Changes in faecal occult bleeding with time

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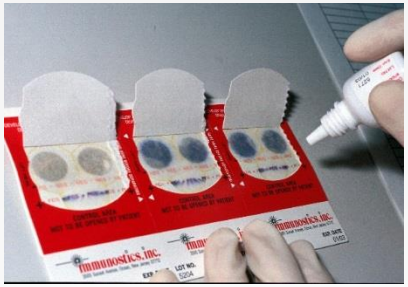
Declaration of Interests

- Clinical Director of the Scottish Bowel Screening Programme
- Independent Chair of UK National Screening Committee

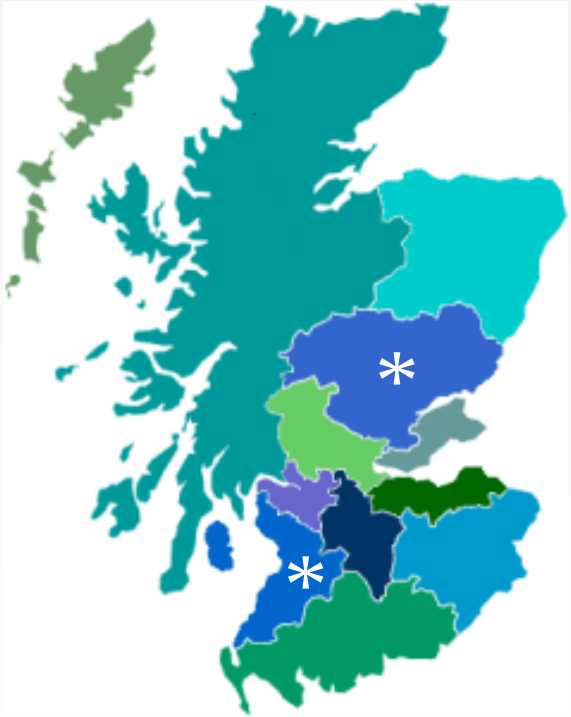
gFOBT vs FIT

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



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

Scotland



- gFOBT screening started July 2007, fully rolled out by December 2009
- FIT piloted July – December 2010
  - 2 HBs, 60,000 invitations
- FIT introduced nationally November 2017

	FIT Pilot 2HBs 2010	FIT Programme (Year 1) 2018
Uptake	58.5%	63.9%
Positivity	2.4%	3.1%
PPV for CRC	4.8%	5.2%

Why are uptake and positivity higher in the programme?

- Change in attitudes to screening?
- Pilot boards not representative of the whole country?
- Increased background faecal occult bleeding?

Pilot Boards vs Country

Socio-economic Deprivation

As SED decreases, uptake increases, but positivity falls

	1 Most Deprived	2	3	4	5 Least Deprived	Total
	Numbers					
A&A and Tayside	59,148	53,972	59,913	65,049	48,473	286,555
Scotland	342,644	365,146	387,577	393,327	375,742	1,864,436
	Proportion					
A&A and Tayside	21%	19%	21%	23%	17%	
Scotland	18%	20%	21%	21%	20%	

Pilot Boards vs Country

Age

As age increases, uptake and positivity increase.

	50-54	55-59	60-64	65-69	70-74
Pilot boards	26%	18%	23%	16%	17%
All Scotland	28%	20%	22%	15%	16%

