Challenges for Colorectal Cancer Screening in Europe

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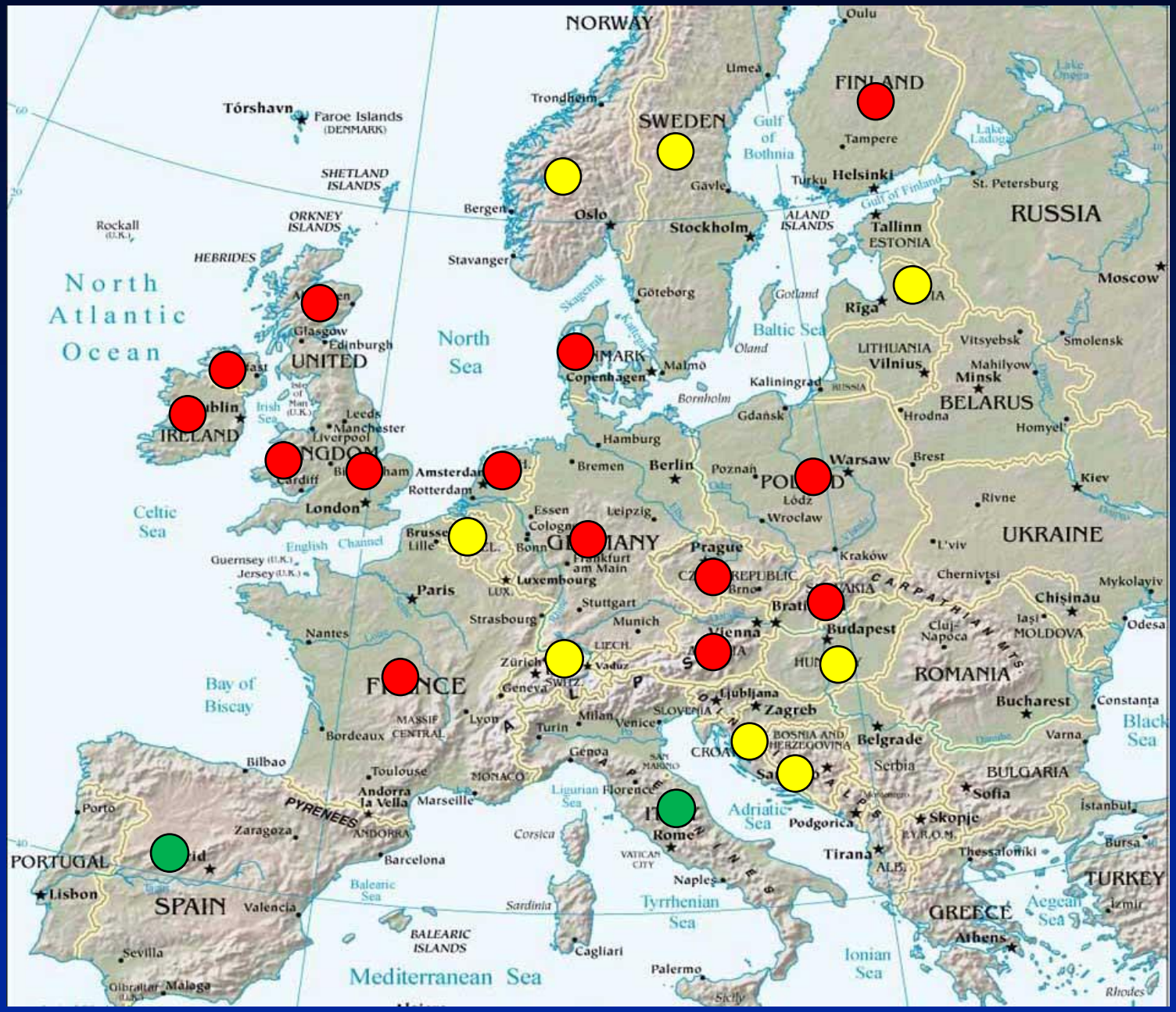
JSD2020

How can we screen for colorectal cancer?

- Tests for blood in faeces
- Lower GI Endoscopy
- Novel tests ?



