# Using behavioural science to increase participation in cervical cancer screening

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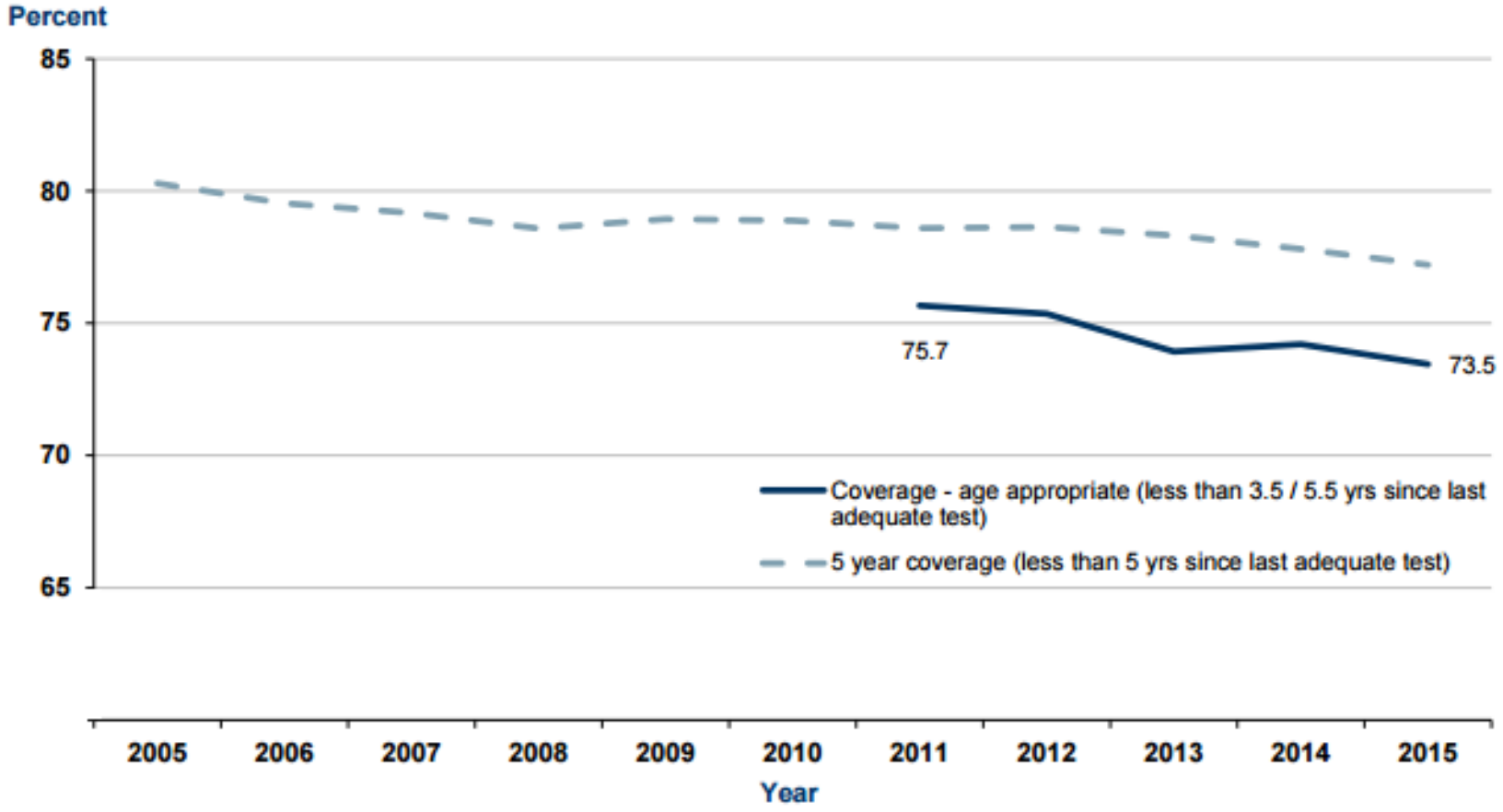
# Background

- Cervical screening is a highly effective way of detecting pre-cancerous cells, and allows them to be treated before cancer develops.
- Population based programmes are the most successful way of reducing cervical cancer incidence and mortality.
- However, around 1 in 4 women do not attend for screening as recommended.

**Figure 1: Cervical screening – Coverage by age group (25-64)**

England at 31 March, 2005 to 2015




2006 data as at 10th August 2006

# Research designed to understand non-participation

- Using record data to examine demographic correlates of uptake
  - age, SES, ethnicity
- Surveys to examine cognitive and attitudinal correlates of uptake (intended, reported or recorded)
  - Knowledge, fatalism
- Interviews with non-participants to explore ‘reasons’
  - Barriers, misconceptions

# Research designed to reduce non-participation

- Modifying the test
  - HPV self-test vs cervical smear
- Modifying the screening offer
  - Time of appointment, GP endorsement, leaflets, additional reminders
- Public education on screening
  - Media campaigns
  - Changing attitudes/addressing misconceptions

