Preferences for Self-Sampling in a UK National Cervical Screening Programme: A Discrete Choice Experiment

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Background & Objectives

In the UK, the National Cervical Screening Programme (UK-NCSP) involves women visiting their general practice so a healthcare professional can collect a cervical human papillomavirus (HPV) sample. The introduction of HPV testing has enabled the development of self-sampling collection (vaginal or urine) methods with good test accuracy. Self-sampling avoids the need for uncomfortable speculum examinations potentially influencing uptake to the NCSP. This study aims to quantify preferences and uptake to screening in women eligible for the UK-NCSP.

Key Point 1

UK screening uses a clinician-collected cervical sample; little is known about preferences for self-sampling features.

Key Point 2

On average, respondents preferred higher accuracy and vaginal or urine sampling, and disliked severe pain and five-yearly screening.

Key Point 3

Self-sampling increased uptake in an often under-screened subgroup; others still preferred clinician sampling for reassurance.

Methods (Protocol Published in *BMJ Open*)

Design: An online survey containing a discrete choice experiment (DCE).

Setting: United Kingdom.

Population: People eligible for cervical screening across the UK (N=1,129).

Methods: Each respondent completed eight choice tasks asking them to choose between two potential screening scenarios, or no screening. Features of screening studied included accuracy (80 to 95% sensitivity); sampling method (clinician-collected cervical sample, clinician-collected vaginal sample, vaginal self-sample or urine self-sample); location (home; healthcare setting); level of pain (none to severe); clinician contact (yes; no); screening frequency (annual to every five years). Choice data was analysed using conditional logit, random parameter logit and latent class models.

Scan to read the protocol

Respondent Characteristics

A total of 1,129 respondents completed the survey, after excluding 94 respondents due to rapid completion times (<5 minutes) and 87 respondents with low ReCAPTCHA scores (<0.5). The majority of the sample identified as White British (79%), heterosexual (95%), reported attending the UK-NCSP within the past five years (72%), consistent with cervical screening uptake reported for 2023/2024 (68.8%). The survey achieved a 60% response rate.

Example Choice Task

Screening feature	Programme A	Programme B	No screening
Detection rate	95% 	80% 	No cell changes would be identified
How the sample is taken	Healthcare practitioner collects a sample from the cervix (smear test)	Urine sample (take the sample yourself)	Sample is not taken
Location	Healthcare setting	Home	Not relevant
Discomfort / pain	Moderate	None	None
Contact with healthcare practitioner	Contact in person	No contact	None
Screening frequency	Every 3 years	Every 2 years	No screening

Average Preference Results *(Random Parameter Logit Model)*

Respondents generally preferred to have screening with higher accuracy and vaginal or urine sampling options. They also preferred to avoid severe pain and five-year screening intervals.

Screening Uptake

Predicted uptake was highest for vaginal self-sampling (95.6%) and urine self-sampling (94.3%), compared with 87.8% for the current clinician-collected cervical sample. The gain came mainly from Self-samplers (Class B), whose uptake rose from 56.5% to over 99% when offered self-sampling. Uptake among the Value reassurance class (Class C) was high for every option, while uptake among the Unengaged class (Class A) varied from 35% to 53%.

Each screening option offered separately against opting out:

Available option	Class A (6%): Unengaged	Class B (19%): Self-samplers	Class C (75%): Value reassurance	Weighted average uptake
Clinician-collected cervical sample	38.8%	56.5%	99.6%	**87.8%**
Clinician-collected vaginal sample	53.1%	74.5%	99.6%	**92.0%**
Vaginal self-sampling	39.9%	99.0%	99.2%	**95.6%**
Urine self-sampling	34.6%	99.5%	97.8%	**94.3%**

Preference Subgroups *(Latent Class Model)*

Three preference subgroups emerged. Class A was unengaged, with no significant attribute preferences; members were less likely to have attended screening before or to see themselves at risk of cervical cancer. Class B preferred home self-sampling and less frequent screening; members were less likely to have attended screening before and more likely to have found it painful. Class C valued reassurance, preferring clinician-collected samples and more frequent screening; members were more likely to have attended screening before and to perceive themselves at risk, and less likely to have experienced pain.