National program

Regional programs

Pilot study

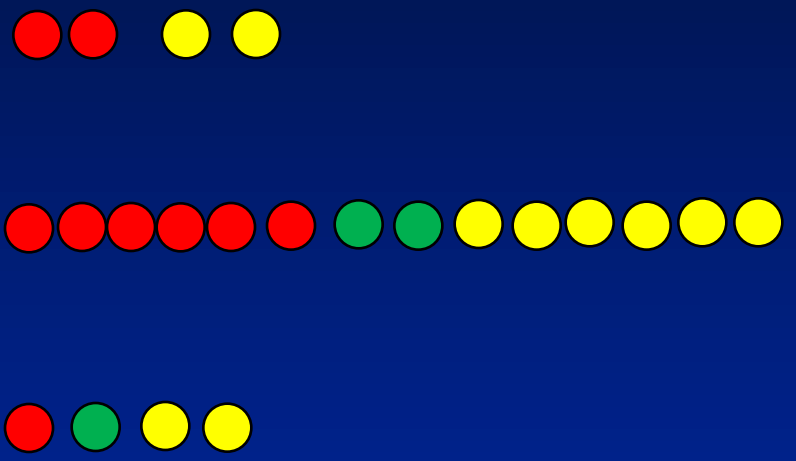
Screening Tests Used

gFOBt

FIT

Flex-Sig

Colonoscopy



Invitation methods used

- Direct invitation from central agency using national registers
- Invitation by General Practitioner
- Self referral encouraged by central agency

UK National Screening Committee (NSC)

- Advises ministers and NHS
  - Starting, changing and stopping screening programmes
- Monitors new evidence
- Advises all four countries of the UK

Proving Screening Works

Population RCT

No screening offered

Screening Offered

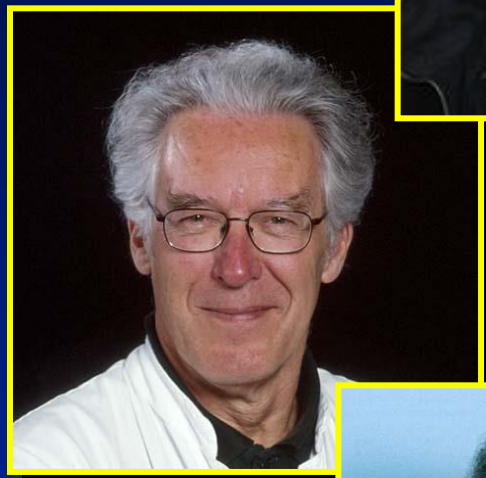
(including those who choose not to participate and those developing interval disease)

Compare numbers of deaths or adverse outcomes from disease

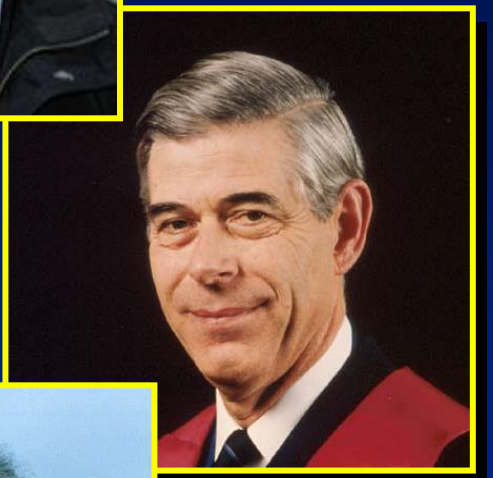
Tests for Blood in Faeces

France

Denmark



UK



USA

Guaiac Faecal Occult Blood (gFOBT) Trials

Reduction in death from CRC of 16%

gFOBT vs FIT

- gFOBT
  - Based on Guaiac reaction
  - Not specific for haemoglobin
  - Inconvenient to do

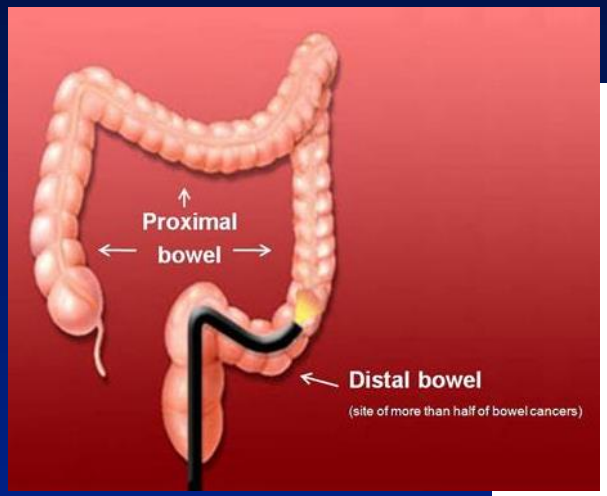
- FIT
  - Immunological
  - Specific for human haemoglobin
  - Easy to do
  - Quantitative