# Traditional models of health behaviour

Intention formation

- Perceived barriers & benefits
- Attitudes
- Social norms
- Perceived severity & susceptibility
- Efficacy beliefs

e.g. Health Belief Model, Theory of Planned Behaviour, Theory of Reasoned action

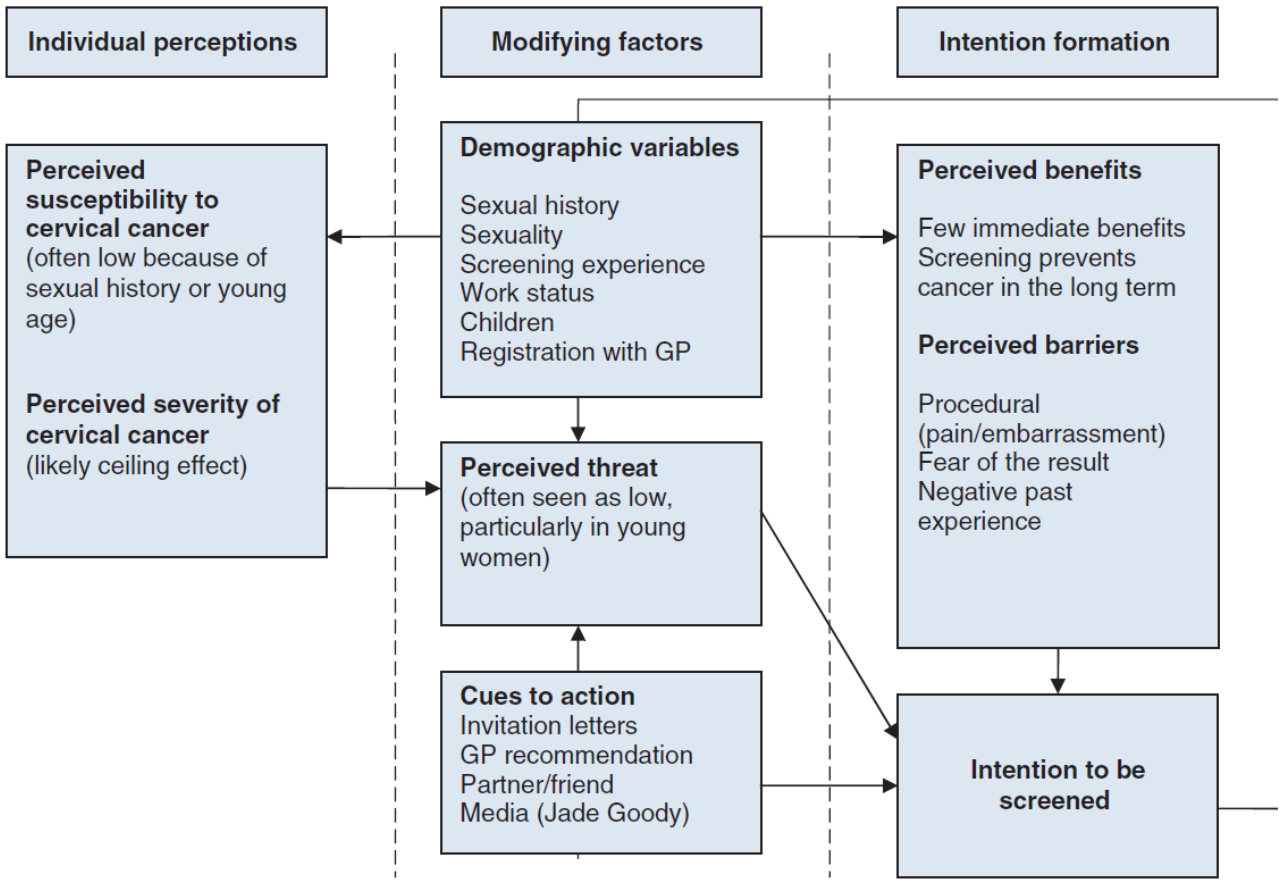



**Figure 1.** Predictors of screening attendance using a Health Belief Model framework.

From Waller et al (2012)

# Traditional models of health behaviour

- Translation of intention into action
  - Barriers to implementing plans
  - Intention-behaviour gap


**Table 1.3** Percentages of participants with positive versus negative intentions who subsequently acted versus did not act in selected studies of intention–behavior relations

