

**Chronic Disease and Mortality Trends Among First Nations
People In Ontario
1992-2014**



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This project was approved by the data Governance process at the Chiefs of Ontario

These slides were prepared for discussion with the Health Coordination Unit with Chiefs of Ontario. The results presented have not been presented in any other forum.

Ontario Population Trends in Improved Mortality: Informing Sustainability & Equity of the health care system partnership

Overall goal:

To use comprehensive multi-linked mortality files to
develop measures of health system functioning and
inform health system planning in Ontario



Project Objectives First Nations Focused Analyses

1. Analyze **all-cause and cause-specific, age-standardized mortality trends** among First Nations populations across sex, chronic disease status and age to identify the trends in overall, cause specific, and preventable mortality over the past 25 years
2. Measure **chronic disease burden and disease-specific mortality trends** among First Nations populations over time

Data Sources

Population Files

- Indian Registry System (IRS)
- Ontario Registered Persons Database (RPDB)

Health Admin Data

- Health claims and utilization data (physician visits, hospital admissions, etc.)
- Disease-specific registries (diabetes, COPD, asthma, etc.)

Vital Statistics

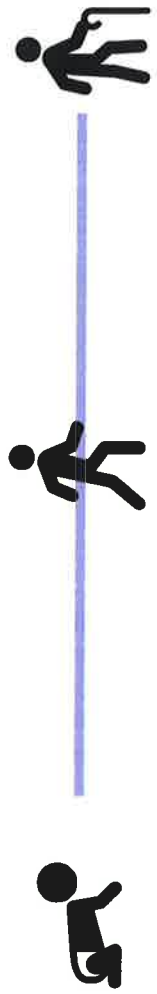
- Ontario Registrar General's Death file (ORG-D) (includes comprehensive cause of death)



Identifying the chronic disease numbers in the population

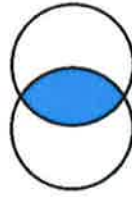


Identifying the accumulation of chronic conditions over life



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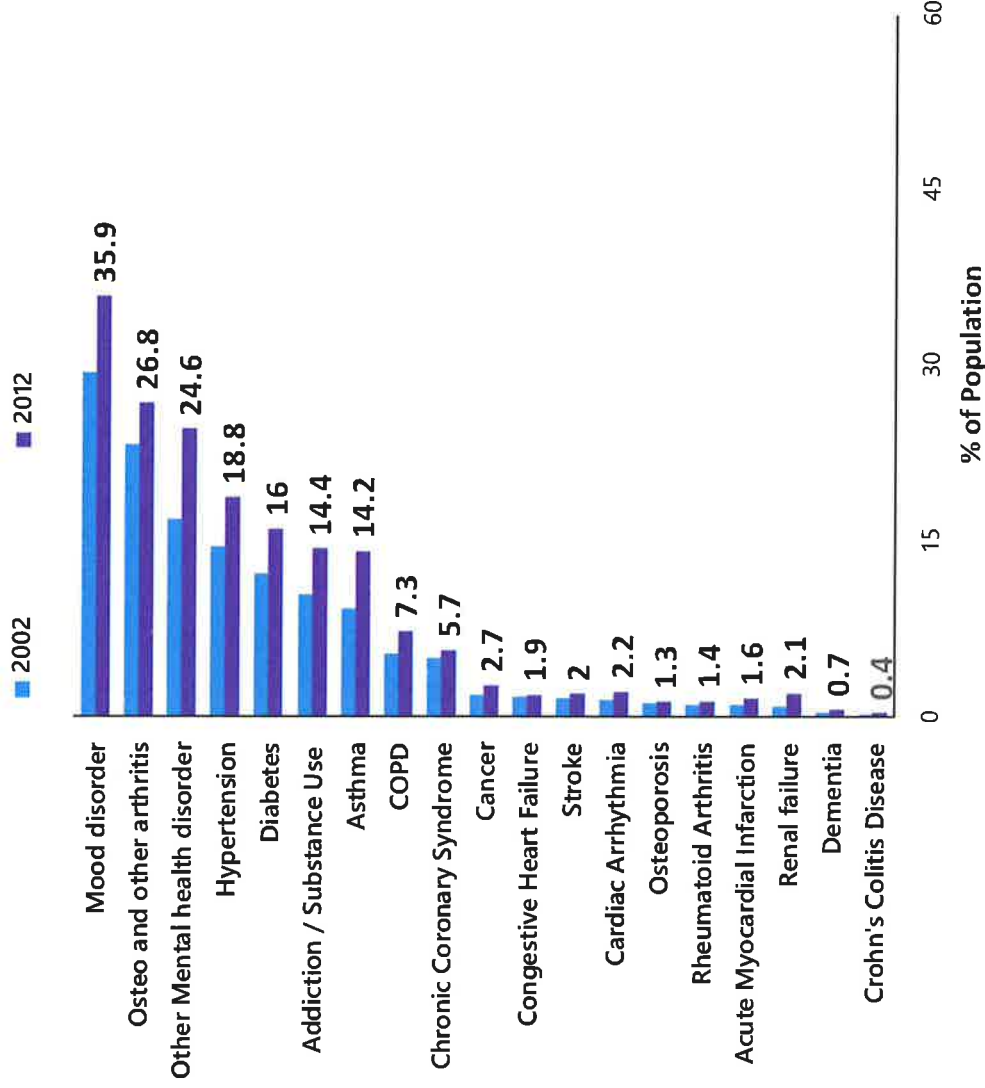
conditions
identified:



