

Cancer Screening and Prevention

Prof. Bob Steele

Ninewells Hospital, University of Dundee



Screening is not prevention

but ...

Premalignant disease

- Cervical Screening
 - CIN
 - HPV vaccination
- Breast Screening
 - Carcinoma-in-situ
- Bowel Screening
 - Adenomatous Polyps



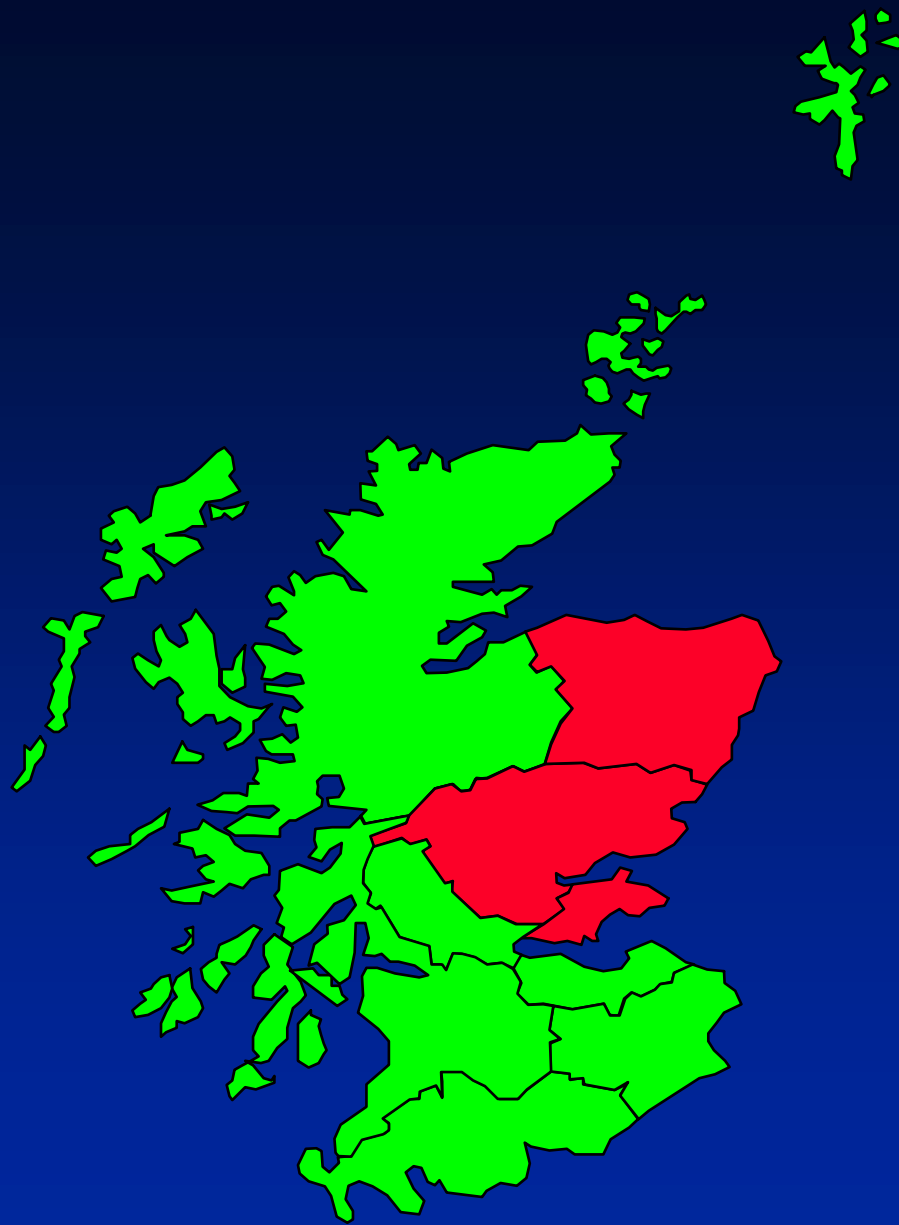
Guaiac FOBT

Meta-Analysis of FOBT Trials (Relative Risks)