| Authors | Behavior | Inclined | | Disinclined | |
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| | | Actors (%) | Abstainers (%) | Actors (%) | Abstainers (%) |
| Gallois *et al.* (1992) | Condom use | 43 | 57 | 10 | 90 |
| Orbell & Sheeran (1998) | Cancer screening | 43 | 57 | 12 | 88 |
| Sheeran & Orbell (2000a) | Exercise | 46 | 54 | 3 | 97 |
| Sheeran & Orbell (2000b) | Cancer screening | 70 | 30 | 0 | 100 |
| Sutton *et al.* (1994) | Cancer screening | 74 | 26 | 35 | 65 |
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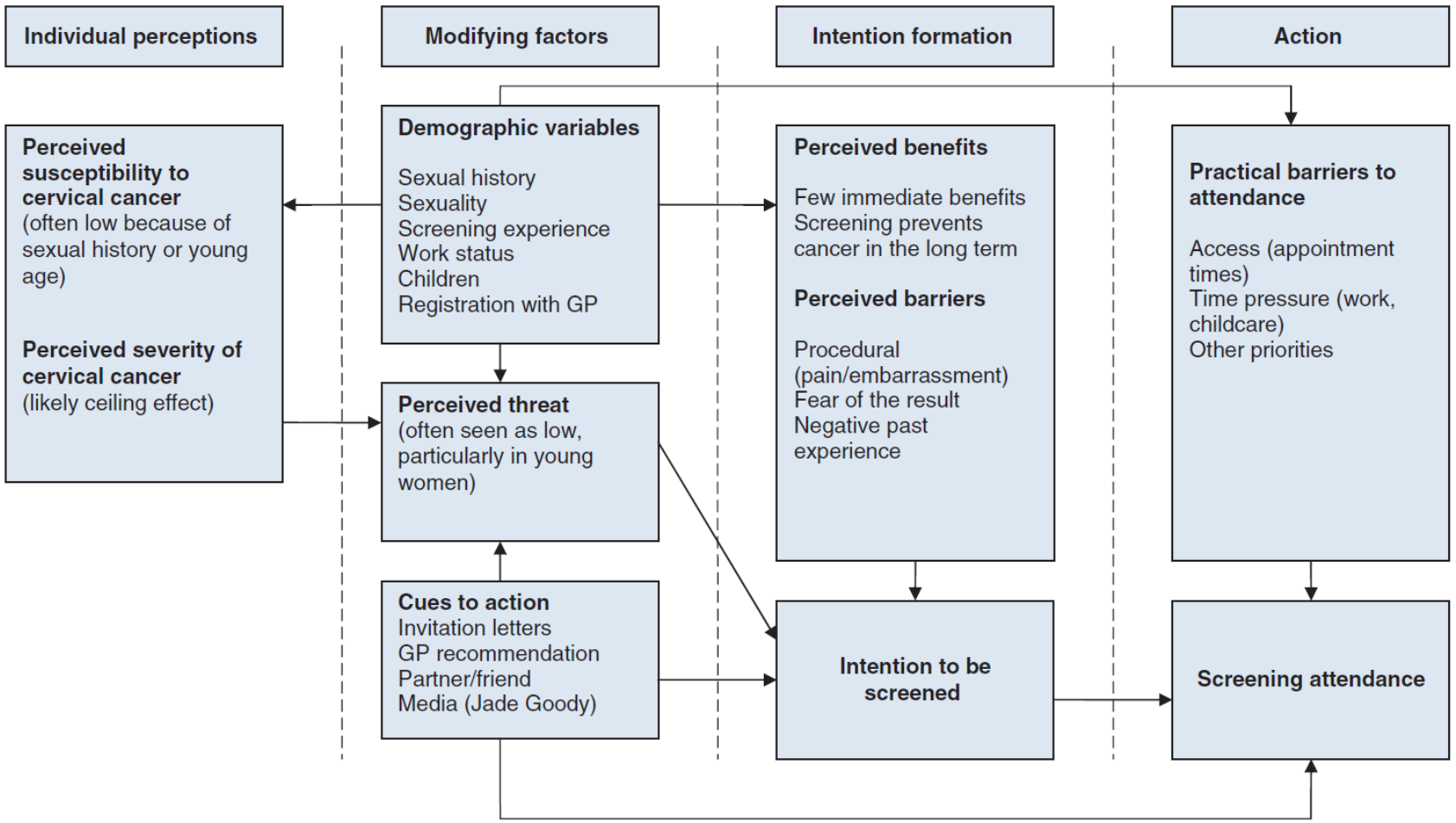


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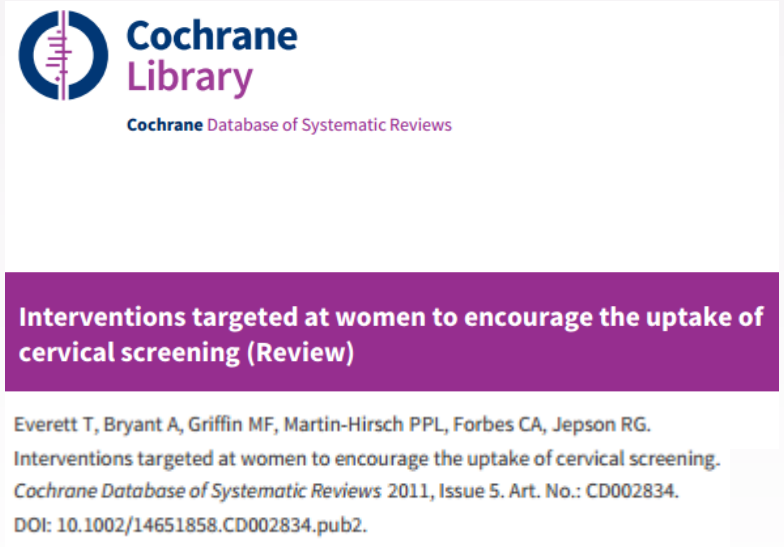
# Evidence for interventions

