



Hamilton



Health Check



Implementation Team

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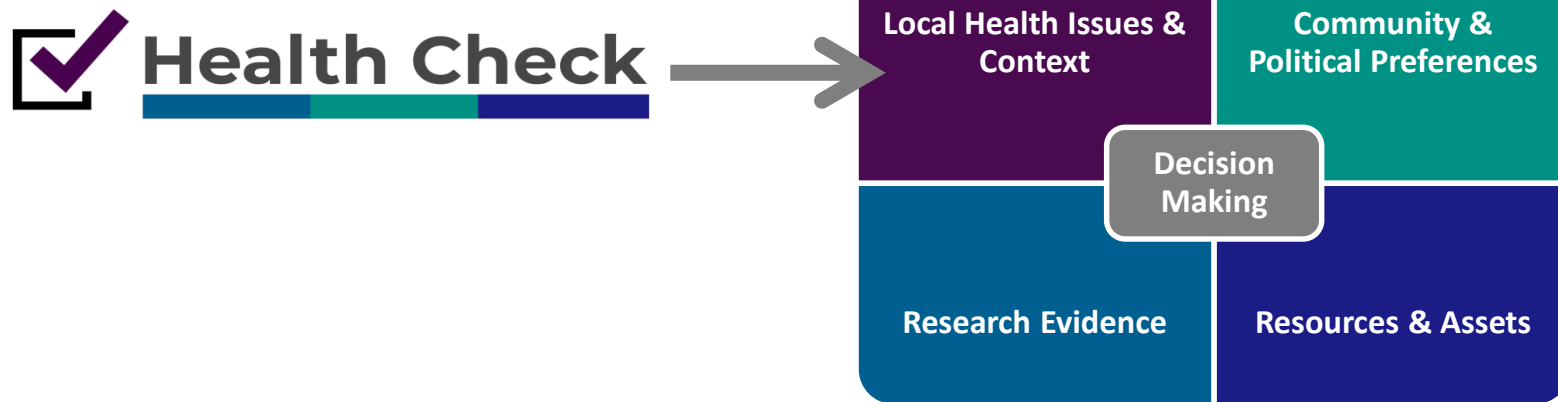


Health Check

Product: Health Check

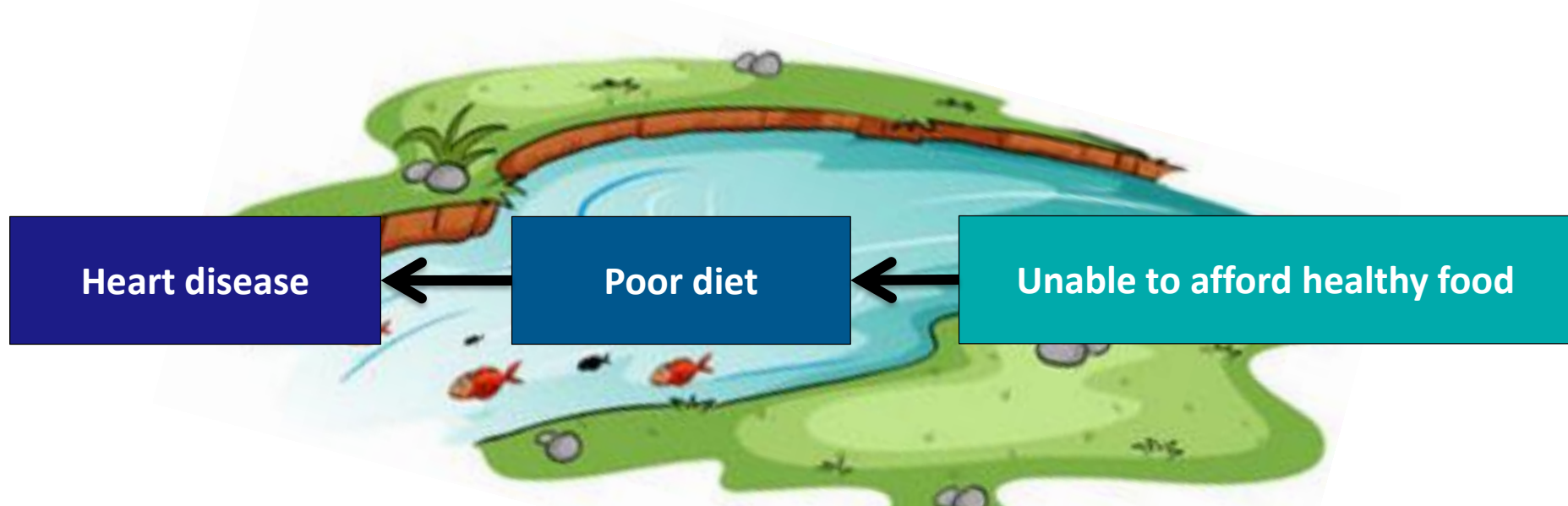
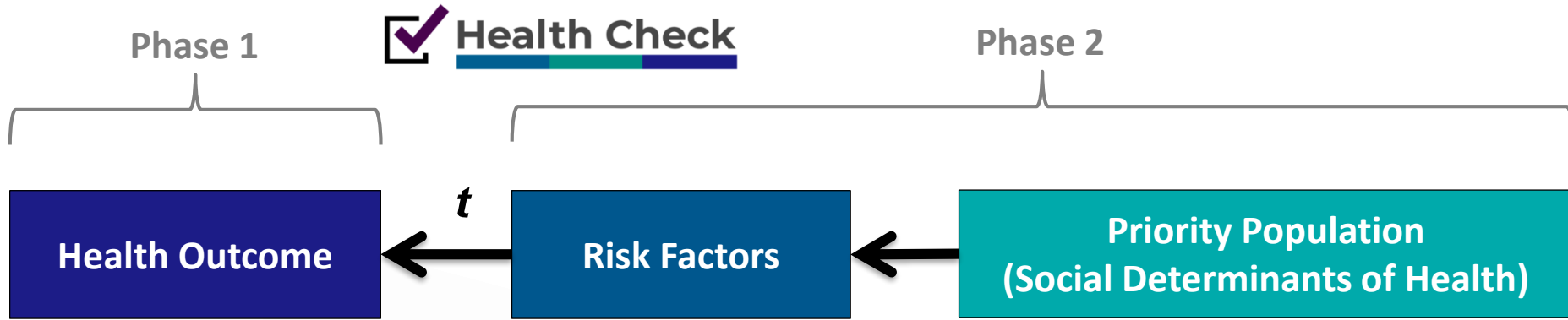
Objective: To quantify and prioritize the burden of disease for the City of Hamilton.