- Overall
 - 0.84 (CI 0.78 - 0.90)
 - 16% reduction in mortality
- Adjusted for compliance
 - 0.75 (CI 0.66 - 0.84)
 - 25% reduction in mortality

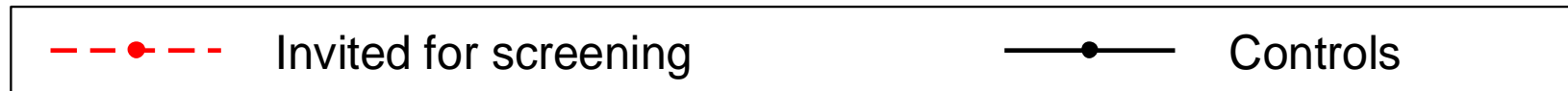
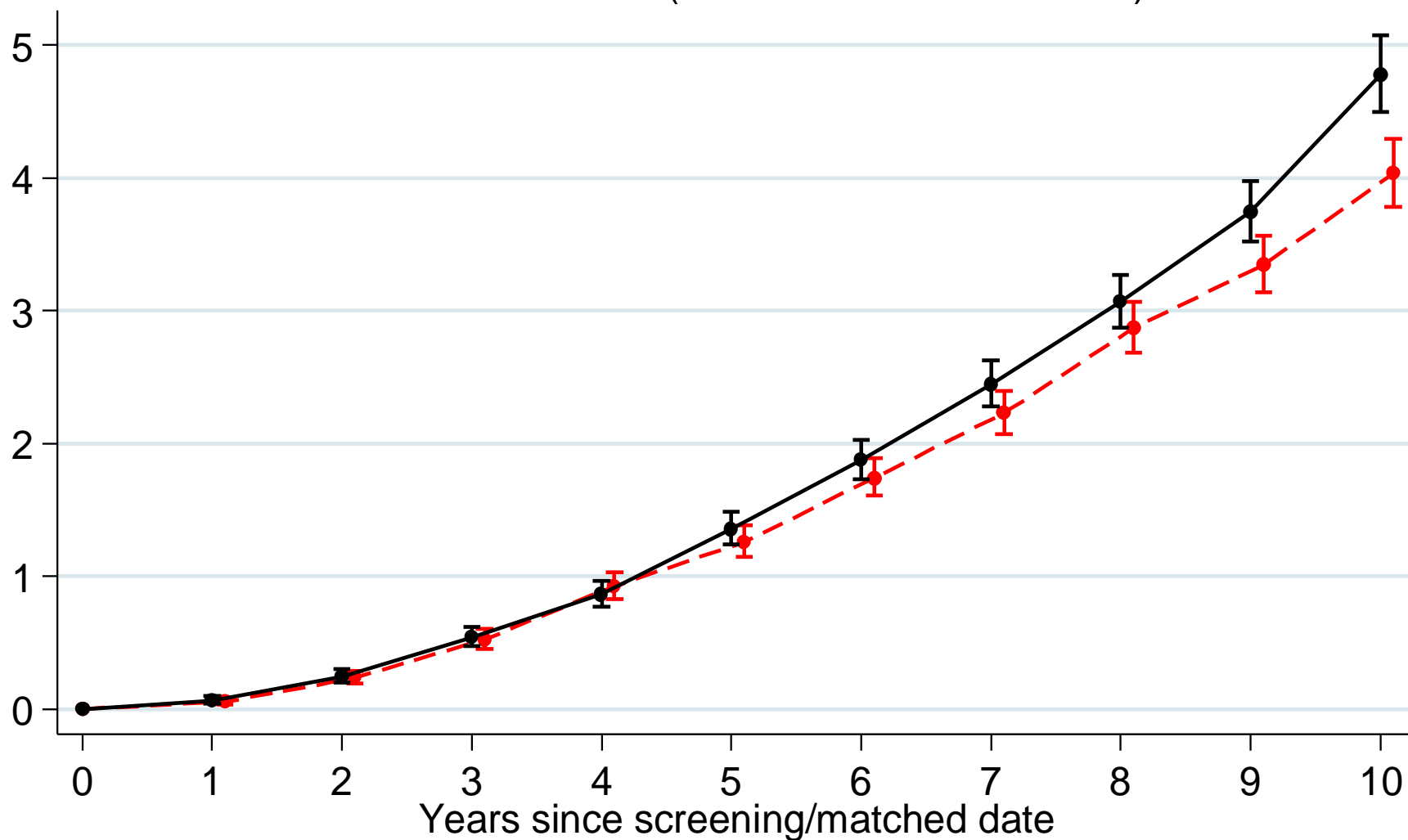
Hewitson et al
Cochrane Systematic Review
Am J Gastroenterol 2008;103:1541





