

Cancer Staging and Treatment for First Nations in Manitoba

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Background

- The Manitoba Cancer Registry (MCR) is legally mandated to collect and classify all cancer diagnoses in the province including information on patient demographics, tumour characteristics, treatment types and dates as well as stage at diagnosis (beginning in 2004). Data related to ethnicity is not part of the MCR. Through collaboration with First Nations (FN) and governmental agencies the MCR has been able to identify FN diagnosed with cancer. Our team used this information to analyze data on cancer incidence, mortality, screening, stage at diagnosis, and treatment rates among FN and All Other Manitobans (AOM).

Objectives

- To identify FN in the MCR diagnosed with cancer between 2004 and 2008.
- To describe stage and treatment patterns following a cancer diagnosis among FN compared to AOM.
- To determine if such patterns were consistent by area of residence.

Methods

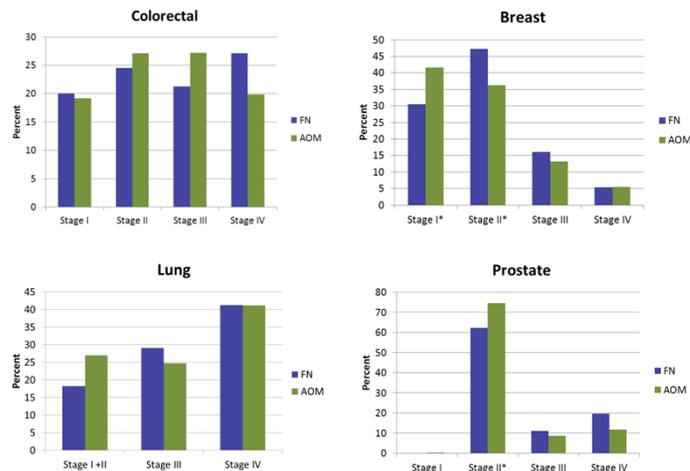
- The following data sources were used:
 - Aboriginal Affairs and Northern Development Canada Indian Registry
 - The Manitoba Health Population Registry (MHPR)
 - The MCR
- Permission from Aboriginal Affairs and Northern Development Canada (the federal data steward) was received to link the Indian Registry to the MHPR.
- Through a multi-step data linkage process, registered FN were identified in the MHPR creating a FN file.
- This de-identified FN file was then linked to the MCR using a scrambled identifier to identify individuals who had been diagnosed with and treated for cancer (stages I-IV).
- Ethics approvals were received from the University of Manitoba Health Research Ethics Board, Manitoba Health's Information Privacy Committee, CancerCare Manitoba's Research and Resource Impact Committee, and the Assembly of Manitoba Chiefs Health Information and Research Governance Committee.

Results

Question #1. Are FN cancer patients diagnosed at a later stage than AOM patients?

- Stage at diagnosis was compared for FN and AOM who had the four most commonly diagnosed cancers - colorectal, breast, lung and prostate.
- A higher proportion of FN with colorectal cancer were diagnosed at a late stage. However, this was not statistically significant.
- A significantly higher proportion of FN women diagnosed with breast cancer were diagnosed at stage II. A significantly higher proportion of AOM women diagnosed with breast cancer were diagnosed at stage I. There was no difference for women diagnosed at stage III or IV.
- The distribution by stage for FN and AOM diagnosed with lung cancer was similar.
- A significantly lower proportion of FNs diagnosed with prostate cancer were diagnosed at stage I or II compared to AOMs.

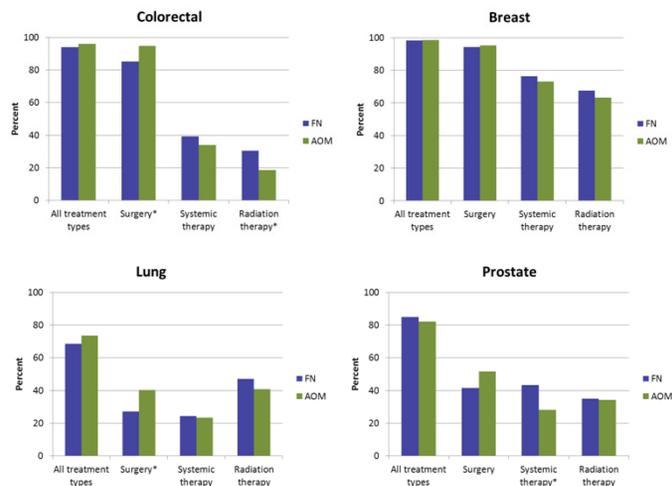
Stage by cancer site



Question #2. Do FN cancer patients diagnosed at stage I, II or III undergo surgery, radiation, and systemic therapy at the same rate as AOM cancer patients?

- FN colorectal cancer patients had a significantly lower proportion of surgeries compared to AOM colorectal cancer patients.
- A significantly higher proportion of FN colorectal cancer patients were treated with radiation therapy compared to AOM colorectal cancer patients.
- There was no significant difference in treatments types for FN and AOM breast cancer patients.
- FN lung cancer patients had a significantly lower proportion of surgeries compared to AOM lung cancer patients.
- A significantly higher proportion of FN prostate cancer patients received systemic therapy compared to AOM prostate cancer patients.

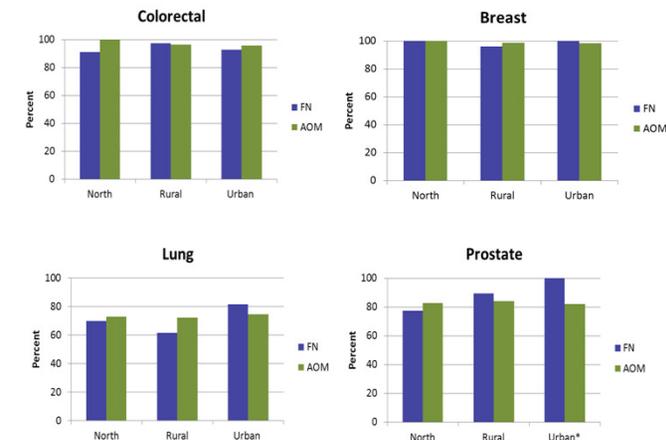
Type of treatment by cancer site



Question #3. For individuals diagnosed with stage I, II or III cancer who received any type of cancer treatment, was there any difference in treatment rates due to area of residence or ethnicity?

- Treatment across area of residence was similar for FN and AOM.
- The largest difference in treatment was found for individuals diagnosed with prostate cancer who live in an urban area.

Treatment rates by area of residence and cancer site



Conclusions

- For individuals in Manitoba diagnosed with breast, colorectal, lung or prostate cancer from 2004 to 2008,
- Stage at diagnosis for FN varied by cancer site.
- With the exception of breast cancer, surgery was less common among FN.
- Interestingly for some cancer sites, urban FN had higher treatment rates than AOM.
- Further research is taking place to better understand these trends.



Acknowledgements

The results and conclusions presented are those of the authors. No official endorsement by Manitoba Health is intended or should be inferred.

Our Research Partnership - A Collaborative Network Approach



* Significantly different from AOM (p<0.05).