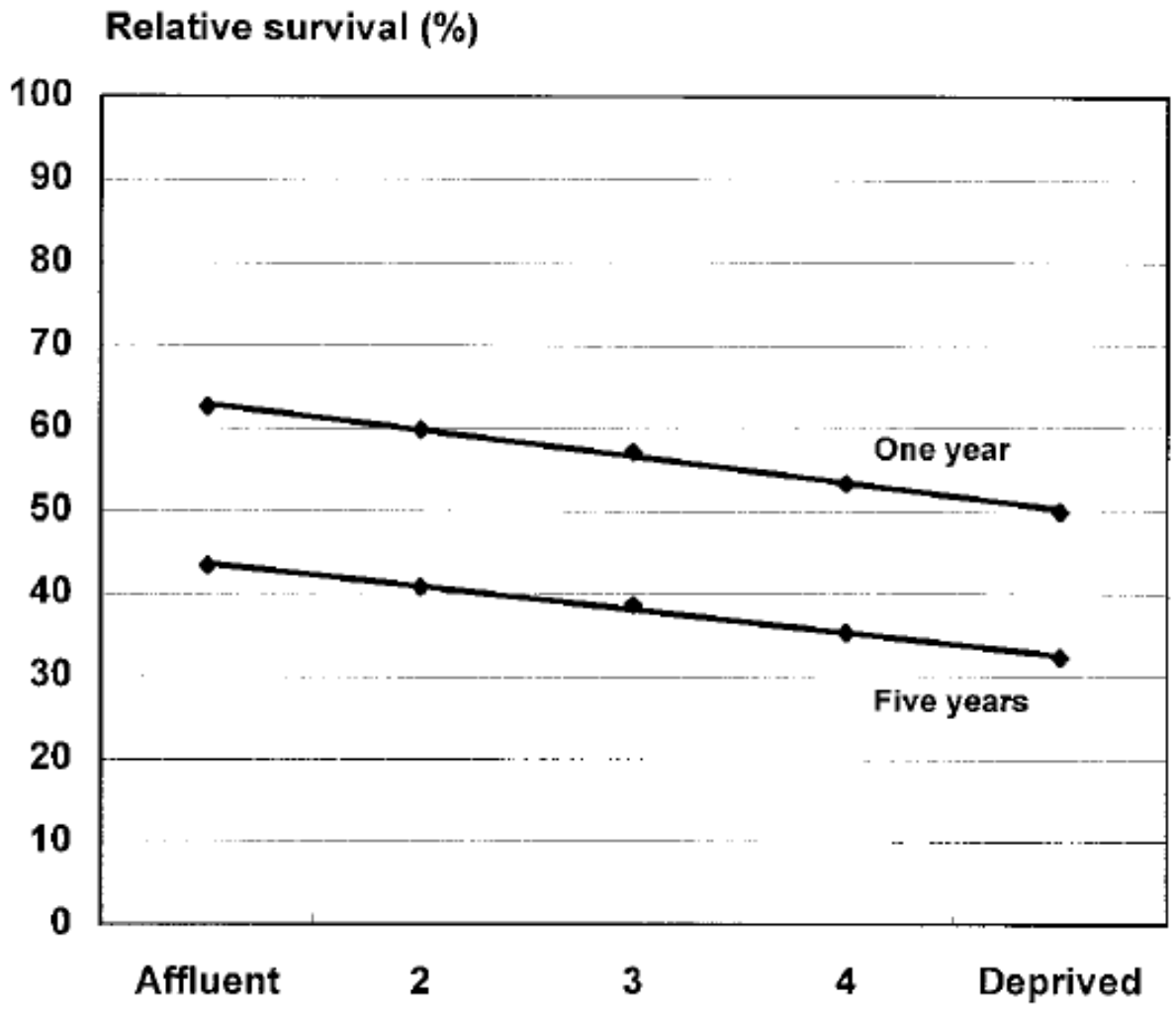
# Socio-economic inequalities in early detection of cancer


## Jane Wardle

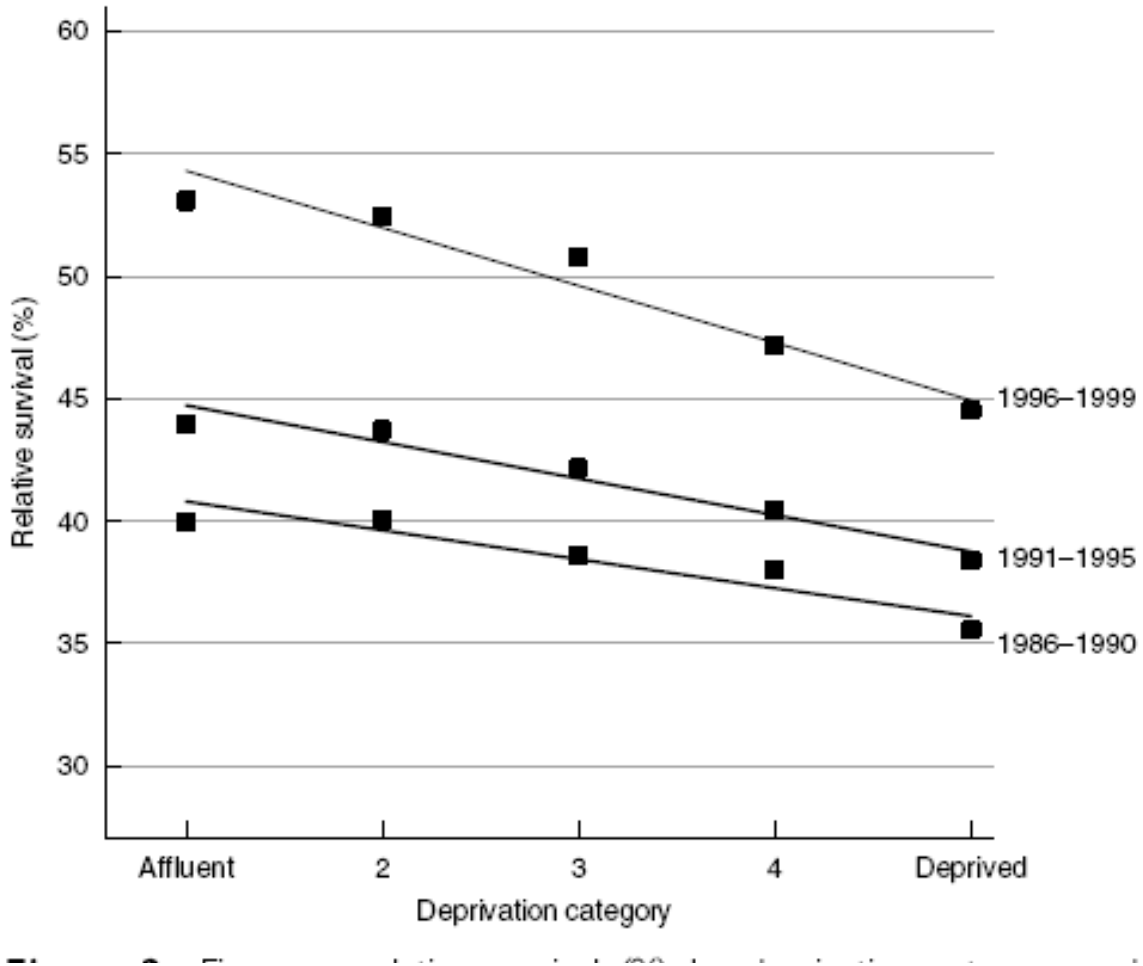
**CR-UK Health Behaviour Research Centre**
**Department of Epidemiology and Public Health**
**University College London**