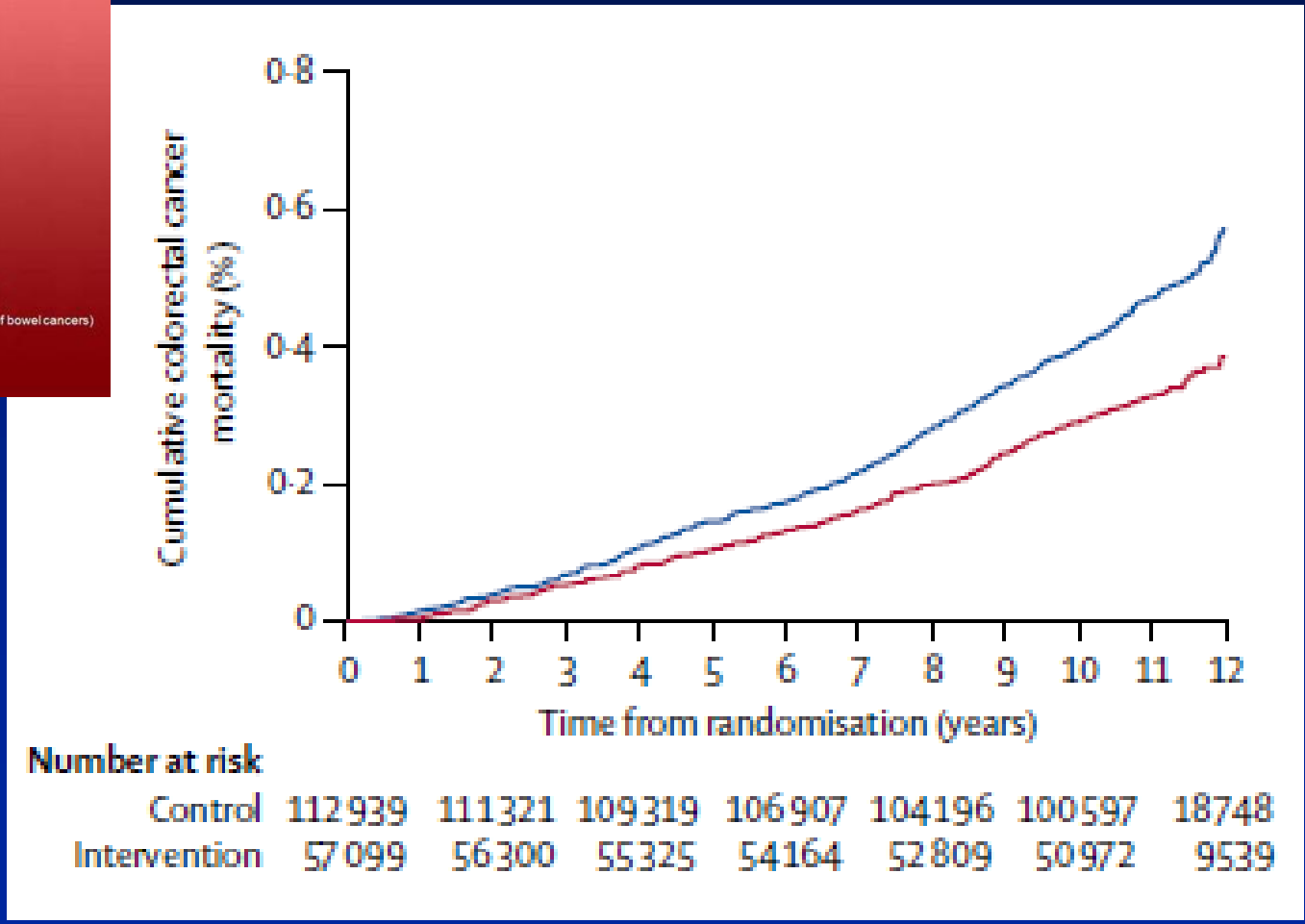
Lower GI Endoscopy

What are the options?

