Derby Teaching Hospitals NHS
NHS Foundation Trust

Recent developments in the Cervical Screening Programme (CSP) and Cervical Cytology

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Taking pride in caring

SURGICAL TRAINING NETWORK

- **NHSCSP**
  - Aims and objectives
  - Structure and governance
  - Call & Recall

- **Cervical Cytology**
  - Impact of LBC
  - HPV Triage & Test of Cure
  - HPV primary screening
  - Impact of HPV vaccine

- **Cervical cancer audits**
  - Audit & disclosure
  - Duty of Candour

The NHS Cervical Screening Programme (CSP) - History

- Cervical/vaginal sampling been around since 1940's
  - 1941: Papanicolaou & Traut, 'The diagnostic value of vaginal smears in carcinoma of the uterus', Am. J. Obs Gyn
  - 1944: Ayre's spatula – more efficient than vaginal aspirate for detecting cervical cancer
  - 1954 – Papanicolaou's 'Atlas of Exfoliative Cytology'
- 1960's – value of cervical smear as a diagnostic aid and potential as a screening tool became widely recognised
- Not until 1988 NHSCSP organised into a formal screening programme, 4 main elements:
  - Call & Recall system
  - Cervical Cytology
  - Colposcopy
  - Histology
- **Now one of best CSPs in the world**

The NHS Cervical Screening Programme (CSP)

- Aims & objectives – to reduce the incidence of and mortality from cervical cancer, by detecting abnormalities of the cervix that could, if undetected and untreated, develop into cervical cancer.

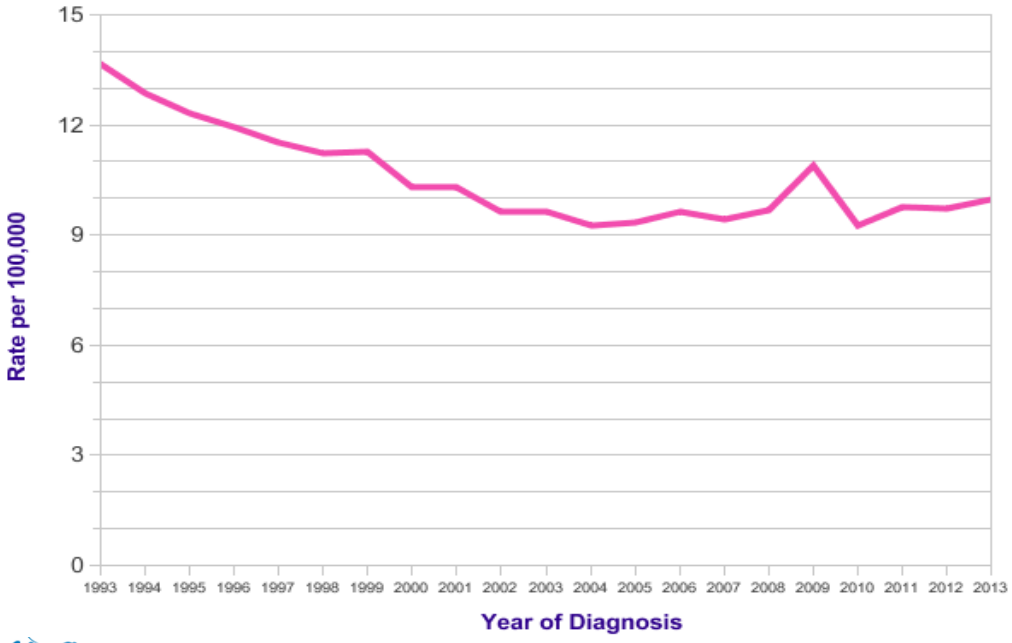
- Women aged 24.5 to 49 are invited every 3 years for screening
- Women aged 50 to 65 are invited every 5 years

- Women with high grade abnormality to be seen in Colposcopy within 2 weeks
- Women with low grade abnormality (or Cytology negative / HPV positive) to be seen in Colposcopy within 6 weeks
  - NHSCSP Document 20 – Colposcopy & Programme Management, March 2016

- Cancer Reform Strategy 2007: >98% women to receive result of screening test within 14 days of having test taken – the 14 day TAT

