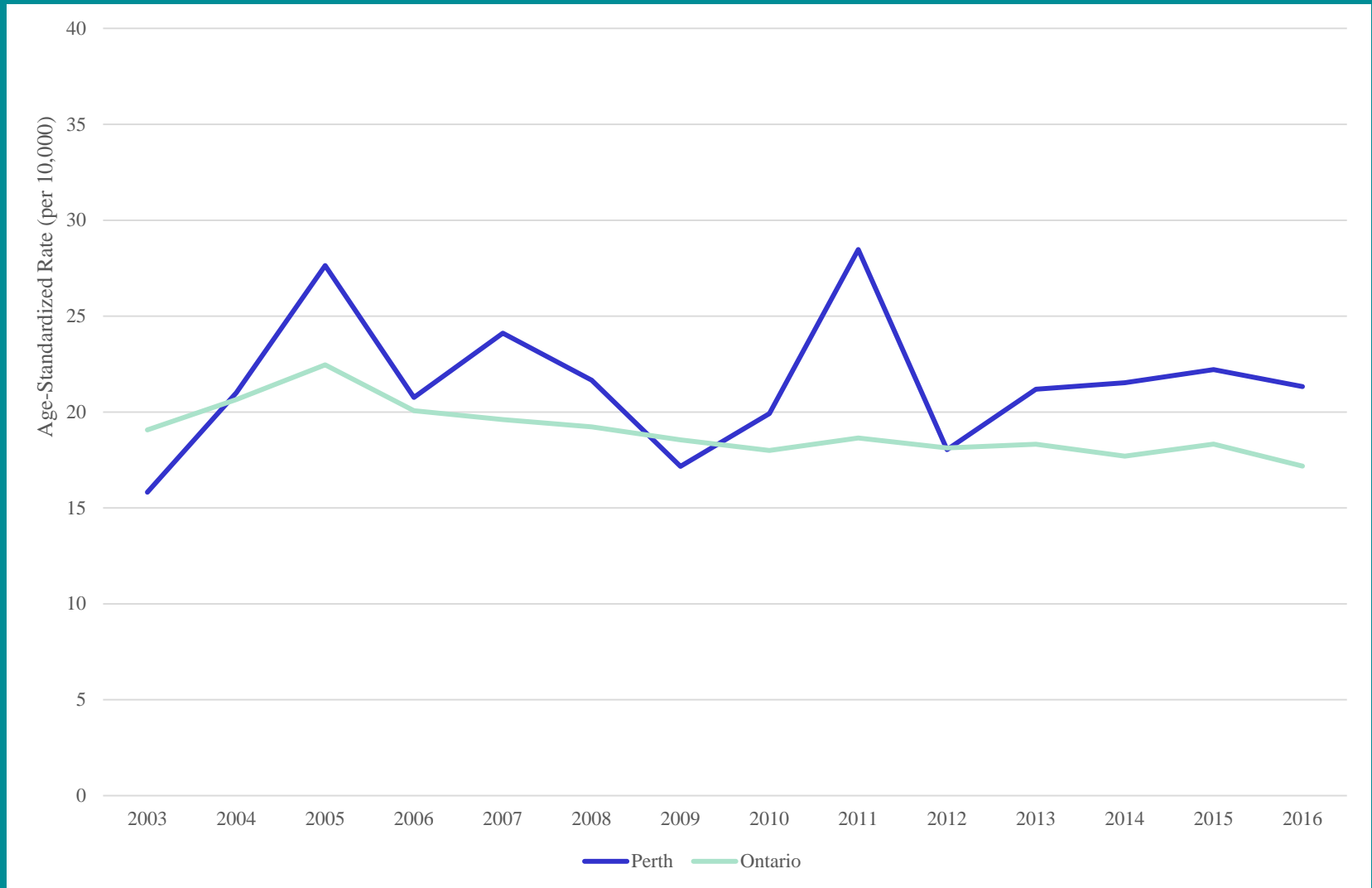
Emergency department visits due to asthma at any Ontario hospital:
age-standardized rates (per 1,000) residents of Perth County, its municipalities, and Ontario, 2003-2016



Emergency department visits due to asthma at any Perth County hospital:
age-standardized rates (per 1,000) residents of Perth County, its municipalities, and Ontario, 2003-2016



Hospitalizations for Chronic Obstructive Pulmonary Disease: Age-standardized rates (per 10,000) in Perth County (including Stratford and St. Marys) and Ontario residents, 2003-2016



Results:

