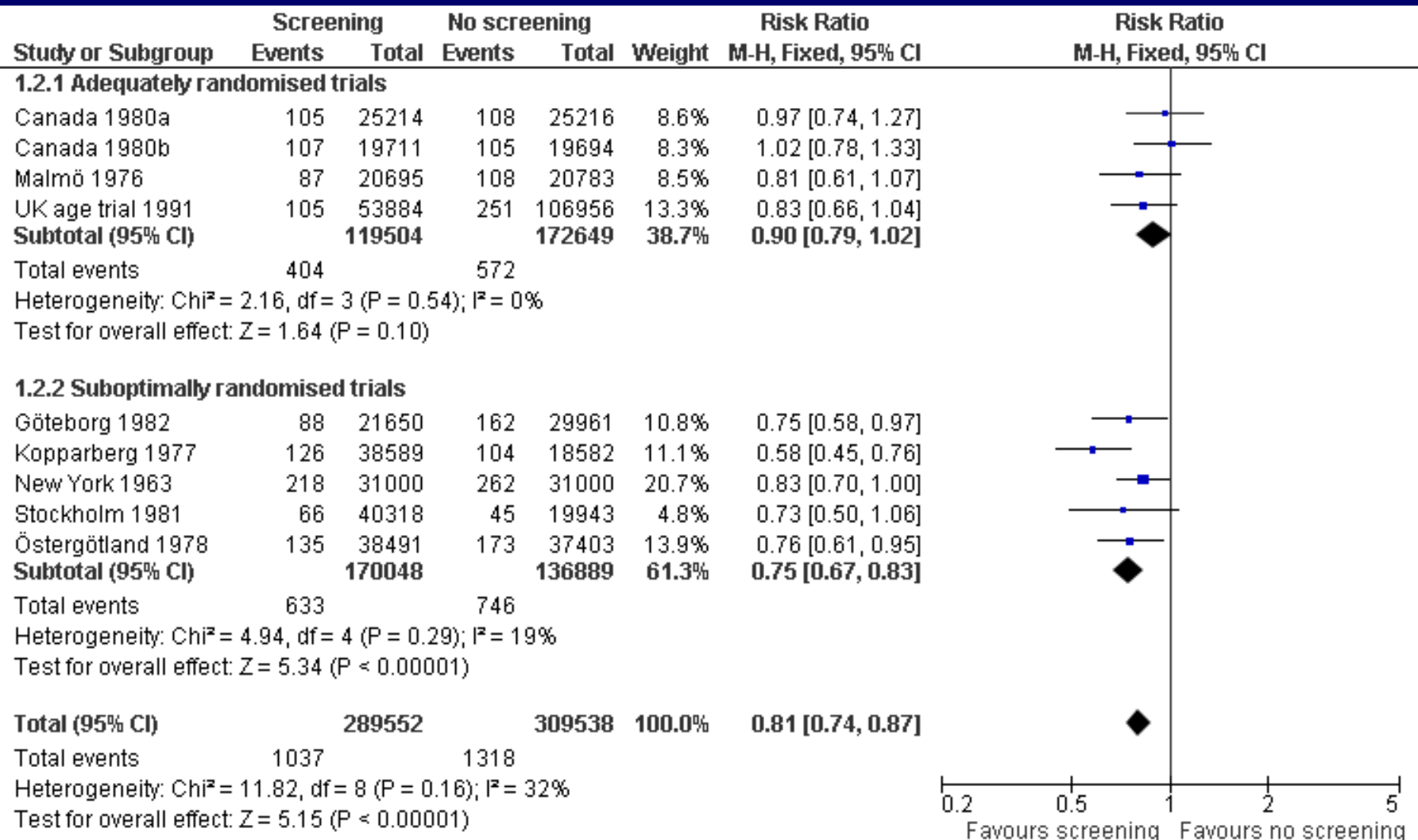




Mortality ascribed to breast cancer after 13 years (CD001877)



