

Cancer Screening Among Manitoba's First Nations Population

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Background

- Cancer screening can reduce mortality from breast, cervical, and colorectal cancer.
- However, cancer screening rates are often low among vulnerable populations such as minorities, low-income, and rural populations.
- Few studies in Canada have examined the utilization of cancer screening among First Nations individuals.

Objective

- To describe breast, cervical, and colorectal cancer screening utilization among First Nations and all other Manitobans (AOMs).

Methods

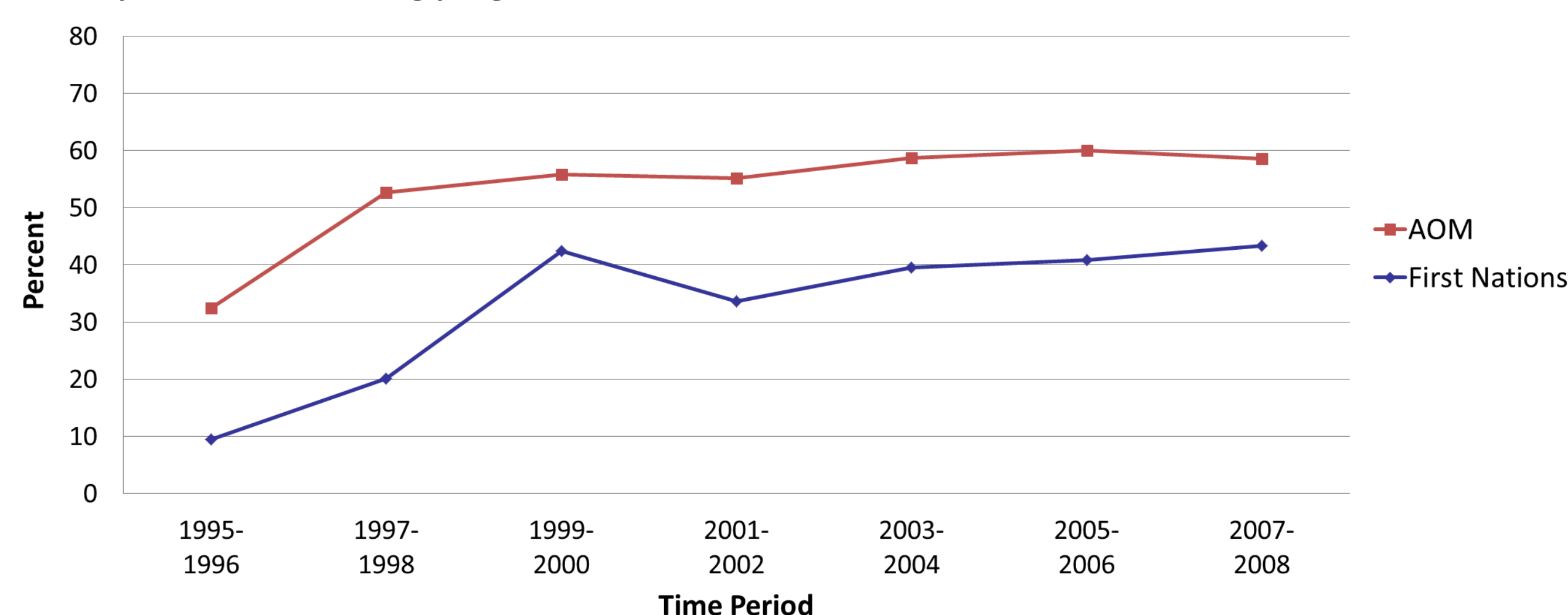
- The following data sources were used:
 - ✓ The Aboriginal Affairs and Northern Development Canada Indian Registry
 - ✓ The Manitoba Health Population Registry (MHPR)
 - ✓ The Manitoba Health Medical Claims database and the Hospital Abstracts database
 - ✓ The provincial screening registries (BreastCheck, CervixCheck, and ColonCheck)
- One study investigator (BE) led the negotiation with Aboriginal and Northern Affairs Canada (federal data steward) and obtained the authorization to link the Indian Registry to the Manitoba Health Population Registry (MHPR).
- Through a multi-step data linkage process, registered First Nations individuals were identified in the MHPR, and a First Nations file was created.
- This de-identified First Nations file was then linked to the Medical Claims database and/or the screening registries using a scrambled identifier to identify individuals who had been screened.
- Regression analyses were performed to determine the influence of the following variables on cancer screening: age, time period, gender (for colorectal cancer screening), and area of residence. Rates for cervical cancer screening were adjusted for hysterectomy status.
- Ethics approvals were received from the University of Manitoba Health Research Ethics Board, Manitoba Health's Information Privacy Committee, the Research and Resource Impact Committee, CancerCare Manitoba, and the Assembly of Manitoba Chiefs Health Information and Research Governance Committee.