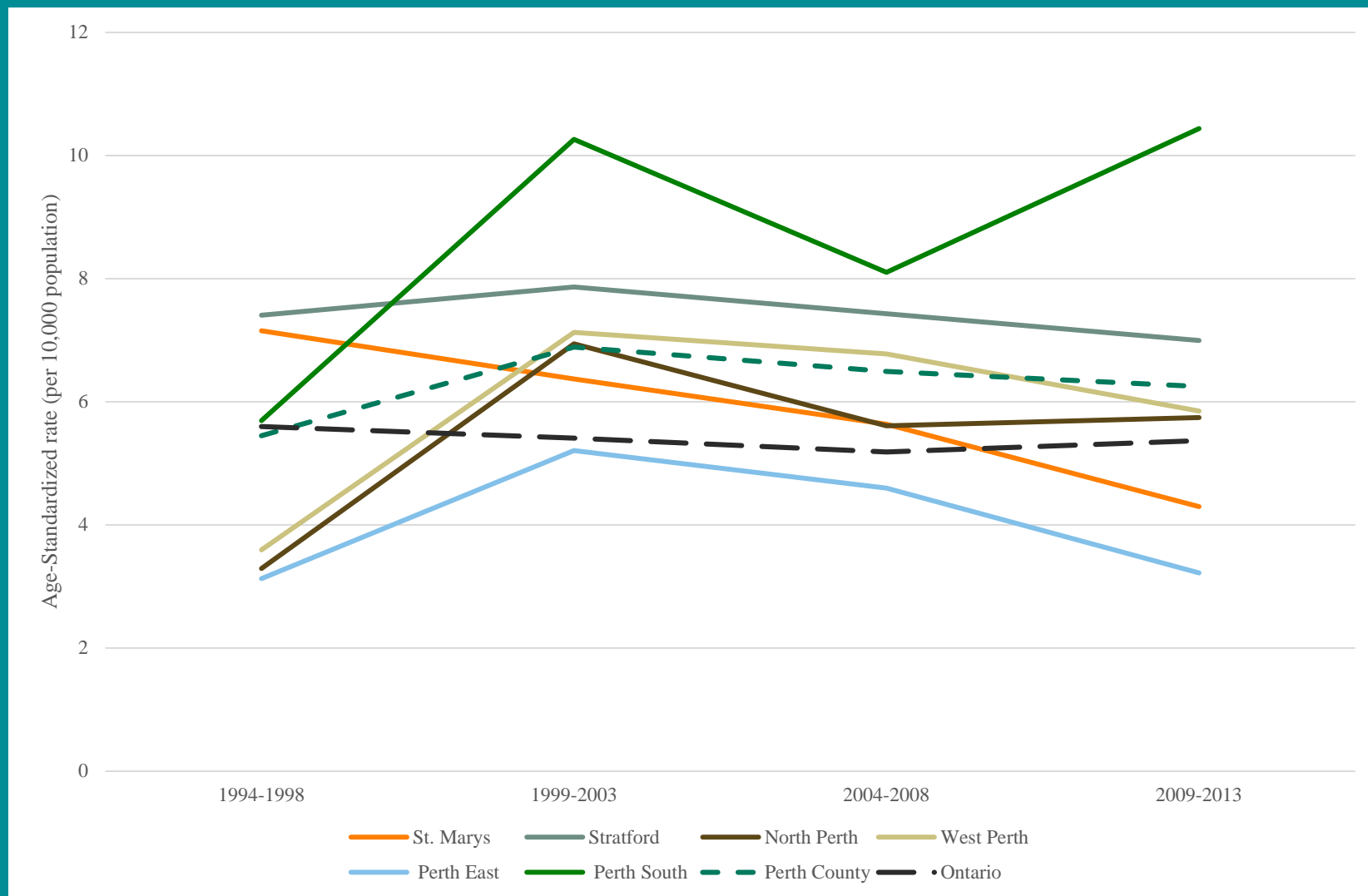
Cancer

(lung, colorectal,
non-Hodgkin lymphoma,
acute myelogenous leukemia)

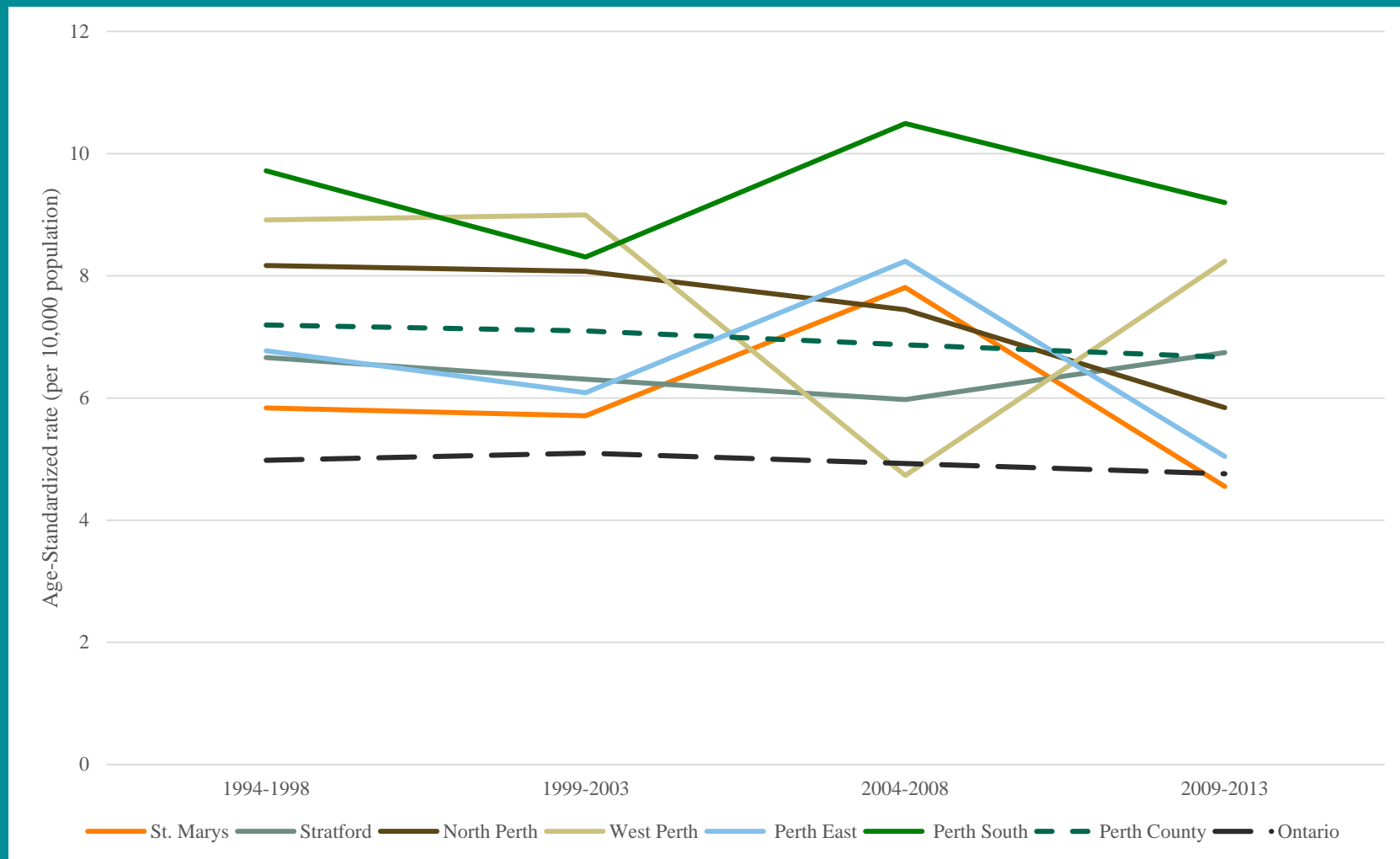
Lung cancer, colorectal cancer, non-Hodgkin lymphoma (NHL), and acute myeloid leukemia (AML): Age-standardized incidence rates (per 10,000) among residents of Perth County, its municipalities, and Ontario, 1994-2013