Outcome: Informs priority setting and facilitates completion of the community assessment section of the ASPB.



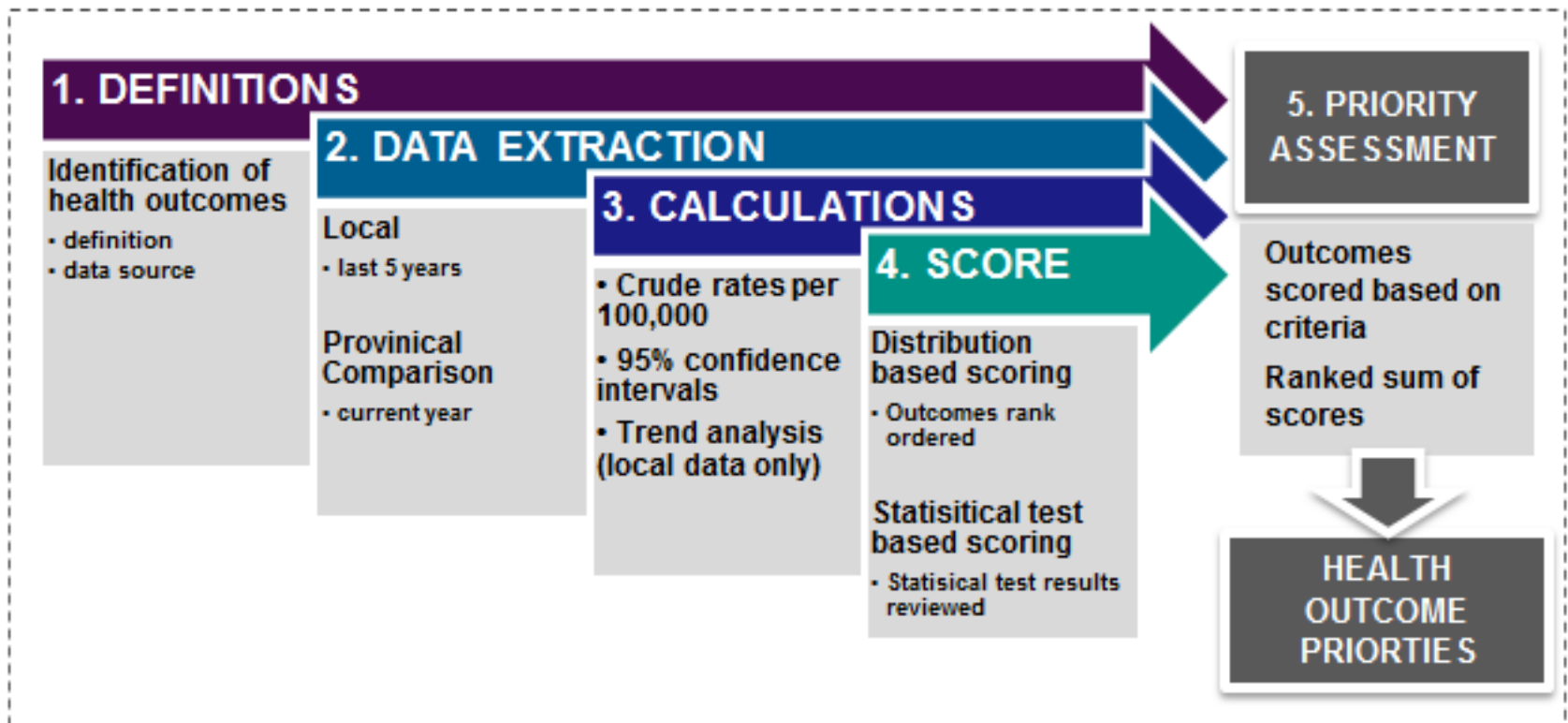
Chain of Causation

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What process was used to quantify and prioritize the burden of disease in Hamilton?