Cervical Cancer - Incidence

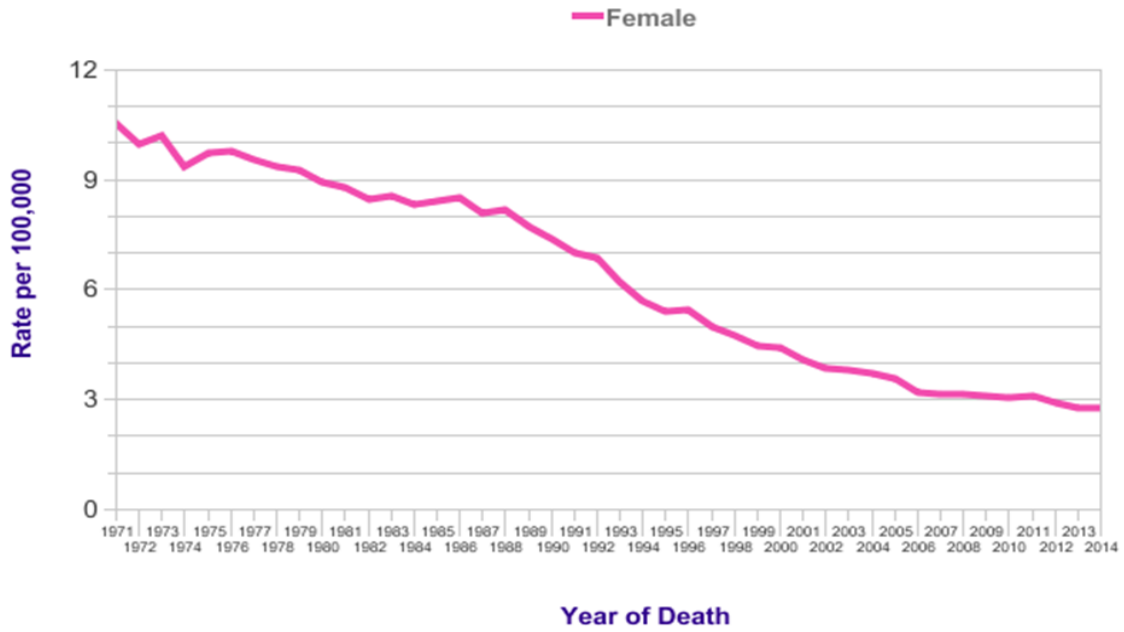
- Cervical cancer is the 13th most common female cancer in UK
- ~ 3,200 new cases of cervical cancer in the UK in 2014
- Cervical cancer incidence rates have decreased by 44% in the UK since 1970s
- Cervical Cancer:1993-2013 – UK Incidence Rates per 100,000 Population



CANCER RESEARCH UK

Cervical Cancer - Mortality

- Cervical cancer is 17th most common cause of cancer death in UK
- ~ 890 deaths in the UK in 2014
- ~ 1% of all cancer deaths in females in the UK in 2014
- Cervical cancer mortality rates have decreased by 72% in the UK since 1970s – Mortality rates per 100,000 1971-2014:



CANCER RESEARCH UK

National coverage*

The percentage of eligible women screened adequately within the specified period

72.7% **coverage for women aged 25-64 at March 2016**

(a decrease from 73.5% at March 2015)

Regional coverage*

Highest	East Midlands	for women aged 25-64
Lowest	London	

Receipt of test results

The programme should ensure that **at least 98.0%** of women receive their result within two weeks of being screened.

89.1% **of women were expected to receive their result within two weeks in 2015-16**

The North East was the only region to reach the programme's target with 98.8%.

Local coverage*

Out of 150 Local Authorities:

