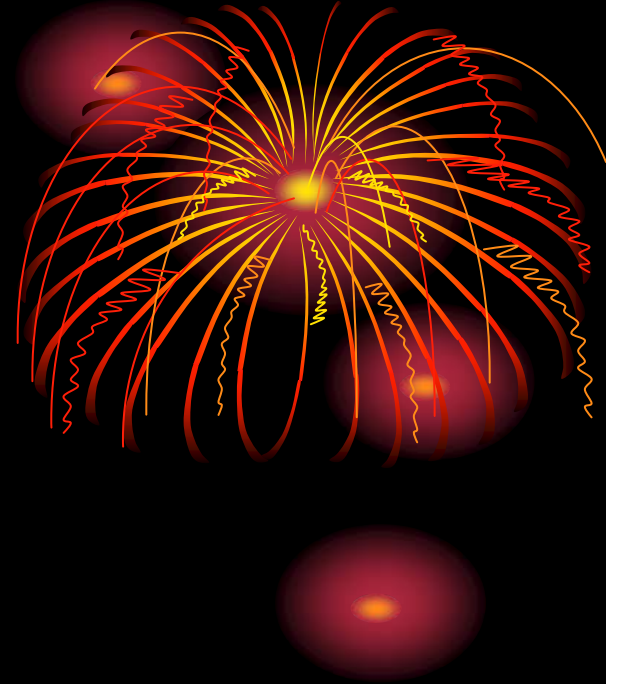


Circumpolar Inuit Cancer Review



Kue Young, MD, FRCPC, DPhil

Professor

Department of Public Health Sciences

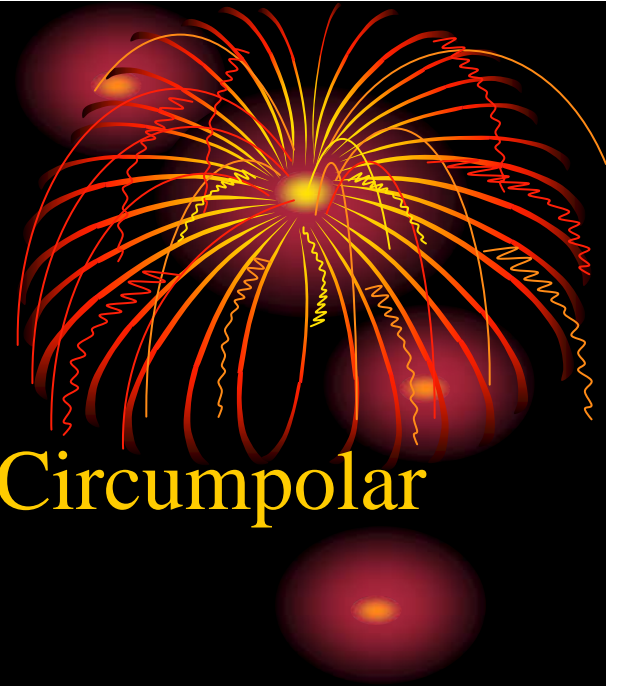
Faculty of Medicine

University of Toronto, Toronto, CANADA

Peoples of the Circumpolar World



Background



- 1980s – International Union of Circumpolar Health cancer working group:
 - Alaska
 - Denmark/Greenland
 - Canada – NWT [incld Nunavut], Nunavik, Labrador
- Limited to Inuit only
- Pooled data from regional registries -> analysis and report

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ACTA ONCOLOGICA

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(Continued on back cover)



SCANDINAVIAN UNIVERSITY PRESS
Oslo - Copenhagen - Stockholm - Boston

- Collection of papers in *Acta Oncologica* vol 35, no. 5, 1996
- 4 5-year periods:
 - 1969-1973
 - 1974-1978
 - 1979-1983
 - 1984-1988
- Overview and individual sites

Since then?

- >15 years have passed
- Individual regions have updated surveillance reports to early 2000s
- Time for an international update from 1989 to 2003
- Discussion in 13th International Congress on Circumpolar Health, Novosibirsk, Russia
- Other international initiatives – eg. Canada-US Indigenous Cancer Collaborative



Recent reviews: Alaska

Cancer in Alaska Natives 1969-2003

35-Year Report



Office of Alaska Native Health Research and
Alaska Native Epidemiology Center
Alaska Native Tribal Health Consortium
January 2006

- Longest continuous cancer registry of Native population [since 1969]
- Highly prolific scientific output
- Can provide separate data for Eskimo, Indian and Aleut but most reports refer to Alaska Native collectively

SUPPLEMENTUM NO. 20, VOL. 99, 1991

APMIS

ACTA PATHOLOGICA,
MICROBIOLOGICA
ET IMMUNOLOGICA
SCANDINAVICA

**Cancer in Greenland
1953-1985**

by Anne Prener, Nils Højgaard
Nielsen, Hans H. Storm, Jens
Peder Hart Hansen, Ole Møller
Jensen

Greenland

Int. J. Cancer: 107, 1017-1022 (2003)
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Publication of the International Union Against Cancer

CANCER IN GREENLANDIC INUIT 1973-1997: A COHORT STUDY

Jeppe FRIBORG^{1*}, Anders KOCH¹, Jan WOHLFARHT¹, Hans-Henrik STORM² and Mads MELBYE¹

¹Department of Epidemiology Research, Danish Epidemiology Science Center, Statens Serum Institute, Copenhagen, Denmark

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Canada



Cancer in the
Northwest Territories
1990-2000
A Descriptive Report

December 2003



Northwest
Territories Health and Social Services



Nunavut Department of Health and Social Services

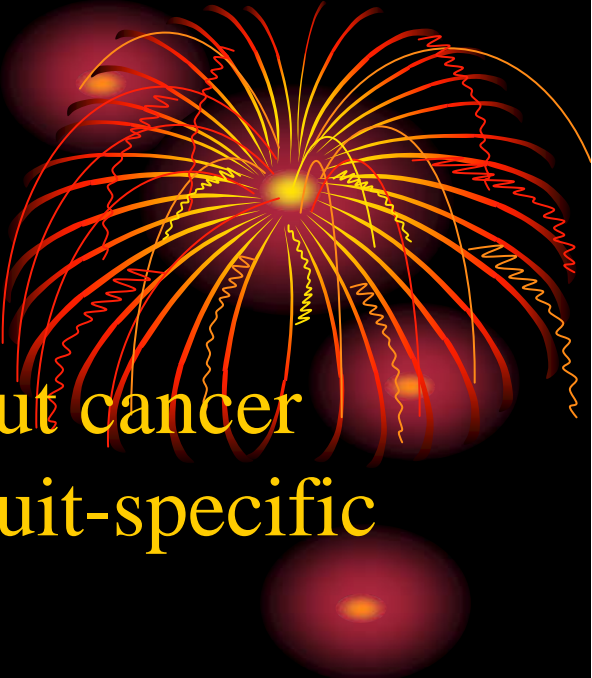
1992 - 2001



A TEN-YEAR

PROFILE
OF CANCER
IN NUNAVUT

November 2003

- 
- Northwest Territories and Nunavut cancer registries capable of providing Inuit-specific data
 - No ready means of extracting Inuit cases from Quebec or Labrador provincial registries

Why an update now?