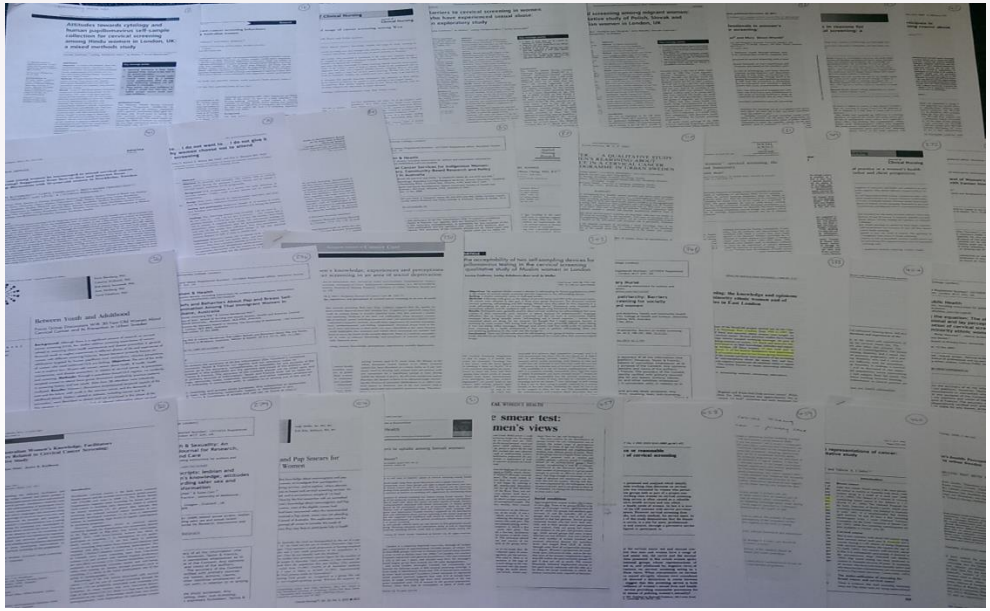
- 38 RCTs
- There is evidence to support the use of invitation letters and reminders
- Limited evidence to support educational interventions
- In UK, Reached the limit to what this can achieve

