Cervical Screening Programme, England

Statistics for 2014-15

Published 10 November 2015
This report may be of interest to members of the public, policy officials and other stakeholders to make local and national comparisons and to monitor the quality and effectiveness of screening services.

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# Contents

This is a National Statistics publication  
Executive Summary  
Introduction  

## 1. Introduction

1.1 Background  
1.2 Cervical Screening Process  
1.3 Quality Statement  
1.4 Report Structure  
1.5 Changes to the Report  
1.6 User Feedback  

## 2. Analysis and Commentary

Call and Recall Programme  
2.1 Coverage  
2.2 Invitations for screening  
2.3 Test results  
2.4 Time from screening to receipt of results  
2.5 Recall status  

Cervical Cytology  
3.1 Samples examined  
3.2 Results  
3.3 Outcome of gynaecological referrals  
3.4 Achievable standards for laboratory reporting  

Colposcopy  
4.1 Referrals for colposcopy  
4.2 Appointments for colposcopy  
4.3 First Attendances at colposcopy  
4.4 Biopsies  
4.5 Clinic data  

## Appendices

Appendix A – Glossary  
Appendix B – Definitions  
Appendix C – Types of Invitation  
Appendix D – Cytology Test Result Categories  

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The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics.

Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods; and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

Executive Summary

Cervical Screening Programme, England, Statistics for 2014-15

Women between the ages of 25 and 64 are invited for regular cervical screening under the NHS Cervical Screening Programme. This is intended to detect abnormalities within the cervix that could, if undetected and untreated, develop into cervical cancer.

This report presents information about the NHS Cervical Screening Programme in England in 2014-15 as well as key statistics from the previous ten years. It includes statistics on the call and recall programme for women aged 25 to 64 years, as well as statistics on screening samples examined by pathology laboratories and on referrals to colposcopy clinics.

The statistics in this report are used to inform policy and to monitor the quality and effectiveness of screening services. They are derived from information that is routinely collected by the NHS Cancer Screening Programmes for the operation of the screening programme, including quality assurance and performance management purposes.

The statistics are presented at England level and by Upper Tier Local Authority (LA), region, pathology laboratory and colposcopy clinic.

Main Findings

Call and Recall Programme

Coverage is defined as the percentage of women in a population eligible for screening at a given point in time who were screened adequately within a specified period (within 3.5 years for women aged 25 to 49, and within 5.5 years for women aged 50 to 64). This is known as age-appropriate coverage and is also used in the Public Health Outcomes Framework (PHOF)\(^1\).

At 31 March 2015, the percentage of eligible women (aged 25 to 64) who were recorded as screened adequately within the specified period was 73.5%. This compares with 74.2% at 31 March 2014 and 75.7% at 31 March 2011.

Coverage amongst women aged 25 to 49 years (measured at three and a half years) was 71.2% at 31 March 2015. This compares to 71.8% as at 31 March 2014 and 73.7% as at 31 March 2011.

For women aged 50 to 64 years, the coverage (measured at five and a half years) at 31 March 2015 was 78.4% which compares to 79.4% as at 31 March 2014 and 80.1% as at 31 March 2011.

At a regional level, coverage of the full target age group (25 to 64 years) at 31 March 2015 ranged from 68.4% in London to 76.3% in the East Midlands. This compares to 70.3% in London and to 76.6% in the East Midlands at 31 March 2014.

At a local level, 63 Local Authorities (out of 150) had coverage levels of 75% and above.

A total of 4.31 million women aged 25 to 64 were invited for screening in 2014-15 and 3.12 million women were tested, representing a fall of 3.3% from 2013-14 when 3.23 million were tested.

Amongst women aged 25 to 64 with adequate tests in 2014-15, 93.6% had a negative result and 6.4% had a result categorised as abnormal (from borderline change through to potential cervical cancer). 1.3% of women tested in 2014-15 had a result showing a high-grade abnormality.

National policy is that all women should receive their cervical screening test result within 2 weeks of the sample being taken. In 2014-15, 91.0% of letters sent to women tested were reported to have an expected delivery date of within 2 weeks of the sample being taken. This compares to 93.7% in 2013-14 and is below the Key Performance Indicator current acceptable value of 98.0%.

At a regional level, the highest percentage of letters received within 2 weeks of results was reported in the North East (98.6%), with the lowest in Yorkshire & the Humber (81.5%). As such, the North East is the only region to have met the Key Performance Indicator current acceptable value of 98.0% in 2014-15.

Cervical cytology
3.20 million samples were examined by pathology laboratories in 2014-15. This compares with 3.41 million in 2013-14. Of the samples examined in 2014-15, 3.04 million samples (94.8%) were submitted by GPs and NHS Community Clinics, of which 2.5% were inadequate. This compares with 2.4% in 2013-14.

Colposcopy
A total of 198,216 referrals to colposcopy were reported in 2014-15, a slight fall of 0.6% from 2013-14 (199,322 referrals).

In 2014-15, where women were referred to colposcopy, 30.9% were offered an appointment within 2 weeks of referral. This percentage rose to 61.0% for those offered an appointment within 4 weeks and to 97.3% for those offered an appointment within 8 weeks.

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2 NHS public health functions agreement 2015-16 Service specification no.25 Cervical Screening
**Introduction**

This report presents information about the NHS Cervical Screening Programme in England in 2014-15 as well as key statistics from the previous ten years. It includes statistics on the call and recall programme for women aged 25 to 64 years, as well as statistics on screening samples examined by pathology laboratories and on referrals to colposcopy clinics.

The publication includes analysis and commentary, a set of data tables and a number of appendices, including a Glossary of terms. The report focuses on England but also includes regional comparisons, local coverage statistics and coverage from other UK countries.

The statistics in this report are used to inform policy and to monitor the quality and effectiveness of screening services.

This publication has been in existence for a number of years and electronic copies of the publications are available dating back to 1997-98. The report was originally published by the Department of Health (DH) Statistics Division. Responsibility for the publications transferred from DH to the Health and Social Care Information Centre (HSCIC) when it was formed in 2005.

### 1.1 Background

#### 1.1.1 Cervical Screening Policy

Women between the ages of 25 and 64 are invited for regular cervical screening under the NHS Cervical Screening Programme. This is intended to detect abnormalities within the cervix that could, if undetected and untreated, develop into cervical cancer. National policy is that women are offered screening every three or five years depending on their age. Women aged 25-49 are invited for routine screening every 3 years, whereas those aged 50-64 are invited for routine screening every 5 years. In this bulletin, the current target group of 25 to 64 years is used to report statistics.

#### 1.1.2 Data Sources

The statistics are derived from information that is routinely collected by the NHS Cancer Screening Programmes (NHSCSP) for the operation of the screening programme, including quality assurance and performance management purposes.

Information on the NHS Cervical Screening Programme is collected on the following HSCIC Korner Collection (KC) returns:

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3 The Health and Social Care Information Centre was known as The Information Centre in 2005.
• KC53 – information from the call and recall system, collected on all 152 Upper Tier Local Authorities operating in 2014-15.

• KC61 – information on screening samples examined by pathology laboratories, collected from all laboratories carrying out cervical cytology. At 31 March 2015, 59 laboratories were carrying out cervical cytology.

• KC65 – information on referrals to colposcopy, subsequent treatment and outcome, collected from 199 clinics/trusts providing colposcopy services.

Further information on the underlying sources of information can be found in the separate Quality Statement\(^4\) and in HSCIC’s List of Administrative Sources\(^5\).

1.2 Cervical Screening Process

The cervical screening process falls into three main parts:

1.2.1 Call and recall programme

Most women invited by the screening programme have their initial screening test at either their GP practice or an NHS Community Clinic. The standard age ranges and frequency of screening are detailed above. Women aged 65 or over are ineligible for routine screening and are removed from the call/recall programme if they have a satisfactory screening history.

It is possible for some women outside the 25 to 64 years age range to be invited for screening. Women aged 65 or over who have never been screened and those whose last three tests were not normal are still eligible for screening. Women over 65 who require follow-up after treatment also continue to be included in the programme. In addition, women are now routinely invited shortly before their twenty-fifth birthday to ensure they can have their first screen at about age 25.

1.2.2 Cervical cytology

Samples from the testing process are passed to pathology laboratories for slide preparation and screening by a cytologist/screener. The results of each test are returned to the call/recall department, the woman’s GP and the sample taker (if not the GP). Women should be notified of their test results in writing within two weeks.

Most women receive a normal result and are recalled for another routine test in three or five years dependent on their age. Where a test result shows borderline change or low-grade dyskaryosis (abnormal cell changes), women are tested for infection with high-risk HPV (Human Papillomavirus). HPV is a common virus which, although harmless in most women,
is linked to the development of abnormal cervical cells. If left untreated, these abnormal cells can develop into cervical cancer. Women whose samples test positive for HPV are referred to colposcopy. Where the HPV test is negative women are recalled for screening in three or five years as usual.

HPV testing as triage (sorting) for women with borderline and low-grade dyskaryosis results became routine from 1 April 2014.

In a small proportion of cases the pathology laboratory is unable to assess the cells on the cytology slide to give a result and the test is considered inadequate. In such cases women are asked to return for a repeat test three months later.

1.2.3 Colposcopy
Women referred for colposcopy attend a colposcopy clinic where a colposcope (a lighted, low-powered microscope) is used to closely examine the cervix to determine appropriate treatment, if any. A biopsy may be taken from the cervix for diagnosis and/or the cervix may be treated. Women who do not require immediate treatment may be kept under surveillance by repeat cytology tests, with or without repeat colposcopy, at suitable intervals.

1.3 Quality Statement
The Quality Statement presents information to aid understanding and presentation of the data. This is now published as a separate document on the publication webpage which can be accessed via the following link:

http://www.hscic.gov.uk/pubs/cervical1415

1.4 Report Structure
1.4.1 Statistics from the NHS Cervical Screening Programme are presented in the Analysis and Commentary section of this report in three sub-sections as follows:

- Call and Recall Programme
- Cervical Cytology
- Colposcopy

1.4.2 In presenting laboratory statistics in the Cervical Cytology section, data about samples from GP and NHS Community Clinics have been used in most tables in preference to data about samples from all sources, so as to reflect more closely the results from screening programme tests delivered in primary care.

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6 Where HPV Primary Screening is being piloted, women are first tested for HPV. If the sample is found to be positive, it is then examined by the cytologist for any abnormal cells.
1.4.3 The Appendices include:

- A Glossary to aid understanding of technical terms (Appendix A)
- An explanation of useful Definitions (Appendix B)
- Types of invitation (Appendix C)
- Cytology test result categories (Appendix D)
- Outcomes of Gynaecological Referral (Appendix E)
- How the Statistics are Used (Appendix F)
- Feedback from Users (Appendix G)
- Information on Data Validation and Data Quality (Appendix H)
- Related Publications and Useful Web links (Appendix I).

1.5 Changes to the Report

Headline coverage figure

A policy change in 2003 meant that women aged 25-49 were to be invited for screening every three years instead of at intervals of not more than five years. As a result the accepted definition for overall coverage of the 25-64 age group is for eligible women aged 25-49 to be adequately screened in the last 3.5 years, and for eligible women aged 50-64 to be adequately screened in the last 5.5 years (see the Coverage section of Appendix B for further detail). The KC53 return, the historic data source for cervical screening coverage, does not allow for this calculation, and as such this report has previously presented the headline coverage figure using the earlier definition. That is eligible women aged 25-64 screened adequately with 5 years, referred to as 5 year coverage in this report.

Since 2011, an alternative data extract from the same call / recall system has been run by the HSCIC for the Public Health Outcomes Framework (PHOF) online reports. This extract is derived from the Open Exeter system and uses the more up to date definition for coverage outlined above, referred to as ‘Age appropriate coverage’ in this report. In 2013-14, this report included this data for the first time, but continued to report 5 year coverage as the headline figure. As of this year’s report, age appropriate coverage will instead be used for the headline figures. 5 year coverage will continue to be presented in some tables and charts in order to present a longer time series.

As the KC53 return provides more detailed coverage information than the PHOF extract (for example lower level age bands), it is still used for other analysis within the report.

Within the report readers will see changes to Tables A, B and D, and to Figures 1, 3 and 3a. As mentioned above, these changes are represented by the shift in focus to the age appropriate coverage figure also used in the PHOF.

Abnormal Predictive Value (APV)

A new section on APV (see section 3.4.4), which is one of the achievable standards for laboratory reporting, has been added to the report this year.

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Data Presentation
Figures 12 and 13 that previously showed the outcome of referral following (i) non-negative test result (persistent or with positive HPV test) and (ii) single occurrence of potential significant abnormality respectively have been changed to a clustered bar chart showing both categories, under Figure 12.

Data Tables
Please note that the Data Tables have been removed from this report but are available in an Excel print friendly file from http://www.hscic.gov.uk/pubs/cervical1415

1.6 User Feedback

The HSCIC welcomes feedback on all publications. If you wish to comment on this report a feedback form (Have Your Say) is available on the HSCIC website at:
http://www.hscic.gov.uk/haveyoursay

We would be particularly interested in how you use the statistics in this report.

Feedback received from users via the publication webpage is summarised in Appendix G along with any action that has been taken as a result of this feedback.
2.1 Coverage

2.1.1 Coverage is defined as the percentage of women in a population eligible for screening at a given point in time who were screened adequately\(^8\) within a specified period. As the frequency with which women are invited for screening is dependent on age, coverage is calculated differently for different age groups.