Results

Breast Cancer Screening

- The breast cancer screening rate for First Nations women increased from 17.8% in 1995-96 to 37.9% in 2007-08. For AOM women, the screening rate was 41.6% in 1995-96 and increased to 61.1% in 2007-08.
- After adjusting for age, time period, and area of residence, First Nations women were significantly less likely to have had a screening mammogram than AOM women (RR*= 0.53, 95% CI**=0.51-0.55).
- In each area of residence, First Nations women were significantly less likely to have had a screening mammogram in the past two years compared to AOM women (North: RR=0.69, 95% CI=0.66-0.74, Rural South: RR=0.55, 95% CI=0.54-0.57, Urban: RR=0.53, 95% CI=0.51-0.55).
- After 1998, the gap in breast screening participation between First Nations women and AOM women who lived in the North decreased.

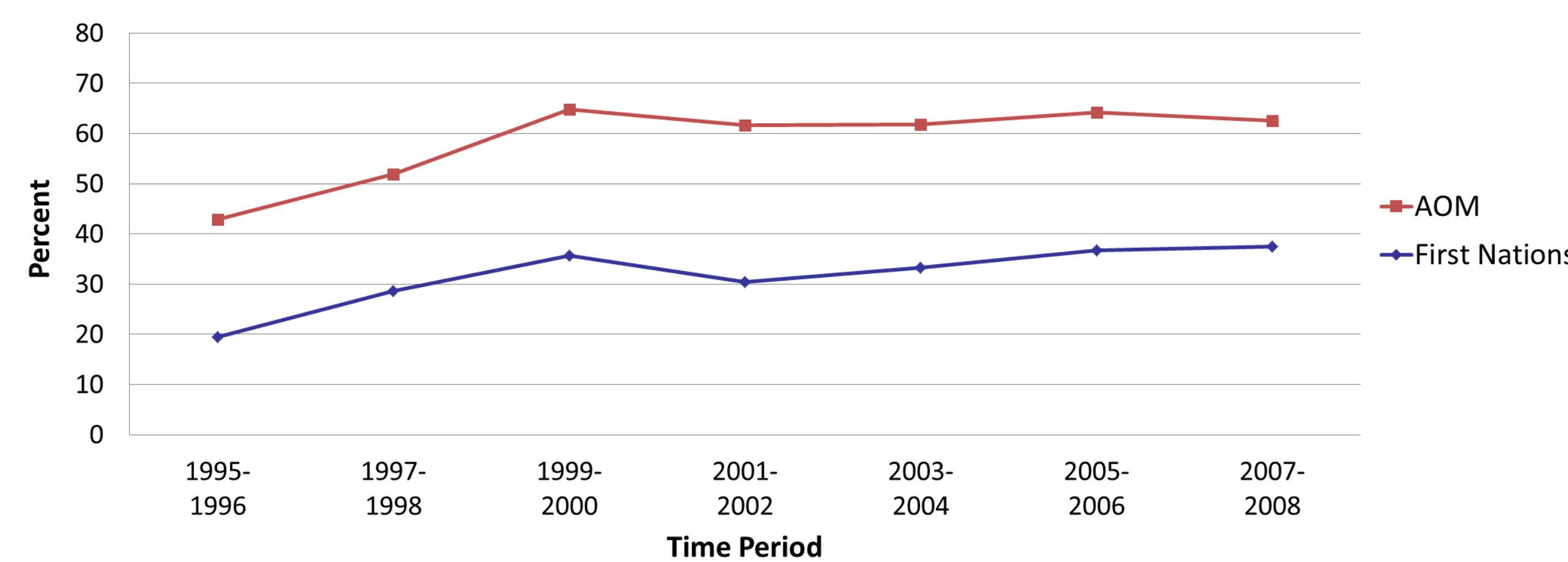
Percentage of First Nations and AOM women (50-69 yrs) residing in the North who had a mammogram at the provincial screening program