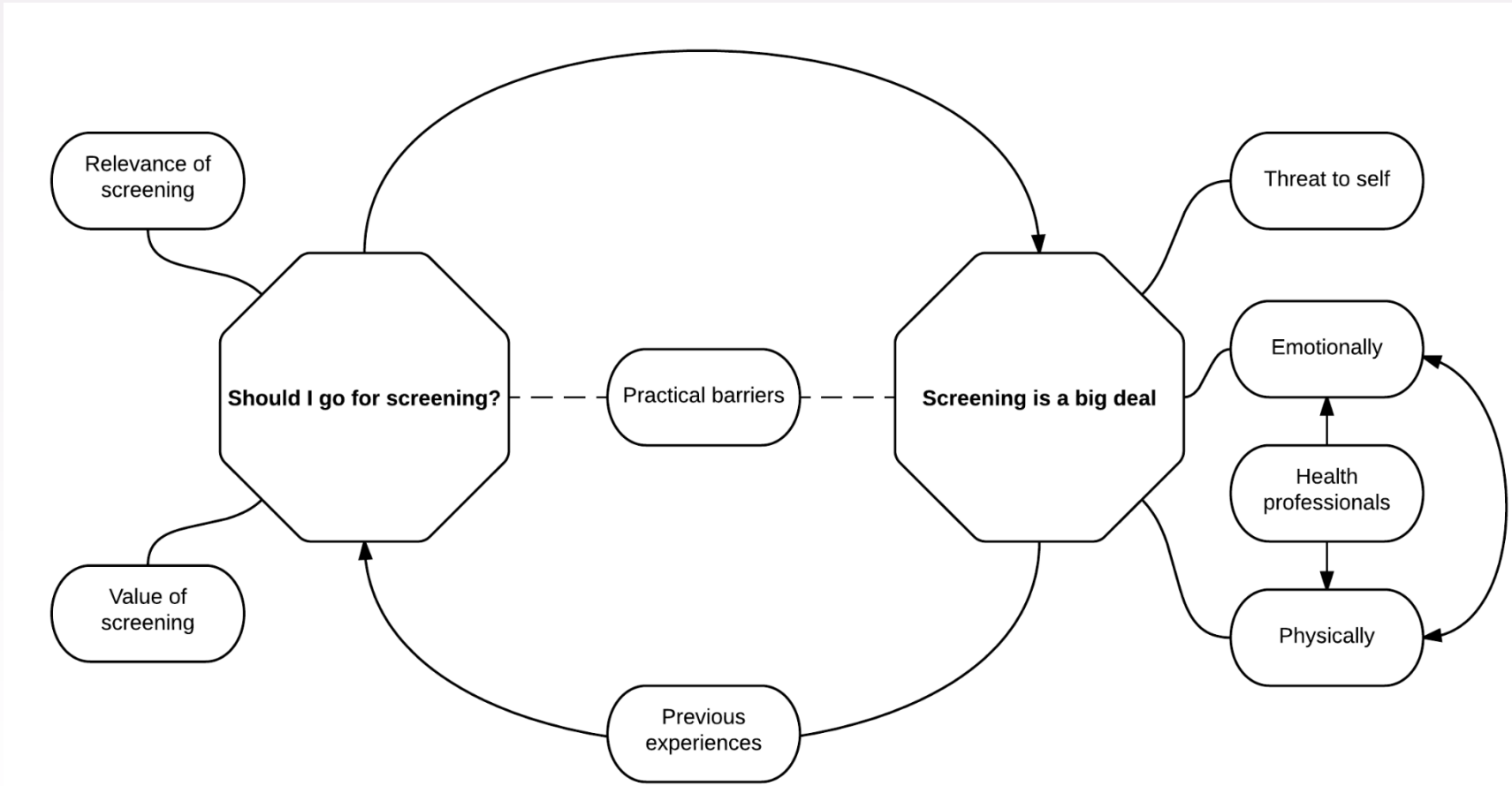


# Moving beyond the non-attender

# Barriers to screening attendance

- Thematic synthesis of qualitative studies
- Countries with organised screening programmes
- 39 published papers
- UK, Australia, Sweden and Republic of Korea
- Many focused on a specific subgroup of the population, mostly BAME women (*n* = 14).




Relevance of screening
Value of screening
Should I go for screening?
Practical barriers
Screening is a big deal
Previous experiences
Threat to self
Emotionally
Health professionals
Physically

# Should I go for screening?

- The relevance of screening – who's it for?
  - Causal beliefs
  - Life stage
  - Current health state
  - Family history
- The value of screening – what's the point?
  - 3 groups: 1) screening has value; 2) screening does not have value; 3) unaware of screening and its importance.
  - Influenced by beliefs on causes and consequences of CC, and who needs to be screened.

# Screening is a big deal

- Screening as a threat
  - To health (cancer or other diagnoses)
  - Causing ill health (through bad hygiene or anxiety)
  - Social threat (stigma of “promiscuous” woman)
- Physically
  - Pain and physical side effects, including bleeding
  - Widespread dislike of the speculum, inc. pain, coldness and feeling of penetration
- Emotionally
  - Embarrassment, vulnerability, anxiety, violation
  - Related to highly unusual situation and breaking norms of nudity, exposing genitals, etc.

# Practical barriers and life circumstances

- Competing priorities
  - *"Time wise it's difficult. When women don't have time so they just like shelve it for one reason or another. Or children come along. . . . and you put it on the back burner"*
- Accessibility issues
  - Indirect costs (loss of income, cost of transport, etc.)
  - Location of the clinic
  - Language barriers

# Will I go again?

- Screening is not a one-off event
- What influences the likelihood of future attendance?
  - Changing risk perceptions
  - Changing life circumstances
  - Past results of screening
  - Previous bad experiences
    - Including those of others

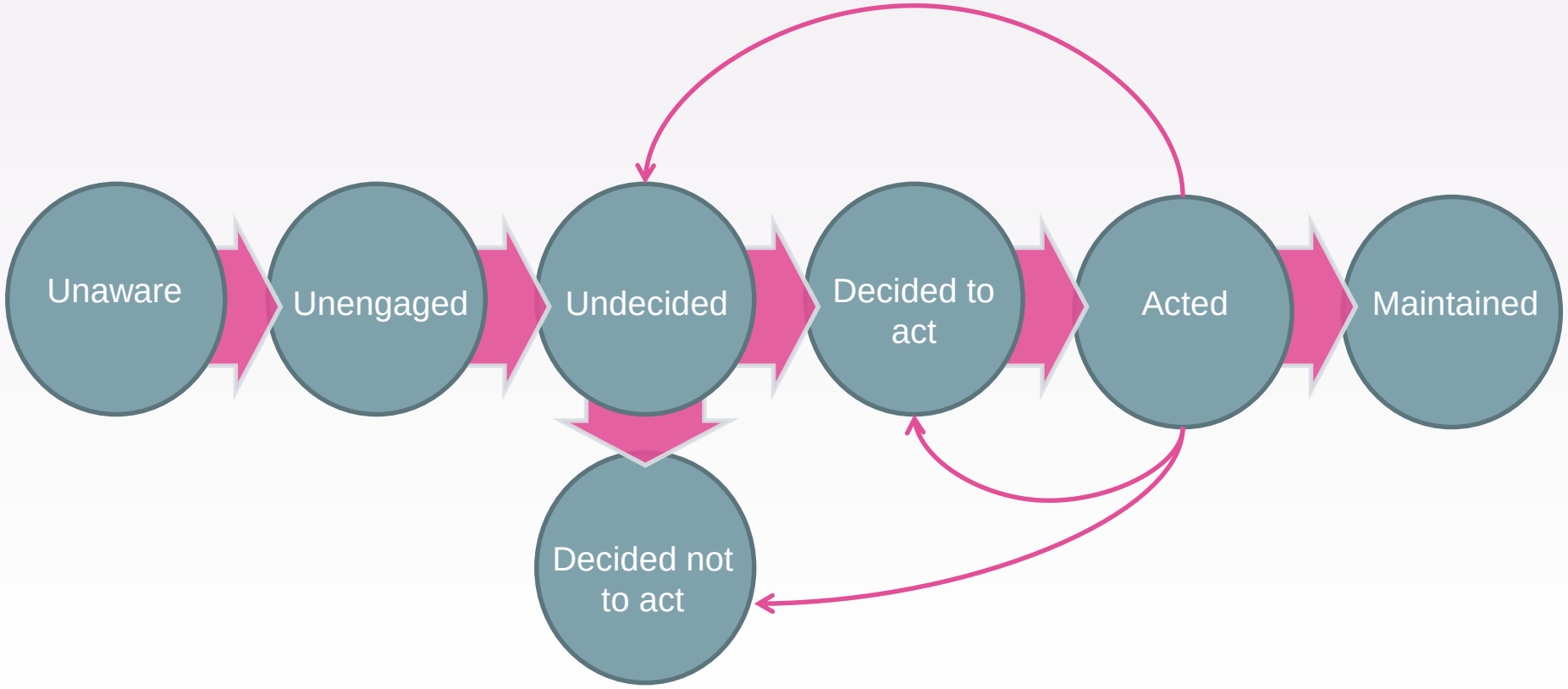
# Interviews with non-attenders: what have we learned?