- What are recent trends? Increasing? What sites? “traditional” vs “modern” cancers
- Inuit population small – worldwide around 165,000 – many cancers very rare
- Cancer an increasing community concern
- Evidence-based public health action – primary prevention and screening
- Inuit organizations (eg. ITK) involved in cancer care planning need Inuit-specific data

Issues for discussion

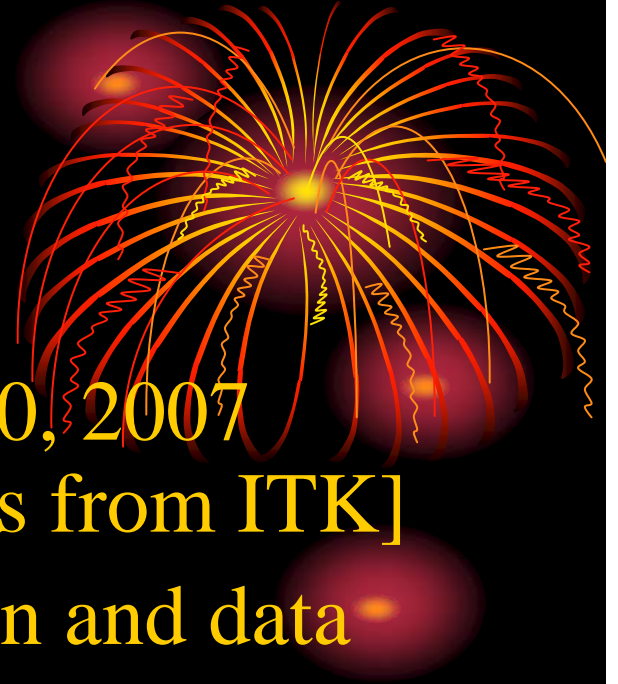
Principles of Collaboration/Cooperation

- Data sharing and access
- Privacy and confidentiality
- Resource requirements
- Dissemination of results
- Knowledge translation – influencing policies, programs and services



Progress to-date

- Meeting in Vancouver – June 20, 2007
[attended by two representatives from ITK]
- Draft agreement of collaboration and data sharing
- Each region provided data to U of Toronto
- Master tables – by year, region, site, age group and sex [Inuit only]
- Preliminary results to be presented today
- Publication plan



Working Group

- **Alaska:** Janet Kelly [Alaska Native Tribal Health Consortium]
 - **Northwest Territories:** Maria Santos [NWT Health and Social Services]
 - **Nunavut:** Sylvia Healey [Nunavut Health and Social Services]
 - **Nunavik:** Rabia Louchini [Institut national de santé publique du Québec]
 - **Greenland:** Jeppe Friborg [Statens Serum Institut]
- Rapporteur: Kue Young [University of Toronto]

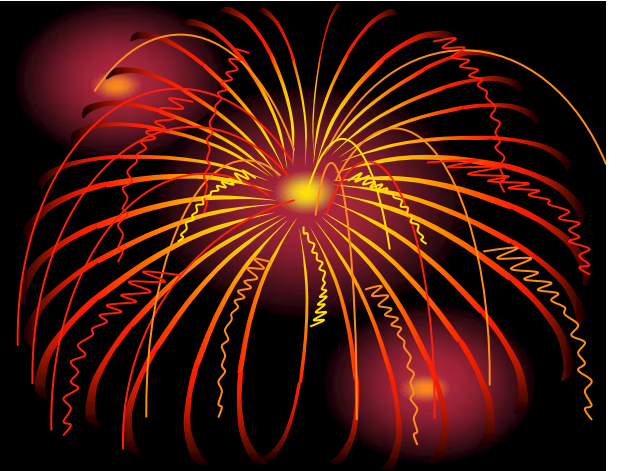


Methods

- Ascertainment of cancer cases:
well established existing population-based regional cancer registries in all jurisdictions
- Estimation of Inuit population:
 - population registry for Greenland [Greenland-born]
 - intercensal estimates for Alaska and Canada
- Comparison with other populations
 - direct age standardization to IARC world standard population
 - Compare with international data in *Cancer Incidence in Five Continents*

