

# Breast cancer mortality in Copenhagen after the introduction of mammography screening

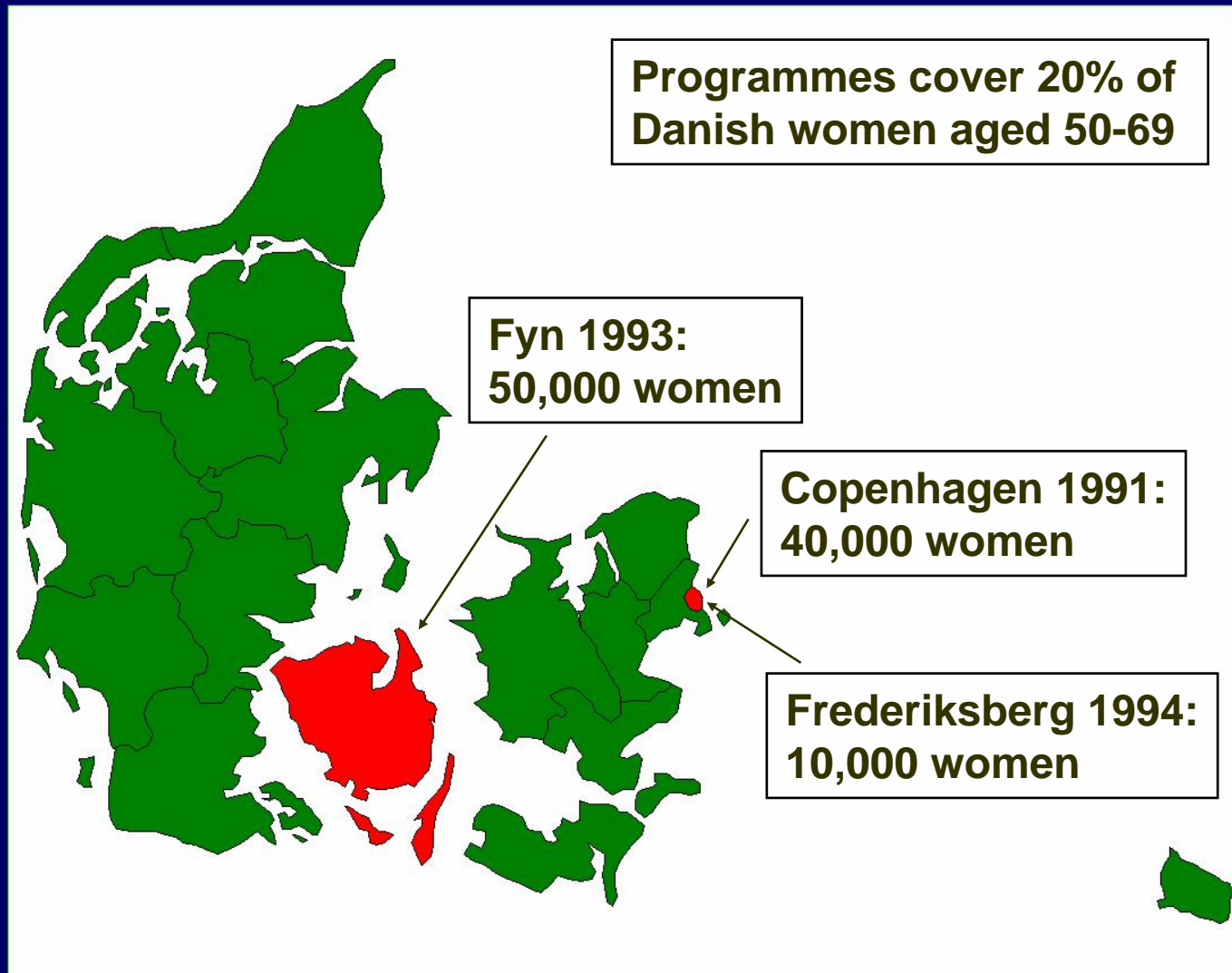
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# Danish programmes

Screening of women aged 50-69 every second year



# **Objective**

**To estimate the effect of  
the Copenhagen  
mammography  
screening programme on  
breast cancer mortality**

# Study and control groups

	<b>Copenhagen</b>	<b>Rest of Denmark</b>
<b>Before screening</b>	<b>Historical control group</b>	<b>Historical national control group</b>
<b>Screening period</b>	<b>Study group</b>	<b>National control group</b>

# Methods

**Breast cancer mortality rates in the study group were compared with rates in the control groups, adjusting for age, period and region.**

**Women were followed up from their first date of invitation to screening until death, emigration or end of follow-up.**

**Refined mortality was used.**

**Poisson regression was used for the analyses.**

**Historical  
control group**



**RR1:  
Region**

**Historical  
national  
control group**

**Study group**



**RR2:  
Region\* screening**

**National control  
group**

**Screening effect estimated by  $RR2/RR1$**

**Do regional differences in pre-screening period reflect those of the screening period?**

**If not: Screening effect confounded with region\*period interaction**

# **Data sources**

- 1. Mammography screening databases**
- 2. Danish Cancer Register**
- 3. Central Population Register**
- 4. Cause of Death Register**

**Linkage by personal identification number**

# Results

Historical  
control group

RR 1.22



Historical  
national  
control group

Study group

RR 0.91



National control  
group



# Results

**Estimated effect of being offered screening:  
RR 0.75 (95% C.I. 0.63-0.89)**

**Estimated effect of participating in screening:  
RR 0.63**

# **Regional differences time dependent?**

**Since 1977: diagnostic and therapeutic strategies organised nationwide by Danish Breast Cancer Cooperative Group**

**Breast cancer patients in study and control groups have been offered the same treatment**

# Conclusion

**It has been possible within the Copenhagen mammography screening programme to reduce breast cancer mortality by an estimated 25% for women offered screening and 37% for women participating in screening**

# Reference

**Olsen AH, Njor SH, Vejborg I, Schwartz W, Dalgaard P, Jensen M-B, Tange UB, Blichert-Toft M, Rank F, Mouridsen H, Lynge E.**

**Breast cancer mortality in Copenhagen after introduction of mammography screening: cohort study.**

**BMJ 2005; 330: 220-2.**

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- 4. Copenhagen Hospital Corporation**