

Supplementary online material:

Sample size considerations

The sample size for the questionnaire was based on consideration of parental vaccine acceptance of dose 1 HPV uptake for the NW in 2008/09 at ~90% and cervical screening uptake at ~80%. Using the 2009/10 cohort of 12-13 year olds eligible for the vaccine as an estimate, approximately 2500 questionnaires were to be sent in total. Based on a conservatively estimated 20% response rate taken from a previous study investigating parental attitudes to the HPV vaccine²⁹, 500 questionnaires would be returned.

Data were not available to allow estimation of mothers' intentions to change screening behaviour. 100 returns from non-screened women would allow the proportion of women changing attitudes to be determined with 50% relative accuracy if 15% reported such changes (based on the binomial two sided 95% confidence interval).

It was planned that a pragmatic sample of 20-30 mothers, who had agreed on their questionnaire to be contacted for interview, would be selected. It was anticipated that this would be an adequate number to understand how perceptions of cervical screening are modified by HPV vaccination.

Supplementary results from semi-structured interviews:

Factors affecting cervical screening intentions unrelated to HPV vaccination

Having the time or convenient access to services was an issue for women across all three groups, as was the '*uncomfortable*' nature of the '*procedure itself*'. Those who had lapsed attendance (PCL and NCL) discussed barriers but declared fewer reasons for attendance in the past. Reasons for past screening included increased contact with the health service when pregnant and during the post-natal check-ups. Even so, as children got older and contact with the health service reduced, being a mother for lapsed women meant, screening was '*not a priority*' making '*the children the priority rather than myself*' (PCL15) with particular difficulties identified for working mothers '*with kids to balance around and a job*' (NCL17). One of the No Change-Lapsed women missed the '*structure*' of the '*health service system*' in the process of '*having children*' which '*keeps you on the screening pathway*' (NCL16). Poor access and lack of availability of convenient appointments remained a major barrier to screening for those lapsed women who expressed no change in future screening intentions

(NCL), even following their daughters' vaccination. Also some mothers were *'still really none the wiser as to where..to go to have it completed'* (NCL17).

Always attenders (NCA) more frequently expressed a general belief in *'prevention rather than cure'* (NCA5) and *'early diagnosis'* (NCA8). Such beliefs were made *'more prominent because someone in the family'* (NCA9) or a *'friend'* had been affected by cancer or a related illness. Knowing and hearing of people affected by cancer was a reason many lapsed women returned to screening (PCL), with the increased realisation *'as you get older it does affect people's lives'* (PCL12). Jade Goody, the reality television star who died from cervical cancer further enhanced the relevance of screening to always attenders and lapsed attenders expressing a positive change. As a *'young'* woman, she was a *'popular figure'* they *'could identify with'* (PCL10). They *'empathised with her situation because she had two young children'* (PCL1). Neither of the lapsed women who expressed no change (NCL) could recall any friend or family member being affected by a related disease or expressed an influence from Jade Goody's death.