- Arthritis
- Asthma
- Cancer
- Cardiac Arrhythmia
- Chronic Coronary Syndrome
- Crohn's or Colitis
- COPD
- Congestive Heart Failure
- Dementia
- Diabetes
- Hypertension
- Mood disorder
(e.g., depression, bipolar, anxiety)
- Myocardial infarction
- Osteoporosis
- Other mental health disorders
(e.g., addictions, substance abuse, schizophrenia, personality & behaviour disorders)
- Renal failure
- Rheumatoid arthritis
- Stroke

Population Prevalence % of First Nations adults with chronic condition

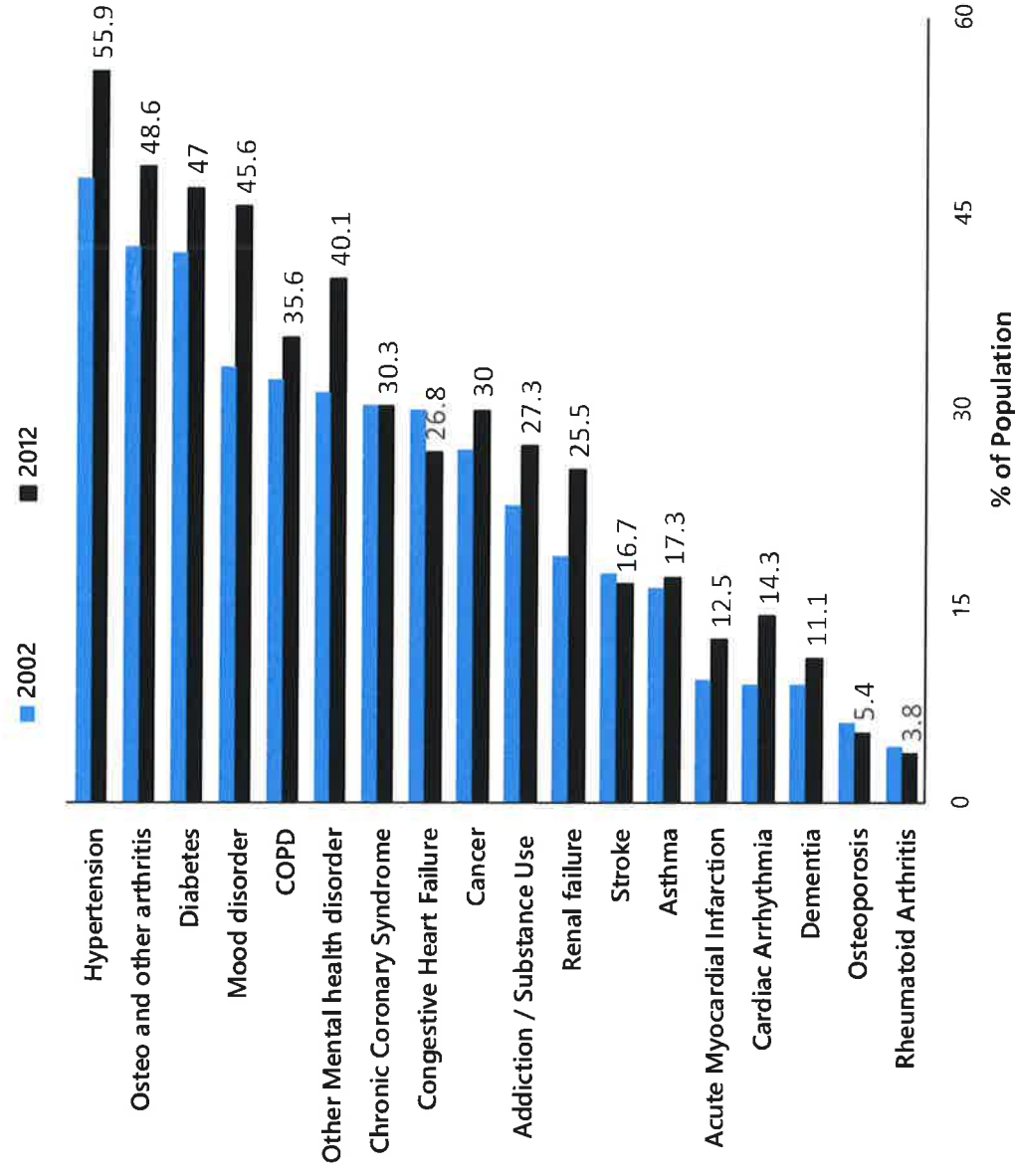
At any given time – how
many adults have a given
condition?