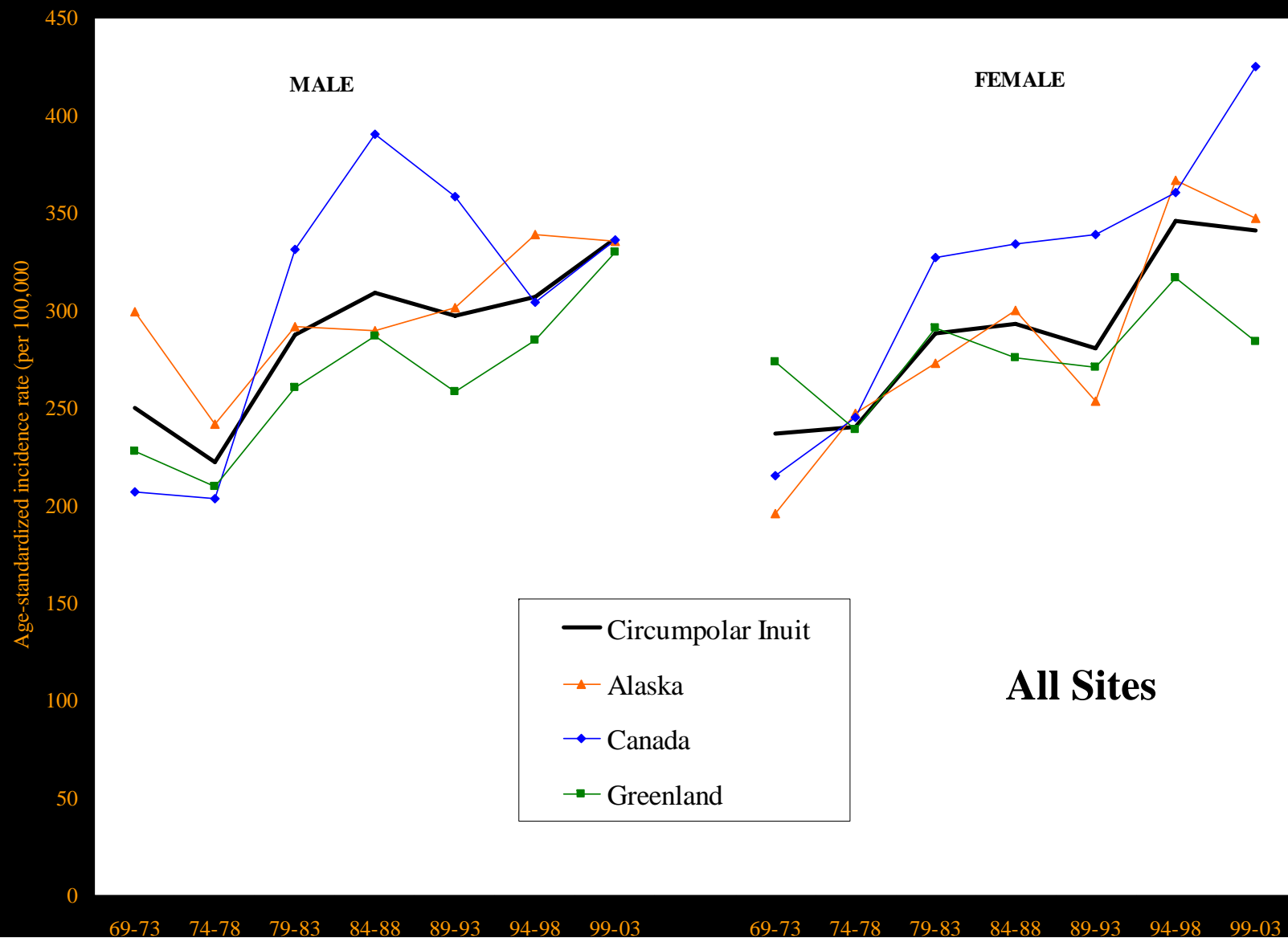


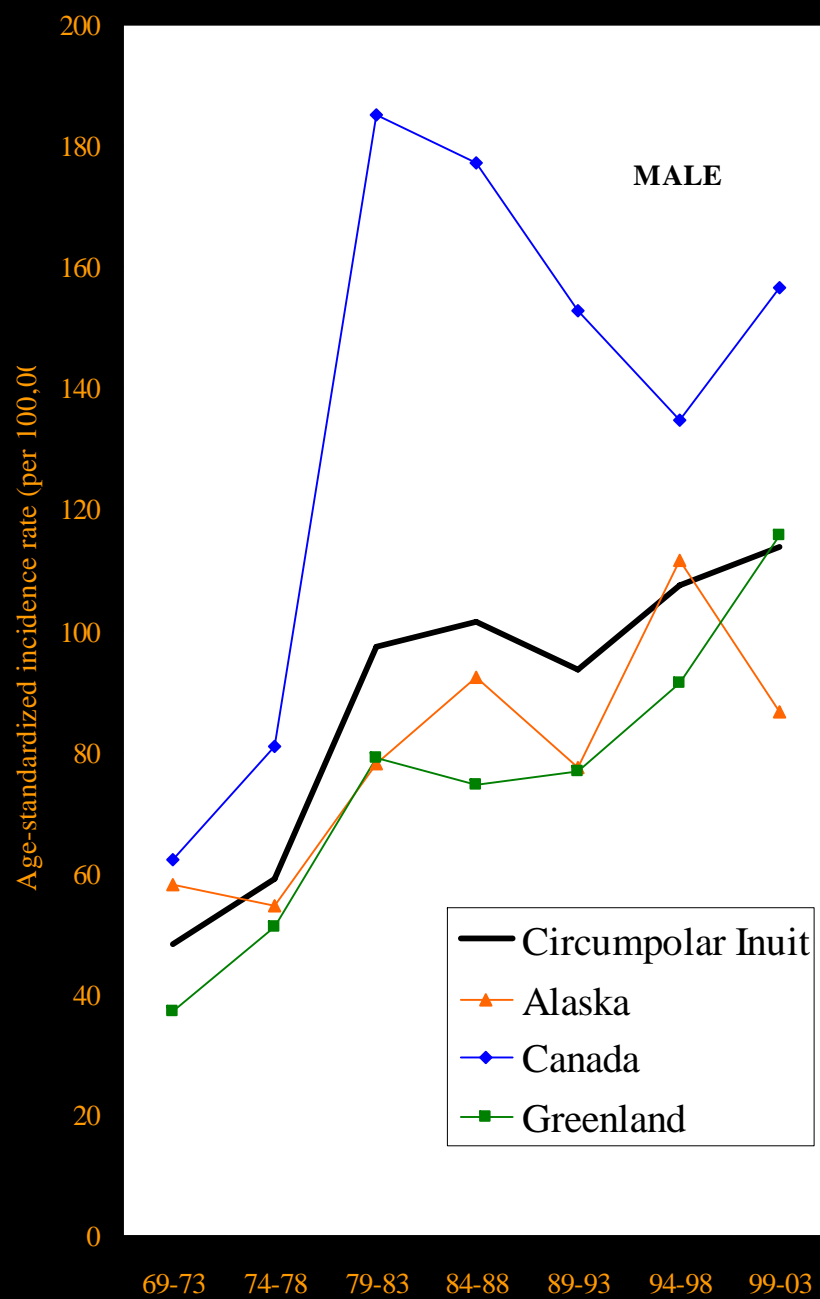
	Number of cases		Mean	Years
	Male	Female	population	of data
Alaska	803	888	46,520	1989-2003
Canada	465	581	34,950	1989-2003
Northwest Territories	59	65	4,180	
Nunavut	289	390	21,180	
Nunavik	117	126	9,590	
Greenland	738	874	48,300	1989-2002
Circumpolar Inuit	2,006	2,343	129,770	



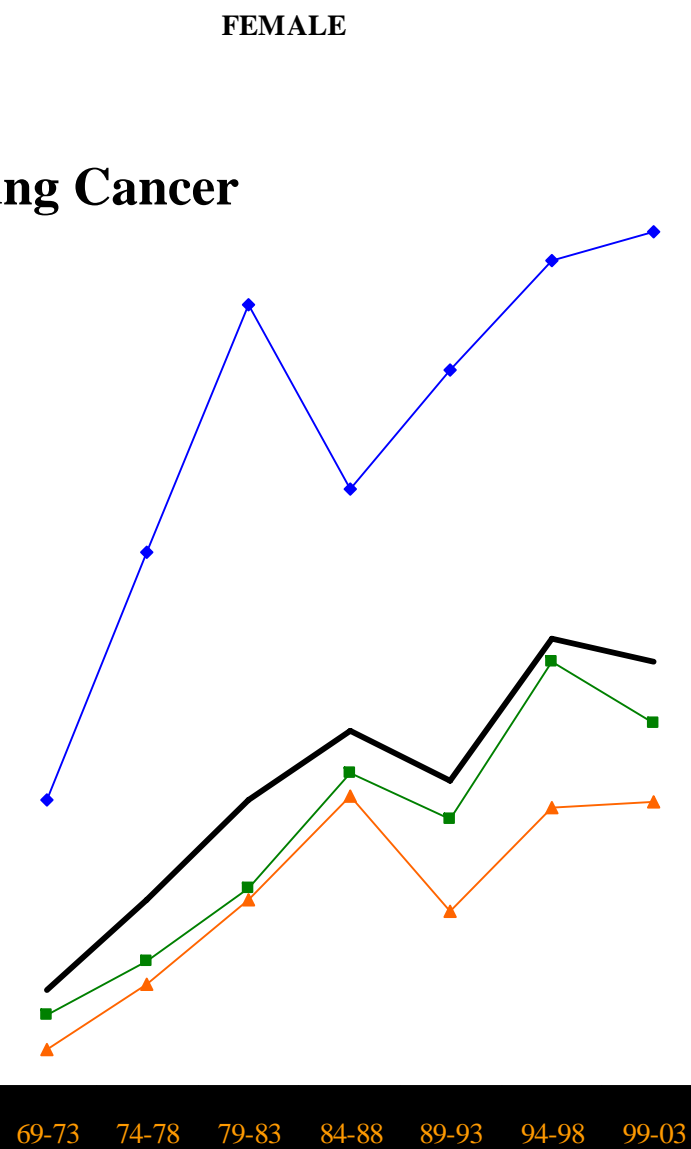
- What about Nunatsiavut?
 - Not included in current review
 - Strong interest from Nunatsiavut Health
 - Pilot study to be undertaken in collaboration among NG, Grenfell Regional Health, and Newfoundland Cancer Registry
- What about Russia?
 - Chukotka has only ~ 1000 Inuit
 - Cancer registries poorly developed in Russia

