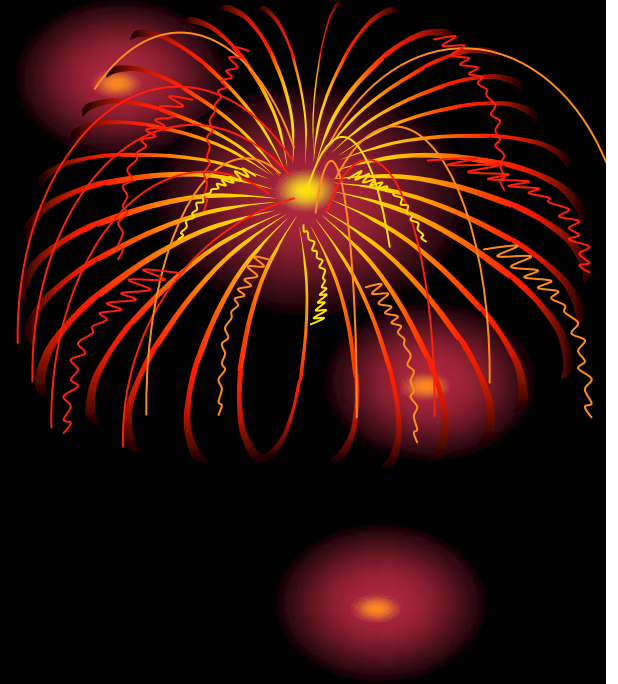


# Circumpolar Inuit Cancer Review



Kue Young, MD, FRCPC, DPhil

Professor

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Faculty of Medicine

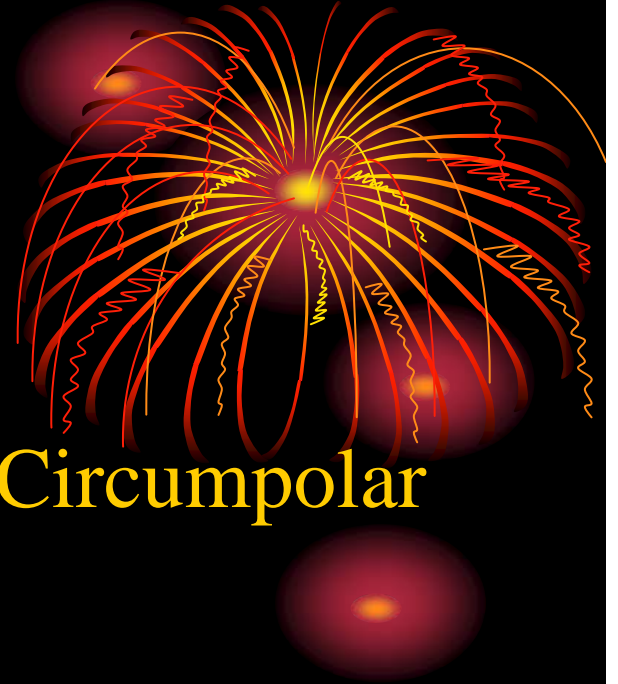
University of Toronto, Toronto, CANADA

# Peoples of the Circumpolar World



compiled by:  
W.K. Dallmann, Norwegian Polar Institute  
R. Schweitzer, University of Alaska Fairbanks

# Background



- 1980s – International Union of Circumpolar Health cancer working group:
  - Alaska – Anne Lanier
  - Denmark/Greenland – Hans Storm, Niels Højgaard Nielsen
  - Canada – Leslie Gaudette, Anthony Miller
- Limited to Inuit only
- Pooled data from regional registries -> analysis and report

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Volume 35, No. 5, 1996

# ACTA ONCOLOGICA

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THE INTERNATIONAL UNION FOR CIRCUMPOLAR HEALTH'S  
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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 13<sup>th</sup> 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)  
© 2003 Wiley-Liss, Inc.



Publication of the International Union Against Cancer

## CANCER IN GREENLANDIC INUIT 1973-1997: A COHORT STUDY

Jeppe FRIBORG<sup>1\*</sup>, Anders KOCH<sup>1</sup>, Jan WOHLFARHT<sup>1</sup>, Hans-Henrik STORM<sup>2</sup> and Mads MELBYE<sup>1</sup>

<sup>1</sup>Department of Epidemiology Research, Danish Epidemiology Science Center, Statens Serum Institute, Copenhagen, Denmark

<sup>2</sup>Department of Cancer Prevention and Documentation, Danish Cancer Society, Copenhagen, Denmark

# 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





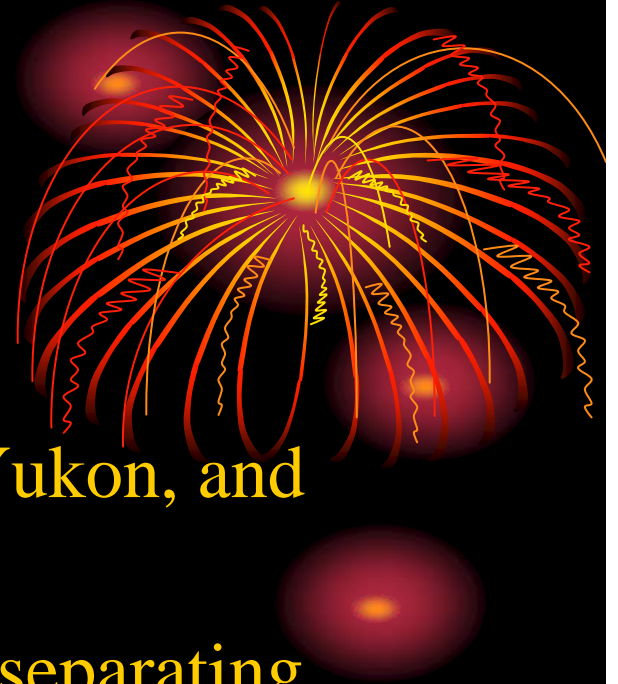
- Original 1969-1988 dataset included Northwest Territories (pre-Nunavut), Nunavik (northern Quebec) and Labrador – not been updated since
- Northwest Territories report already provides data separately for Inuit, First Nations and others
- Nunavut report does not separate Inuit (85% of population) from others -> but can be done
- 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

# What about other indigenous peoples?



- Dene/Athapaskan people – Alaska, Yukon, and NWT – explore feasibility now
- Alaska and NWT already capable of separating Indian/First Nations data; Yukon?
- Interest nationally – Assembly of First Nations meeting on cancer surveillance in June, 2007
- Arctic Athabaskan Council interested
- Longer term – Sami in Scandinavia and Russian indigenous peoples

# 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

Note: different stages of development [and hence outstanding issues] for Inuit review vs Dene/Athapaskan review



# Progress to-date

- Meeting in Vancouver – June 20, 2007
- 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

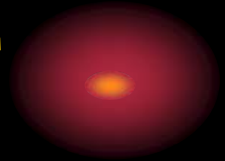




# Working Group

- **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 Friberg [Statens Serum Institute]

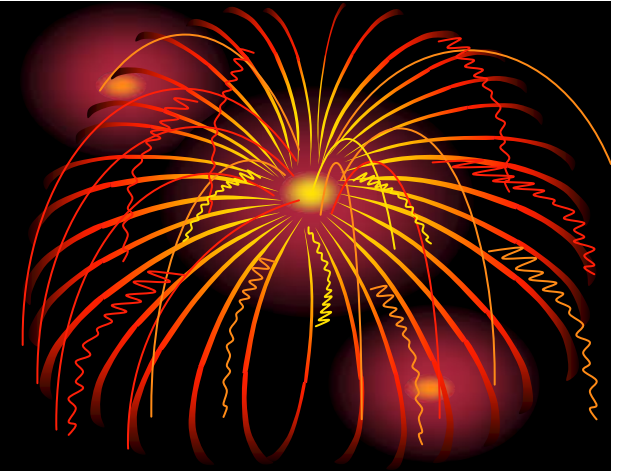
Rapporteur: Kue Young [University of Toronto]