Pilot Boards vs Country

Gender

In women, uptake is higher than in men, but positivity is less

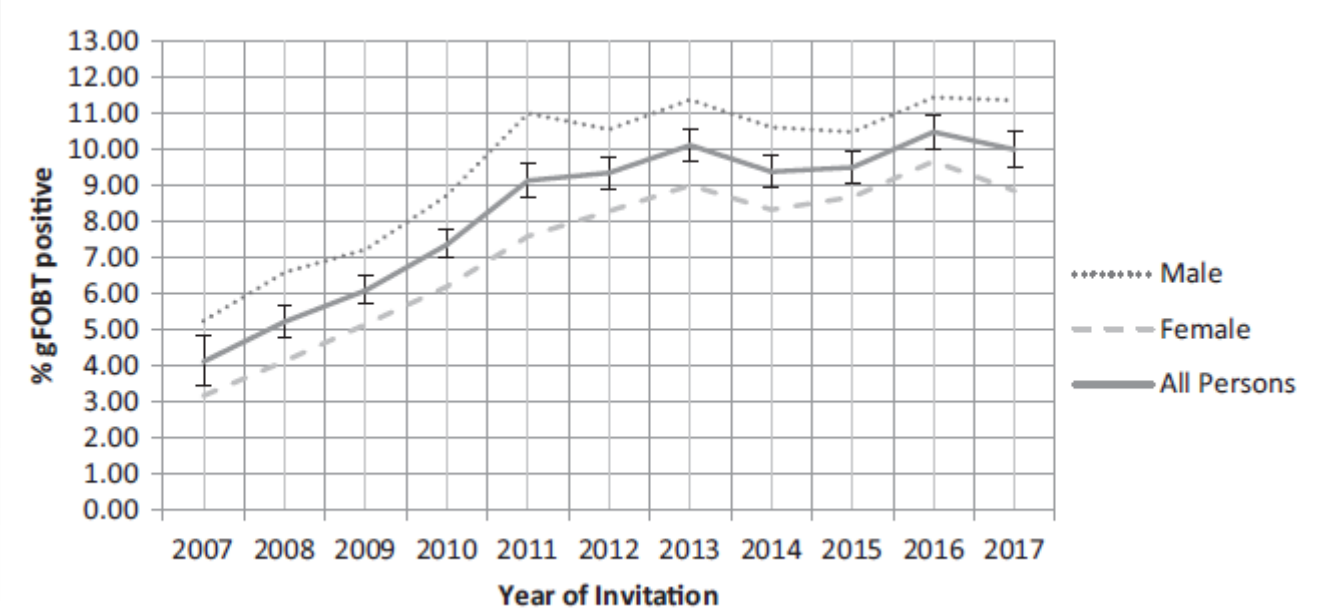
	Males	Females
Pilot boards	49%	51%
All Scotland	49%	51%

Has background FOB changed with time?

- gFOBT/FIT algorithm used 2007-2017
- No obvious change in overall positivity rate in that time
- BUT
  - Mix of prevalence and incidence screening at different ages the proportions of which are dynamic

Positivity of initial gFOBT in 50 year-olds only

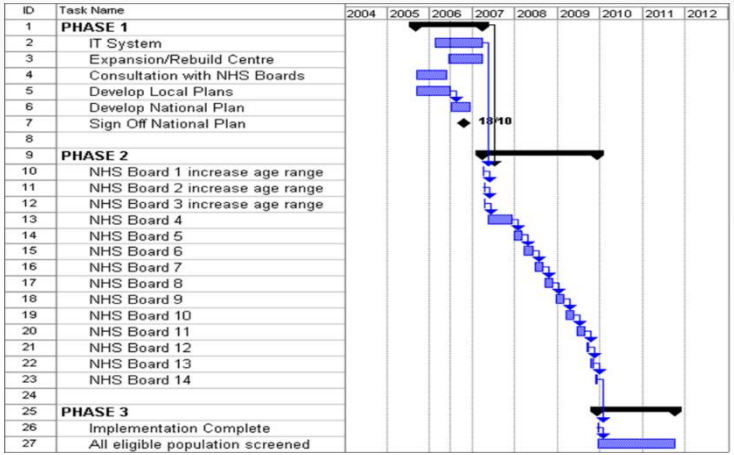
(i.e. all the same age and all prevalence)