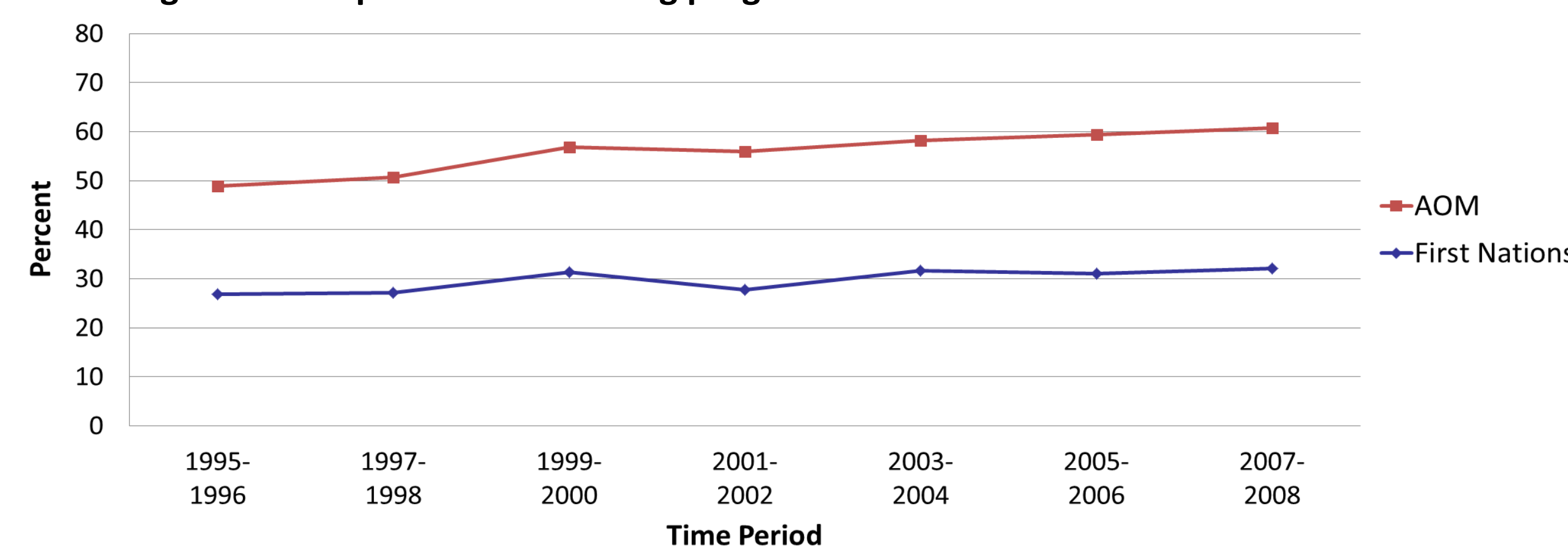
* RR = Relative Risk; ** CI = Confidence Interval

Breast Cancer Screening

Percentage of First Nations and AOM women (50-69 yrs) residing in the Rural South who had a mammogram at the provincial screening program