# Methods

## Alaska:

- Source of cases: Alaska Native Tumor Registry
- Population:
  - US Census Bureau annual population estimate for Alaska by age and sex;
  - % of Eskimo in age-sex groups from 1990 Census applied to annual estimates of 1989-1994
  - % of Eskimo in age-sex groups from 2000 Census applied to annual estimates of 1995-2003
  - 1990 Census: Eskimo separate box to check
  - 2000 Census: AIAN box, Eskimo write-in under “tribe”



## Canada:

- Source of cases: Canadian Cancer Registry -> files returned to Territorial cancer registries – Inuit cases identified; Nunavik cases from Fichier des tumeurs du Québec [all residents]
- Population:
  - Annual intercensal estimates by age and sex for territories from Statistics Canada
  - Proportion of Inuit in the 1991, 1996 and 2001 Census applied to the total NWT and Nunavut populations for the years 1989-1993, 1994-1998, and 1999-2003 respectively.
  - Total population of Nunavik used

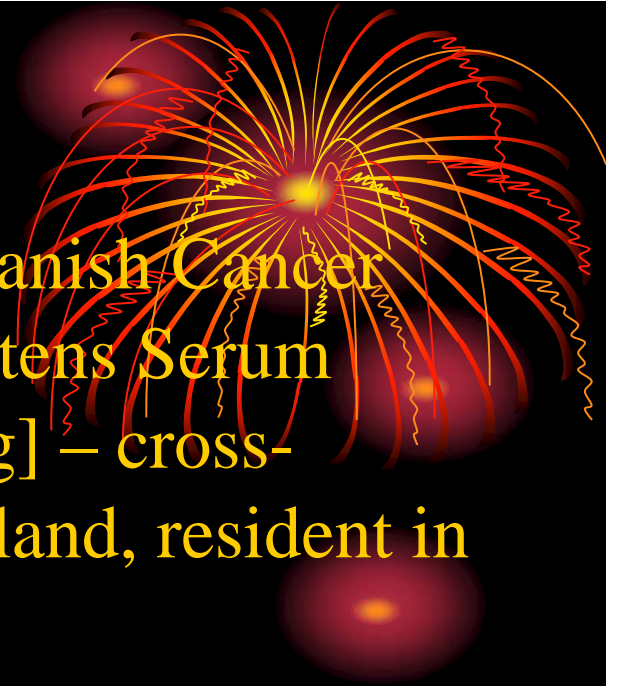


## Greenland:

- Source of cases: Cancerregisteret [Danish Cancer Registry] -> research database at Statens Serum Institute, Copenhagen [Jeppe Friborg] – cross-referenced to place of birth in Greenland, resident in Greenland at time of dx
- Population: Population registry – born in Greenland

Direct age-standardization to IARC world population, 95% confidence intervals

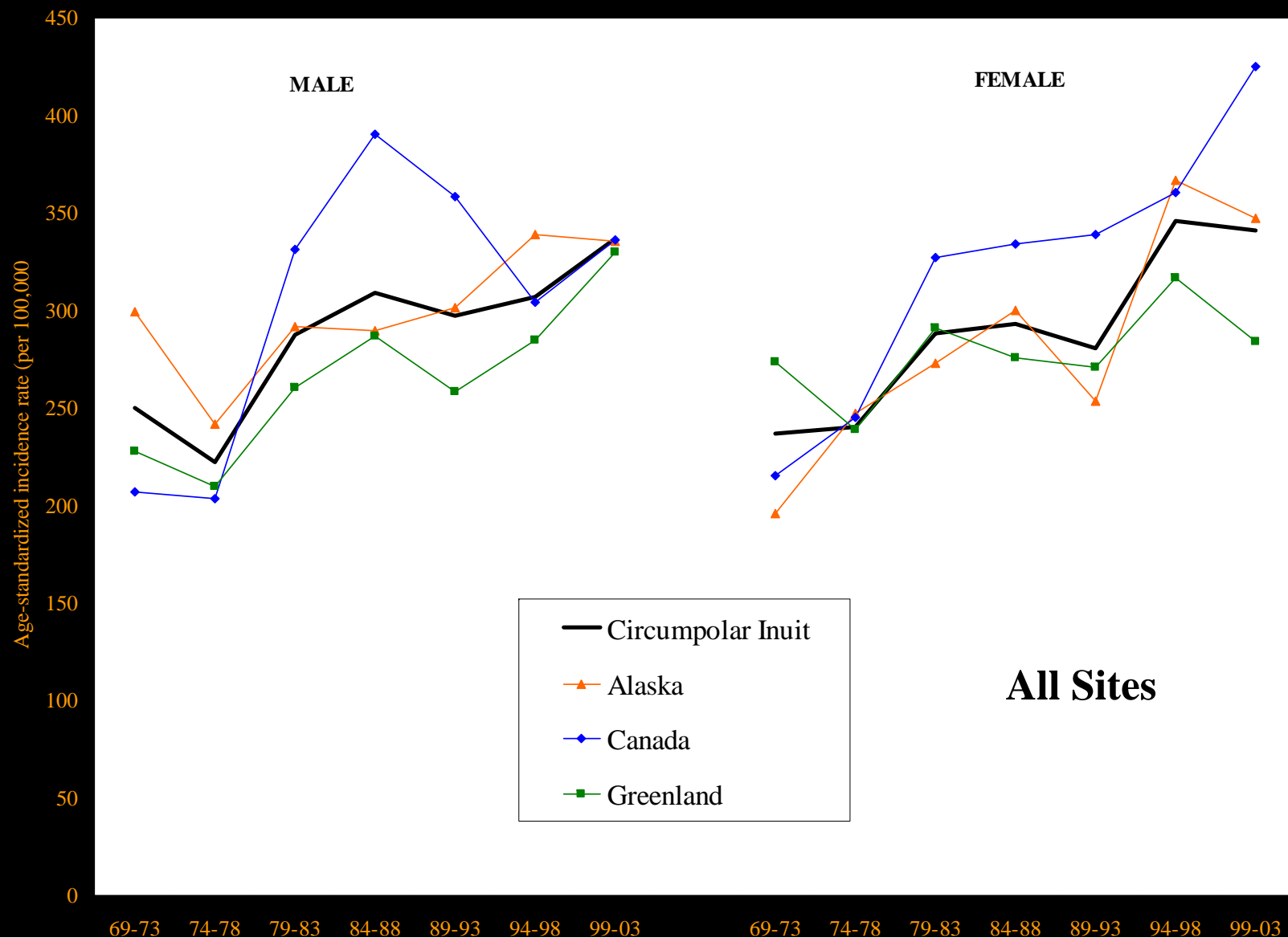
International comparisons – *Cancer Incidence in Five Continents VIII (2002)* – 1993-97 data