Health Outcomes (n=38): semi-specific and align with public health areas mandated by OPHS (and align with APHEO categorizations) – most considered fully or partially preventable.

- Female breast cancer
- Lung cancer
- Malignant melanoma
- Oral cancer
- Prostate cancer
- Ischemic heart disease
- Cerebrovascular disease
- Hypertensive disease
- Chronic obstructive pulmonary disease
- Asthma
- Diabetes
- Kidney disease
- Enteric, Food and Waterborne Diseases
- Respiratory or direct contact diseases
- Sexually transmitted and blood-borne infections
- Vector borne and zoonotic diseases
- Schizophrenia, delusional and non-organic psychotic disorders
- Mood/affective disorders
- Anxiety disorders
- Selected disorders of adult personality and behaviour
- Oral health
- Weather-related illness/injury
- Assault
- Self-harm
- Burns
- Cut/pierce
- Falls
- Near-drowning/submersion
- Neurotrauma
- Struck by or against
- Transport-related injuries
- Unintentional poisoning
- Overexertion
- Fetal health
- Infant health

Prioritization Assessment: 4 criteria developed for multi-criteria decision making analysis:

- 1 Does it impact many people?**
- 2 Does it have severe health consequences?**
- 3 Is it uniquely problematic in our community?**
- 4 Is it getting worse in our community?**

Prioritization Assessment: 4 criteria developed for multi-criteria decision making analysis

Criteria (weighting)	Population Health Measures	Score
<p>1</p> <p>Does it impact many people? (27.3%)</p>	<p>Consider one of the following measures for this criteria:</p> <ul style="list-style-type: none"> • Incidence rate • Emergency department visit rate • Hospitalization rate 	<p>Morbidity:</p> <ul style="list-style-type: none"> 3 Impacts many people (top 30% of non-zero rates) 2 Impacts some people (middle 40% of non-zero rates) 1 Impacts few people (bottom 30% of non-zero rates) 0 Impacts no people (all zero rates)
<p>2</p> <p>Does the health outcome have severe health consequences? (36.4%)</p>	<p>Consider all of the following measures for this criteria:</p> <ul style="list-style-type: none"> • Mortality rate • Potential years of life lost (PYLL) 	<p>Mortality:</p> <ul style="list-style-type: none"> 2 Very severe/serious (top 30% of rates) 1 Severe/serious (middle 40% of rates) 0 Not severe/serious (bottom 30% of rates) <p>PYLL:</p> <ul style="list-style-type: none"> 2 Very severe/serious (top 30% of rates) 1 Severe/serious (middle 40% of rates) 0 Not severe/serious (bottom 30% of rates)

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Criteria (weighting)	Population Health Measures	Score
<p>3</p> <p>Is the health outcome uniquely problematic in our community? (18.2%)</p>	<p>Consider the following measure for this criteria:</p> <ul style="list-style-type: none"> • Comparison to equivalent Ontario measure (statistical testing was used to determine whether rates were higher or lower than Ontario). 	<p>Morbidity:</p> <ul style="list-style-type: none"> 1 Higher than Ontario 0 Similar to Ontario -1 Lower than Ontario
		<p>Mortality:</p> <ul style="list-style-type: none"> 1 Higher than Ontario 0 Similar to Ontario -1 Lower than Ontario
<p>4</p> <p>Is the health outcome getting worse in our community? (18.2%)</p>	<p>Consider the following measure for this criteria:</p> <ul style="list-style-type: none"> • Trend over most current 5 year period (regression analysis was used to determine whether trends changed significantly). 	<p>Morbidity:</p> <ul style="list-style-type: none"> 1 Getting worse 0 Staying the same -1 Getting better
		<p>Mortality:</p> <ul style="list-style-type: none"> 1 Getting worse 0 Staying the same -1 Getting better