Prevalence of Chronic Conditions at Time of Death

% of First Nations adults with chronic condition

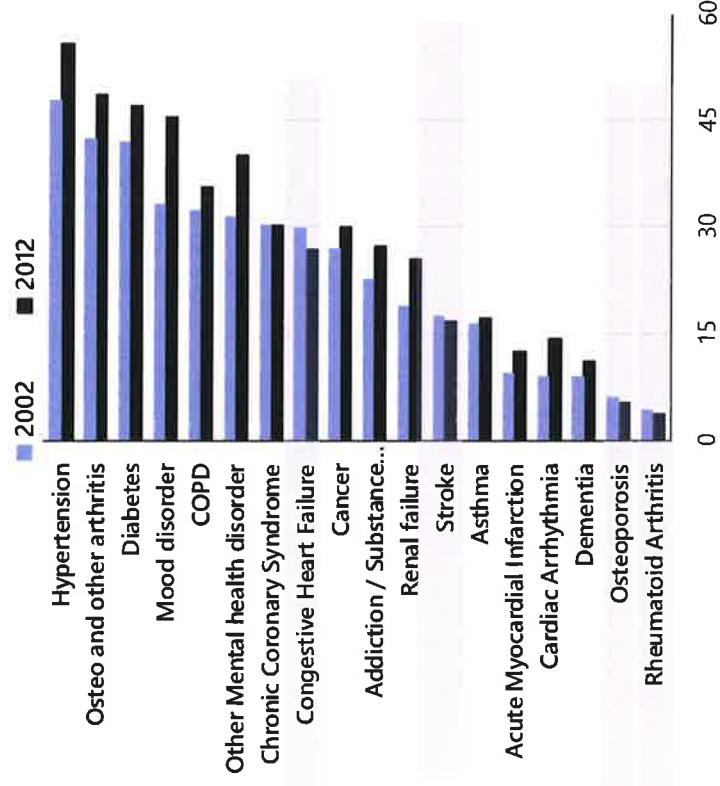
At their time of death, what conditions did they accumulative over their life?