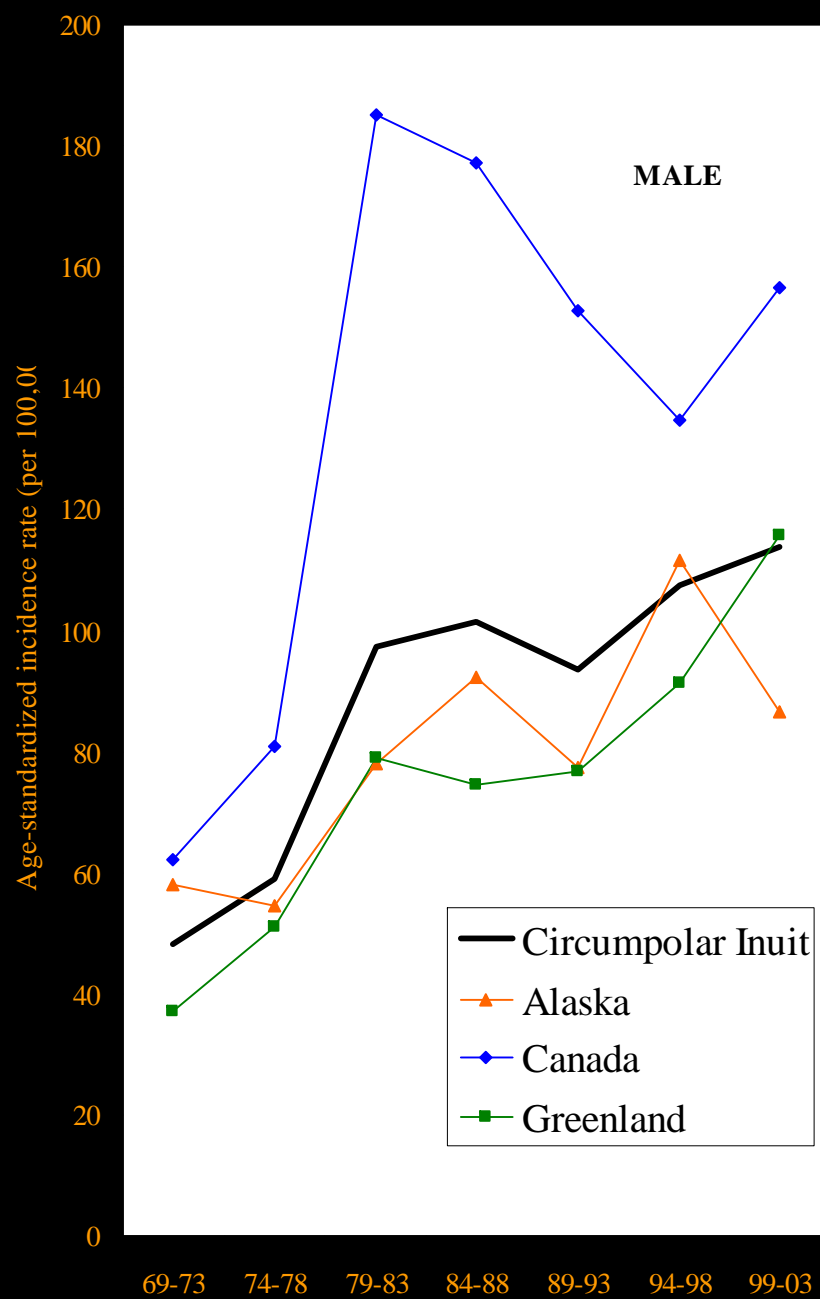


	Number of cases		Mean	Years
	Male	Female	population	of data
Alaska	803	888	46,520	1989-2003
Canada	465	581	34,950	1989-2003
Northwest Territories	59	65	4,180	
Nunavut	289	390	21,180	
Nunavik	117	126	9,590	
Greenland	738	874	48,300	1989-2002
<b>Circumpolar Inuit</b>	<b>2,006</b>	<b>2,343</b>	<b>129,770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