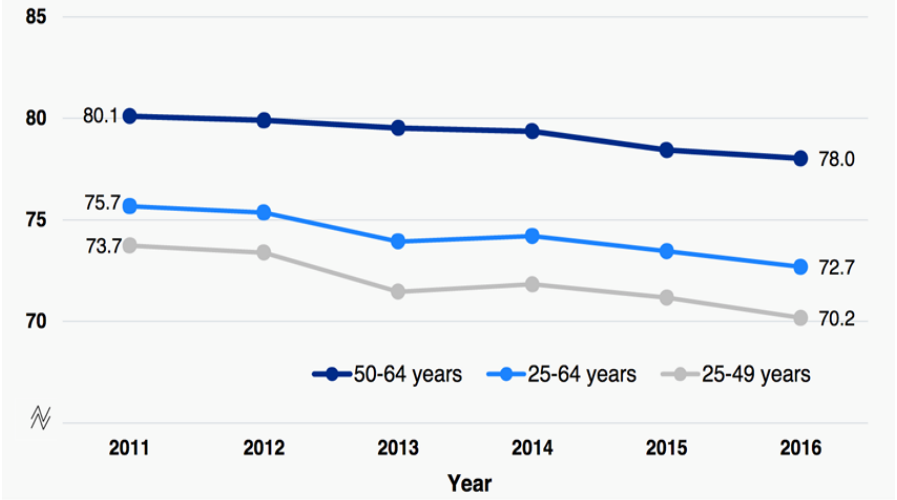
51 achieved coverage of **75% and above**

58 achieved coverage of **70% to less than 75%**

* Women aged 25-49 screened within the last 3.5 years and women aged 50-64 screened within the last 5.5 years.

CSP - coverage

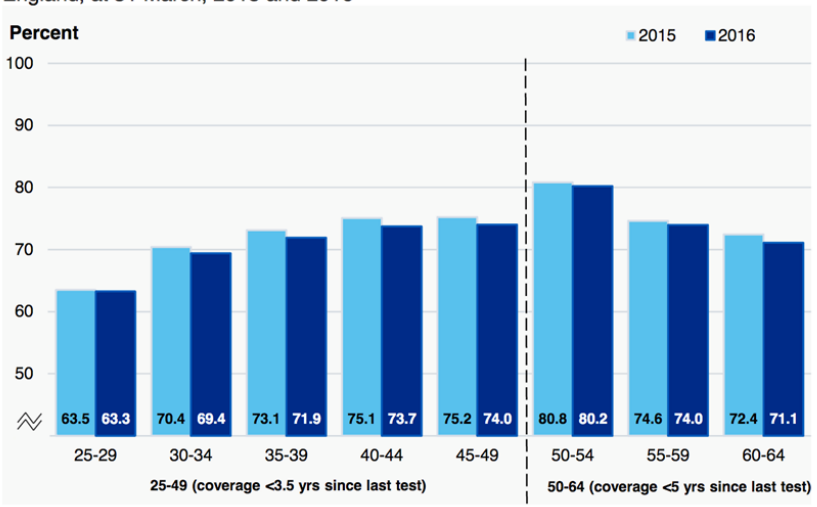
Figure 1. Cervical Screening age-appropriate coverage by age group England, 2011 - 2016



Source: Open Exeter (age appropriate coverage). NHS Digital. See also Table 1 in the data tables.