Cumulative Mortality from Colorectal Cancer

Rate and 95% CI (Nelson-Aalen estimates)



Rate ratio of Colorectal Cancer invited vs controls

Overall

0.90 (0.830 – 0.989)

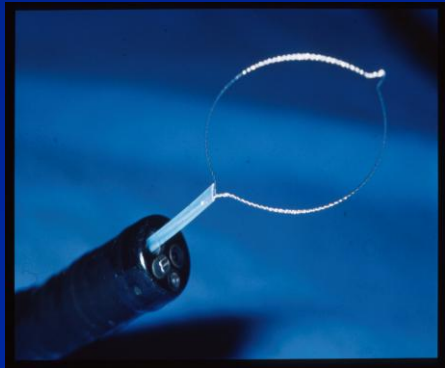
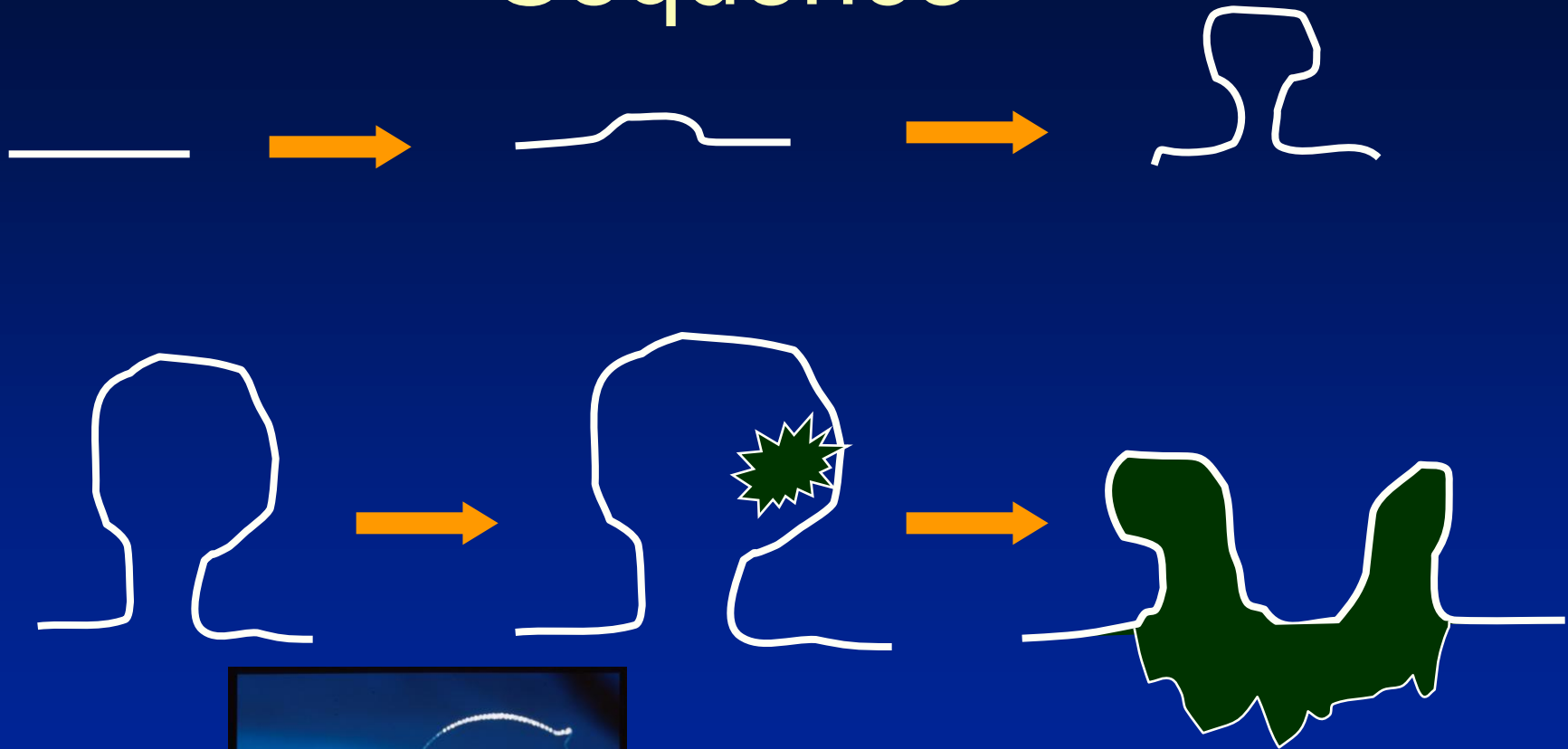
Relative reduction in CRC mortality 10%