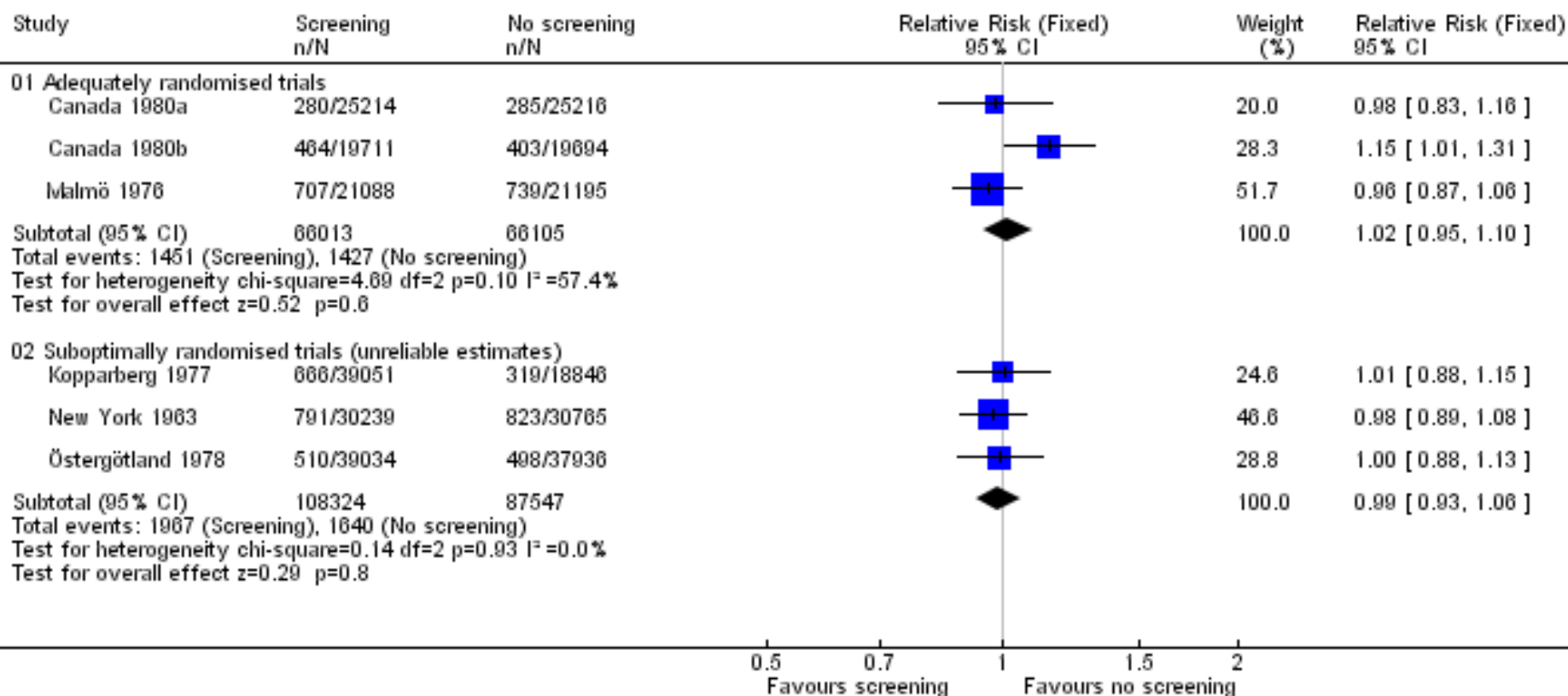
The trials that have reported the largest reductions in breast cancer mortality have:

- used poor equipment
- had long intervals between screens