Britain against Cancer
Church House, Westminster, London, December 2009

# Relative survival 1 and 5 years after diagnosis by area deprivation (Coleman et al, 2001)



# 5 year relative survival by deprivation and year of diagnosis (Coleman et al, 2004)



# Contributions to the SES gradient in cancer survival

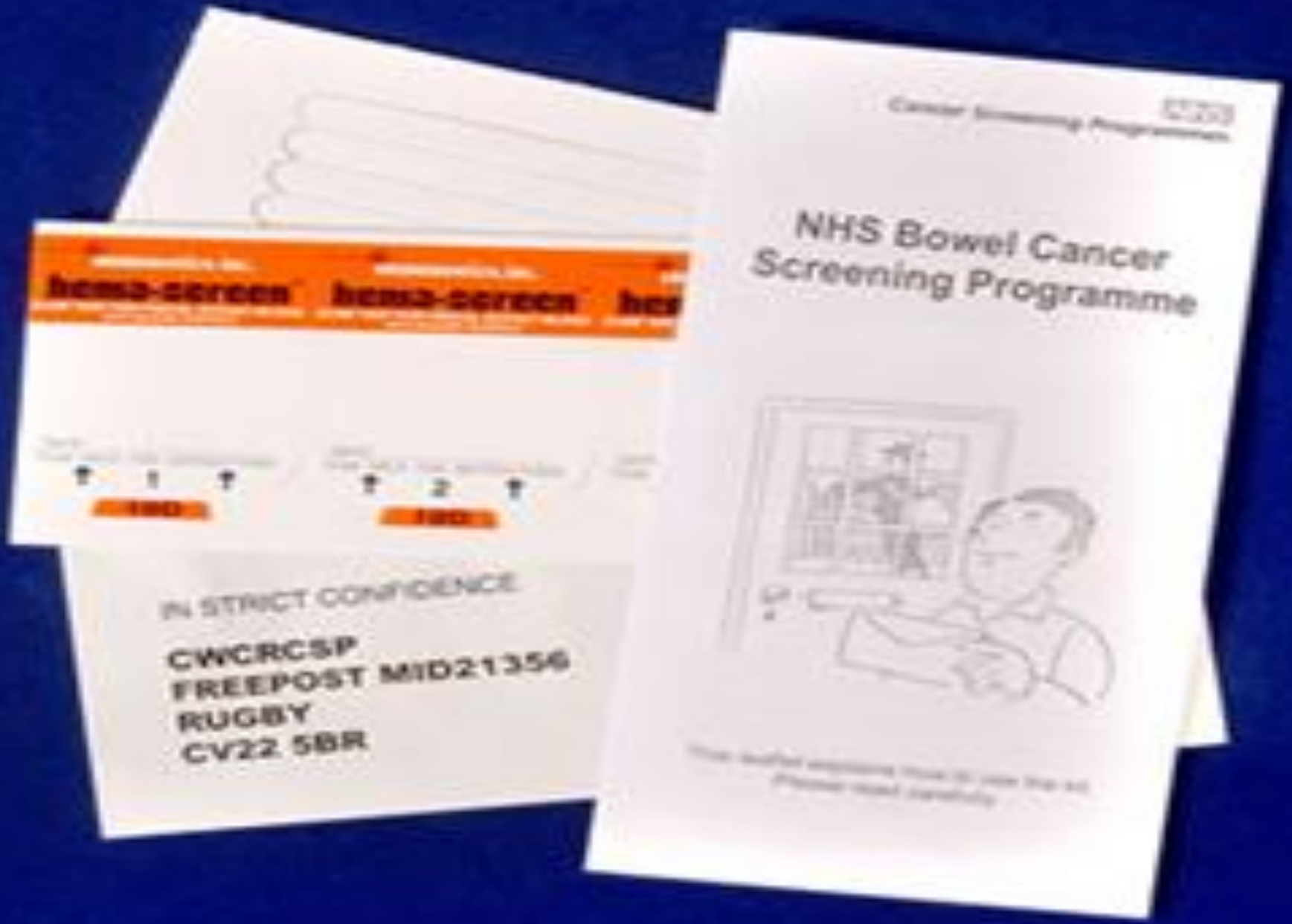
- Co-morbidities
- Health behaviours
- Choice of clinical services / treatment decisions
- Symptom recognition
- Interactions with primary care
- Screening uptake