Implementation Challenges

Data gaps & sources

Indicator definitions - narrow vs broad

Measurement of morbidity

Scope - time and resources



1

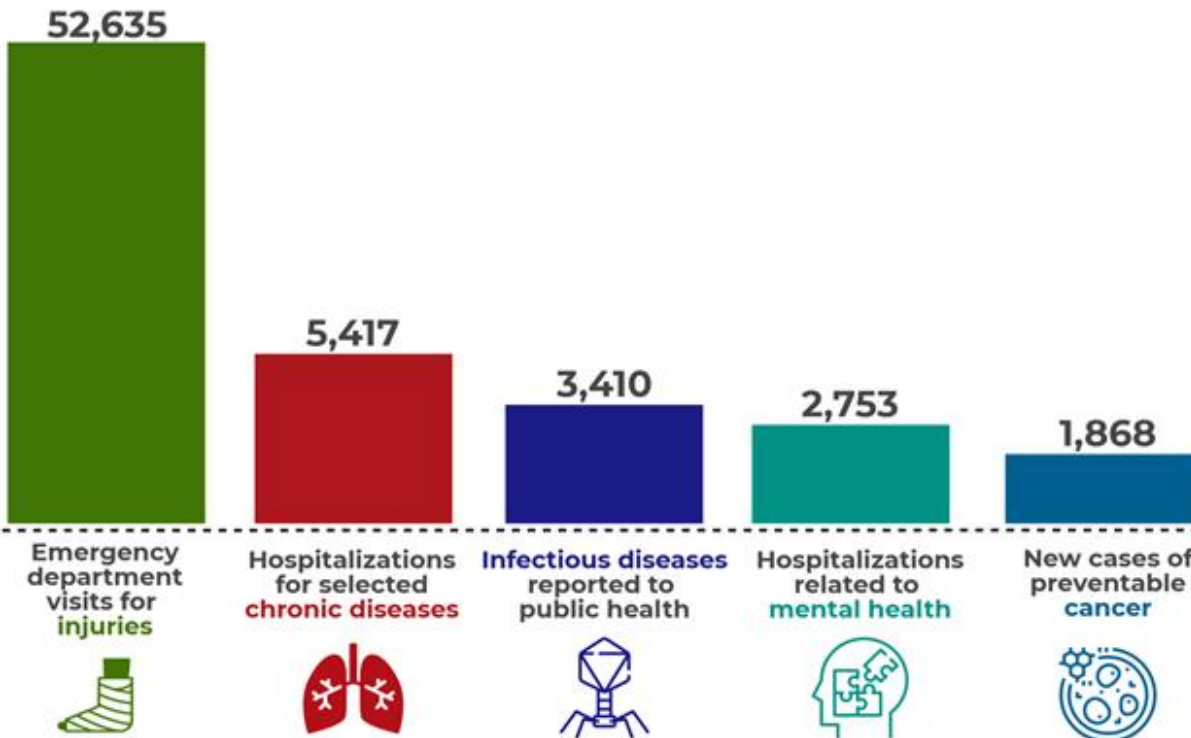
Does it impact many people?

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What's an average day in the City of Hamilton?

Number and type of incidents per year in Hamilton



Each day there are approximately...

- 59** Emergency department visits for **fall injuries**
- 11** Emergency department visits for **transport collisions**
- 8** Emergency department visits for **intentional harm of self or others**
- 5** Hospitalizations for **ischemic heart disease**
- 4** Hospitalizations for **COPD**
- 9** **Infectious diseases** reported to public health
- 8** Hospitalizations related to **mental health**
- 5** Cases diagnosed of preventable **cancer**
- 4** Emergency department visits for **dental care**
- 1** **Underweight baby** is born

2

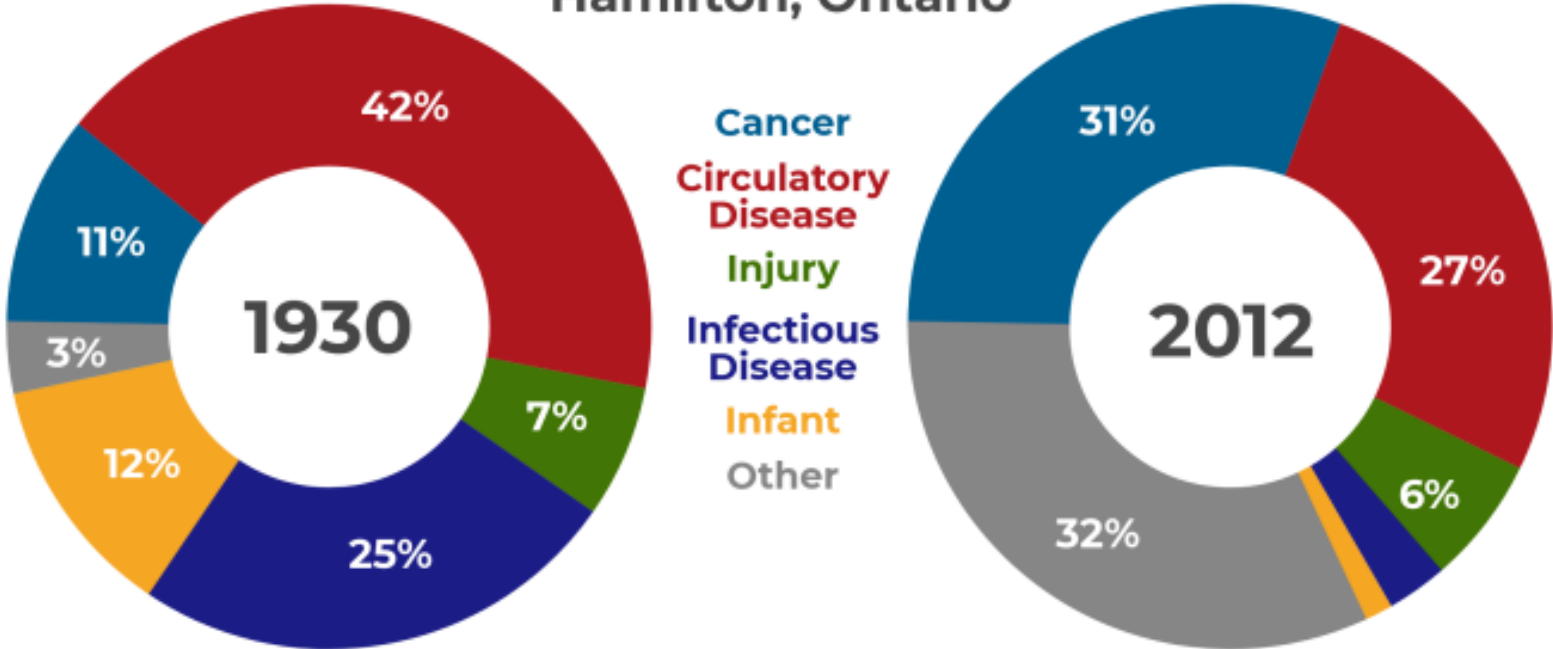
Does it have severe consequences?