Participants only

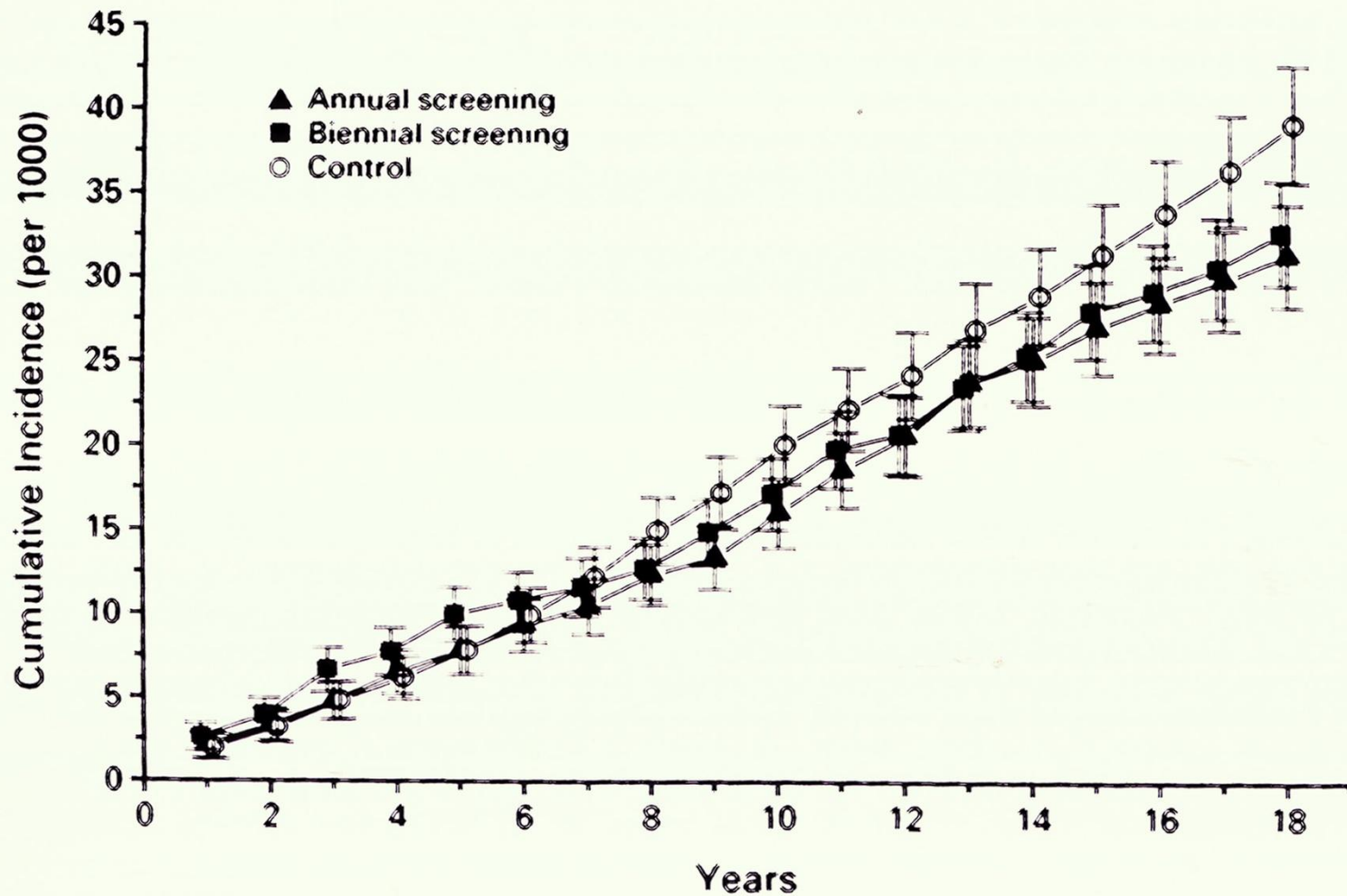
0.73 (0.653 – 0.824)