For those aged 25 to 49, coverage is calculated as the percentage of women eligible for screening who have had an adequate screening test within the last 3.5 years on 31 March 2015. For those aged 50-64, coverage is calculated as the percentage of women eligible for screening who have had an adequate screening test within the last 5.5 years (see Table A).

For the total target age group (25 to 64 years), two definitions of coverage are presented in this report. ‘Age-appropriate coverage’ represents the most up to date definition and takes into account the frequency with which women of different ages are invited for screening, and defines coverage as the percentage of women in the population eligible for cervical screening who were screened adequately within the previous 3.5 years or 5.5 years, according to age on 31 March 2015. This is the definition used for the headline coverage figures.

‘Five year coverage’ represents an earlier definition and measures the percentage of women in the population eligible for cervical screening who have had an adequate test within the last 5 years on 31 March 2015. It is retained in this report to present a longer time series for comparison.

More detailed definitions and explanations of the different measures of coverage are given in the Coverage section of Appendix B.

2.1.2 Age appropriate coverage

At 31 March 2015, the percentage of eligible women (aged 25 to 64) who were recorded as screened adequately within the specified period was 73.5%. This compares with 74.2% at 31 March 2014 and 75.7% at 31 March 2011.

Coverage amongst women aged 25 to 49 years (measured at three and a half years) was 71.2% at 31 March 2015. This compares to 71.8% as at 31 March 2014 and 73.7% as at 31 March 2011.

For women aged 50 to 64 years, the coverage (measured at five and a half years) at 31 March 2015 was 78.4% which compares to 79.4% as at 31 March 2014 and 80.1% as at 31 March 2011.

\(^8\) In a small proportion of cases the pathology laboratory is unable to assess the cells to give a result and the test is considered inadequate.
Data on age-appropriate coverage is only available for the last five years but shows a fall in coverage at 31 March 2015 following a rise in the previous year.

### 2.1.3 Five year coverage

Five year coverage at 31 March 2015 for women aged 25-64 was 77.2% compared with 77.8% in 2014. This measure of coverage will always be higher than the age appropriate definition as women aged 25-49 who were not screened within the last 3.5 years but were screened within the last 5 years are counted under this definition but not under age appropriate coverage.

The long term trend shows a gradual fall in five year coverage over the last ten years. Apart from an increase in 2009, which has been associated with the media attention around the diagnosis and subsequent death of the high profile media personality, Jade Goody (Poole et al, 2012), coverage has either fallen or remained unchanged each year since 2005 (see Figure 1 and Table A).

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

England at 31 March, 2005 to 2015

Age-appropriate coverage at 31 March 2013 excludes some women from a small number of LAs.

Source: KC53 return (5 year coverage) and Open Exeter (age appropriate coverage). Health and Social Care Information Centre.

See also Tables 1, 1a and 13 in Data Tables section.
2.1.4 Coverage for women aged 50 to 64 years (which is measured over a five and a half years to reflect the five year recall interval), fell to 78.4% at 31 March 2015. This compares to 79.4% at 31 March 2014 (see Table A).

Coverage amongst women aged 25 to 49 years (measured at three and a half years) fell to 71.2% at 31 March 2015 from 71.8% the previous year (which had been the first rise in coverage for women in this age group since 2011).

Table A: Cervical screening – Coverage by age group

<table>
<thead>
<tr>
<th>Year</th>
<th>25-49 years less than 3.5 years since last adequate test</th>
<th>50-64 years less than 5.5 years since last adequate test</th>
<th>25-64 years (age appropriate) less than 3.5 / 5.5 years since last adequate test</th>
<th>25-64 years (5 year) less than 5 years since last adequate test</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td></td>
<td></td>
<td></td>
<td>80.3</td>
</tr>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td>79.5</td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
<td>79.2</td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
<td>78.6</td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
<td>78.9</td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td>78.9</td>
</tr>
<tr>
<td>2011</td>
<td>73.7</td>
<td>80.1</td>
<td>75.7</td>
<td>78.6</td>
</tr>
<tr>
<td>2012</td>
<td>73.4</td>
<td>79.9</td>
<td>75.4</td>
<td>78.6</td>
</tr>
<tr>
<td>2013</td>
<td>71.5</td>
<td>79.5</td>
<td>73.9</td>
<td>78.3</td>
</tr>
<tr>
<td>2014</td>
<td>71.8</td>
<td>79.4</td>
<td>74.2</td>
<td>77.8</td>
</tr>
<tr>
<td>2015</td>
<td>71.2</td>
<td>78.4</td>
<td>73.5</td>
<td>77.2</td>
</tr>
</tbody>
</table>

*Coverage at 31 March 2013 excludes some women from a small number of LAs.

** This represents the older definition of coverage taken from the KC53 return (see paragraph 2.1.1)

Source: KC53 return (5 year coverage) and Open Exeter (age appropriate coverage). Health and Social Care Information Centre.

See also Tables 1, 1a and 13 in Data Tables section.

2.1.5 Figure 2 illustrates a more detailed age breakdown and shows that although coverage amongst women aged 25 to 29 years (measured at three and a half years) increased slightly to 63.5% at 31 March 2015 from 63.3% in 2014, it was still considerably lower than in any other age group. Less than two out of three women aged 25 to 29 years had been screened in the last three and a half years. Coverage amongst women aged 50 to 54 (which is measured over a five year period) was highest at 80.8%.
Figure 2: Cervical screening – coverage* by age group
England, at 31 March, 2014 and 2015

*Age appropriate coverage in the 50-64 age group (as measured at five and a half years) is not currently available for the more detailed age bands. As such this chart shows the breakdown under the previous definition (as measured at five years)
Source: KC53, Health and Social Care Information Centre. See also Table 1a in Data Tables section.

2.1.6 Age-appropriate coverage of the full target age group (25 to 64 years) at a regional level at 31 March 2015 ranged from 68.4% in London to 76.3% in the East Midlands. All reporting regions reported a fall in coverage at 31 March 2015 when compared with 2014 (see Table B).

Table B: Age appropriate coverage for women aged 25-64 years
England regions, 31 March 2014 and 2015

<table>
<thead>
<tr>
<th>Region</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>North East</td>
<td>76.1</td>
<td>75.7</td>
</tr>
<tr>
<td>Yorkshire &amp; the Humber</td>
<td>76.2</td>
<td>75.9</td>
</tr>
<tr>
<td>North West</td>
<td>73.0</td>
<td>72.8</td>
</tr>
<tr>
<td>East Midlands</td>
<td>76.6</td>
<td>76.3</td>
</tr>
<tr>
<td>West Midlands</td>
<td>73.0</td>
<td>72.6</td>
</tr>
<tr>
<td>East of England</td>
<td>75.1</td>
<td>74.4</td>
</tr>
<tr>
<td>London</td>
<td>70.3</td>
<td>68.4</td>
</tr>
<tr>
<td>South East</td>
<td>75.3</td>
<td>74.7</td>
</tr>
<tr>
<td>South West</td>
<td>76.2</td>
<td>75.9</td>
</tr>
</tbody>
</table>

Source: Open Exeter (age appropriate coverage), Health and Social Care Information Centre. See also Table 13 in Data Tables section.
2.1.7 Age appropriate coverage was 75% or higher in 63 of the 150 LAs - see Figures 3 and 3a.

Figure 3: Cervical screening – Age appropriate coverage of the target age group (25-64)
Upper Tier Local Authority, England, 31 March 2015

Source: Open Exeter - PHOF, Health and Social Care Information Centre. See also Table 13 in Data Tables section.
Figure 3a: Cervical screening – Age appropriate coverage of the target age group (25-64)
Upper Tier Local Authority, England, 31 March 2015

At a local level, 118 Local Authorities (out of 150) had coverage levels of 70% and above (see Figure 3a).

For detailed figures on coverage at LA level see Table 13 in the Data Tables. Please also note that age appropriate coverage figures for LAs are available from Public Health England via the following link:
http://www.phoutcomes.info/
2.1.8 The test status of the population as at 31 March 2015, together with women with recall ceased for clinical reasons, is shown in Table C. Of women aged 25 to 64 years, 73.0% were recorded as having had at least one adequate test within 5 years. A further 7.4% were tested within ten years. 9.5% had been called but had never attended for screening.

Table C: Test status of women aged 25-64

<table>
<thead>
<tr>
<th>Number (thousands)</th>
<th>Women ceased for clinical reasons</th>
<th>Women who have been tested (time since last adequate test)</th>
<th>Women called but not tested</th>
<th>No adequate sample</th>
<th>Never attended</th>
<th>No cytology record</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>within 1.5 years up to 3 years up to 3.5 years up to 5 years up to 10 years up to 15 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15025.6</td>
<td>815.0</td>
<td>4,583.1 4,079.3 858.6 1,440.5 1,109.7 335.4 310.2</td>
<td>25.1 1,431.7 26.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage 100.0</td>
<td>5.4</td>
<td>30.6 27.1 5.7 9.6 7.4 2.2 2.1</td>
<td>0.2 9.5 0.2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NB: The sum of components may not equal totals due to rounding.
Source: KC53, Health and Social Care Information Centre. See also Tables 2, 3 and 3a in Data Tables section.

2.1.9 Table D shows coverage in other UK countries. It should be noted that cervical screening programmes in other countries vary in terms of the age groups covered by the screening programmes, the frequency of screening and in how coverage is calculated. In comparing coverage in England to other countries, these differences (detailed in the footnotes) should be borne in mind. Coverage in Table D below is calculated for women aged 25 to 64 years for all countries with the exception of Scotland where it is calculated for women aged 20-60 years.

Table D: Cervical screening coverage

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of eligible women</th>
<th>Number of women screened within specified target period</th>
<th>Coverage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>14,165.8</td>
<td>10,405.0</td>
<td>73.5</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>485.9</td>
<td>374.8</td>
<td>77.1</td>
</tr>
<tr>
<td>Scotland</td>
<td>1,122.8</td>
<td>1,465.0</td>
<td>76.6</td>
</tr>
<tr>
<td>Wales</td>
<td>753.8</td>
<td>587.7</td>
<td>78.0</td>
</tr>
</tbody>
</table>

Source for England figure: Open Exeter - PHOF, Health and Social Care Information Centre. See also Table 2 in Data Tables section.

For both Northern Ireland and Wales, coverage is calculated as the percentage of women in a population eligible for screening at a given point in time who were screened adequately.
within the past 5 years. The Scottish and English programmes calculate coverage within the past 5.5 years. Data for each country can be found through the following links:

Northern Ireland: [http://www.cancerscreening.hscni.net/statistics/wstats05.html#P-4_0](http://www.cancerscreening.hscni.net/statistics/wstats05.html#P-4_0)
Wales: [http://www.cervicalscreeningwales.wales.nhs.uk/statistical-reports](http://www.cervicalscreeningwales.wales.nhs.uk/statistical-reports)

### 2.2 Invitations for screening

#### 2.2.1

There was an increase in the number of women aged 25 to 64 years invited for screening in 2014-15 compared with the previous year (see Figure 4 and Table E). In total, 4.31 million women aged 25 to 64 were invited in 2014-15. Most of these were women aged 25 to 49 (3.38 million) with women aged 50 to 64 accounting for 0.93 million of those invited.

**Figure 4: Number of women invited for screening, by age**

England, 2004-05 to 2014-15

Source: KC53, Health and Social Care Information Centre. See also Table 1 in Data Tables section.
Table E: Number of women invited for screening by year and age group
England, 2010-11 to 2014-15

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Total (all)</td>
<td>4,447,846</td>
<td>4,802,197</td>
<td>4,366,196</td>
<td>4,458,042</td>
<td>4,538,379</td>
<td>1.8%</td>
</tr>
<tr>
<td>Total (25-64)</td>
<td>4,328,471</td>
<td>4,692,227</td>
<td>4,235,069</td>
<td>4,244,755</td>
<td>4,311,001</td>
<td>1.6%</td>
</tr>
<tr>
<td>25-49</td>
<td>3,373,140</td>
<td>3,707,883</td>
<td>3,336,723</td>
<td>3,346,282</td>
<td>3,379,753</td>
<td>1.0%</td>
</tr>
<tr>
<td>50-64</td>
<td>955,331</td>
<td>984,344</td>
<td>898,346</td>
<td>898,473</td>
<td>931,248</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

NB: Figures prior to 2013-14 are derived from the PCO dataset.
Source: KC53, Health and Social Care Information Centre. See also Table 4 in Data Tables section.
Sum of components may not equal totals due to numbers screened outside the listed age groups.

2.2.2 The NHS Cervical Screening Programme categorises screening invitations into types as shown in Table F. Detailed explanations of the different types of invitation are given in Appendix C. Table F shows that although most women aged 25 to 64 years received a call or routine recall, 8.4% were early repeat recalls for surveillance. The proportion of women who received an early repeat recall following an abnormality (i.e. persistent findings of borderline change or low-grade dyskaryosis) rose slightly to 2.9% in 2014-15 from 2.8% the previous year.

Table F: Number of women (aged 25-64) invited in the year by type of invitation

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Call (%)</th>
<th>Routine Recall (%)</th>
<th>Surveillance (%)</th>
<th>Abnormality (%)</th>
<th>Inadequate sample (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>4,244,755</td>
<td>19.0</td>
<td>64.1</td>
<td>12.3</td>
<td>2.8</td>
<td>1.8</td>
</tr>
<tr>
<td>2014-15</td>
<td>4,311,001</td>
<td>17.6</td>
<td>69.0</td>
<td>8.4</td>
<td>2.9</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Source: KC53, Health and Social Care Information Centre. See also Table 4 in Data Tables section.