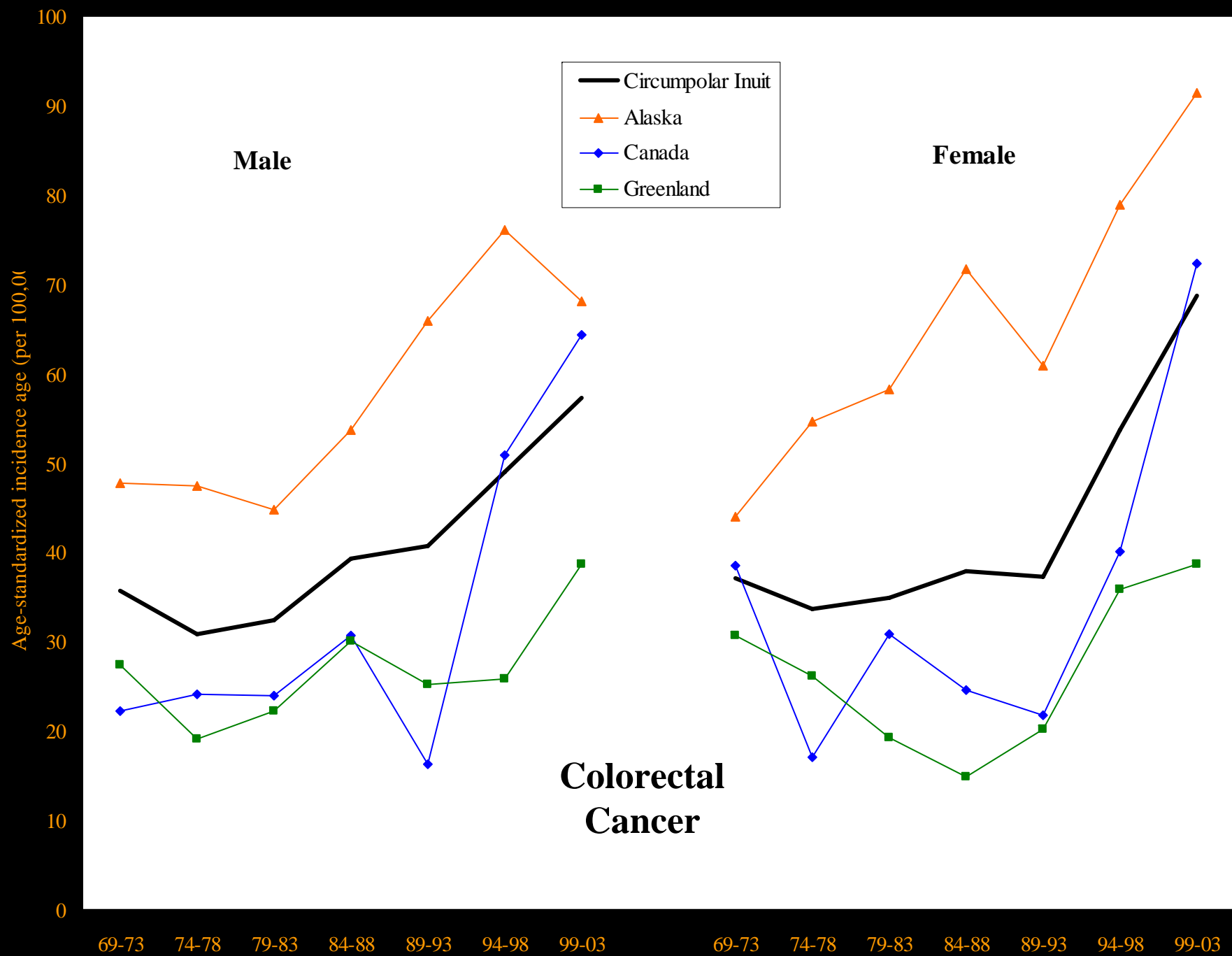
Results: time trends



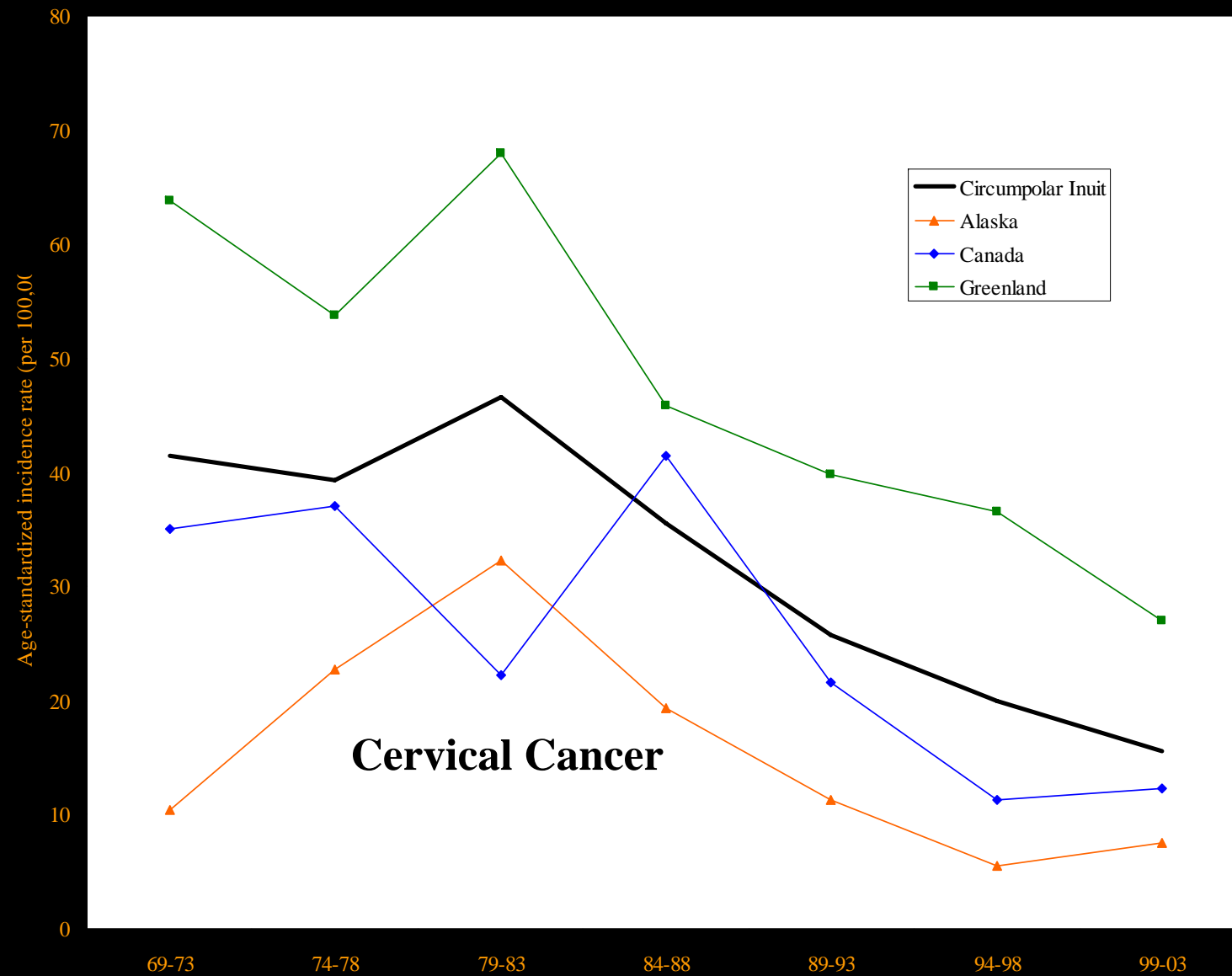