# Distant-stage cancer diagnoses by level of education from SEER data (Clegg et al, 2009)

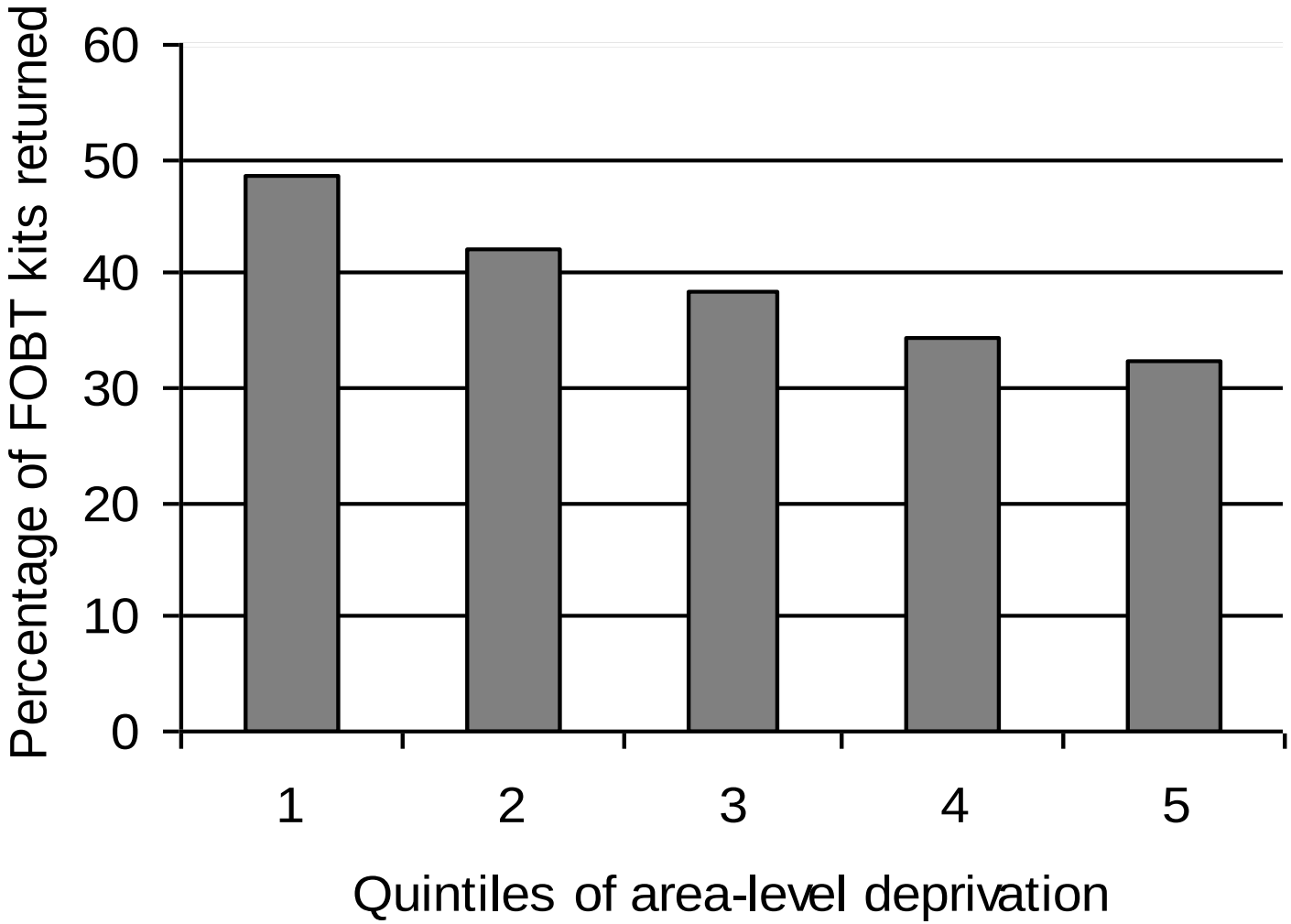
| | Odds of late stage disease (95% confidence intervals) | | |
|---|---|---|---|
| **Level of education** | **Colorectal Cancer** | **Prostate Cancer** | **Breast Cancer** |
| **Less than high school** | 1.48 (1.02-2.14) | 1.59 (1.04-2.42) | 1.77 (1.01-3.12) |
| **High school graduate** | 1.31 (0.92-1.87) | 1.43 (0.94-2.19) | 1.20 (0.70-2.05) |
| **Some post-high school** | 1.10 (0.71-1.69) | 0.88 (0.50-1.57) | 1.21 (0.66-2.22) |
| **College or beyond** | 1.00 (Ref) | 1.00 (Ref) | 1.00 (Ref) |

# Odds of self-reported breast and cervical screening in women by educational level (Moser et al, 2009)

| | Ever *vs* never had a mammogram (age 53-74) | Ever *vs* never had cervical screening (age 40-74) |
|---|---|---|
| Highest educational qualification: | | |
| No qualification | 1.00 | 1.00 |
| Below degree level | 1.37 | 2.00 |
| Degree level | 2.29 | 2.42 |


hemo-screen
hemo-screen
1
2
IN STRICT CONFIDENCE
CWCRCSP
FREEPOST MID21356
RUGBY
CV22 5BR
NHS Bowel Cancer
Screening Programme