But…

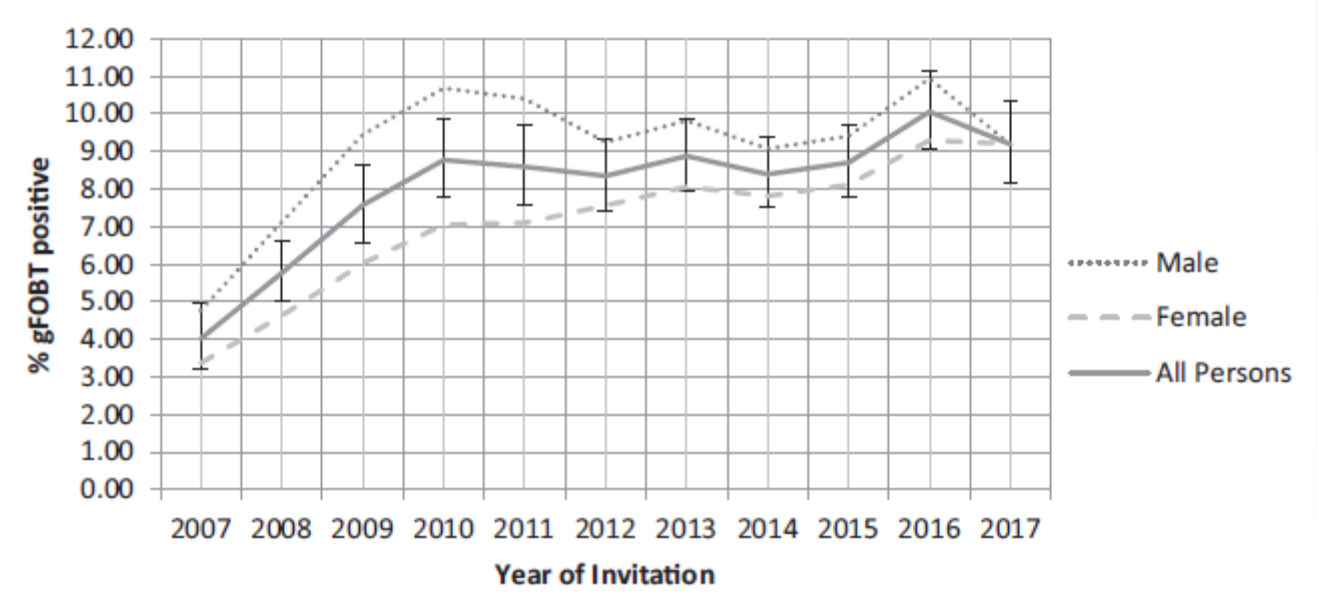
- Health Boards have very variable positivity rates

- HB were introduced gradually into the programme



Positivity of initial gFOBT in 50 year-olds only in initiating HBs

(Grampian and Fife)