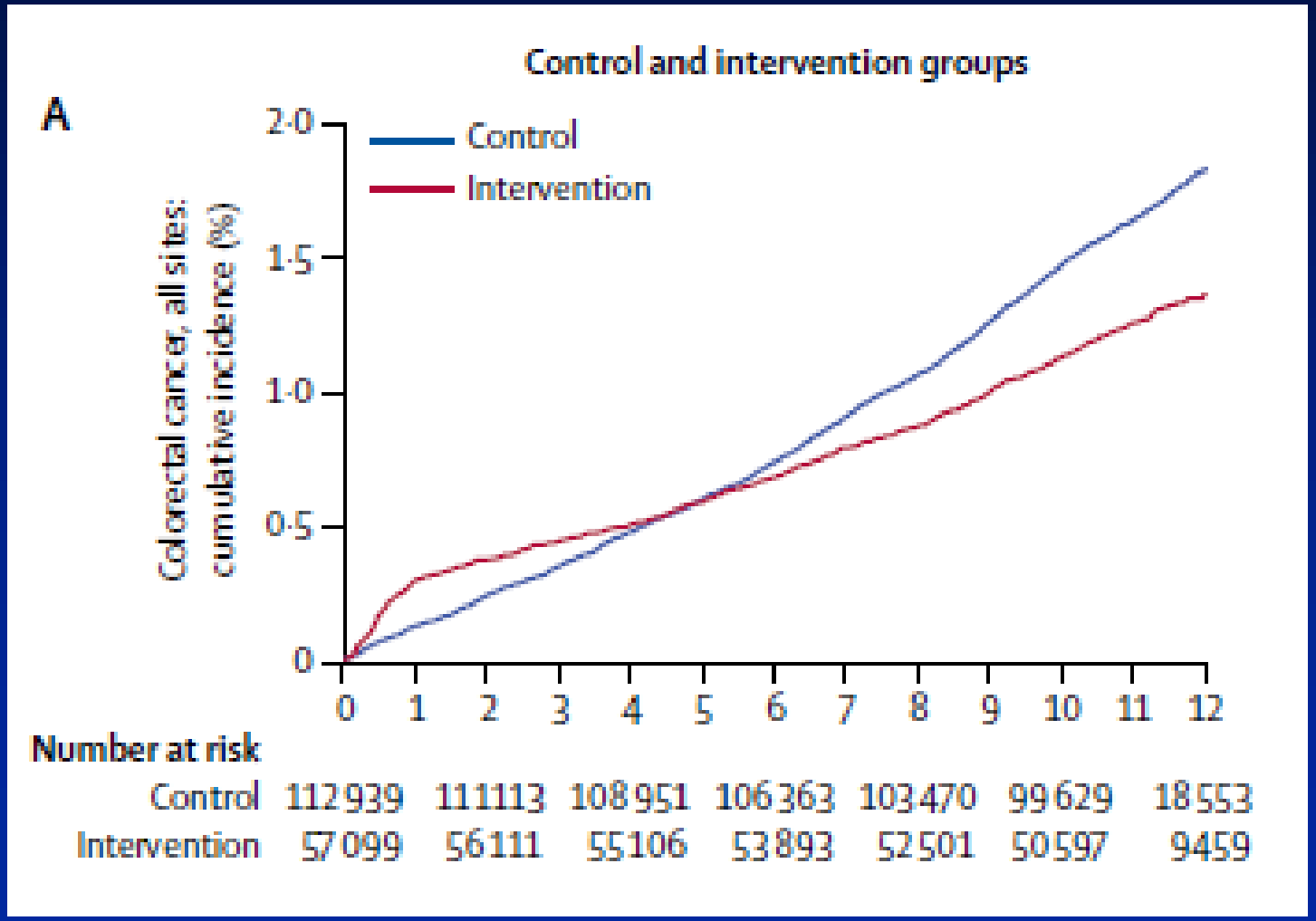
- Colonoscopy
  - Very sensitive and 100% specific
  - Expensive
  - No RCTs (4 in progress world-wide)
- Flexible Sigmoidoscopy
  - Misses R-side disease
  - RCT evidence (UK, Italy, Norway, US)