Lung Cancer

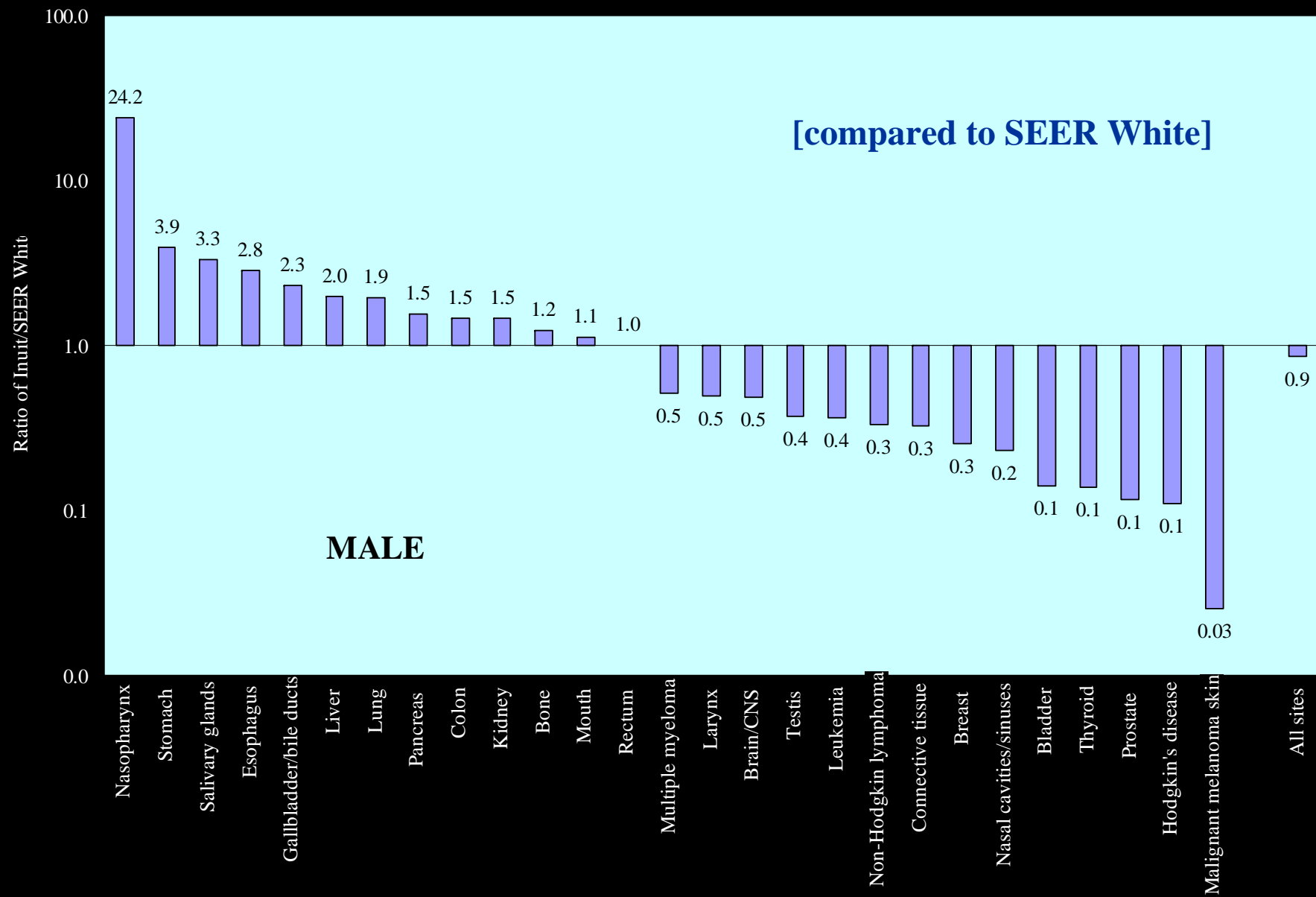


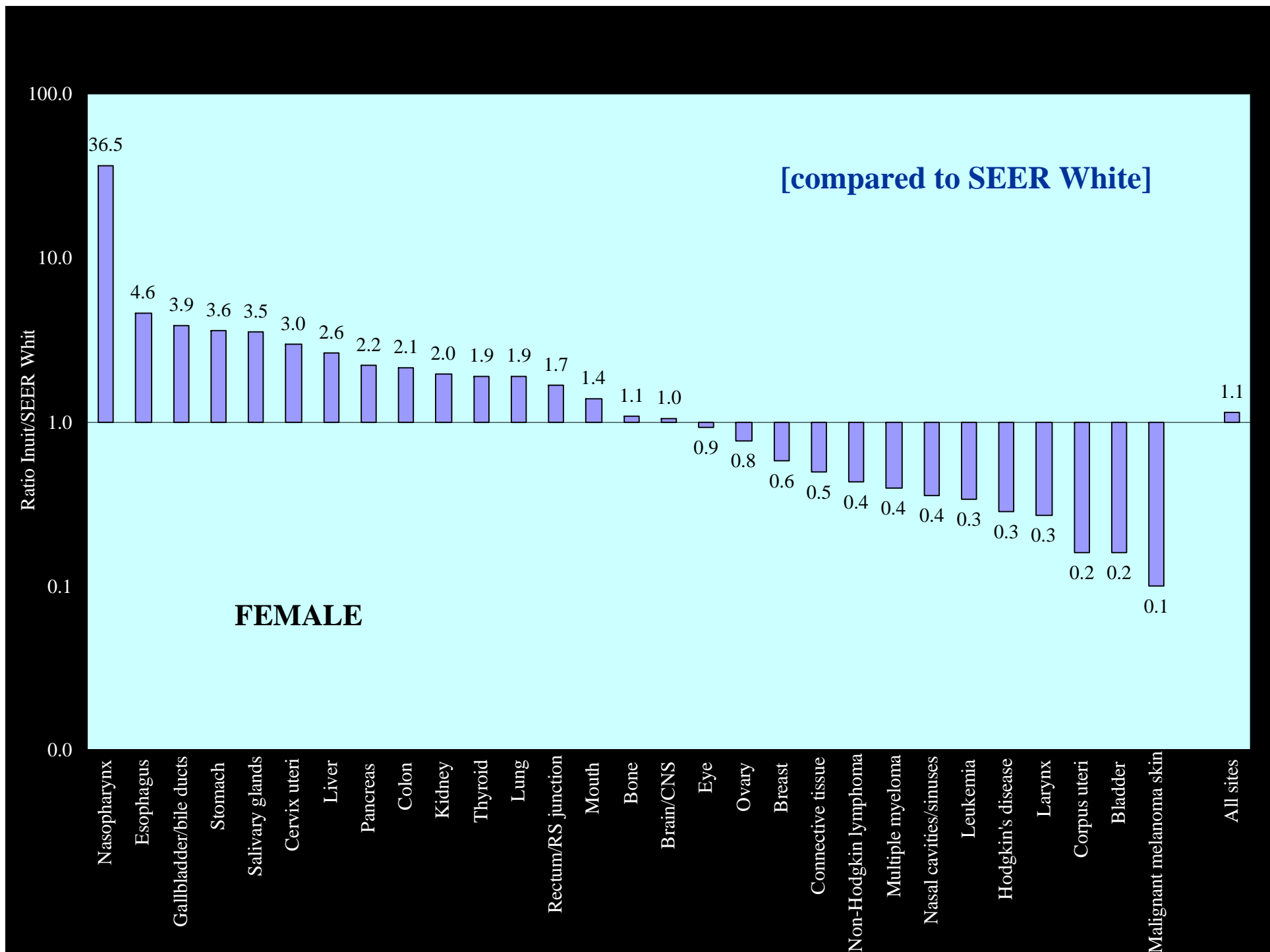


Some Good News!