2.2.3 In total, 3.12 million women aged 25 to 64 years were tested in 2014-15, a fall of 3.3% from 2013-14 when 3.23 million were tested (see Figure 5 and Table G).
Figure 5 shows the number of women tested each year since 2005-06 (following the age and frequency changes to screening policy which were introduced in 2003 – see section 1.4). The unexpected increase in women tested in 2008-09 has been associated with the diagnosis and death from cervical cancer of the high profile media personality, Jade Goody (Lancucki et al, 2012). Research published in the Journal of Medical Screening reported that her diagnosis and death, which were well publicized, “……were marked by a substantial increase in attendances in the cervical screening programme in England…..(Although the) increase in screening attendances was observed at all ages…..the magnitude was greater for women aged under 50” (Lancucki et al, 2012, p4). Women aged 25-49 tested in 2008-09 would be expected to receive their next routine invitation for screening three years later in 2011-12. This may partly explain the second smaller peak in women aged 25 to 49 tested in 2011-12.

The numbers of women tested in 2014-15 fell in both the 25-49 and 50-64 year age groups. Amongst women aged 25-49, 2.40 million women were tested in 2014-15, a decrease of 3.7% from 2013-14. A total of 0.72 million women aged 50-64 were tested in 2014-15, a decrease of 2.2% from 2013-14. These falls may be explained by the introduction of HPV testing11.

Figure 5: Number of women tested, by age

England from 2004-05 to 2014-15

Figure 5 shows the number of women tested each year since 2005-06 (following the age and frequency changes to screening policy which were introduced in 2003 – see section 1.4). The unexpected increase in women tested in 2008-09 has been associated with the diagnosis and death from cervical cancer of the high profile media personality, Jade Goody (Lancucki et al, 2012). Research published in the Journal of Medical Screening reported that her diagnosis and death, which were well publicized, “……were marked by a substantial increase in attendances in the cervical screening programme in England…..(Although the) increase in screening attendances was observed at all ages…..the magnitude was greater for women aged under 50” (Lancucki et al, 2012, p4). Women aged 25-49 tested in 2008-09 would be expected to receive their next routine invitation for screening three years later in 2011-12. This may partly explain the second smaller peak in women aged 25 to 49 tested in 2011-12.

The numbers of women tested in 2014-15 fell in both the 25-49 and 50-64 year age groups. Amongst women aged 25-49, 2.40 million women were tested in 2014-15, a decrease of 3.7% from 2013-14. A total of 0.72 million women aged 50-64 were tested in 2014-15, a decrease of 2.2% from 2013-14. These falls may be explained by the introduction of HPV testing11.

Figure 5: Number of women tested, by age

England from 2004-05 to 2014-15

![Figure 5: Number of women tested, by age](image_url)

Source: KC53, Health and Social Care Information Centre. See also Table 1 in Data Tables section.

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11 See 2011 Cancer Strategy Impact assessment
Table G: Number of women tested by year and age group
England from 2010-11 to 2014-15

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (all)</td>
<td>3,442,808</td>
<td>3,646,360</td>
<td>3,394,266</td>
<td>3,298,399</td>
<td>3,190,653</td>
<td>-3.3%</td>
</tr>
<tr>
<td>Total (25-64)</td>
<td>3,351,127</td>
<td>3,560,905</td>
<td>3,320,389</td>
<td>3,225,180</td>
<td>3,117,742</td>
<td>-3.3%</td>
</tr>
<tr>
<td>25-49</td>
<td>2,551,660</td>
<td>2,736,974</td>
<td>2,561,077</td>
<td>2,493,714</td>
<td>2,402,642</td>
<td>-3.7%</td>
</tr>
<tr>
<td>50-64</td>
<td>799,467</td>
<td>823,931</td>
<td>759,312</td>
<td>731,466</td>
<td>715,100</td>
<td>-2.2%</td>
</tr>
</tbody>
</table>

2.2.4 Of those aged 25 to 64 tested in the year, over 2.55 million (81.9%) were tested following an invitation within the screening programme. The remaining 565,088 women (18.1%) had screening tests not prompted by the programme, i.e. test initiated by the sample taker or opportunistically by the woman, without her necessarily having been invited in the last six months by the screening programme (see Table 5 in Data Tables) Some women may be routinely recalled by their GPs instead of through the screening programme and because of this it is not possible to calculate the percentage uptake of invitations from the national call/recall database.

2.3 Test results

2.3.1 Some women have more than one test during the year for clinical reasons (see Table H). In 2.6% of tests there was no result, as the sample was ‘inadequate’ i.e. it did not contain material suitable for analysis (see paragraphs 3.1.2-3.1.4 for more information on inadequate samples).
2.3.2 For women tested again due to an earlier inadequate test, 12.6% of tests resulted in a repeated inadequate result, an increase on 2013-14 (11.9%) – see Table I. These repeated inadequate samples accounted for 10.6% (9,170 out of 86,227) of all inadequate results in the year.

Table I: Result of test where a repeat invitation was sent in less than 3 years due to a previous inadequate sample

<table>
<thead>
<tr>
<th>Result of test</th>
<th>Tests</th>
<th>%</th>
<th>Tests</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequate</td>
<td>8,468</td>
<td>11.9</td>
<td>9,170</td>
<td>12.6</td>
</tr>
<tr>
<td>Adequate</td>
<td>62,550</td>
<td>88.1</td>
<td>63,409</td>
<td>87.4</td>
</tr>
<tr>
<td>Total</td>
<td>71,018</td>
<td>100.0</td>
<td>72,579</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: KC53, Health and Social Care Information Centre. See also Table 7 in Data Tables section.

2.3.3 The NHS Cervical Screening Programme categorises the results of cytology tests as shown in Table J. Detailed explanations of the different types of cytology test result are given in Appendix D. Of the 3.10 million women aged 25 to 64 with adequate tests in 2014-15, 93.6% had a negative result and 6.4% had a result categorised as abnormal (from borderline change through to potential cervical cancer14). 1.3% of women tested in 2014-15 had a result showing a high-grade abnormality (i.e. a result of high-grade dyskaryosis (moderate), high-grade dyskaryosis (severe), high-grade dyskaryosis (severe)/invasive carcinoma and glandular neoplasia of endocervical type). Table J shows the breakdown of the results of adequate tests for the last 2 years.

The new classification for abnormal cervical cytology introduced in April 2013 will have impacted on the results of cytology tests for 2013-14 onwards and in particular on the proportion of results classified as borderline and low-grade dyskaryosis (see section 1.7 on ‘Changes in reporting and classification of cervical cytology’ of the Data Quality Statement which accompanies this publication for more information).

14 Potential cervical cancer includes high-grade dyskaryosis/invasive squamous carcinoma and glandular neoplasia of endocervical type.
Table J: Results of adequate tests for women aged 25-64

<table>
<thead>
<tr>
<th>Result of test *</th>
<th>2013-14</th>
<th>2014-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total results</td>
<td>3,184,628</td>
<td>3,073,833</td>
</tr>
<tr>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Negative</td>
<td>93.4</td>
<td>93.6</td>
</tr>
<tr>
<td>Borderline changes</td>
<td>2.8</td>
<td>2.6</td>
</tr>
<tr>
<td>Low-grade dyskaryosis</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>High-grade dyskaryosis (moderate)</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>High-grade dyskaryosis (severe)</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>High-grade dyskaryosis/?invasive carcinoma**</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>?Glandular neoplasia**</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* Most severe result in year
NB: The sum of components may not equal totals due to rounding.
Source: KC53, Health and Social Care Information Centre. See also Table 8 in Data Tables section.

2.3.4 Within the target age range, the percentage of results showing a high-grade abnormality decreased with age, being highest at 3.4% for women aged 25-29, falling to less than 0.5% for women aged 50 years and over (see Figure 6).
Figure 6: 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. See also Table 8 in Data Tables section.

2.3.5 In 120 of the 150 LAs, the proportion of women presenting with an abnormal result was between 4% and 8%. In 5 LAs the proportion was 10% or above (the maximum was 13.5%) (see Figure 7).
**2.4 Time from screening to receipt of results**

**2.4.1** National policy is that all women should receive their cervical screening test result within two weeks of the sample being taken. ‘Time from screening to receipt of results’ is defined as the interval between the date the sample was taken from the woman and the date she received her result letter. It is measured using an expected delivery date based on the date of letter printing and the postage class used by the screening department\(^\text{15}\).

**2.4.2** In 2014-15, 91.0% of letters to women tested were reported to have an expected delivery date of within 2 weeks of the sample being taken. This compares to 93.7% in 2013-14 (see Table K) and is below the Key Performance Indicator current acceptable value of 98.0%\(^\text{16}\).

---

\(^\text{15}\) Time from screening to receipt of test results as measured by expected date of delivery is calculated from summing monthly data for local authorities.

\(^\text{16}\) NHS public health functions agreement 2015-16. Service specification no.25 Cervical Screening
Table K: Time from screening to receipt of results, as measured by expected delivery date of result letter (eligible women aged 25–64 years) England, 2013-14 and 2014-15

<table>
<thead>
<tr>
<th></th>
<th>Numbers and Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2013-14</td>
</tr>
<tr>
<td>Total letters to women tested</td>
<td>3,132,432</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expected delivery date</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 2 weeks</td>
<td>93.7</td>
<td>91.0</td>
</tr>
<tr>
<td>More than 2 weeks and up to 3 weeks</td>
<td>5.3</td>
<td>8.4</td>
</tr>
<tr>
<td>More than 3 weeks</td>
<td>1.0</td>
<td>0.6</td>
</tr>
</tbody>
</table>

Source: National Cancer Screening Statistics VSA15 Report, HSCIC ‘Open Exeter’ system (NHAIS). See also Tables 9 and 9a in Data Tables section.

2.4.3 At a regional level, the highest percentage of letters received within 2 weeks of results was reported in the North East (98.6%), with the lowest in Yorkshire & the Humber (81.5%). The North East is the only region to have met the Key Performance Indicator current acceptable value of 98.0% (see Figure 8)

Figure 8: Cervical Screening – Time from screening to receipt of results as measured by expected date of delivery of result letter (eligible women aged 25–64 years), percentage received within 2 weeks

England by region, 2013-14 and 2014-15

Source: National Cancer Screening Statistics VSA15 Report, HSCIC ‘Open Exeter’ system. See also Table 9a in Data Tables section.
Table 9 in the Data Tables section presents more detailed figures by region on time from screening to receipt of results. Table 9a in the Data Tables section presents the same figures at LA level. Local figures on time from screening to receipt of results broken down by month are available through the following link:

http://www.hscic.gov.uk/pubs/cervical1415

2.5 Recall status

2.5.1 There are three types of recall status within the NHS Cervical Screening Programme; normal recall, repeat recall and suspend recall.

- **Normal recall status** indicated by action code A, (routine recall) was previously used only where the test result was negative. With the roll out of HPV testing as triage for women with mild or borderline cervical screening test results\(^{17}\), a woman may now be given a normal recall status following a test result of borderline change or low-grade dyskaryosis if the test was HPV negative (see section 1.2.7 for more information).

- **Repeat recall status**, action code R, requires a further test which is usually earlier than routine recall.\(^{18}\) This may be used where a test result is inadequate, negative (depending on a women’s screening history), borderline change or low-grade dyskaryosis.

- **Suspend recall status**, action code S, is an indication that recall has been suspended due to referral to colposcopy. This is the only allowable status following a test result of high-grade dyskaryosis (moderate) or worse. It is also used for women who are referred after repeated inadequate or low-grade abnormalities (i.e. borderline change or low-grade dyskaryosis) and for women who are to remain under hospital care regardless of their test result. With the roll out of HPV triage it is also used for women with borderline/low-grade cytology and HPV-positive test results.

2.5.2 In 2014-15, almost all women with an inadequate test result (96.9%) had a repeat recall status (See Table L). Amongst women who had nothing other than a negative test result in the year, 91.8% had a normal recall status. Of the remaining women with negative results, 6.9% had a repeat recall status as they were under surveillance or follow-up and 1.3% had a suspend recall status as they were under hospital care\(^{19}\).

\(^{17}\) For more information on HPV triage, see ‘Changes in Screening Policy’ under section 1.2.7.

\(^{18}\) NB: The next test can be up to 36 months if a fixed 3 year repeat is required after treatment.

\(^{19}\) Those with a negative test result and suspend recall status could include some who were referred to colposcopy due to symptoms noted at the time of testing.
Table L: Recall status by most severe screening result

<table>
<thead>
<tr>
<th>Screening result</th>
<th>Normal (A)</th>
<th>Repeat (R)</th>
<th>Suspend (S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequate</td>
<td>-</td>
<td>96.9</td>
<td>3.1</td>
</tr>
<tr>
<td>Negative</td>
<td>91.8</td>
<td>6.9</td>
<td>1.3</td>
</tr>
<tr>
<td>Borderline changes</td>
<td>47.3</td>
<td>4.1</td>
<td>48.5</td>
</tr>
<tr>
<td>Low-grade dyskaryosis</td>
<td>21.9</td>
<td>1.8</td>
<td>76.2</td>
</tr>
<tr>
<td>High-grade dyskaryosis (moderate)</td>
<td>-</td>
<td>-</td>
<td>100.0</td>
</tr>
<tr>
<td>High-grade dyskaryosis (severe)</td>
<td>-</td>
<td>-</td>
<td>100.0</td>
</tr>
<tr>
<td>High-grade dyskaryosis/?invasive carcinoma*</td>
<td>-</td>
<td>-</td>
<td>100.0</td>
</tr>
<tr>
<td>?Glandular neoplasia (endocervical)**</td>
<td>-</td>
<td>-</td>
<td>100.0</td>
</tr>
</tbody>
</table>

NB: The sum of components may not equal totals due to rounding.
- = recall status not applicable for this result
* ?invasive carcinoma means ‘suspected invasive carcinoma’,
** ?Glandular neoplasia (endocervical) means ‘suspected glandular neoplasia of endocervical type’
Source: KC53, Health and Social Care Information Centre. See also Table 10 in Data Tables section.