- screened the control group early, after 3-5 years
- used only one view mammography

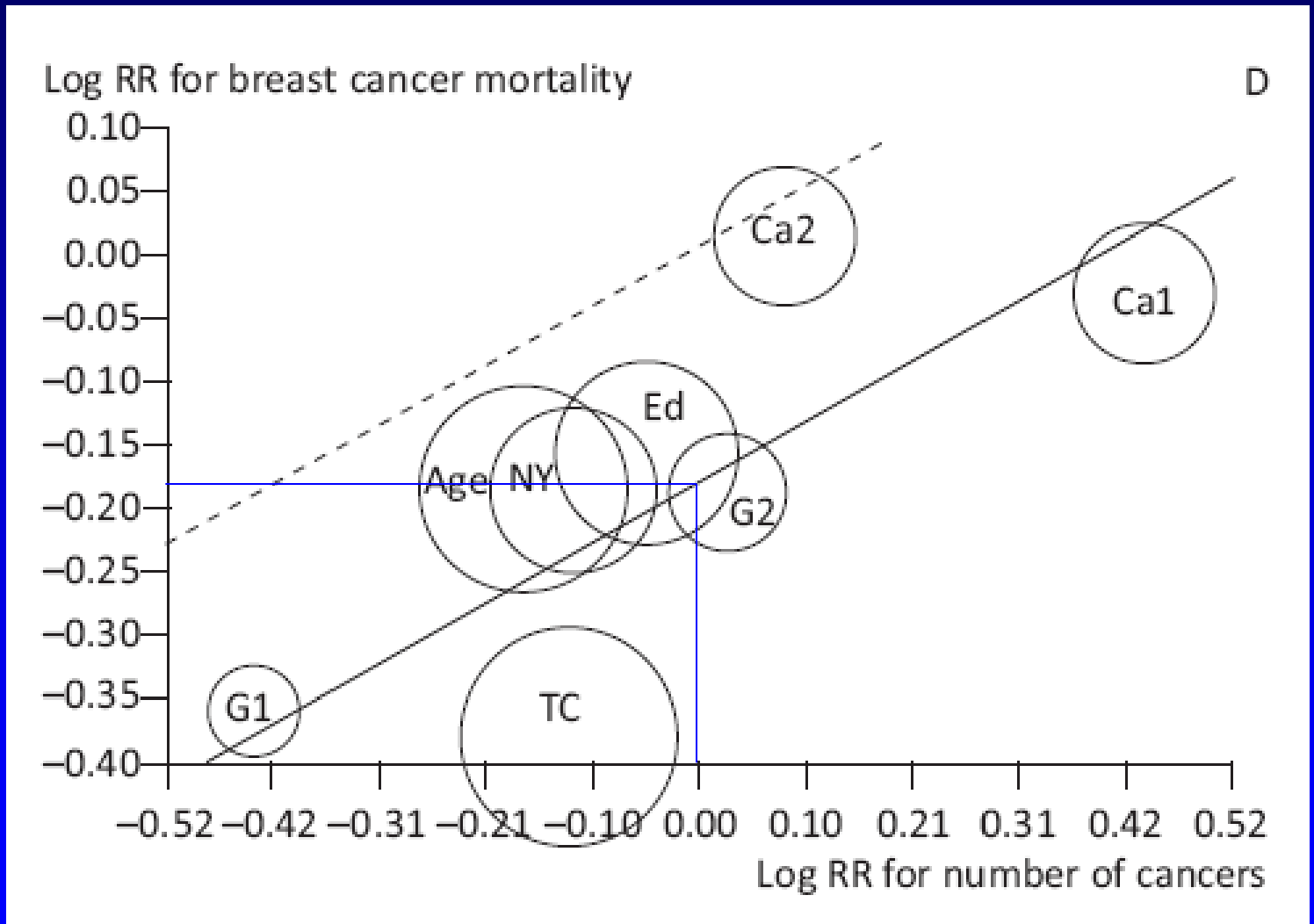
Trial quality seems more important than program quality