Cancer Type	Year Range	St. Marys	Stratford	North Perth	West Perth	Perth East	Perth South	Perth County	Ontario
Lung Cancer	1994-1998	7.2	7.4	3.3	3.6	3.1	5.7	5.4	5.6
	1999-2003	6.4	7.9	6.9	7.1	5.2	10.3	6.9	5.4
	2004-2008	5.6	7.4	5.6	6.8	4.6	8.1	6.5	5.2
	2009-2013	4.3	7.0	5.7	5.9	3.2	10.4	6.2	5.4
Colorectal Cancer	1994-1998	5.8	6.7	8.2	8.9	6.8	9.7	7.2	5.0
	1999-2003	5.7	6.3	8.1	9.0	6.1	8.3	7.1	5.1
	2004-2008	7.8	6.0	7.4	4.7	8.2	10.5	6.9	4.9
	2009-2013	4.6	6.7	5.8	8.2	5.0	9.2	6.7	4.8
Non-Hodgkin Lymphoma	1994-1998	2.3	2.3	2.0	2.4	2.1	-	2.2	1.6
	1999-2003	2.8	1.4	2.9	2.3	1.7	-	1.9	1.7
	2004-2008	2.0	2.0	1.9	3.3	1.4	-	2.2	1.8
	2009-2013	2.6	2.5	2.2	2.4	3.8	-	2.8	2.0
Acute myeloid leukemia	1994-1998	0	-	-	-	-	0	0.35	0.35
	1999-2003	-	-	-	-	-	0	0.49	0.37
	2004-2008	-	0.44	-	-	-	-	0.44	0.40
	2009-2013	-	0.33	-	-	-	0	0.33	0.41

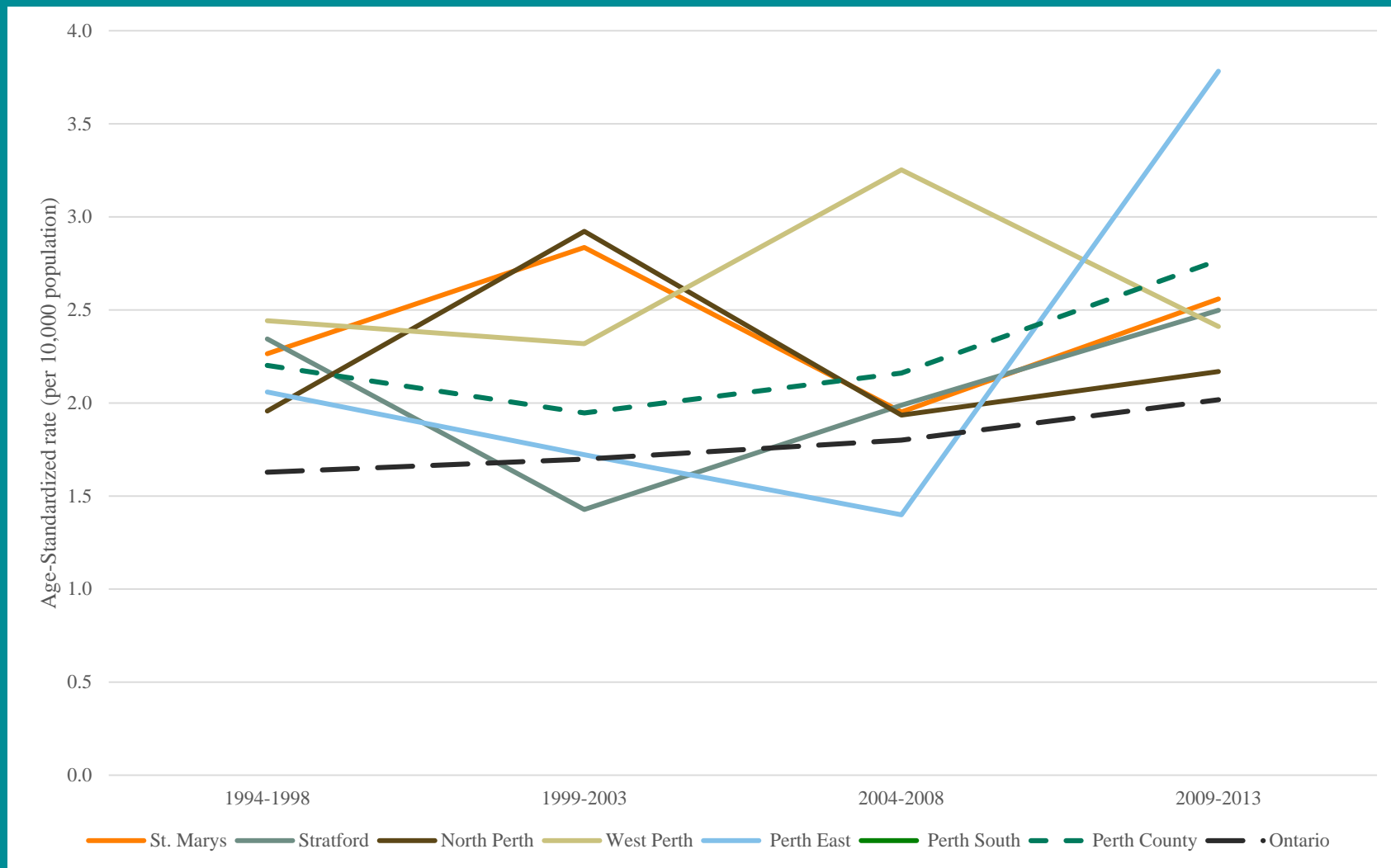
Lung cancer: Age-standardized incidence rates (per 10,000) among residents of Perth County, its municipalities, and Ontario, 1994-2013