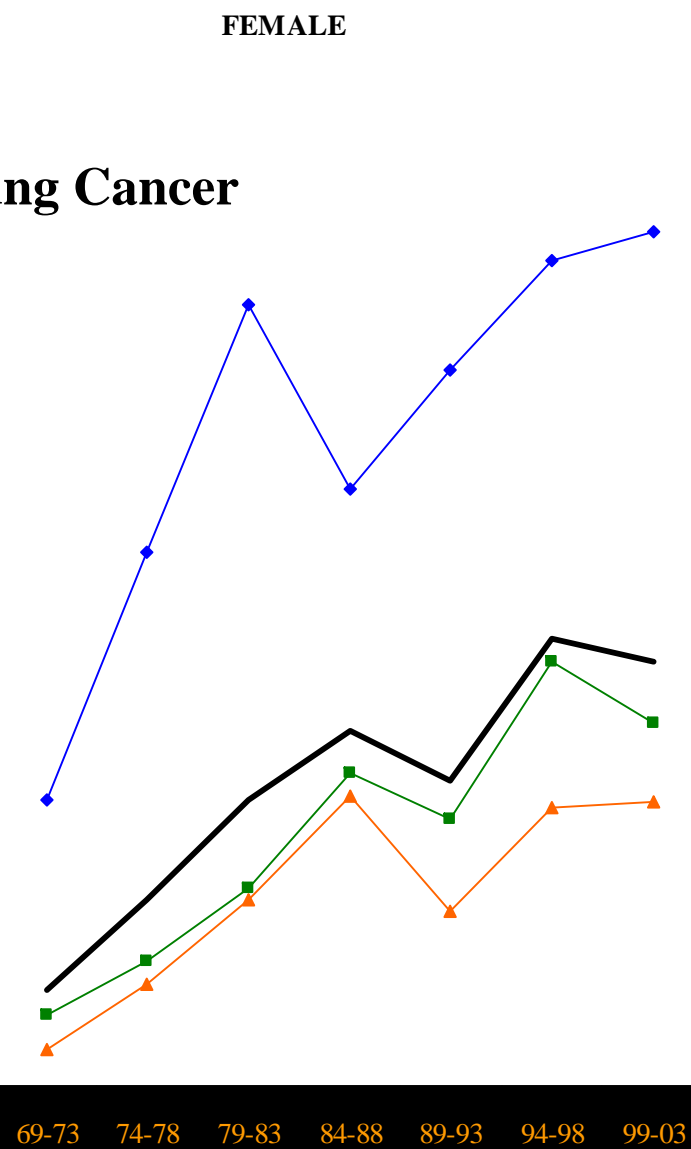


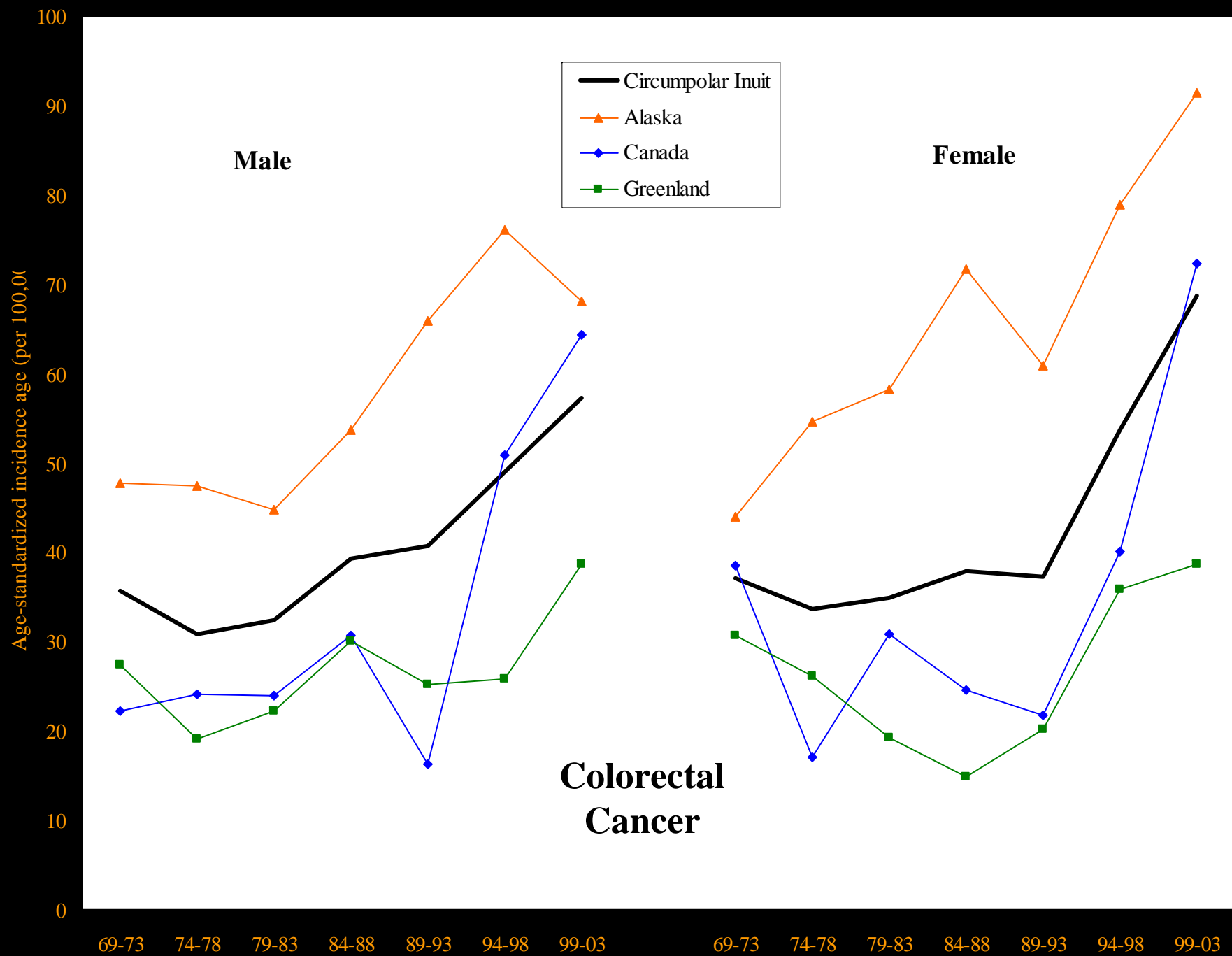
# Results: time trends



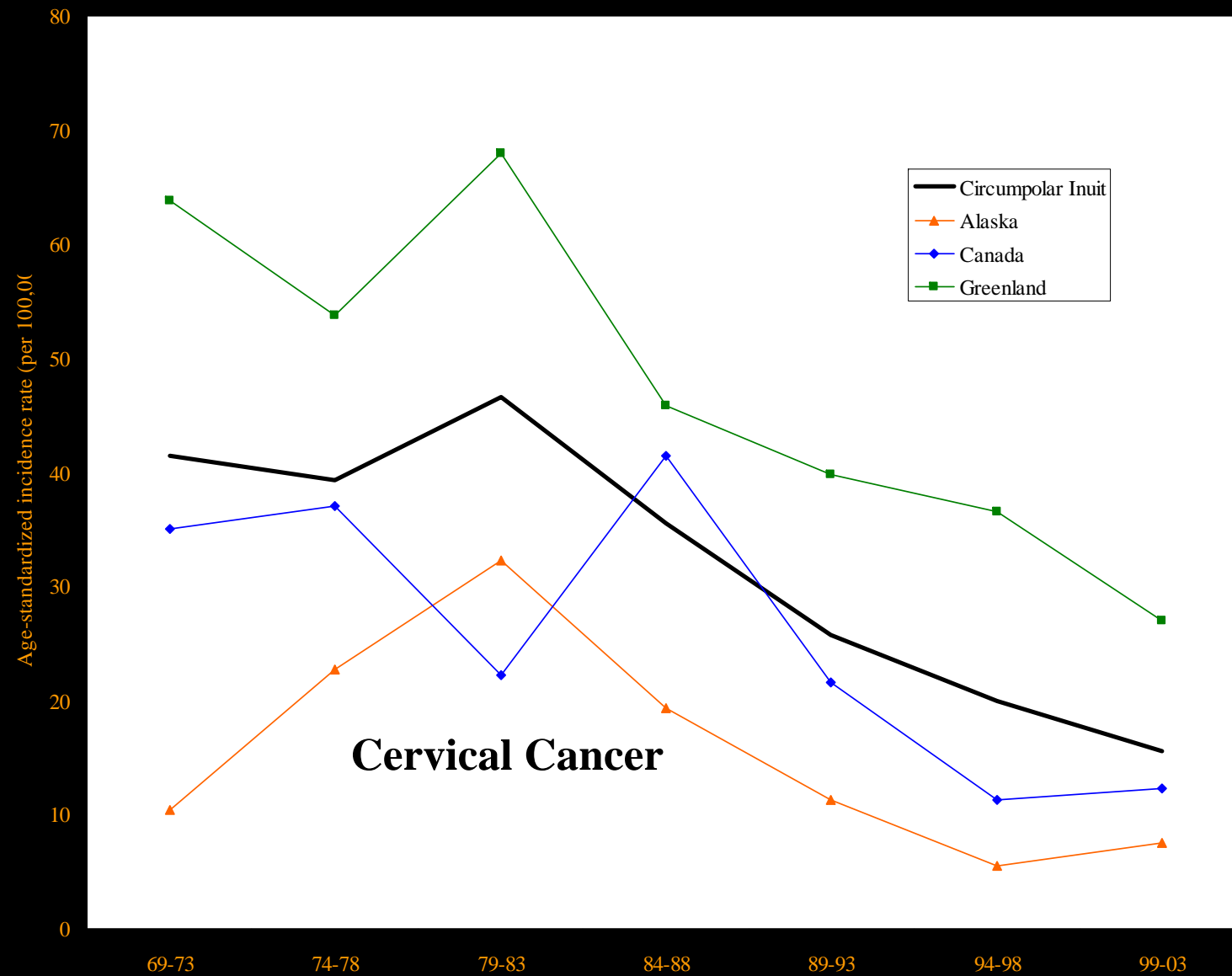