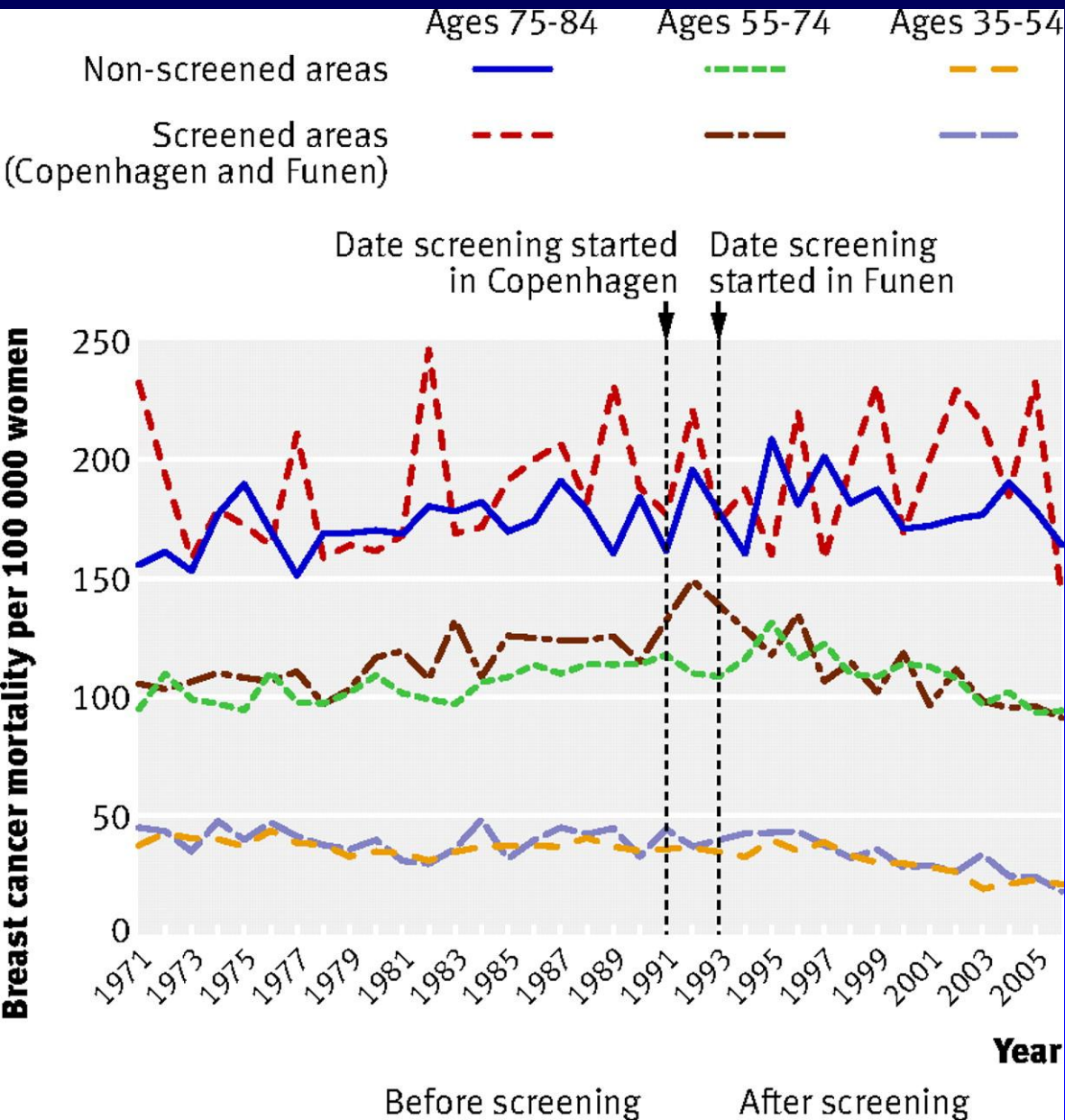
All cancer mortality

Review: Screening for breast cancer with mammography
 Comparison: 01 Screening with mammography versus no screening
 Outcome: 07 Deaths ascribed to any cancer, all women