Relative reduction in CRC mortality 27%

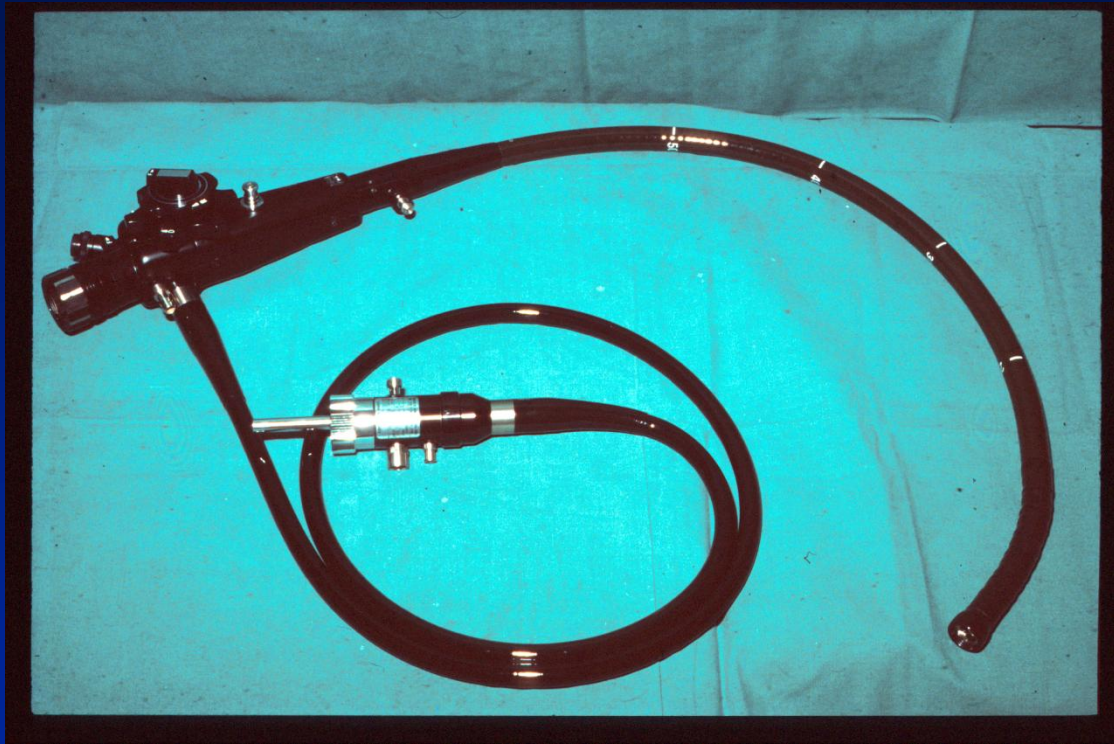
The Adenoma-Carcinoma Sequence



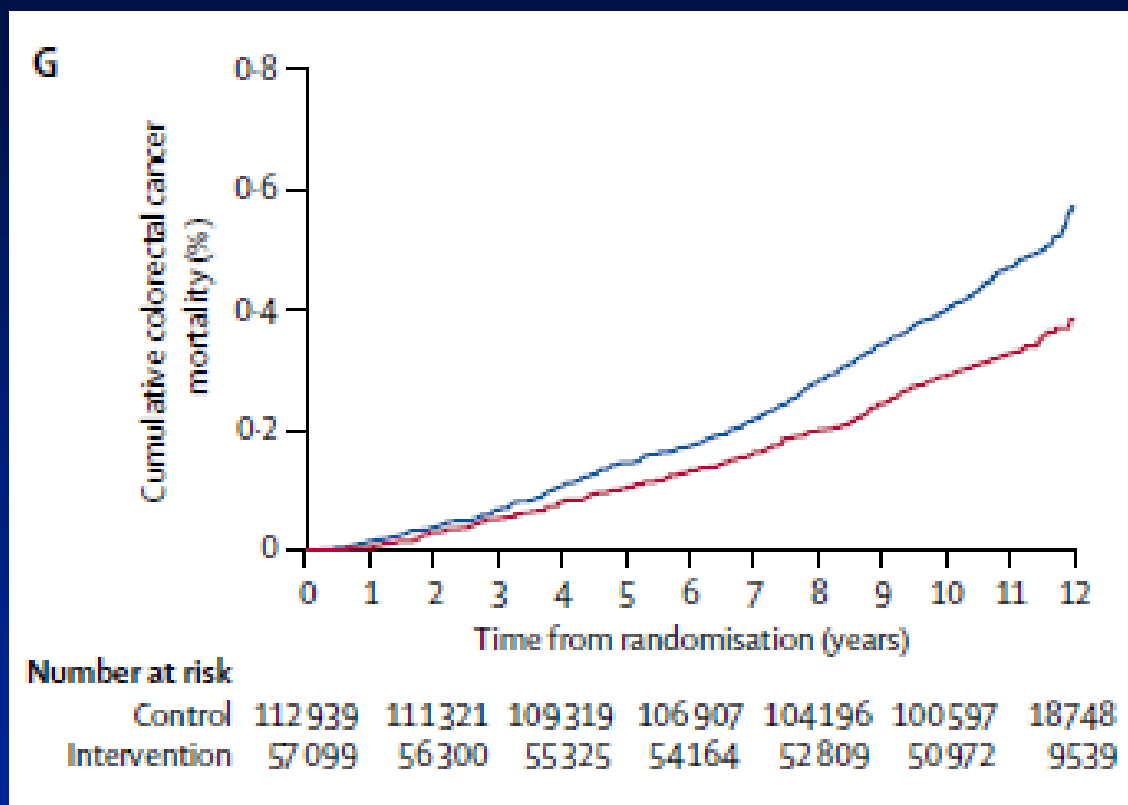
Effect of gFOBT Screening on Colorectal Cancer Incidence – Minnesota Study