2.5.3 Figures 9a and 9b show the recall status for women with borderline and low-grade test results over the last ten years and highlight the impact of the roll-out of HPV testing which began in March 2012.

Prior to HPV testing most women with a first borderline screening result would have had a repeat recall status. In 2011-12, 70.4% of women fell into this category. Now, where HPV testing has been implemented, women with a borderline result are tested for high risk HPV and depending on the result either returned to ‘normal’ routine recall or referred to colposcopy and given a suspend recall status. In 2014-15, comparatively few (4.1%) were given repeat recall status – see Figure 9a.

The change following the introduction of HPV testing is less pronounced for women with low-grade dyskaryosis screening results but the increase in the proportion of women with a normal recall status and the fall in the proportion with a repeat recall status is still evident – see Figure 9b.
Figure 9a: Recall status for women with borderline screening results

England, 2004-05 to 2014-15

NB: Figures prior to 2013-14 are derived from the PCO dataset.
Source: KC53, Health and Social Care Information Centre. See also Table 10 in Data Tables section.

Figure 9b: Recall status for women with low-grade screening results

England, 2004-05 to 2014-15

NB: Figures prior to 2013-14 are derived from the PCO dataset.
Source: KC53, Health and Social Care Information Centre. See also Table 10 in Data Tables section.
The impact of ABC3\textsuperscript{20}, if any, on the recall status of women with borderline and low-grade test results is not clear as tests showing borderline change with koilocytosis were not identified separately prior to ABC3 (see section 1.7 on ‘Changes in reporting and classification of cervical cytology’ of the Data Quality Statement which accompanies this publication for more information).

Cervical Cytology

3.1 Samples examined

3.1.1 3.20 million samples were examined by pathology laboratories in 2014-15. This compares with 3.41 million in 2013-14. Of the samples examined in 2014-15, 3.04 million (94.8%) were submitted by GPs and NHS Community Clinics – almost all these would have been samples taken as part of the screening programme. A further 0.14 million (4.4%) of the samples were from NHS hospitals including colposcopy clinics (see Table M).

Table M: Samples examined by pathology laboratories by source of sample

<table>
<thead>
<tr>
<th>Year</th>
<th>Total samples</th>
<th>GP (%)</th>
<th>NHSCC (%)</th>
<th>GUM (%)</th>
<th>NHS Hospital (%)</th>
<th>Private (%)</th>
<th>Other (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>3,405,038</td>
<td>91.8</td>
<td>2.8</td>
<td>0.6</td>
<td>4.3</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>2014-15</td>
<td>3,202,175</td>
<td>92.3</td>
<td>2.5</td>
<td>0.6</td>
<td>4.4</td>
<td>0.1</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Source: KC61, Health and Social Care Information Centre. See also Table 14 in Data Tables section.

3.1.2 In 2014-15, 2.5% of samples from GP and NHS Community Clinics were inadequate. This compares with 2.4% in 2013-14 and 8.9% ten years ago in 2004-05. Figure 10 shows the percentage of inadequate samples for women aged 25 to 64 since 2004-05 and demonstrates the large fall in inadequate samples over this period. The fall is associated with the introduction of Liquid Based Cytology (LBC), a way of preparing cervical samples for examination in the laboratory which was introduced following a National Institute for Health and Care Excellence (NICE) Technology Appraisal.

A number of laboratories began the conversion to LBC in 2004-05 and by the end of 2008-09 all laboratories had converted. Before the introduction of LBC technology, rates of inadequate samples submitted by GP and NHS Community Clinics for women aged 25 to 64 were between 9% and 10% each year and these women had to be tested again.

\textsuperscript{20} See http://www.cancerscreening.nhs.uk/cervical/publications/nhscsp01.html
Figure 10: Cervical cytology - Percentages of samples from GP & NHS Community Clinics found to be inadequate, from women aged 25-64

England, 2004-05 to 2014-15

3.1.3 Analysis by age group has shown that the proportion of samples found inadequate was generally lower for women in the younger age bands, below 55 years (see Table N).

Table N: GP and NHS Community Clinic samples examined by pathology laboratories- Proportion inadequate by age group of women

<table>
<thead>
<tr>
<th>Age</th>
<th>% Inadequate</th>
<th>Age</th>
<th>% Inadequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 20</td>
<td>2.7</td>
<td>50-54</td>
<td>2.6</td>
</tr>
<tr>
<td>20-24</td>
<td>1.9</td>
<td>55-59</td>
<td>3.8</td>
</tr>
<tr>
<td>25-29</td>
<td>2.1</td>
<td>60-64</td>
<td>4.1</td>
</tr>
<tr>
<td>30-34</td>
<td>2.3</td>
<td>65-69</td>
<td>4.3</td>
</tr>
<tr>
<td>35-39</td>
<td>2.3</td>
<td>70-74</td>
<td>4.5</td>
</tr>
<tr>
<td>40-44</td>
<td>2.2</td>
<td>75 and over</td>
<td>6.4</td>
</tr>
<tr>
<td>45-49</td>
<td>2.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All ages</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>25-64</strong></td>
<td><strong>2.5</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: KC61, Health and Social Care Information Centre. See also Table 15 in Data Tables section.
3.1.4 In 2014-15, all but one laboratory had inadequate rates of less than 5%, with most (41 of 58) recording rates over 1% but less than 3% – see Figure 11.

Figure 11: Cervical cytology – Percentage of samples from GP & NHS Community Clinics found to be inadequate, for women aged 25-64, by laboratory

England, 2014-15

Source: KC61, Health and Social Care Information Centre. See also Tables 19 in Data Tables section.

3.2 Results

3.2.1 The percentage of adequate GP and NHS Community Clinic samples tested in 2014-15 for women aged 25 to 64 which were reported as being negative was 94.3%. Borderline change was found in 2.4% of adequate tests and low-grade dyskaryosis in 2.1%. Table O gives a full breakdown of test results from adequate samples from women aged 25-64 years.
Table O: GP and NHS Community Clinic adequate samples (women aged 25-64) examined by pathology laboratory by result

<table>
<thead>
<tr>
<th>Test result</th>
<th>England, 2014-15</th>
<th>Numbers and Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>2,675,962</td>
<td>94.3</td>
</tr>
<tr>
<td>Borderline changes</td>
<td>67,475</td>
<td>2.4</td>
</tr>
<tr>
<td>Low-grade dyskaryosis (moderate)</td>
<td>59,696</td>
<td>2.1</td>
</tr>
<tr>
<td>High-grade dyskaryosis (severe)</td>
<td>13,000</td>
<td>0.5</td>
</tr>
<tr>
<td>High-grade dyskaryosis/?invasive carcinoma*</td>
<td>18,277</td>
<td>0.6</td>
</tr>
<tr>
<td>?Glandular neoplasia (endocervical)**</td>
<td>609</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Adequate</td>
<td>1,207</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Adequate</td>
<td>2,836,226</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* ?invasive carcinoma means ‘suspected invasive carcinoma’.
** ?glandular neoplasia (endocervical) means ‘suspected glandular neoplasia of endocervical type’.
NB: The sum of components may not equal totals due to rounding.
Source: KC61, Health and Social Care Information Centre. See also Table 15 in Data Tables section, which includes figures for inadequates.

3.2.2 Analysis of the test results by age group showed that younger women below the age of 30 were amongst those most likely to have an abnormal test result (see Table 15 in Data Tables). At laboratory level there was variation in the percentage distribution of results, in particular in the proportion reported as borderline change or low-grade dyskaryosis (see Table 19 in Data Tables).

3.2.3 The percentage of laboratory tests authorised (i.e. test results confirmed) within two weeks of receipt at the laboratory rose slightly from 98.4% in 2013-14 to 98.5% in 2014-15 – see Table P.

Table P: Samples examined by pathology laboratories – Time from receipt of sample to authorisation of report by laboratory

<table>
<thead>
<tr>
<th>Year</th>
<th>Total samples examined</th>
<th>0-2 weeks (0-14 days)</th>
<th>3-4 weeks (15-28 days)</th>
<th>5 weeks plus (29 Days+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>3,396,951</td>
<td>98.4</td>
<td>1.5</td>
<td>0.1</td>
</tr>
<tr>
<td>2014-15</td>
<td>3,202,188</td>
<td>98.5</td>
<td>1.4</td>
<td>0.0</td>
</tr>
</tbody>
</table>

NB: The sum of components may not equal totals due to rounding.
Source: KC61, Health and Social Care Information Centre. See also Table 16 and 16a in Data Tables section.
3.3 Outcome of gynaecological referrals

3.3.1 Information about outcomes of gynaecological referrals following tests registered during April – June 2014 was provided by 58 from 59 operating laboratories in 2014-15.

Table Q shows outcomes broken down by two groups - women referred after non-negative sample(s) (where these are persistent or followed by a positive HPV test) and women referred after a single occurrence of a potentially significant abnormality. Outcomes for the two groups are shown for the first quarters of 2014-15 and 2013-14 for comparison.

Women referred to colposcopy after non-negative samples (persistent or with positive HPV test)

Prior to the roll out of HPV testing as triage, women would usually be referred to colposcopy with non-negative test results (where the most significant test result was either inadequate, borderline change or low-grade dyskaryosis) if they were ‘persistent’. Since 2004 laboratories could refer on first mild (now referred to as low-grade) dyskaryotic result. With the roll out of HPV testing, women should be referred to colposcopy after their first test result showing borderline change or low-grade dyskaryosis where they also test positive for HPV.

Within the non-negative group, samples from women with low-grade or borderline change test results make up the majority, with persistent inadequate samples accounting for only a small percentage. In the first quarter of 2014-15, where there was an outcome with a known result, only 1.9% (412) out of 21,409 had been referred as a result of persistent inadequate samples.

Women referred to colposcopy after a single occurrence of a potentially significant abnormality

This group includes outcomes of referrals where the most significant result was either high-grade dyskaryosis (moderate), high-grade dyskaryosis (severe), high-grade dyskaryosis (severe)/invasive squamous carcinoma or glandular neoplasia of endocervical type.

Higher proportions of women referred to colposcopy after a single occurrence of potentially significant abnormality had outcomes of CIN (Cervical Intra-epithelial Neoplasia)2 or worse (i.e. CIN2, CIN3 and adenocarcinoma in situ or cervical cancer) when compared with women referred after non-negative sample results (see Table Q and Figure 12).

CIN is an indicator of the depth of abnormal cells within the surface layer of the cervix, and is divided into three grades. The higher the number/grade, the more severe the condition21.

Adenocarcinoma in situ is a localized growth of abnormal glandular tissue that may become malignant22.

---

21 See Appendix E on Outcomes of Gynaecological Referrals for further information about cervical intra-epithelial neoplasia (CIN).

22
In the first quarter of 2014-15, for referrals following a potentially significant abnormality, 60.7% were found to have the most severe condition of cervical cancer, cervical intra-epithelial neoplasia (CIN 3) or adenocarcinoma in situ. This compares to 6.1% for referrals following non-negative samples.

Table Q: Outcome of colposcopy referrals for samples registered at the laboratory

<table>
<thead>
<tr>
<th>England, April to June 2013 and April to June 2014</th>
<th>Numbers and Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women referred after non-negative samples - persistent or with positive HPV test</td>
<td>Women referred after a potentially significant abnormality</td>
</tr>
<tr>
<td>Apr to Jun 2013</td>
<td>Apr to Jun 2014</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Total outcomes with known result</td>
<td>24,132</td>
</tr>
<tr>
<td>Cervical Cancer</td>
<td>%</td>
</tr>
<tr>
<td>CIN3 &amp; Adenocarcinoma in Situ</td>
<td>0.1</td>
</tr>
<tr>
<td>CIN2</td>
<td>5.9</td>
</tr>
<tr>
<td>CIN1</td>
<td>10.3</td>
</tr>
<tr>
<td>Non Cervical Cancer</td>
<td>28.3</td>
</tr>
<tr>
<td>HPV Only</td>
<td>0.0</td>
</tr>
<tr>
<td>No CIN/No HPV</td>
<td>14.4</td>
</tr>
<tr>
<td>Seen in Colposcopy – result n/k</td>
<td>10.5</td>
</tr>
<tr>
<td>Inadequate Biopsy</td>
<td>0.5</td>
</tr>
<tr>
<td>Colposcopy – No Abnormality Detected</td>
<td>2.0</td>
</tr>
<tr>
<td>Source: KC61, Health and Social Care Information Centre. See also Table 18a in Data Tables section.</td>
<td></td>
</tr>
</tbody>
</table>

22 http://medical-dictionary.thefreedictionary.com/
3.4 Achievable standards for laboratory reporting

3.4.1 The distribution of the individual laboratory results is used for quality assurance purposes, as set out in section 7.4 of the 3rd edition of ‘Achievable standards, Benchmarks for reporting, and Criteria for evaluating cervical cytopathology’ published by the NHS Cancer Screening Programmes in June 2012. This document sets achievable targets and standards for laboratories engaged in cervical screening.