Figure 3: Cervical screening – Coverage* by age group

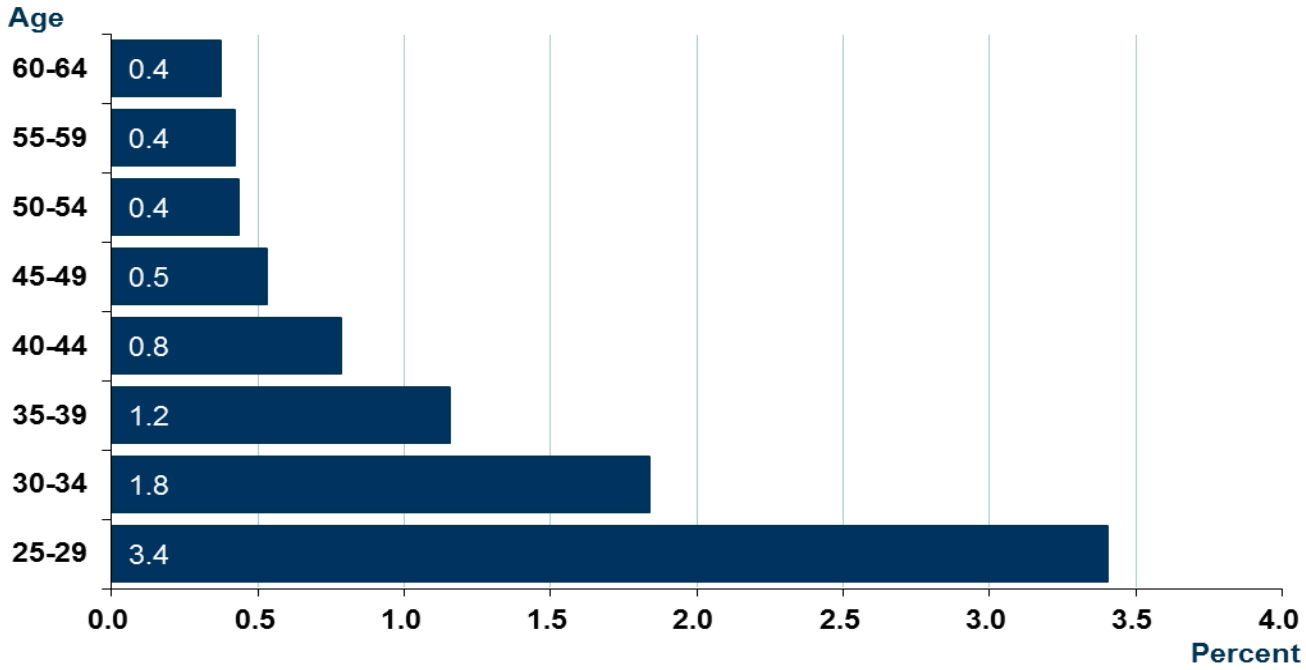
England, at 31 March, 2015 and 2016



*Age appropriate coverage in the 50-64 age group (as measured at five and a half years) is not available for the more detailed age bands, this chart shows the breakdown under the previous definition (as measured at five years)

Source: KC53, NHS Digital. See also Table 1a in the data tables.

Cervical screening - Test results showing a high-grade abnormality as a percentage of all test results, by age group of women, England 2014-15



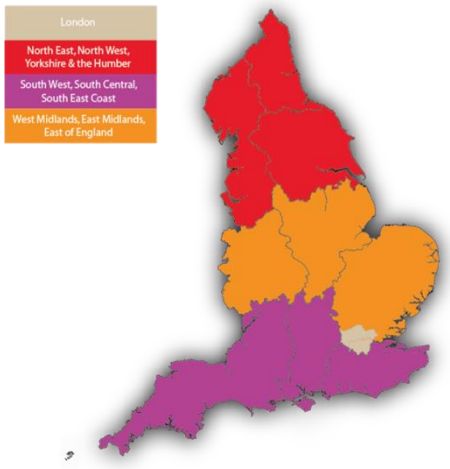
NB. Note that the percentages in Figure 6 are aggregates of four test result groups (high-grade dyskaryosis (moderate), high-grade dyskaryosis (severe), high-grade dyskaryosis (severe)/?invasive carcinoma and ?glandular neoplasia of endocervical type.)
Source: KC53, Health and Social Care Information Centre.

CSP – structure and governance

- PHE Screening Division leads all national population screening programmes, Director of Screening Programmes - Anne Mackie
- PHE National Cervical Screening Programme manager - Ruth Stubbs

- Screening Programmes are commissioned by NHS England
  - Service Specification No.25, Cervical Screening

- Governance is provided by the **Screening Quality Assurance Service** (SQAS). Whole pathway – invitation to cancer diagnosis
- 4 regional SQAS teams with defined set of standards to ensure quality of services provided
  - » North
  - » Midlands & East
  - » South & South West
  - » London