# FOBT uptake by area-level SES in London in the first 24 months of NBCSP




*von Wagner, Good, Wright, Rachet, Obichere, Bloom & Wardle, BJC in press*

C

# ‘Mid-stream’ and ‘downstream’ explanations for SES differences in early detection

- Perceived risk of cancer
- Fear of a cancer diagnosis
- Fatalism
- Value attached to early detection
- Importance of screening if asymptomatic
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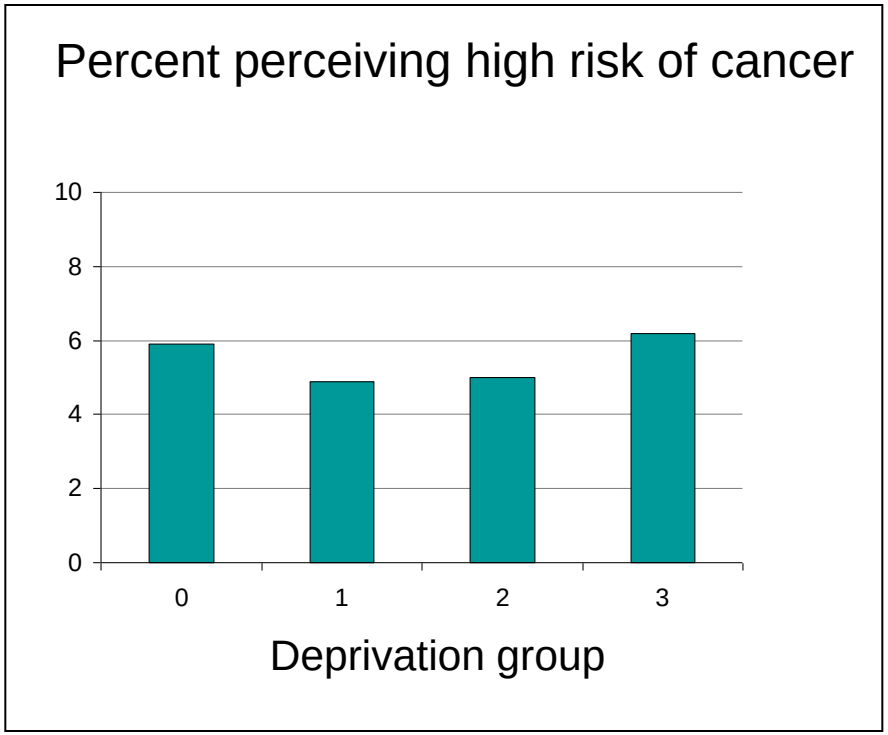

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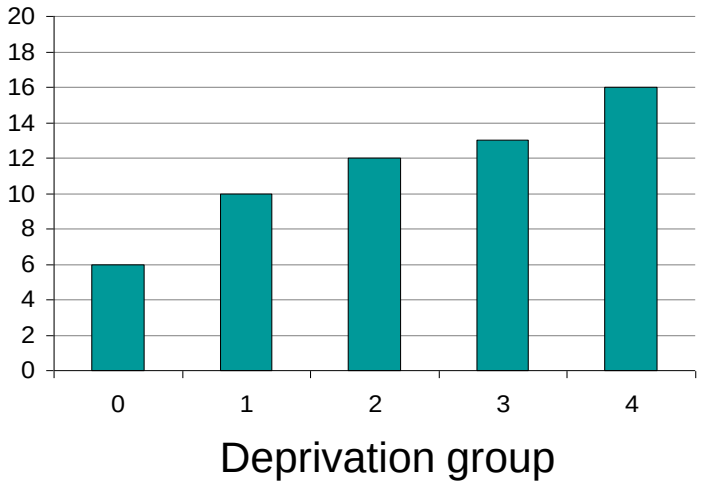
If I had a symptom I thought might be cancer I would be too frightened to seek medical advice (% agreeing):



# SES differences in barriers to consulting GP (CAM population data)

| **Emotional barriers** | **Higher** | **Mid** | **Lower** |
|---|---|---|---|
| Too embarrassed | 17 | 19 | 24 |
| Too scared | 20 | 27 | 23 |
| Worried what doctor might find | 32 | 34 | 42 |
| Not confident talking about symptom | 10 | 8 | 13 |
| **Practical barriers** | | | |
| Too busy | 37 | 28 | 19 |
| Too many other things to worry about | 26 | 22 | 16 |
| Difficult to arrange transport | 3 | 6 | 6 |
| **Service barriers** | | | |
| Worried about wasting doctor's time | 37 | 42 | 33 |
| Doctor would be difficult to talk to | 10 | 15 | 13 |
| Difficult to get an appointment | 42 | 41 | 43 |

# Reasons for not attending FS screening in Glasgow (interview data)

- Fear:
  - *“I was terrified in case they found something wrong with me - I couldn’t bear going into hospital again”.*
  - *“The minute I got the test I would worry until I got the letter saying it was all clear .. might even put myself into an illness worrying about the letter”.*
- Avoidance:
  - “*Well, as I said, if I got it I don’t want to know that”.*
  - *“When I read through the letter, I thought, no, leave well alone*”.

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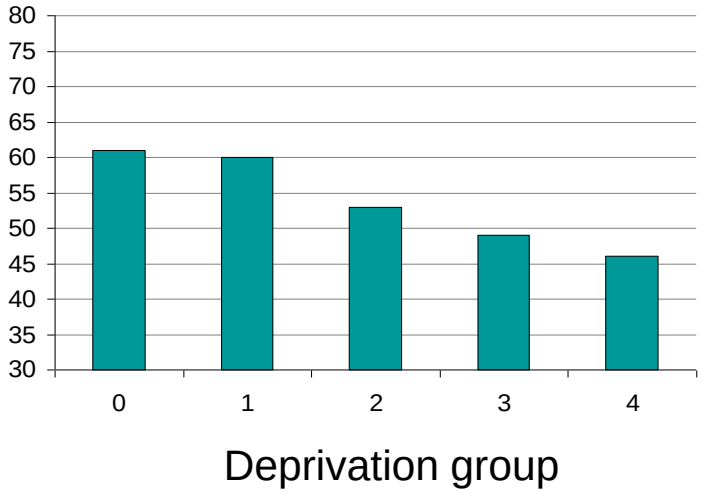
Many people who get cancer can be completely cured (% agreeing):