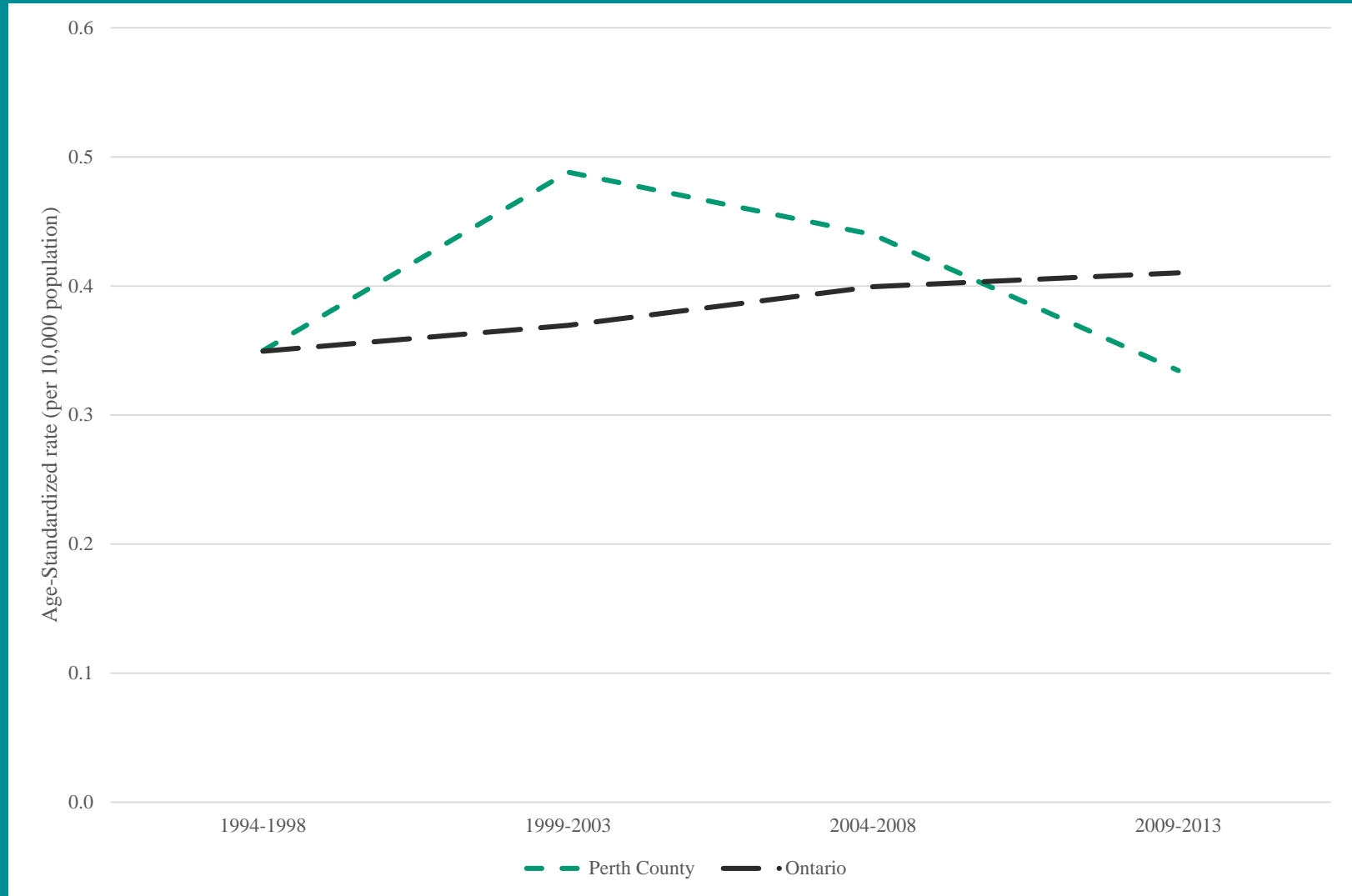
Colorectal cancer: Age-standardized incidence rates (per 10,000) among residents of Perth County, its municipalities, and Ontario, 1994-2013