Prevalence of Chronic Conditions

Prevalence at Time of Death

% of adults with chronic condition

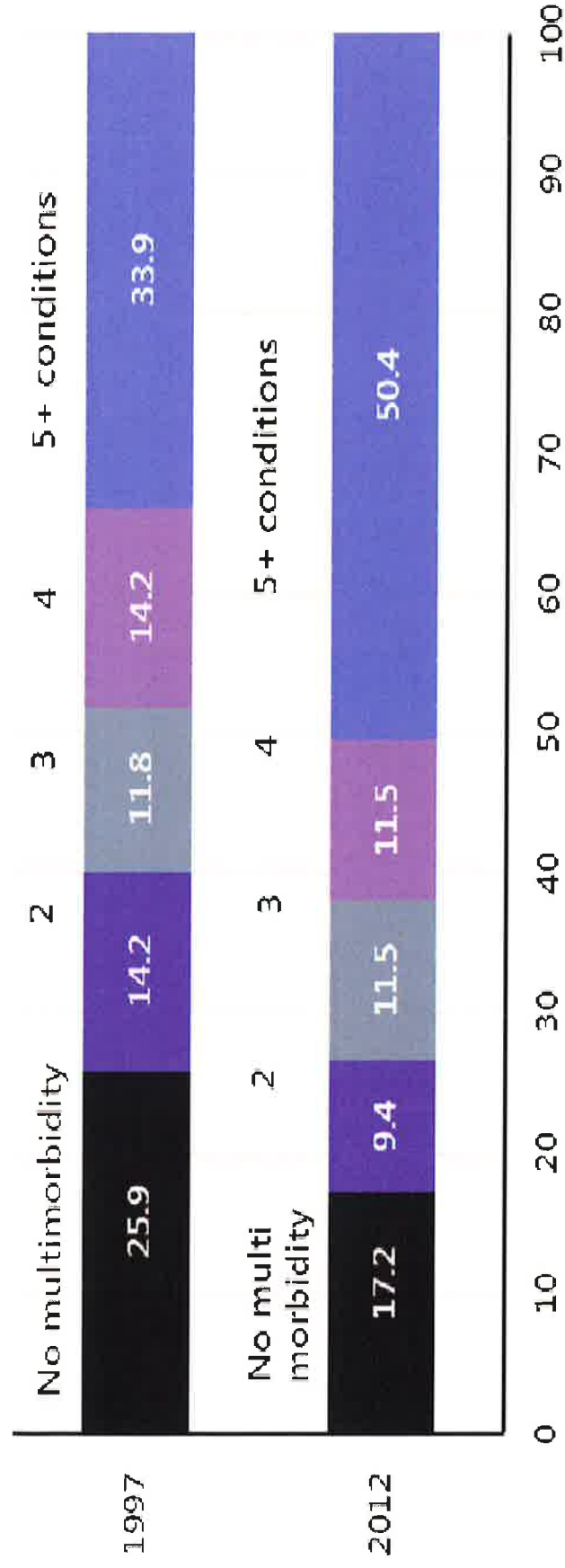


- **Rheumatoid arthritis, osteoporosis, and stroke** at time of death was similar 2002 to 2012

- **Congestive heart failure** decreased slightly (by 3%)

Multimorbidity

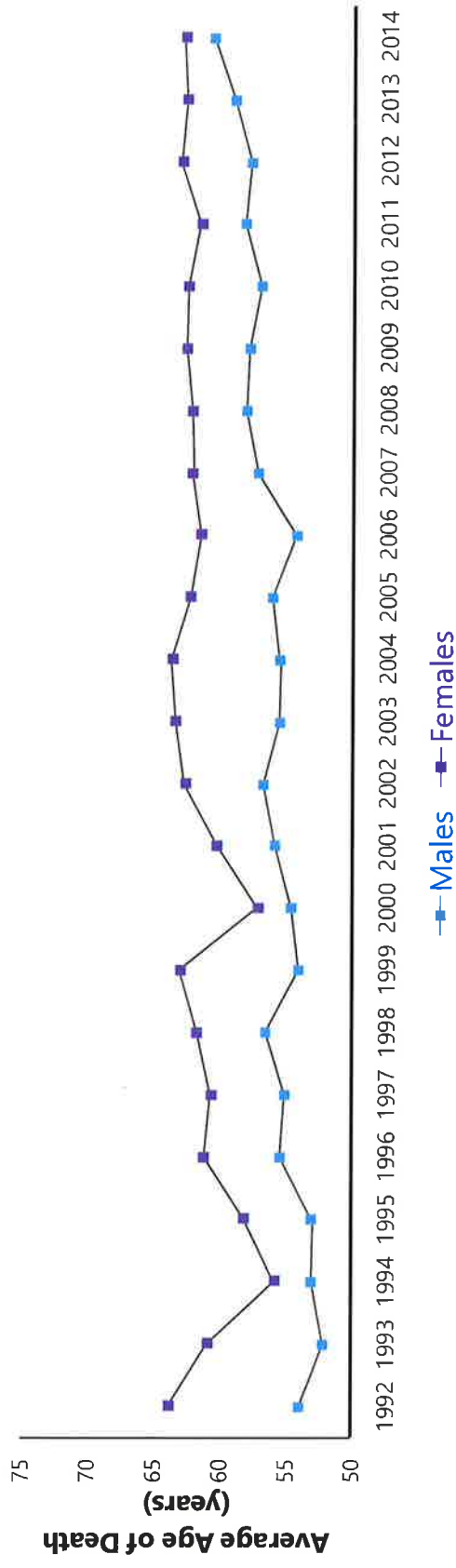
- In 2012, **50.4%** adults died with five or more chronic conditions
- Percentage of adult deaths by multimorbidity.



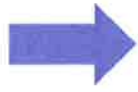
Life Expectancy

- Life expectancy improved in First Nations males
- Average age of death in First Nations females remained constant

Average age of death in First Nations People in Ontario by year and sex.