Achievable standards for laboratory reporting are set from the 5th and 95th percentiles of the distributions of key indicators. The ranges for 2014-15 are set out in Table R. This information is used by the screening programme for performance monitoring purposes with laboratories whose performance falls outside the indicated range required to investigate the reason(s) for this.

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24 A percentile is the value of a variable below which a certain percent of observations fall. For example, the 5th percentile is the value (or score) below which 5 percent of the observations may be found.
**Table R: Achievable standards for laboratory reporting**


<table>
<thead>
<tr>
<th>Indicator</th>
<th>5th - 95th percentile range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2013-14</td>
</tr>
<tr>
<td>Positive Predictive Value (PPV) for CIN2 or worse*</td>
<td>72.7 - 92.2%</td>
</tr>
<tr>
<td>Referral Value for CIN2 or worse*</td>
<td>2.0 - 4.2</td>
</tr>
<tr>
<td>Abnormal Predictive Value (APV) for CIN2 or worse*</td>
<td>9.1 - 29.5%</td>
</tr>
<tr>
<td>Inadequate as a % of all samples**</td>
<td>1.0 - 4.3%</td>
</tr>
<tr>
<td>Number of laboratories whose results were used</td>
<td>83</td>
</tr>
</tbody>
</table>

* 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 B for definitions of PPV, RV and APV.

See Appendix E 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 B – Definitions for more information.

Source: KC61, Health and Social Care Information Centre. See also Table 19a in Data Tables section.

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3.4.2 A positive predictive value (PPV) is calculated for each laboratory. PPV is a measure of the laboratory’s ability to predict CIN2 or worse from tests with a result high-grade dyskaryosis (moderate) or worse. The PPV calculation for cervical screening is outlined in Appendix B on Definitions. Reported PPVs for laboratories in the first quarter of 2014-15 ranged from 70.6% to 95.0% with the majority lying between 75% and 95% (see Figure 13). The range and distribution of PPV values in the first quarter of 2014-15 are similar to those for the period April 2013 to March 2014 (the latest complete year for which data are available).
3.4.3 A Referral Value (RV) is calculated for each laboratory. The Referral Value is defined as the number of women referred to colposcopy (excluding inadequate referrals) per detection of one CIN2 or worse lesion. The RV calculation for cervical screening is outlined in Appendix B on Definitions. Following the implementation of ABC3 from April 2013, the RV calculation does not include glandular neoplasia (non-cervical). Reported RVs for laboratories in the first quarter of 2014-15 ranged from 1.9 to 4.9 with the majority lying between 2.0 and 3.5 (see Figure 14).
Figure 14: Referral Value, by laboratory

England, April 2014 to June 2014

The range and distribution of RV values in the first quarter of 2014-15 are similar to those for the period April 2013 to March 2014 (the latest complete year for which data are available).

3.4.4 An Abnormal Predictive Value (APV)\(^{25}\) is calculated for each laboratory. The APV calculates the percentage of samples reported as borderline or low grade that led to referral and subsequent histological diagnosis of CIN2 or worse. The APV calculation for cervical screening is outlined in Appendix B on Definitions. Reported APVs for laboratories in the first quarter of 2014-15 ranged from 4.7% to 31.7% with the majority lying between 10% and 25% (see Figure 15).

\(^{25}\) APV and PPV values are best viewed as a plot of APV against PPV – see link below for more detail http://www.cancerscreening.nhs.uk/cervical/publications/nhsdsp01.html
Colposcopy

4.1 Referrals for colposcopy

4.1.1 Details of the first referrals of each quarter to each clinic were recorded. A total of 198,216 referrals to colposcopy were reported in 2014-15, a slight fall of 0.6% from 2013-14 (199,322 referrals).

Of all the referrals to colposcopy in 2014-15, 66.8% were reported as being triggered by a screening test and 20.2% were clinically indicated (i.e. women were referred because they had symptoms of a cervical abnormality). Breaking down the referrals from screening tests further, 45.6% of referrals followed findings of borderline change or low-grade dyskaryosis; 8% of referrals followed findings of high-grade dyskaryosis (moderate) and 12.4% followed findings of high-grade dyskaryosis (severe) or worse (see Table S).

The numbers of referrals to colposcopy for ‘Other’ reasons fell from 14.1% in 2013-14 to 13.0% in 2014-15. The ‘Other’ category includes women who have been screened following treatment for cervical abnormalities under the Test of Cure protocol and who had a normal cytology result but tested positive for HPV.
Table S: Women referred to colposcopy - Referral indication of first offered appointment

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2013-14</td>
</tr>
<tr>
<td>Total number of referrals</td>
<td>199,322</td>
</tr>
<tr>
<td>Screening sample - total*</td>
<td>67.6</td>
</tr>
<tr>
<td>Inadequate</td>
<td>0.7</td>
</tr>
<tr>
<td>Borderline changes</td>
<td>20.9</td>
</tr>
<tr>
<td>Low-grade dyskaryosis</td>
<td>26.3</td>
</tr>
<tr>
<td>High-grade dyskaryosis (moderate)</td>
<td>7.9</td>
</tr>
<tr>
<td>High-grade dyskaryosis (severe)</td>
<td>10.9</td>
</tr>
<tr>
<td>High-grade dyskaryosis/?invasive carcinoma**</td>
<td>0.3</td>
</tr>
<tr>
<td>?Glandular neoplasia**</td>
<td>0.6</td>
</tr>
<tr>
<td>Clinical indication – urgent</td>
<td>4.5</td>
</tr>
<tr>
<td>Clinical indication – non urgent</td>
<td>13.8</td>
</tr>
<tr>
<td>Other</td>
<td>14.1</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* Sum of inadequate, borderline change, low-grade dyskaryosis, high-grade dyskaryosis (moderate), high-grade dyskaryosis (severe), high-grade dyskaryosis (severe)/?invasive carcinoma and ?glandular neoplasia.
** ?invasive carcinoma means ‘suspected invasive carcinoma’, ?glandular neoplasia means ‘suspected glandular neoplasia’
Source: KC65, Health and Social Care Information Centre. See also Table 20 in Data Tables section.

4.1.2 Clinics were asked to supply data on the time between the date on the woman’s referral letter and her first offered out-patient appointment, regardless of whether she attended the appointment or not. Where direct referral systems are in operation, the referral date has been taken to be the date the test was reported.

In 2014-15, where women were referred to colposcopy, 30.9% were offered an appointment within 2 weeks of referral (see Table T). This percentage rose to 61.0% for those offered an appointment within 4 weeks and to 97.3% for those offered an appointment within 8 weeks. The time from referral to the first offered appointment was over 12 weeks for 0.6% of women referred. This could include instances where patients had requested a delayed appointment for personal reasons or where treatment for another condition had to be completed before colposcopy could take place.
### Table T: Women referred to colposcopy – Time from referral to first offered appointment by indication


<table>
<thead>
<tr>
<th></th>
<th>Number and Percentages</th>
<th>2013-14</th>
<th>2014-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of referrals</td>
<td></td>
<td>199,322</td>
<td>198,216</td>
</tr>
<tr>
<td>Waiting time</td>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td><strong>All referrals</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than or equal to 2 weeks</td>
<td>23.0</td>
<td>30.9</td>
<td></td>
</tr>
<tr>
<td>less than or equal to 4 weeks</td>
<td>55.4</td>
<td>61.0</td>
<td></td>
</tr>
<tr>
<td>less than or equal to 8 weeks</td>
<td>97.1</td>
<td>97.3</td>
<td></td>
</tr>
<tr>
<td>less than or equal to 12 weeks</td>
<td>99.2</td>
<td>99.4</td>
<td></td>
</tr>
<tr>
<td><strong>High-grade dyskaryosis (moderate or severe)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than or equal to 4 weeks</td>
<td>95.6</td>
<td>97.6</td>
<td></td>
</tr>
<tr>
<td><strong>High-grade dyskaryosis / ?invasive carcinoma</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than or equal to 2 weeks</td>
<td>94.2</td>
<td>96.8</td>
<td></td>
</tr>
<tr>
<td><strong>?Glandular neoplasia</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than or equal to 2 weeks</td>
<td>92.9</td>
<td>94.7</td>
<td></td>
</tr>
</tbody>
</table>


Source: KC65, Health and Social Care Information Centre. See also Tables 20 and 21 in Data Tables section.

Women with more serious test results were offered appointments earlier – see Figure 16.

**Figure 16: Women referred to colposcopy – women offered an appointment within two weeks of referral by indication**

England, April 2014 to June 2014

Source: KC65, Health and Social Care Information Centre. See also Table 21 in Data Tables section.
4.1.3 Table U shows the time from referral to first offered appointment at colposcopy by region. The proportions of all women offered an appointment within 8 weeks was over 90% in all regions. Percentages ranged from 92.4% in South Central to 99.6% in the North East.

For those with high-grade dyskaryosis (moderate or severe), the proportion offered an appointment within 4 weeks ranged from 90.8% in East Midlands to 99.6% in the East of England.

For those with high-grade dyskaryosis (severe)/?invasive carcinoma, the proportion offered an appointment within 2 weeks ranged from 93.1% in South Central to 100% in the North East.

For those with ?glandular neoplasia of endocervical type, the proportion offered an appointment with 2 weeks ranged from 86.0% in the East Midlands to 100.0% in the North East.

Table U: Women referred to colposcopy - Time from referral to first offered appointment by indication

<table>
<thead>
<tr>
<th>Referral indication / Waiting time</th>
<th>England</th>
<th>NEYH</th>
<th>North East</th>
<th>Yorkshire &amp; the Humber</th>
<th>North West</th>
<th>East Midlands</th>
<th>West Midlands</th>
<th>East of England</th>
<th>London</th>
<th>South East</th>
<th>South East Coast</th>
<th>South Central</th>
<th>South West</th>
<th>All referrals (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>less than or equal to 2 weeks</td>
</tr>
<tr>
<td>All referrals (%)</td>
<td>30.9</td>
<td>43.8</td>
<td>37.7</td>
<td>47.5</td>
<td>36.9</td>
<td>20.9</td>
<td>31.8</td>
<td>40.2</td>
<td>22.4</td>
<td>19.7</td>
<td>17.4</td>
<td>21.8</td>
<td>34.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>61.0</td>
<td>74.9</td>
<td>77.6</td>
<td>73.3</td>
<td>67.5</td>
<td>50.4</td>
<td>68.4</td>
<td>73.0</td>
<td>48.1</td>
<td>45.0</td>
<td>42.5</td>
<td>47.3</td>
<td>69.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>97.3</td>
<td>97.2</td>
<td>99.6</td>
<td>95.8</td>
<td>98.4</td>
<td>93.7</td>
<td>99.1</td>
<td>99.5</td>
<td>97.6</td>
<td>94.4</td>
<td>96.6</td>
<td>92.4</td>
<td>98.9</td>
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</tr>
<tr>
<td></td>
<td>99.4</td>
<td>99.7</td>
<td>99.9</td>
<td>99.6</td>
<td>98.5</td>
<td>99.9</td>
<td>98.4</td>
<td>99.9</td>
<td>99.5</td>
<td>99.5</td>
<td>99.4</td>
<td>97.4</td>
<td>99.8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Referral indication / Waiting time</th>
<th>England</th>
<th>NEYH</th>
<th>North East</th>
<th>Yorkshire &amp; the Humber</th>
<th>North West</th>
<th>East Midlands</th>
<th>West Midlands</th>
<th>East of England</th>
<th>London</th>
<th>South East</th>
<th>South East Coast</th>
<th>South Central</th>
<th>South West</th>
<th>High-grade dyskaryosis (moderate or severe) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>97.6</td>
<td>98.8</td>
<td>99.5</td>
<td>98.3</td>
<td>98.4</td>
<td>90.8</td>
<td>99.1</td>
<td>99.6</td>
<td>96.7</td>
<td>96.8</td>
<td>96.8</td>
<td>96.7</td>
<td>97.3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Referral indication / Waiting time</th>
<th>England</th>
<th>NEYH</th>
<th>North East</th>
<th>Yorkshire &amp; the Humber</th>
<th>North West</th>
<th>East Midlands</th>
<th>West Midlands</th>
<th>East of England</th>
<th>London</th>
<th>South East</th>
<th>South East Coast</th>
<th>South Central</th>
<th>South West</th>
<th>High-grade dyskaryosis/ ?invasive carcinoma** (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>96.8</td>
<td>98.9</td>
<td>100.0</td>
<td>97.4</td>
<td>98.8</td>
<td>95.3</td>
<td>97.3</td>
<td>98.6</td>
<td>97.4</td>
<td>93.9</td>
<td>94.7</td>
<td>93.1</td>
<td>93.3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Referral indication / Waiting time</th>
<th>England</th>
<th>NEYH</th>
<th>North East</th>
<th>Yorkshire &amp; the Humber</th>
<th>North West</th>
<th>East Midlands</th>
<th>West Midlands</th>
<th>East of England</th>
<th>London</th>
<th>South East</th>
<th>South East Coast</th>
<th>South Central</th>
<th>South West</th>
<th>?Glandular neoplasia (endocervical)*** (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>94.7</td>
<td>98.3</td>
<td>100.0</td>
<td>97.2</td>
<td>97.5</td>
<td>86.0</td>
<td>99.1</td>
<td>96.8</td>
<td>90.3</td>
<td>91.9</td>
<td>91.5</td>
<td>92.4</td>
<td>96.7</td>
<td></td>
</tr>
</tbody>
</table>

*The North East Yorkshire and Humber reporting region is broken down into Yorkshire and the Humber and the North East sub-regions which operated prior to 1 April 2013. The South East reporting region is broken down to show the South Central and South East Coast sub-regions.