## Lung Cancer

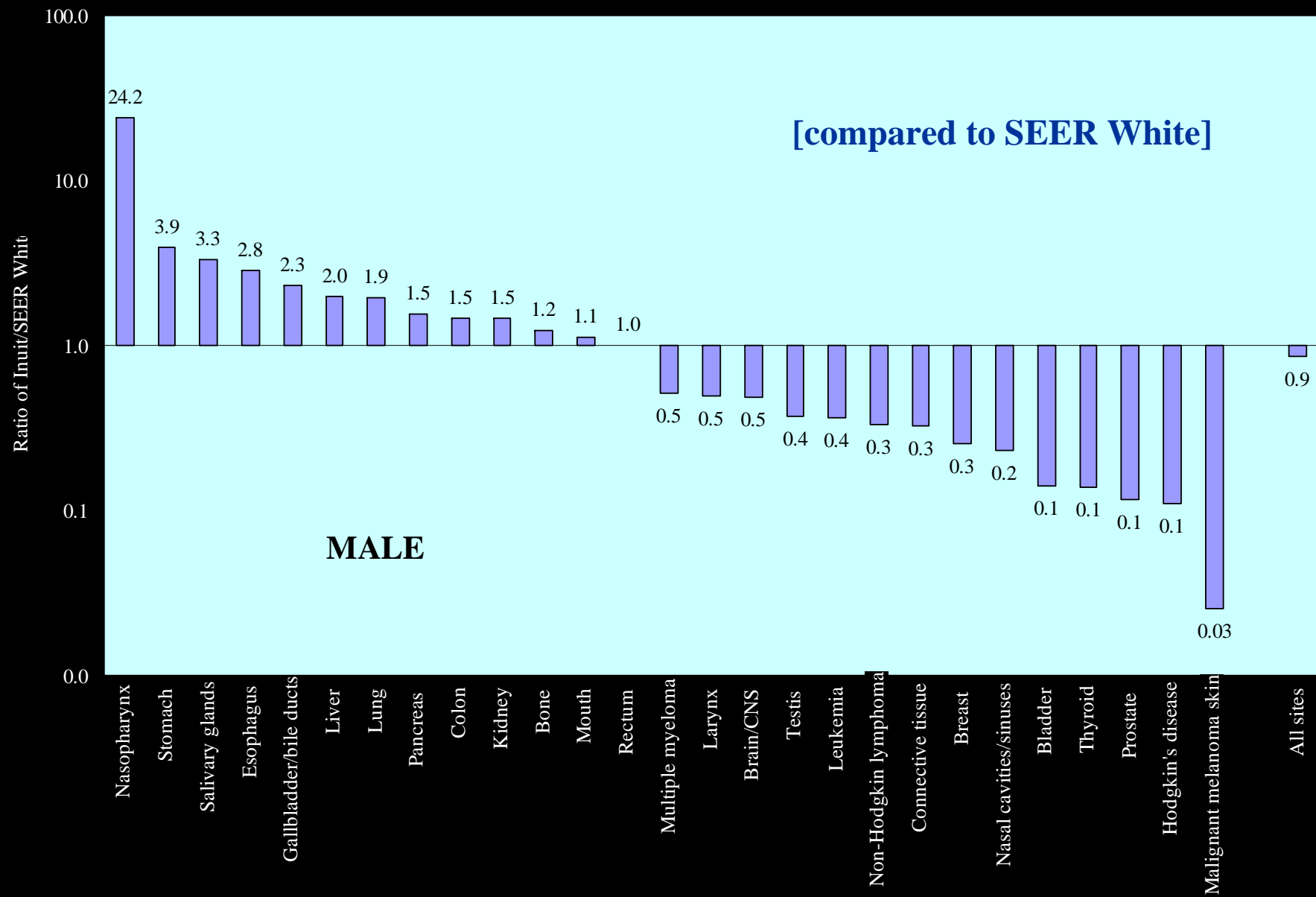




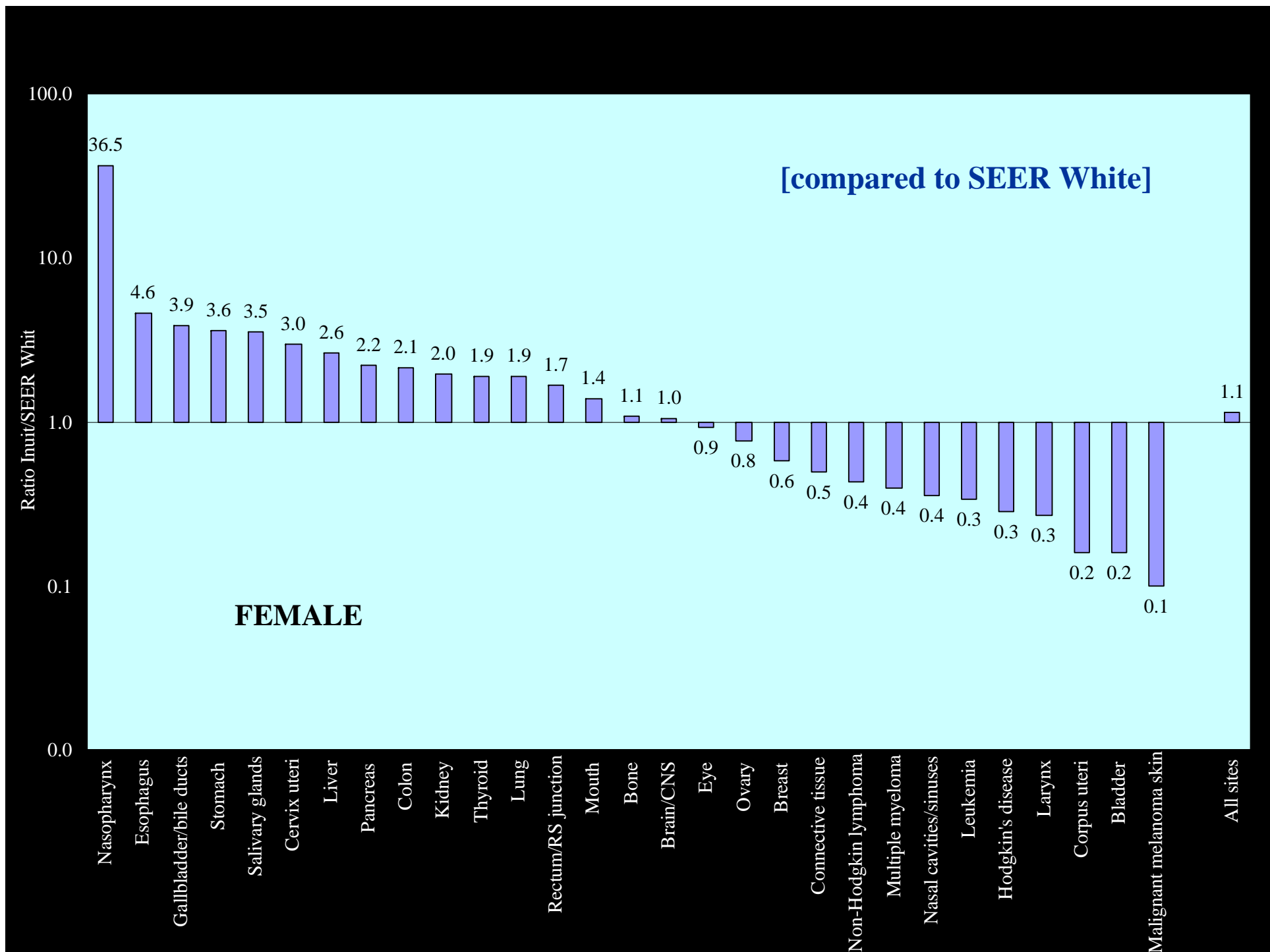
# Some Good News!