UK Flexible Sigmoidoscopy Trial
Mortality from CRC





UK Flexible Sigmoidoscopy Trial
Incidence of CRC



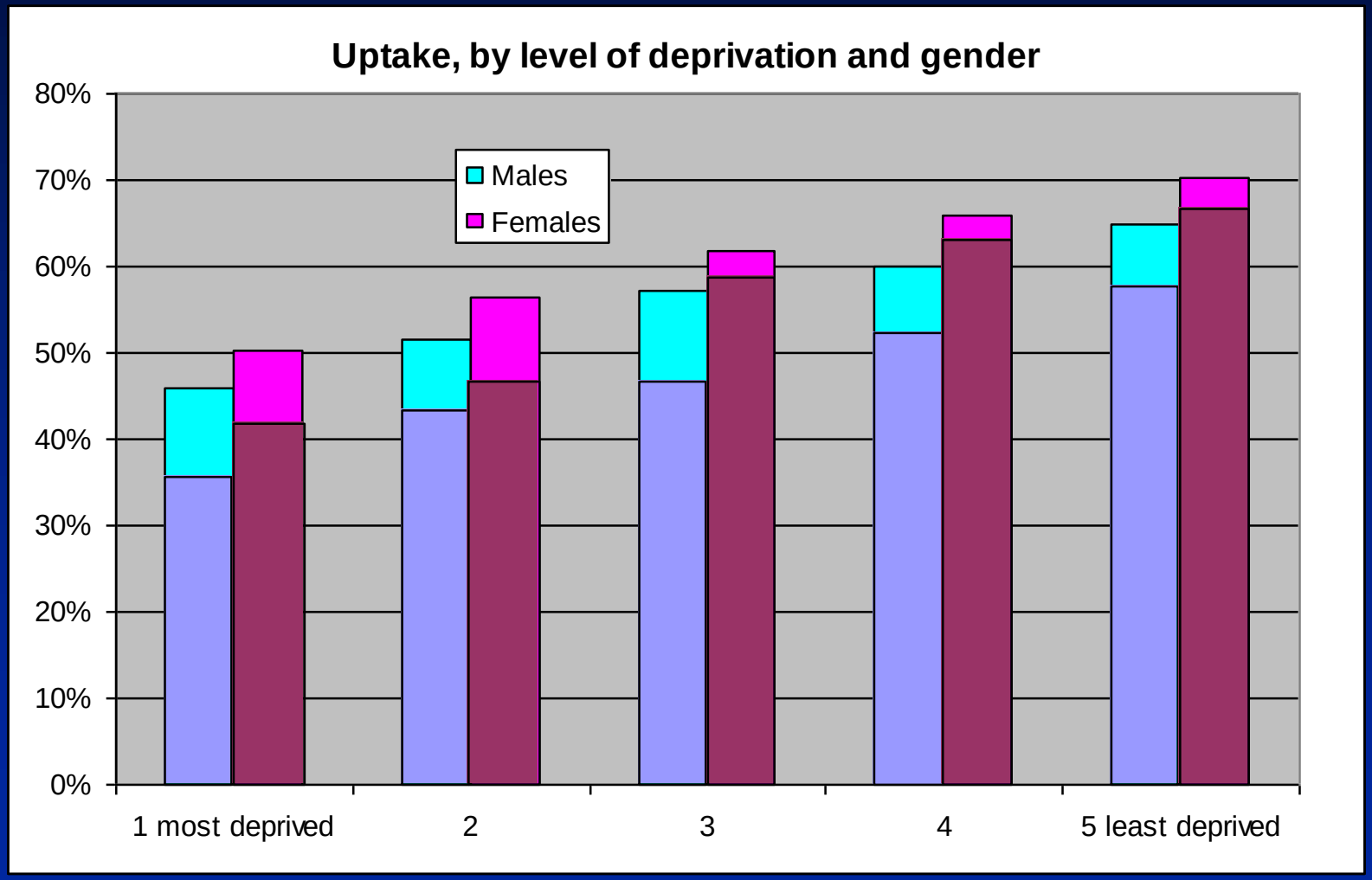
Colorectal Screening in Scotland

- Everyone aged 50-74 invited centrally every two years
- Based on biennial gFOBT 2000-2017
- No flexible sigmoidosopy
- Changed to FIT at 80µg/g in November 2017