Screening effectiveness of zero predicts 16% reduction in breast cancer mortality





Unadjusted breast cancer mortality rates for screened and non-screened areas in Denmark

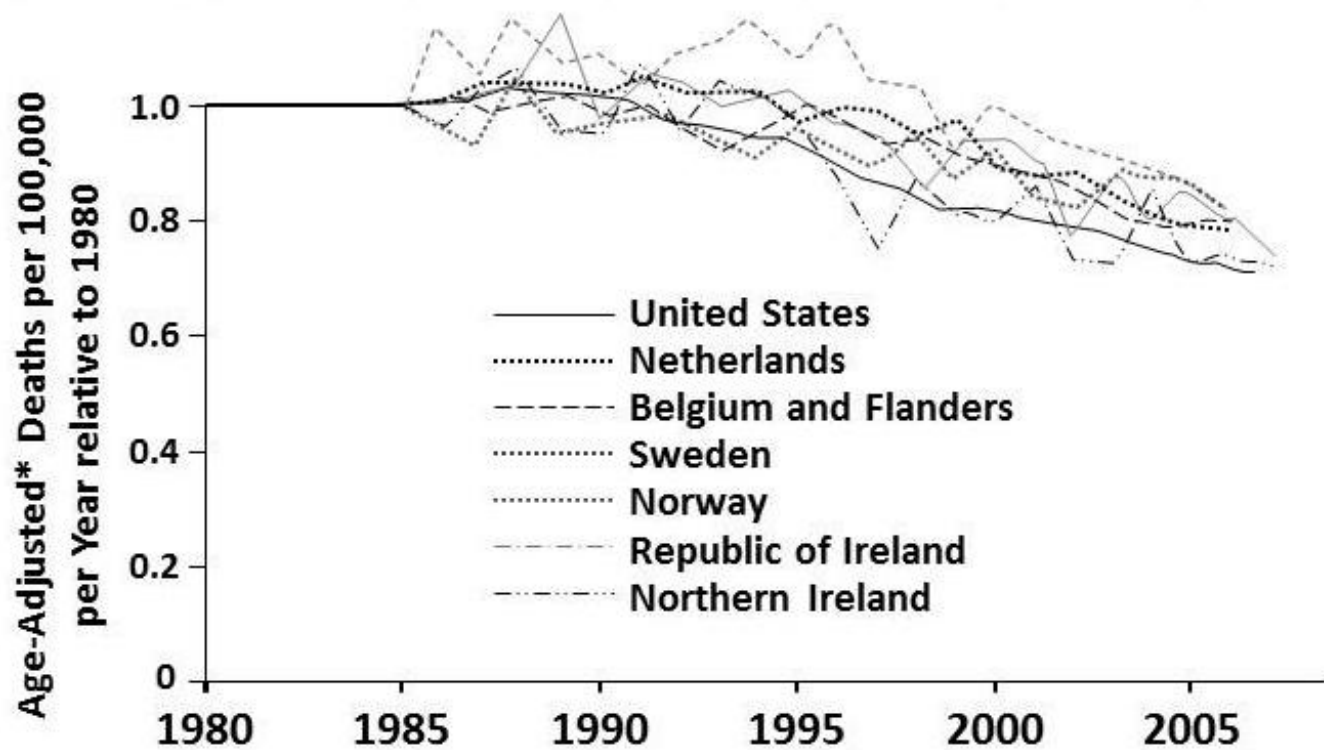
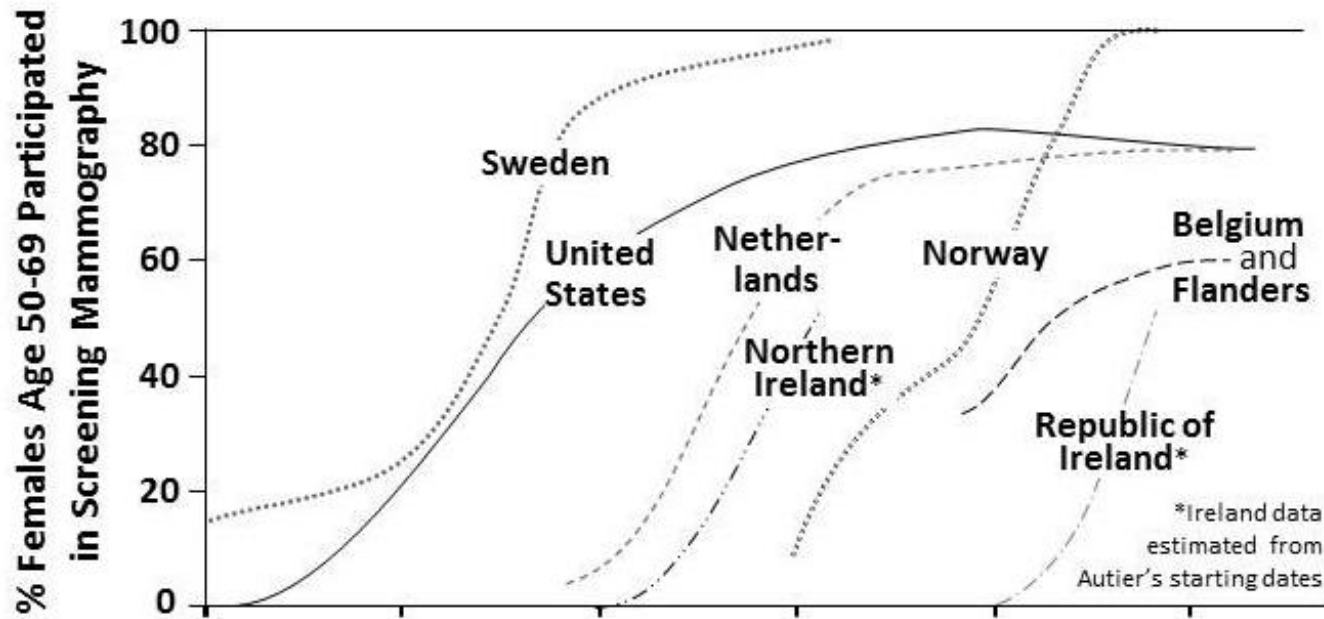
Jørgensen et al.
BMJ 2010;340:c1241