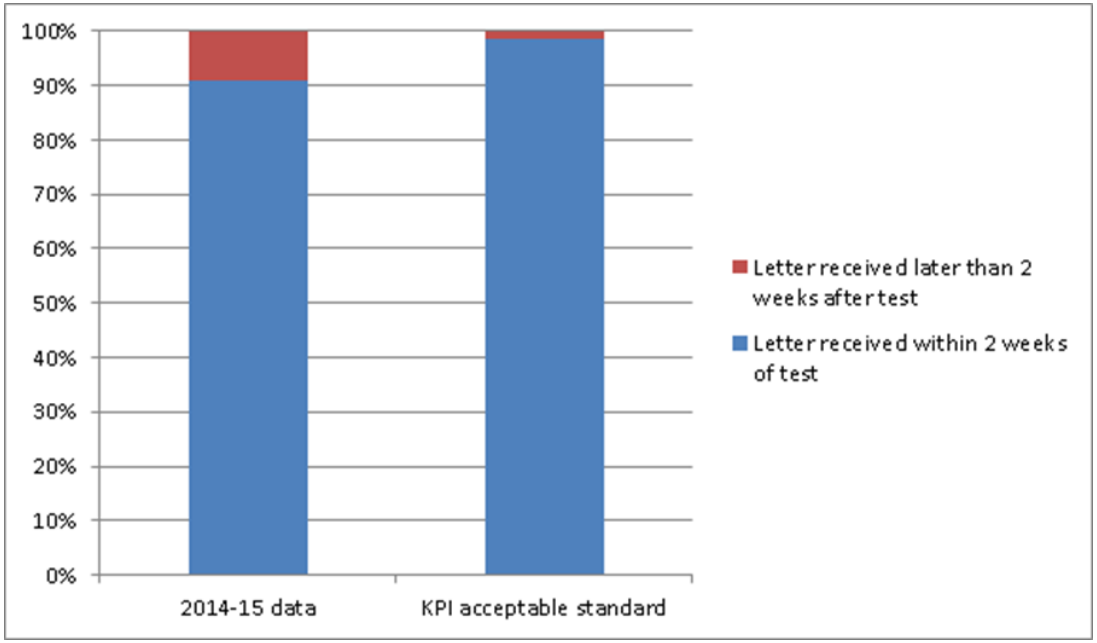


Call & Recall

- Send invitations and result letters to women
- Capita took over from Primary Care Support England (PCSE) in September 2015
- All local and regional services now in 3 strategic centres
  - » Leeds
  - » Preston
  - » Clacton
- Single printing centre in Mansfield
- National Call & Recall SQAS based in Bris

14 day Turnaround Time (TAT)

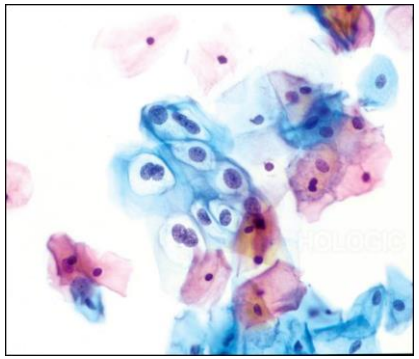
- Standard is >98% women to receive result <14 days
- 2014/15 = 91% compliance
- Backlogs in cytology labs, Capita not 7 day working
- 2016/17 will be worse as backlogs develop in many areas

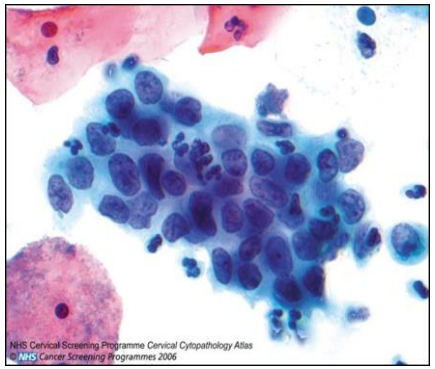


Cervical Cytology

- 58 Cervical Cytology laboratories in England (~200 in 1980s)

- Liquid Based Cytology (LBC) been used in UK since 2005/06
- Dramatically reduced inadequate rates of conventional cytology (↑15%)
- 3,200,000 samples in England per year
  - ~2% inadequate
  - ~5% low grade abnormality
  - ~1% high grade abnormality
  - ~92% negative (normal)





Achievable Standards for Cytology reporting

Table R: Achievable standards for laboratory reporting

England, 2014-15 and 2015-16

Indicator	5th - 95th percentile range	
	2014-15	**2015-16**
Positive Predictive Value (PPV) for CIN2 or worse*	76.5 - 90.9%	76.0 - 92.5%
Referral Value for CIN2 or worse*	2.0 - 3.8	1.9 - 4.5
Abnormal Predictive Value (APV) for CIN2 or worse*	10.7 - 28.8%	7.2 - 27.9%
Inadequate as a % of all samples**	1.1 - 4.5%	1.0 - 5.1%
Number of laboratories whose results were used	63	58

* The percentile ranges for the PPV, RV and APV indicators are calculated using data from the previous year (KC61, Part C2). For example, the PPV for 2014-15 is based on data from 2013-14. See Appendix C for definitions of PPV, RV and APV.
See Appendix F on Outcomes of Gynaecological Referrals for further information about cervical intra-epithelial neoplasia (CIN).
** Based on results for women aged 25-64 tested in GP and NHS community clinics only.
NB: Women with negative cytology but who test positive for HPV and are referred to colposcopy are not currently included in the calculation of referral value. See Appendix C – Definitions for more information.
Source: KC61, NHS Digital. See also Table 19a in the data tables.