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What caused the most death then and now?

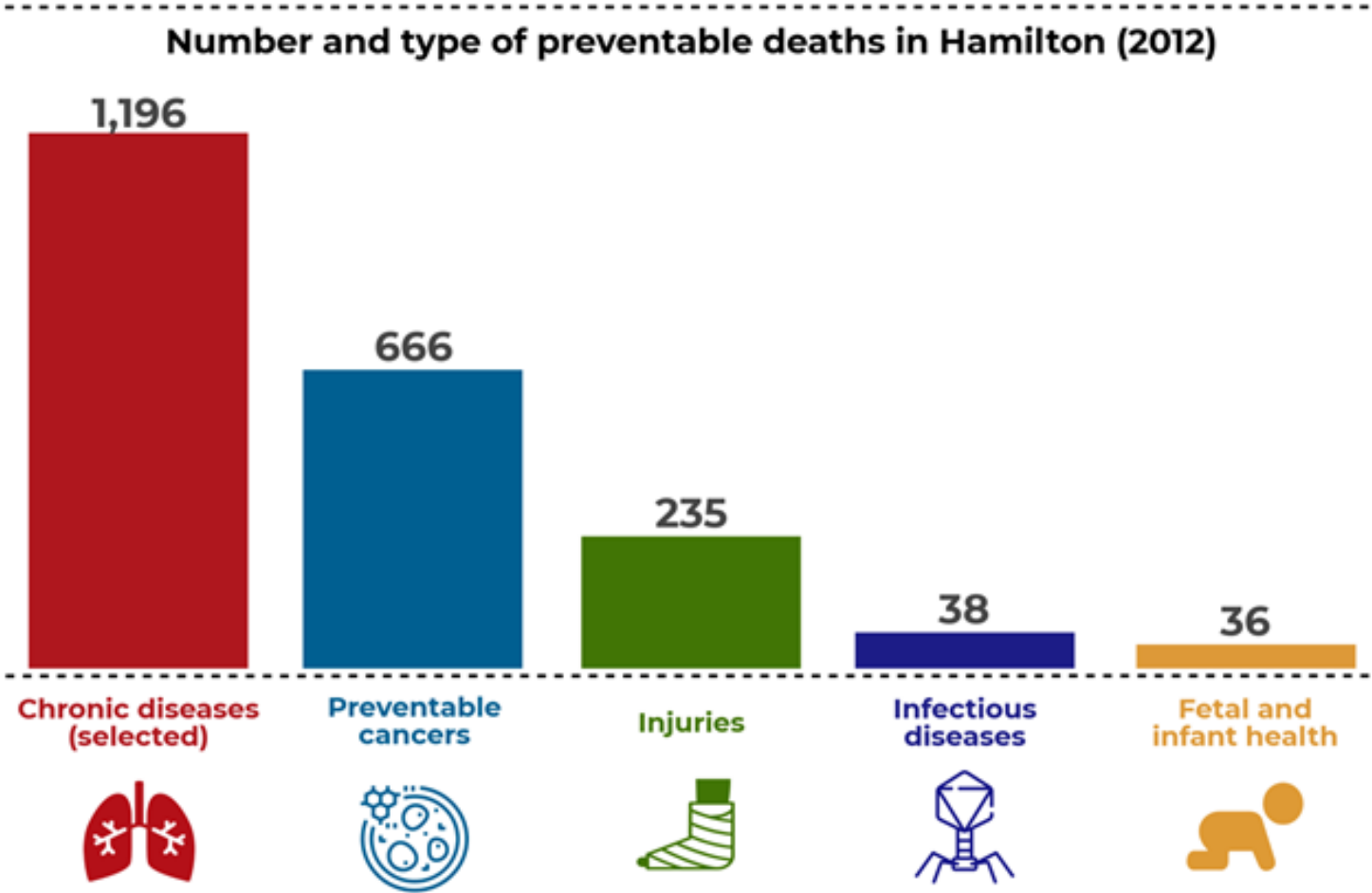
Hamilton, Ontario



2

Does it have severe consequences?


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2

Does it have severe consequences?

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 **Which health outcomes have the greatest potential years of life lost?**