- A few people are really set against screening
  - Can't face doing this test
  - Can't face a cancer diagnosis (at this point)
- Some describe 'barriers' (e.g. disgust, invasive)
- Many people have not yet 'got around to it'
- Some feel they don't need the test, often based on misunderstanding
  - Not a common cancer
  - Don't have symptoms
- Some have no recollection of being asked
- Many never read the information/invitation
- Not necessarily a rational decision

# Knowledge, beliefs and attitudes as predictors of non-participation

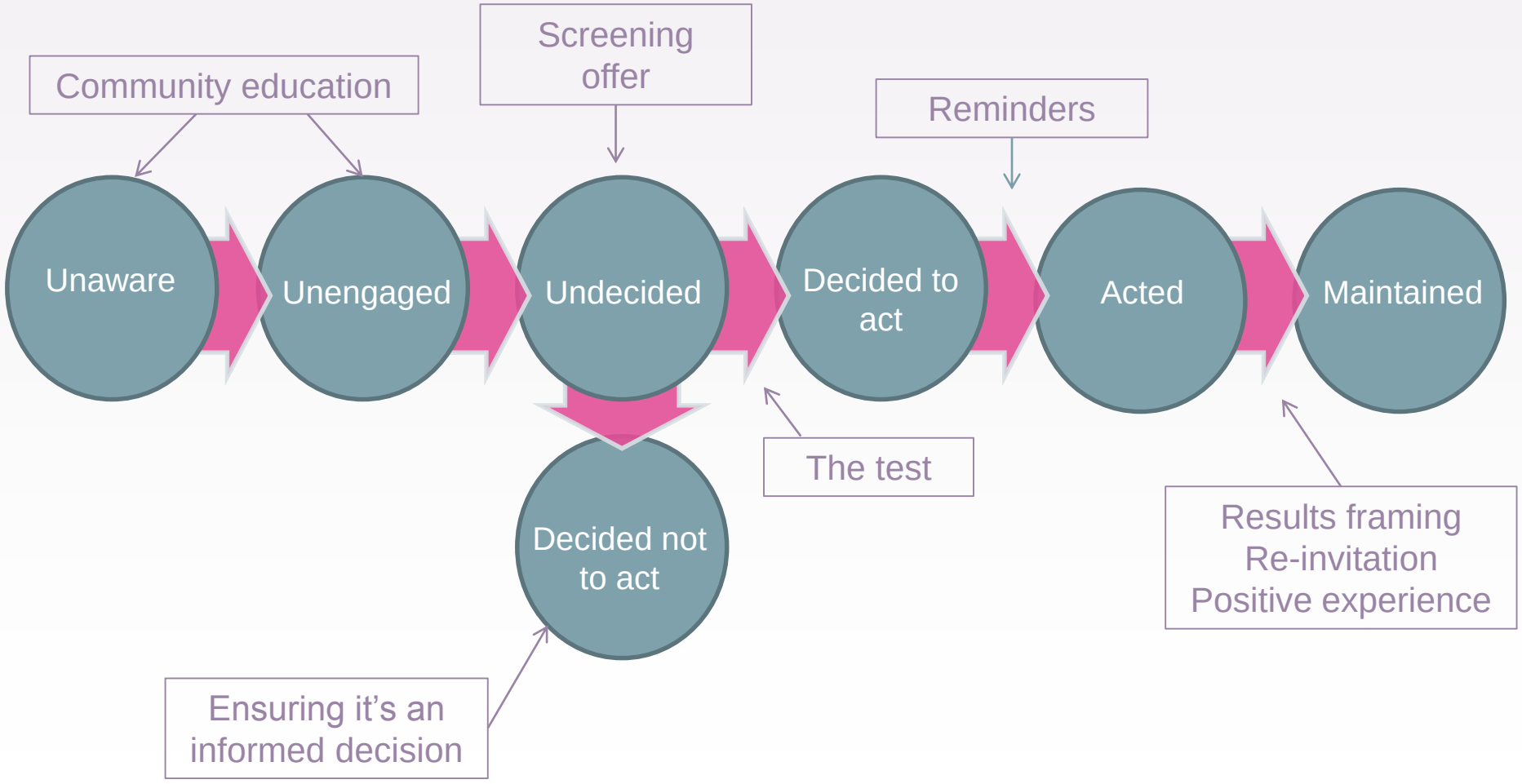
- Knowledge
  - Lower knowledge about cancer and screening
  - Lack of awareness that screening is for asymptomatic individuals
- Cancer fatalism
  - Higher in non-attenders
- Perceived personal benefits
  - Small differences in perceived benefit of early detection
  - Small differences in perceived reassurance with a negative result
- Risk
  - No consistent associations
- Worry/fear
  - No consistent associations

# Stages of non-participation




The Precaution Adoption Process Model (Weinstein, 2008)

# Integrating interventions

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# Identifying the main types of non-participation

- Home-based computer assisted interviews with screening-eligible women in Great Britain.