HPV Triage and Test of Cure

- Introduced into CSP in 2011/12 following successful pilot at 6 'Sentinel sites' in England
- Now 7 approved HPV platforms in UK, test for ~14 types of HR HPV

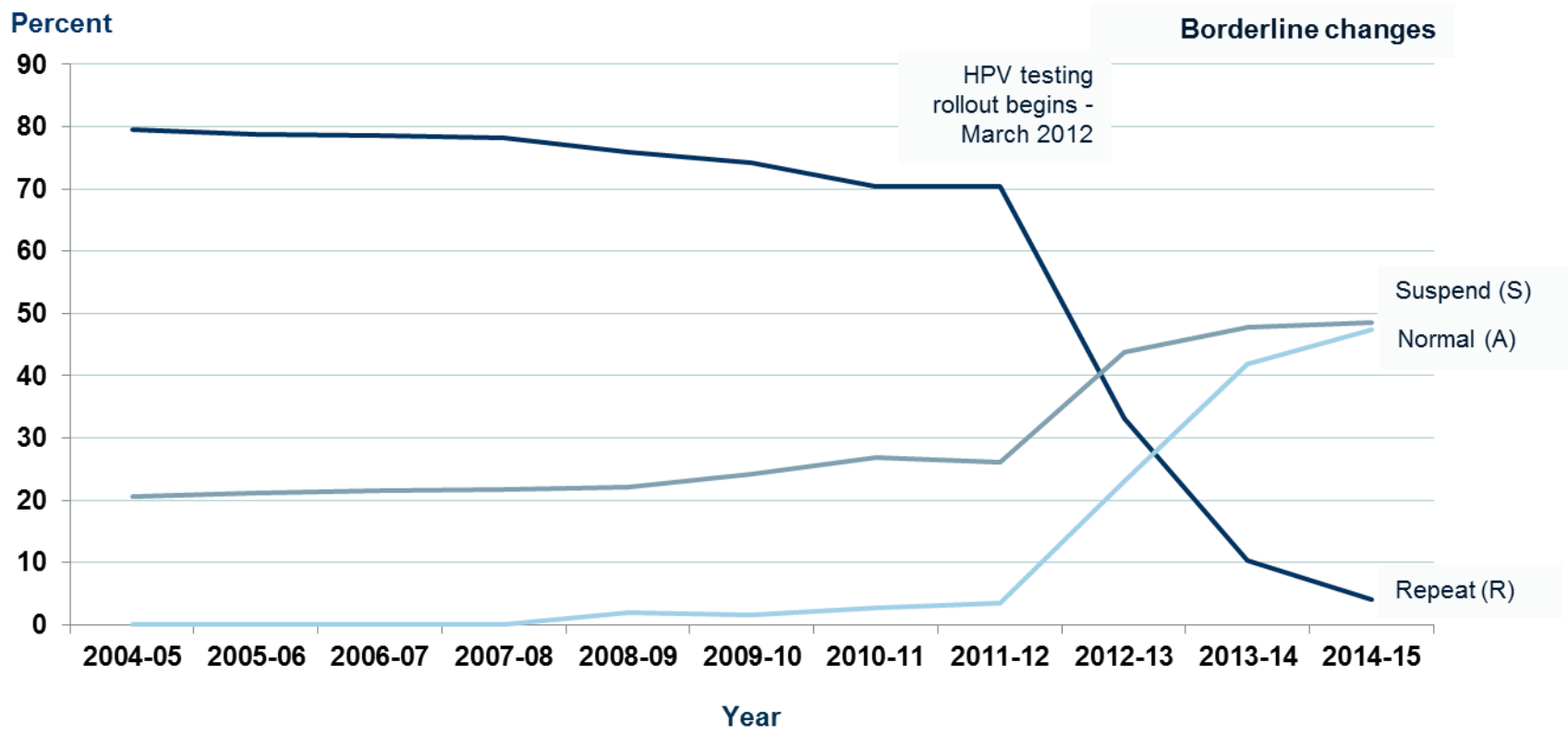
- Low grade cytology samples have triage HR HPV test
  - HPV +ve referred to Colposcopy (60%)
  - HPV –ve back to routine screening (40%)