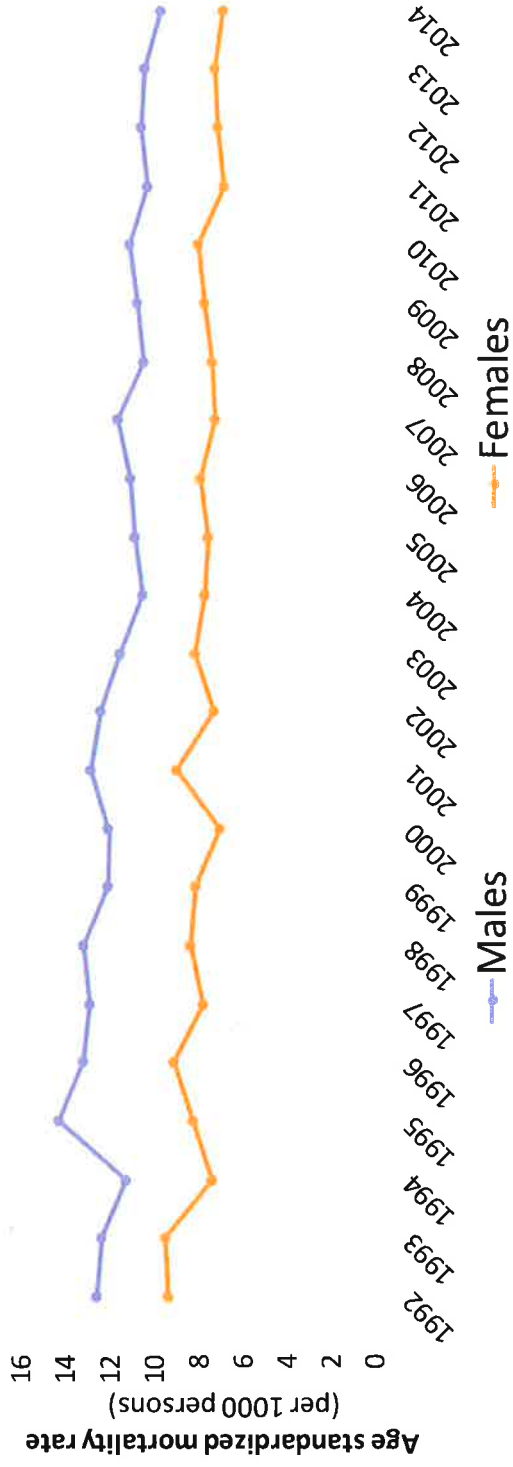


Mortality from All Causes Has Fallen Overall (all ages)



From 1992 to 2014, all cause mortality *decreased* by 21% in males and 24% in females

All-cause age standardized mortality rate among First Nations People in Ontario, 1992-2014 (all ages).



Mortality from All Causes Has Fallen Overall

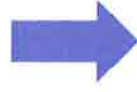
Children & Young Adults:

Similar all-cause mortality rates from 1992 to 2014

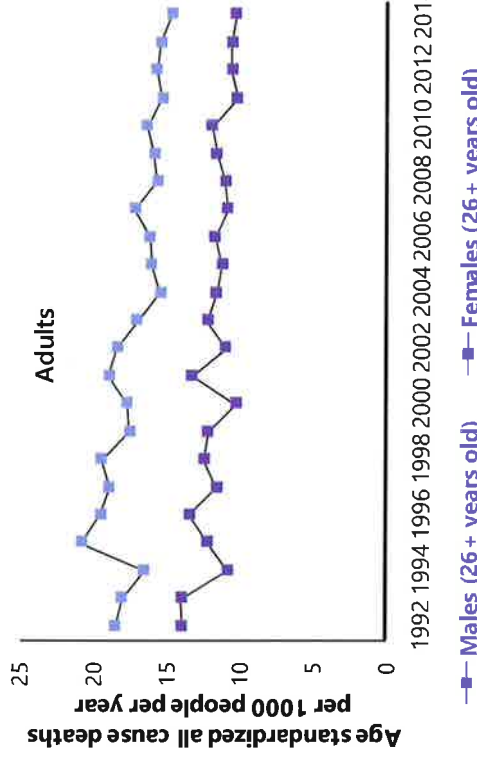
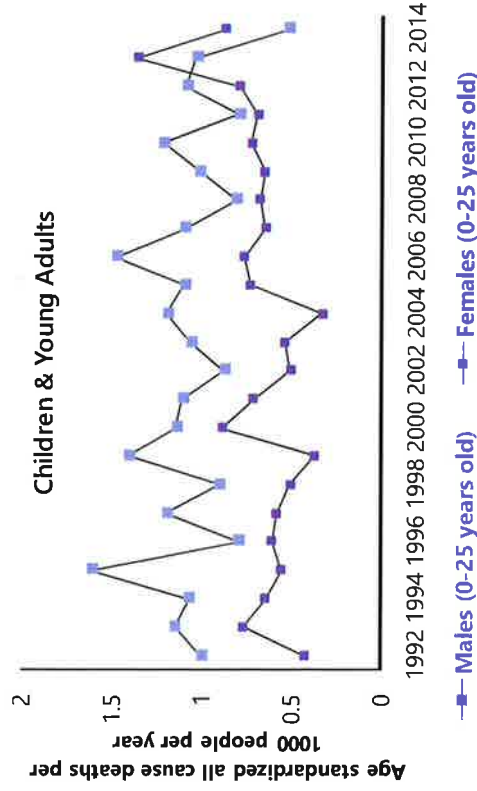