**?invasive carcinoma means ‘suspected invasive carcinoma’.

***?glandular neoplasia means ‘suspected glandular neoplasia of endocervical type’.

Source: KC65, Health and Social Care Information Centre. See also Table 21 in Data Tables section.
4.2 Appointments for colposcopy

4.2.1 During 2014-15, a total of 459,804 appointments were reported at colposcopy clinics, a decrease of 1.4% on 2013-14 (466,324 appointments). Of these, 53.7% were new appointments (i.e. all appointments offered for a first visit), an increase from 52.8% in 2013-14. Return for treatment appointments made up 8.0% of the total, and 38.2% of appointments were follow-ups (see Table V).

Table V: Appointments for colposcopy - Appointment type

<table>
<thead>
<tr>
<th>Appointment type</th>
<th>2013-14</th>
<th></th>
<th>2014-15</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>%</td>
</tr>
<tr>
<td>New appointments</td>
<td>246,122</td>
<td>52.8</td>
<td>246,968</td>
<td>53.7</td>
</tr>
<tr>
<td>Return for treatment</td>
<td>36,524</td>
<td>7.8</td>
<td>36,963</td>
<td>8.0</td>
</tr>
<tr>
<td>Follow up</td>
<td>183,678</td>
<td>39.4</td>
<td>175,873</td>
<td>38.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>466,324</strong></td>
<td><strong>100.0</strong></td>
<td><strong>459,804</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

NB: The sum of components may not equal totals due to rounding.
Source: KC65, Health and Social Care Information Centre. See also Table 22 in Data Tables section.

4.2.2 Table W shows that although 71.8% of all appointments were attended, 2.4% were cancelled by the patient on the day and in the case of 10.0% of appointments, the patient did not attend and gave no advance warning. 3.7% of total appointments were cancelled by the clinic.

The lowest attendance was seen in follow-up appointments, where only 64.1% were attended; in 13.9% of follow up appointments the patient failed to attend with no advance notice.
Table W: Appointments for colposcopy - Attendance status and appointment type

<table>
<thead>
<tr>
<th>Attendance status</th>
<th>New appointments</th>
<th>Return for treatment</th>
<th>Follow up</th>
<th>All appointments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total appointments</td>
<td>246,968</td>
<td>36,963</td>
<td>175,873</td>
<td>459,804</td>
</tr>
<tr>
<td>Attended</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Cancelled by patient - in advance</td>
<td>75.8</td>
<td>81.6</td>
<td>64.1</td>
<td>71.8</td>
</tr>
<tr>
<td>Cancelled by patient - on the day</td>
<td>11.9</td>
<td>9.5</td>
<td>12.7</td>
<td>12.0</td>
</tr>
<tr>
<td>Cancelled by clinic</td>
<td>2.2</td>
<td>1.8</td>
<td>2.8</td>
<td>2.4</td>
</tr>
<tr>
<td>Did not attend - no advance warning</td>
<td>1.9</td>
<td>2.4</td>
<td>6.4</td>
<td>3.7</td>
</tr>
<tr>
<td>Did not attend - arrived late</td>
<td>8.1</td>
<td>4.7</td>
<td>13.9</td>
<td>10.0</td>
</tr>
<tr>
<td>Did not attend - left without being seen</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

NB: The sum of components may not equal totals due to rounding.
Source: KC65, Health and Social Care Information Centre. See also Table 22 in Data Tables section.

4.3 First Attendances at colposcopy

4.3.1 Clinics are required to supply details of all treatment and procedures undertaken at first attendance at the colposcopy clinic. The data collected relate only to procedures undertaken the first time a woman attends. In the case of deferred treatment the woman will be recorded as having no treatment at her first attendance.

4.3.2 In 2014-15, a total of 187,229 first attendances at colposcopy were reported, a fall of 0.8% from 2013-14 (188,817 attendances) – see Table X. Most first attendances will relate to a referral in that year, although some women attending may have been referred in a previous year and some of the women referred in 2014-15 will attend in the next year.

Of all first attendances at colposcopy, 61.7% of women had some treatment or procedure. For those referred with high-grade abnormalities (i.e. high-grade dyskaryosis (moderate), high-grade dyskaryosis (severe), high-grade dyskaryosis (severe)/?invasive carcinoma, ?glandular neoplasia of endocervical type), the proportion was 88.2%. For those referred with low-grade abnormalities (borderline change or low-grade dyskaryosis), it was 66.9%.

The most common treatment or procedure at first attendance was diagnostic biopsy, which was carried out at 47.7% of all first attendances. The use of this procedure was most common amongst those referred with low-grade abnormalities (64.8%), with only 1.7% of those with low grade abnormalities undergoing excision. Conversely, for those referred with high-grade abnormalities, the most common treatment at first attendance was excision (51.7%), followed by diagnostic biopsy (36.3%).
Table X: Women referred to colposcopy - First attendance by type of procedure and result of referral

<table>
<thead>
<tr>
<th>Treatment</th>
<th>All referrals*</th>
<th>Inadequate</th>
<th>Borderline changes or low-grade dyskaryosis</th>
<th>High-grade dyskaryosis or worse**</th>
<th>Clinical indication (urgent)</th>
<th>Clinical indication (non-urgent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total first attendances</td>
<td>187,229</td>
<td>1,402</td>
<td>85,638</td>
<td>39,019</td>
<td>11,263</td>
<td>27,059</td>
</tr>
<tr>
<td>Percentages</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>No procedure</td>
<td>38.3</td>
<td>74.8</td>
<td>33.1</td>
<td>11.8</td>
<td>55.6</td>
<td>59.9</td>
</tr>
<tr>
<td>Procedure used</td>
<td>61.7</td>
<td>25.2</td>
<td>66.9</td>
<td>88.2</td>
<td>44.4</td>
<td>40.1</td>
</tr>
<tr>
<td>Diagnostic biopsy</td>
<td>47.7</td>
<td>21.7</td>
<td>64.8</td>
<td>36.3</td>
<td>36.0</td>
<td>31.4</td>
</tr>
<tr>
<td>Excision</td>
<td>12.2</td>
<td>1.0</td>
<td>1.7</td>
<td>51.7</td>
<td>2.4</td>
<td>2.1</td>
</tr>
<tr>
<td>Ablation without biopsy</td>
<td>0.5</td>
<td>0.6</td>
<td>0.0</td>
<td>0.0</td>
<td>1.5</td>
<td>1.9</td>
</tr>
<tr>
<td>Ablation with biopsy</td>
<td>0.1</td>
<td>-</td>
<td>0.0</td>
<td>0.0</td>
<td>0.2</td>
<td>0.4</td>
</tr>
<tr>
<td>Other</td>
<td>1.2</td>
<td>2.0</td>
<td>0.3</td>
<td>0.1</td>
<td>4.3</td>
<td>4.3</td>
</tr>
</tbody>
</table>

NB: The sum of components may not equal totals due to rounding.
* Includes ‘other’ referral indications that cannot be broken down into a specific category.
** Includes invasive carcinoma which means ‘suspected invasive carcinoma, and ?glandular neoplasia which means ‘suspected glandular neoplasia
- denotes absolute zero
Source: KC65, Health and Social Care Information Centre. See also Table 23 in Data Tables section.

4.3.3 Treatment patterns vary considerably at local and regional level. The percentage of all women receiving some treatment or procedure at first attendance ranged from 55.0% in North West to 72.6% in South West (see Table 23 in the Data Tables).

The use of diagnostic biopsy for those attending with high-grade abnormalities ranged from 21.8% in the West Midlands to 72.9% in London. For low-grade abnormalities, the equivalent range was 54.9% in the North West to 81.0% in the North East.

The use of excision at first attendance was more common for those attending with high-grade abnormalities, ranging from 8.3% in London to 62.5% in the South East.

It is likely that the majority of those women presenting with high-grade abnormalities and reported as having either no treatment or a diagnostic biopsy went on to receive therapeutic treatment at a subsequent attendance.
4.4 Biopsies

4.4.1 For each biopsy taken, the time elapsing before the woman is informed in writing of her result is recorded. The interval measured is the time between the date on which the biopsy was taken and the date on the letter that is sent to the patient informing her of her result. In order to allow time for follow up of results, the data relates only to those biopsies taken in the first month of each quarter. The data include all biopsies taken, not just those taken from women on first attendance. It is possible that more than one biopsy may be taken from the same woman.

4.4.2 In 2014-15, a total of 56,433 biopsies were reported by clinics in the four sample months. These represent approximately one third of the total annual workload. The woman was informed of her result within 2 weeks in 34.0% of all cases, and in a further 47.6% of cases, women were informed within 4 weeks. In 0.4% of cases, women had not been informed of their results within 12 weeks (see Figure 17). This latter figure includes cases where the result had yet to be reported to the clinic.

Figure 17: Biopsies taken at colposcopy - Time from biopsy until patient informed of result (4 month sample)

England, 2014-15

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than or equal to 2 weeks</td>
<td>34.0</td>
</tr>
<tr>
<td>more than 2 weeks up to 4 weeks</td>
<td>47.6</td>
</tr>
<tr>
<td>more than 4 weeks up to 8 weeks</td>
<td>16.9</td>
</tr>
<tr>
<td>more than 8 weeks up to 12 weeks</td>
<td>1.1</td>
</tr>
<tr>
<td>over 12 weeks</td>
<td>0.4</td>
</tr>
</tbody>
</table>

NB: The sum of components may not equal totals due to rounding.  
Source: KC65, Health and Social Care Information Centre. See also Table 24 in Data Tables section.

4.4.3 Clinics are asked to supply data on the histological result for each biopsy taken. Of all biopsies reported, 66.9% were diagnostic, 31.8% were excision and the remaining 1.2% were other non-diagnostic biopsies (see Table Y).
4.4.4 Most non-diagnostic biopsies are excisional, where women are being treated to remove abnormal cells from the cervix. The outcome of most of these biopsies is therefore expected to be CIN2 or worse.

Of all non-diagnostic biopsies (i.e. excision biopsies and other non-diagnostic biopsies) taken in 2014-15, where the result was known, 87.9% showed evidence of cervical intra-epithelial neoplasia (CIN) or worse\(^{26}\). This is a slight fall from 2013-14, when the equivalent proportion was 88.3% (see Table Z). CIN2 or worse was found in 75.9% of non-diagnostic biopsies. The proportions at regional level are shown in Table 25 in the Data Tables section.

### Table Y: Biopsies by type (4 month sample)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total biopsies</th>
<th>Diagnostic</th>
<th>Excision</th>
<th>Other non-diagnostic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>%</td>
</tr>
<tr>
<td>2013-14</td>
<td>58,993</td>
<td>40,045</td>
<td>67.9</td>
<td>18,432</td>
</tr>
<tr>
<td>2014-15</td>
<td>56,433</td>
<td>37,764</td>
<td>66.9</td>
<td>17,967</td>
</tr>
</tbody>
</table>

Source: KC65 Part E, Health and Social Care Information Centre.
Sum of components may not equal totals.

### Table Z: Non-diagnostic biopsies taken at colposcopy by outcome (4 month sample)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>2013-14</th>
<th>2014-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of biopsies reported</td>
<td>18,948</td>
<td>18,669</td>
</tr>
<tr>
<td>Biopsies with unknown result</td>
<td>79</td>
<td>62</td>
</tr>
<tr>
<td>Biopsies with known result (=100%)</td>
<td>18,869</td>
<td>18,607</td>
</tr>
<tr>
<td>Cancer</td>
<td>1.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Adenocarcinoma in situ</td>
<td>2.1</td>
<td>2.4</td>
</tr>
<tr>
<td>CIN3</td>
<td>45.4</td>
<td>46.1</td>
</tr>
<tr>
<td>CIN2</td>
<td>26.4</td>
<td>25.8</td>
</tr>
<tr>
<td>CIN1</td>
<td>12.7</td>
<td>12.0</td>
</tr>
<tr>
<td>HPV / Cervicitis only</td>
<td>4.8</td>
<td>4.7</td>
</tr>
<tr>
<td>No CIN / No HPV</td>
<td>6.6</td>
<td>7.3</td>
</tr>
<tr>
<td>Inadequate / unsatisfactory biopsy</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Total showing CIN or worse</td>
<td>88.3</td>
<td>87.9</td>
</tr>
</tbody>
</table>

NB: The sum of components may not equal totals due to rounding.
Source: KC65 Part E, Health and Social Care Information Centre. See also Table 25 in Data Tables section.