- First follow-up sample after treatment for CIN have HPV ToC
  - HPV +ve referred to Colposcopy (16%)
  - HPV –ve back to routine screening (84%)

- Sentinel sites commenced

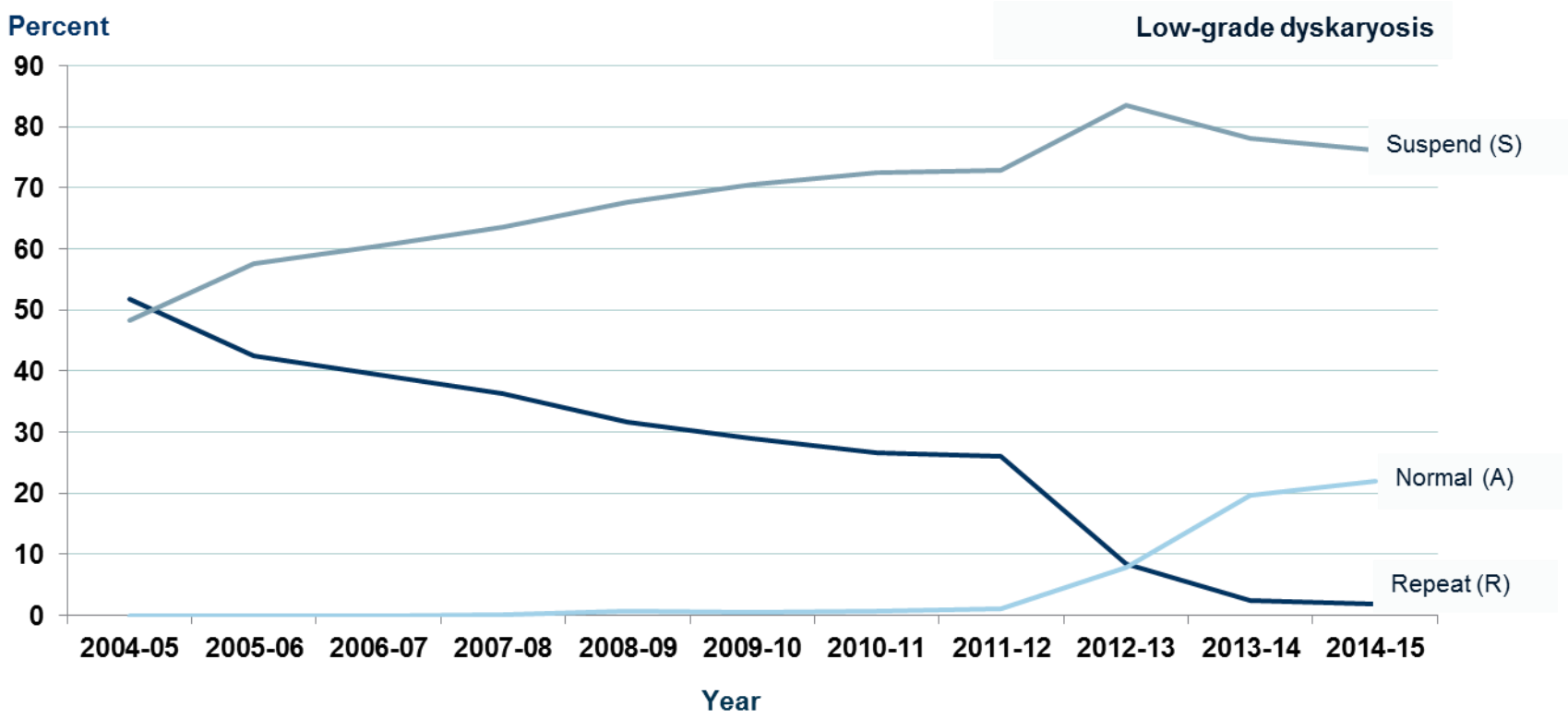
  HPV Primary Screening pilot in 2012/13

Recall status for women with borderline screening results England, 2004-05 to 2014-15



Source: KC53, Health and Social Care Information Centre.