Adults:

From 1992 to 2014, all cause mortality *decreased* by 21% in males and 26% in females

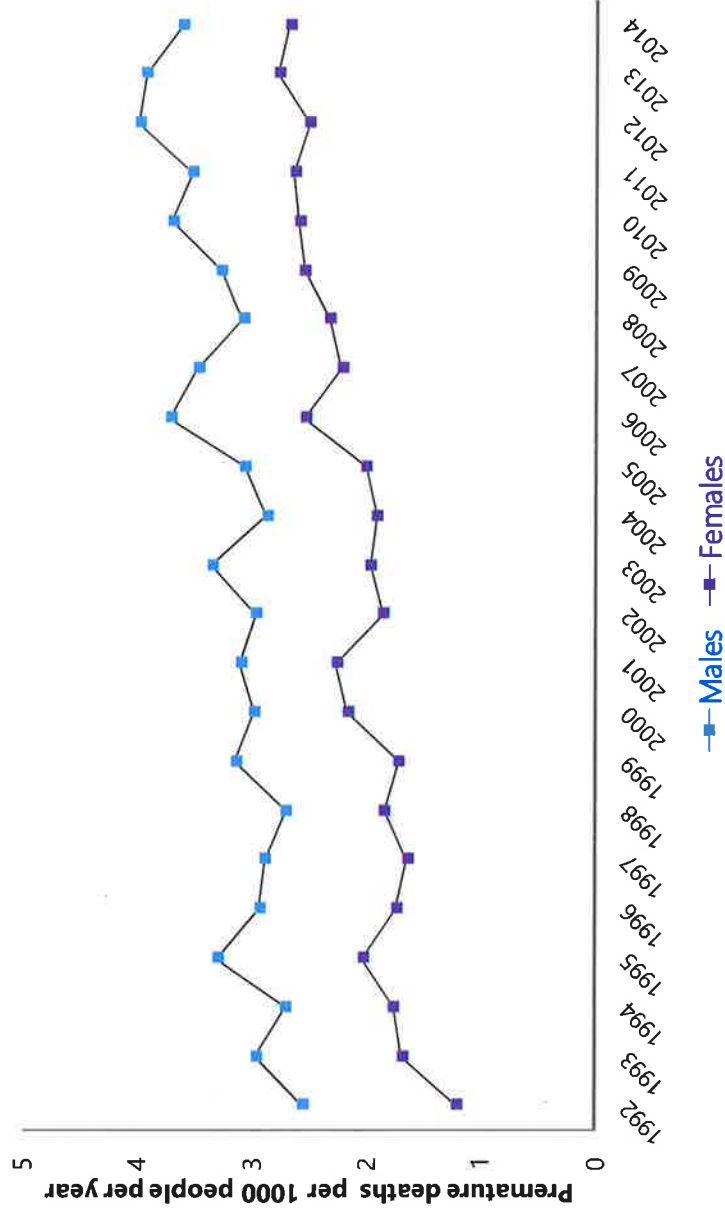


All-cause age standardized mortality rate among First Nations People in Ontario, 1992-2014.



Premature Mortality (<65 years old)

Premature mortality rate in First Nations People in Ontario, 1992-2014.