Flexible Sigmoidoscopy



Mortality from CRC



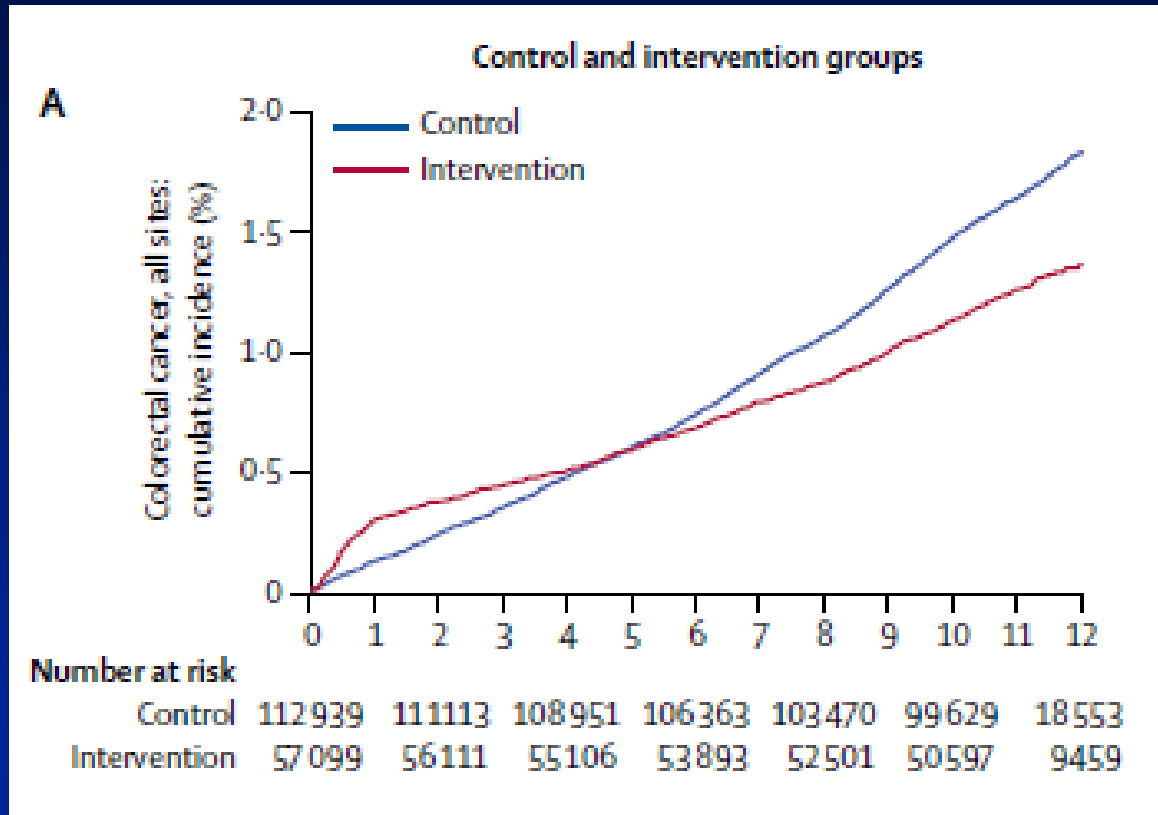
Once-only flexible sigmoidoscopy screening in prevention of colorectal cancer: a multicentre randomised controlled trial



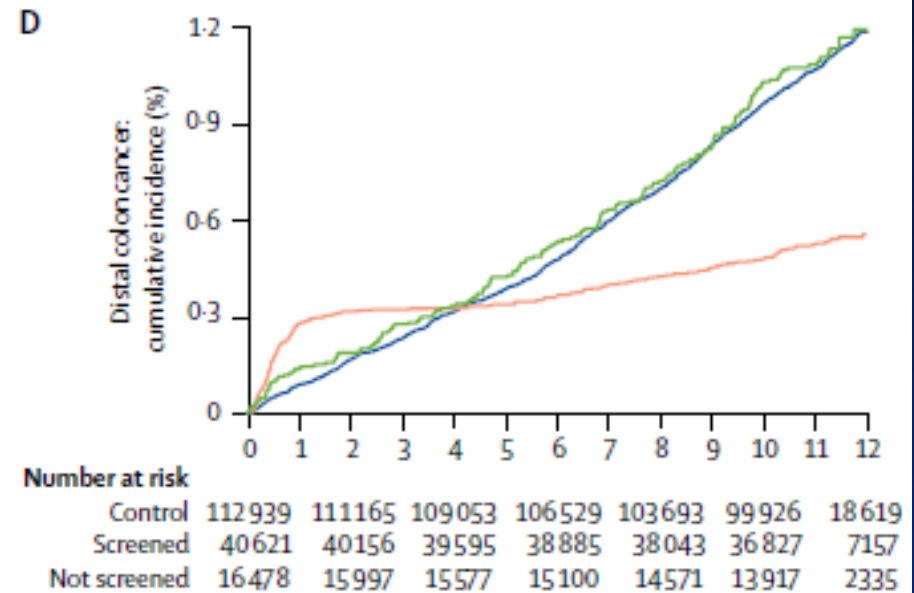