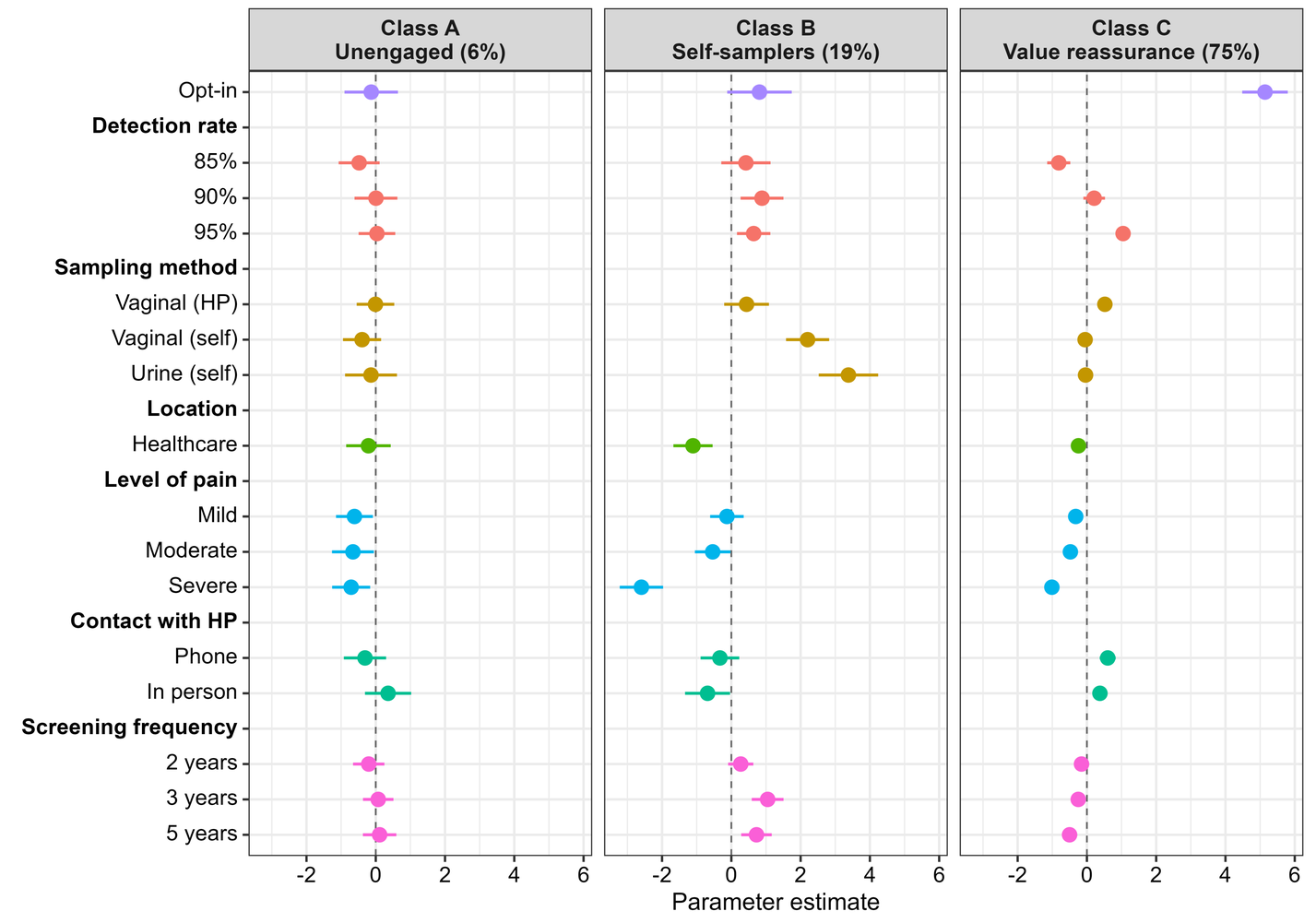


Figure 1. Latent class results, parameter estimates with confidence intervals presented by Class.
Abbreviations: HP, healthcare provider.

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