Hamiltonians have an expected lifespan of 75 years. Those who do not live to this age have died prematurely and so they have years of life that were lost to a health outcome.

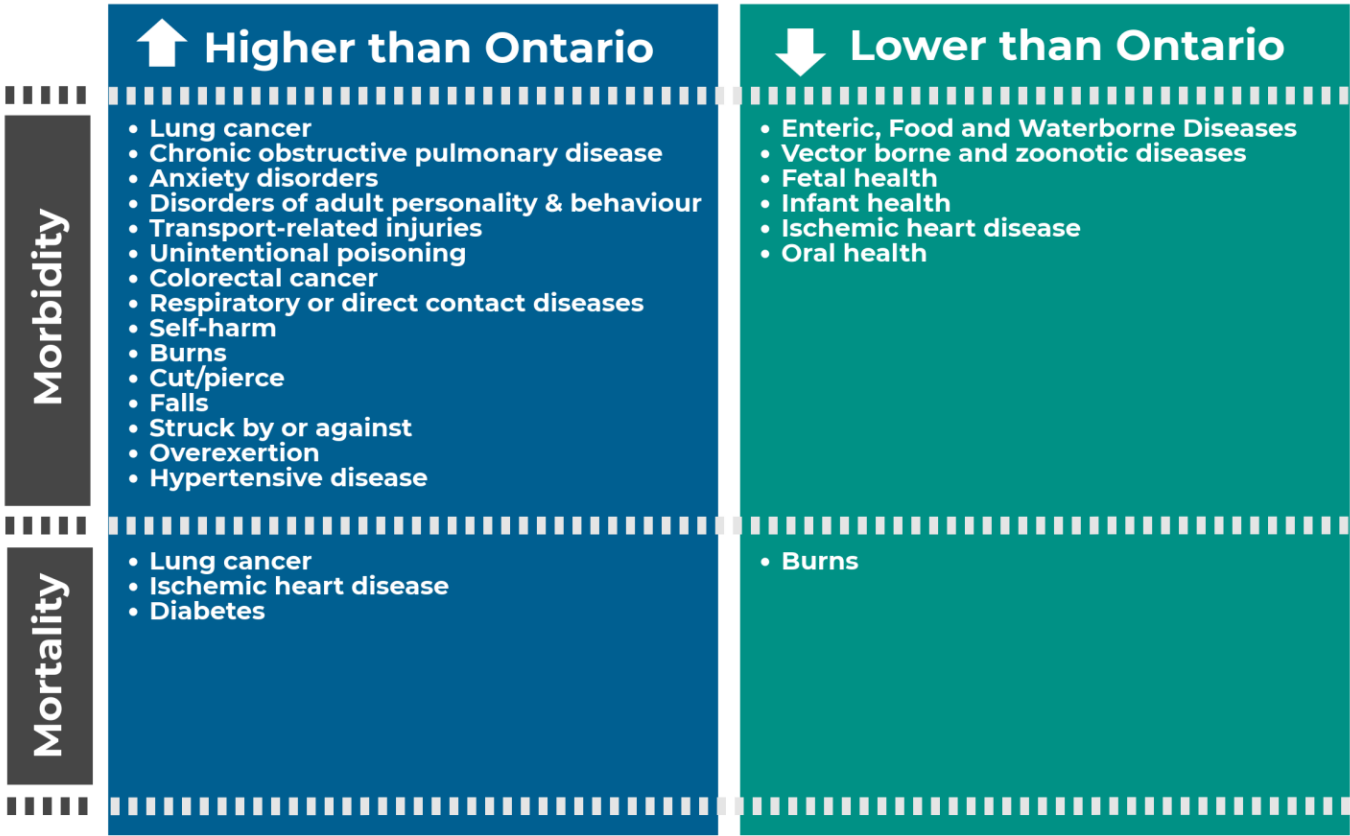
Deaths in Hamilton (2012)	% of deaths that are premature	Years of life lost (per person average)	Years of life lost (total for population)
 Ischemic heart disease	36%	11	2512
 Lung cancer	58%	9	1744
 Intentional self-harm	96%	34	1512
 Unintentional poisoning	100%	30	1007
 Infant health	100%	75	1873

3

Unique problems in our community?