Recall status for women with low-grade screening results England, 2004-05 to 2014-15



Source: KC53, Health and Social Care Information Centre.

HPV Primary Screening

- UK National Screening Committee recommended in Jan 2016
  - ARTISTIC study (Kitchener)
  - High NPV: 93.8 – 99.7%
  - More appropriate test for vaccinated women

- Ministerial announcement July 2016 (BBC/Daily Mail!)
- Implementation by/in 2019
- Implementation group chaired by PHE Director of Screening
  - Advising NHS England on configuration of cytology services
  - NHSE to procure new service
  - Details yet to be released
- Option appraisal for model of service delivery **January 2017: 4-15 labs**
- Uncertainty → recruitment & retention problems → screening backlogs
- PHE/NHSE 'Mitigation Plan' – pilot sites can increase HPV PS…..

HPV Primary Screening

- HPV +ve : cytology slide made (~15%)
  - Cytology abnormal - refer to Colposcopy
  - Cytology normal - 12 month repeat
  - 3 x HPV +ve / Cytology normal – refer to Colposcopy
  - ? 16/18 positive refer sooner

- HPV –ve : routine recall (~85%)
  - 3 or 5 years age dependent
  - Vaccinated population starting to enter screening programme
  - Potential to increase screening interval due to high NPV of HPV test

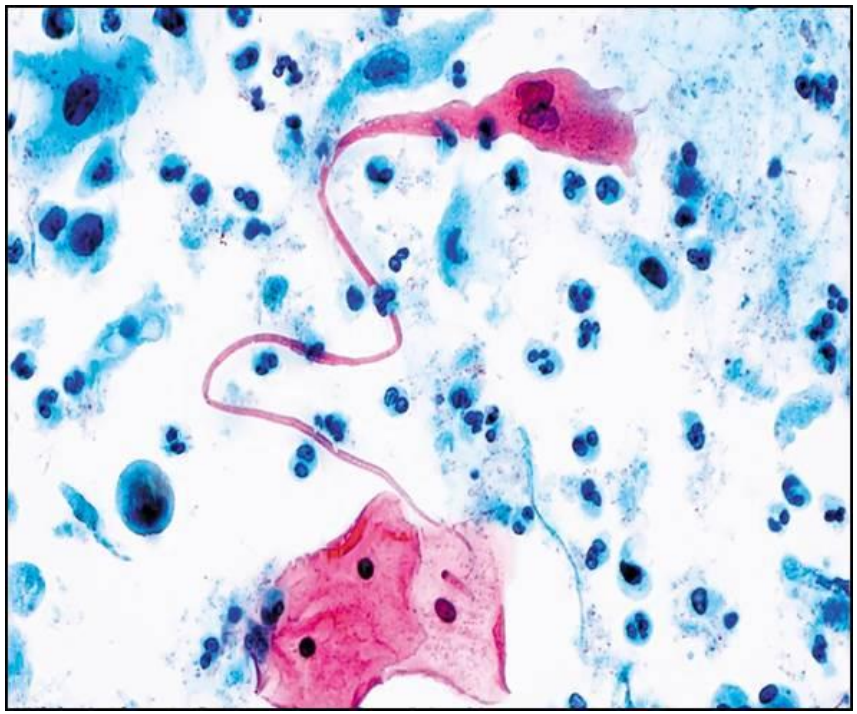
- Some high grade abnormalities/cancers may test HPV negative
- Non-cervical cancers will likely test HPV negative

Cervical Cancer Audit & Disclosure

- All women with a new diagnosis of cervical cancer have **case audit**
  - Run by Cancer Research UK on behalf of CSP
  - Purpose – to monitor effectiveness of the CSP
  - Review of screening history and any previous specimens in last 10 years

- False negative results are not unexpected (5% 'acceptable error' rate)
  - Cervical cytology sample is a screening test NOT a diagnostic test
  - 15% cancer cases have false negative cytology (10 years' audit results)

- Every Trust is obligated to *offer* audit results to women – **disclosure**
  - must be given with empathy; ensure patient understands screening process
  - can lead to litigation
- **Duty of Candour** – tell patient when something gone wrong & apologise
  - NOT all false negative results require DoC – 'acceptable errors of screening'
  - New PHE guidance to be published clarifying application of DoC in CSP



Thank You - any questions?