Any effect of screening in Denmark?

Annual reductions in breast cancer mortality

	Screened areas (20%)	Control areas (80%)
55-74 years	1%	2%
35-54 years	5%	6%
75-84 years	little change	little change

Reductions likely due to improved treatment, greater breast cancer awareness, and changes in risk factors, not to screening mammography



From Archie Bleyer,
similar figure in
BMJ 2011;343:d5630

Builds on data
From Autier et al.
BMJ 2011;343:d4411

International
Prevention
Research
Institute (iPRI),
Lyon, France

Screening does not reduce the occurrence of advanced cancers and therefore cannot work

Autier, Ann Oncol 2011

Data from Australia, Italy, Norway, Switzerland, The Netherlands, UK and the USA.

Rate of advanced cancers (bigger than 20 mm) was not reduced with screening.

Kalager, Ann Intern Med 2012

Norwegian screening programme.

Rate of advanced cancers (stage III and IV disease) exactly the same in screened and non-screened areas.

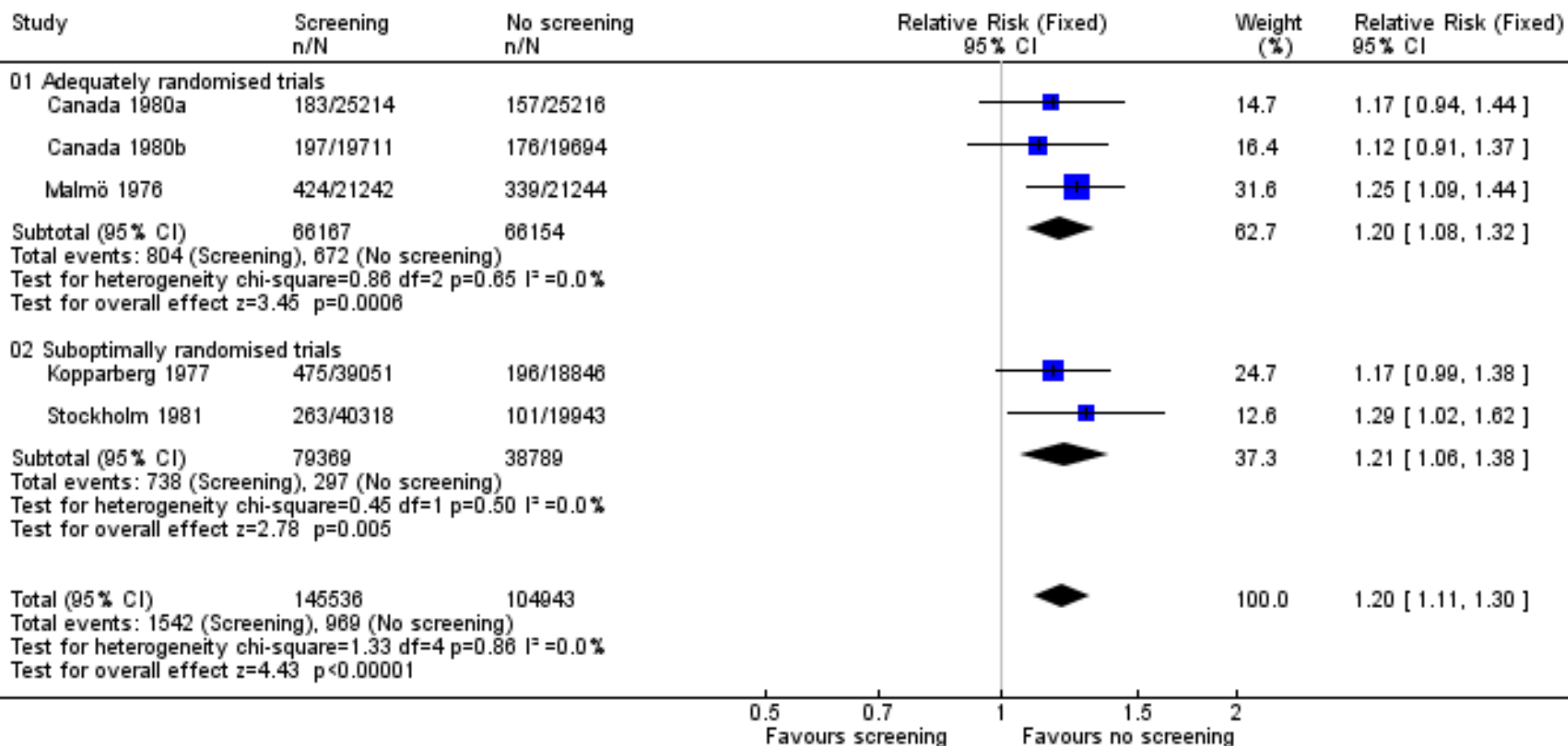
What is overdiagnosis with screening?

The detection of cancers, which would not have been detected clinically in the remaining lifetime of the people.

Thus, many are slow-growing, or don't grow, or regress, but some grow quickly.

Mastectomies

Review: Screening for breast cancer with mammography
 Comparison: 01 Screening with mammography versus no screening
 Outcome: 15 Number of mastectomies