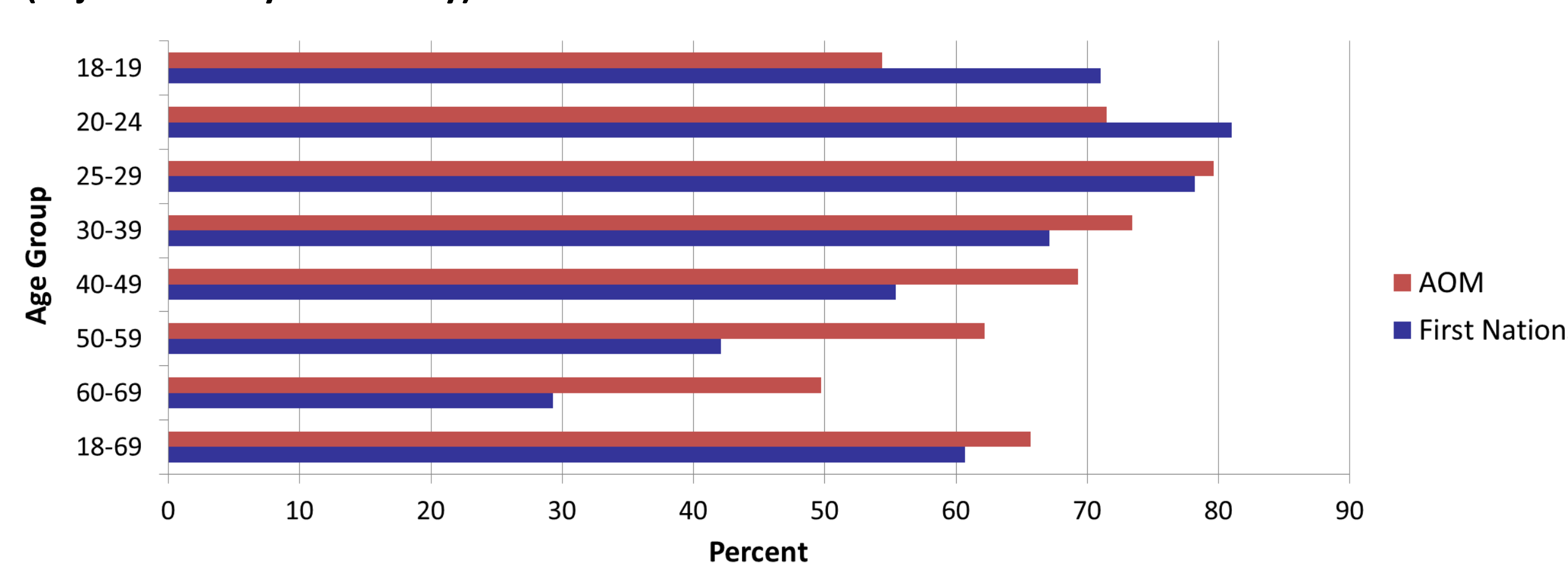
Percentage of First Nations and AOM women (50-69 yrs) residing in an Urban area who had a mammogram at the provincial screening program



Cervical Cancer Screening

- From 2003 to 2005, 60.8% of First Nations women had at least one Pap test compared to 64.8% of AOM women. From 2006 to 2008, 60.7% of First Nations women had at least one Pap test compared to 65.7% of AOM women.
- After adjusting for hysterectomy, the cervical cancer screening rates for 18-19 and 20-24 year old First Nations women were higher than for their AOM counterparts. Screening after age 29 decreased with age regardless of ethnicity, however, First Nations women 30 years of age and older had lower screening rates than AOM women.
- After adjusting for age, time period and area of residence, First Nations women in the Rural South were significantly less likely to be screened for cervical cancer than were AOM women (RR=0.84, 95% CI=0.75-0.94). There was no significant difference in the cervical cancer screening rate between First Nations women who lived in the North or Urban areas compared to AOM women (North: RR=0.92, 95% CI=0.82-1.04, Urban: RR=0.93, 95% CI=0.83-1.04).

Percentage of First Nations women and AOM women (18-69 yrs) who had a Pap test from 2006 to 2008 (adjusted for hysterectomy)