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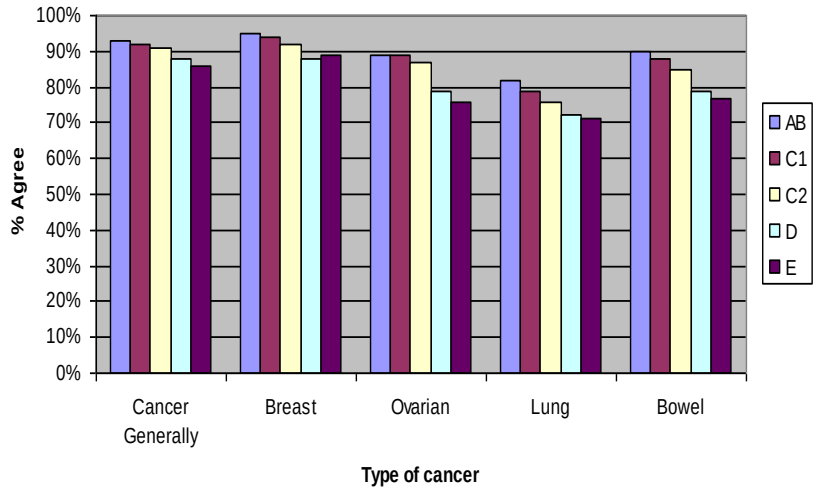
Proportion of adults agreeing that ‘*the earlier cancer is detected, the greater the chance of survival*’



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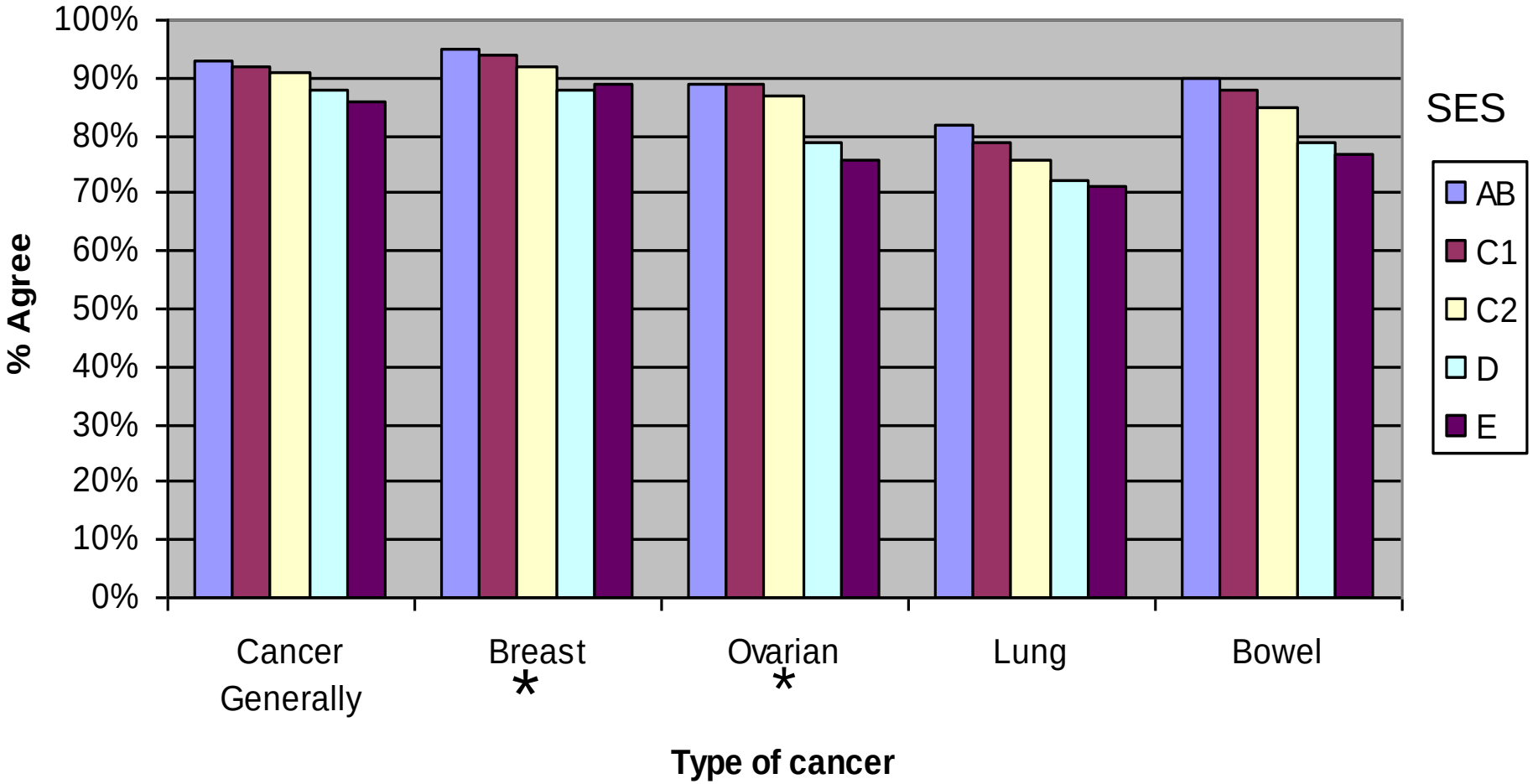


* Question asked only to women

(Total N=2018; N women=1081)