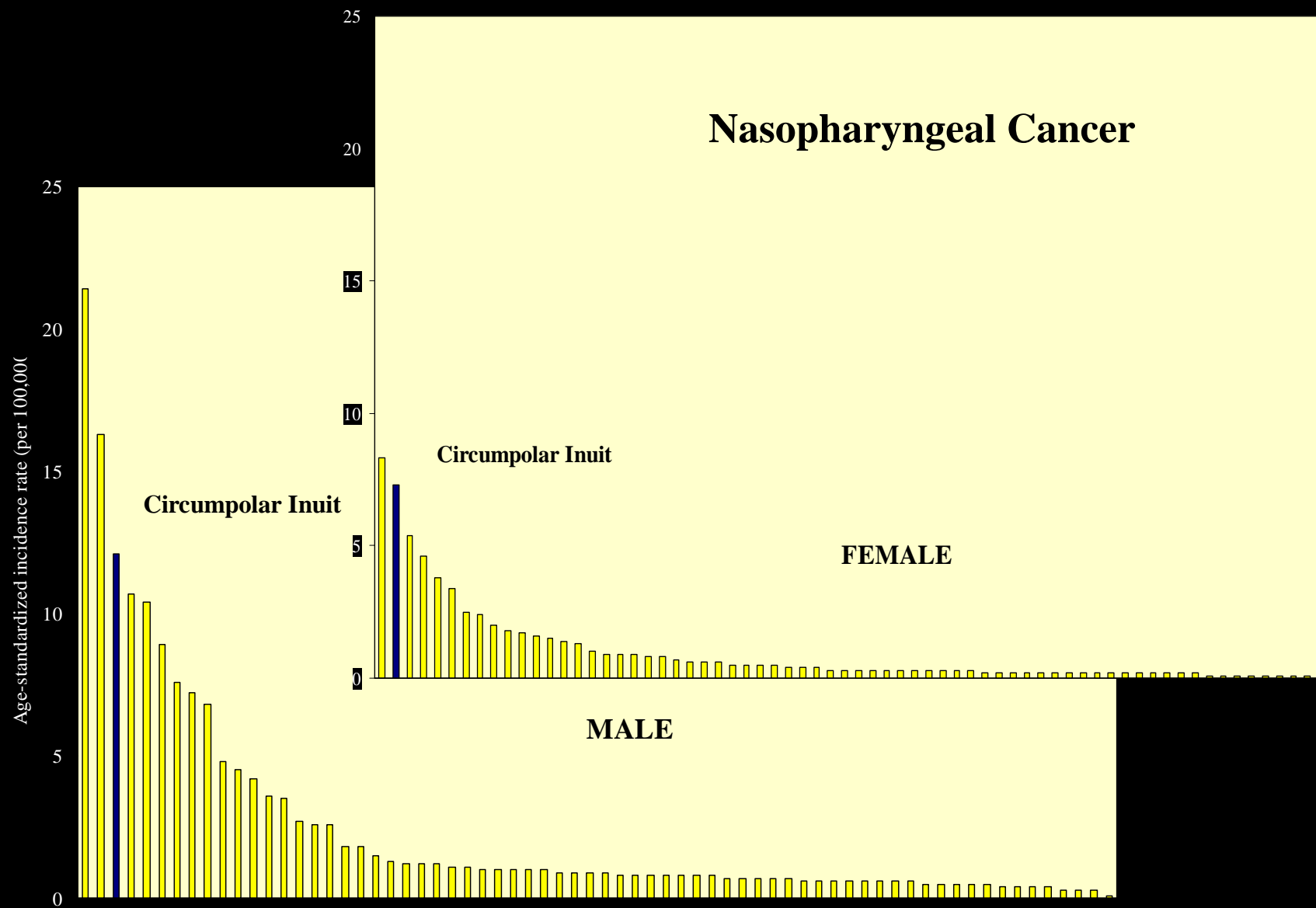


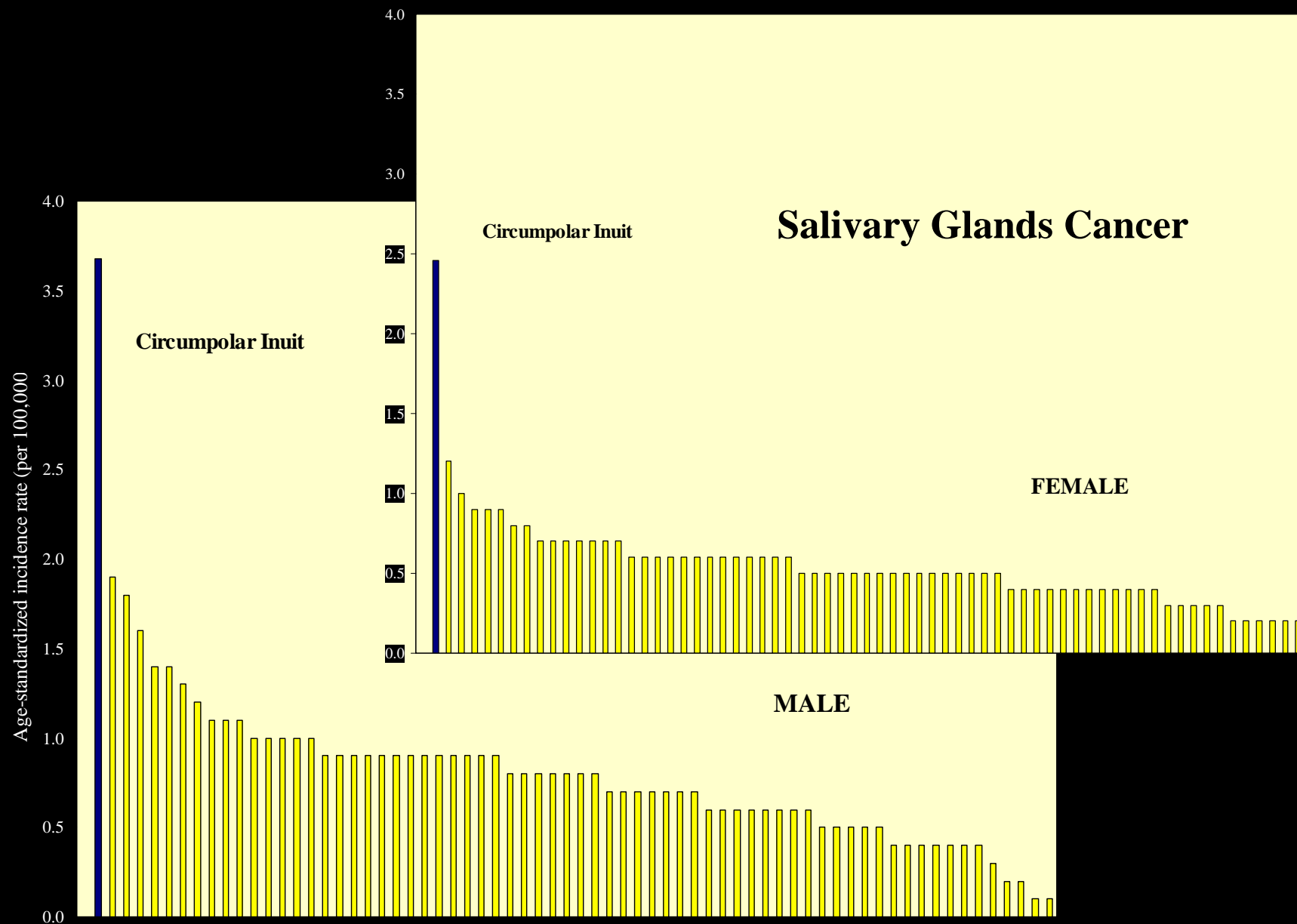