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Unique problems in our community





4

Health trends in our community?

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Health trends in our community

	 Trending upwards	 Trending downwards
Morbidity	<ul style="list-style-type: none"> • Lung cancer • Chronic obstructive pulmonary disease • Anxiety disorders • Disorders of adult personality & behaviour • Transport-related injuries • Unintentional poisoning • Sexually transmitted and blood-borne infections • Substance related disorders • Mood/affective disorders • Neurotrauma 	<ul style="list-style-type: none"> • Hypertensive disease
Mortality	<ul style="list-style-type: none"> • Struck by or against • Unintentional poisoning 	<ul style="list-style-type: none"> • Transport-related injuries

Overall Prioritization

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Rank	Health Outcome	Impact many people?	Is it severe?		Is it a unique local problem?		Is it getting worse?		Sum of Scores
		MORB	MORT	PYLL	MORB	MORT	MORB	MORT	
1	Lung cancer	✓✓	✓	✓✓	✓	✓	✓		8
	Unintentional poisoning	✓✓	✓	✓✓	✓		✓	✓	8
	Chronic obstructive pulmonary disease	✓✓	✓✓	✓✓	✓		✓		8
2	Self-harm	✓✓	✓✓	✓✓	✓				7
	Ischemic heart disease	✓✓✓	✓✓	✓✓	—	✓			7
	Diabetes	✓✓	✓✓	✓✓		✓			7
	Colorectal cancer	✓✓	✓✓	✓✓	✓				7
	Transport-related injuries	✓✓✓	✓	✓✓	✓		✓	—	7
	Falls	✓✓✓	✓✓	✓	✓				7



TOP 3 MOST BURDENING HEALTH OUTCOMES

	BURDEN	CAUSES	POPULATION
Lung Cancer			
	<p>472 new cases & 334 deaths per year</p> <p>↑ Higher than Ontario</p> <p>↑ Increasing morbidity</p>	<p> 80-85% tobacco smoke</p> <p> 10-15% radon gas</p> <p> <5% air pollution</p>	<p>Smoking higher among urban indigenous (87%), low income (25%), and lone parents (29%).</p> <p>Higher smoking rates in lower Hamilton.</p>
Unintentional Poisoning			
	<p>1,547 ED visits & 30+ deaths per year</p> <p>↑ Higher than Ontario</p> <p>↑ Increasing mortality</p>	<p> 72% illicit or prescribed drugs</p> <p> 25% chemicals & gases</p> <p> 3% alcohol</p>	<p>80% of opioid deaths are working-age males</p> <p>Drug use higher in lower Hamilton, and among low income, homeless, & urban indigenous.</p>
Chronic Obstructive Pulmonary Disease			
	<p>1,356 hospitalizations & 163 deaths per year</p> <p>↑ Higher than Ontario</p> <p>↑ Increasing morbidity</p>	<p> 55% tobacco smoke</p> <p> 15% air pollution & tobacco smoke</p> <p> 7% air pollution</p>	<p>Smoking higher among urban indigenous (87%), low income (25%), and lone parents (29%).</p> <p>Higher smoking rates and air pollution in lower Hamilton.</p>

Other Key Findings

#1 - Does it impact many people?

- **Key Finding:** Injuries are common; they cause 52,000 emergency department visits annually in Hamilton

#2 - Does it have severe health consequences?

- **Key Finding:** Most preventable deaths caused by chronic disease and cancer; over 1,800 of these deaths could be avoided annually in Hamilton

#3 - Is it uniquely problematic in our community?

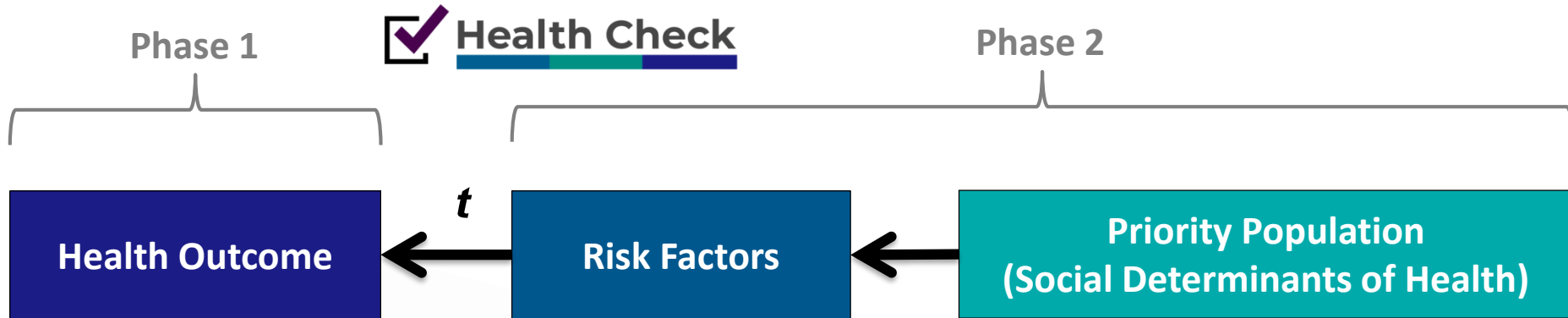
- **Key Finding:** Lung cancer morbidity and mortality rates significantly greater in Hamilton compared to Ontario

#4 - Is it getting worse in our community?