*Items used to determine PAPM stage:*

Have you ever heard of cervical screening, also called the smear test or Pap test?

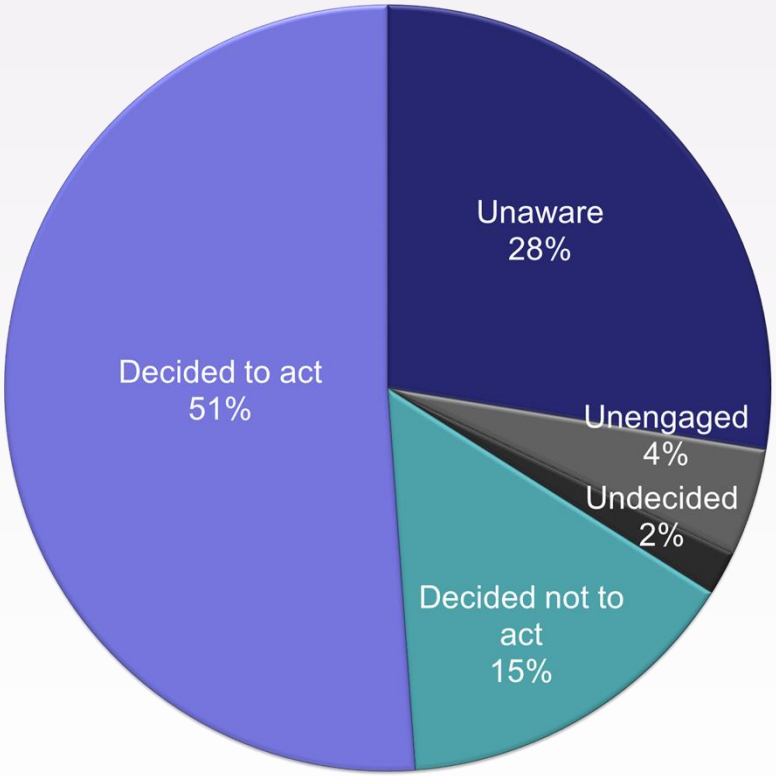
Have you ever had a cervical screening test?

When was the last time you had a cervical screening test?

Do you intend to go when next invited?

- 3,113 women in the UK
- 75% up-to-date and intending to be screening in the future (*maintainers*)

# Identifying the main types of non-participation




Breakdown of non-maintainers (n=855)

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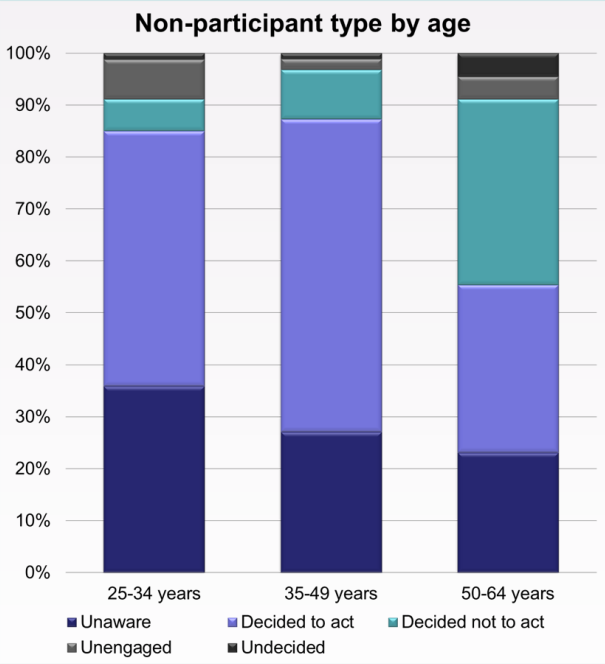
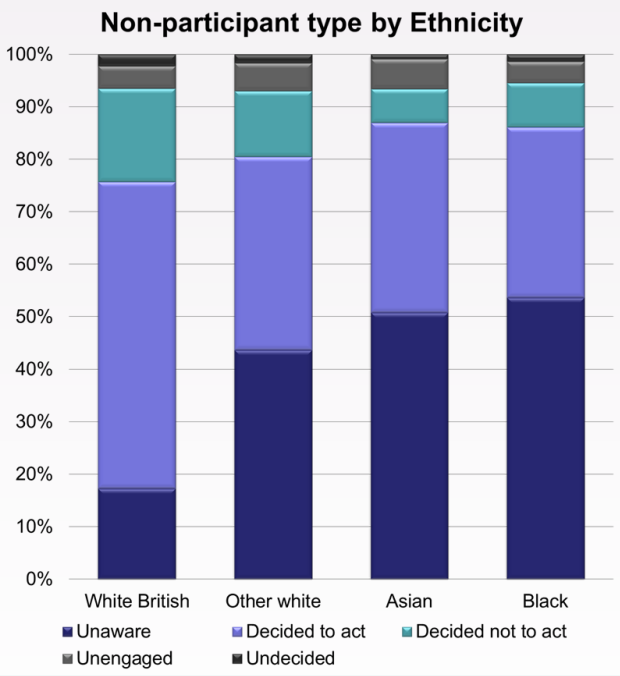
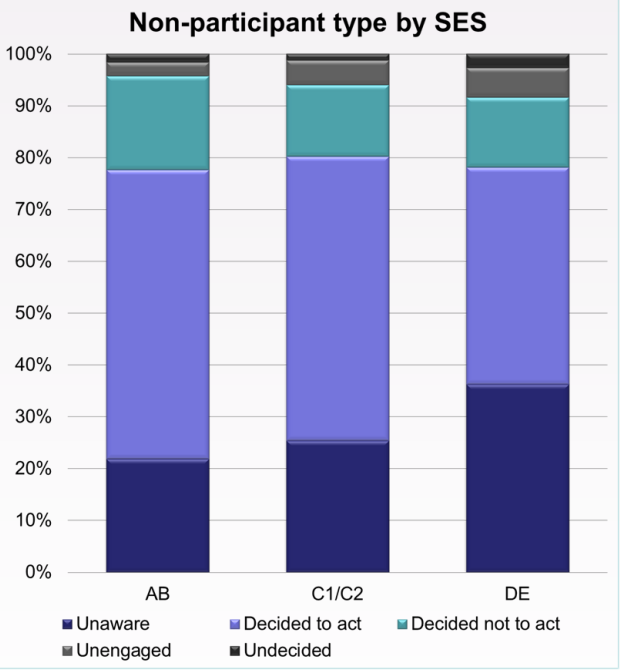