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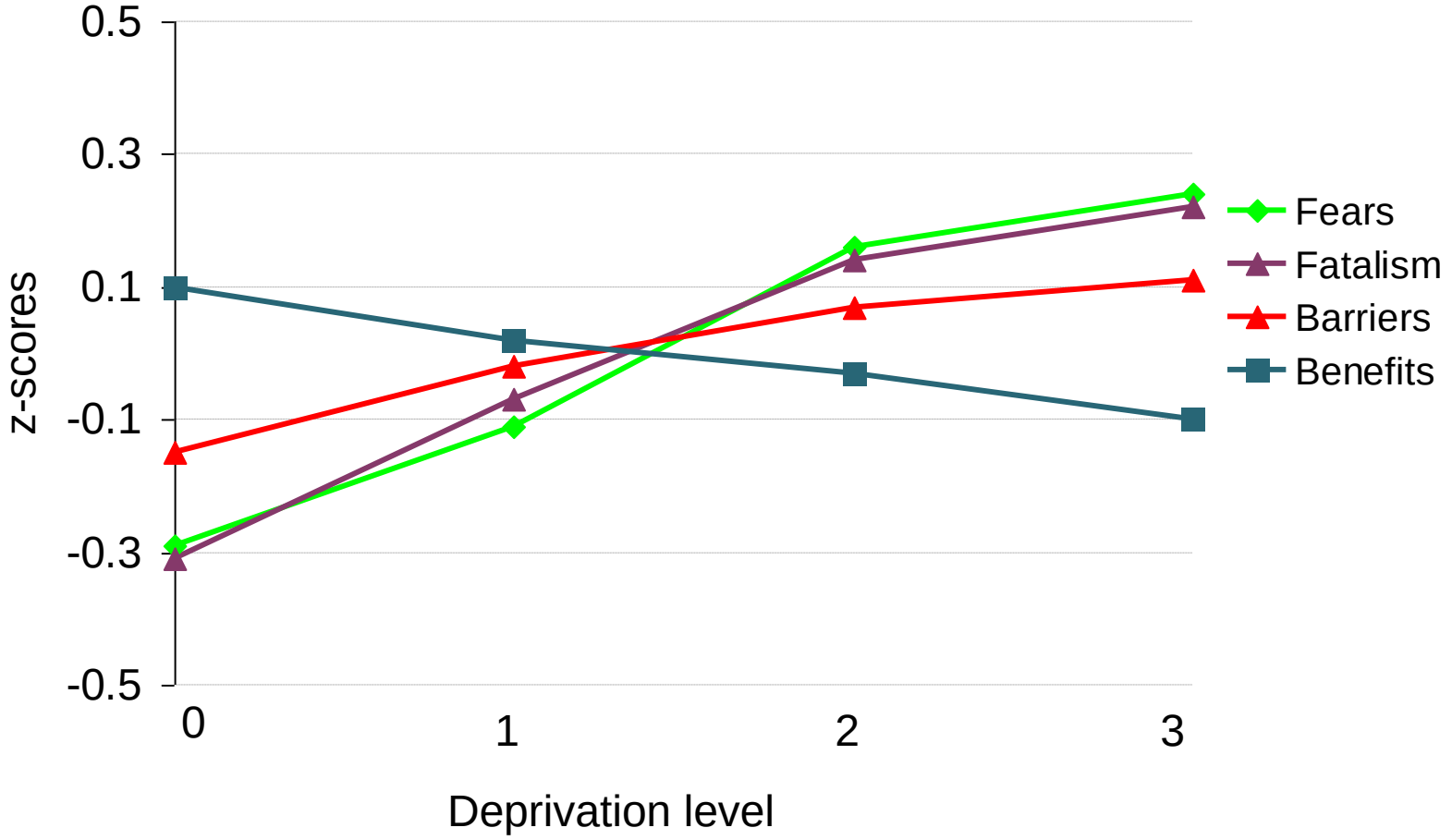
- Feel healthy therefore low risk:
  - “*I’m very regular and everything else, I don’t have any problems in the least, if I did I would have it done, but because I haven’t, I haven’t bothered*”.

# Overall attitudes towards screening by deprivation in the baseline survey of the FS Trial



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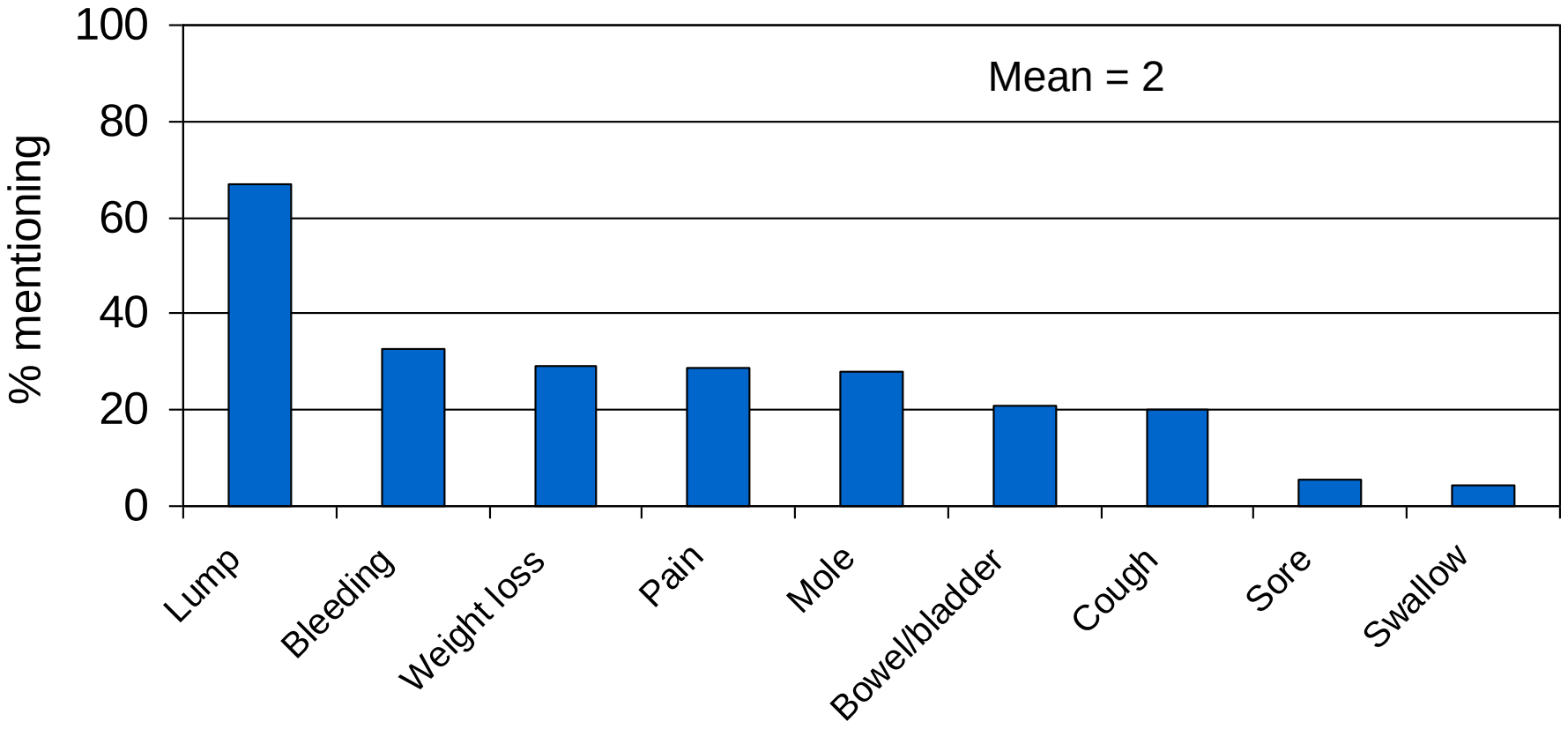
**ONS CAM Survey**