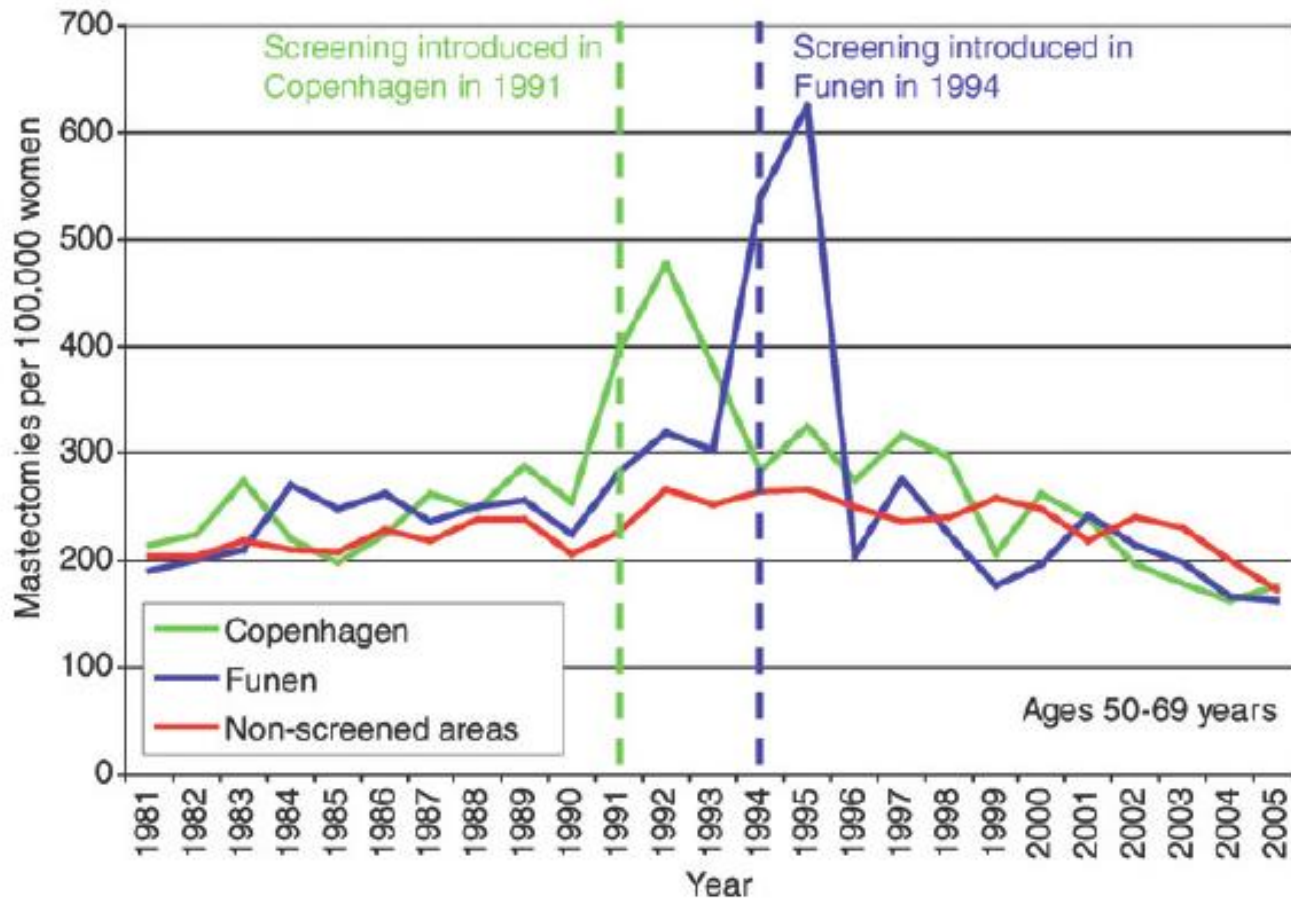
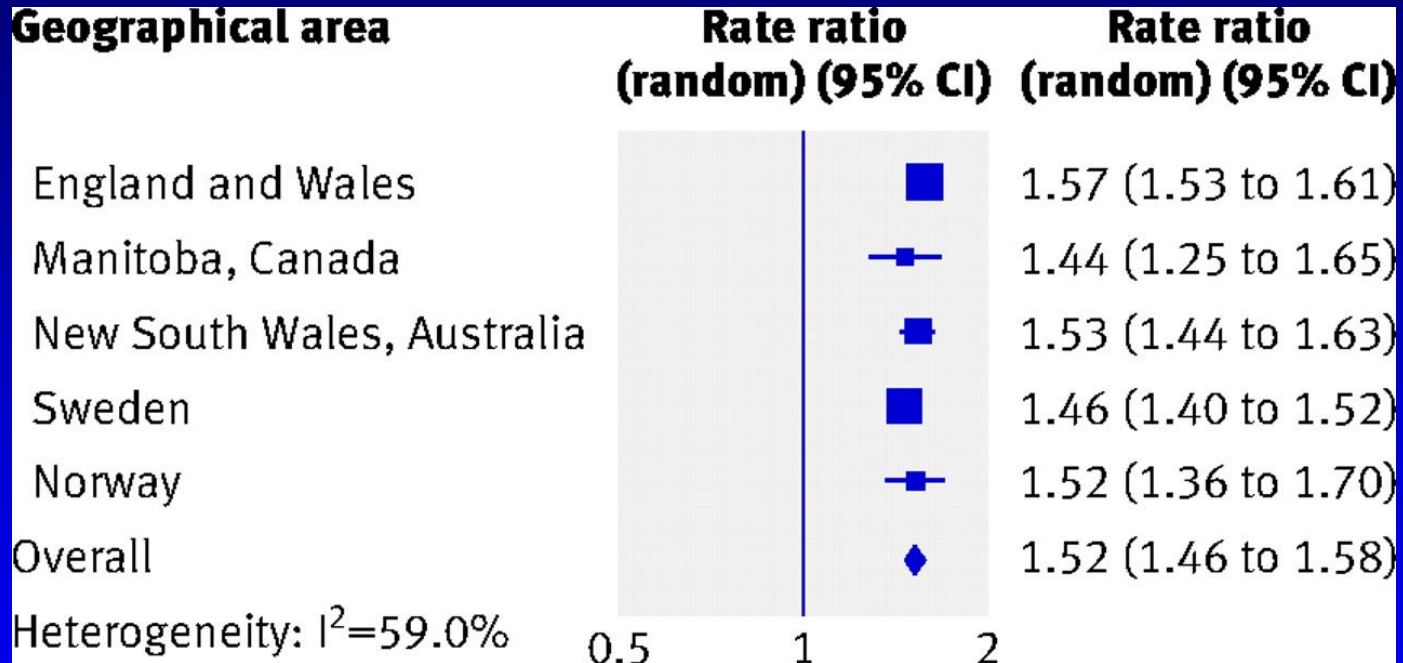