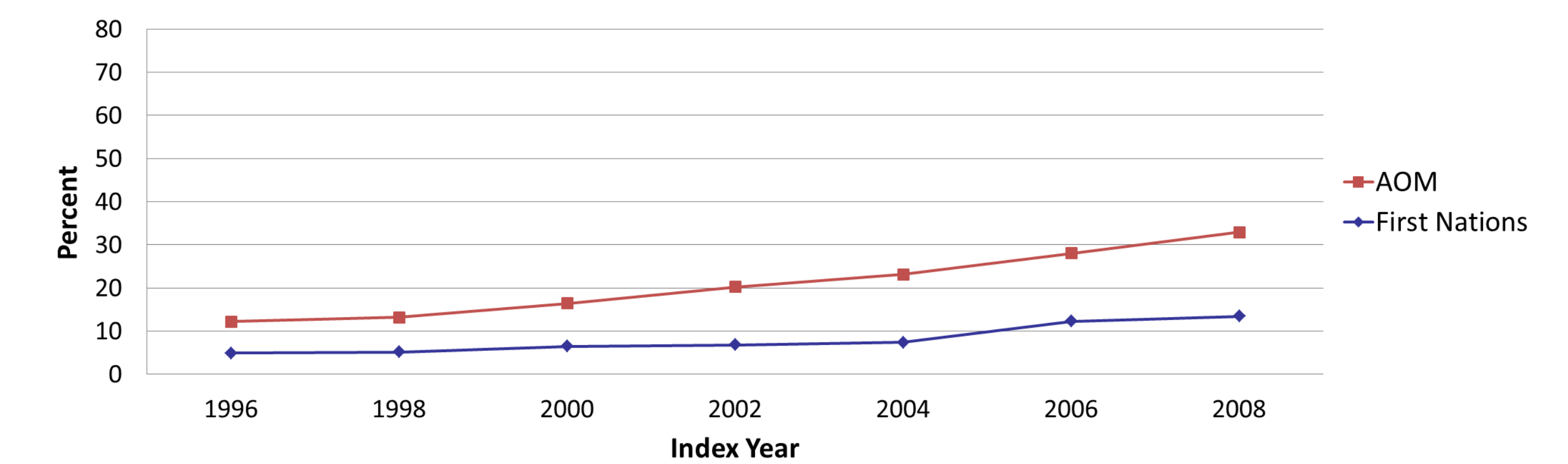


Colorectal Cancer Screening

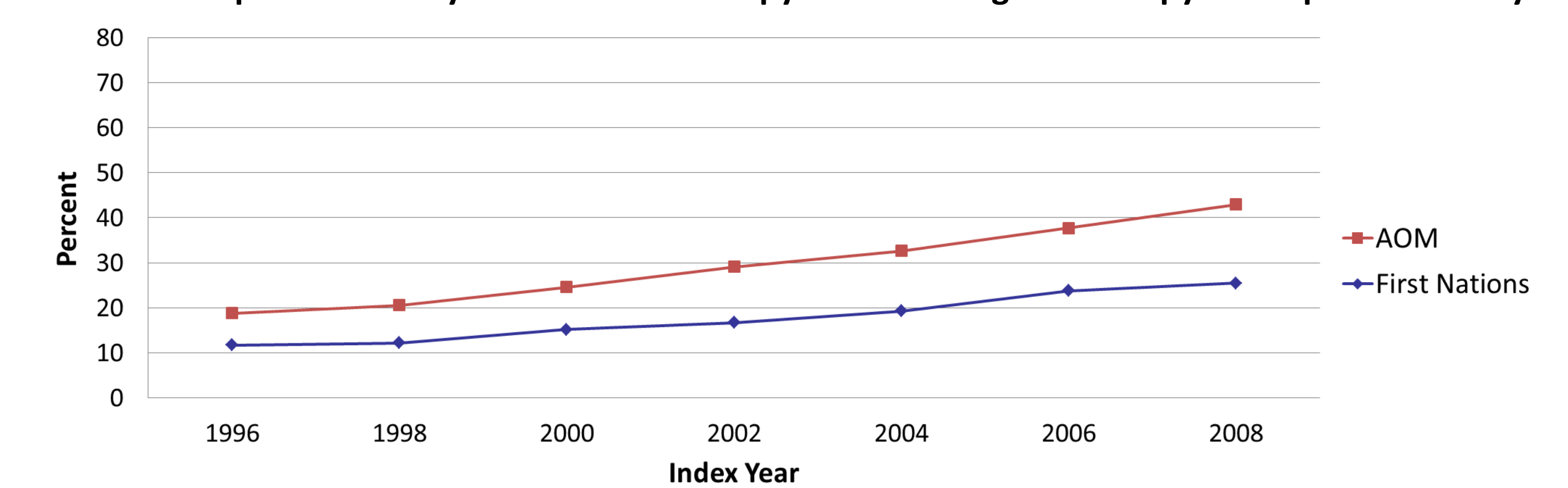
- For First Nations men and women aged 50-74 who lived in the city of Winnipeg, fecal occult blood test (FOBT) use increased from 4.9% in 1995-96 to 13.4% in 2007-08.
- For all other residents of Winnipeg, FOBT use increased from 12.2% in 1995-96 to 32.9% in 2007-08.
- After adjusting for age, time period and gender, First Nations individuals who lived in Winnipeg were significantly less likely to have had a FOBT in the previous two years than were all other residents of Winnipeg (RR=0.40, 95% CI=0.37-0.44).
- There was no significant difference in the likelihood of having a colonoscopy or flexible sigmoidoscopy for First Nations men and women who resided in the North compared to AOM (RR=1.04, 95% CI=0.91-1.19).
- In the Rural South and Urban areas, First Nations individuals were significantly less likely than AOM to have a scope (Rural South: RR=0.81, 95% CI=0.75-0.87, Urban: RR=0.86, 95% CI=0.81-0.92).