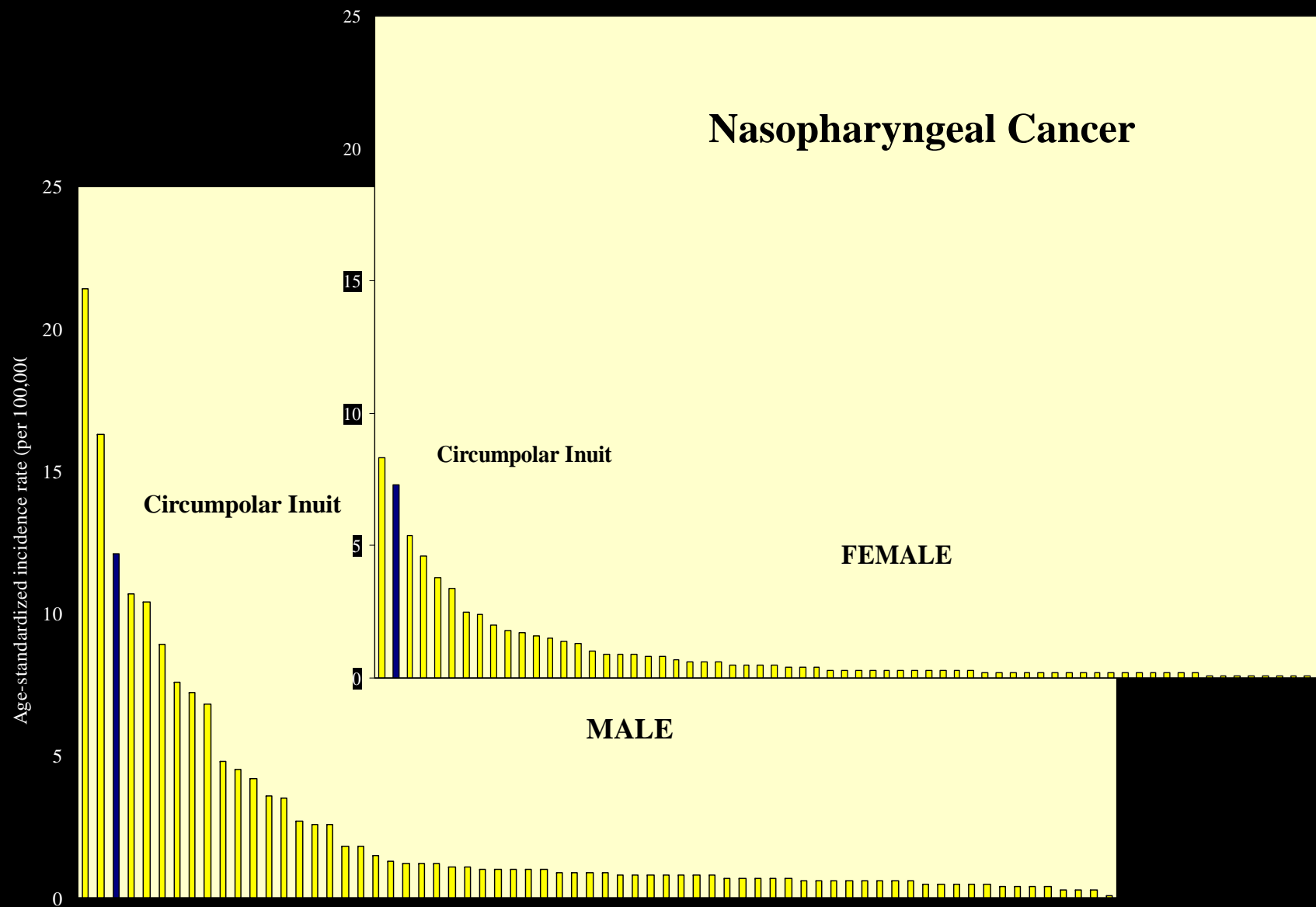
# Relative risks

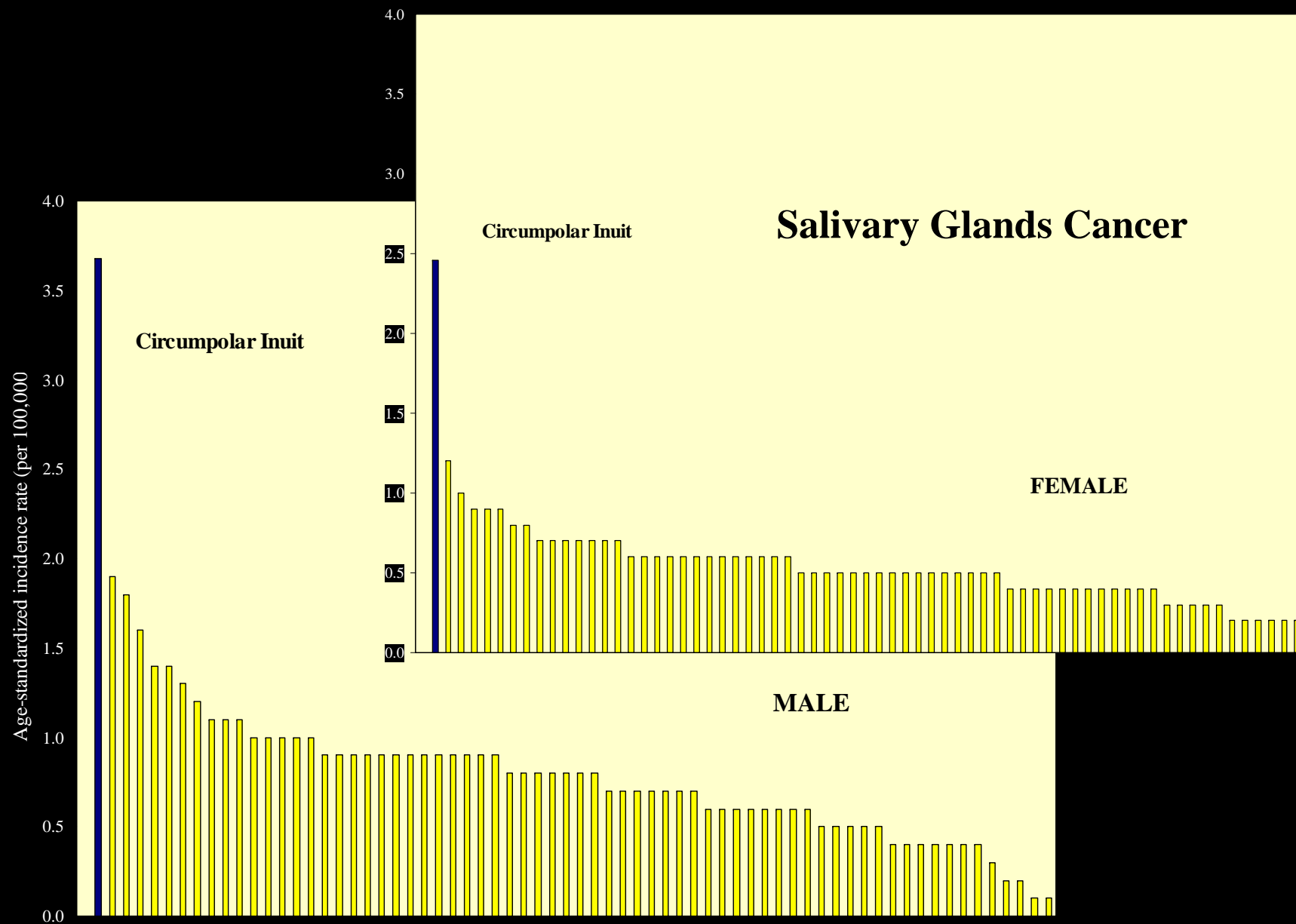