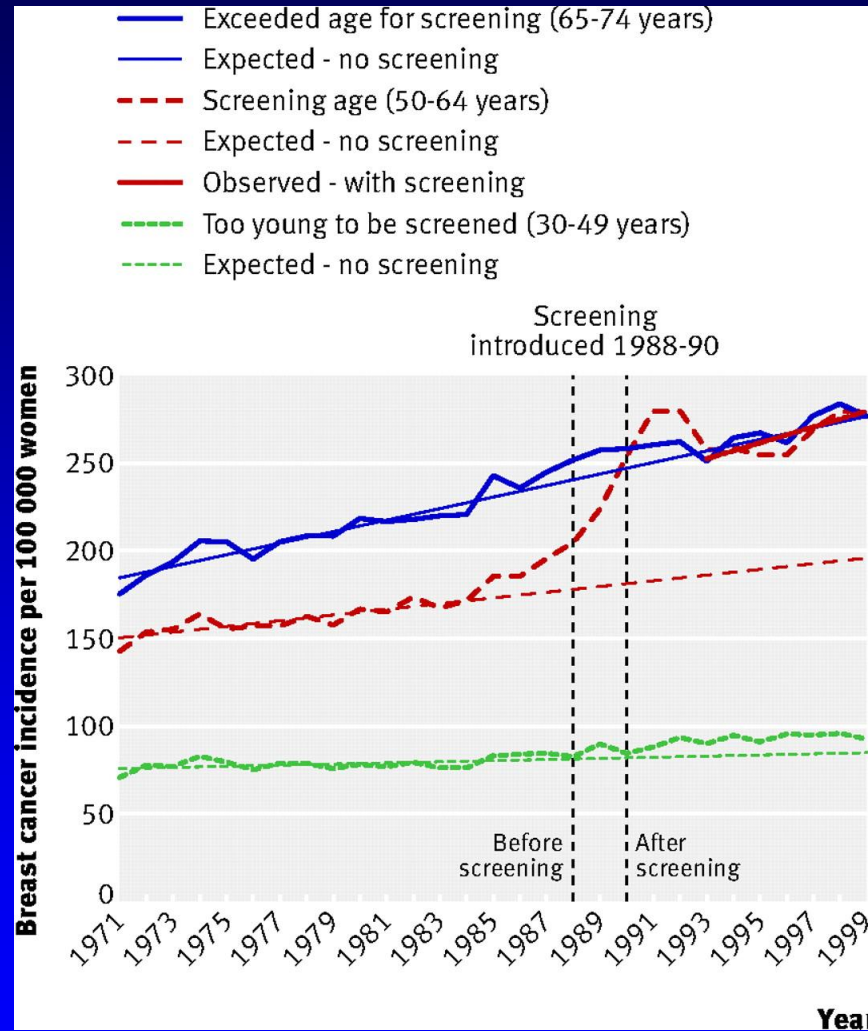
Figure 6: Graph shows mastectomy rates in women aged 50–69 years in Denmark. Screening in this age group began in 1991 in Copenhagen and in 1994 in Funen. Nonscreened areas represent 80% of the Danish population (43).

Fig 8 Meta-analysis of overdiagnosis of breast cancer (including carcinoma in situ) in publicly available mammography screening programmes



Jorgensen, K. J. et al. *BMJ* 2009;339:b2587

Fig 2 Incidence of invasive breast cancer per 100 000 women in UK



Jorgensen, K. J. et al. *BMJ* 2009;339:b2587

Screening for breast cancer with mammography (Cochrane review 2013)

Authors' conclusions

If we assume that screening reduces breast cancer mortality by 15% and that overdiagnosis and overtreatment is at 30%, it means that for every 2000 women invited for screening throughout 10 years, one will avoid dying of breast cancer and 10 healthy women, who would not have been diagnosed if there had not been screening, will be treated unnecessarily. Furthermore, more than 200 women will experience important psychological distress including anxiety and uncertainty for years because of false positive findings.

Screening for breast cancer with mammography (Cochrane review)

Authors' conclusions (continued)

To help ensure that the women are fully informed before they decide whether or not to attend screening, we have written an evidence-based leaflet for lay people that is available in several languages on www.cochrane.dk. Because of substantial advances in treatment and greater breast cancer awareness since the trials were carried out, it is likely that the absolute effect of screening today is smaller than in the trials. Recent observational studies show more overdiagnosis than in the trials and very little or no reduction in the incidence of advanced cancers with screening.

The book cover features a central image of a mammogram, rendered in shades of blue and white, showing the intricate network of breast tissue. The title 'MAMMOGRAPHY SCREENING' is prominently displayed at the top in a gold, serif font, with a thin gold line underneath. Below the title, the subtitle 'TRUTH, LIES AND CONTROVERSY' is written in a smaller, gold, sans-serif font on a gold rectangular background. At the bottom, the author's name 'PETER C GÖTZSCHE' and the foreword authors 'FOREWORDS BY IONA HEATH AND FRAN VISCO' are listed in a white, sans-serif font.

MAMMOGRAPHY
SCREENING

TRUTH, LIES AND CONTROVERSY

PETER C GÖTZSCHE

FOREWORDS BY IONA HEATH AND FRAN VISCO

London:
Radcliffe;
Jan 2012

SCREENING FOR BREAST CANCER WITH MAMMOGRAPHY



What are the benefits and harms of attending a screening programme for breast cancer?

How many will benefit from being screened, and how many will be harmed?

What is the scientific evidence for this?

What you always wanted to know about breast screening

Published by The Nordic Cochrane Centre 2012

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Screening causes breast cancer