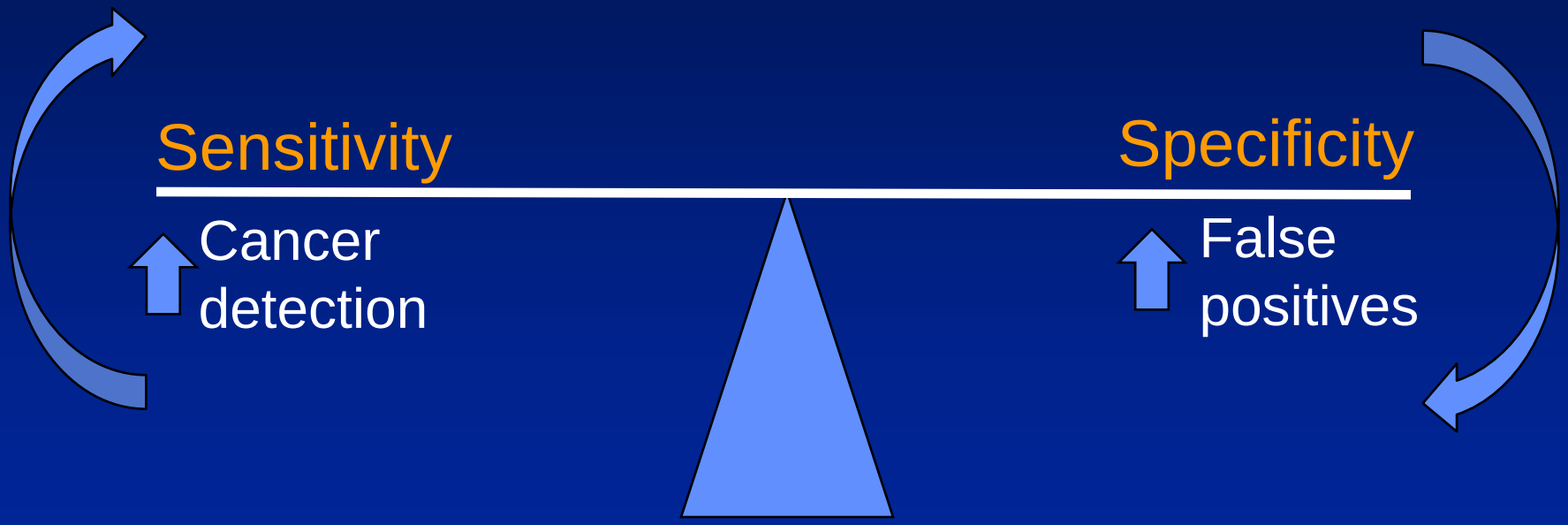
Challenges for FIT

1. Uptake
2. Lowering the threshold

Uptake - gFOBT and FIT



Quantitative FIT – changing the threshold



Faecal haemoglobin concentration (µg Hb/g faeces)	Positivity rate	CRC detected	CRC missed	% CRC missed	PPV
80	3.1%	711	-		5.2%
100	2.6%	671	40	5.6%	5.7%
120	2.3%	629	82	11.5%	6.1%
140	2.1%	598	113	15.9%	6.4%
160	1.9%	572	139	19.6%	6.7%
180	1.8%	549	162	22.8%	7.0%
200	1.7%	529	182	25.6%	7.2%

Challenges for Flexible Sigmoidoscopy

1. Uptake
2. Delivery
3. Quality

Problems with current flexible sigmoidoscopy programme in England

- Uptake poor (~40%)
- Yield of pathology low
- Delivery difficult
- Unpopular with endoscopists

Uptake

Why don‘t people accept CRC screening?

- Not invited
- Financial barriers
- Apathy / fatalism
- Fear
- Ignorance
- Disgust
- *Informed choice*

What can we do to increase uptake?