\(^{26}\) This covers CIN1, CIN2, CIN3, adenocarcinoma in situ and cancer.
4.5 Clinic data

Colposcopy data for individual clinics is shown in Tables 26a and 26b of the Data Tables section. These may be used to identify different treatment patterns across the country and show wide variation between clinics. Some of this variation may arise from the fact that many clinics deal with only a small number of cases and this should be considered when interpreting the clinic-level results.
### Appendix A – Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>?Glandular neoplasia of endocervical type</td>
<td>?Glandular neoplasia means ‘suspected glandular neoplasia’. Samples are reported as ‘?glandular neoplasia of endocervical type’ if they show cytological features suggestive of cervical glandular intra-epithelial neoplasia (CGIN) or endocervical adenocarcinoma. In the tables and commentary ?glandular neoplasia of endocervical type appears as ?glandular neoplasia (endocervical) for ease of reporting.</td>
</tr>
<tr>
<td>?Glandular neoplasia (non-cervical)</td>
<td>?Glandular Neoplasia means ‘suspected glandular neoplasia’. Samples are reported as ?glandular neoplasia (non-cervical) where no cervical cell abnormalities are found but the sample contained features suggesting a diagnosis of endometrial, ovarian, or metastatic lesions from beyond the genital tract.</td>
</tr>
<tr>
<td>Ablation</td>
<td>A treatment that destroys tissue rather than removes it.</td>
</tr>
<tr>
<td>Adenocarcinoma in situ</td>
<td>A localized growth of abnormal glandular tissue that may become malignant.</td>
</tr>
<tr>
<td>Biopsy</td>
<td>A biopsy is a medical procedure that involves taking a small sample of tissue so that it can be examined under a microscope. The term ‘biopsy’ is often used to refer to the act of taking the sample and the tissue sample itself.</td>
</tr>
<tr>
<td>Carcinoma in situ (CIS)</td>
<td>This is an early form of carcinoma. There are cancerous cells in the cervix but they have not started to grow beyond the small area where they started. CIS3 is sometimes called 'carcinoma in situ'.</td>
</tr>
<tr>
<td>Cervical glandular intraepithelial neoplasia (CGIN)</td>
<td>CGIN is an abnormality of the glandular tissue in the endocervix (the inside of the cervix or cervical canal).</td>
</tr>
<tr>
<td>CIN</td>
<td>Cervical Intra-epithelial Neoplasmia. See Appendix E on Outcomes of Gynaecological Referral for more information.</td>
</tr>
</tbody>
</table>

28 http://medical-dictionary.thefreedictionary.com  
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical Indication</strong></td>
<td>Where a referral to colposcopy is ‘clinically indicated’ it means that a woman has been referred because she had symptoms of a cervical abnormality and not because of a screening test.</td>
</tr>
<tr>
<td><strong>Colposcope</strong></td>
<td>A colposcope is a specially designed and lighted microscope. It allows a doctor or specialist nurse to look more closely at the cells lining the cervix.</td>
</tr>
<tr>
<td><strong>Colposcopy</strong></td>
<td>Colposcopy is a detailed examination of the cervix (the neck of the womb).</td>
</tr>
<tr>
<td><strong>Cytology</strong></td>
<td>The medical and scientific study of cells. Cervical cytology refers to a branch of pathology, the medical specialty that deals with making diagnoses of cervical dysplasia through the examination of cell samples.</td>
</tr>
<tr>
<td><strong>Diagnostic biopsy</strong></td>
<td>A biopsy taken to make a diagnosis.</td>
</tr>
<tr>
<td><strong>Dyskaryosis</strong></td>
<td>Dyskaryosis is the name given to small changes that are found in the cells of the cervix (the neck of the womb). It is the nuclear change which is seen in cells derived from lesions histologically described as CIN.</td>
</tr>
<tr>
<td><strong>Dysplasia</strong></td>
<td>Dysplasia is an abnormality of development. Cervical dysplasia refers to abnormal changes in cells from the surface of the cervix which, if left untreated, could lead to cervical cancer.</td>
</tr>
<tr>
<td><strong>Endocervical cells</strong></td>
<td>Cells located in the inside of the cervix (cervical canal).</td>
</tr>
<tr>
<td><strong>Excision biopsy</strong></td>
<td>An excisional biopsy is where surgery is used to remove a larger area of tissue, such as a lump, for closer examination. Excision means ‘cutting out’, or ‘removal’.</td>
</tr>
<tr>
<td><strong>Histology</strong></td>
<td>The study of the form of structures seen under the microscope.</td>
</tr>
<tr>
<td><strong>HPV</strong></td>
<td>Human Papillomavirus (HPV) is the name of a family of viruses that affect the skin and the moist membranes that line the body, such as those in the cervix, anus, mouth and throat. Infection of the cervix with some types of HPV can cause abnormal tissue growth and other changes to cells, which can lead to cervical cancer.</td>
</tr>
<tr>
<td><strong>Liquid Based Cytology (LBC)</strong></td>
<td>Liquid based cytology (LBC) is a way of preparing cervical samples for examination in the laboratory.</td>
</tr>
<tr>
<td><strong>KC 53 Return</strong></td>
<td>Information collected from the call and recall system, and reported by Upper Tier Local Authorities.</td>
</tr>
</tbody>
</table>

31 NHS Choices: [http://www.nhs.uk/conditions/colposcopy/Pages/Introduction.aspx](http://www.nhs.uk/conditions/colposcopy/Pages/Introduction.aspx)
34 MedicineNet.Com, [http://www.medterms.com](http://www.medterms.com)
| KC 61 Return | Information on screening samples examined by pathology laboratories, collected from laboratories carrying out cervical cytology. |
| KC 65 Return | Information on referrals to colposcopy, subsequent treatment and outcome, collected from clinics/trusts providing colposcopy services. |
| Non-diagnostic biopsy | A biopsy performed to treat and to provide diagnostic information at the same time. |
| Reporting region | The NHS Cervical Screening Programme has eight reporting regions. These are similar to the SHAs which operated prior to April 2013 with a few exceptions. The old North East and Yorkshire & the Humber SHAs together form one reporting region (North East, Yorkshire & the Humber). The old South East Coast and South Central SHAs make up the South East reporting region. |
| Screened | A woman has been screened if she has had an adequate cervical screening test result. A woman who has had only an inadequate test has not been screened. |
| Squamous cells | Squamous cells cover the surface of the ectocervix (the outer surface of the cervix). |
| Tested | A woman has been tested if she has had a cervical screening test, regardless of the result. |
Appendix B – Definitions

Coverage

Coverage is defined as the percentage of women in a population who were eligible for screening at a given point in time (31 March 2015 in this instance) and who were screened adequately within a specified period. Women are eligible for screening if they are in the screening age range and are not ineligible because their recall has been ceased for clinical reasons (most commonly due to hysterectomy).

As the frequency with which women are invited for screening is dependent on age, coverage is calculated differently for different age groups, as follows:

Women aged 25 to 49

Coverage is calculated as the number of women in this age group who have had an adequate screening test within the last 3.5 years as a percentage of the eligible population aged 25 to 49.

Table 8

<table>
<thead>
<tr>
<th>Total number of eligible women aged 25-49 with an adequate screening test in the last 3½ years</th>
<th>Total Eligible Population aged 25-49</th>
<th>x100</th>
</tr>
</thead>
</table>

Women aged 50 to 64

Coverage is calculated as the number of women in this age group who have had an adequate screening test within the last 5.5 years as a percentage of the eligible population aged 50-64.

Table 8

<table>
<thead>
<tr>
<th>Total number of eligible women aged 50-64 with an adequate screening test in the last 5½ years</th>
<th>Total eligible population aged 50-64</th>
<th>x100</th>
</tr>
</thead>
</table>

Women aged 25 to 64 (the complete target age group)

For the total target age group (25 to 64 years), two definitions of coverage are presented in this report.

The primary measure is ‘Age-appropriate coverage’, which represents the most up to date definition. It is derived from Open Exeter and used in the Public Health Outcomes Framework (PHOF)\(^36\). This takes into account the frequency with which women of different ages are invited for screening and defines coverage as the percentage of women in the population eligible for cervical screening who were screened adequately within the previous 3.5 years or 5.5 years, according to age (3.5 years for women aged 25-49 and 5.5 years for women aged 50-64) on 31 March 2015.

---

Total number of eligible women aged 25-49 with adequate screening test in the last 3½ years plus total number of eligible women aged 50-64 with adequate screening test in the last 5½ years

\[
\frac{\text{Total Eligible Population aged 25-64}}{\times 100}
\]

The second is referred to as ‘Five year coverage’ and represents an earlier definition. This measures the percentage of women in the population eligible for cervical screening who have had an adequate test within the last 5 years.

\[
\frac{\text{Total number of eligible women aged 25-64 with adequate screening test in the last 5 years}}{\text{Total Eligible Population aged 25-64}} \times 100
\]

Five year coverage was the standard coverage measure reported in this publication up until 2013-14. It is derived from the KC53 return data set which includes further information on screening including detailed coverage breakdowns by age. Changes to the KC53 central data return are planned to enable age-appropriate coverage to be reported, but until these changes are made a separate HSCIC data extract, created to provide data for PHOF coverage reporting, is being used as the source. This is taken from the same data source as the KC53 (Call and recall system via Open Exeter). As age appropriate coverage data is only available from 2010-11, the five year coverage figure continues to be reported for the time being, in order to present a longer time series for comparison.

Coverage statistics in this report are calculated using data from the NHAIS (Exeter) system and include all women registered with an NHS GP practice and those who are not registered with a GP practice but who are otherwise known to the NHS. The total number of women who are not registered with a GP or otherwise known to the NHS is unknown and it is therefore not possible to estimate how overall coverage rates might be affected by this group.

NHAIS data supports many primary care services including the NHS Cervical Screening Programme’s call and recall system for inviting women for screening. It is the only data source that can identify both the eligible population and those women who have been tested in the last three or five years.

Coverage is reported by LA in this publication and PCO coverage is available in Annex A on the publication webpage to enable comparisons with 2013-14 PCO data.

Coverage at LA level is based on the eligible LA resident population. Coverage at a PCO level is based on the eligible PCO responsible population. See ‘Impact of NHS reorganisation’ in section 1.7 on ‘Changes in reporting and classification of cervical cytology’ of the Data Quality Statement which accompanies this publication for more information on the difference between LA resident and PCO responsible populations.
Achievable Standards

Achievable standards\textsuperscript{37} for laboratory reporting in cervical screening are set for key indicators as follows:

Positive Predictive Value (PPV) for CIN2 or worse

PPV is a measure of the laboratory’s ability to predict CIN2 or worse from tests with results of high-grade dyskaryosis (moderate) or worse. PPV relating cytology with histology is calculated from outcomes of referral for tests with results of high-grade dyskaryosis (moderate) or worse as follows:

$\frac{\text{Numerator}}{\text{Denominator}} \times 100$

**Numerator**: Number of tests with results of high-grade dyskaryosis (moderate) or worse with outcome of referral: cancer, adenocarcinoma in situ, CIN3 or CIN2.

**Denominator**: Number of tests as per numerator, but also including outcomes of CIN1, HPV only, No CIN/HPV and 'seen in colposcopy - No Abnormality Detected' (where result was high-grade dyskaryosis (moderate) or worse). Following the implementation of ABC3 from April 2013, PPV excludes women referred to gynaecology following a test result of ?glandular neoplasia (non-cervical).

Abnormal Predictive Value (APV) for CIN2 or worse:

APV is a measure of the laboratory’s ability to predict CIN2 or worse from tests with results of low-grade dyskaryosis (borderline or mild). APV relating cytology with histology is calculated from outcomes of referral for tests with results of low-grade dyskaryosis (borderline or mild) or worse as follows:

$\frac{\text{Numerator}}{\text{Denominator}} \times 100$

**Numerator**: Number of tests with results of low-grade dyskaryosis with outcome of referral: cancer, adenocarcinoma in situ, CIN3 or CIN2.

**Denominator**: Number of tests as per numerator, but also including outcomes of CIN1, HPV only, No CIN/HPV and 'seen in colposcopy - No Abnormality Detected' where result was low-grade dyskaryosis (borderline or mild). Following the implementation of ABC3 from April 2013, APV excludes women referred to gynaecology following a test result of ?glandular neoplasia (non-cervical).

\textsuperscript{37} See section 3.4 for more information on achievable standards.
Referral Value (RV) for CIN2 or worse:
The Referral Value (RV) is defined as the number of women referred to colposcopy (excluding inadequate referrals) per detection of one CIN2 or worse lesion. Following the implementation of ABC3 from April 2013, RV excludes women referred to gynaecology following a test result of ?glandular neoplasia (non-cervical).

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 section 1.4 of the Data Quality Statement which accompanies this publication for more information.

Inadequate samples as a percentage of all samples
Number of inadequate samples as a percentage of all samples.

HPV Sentinel Site
A number of sites began HPV testing as triage for women with mild or borderline test results in early 2007 prior to the roll out to all areas which began towards the end of March 2012. These sites were known as HPV sentinel sites.

Percentile
A percentile is the value of a variable below which a certain percent of observations fall. For example, the 10th percentile is the value (or score) below which 10 percent of the observations may be found.

Other
For definitions of further medical terminology please visit the NHS Cancer Screening Programmes website at http://www.cancerscreening.nhs.uk/
Appendix C – Types of Invitation

The NHS Cervical Screening Programme categorises screening invitations into types as follows:

Call
Women invited for their first screen i.e. those who have never been screened before.

Routine recall
Women invited for screening in the year as a result of a routine recall for screening. These women will have either had a previous negative cytology result or a previous negative HPV test and been recalled after the usual interval (normally 3 or 5 years).

Repeat Recall
Women invited in the year as a result of an early repeat recall for screening. Repeat recalls can be for the following reasons:

**Surveillance**
Women invited for early screening because of a previous abnormal screening result or following treatment for cervical abnormalities.

**Abnormality**
Women invited for early screening because their last sample showed some abnormality and a repeat was advised.

**Inadequate**
Women invited for screening because their last sample was inadequate.
Appendix D – Cytology Test Result Categories

The NHS Cervical Screening Programme categorises the results of a cytology test as follows:

**Negative**
This indicates that no cell abnormalities were found.

**Borderline change (in squamous or endocervical cells)**
These are small changes found in the cells of the cervix which often return to normal by themselves.

The term ‘borderline change in squamous cells’ describes morphological alterations to squamous cells that fall short of low-grade dyskaryosis.

Borderline change in endocervical cells describes atypical endocervical cells where dyskaryosis cannot be excluded.