- Randomly selected sample of households across the UK
- Home visits with face-to-face interviews with one adult per household
- Cancer Awareness Measure (CAM) administered
- Data collected in September and October 2008
  - Response rate: 61%
  - Achieved sample: n=2216

# Recall of ‘warning signs’ in ONS sample

‘*There are many warning signs and symptoms of cancer. Please name as many as you can think of ..’*



# Multivariate analysis

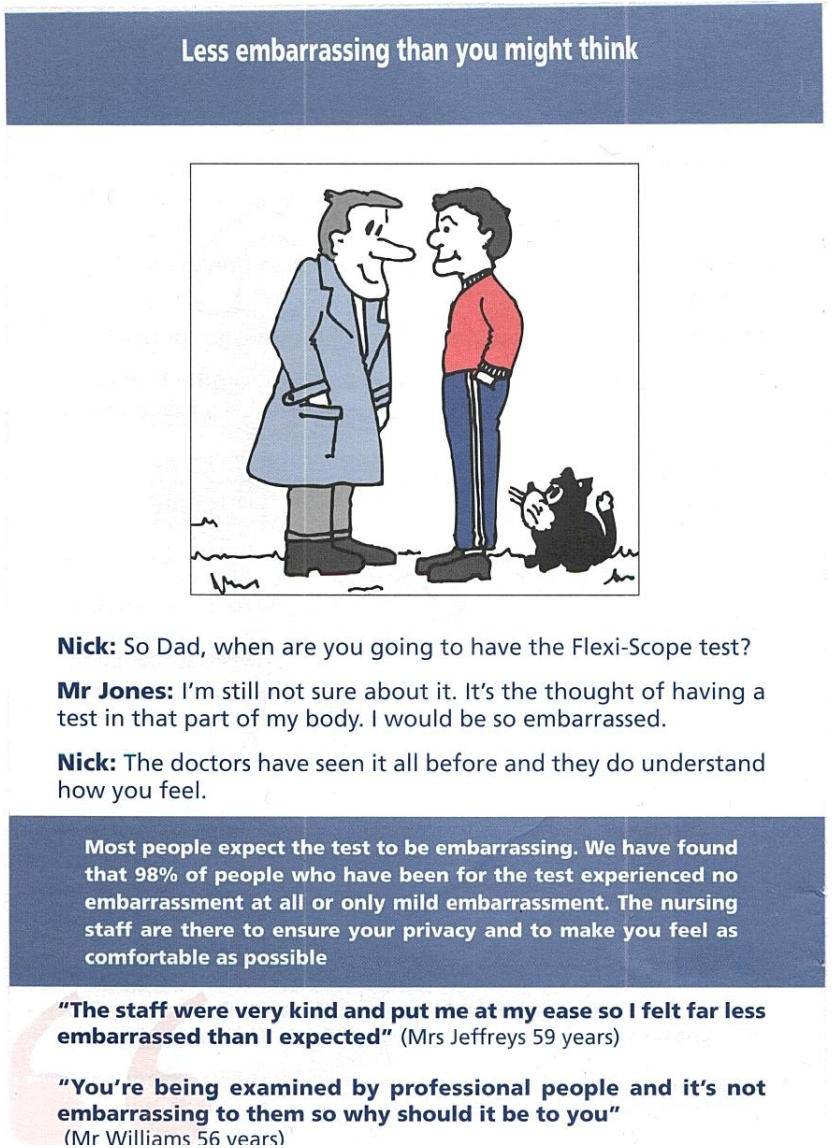
| | **Recall**<br>Mean [95% C] |
|---|---|
| **Male** | 1.64 [1.47, 1.80] |
| **Female** | 2.20 [2.04, 2.36] |
| | |
| **16-24** | 1.49 [1.16, 1.83] |
| **25-34** | 1.72 [1.51, 1.93] |
| **35-44** | 1.90 [1.69, 2.10] |
| **45-54** | 2.08 [1.87, 2.30] |
| **55-64** | 2.51 [2.30, 2.72] |
| **65 and over** | 1.80 [1.62, 1.99] |
| | |
| **White** | 2.21 [2.12, 2.29] |
| **Other ethnic backgrounds** | 1.63 [1.34, 1.91] |
| | |
| **Higher SES** | 2.31 [2.14, 2.49] |
| **Mid SES** | 1.86 [1.68, 2.05] |
| **Lower SES** | 1.58 [1.40, 1.76] |

# Interventions to reduce inequalities in screening uptake and early presentation

- Research programmes must have inequalities as their focus
- Interventions should be informed by evidence on the determinants of inequalities

# Increasing uptake of screening in people who said they were ‘undecided’ in the FS Trial

- Aims
  - To modify factors associated with screening participation, and thereby increase participation
  - To increase participation particularly among more deprived groups
  - Not to increase worry about cancer
- Materials
  - Cartoon booklet illustrating reduced barriers, increased benefits, greater self-efficacy and strong social norms



**Less embarrassing than you might think**

**Nick:** So Dad, when are you going to have the Flexi-Scope test?

**Mr Jones:** I’m still not sure about it. It’s the thought of having a test in that part of my body. I would be so embarrassed.