Non-Hodgkin lymphoma: Age-standardized incidence rates (per 10,000) among residents of Perth County, its municipalities, and Ontario, 1994-2013



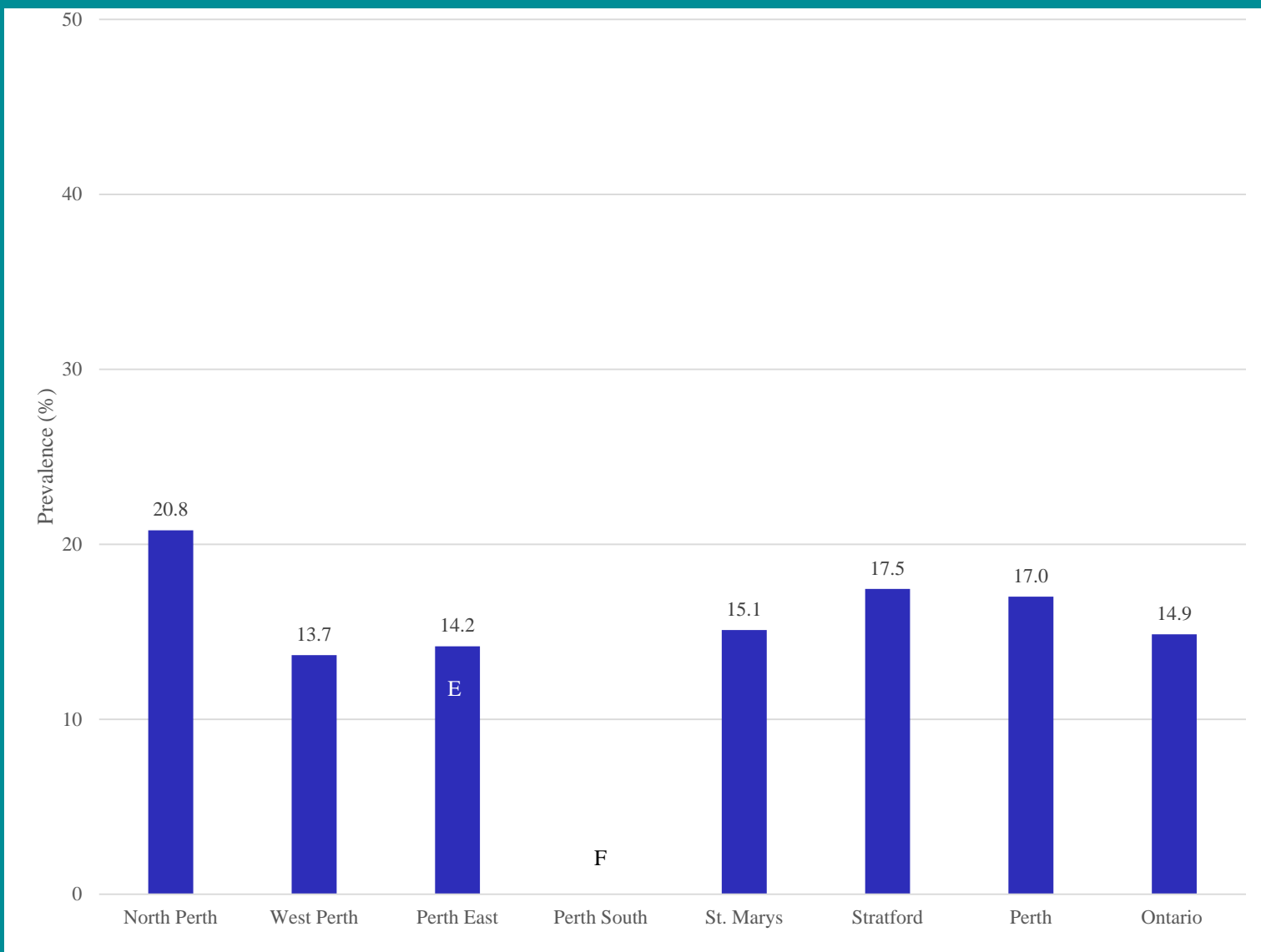
Acute myeloid leukemia: Age-standardized incidence rates (per 10,000) among residents of Perth County, its municipalities, and Ontario, 1994-2013