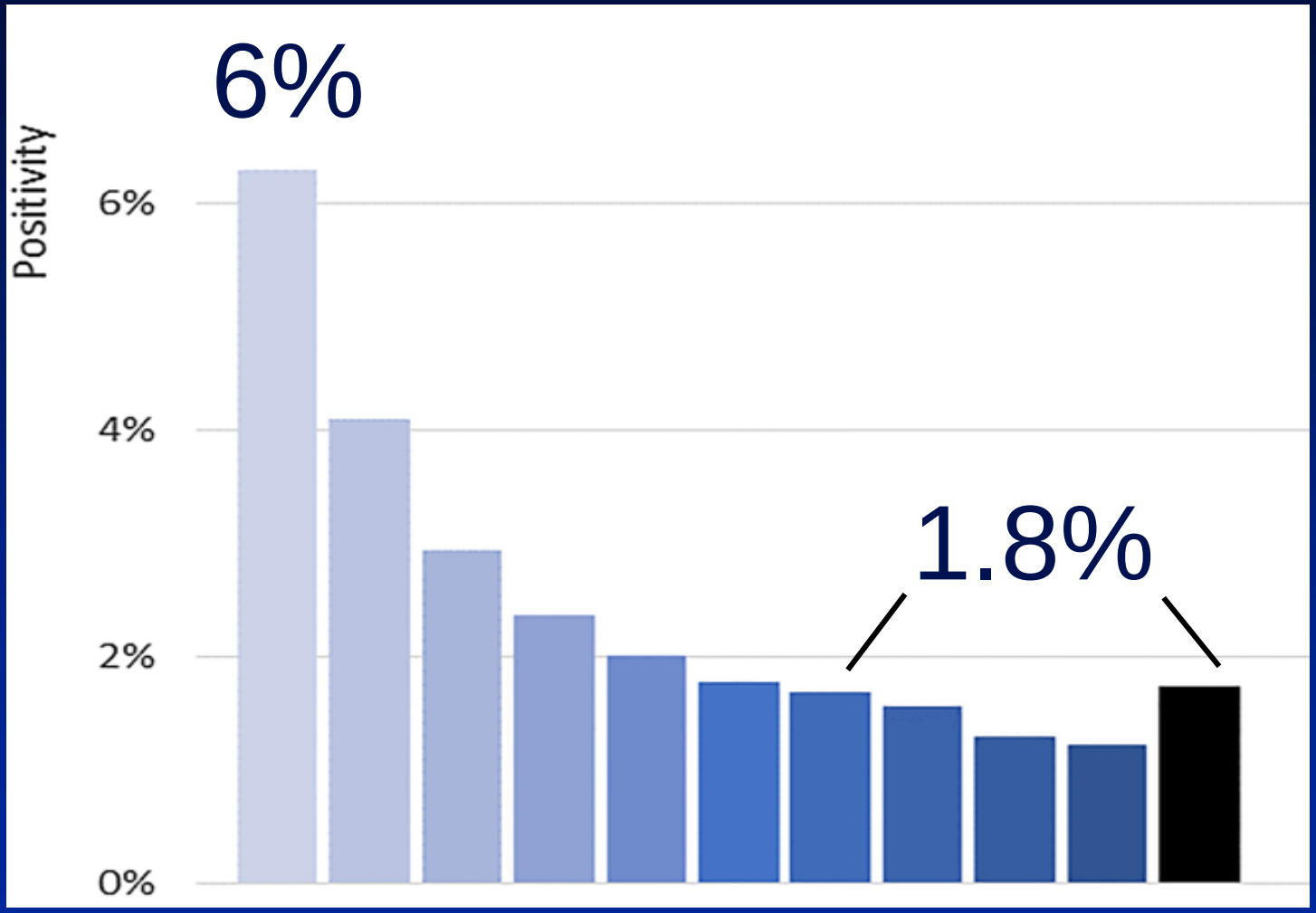
- Direct invitation
- Remove financial barriers
- Modifying the test
- Pre-notification
- Psychological Intervention
- National Publicity Campaigns
- Engaging with Primary Care

Delivery

UK NSC Recommendation

- Cost-effectiveness analysis
- FIT a threshold of 20 μg Hb/g faeces
- Age range 50 - 74

Positivity at Different Thresholds



Challenges for Europe

- Population coverage
  - Direct invitation of entire eligible population
  - Removal of financial barriers
- Delivery of the most effective test
  - Low FIT threshold
  - Investment in colonoscopy