- **Key Finding:** The increasing morbidity and mortality trends of unintentional poisoning are driven by opioid overdoses

Next Steps: Risk Factors & Priority Populations

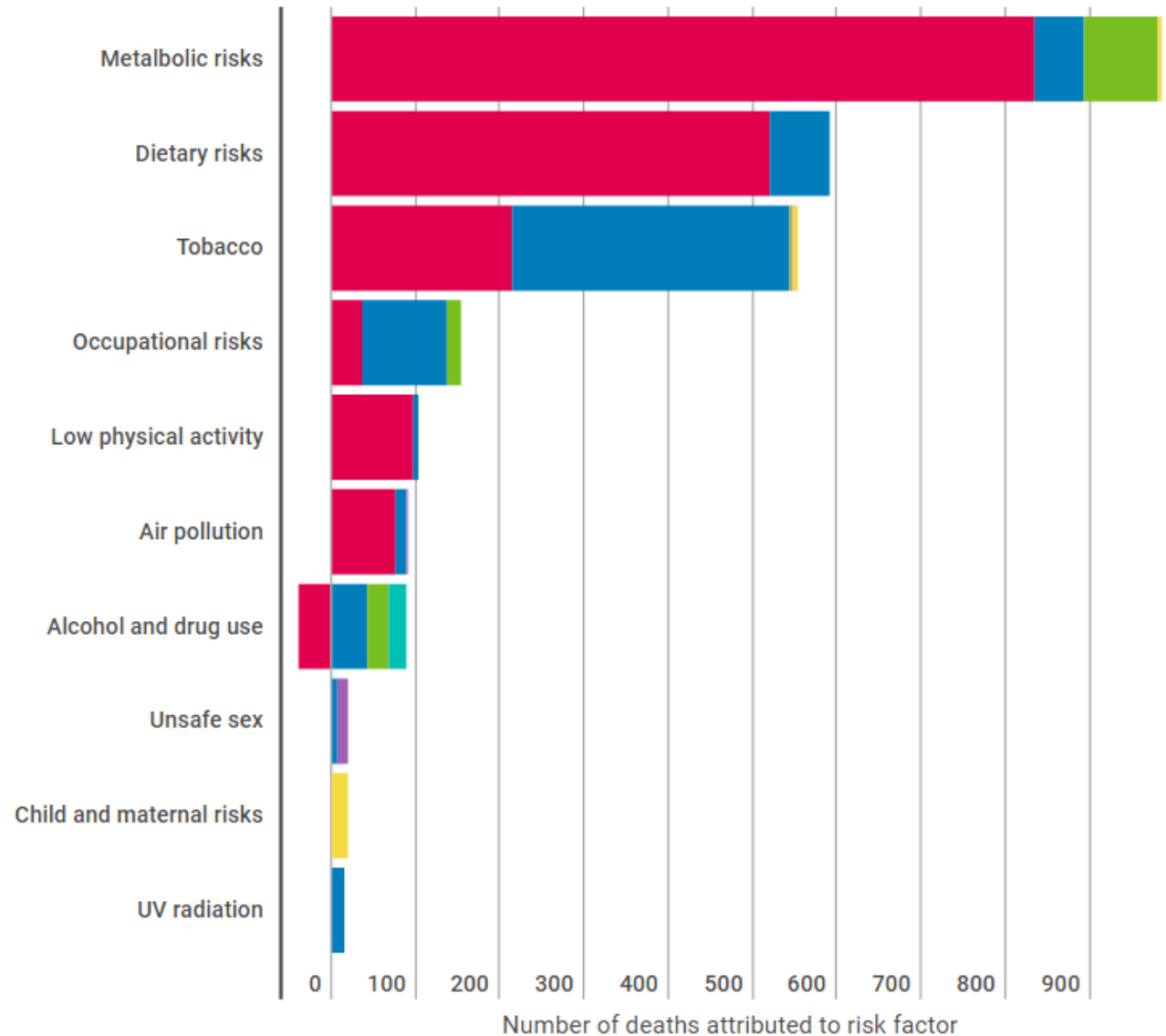
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What makes Hamiltonians unhealthy?

- Chronic disease and cancer leading causes of death
- >80% of deaths in Hamilton attributed to metabolic and dietary risks, and substance use.





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Full report available at
www.hamilton.ca/public-health/reporting

Questions?