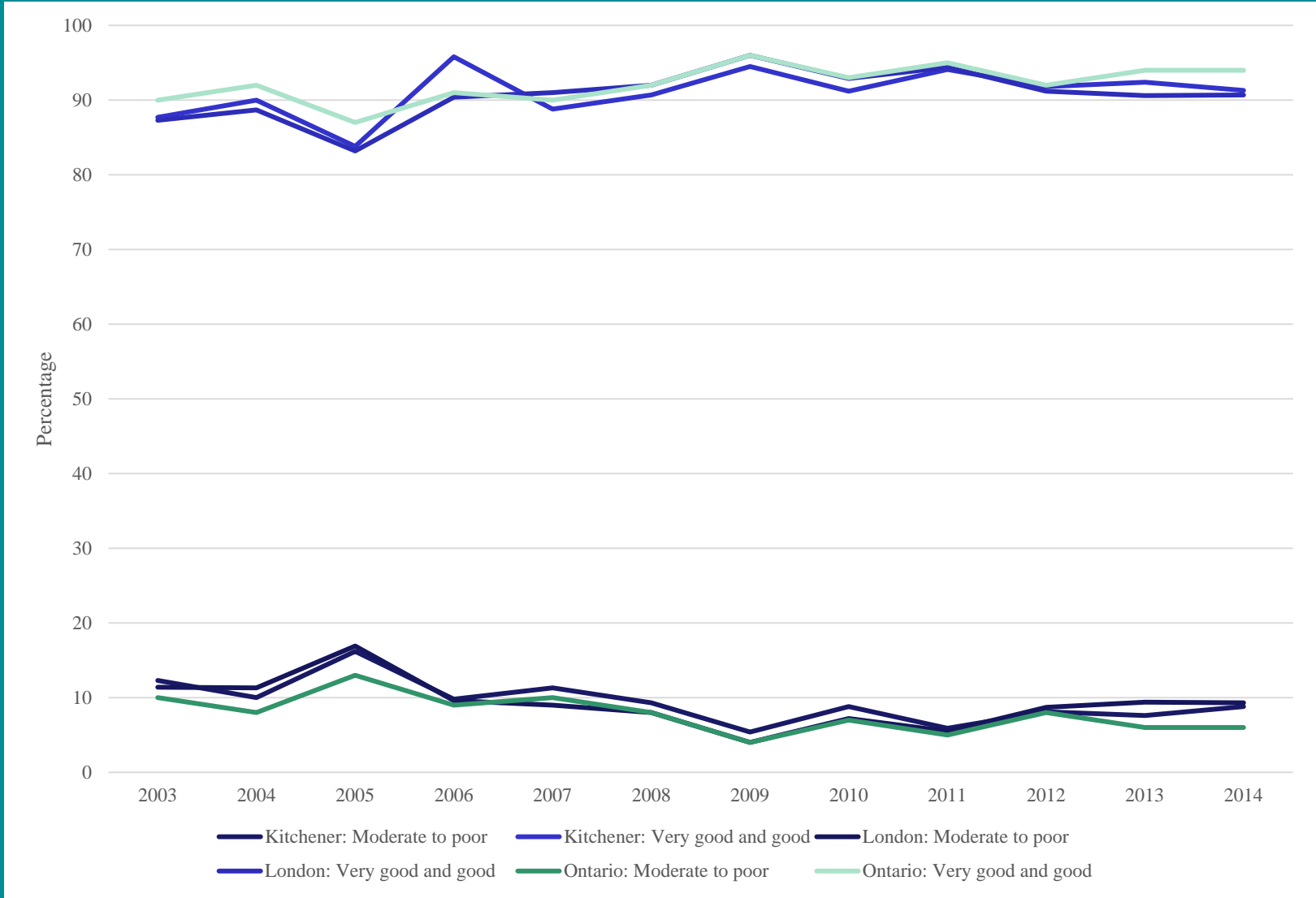
Results:

Smoking and Air Quality
(risk factors for lung cancer
and COPD)

Prevalence of daily smoking among residents aged 12 and over from Perth County, its municipalities and Ontario, 2003-2014



The percentage of time when the air quality was “moderate to poor” and “very good and good” for London, Kitchener, and Ontario