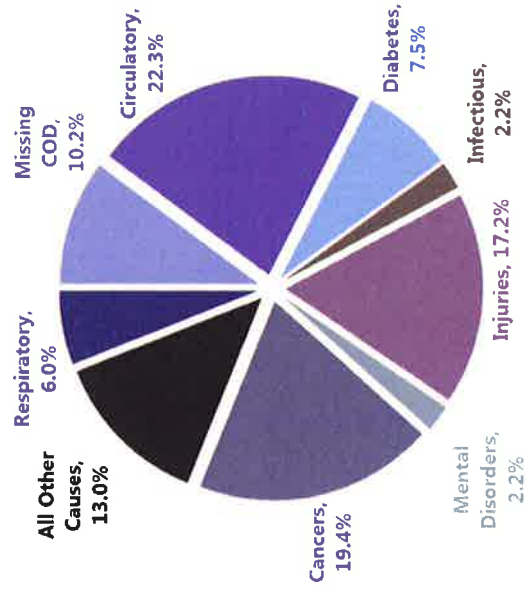
Cause Specific Mortality

Leading causes of death:

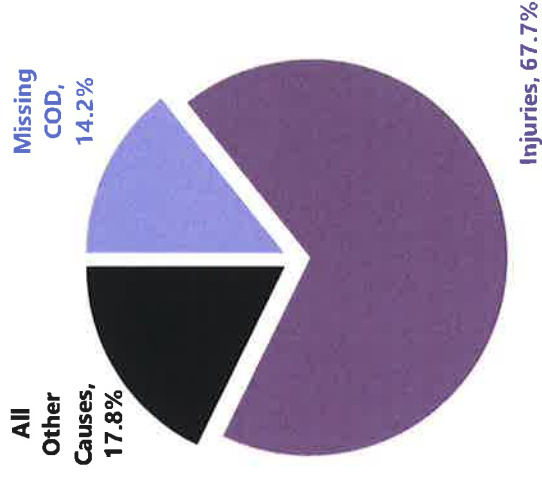
- **Adults:** circulatory diseases, cancers, and injuries
- **Children & young adults:** injuries

Percentage of First Nations People that died from specific causes of death between 1992 and 2012.

First Nations Adults

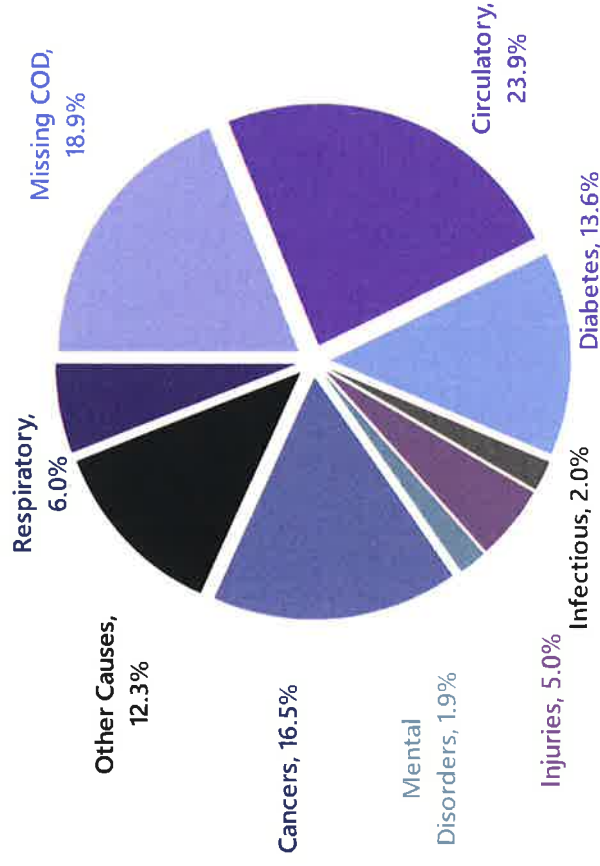


First Nations Children & Young Adults



Causes of Death in First Nations Adults with Diabetes

Percentage of First Nations adults (20+ years old) with diabetes that died from specific causes of death between 1994 and 2012.



- **40%** of First Nations adults with diabetes died due to circulatory diseases or cancer
- **14%** died due to diabetes on death certificate