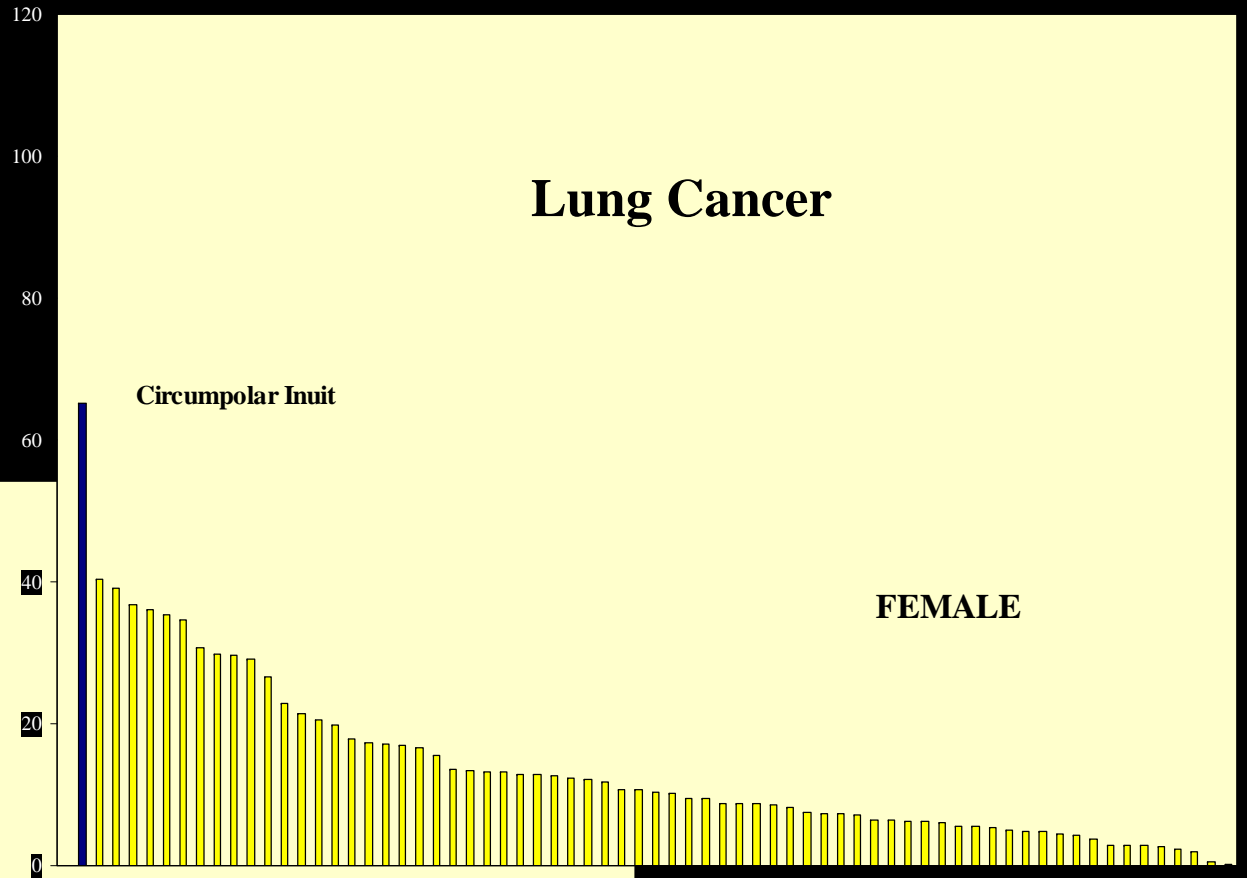
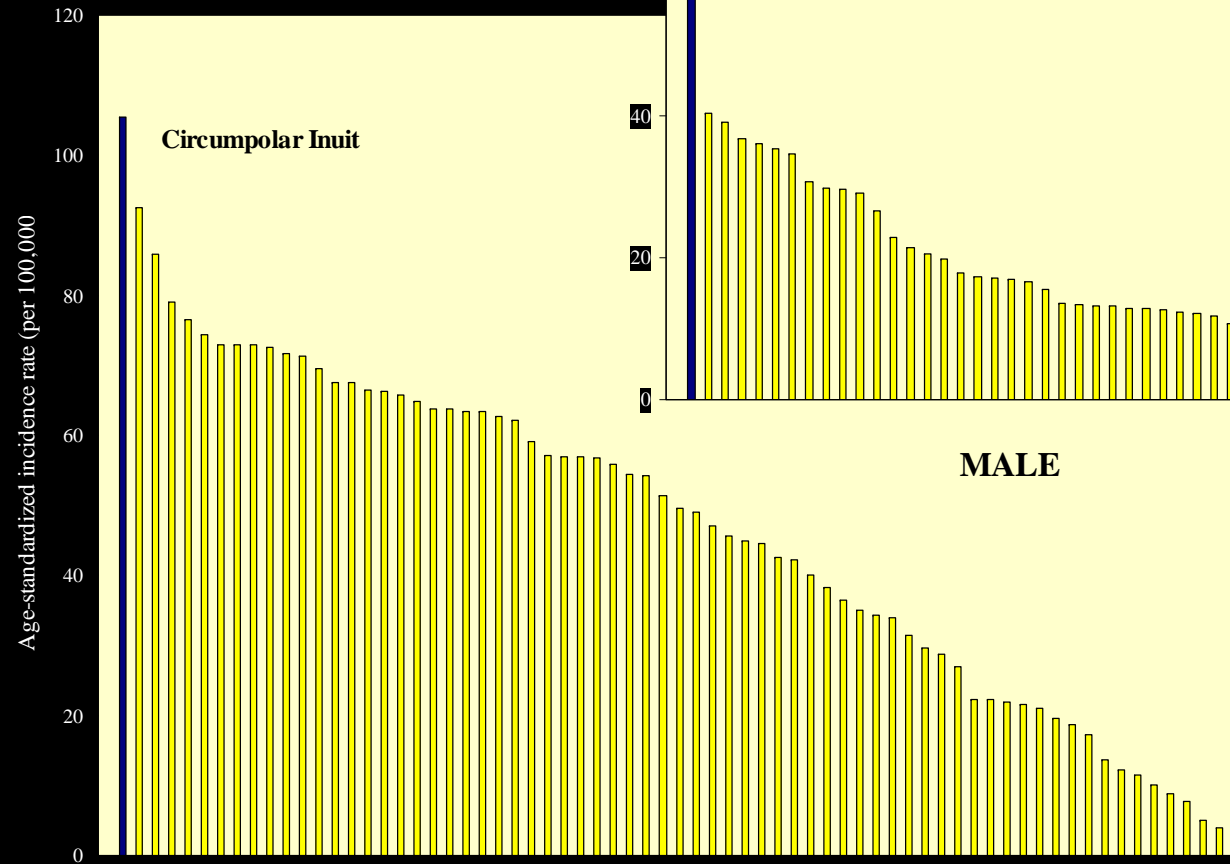