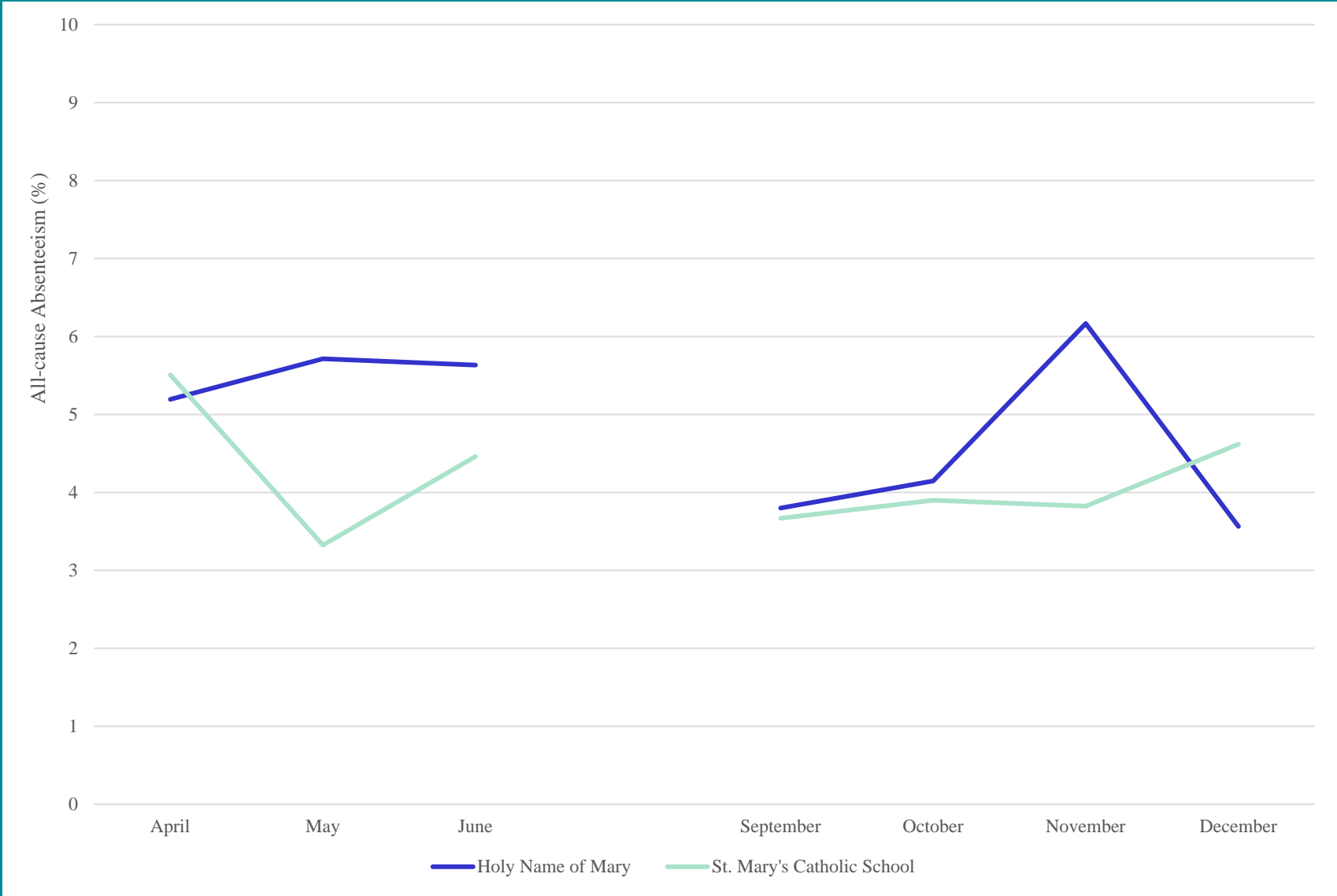


Results:

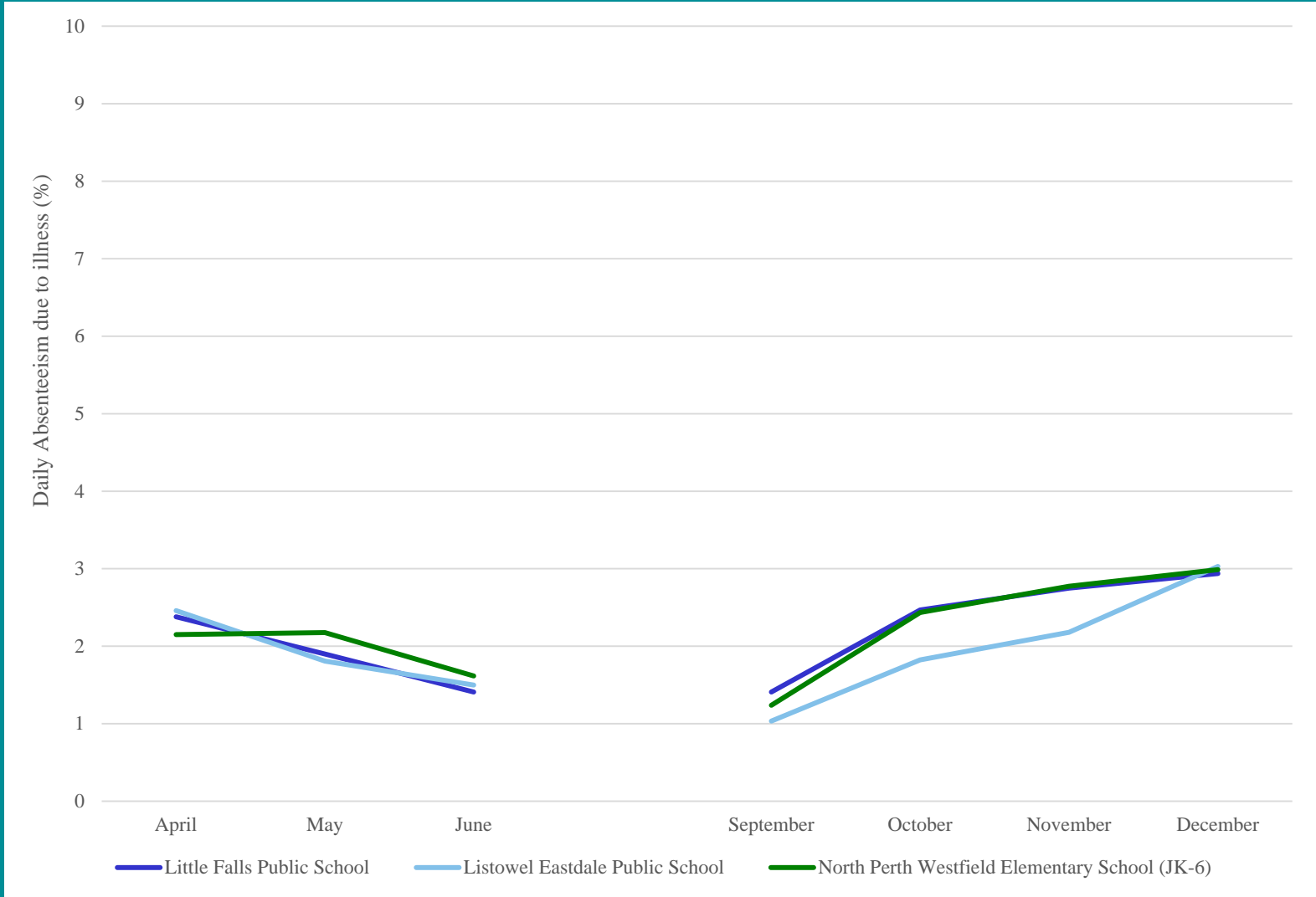
School Absenteeism

- No concerns reported by school principals in St. Marys
- Consulted with PHO, decided to examine school absenteeism in St. Marys compared to North Perth

All-cause daily school absenteeism by month: Holy Name of Mary Catholic School in St. Marys and St. Mary's Catholic School in Listowel, 2017