**Nick:** The doctors have seen it all before and they do understand how you feel.

**Most people expect the test to be embarrassing. We have found that 98% of people who have been for the test experienced no embarrassment at all or only mild embarrassment. The nursing staff are there to ensure your privacy and to make you feel as comfortable as possible**

**“The staff were very kind and put me at my ease so I felt far less embarrassed than I expected”** (Mrs Jeffreys 59 years)

**“You’re being examined by professional people and it’s not embarrassing to them so why should it be to you”**
(Mr Williams 56 years)

## Help prevent cancer by going for a test

**Mrs Jones:** The thought of cancer scares me.

**Gillian:** A lot of people are scared and avoid tests like these, but by going for screening you can help reduce your risk of getting bowel cancer. You ought to take this opportunity, it will put your mind at rest.

**The Flexi-Scope test helps prevent cancers by removing polyps. We think that if everyone aged around 60 in the UK goes for the test, it might prevent 5,500 bowel cancers a year.**

**"I was quite concerned about bowel cancer... this test has given me peace of mind"** (Miss Cartwright)

**"The average person has a fear and they don't want to find things out...but it should be the best thing to do because if there is something then they can do something about it"** (Mr Shah)

## You have heard about Mr and Mrs Jones. If YOU feel apprehensive at the thought of the test, think how you may feel after it is over...

**REASSURED** if nothing was found
**"I was so pleased I went for the test and to find nothing was wrong with me".** (Mrs Hurst 56 years)

**THANKFUL** if your polyps were removed while they were harmless
**"In view of the large polyp found and removed, thankful to be one of the fortunate ones chosen for screening".** (Mr Harb 61 years)

**RELAXED** in the knowledge that you have a lower chance of developing bowel cancer as a result of being screened
**"An excellent chance to reduce your risk of bowel cancer and set your mind at rest".** (Mrs Ledward 64 years)

**SATISFIED** that you have done something positive about your health
**"I am very pleased that I went, to help the hospital and to help myself".** (Mr Patel 59 years)

**PROUD** that you have aided in the development of a test which could save lives
**"I hope I have been some help towards your service... this project is bound to prove beneficial in preventing bowel cancer".** (Mrs Wadd 64 years)

**All this for a simple test that lasts five minutes**

**"The test is well worth having. I would advise anyone else to take this opportunity to have it".** (Mr Lee 61 years)


**Bob: Maybe I should have gone for the test too**

*Later that day Bob telephones the Flexi-Scope administrator*

**FLEXI-SCOPE ADMINISTRATOR: Its okay, there is still time to arrange another appointment for you....**

*This booklet is published by:*
The Health Behaviour Unit
University College London
2-16 Torrington Place
London WC1E 6BT

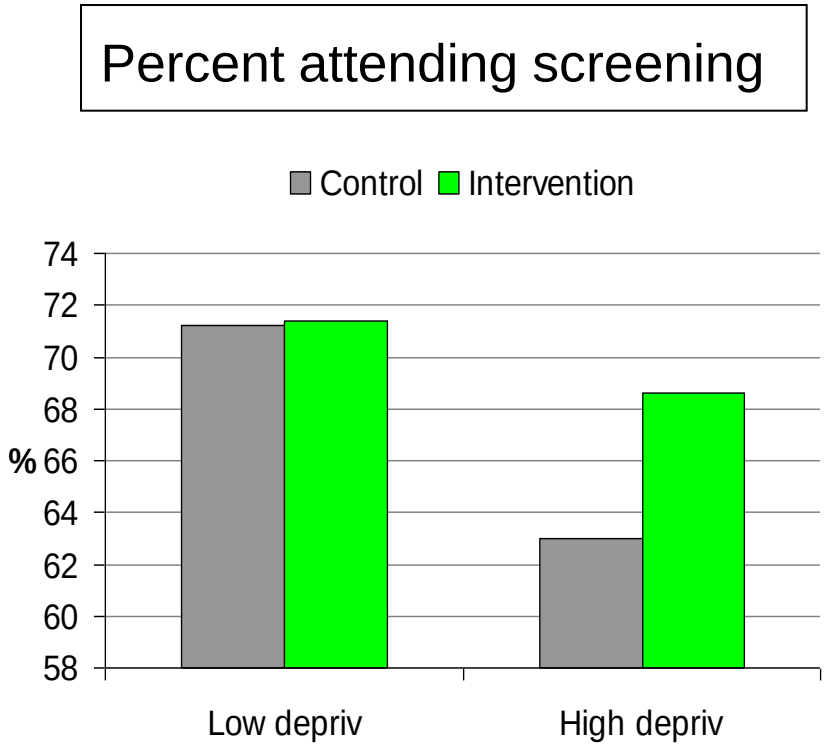
MRC Medical Research Council

FlexiScope trial

Imperial Cancer Research Fund

# Cartoon booklet – tested in a group who were ambivalent about screening

- Positive responses in qualitative research
- Quantitative research
  - Increased perceived benefits
  - Reduced perceived barriers
  - Reduced fears
  - Increased social norms
  - Increased anticipated regret with non-attendance



# Effect of a 'provider-based' intervention on completion of colorectal screening among high and low literacy patients in two VA clinics

(Ferreira et al, 2009)

**Table 3.** Completion of Colorectal Cancer Screening Tests Among Patients With High and Limited Literacy Skills in the Control and Intervention Groups

| Completion of Screening Tests | Control (%) | | Intervention (%) | |
|---|---|---|---|---|
| | High Literacy (n = 125) | Limited Literacy (n = 60) | High Literacy (n = 118) | Limited Literacy (n = 79) |
| FOBT only | 15.2 | 6.7 | 21.2 | 30.4 |
| FS/COL only | 16.8 | 21.7 | 12.7 | 17.7 |
| FOBT and FS/COL | 4.0 | 1.7 | 5.1 | 7.6 |
| Any screening | 36.0 | 30.0 | 39.0* | 55.7† |

# Future needs

- Identify the contribution of late diagnoses to inequalities in cancer outcomes
- Support research into understanding inequalities in screening and early detection
- Develop novel strategies to target the intermediate factors that contribute to inequalities in screening and early detection, both among the public and in primary care
- Assess outcomes in terms of modifying inequalities in early detection

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