Colorectal Cancer Screening

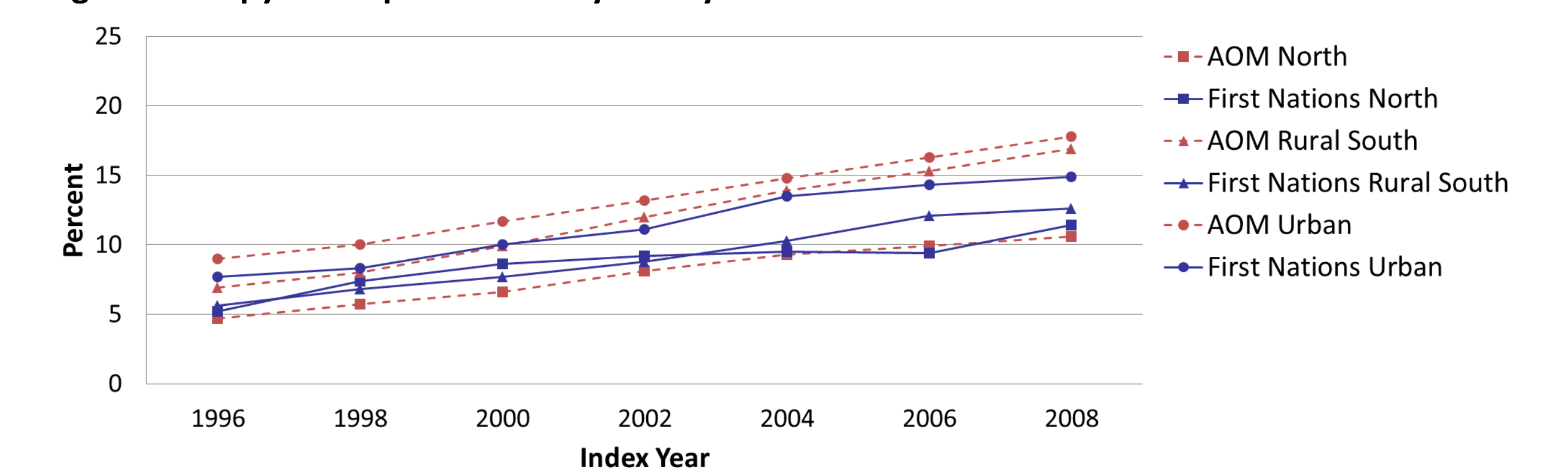
Percentage of First Nations and AOM (50-74 yrs) men and women who lived in Winnipeg and had a FOBT in the previous two years



Percentage of First Nations and AOM (50-74 yrs) men and women who lived in Winnipeg and had a FOBT in the previous two years or a colonoscopy or flexible sigmoidoscopy in the previous five years



Percentage of First Nations and AOM (50-74 yrs) men and women who had a colonoscopy or flexible sigmoidoscopy in the previous five years by area of residence



Conclusions

- Although breast cancer screening rates generally increased over time, rates for First Nations women were still lower than for AOM women at the end of the study period in all areas of residence.
- Cervical cancer screening rates for First Nations women aged 18-24 were higher than for their AOM counterparts. However, after age 29 the rates for AOM women became higher than for First Nations women.
- First Nations people living in Winnipeg were significantly less likely to be screened for colorectal cancer using the FOBT compared to all other residents of Winnipeg. However, for all of Manitoba, colonoscopy and flexible sigmoidoscopy use depended on an individuals' area of residence.
- The results of this study suggest that First Nations individuals may experience barriers that impede the use of cancer screening.
- Further research is needed to understand these potential barriers in order to promote interventions that could increase the benefit of cancer screening in the First Nations population.

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

