Using the Greenlandic Mortality Database to identify Greenland’s public health priorities

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Greenland

Population 57,000
90% Inuit

Scattered in ca. 85 communities
Using the Greenlandic Mortality Database to identify public health priorities

Alfred Bertelsen 1935-43
Key variables in the mortality database

<table>
<thead>
<tr>
<th>Variable</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID number</td>
<td>Date of birth; gender</td>
</tr>
<tr>
<td>Place of residence</td>
<td>Municipality; town/village</td>
</tr>
<tr>
<td>Place of birth</td>
<td>Proxy for ethnicity</td>
</tr>
<tr>
<td>Date of death</td>
<td>Season; age</td>
</tr>
<tr>
<td>Causes of death (3)</td>
<td>ICD 8-10</td>
</tr>
</tbody>
</table>
Deaths without a proper diagnosis by year
Mortality in Greenland 1924-2006
Studies of mortality 1986 to present

- Validity of Greenland mortality statistics
- An analysis of potential years of life lost 1968-1983
- Causes of death in Greenland 1968-1985
- Mortality from ischemic heart disease and cerebrovascular disease in Greenland
- Geographic variation of mortality in Greenland. Economic and demographic correlations
- Avoidable deaths in Greenland. Variations by region and period
- Fatal accidents in Greenland
- Infant mortality in Greenland: Secular trend and regional variation
- Health expectancy in Greenland
- Low incidence of cardiovascular disease among the Inuit – what is the evidence?
- Suicide – a challenge in modern Greenland
Studies of mortality 1986 to present

- **Validity** of Greenland mortality statistics
- An analysis of potential years of life lost 1968-1983
- Causes of death in Greenland 1968-1985
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- Health expectancy in Greenland
- Low incidence of cardiovascular disease among the Inuit – what is the evidence?
- Suicide – a challenge in modern Greenland

<table>
<thead>
<tr>
<th>Classification</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unavoidable</td>
<td>185 (71%)</td>
</tr>
<tr>
<td>Potentially avoidable</td>
<td>37 (14%)</td>
</tr>
<tr>
<td>Avoidable</td>
<td>40 (15%)</td>
</tr>
</tbody>
</table>
The Greenland Public Health Programme 2006-2012
Using the Greenlandic Mortality Database to identify public health priorities

Public Health in Greenland (2004)

- Infant mortality
- Potential years of life lost
- Suicides
- Injuries/accidents
- Cardiovascular disease
- Cancer
- Social inequality

Approximately 50% of the report was based on analyses of the mortality database.
Themes of Inuuneritta

Alcohol og marihuana
Violence and sexual abuse
Suicides

Diet and physical activity
Reproductive health
Smoking

Children and youth
Elderly
Dental health services
63 indicators for Inuuneritta

- Infant mortality rate
- Life expectancy at birth
- Suicide no. and rates
Infant mortality in Greenland and Denmark 1951-2008
Infant mortality in Greenland 1955-2004 and Denmark 1925-1974
Using the Greenlandic Mortality Database to identify public health priorities

Regional variation in infant mortality 1987-1991
Regional variation in infant mortality 1992-1999
Regional variation in infant mortality 2000-2004
Perinatal mortality in the West Nordic Countries

Life expectancy at birth in selected countries (2001)

- Japan: 82 years
- Iceland: 81 years
- Canada: 80 years
- USA: 77 years
- Denmark: 77 years
- China: 72 years
- Vietnam: 71 years
- Thailand: 70 years
- Indonesia: 67 years
- Greenland: 66 years
- Russian Fed.: 65 years
- Bolivia: 64 years
- Mongolia: 64 years
- India: 63 years
- Cambodia: 56 years
- Kenya: 47 years
- Nigeria: 43 years
- Zambia: 38 years
- Botswana: 36 years
Life expectancy 1950-2000 in selected countries

- Greenland
- Thailand
- India
- China

Youth suicides in Greenland 1970-2006

Suicides per 100,000 person-years

Nuuk
Youth suicides in Greenland 1970-2006

Suicides per 100,000 person-years

- Nuuk
- West Greenland

Year
- 1970-74
- 1975-79
- 1980-84
- 1985-89
- 1990-94
- 1995-99
- 2000-06
Youth suicides in Greenland 1970-2006

- **Nuuk**
- **West Greenland**
- **East Greenland**

Suicides per 100,000 person-years

<table>
<thead>
<tr>
<th>Year</th>
<th>Nuuk</th>
<th>West Greenland</th>
<th>East Greenland</th>
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<tbody>
<tr>
<td>1970-74</td>
<td>100</td>
<td>150</td>
<td>120</td>
</tr>
<tr>
<td>1975-79</td>
<td>120</td>
<td>170</td>
<td>150</td>
</tr>
<tr>
<td>1980-84</td>
<td>180</td>
<td>220</td>
<td>200</td>
</tr>
<tr>
<td>1985-89</td>
<td>250</td>
<td>300</td>
<td>280</td>
</tr>
<tr>
<td>1990-94</td>
<td>350</td>
<td>400</td>
<td>380</td>
</tr>
<tr>
<td>1995-99</td>
<td>450</td>
<td>500</td>
<td>480</td>
</tr>
<tr>
<td>2000-06</td>
<td>550</td>
<td>600</td>
<td>580</td>
</tr>
</tbody>
</table>
Suicides among [Inuit] men (1990-2001)
Suicides among [Inuit] men (1990-2001)

<table>
<thead>
<tr>
<th>Age Range</th>
<th>West Greenland</th>
<th>Denmark</th>
<th>Nunavut Inuit</th>
<th>Nunavik Inuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-14</td>
<td></td>
<td></td>
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<tr>
<td>20-24</td>
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<tr>
<td>30-34</td>
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<tr>
<td>40-44</td>
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<td></td>
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<tr>
<td>50-54</td>
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<td></td>
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<tr>
<td>60-64</td>
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<td></td>
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<tr>
<td>70-74</td>
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<td></td>
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<tr>
<td>80-84</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Suicides among [Inuit] men (1990-2001)
Cardiovascular mortality 1995-1998
(Murray adjusted for unspecific diagnoses)

[Bar chart showing age-standardized mortality per 100,000 person-years for Greenland and Denmark in 1995-1998, categorizing mortality into all cardiovascular diseases, stroke, ischemic heart disease, and other heart diseases.]
Mortality from ischemic heart disease in Greenland and Denmark
1965-2002

Direct standardization to World Standard Population

Age adjusted mortality per 100,000

Greenland
Denmark
Reduced male life expectancy compared with females in selected countries (2001)
Inuuneritta 2
The Greenland Public Health Programme 2013-2018

Mid-way evaluation of Inuuneritta 1 suggested among 10 recommendations:

- The development of an integrated health information system building on the mortality database, population surveys and other existing health monitoring systems.
Thank you for your attention