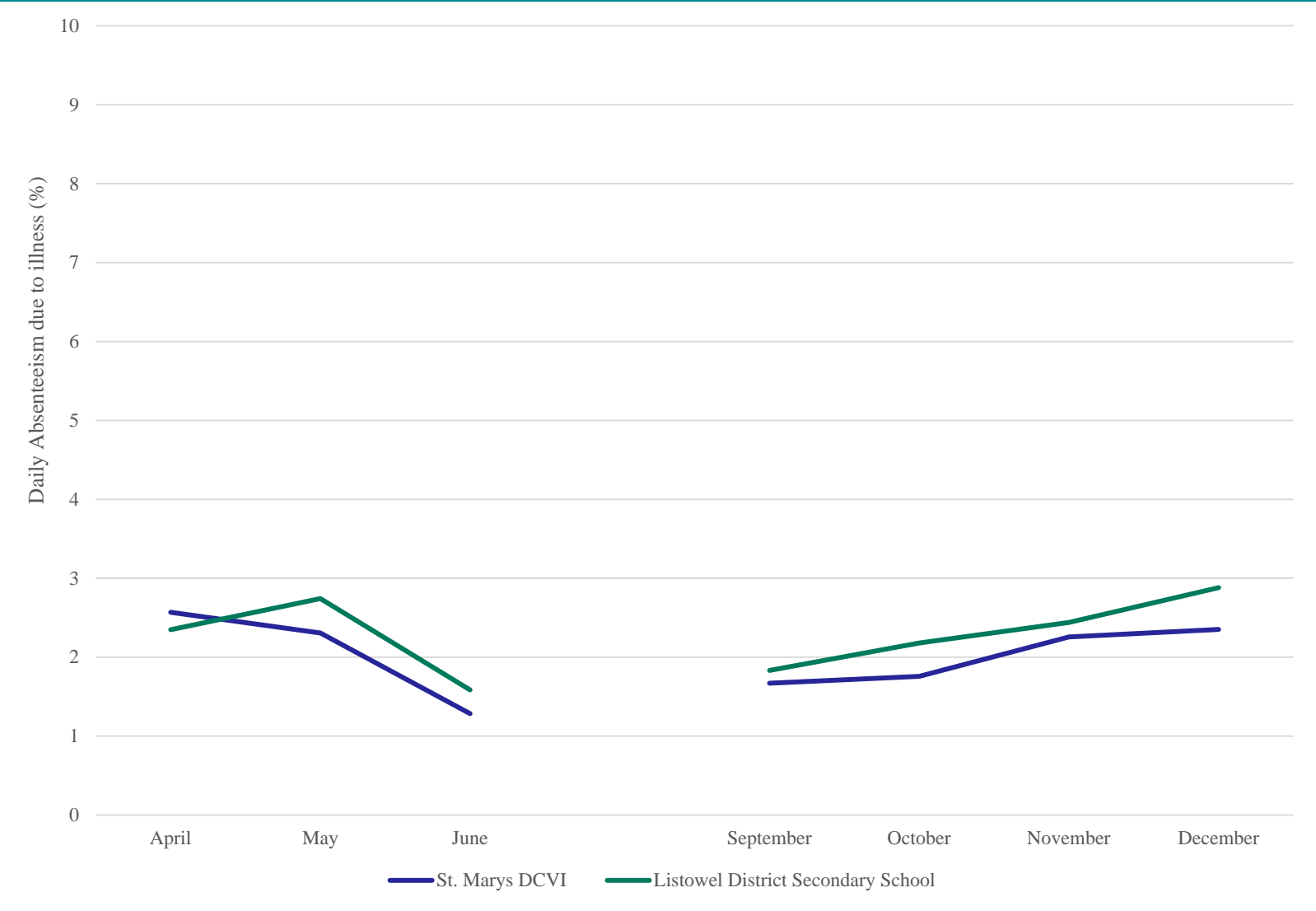
Daily school absenteeism due to illness by month: Little Falls Public School in St. Marys and Listowel Eastdale Public School and North Perth Westfield Elementary School in Listowel, 2017



Daily school absenteeism due to illness by month: Grades 7 and 8 from St. Marys DCVI in St. Marys and North Perth Westfield Elementary School in Listowel, 2017



Daily school absenteeism due to illness by month: Grades 9 to 12 from St. Marys DCVI in St. Marys and Listowel District Secondary School in Listowel, 2017



Recommendations

PDHU recommends that:

- MOECC completes 1 year of fixed monitoring data collection
- MOECC conducts mobile air monitoring in 2018
- MOECC promote best practices to mitigate dust events
- MOECC continues to monitor SMC facility for compliance with the ECA, including the odour abatement plan
- SMC Community Liaison Committee continue to meet and report back to the community
- St. Marys residents continue to log complaints related to air quality with the MOECC and engage with the SMC Community Liaison Committee to address any outstanding issues

Recommendations

PDHU plans to:

- Investigate if there is a better way to monitor school absenteeism in St. Marys as it relates to high complaint days
- Receive and analyze ongoing air testing results from MOECC; check they are within standards
- Continue to log air quality complaints from residents and follow-up according to Policies & Procedures
- Share this Health Hazard Investigation with stakeholders and partners as well as the St. Marys community

Conclusions

- While the emissions from SMC have been in compliance with provincial standards, it does not discount that some people may be sensitive to the effects of dust and odour in their community
- People in St. Marys are encouraged to continue to report the issues they face to the MOECC and describe how the dust and odour are impacting their lives

Thank you

The complete PDHU Health Hazard
Investigation report can be
accessed at:

www.townofstmarys.com/airquality

Perth District



Health Unit