# Cervical Screening Awareness Week

**8 - 14 June 2014**



## Would you try the DIY smear test?

A painless kit could help the millions of women who avoid vital cervical cancer screenings, writes LAURA MILNE

FOR many women a trip to their GP surgery or clinic for a routine smear test fills them with dread. This is backed up by figures from OnePoll which show that eight out of 10 women find the routine test embarrassing, uncomfortable or even painful. New research also reveals that five million women are failing to attend regular cervical screenings and a further million have never had a smear test.

So could a home-testing kit for HPV (human papilloma virus) be the answer? Called GynaeCheck, the kit consists of a tampon-sized device which is used to collect a fluid sample from the cervix. This is sent to a laboratory to be tested for the high-risk strains of HPV, the virus known to be the cause of almost all cases of cervical cancer.

The £129 kit is delivered through the post and test results are expected within 10 days of the sample being returned. Those who test positively for HPV will then be referred to their GP or gynaecologist for further testing to check for abnormal (pre-cancerous or cancerous) cells. Women with a negative (or "clear") result are advised to test again in two years' time.

"It's a safe way to test for HPV," says consultant gynaecologist Jullien Brady. "The device has been used by over 30,000 women across the world."

Each year in the UK 3,100 women are diagnosed with cervical cancer but the disease is largely tr… Screenin… form of p… to wome… the NHS.

Howeve… GynaeHe… more tha… are not u…

Picture: GETTY

UP TO DATE: Do the test at home

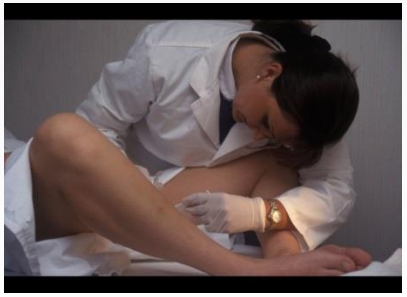
cervical screening appointments and 1.1 million admit to never having had a smear test.

cervical cancer drew attention to the disease and there was a rise in the number of women being tested after her death in 2009, but numbers have now declined.

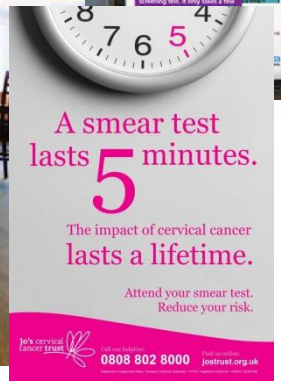
The new kit is aimed at those who have been put off by bad experiences or perhaps do not attend for religious or personal reasons, as well as over-65s who are not currently screened by the NHS but are still at risk of developing the condition.

Recent research from Keele University found that 20 per cent of new cases diagnosed each year are in women aged 65 and over.

"It's vital that women attend their free NHS screening as this is the best way to reduce the risk of cervical cancer," says Robert Music of the charity Jo's Cervical Cancer Trust. "For those who find it daunting, there have been some positive results from small









## Current projects:

- Using behavioural science to increase participation in cervical cancer prevention programmes
- Developing and testing interventions to increase informed uptake of HPV vaccination
- Assessing the psychological impact of primary screening for HPV
- Examining the psychosocial impact of human papillomavirus oropharyngeal cancer
- Understanding ethnic inequalities in cervical screening and HPV vaccination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