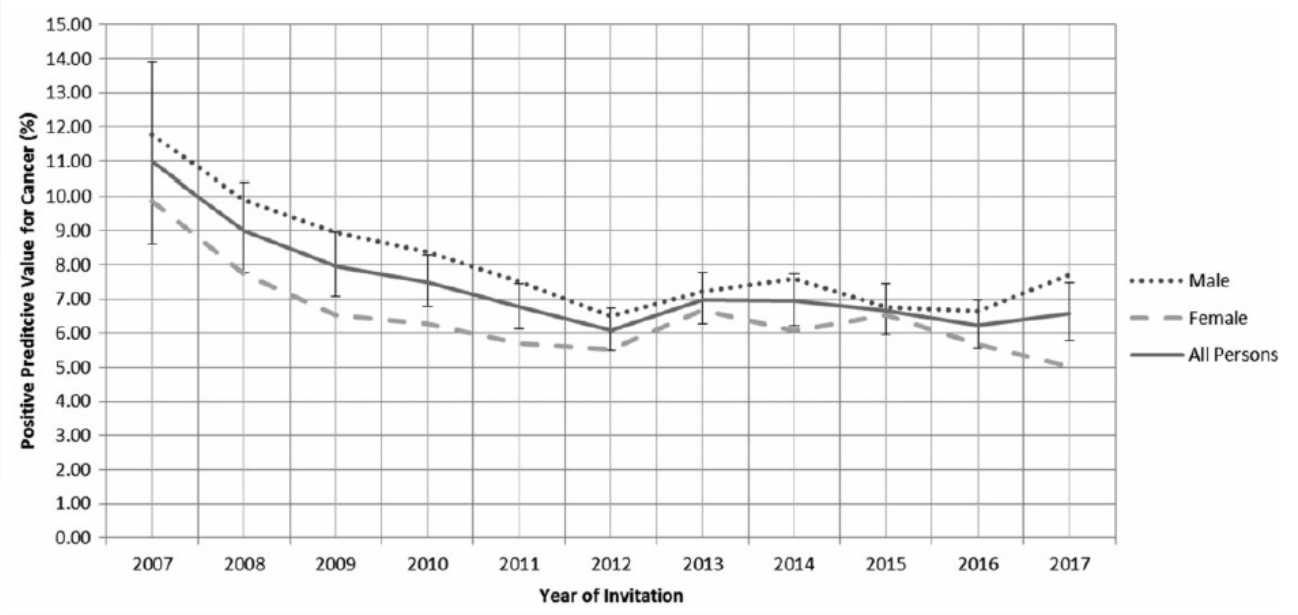


Why has this happened?

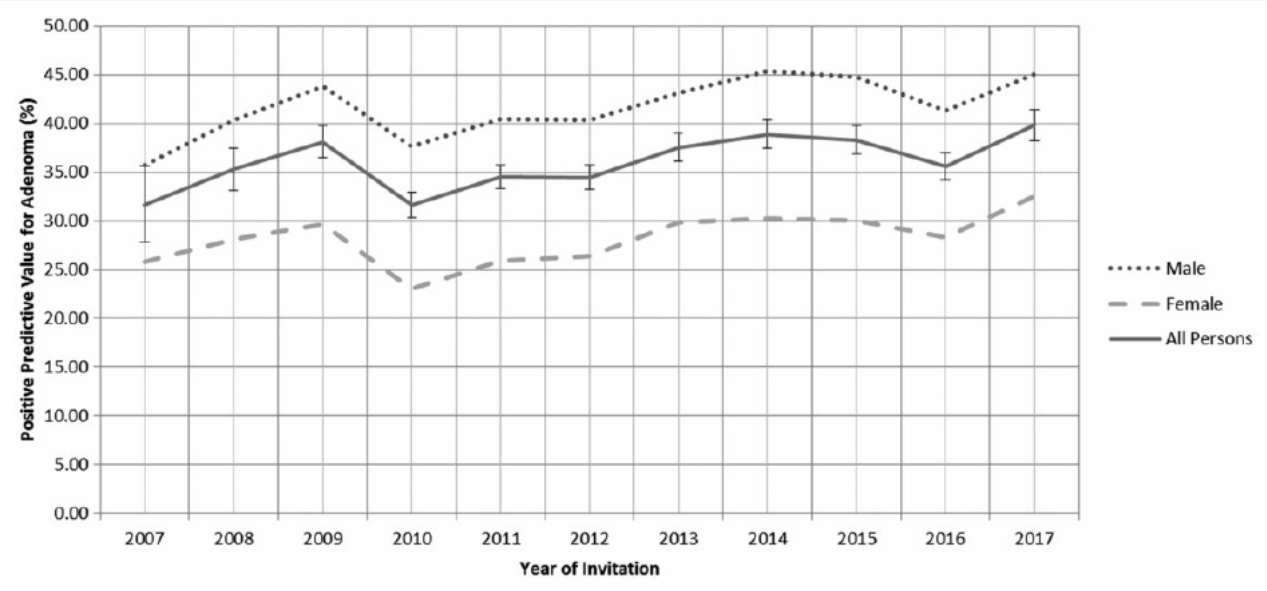
- Changes in laboratory processes?
  - Unlikely owing to strict QA
- Faecal occult bleeding associated with multiple chronic morbidity
- Could reflect levels of systemic inflammation in the population
- May be related to lifestyle – diet, obesity etc.

Does it matter?

Changes in PPV for Cancer



Changes in PPV for Adenoma



Conclusion

- Population faecal occult bleeding has increased in 50 year-old screening participants
- This may reflect changes in population level of lifestyle-induced multi-morbidity
- This could affect the efficiency of colorectal screening based on FOB

Acknowledgements

- Everyone working in the SBoSP
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