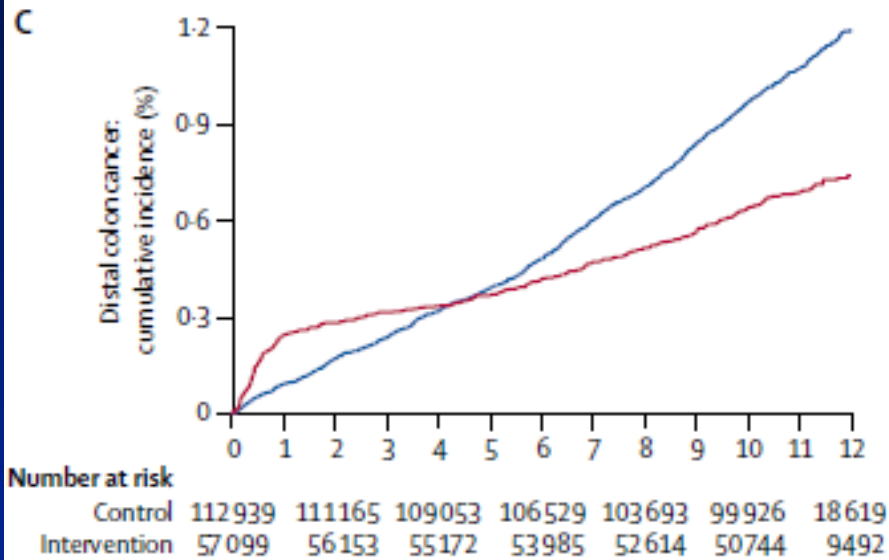
Wendy S Atkin, Rob Edwards, Ines Kralj-Hans, Kate Wooldrage, Andrew R Hart, John M A Northover, D Max Parkin, Jane Wardle, Stephen W Duffy, Jack Cuzick, UK Flexible Sigmoidoscopy Trial Investigators