Relative risks



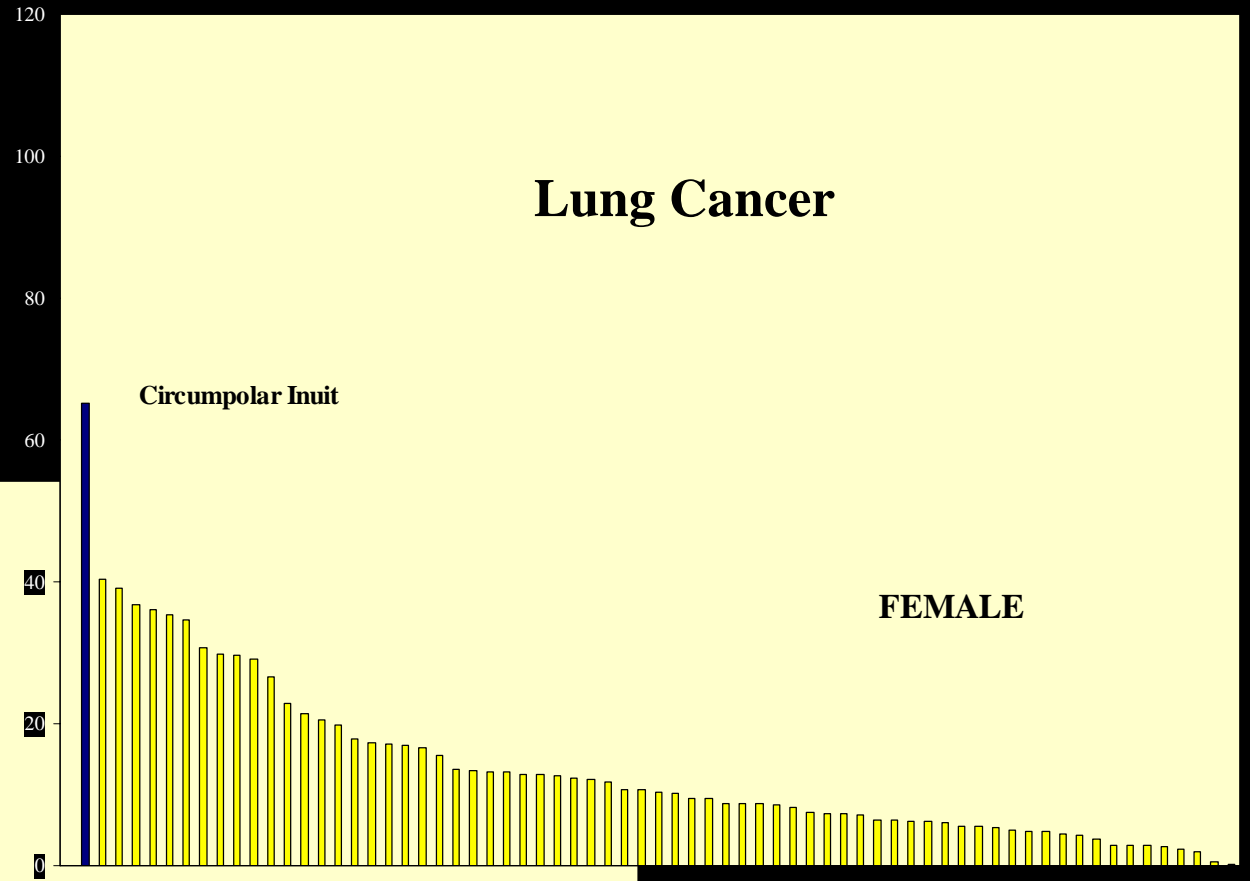
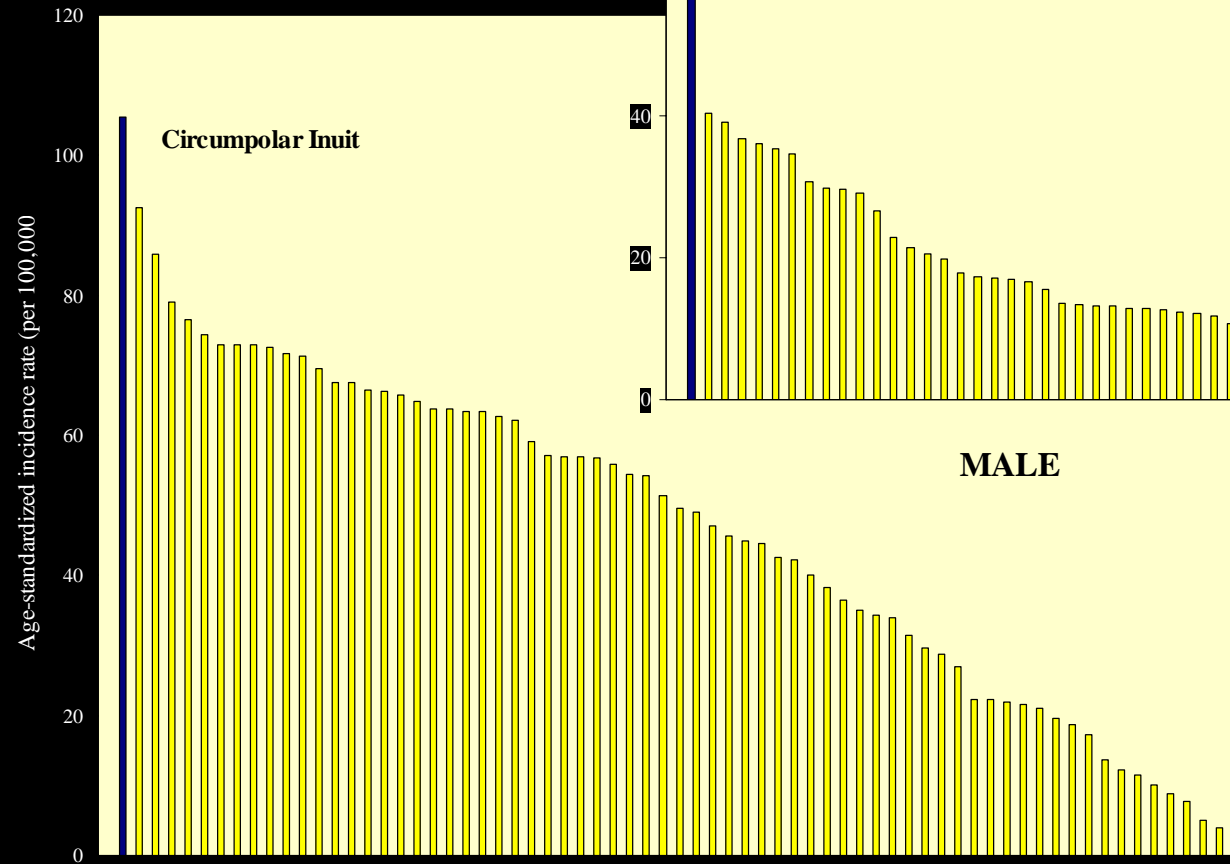