Mortality from Circulatory Diseases and Cancers

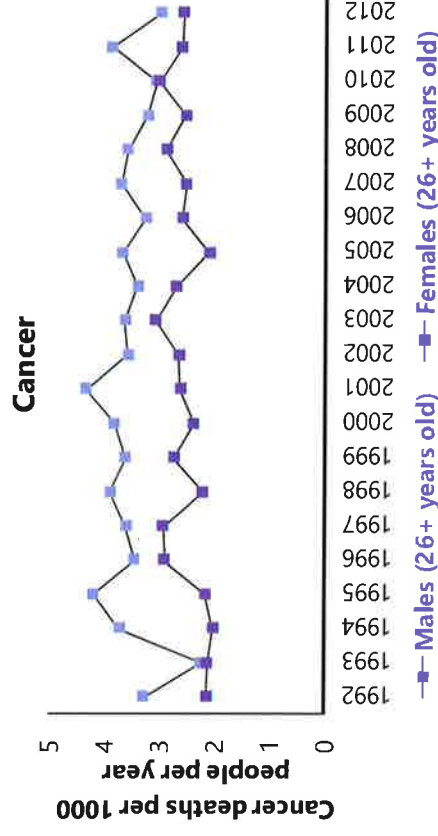
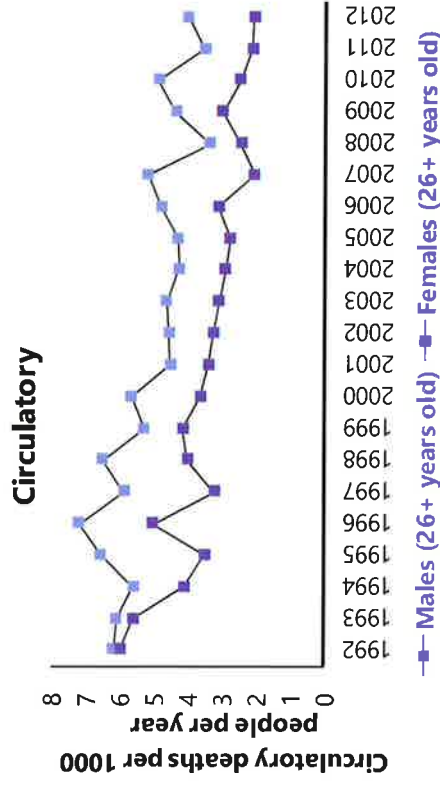
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- Circulatory mortality:** decreased by 34% in adult males and 65% in adult females from 1992 to 2012



- Cancer mortality:** remained similar from 1992 to 2012

Age standardized circulatory and cancer mortality rate in First Nations adults (ages 26+) between 1992 and 2012.

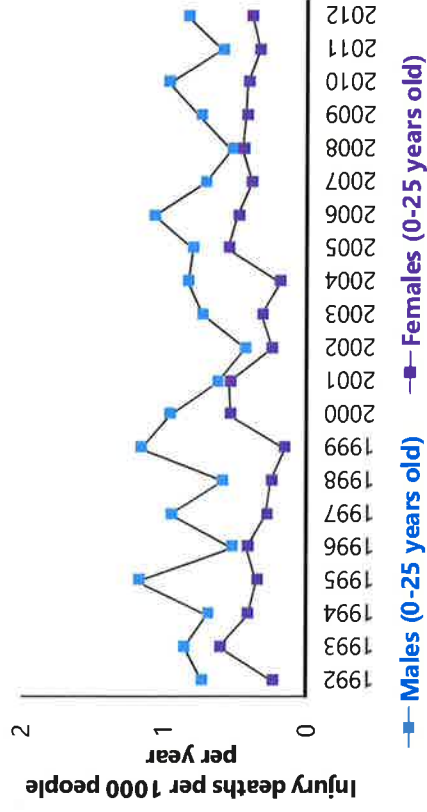


Mortality from External Causes of Injury & Poisoning

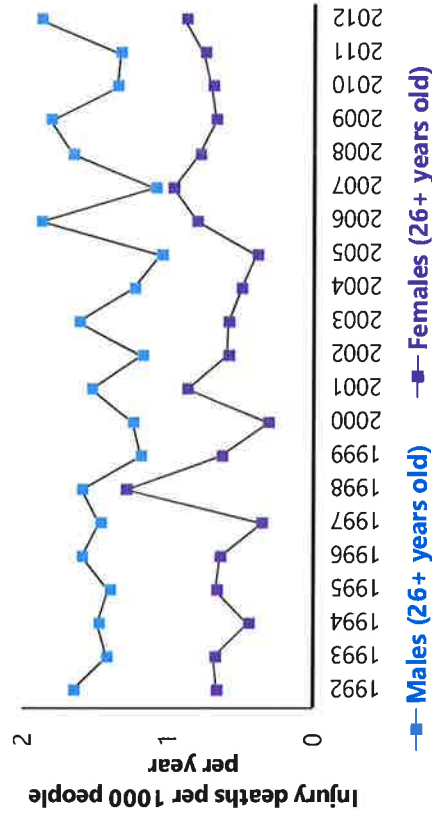
- **External cause mortality:** about 50% higher in males compared to females

Age standardized injury mortality rate in First Nations people between 1992 and 2012.

Children & Youth



Adults



Summary

- Provide information on trends and recent prevalence of up to 18 chronic conditions
- Information can be used for health services planning and chronic disease prevention strategies

Thank you – Questions/Comments?

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