# Global comparisons

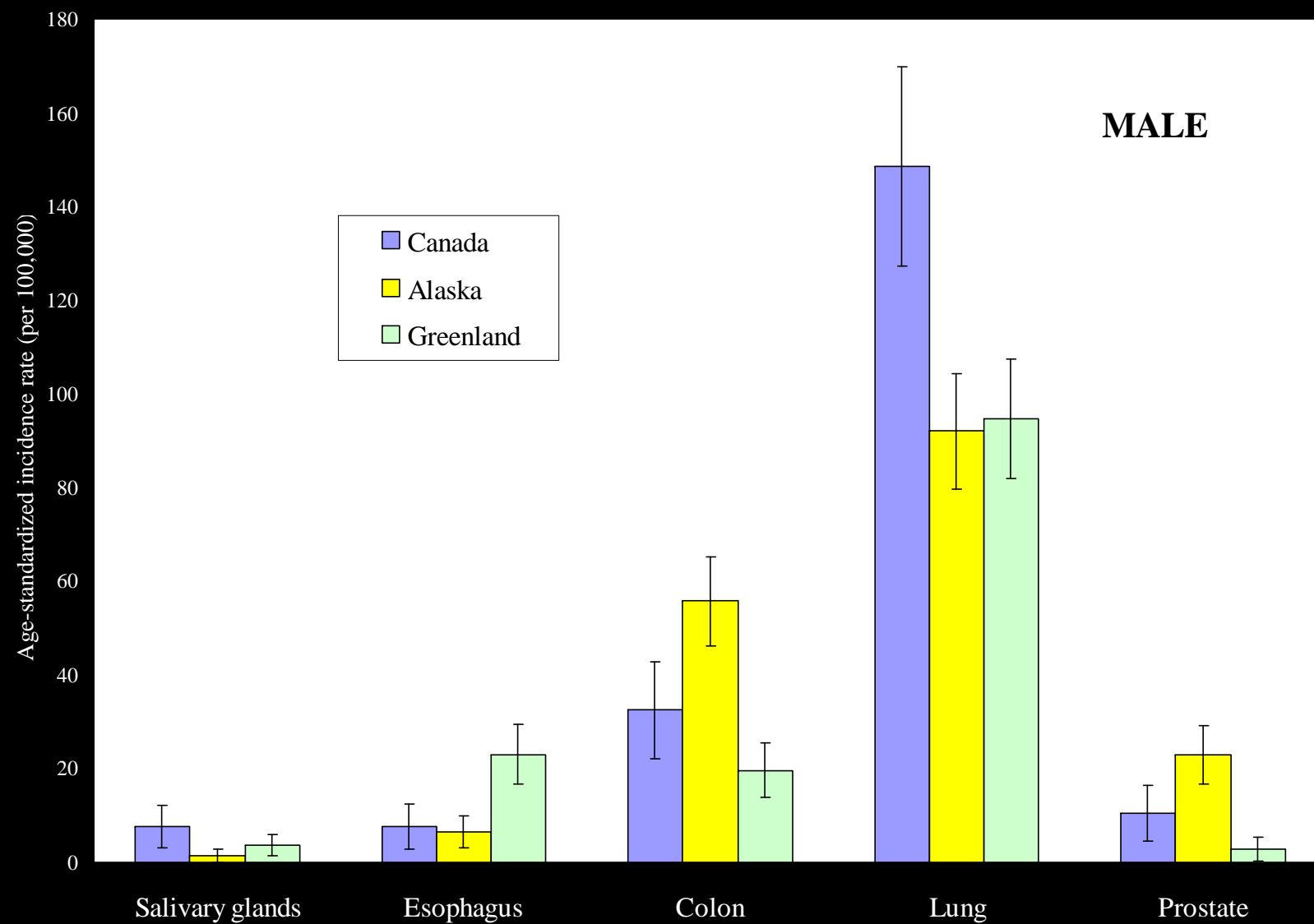


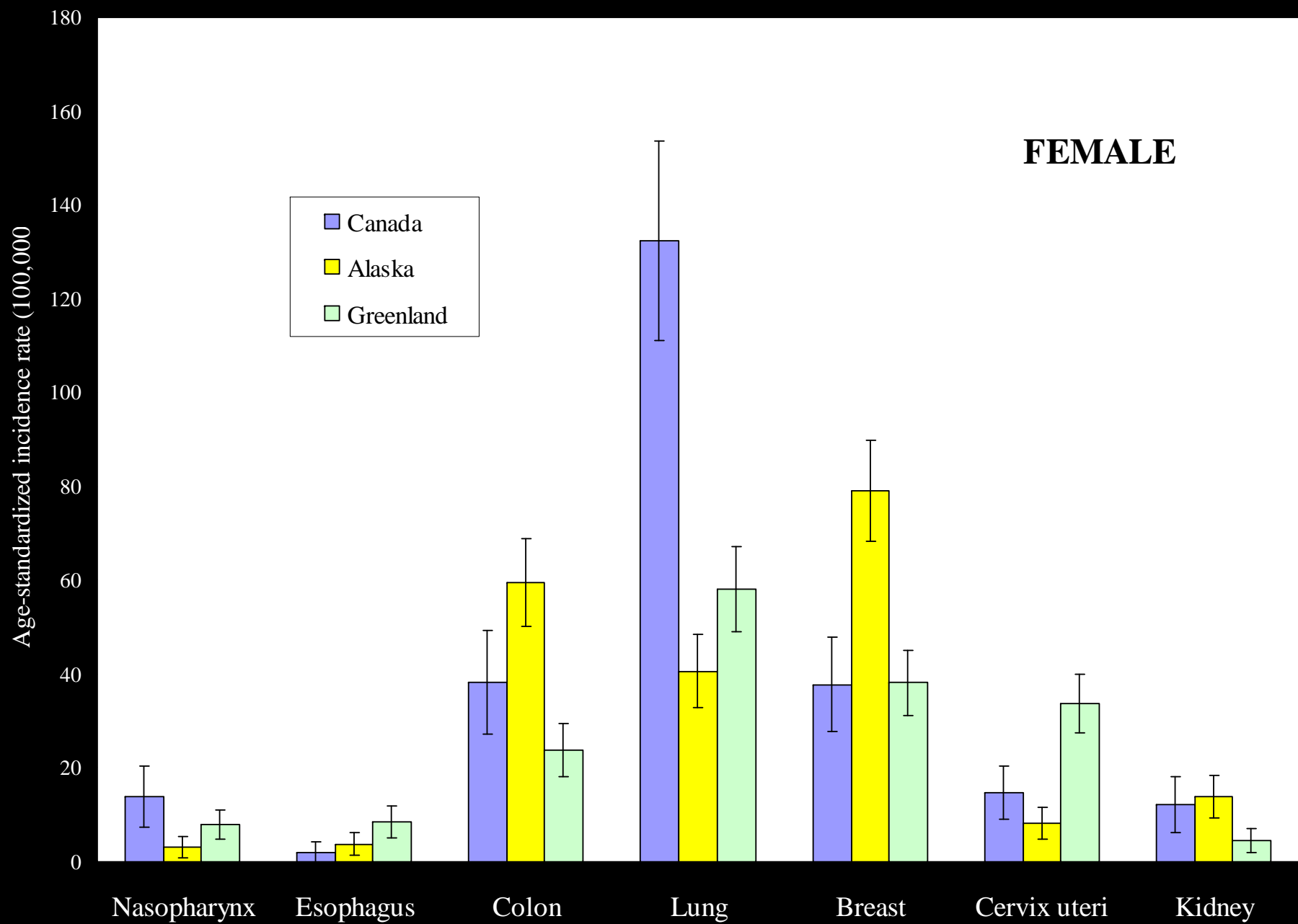


# Lung Cancer

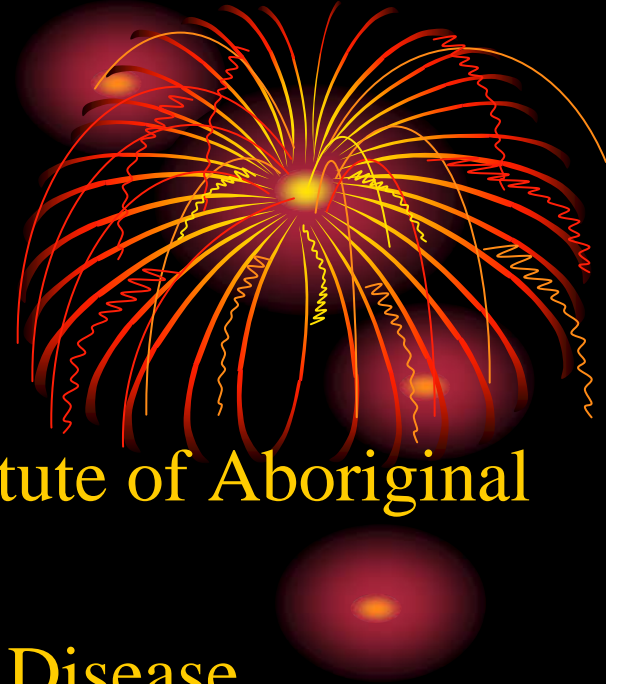


# Regional variation





# Acknowledgements



## **Funding:**

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

## **Data retrieval:**

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

**Research assistant:** Carmina Ng, University of Toronto