Global comparisons



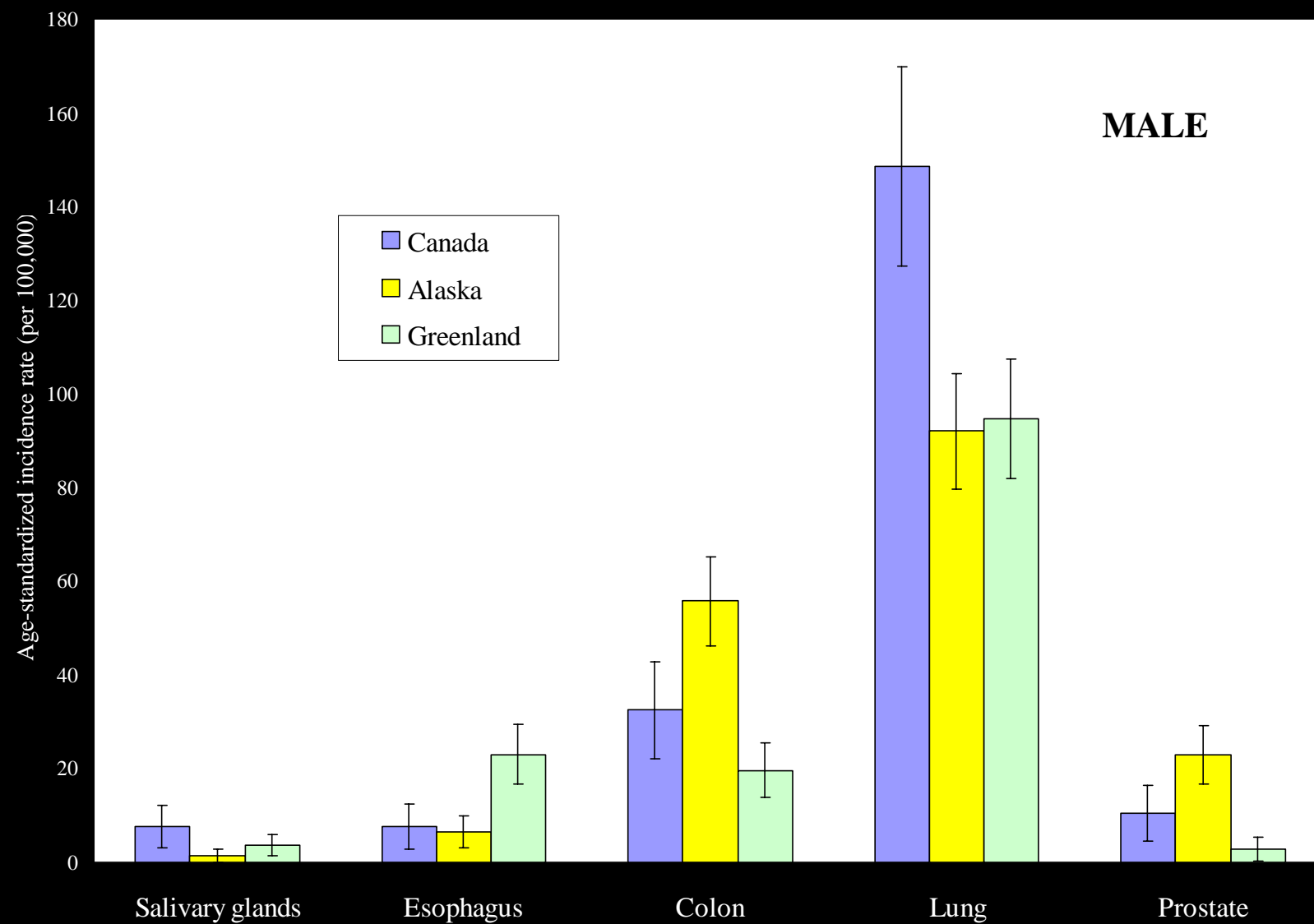


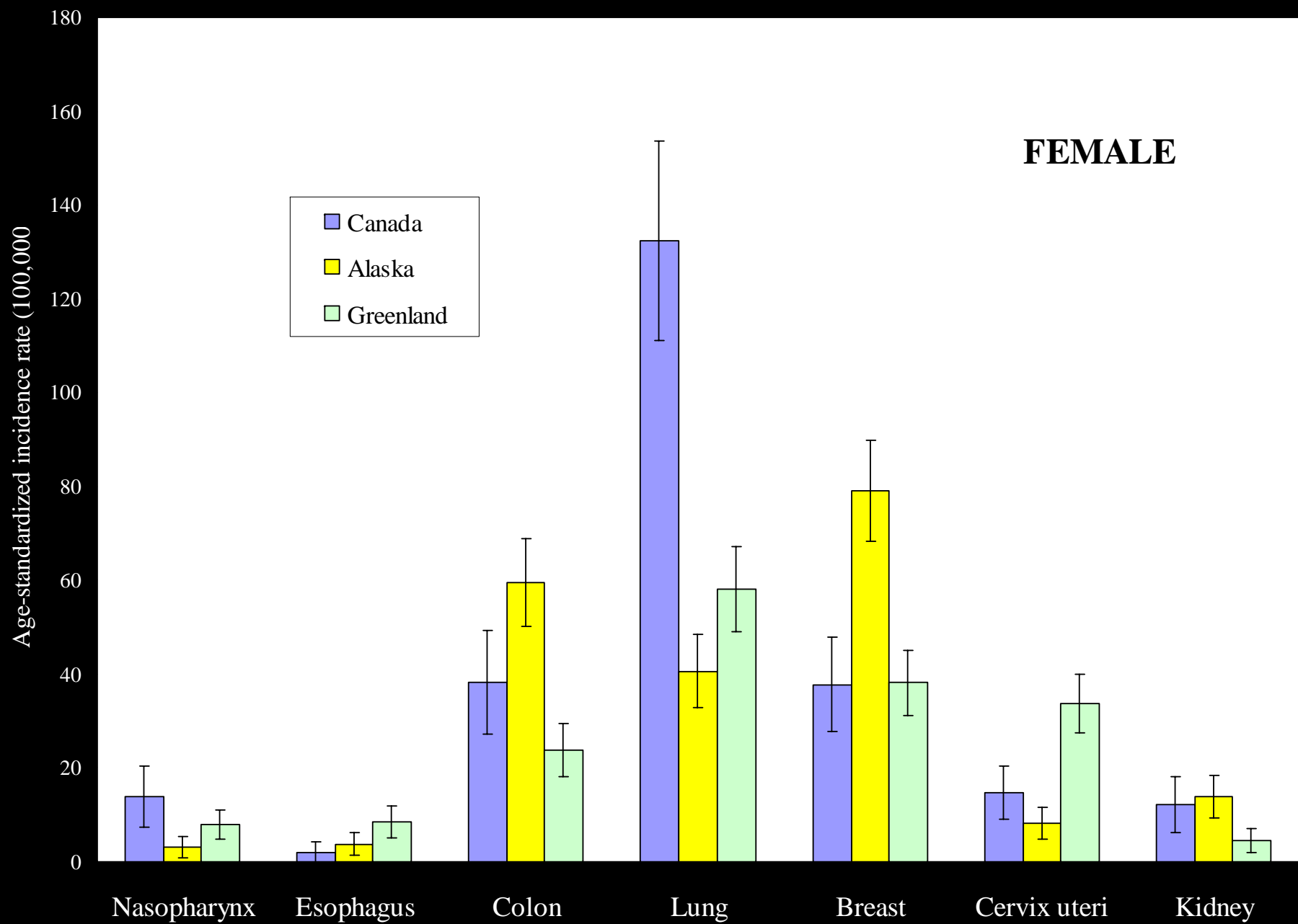
Lung Cancer



MALE

Regional variation





Take home messages

- Cancer in general increasing among Inuit
- Some “traditional” cancers [nasopharynx, salivary] have not decreased
- “Modern” cancers – esp lung – now much more – highest in the world; others such as colorectal also catching up, while breast and prostate still low relative to non-Inuit
- Some success story – decline in cervical cancer
- Scope for prevention
- Implications for health services



What are likely causes?



Lung cancer – SMOKING

Nasopharyngeal/salivary glands – association
with Epstein-Barr virus – infection->immune
response- diet? Genetics?

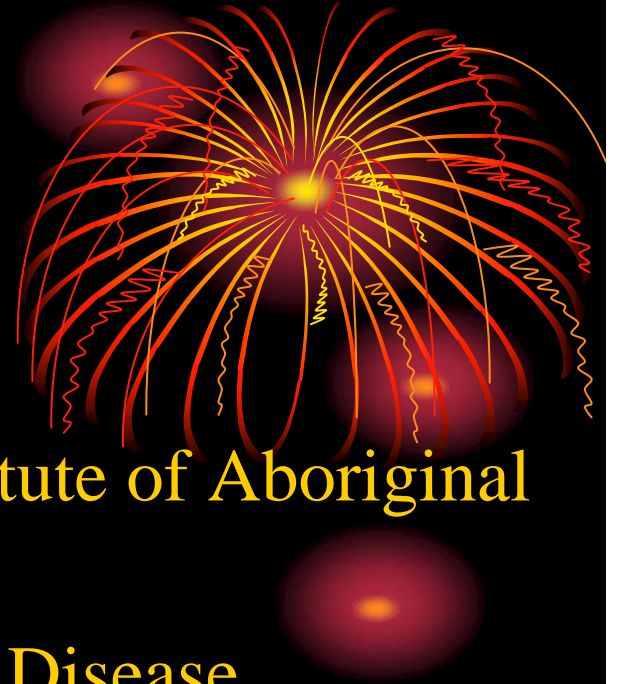
Stomach – H. pylori bacteria – diet?

Liver – Hepatitis B virus

Colorectal – diet?

There are few certainties – still lots of unknown

Acknowledgements



Funding:

- Workshop grant from the CIHR Institute of Aboriginal People's Health
- CIHR Team in Circumpolar Chronic Disease Prevention

Data retrieval:

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- Michel Beupré (Fichier des tumeurs du Québec) for Nunavik data

Research assistant: Carmina Ng, University of Toronto