Published Online
April 28, 2010
DOI:10.1016/S0140-6736(10)60551-X

Incidence of CRC




Incidence of *L*-sided CRC



Bowel Screening as Prevention

- FOBT
 - Small effect
- Endoscopy
 - Limited uptake

**Bowel
Screening:
Aged 50–74?
Know
the facts
Start here** 

Current

Healthy tips:

Most people suffer from problems with their bowels at times.

Sometimes a change in diet can be all that is needed (especially if you are constipated). Try some of the tips below for yourself:

- Take part in the screening programme every 2 years.
- Drink 6 to 8 glasses of water a day.
- Eat 5 portions of fruit and vegetables a day.
- Eat lots of fibre, e.g. wholemeal bread, cereal, beans.
- Don't eat too much red meat.
- Stop smoking.
- Gentle exercise can also help. It may surprise you to know that it can help to get your bowels moving properly.
- Don't be embarrassed to go and see your GP if you have any worries about your bowel habits.

Planned

Healthy tips:

Most people suffer from problems with their bowels at times. Your risk of bowel cancer can be reduced greatly by following these simple tips:

- Take part in the screening programme when invited.
- Eat at least five portions of fruit and vegetables a day.
- Aim for a diet that's high in fibre-rich foods (e.g. wholemeal bread, cereal or beans) and low in red meat and processed meat (aim for less than 500g per week). For more information on healthy eating visit www.takelifeon.co.uk
- Physical activity is an important way of keeping healthy and avoiding cancer. Aim for at least 30 minutes of moderate (brisk walking) most or all days of the week. For ways to get active visit www.activescotland.org.uk

Healthy tips (continued):

- Keep to a healthy weight.
- If you are a smoker, you should stop. Find the support you need to stop smoking in your local area by calling Smokeline on **0800 84 84 84** or visiting www.canstopsmoking.com
- Try to limit your alcohol intake to less than three to four units daily for men and two to three units daily for women and have two alcohol-free days per week. Find out ways to cut down by calling the NHS inform helpline on **0800 22 44 88** (textphone 18001 0800 22 44 88; the helpline also provides an interpreting service) or visit www.nhsinform.co.uk

Don't be embarrassed to tell your GP if you have any worries about your bowel habits.

Questions

- Is this enough?
- Can we utilise screening to engage the population in cancer prevention action?
 - Diagnosis of screen detected disease
 - Receipt of an “all clear” letter
- Is this too restrictive?