Progress in cancer survival across Canada, 1995-2014: The ICBP SURVMARK2 project

International Agency for Research on Cancer
Lyon, France

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Benchmarking 8 cancer types in 21 jurisdictions in 7 countries

**CANADA**
- Alberta
- British Columbia
- Manitoba
- New Brunswick
- Newfoundland and Labrador
- Nova Scotia
- Ontario
- Prince Edward Island
- Quebec
- Saskatchewan

**UK & IRELAND**
- England
- Northern Ireland
- Scotland
- Wales
- Ireland

**EUROPE**
- Norway
- Denmark

**AUSTRALASIA**
- New South Wales
- Western Australia
- Victoria
- New Zealand

[survival.iarc.fr/SurvMark/en/](http://survival.iarc.fr/SurvMark/en/)
Data

• Data from population-based cancer registries in 8 provinces (Alberta, British Columbia, Manitoba, New Brunswick, Nova Scotia, Ontario, Prince Edward Island, Saskatchewan)
  • Quebec and Newfoundland & Labrador submitted partial data; not included in these analyses
  • Prince Edward Island data not shown due to low case counts
• Seven cancer sites discussed here (oesophagus, stomach, colon, rectum, pancreas, lung & ovary)
• Cases diagnosed 1995-2014; follow-up until 31 Dec 2015
• Stringent quality control and harmonization processes
• Total cases: ~1 million Range: 5,500 (PEI) – 400,000 (ON)
Methods

• Exclusions:
  • Patients <15 and >99 years at diagnosis
  • Multiple cancers at the same site
  • DCO/Autopsy cases, cases with inconsistencies
  • Borderline ovarian cancers

• 1-year and 5-year age-standardized net survival estimates were calculated by sex, calendar period, cancer type and country

• Age-standardization with ICSS weights for survival; incidence and mortality rates used World standard
Trends in 5-yr net survival by country
1995-1999 vs 2010-2014

- **Oesophagus (C15)**
  - 5th

- **Stomach (C16)**
  - 2nd

- **Colon (C18-19)**
  - 2nd

- **Rectum (C20)**
  - 4th

- **Pancreas (C25)**
  - 2nd

- **Lung (C34)**
  - 1st

- **Ovary (C48.1-2, C56, C57.0)**
  - 4th

*Canada*: all provinces except Quebec and Newfoundland & Labrador

*Australia*: NSW, Victoria, Western Australia

*UK*: Wales, Scotland, England, Northern Ireland

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Trends in 5-yr net survival by province

- 5-year survival ranging from 10% in Saskatchewan to 19% in BC in the most recent period (2010-2014)
- Highest absolute increase in survival in BC between 1995-1999 and 2010-2014 (7 percentage points)
Little evidence of progress; incidence going up in some regions
Trends in 5-yr net survival by province
1995-1999 vs 2010-2014: Stomach (C16)

- 5-year survival ranging from 25% in Alberta to 33% in Ontario in the most recent period (2010-2014)
- Highest absolute increase in survival in NB, SK and ON between 1995-1999 and 2010-2014 (9 percentage points)
Trends in incidence, mortality and survival
1995-1999 vs 2010-2014: Stomach (C16)

- Clear progress in all provinces
Trends in 5-yr net survival by province
1995-1999 vs 2010-2014: Colon (C18-19)

- 5-year survival ranging from 62% in Nova Scotia to 68% in Ontario in the most recent period (2010-2014)
- Highest absolute increase in survival in AB, NB and ON between 1995-1999 and 2010-2014 (10 percentage points)
5-year survival ranging from 60% in Nova Scotia to 69% in Ontario in the most recent period (2010-2014)

Highest absolute increase in survival in Saskatchewan between 1995-1999 and 2010-2014 (13 percentage points)
Trends in 5-yr net survival by province

- 5-year survival ranging from 7% in Nova Scotia to 13% in Manitoba in the most recent period (2010-2014)
- Highest absolute increase in survival in Manitoba between 1995-1999 and 2010-2014 (8 percentage points)
Trends in 5-yr net survival by province
1995-1999 vs 2010-2014: **Lung (C34)**

- 5-year survival ranging from 19% in Nova Scotia to 25% in New Brunswick in the most recent period (2010-2014)
- Highest absolute increase in survival in New Brunswick between 1995-1999 and 2010-2014 (11 percentage points)
Trends in incidence, mortality and survival 1995-1999 vs 2010-2014: Lung (C34)

- Clear progress; driven by males
Trends in 5-yr net survival by province
1995-1999 vs 2010-2014: Ovary (C48.1-2, C56, C57.0)

- 5-year survival ranging from 36% in Alberta to 44% in Manitoba in the most recent period (2010-2014)
- Highest absolute increase in survival in Saskatchewan between 1995-1999 and 2010-2014 (12 percentage points)
Trends in incidence, mortality and survival
1995-1999 vs 2010-2014: **Ovary (C48.1-2, C56, C57.0)**

- Clear progress in all provinces
Results: Summary

- Improvements in cancer survival have occurred across all provinces and for all cancers examined within the study.
- Disparities in survival estimates across provinces continue to be seen in the most recent period (e.g. for oesophagus, colorectal, ovarian cancers).
  - Some provinces are consistently lower than others across sites.
- Several cancers show significant progress with decreases in cancer incidence and mortality as well as a corresponding increase in survival (e.g. ovary, lung, stomach);
- Others, however, despite improvements in survival continue to have rising mortality rates due largely to increases in cancer incidence (e.g. rectum, oesophagus, pancreas);
- Further work will explore individual cancer sites in greater detailed analyses (by age, sex and stage at diagnosis).
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