**Low-grade dyskaryosis**
Dyskaryosis is the name given to small changes that are found in the cells of the cervix (the neck of the womb). Low-grade dyskaryosis is associated with CIN1 (see Appendix E). These changes are not cancer, and in most cases do not lead to cancer in the future.

**High-grade dyskaryosis (moderate) or High-grade dyskaryosis (severe)**
For some women their result will show high-grade dyskaryosis (moderate) or high grade dyskaryosis (severe). These areas of changed cells are associated with CIN grades 2 and 3 respectively (see Appendix E).

**High-grade dyskaryosis/?Invasive squamous carcinoma**
Where a test result is high-grade dyskaryosis/?invasive squamous carcinoma this indicates probable CIN3 with additional features suggesting the possibility of invasive cancer. ?invasive squamous carcinoma is shown as ?invasive carcinoma in the tables and commentary for ease of reporting.

**?Glandular neoplasia of endocervical type**
A sample reported as ?glandular neoplasia of endocervical type shows cytological features suggestive of cervical glandular intra-epithelial neoplasia (CGIN) or endocervical adenocarcinoma.
Glandular neoplasia (non-cervical)

A category of glandular neoplasia (non-cervical) is used where no cervical cell abnormalities were found but the sample contained features suggesting a diagnosis of endometrial, ovarian or metastatic lesions from beyond the genital tract.

The terms “potential cervical cancer”, “abnormal”, “negative” and “inadequate” used in the text to describe the result of a cytology test are defined as follows in terms of the categories used on the cytology report form HMR 101/5:

**Potential cervical cancer**: HMR 101/5 cat. 5 (high-grade dyskaryosis/?invasive squamous carcinoma) or cat. 6 (?glandular neoplasia of endocervical type); women who have such test results should be referred urgently for further investigation.

**Abnormal**: HMR 101/5 cat. 8 (borderline change in squamous cells), cat. 9 (borderline change in endocervical cells), cat. 3 (low-grade dyskaryosis), cat. 7 (high-grade dyskaryosis (moderate)), cat. 4 (high-grade dyskaryosis (severe)), cat. 5 & 6 (see Potential cancer above);

**Negative**: HMR 101/5 cat. 2 (negative); women with a negative test result will usually be returned to the screening programme to be called again at the normal interval (3 or 5 years). Shorter recall intervals may be appropriate for women under surveillance or follow-up after treatment.

**Inadequate**: HMR 101/5 cat. 1 (inadequate); inadequate means it was not possible to obtain a valid result from the sample. Women with inadequate samples will be recalled for a repeat test. Women with three consecutive inadequate results should be referred to colposcopy for further investigation.
Appendix E – Outcomes of Gynaecological Referral

The NHS Cervical Screening Programme uses the following categories to record the results for women who are referred for gynaecological investigation:

Cervical cancer
The outcome of investigation shows cervical cancer.

CIN (cervical intra-epithelial neoplasia)
CIN is an indicator of the depth of abnormal cells within the surface layer of the cervix, and is divided into 3 grades. The higher the number/grade the more severe the condition:

- **CIN1** – one third of the thickness of the surface layer of the cervix is affected.
- **CIN2** – two thirds of the thickness of the surface layer of the cervix is affected.
- **CIN3** – full thickness of the surface layer of the cervix is affected (also known as carcinoma in situ)

Adenocarcinoma in Situ
A localized growth of abnormal glandular tissue that may become malignant\(^{38}\).

HPV only
This category includes those biopsies which were diagnosed as showing features consistent with HPV infection only. See Appendix A (Glossary) for more information on HPV.

No CIN/No HPV
This includes biopsies where no evidence of cervical disease or HPV infection can be identified and is be used for specimens of normal tissue only.

Seen in colposcopy - result n/k
This category includes women who have had a biopsy taken but the result is not yet known or available.

Inadequate Biopsy
This category is used for biopsies which are known to be inadequate or unrepresentative due to deficiencies in the sampling process.

Colposcopy – no abnormality detected
This category is used for women attending for adequate colposcopy which gives a normal result for cervical neoplasia or HPV infection without a biopsy being required.

\(^{38}\) Source: [http://medical-dictionary.thefreedictionary.com](http://medical-dictionary.thefreedictionary.com)
Appendix F – How are the Statistics Used?

Users and Uses of the Report

Uses of Statistics by Known Users

This section details known users of the report and the purposes for which they use the statistics. All these users have found the information in the report useful for the purposes set out.

Department of Health (DH)

The Department of Health (DH) use the statistics from this publication to inform policy and to monitor the quality of screening services through regional quality assurance teams. The statistics used in the report are also used by DH to respond to public and Parliamentary business.

Public Health England (PHE)

Screening and immunisation managers in PHE use the statistics for performance management purposes, comparing local statistics with regional and national figures.

NHS Cancer Screening Programmes (NHSCSP), Public Health England

The NHS Cancer Screening Programme (NHSCSP) uses the bulletin as a reference document to monitor the quality and effectiveness of the NHS Cancer Screening Programmes and progress against their key targets for screening the eligible population in England.

NHS England

NHS England use the statistics from this publication to monitor the quality of screening services commissioned against key performance indicators set out in the Section 7a agreement with the Department of Health.

Regional Quality Assurance (QA) Co-ordinators, NHSCSP

The Regional QA co-ordinators utilise the report as part of their role in ensuring the screening process is achieving its primary targets across England.

Pathology Laboratories

The Pathology QA Committee use the statistics to compare local statistics against national figures and national achievable standards and guidelines.

Colposcopy Clinics

The Colposcopy QA Committee uses the cervical screening statistical bulletin to assess the overall performance of the colposcopy services in England with reference to the screened population. The statistics are also used to identify regional and hospital variations. This gives insight into future national audits.

Local Authorities

Local authorities and NHS Clinical Commissioning Groups (CCGs) are required to prepare Joint Strategic Needs Assessments of Health and Wellbeing (JSNAs), which inform local commissioning of health and wellbeing services. Indicators from the
publication form part of the Local Government Association’s Joint Strategic Needs Assessment: Data Inventory (via the Compendium of Population Health Indicators).

Academics
The Cancer Epidemiology Unit, University of Oxford use the raw data supplied by the HSCIC and supplement it with additional data to provide a more evaluative analysis to improve the performance of the national screening programmes through peer reviewed research papers and the dissemination of such information through appropriate channels e.g. QA Directors.

Trent Cancer Registry
The statistics are used in a web-based interactive Cervical Screening and Cancer E-Atlas produced by the Trent Cancer Registry.

Compendium of Population Health Indicators
Indicators from the publication are included in the Compendium of Population Health Indicators which is widely used within the NHS as well as outside it. See: http://www.hscic.gov.uk/indicatorportal

Annual Report of the Chief Medical Officer
Coverage data from the publication, together with supplementary information provided by the HSCIC, was used to inform the Annual Report of the Chief Medical Officer's on the State of the Public's Health.

The report draws attention to major health challenges requiring immediate action and details progress made in key areas identified in previous annual reports. Data from the KC53 on coverage by PCT for women aged 25-64 is used in Chapter 5 of this report. See: https://www.gov.uk/government/publications/cmo-annual-report-2011-volume-one-on-the-state-of-the-public-s-health

Jo’s Cervical Cancer Trust
Jo’s Cervical Cancer Trust is a UK charity dedicated to supporting those affected by cervical cancer and cervical abnormalities. The charity regularly runs awareness campaigns to improve screening uptake both at a national and local level. Cervical screening data are used by the charity to help identify how it can best focus its work towards improving screening uptake.

Cancer Research UK
Cancer Research UK use the report for planning and evaluating their work. The statistics are used to inform a wide range of work including the charity’s policy positions and public communications about screening. For example, they are able to inform people potentially taking part in screening about the frequency of abnormal results and all the possible outcomes of screening.

Media
The data are used to underpin articles in newspapers, journals, etc. on matters of public interest.
Unknown Users

The cervical screening publication is free to access via the HSCIC website and therefore the majority of users will access the report without being known to the HSCIC. It is important to put mechanisms in place to try to understand how these additional users are using the statistics and also to gain feedback on how we can make the data more useful to them.

On the webpage where the report is published there is a link to a feedback web form which the HSCIC uses for all its reports.

The specific questions asked on the form are:

- How useful did you find the content in this publication?
- How did you find out about this publication?
- What type of organisation do you work for?
- What did you use the report for?
- What information was the most useful?
- Were you happy with the data quality?
- To help us improve our publications, what changes would you like to see (for instance content or timing)?
- Would you like to take part in future consultations on our publications?

Any responses via this web form are passed to the team responsible for the report to consider.
Appendix G – Feedback from Users

Feedback from key stakeholders (including users and data suppliers)

Feedback from users since the last publication in November 2014 has been sought as follows:

- The publication webpage has a ‘Have your say’ link which invites users to comment on the publication.
- The 2013-14 report invited users to provide feedback.
- Key stakeholders were invited to provide feedback on the 2013-14 report via an online survey.
- Feedback was sought from key stakeholders in NHS England and Local Authorities through articles placed in newsletters.
- Feedback was also received after the report was sent to the Health Statistics User Group (HSUG).

The on-line survey to stakeholders generated responses from three individuals. Their feedback is summarised below:

- All three respondents found the report very useful
- Specific comments around usefulness were provided as follows:
  - “It is useful to use how your region compares against all regions/labs/units”.
  - “A mine of information on the screening programme”.
  - “A key document to reflect performance of our services and progress year on year”.
- All respondents thought the presentation of all aspects of the report was very or fairly clear (2 did not answer the question).

- A single suggestion for improvements was provided as follows:
  - “Use standardised terminology please”.

- Two people responded to say how they used the information in the publication
  - “To inform local reports, targets and policies”
  - “To follow up performance issues and monitor achievement of standards”
Appendix H - Data Validation and Data Quality

Information on the NHS Cervical Screening Programme is collected on the following returns:

- KC53 – information collected from the call and recall system, and reported by Upper Tier Local Authorities.
- KC61 – information on screening samples examined by pathology laboratories, collected from laboratories carrying out cervical cytology.
- KC65 – information on referrals to colposcopy, subsequent treatment and outcome, collected from clinics/trusts providing colposcopy services.

In addition to the above returns, data on time from screening to receipt of results is obtained from monthly reports produced by the Open Exeter system\(^\text{39}\).

For 2014-15, submissions have been made for all LAs. All but one pathology laboratories submitted data for 2014-15.

The NHS Cervical Screening Programme includes regional Quality Assurance Reference Centres (QARCs) which quality assure the data collections. Validation undertaken by QARCs varies between regions but some examples of the types of quality assurance checks that QARCs undertake are:

- checks on data completeness
- identification of any unusual figures which are then followed up individually
- comparisons with previous years’ data to ensure that any unusual trends are identified and explained
- consistency checks between different parts of the returns
- checks that totals equal the sums of parts
- checks on the calculations of statistics

Data validation and quality assurance checks are also carried out by the HSCIC as part of the publication process. Validation undertaken by the HSCIC includes:

- comparisons with previous years’ data to ensure that any unusual trends are identified and explained
- consistency checks between different parts of the returns
- checks that totals equal the sums of parts
- checks on the calculation of statistics
- checking for outliers (figures that are particularly low or high compared to other areas)

\(^{39}\) ‘Exeter’ system (NHAIS), Cancer Screening Statistics VSA15 Report.
Part of the HSCIC’s quality assurance procedure includes returning data tables to the QARCs for verification prior to publication.

The sections below describe the issues/areas identified for further investigation through the HSCIC’s validation processes and the outcomes of follow-ups with the QARCs.

**KC53**

Some queries were raised with QARCs where no results had been received where the recall status ceased because of age reasons. All of these were resolved following contact with the QARC with resubmissions necessary.

A number of queries were raised where there were notable differences to previous year’s submissions (year on year sense checks). All of these were signed off following contact with the QARC with no resubmissions necessary.

**KC61**

Consistency checks between different parts of the return identified a number of mismatches. These were raised with the QARCs and corrected through resubmissions.

Resubmissions were made by a small number of pathology laboratories after queries raised by the HSCIC relating to year on year change in some figures. Most queries raised with QARCs following validation checks were resolved satisfactorily, some requiring a resubmission and others gave reasons as to why there were variances.

Only one laboratory (St Thomas’s in London region) was unable to provide data because of IT issues. Where data are missing this is footnoted in the relevant table(s).

No other data quality issues were identified by the QARCs for any laboratory submissions in 2014-15. Where data quality issues have been highlighted for a pathology laboratory, some caution should be exercised when comparing figures over time as apparent changes could reflect changes in data quality/completeness rather than real changes.

**KC65**

Consistency checks between different parts of the return identified issues in the submissions made by a number of colposcopy clinics. These were raised with the QARCs and, in most cases, corrected through resubmissions. One clinic in the South West and a further clinic in London were unable to correct a check due to IT issues and these are footnoted in the relevant table.
There were a number of queries raised in relation to differences from the previous reporting year’s figures. Most of these were cleared with re-submissions of data. One clinic in the North West was unable to produce a full year’s return after their unit was closed and IT system decommissioned.

Another unit in Yorkshire & Humber had their results queried based on their year-on-year variance. A change in data recording practice was put in place which explained the differences.

**Time from screening to receipt of result**

No data quality issues were highlighted through the quality assurance and validation procedures.

**Age-appropriate coverage**

Age appropriate coverage is reported in this publication for the second time this year (see section 2.1.2).

**Conclusion**

Almost all issues that were highlighted through the HSCIC’s validation processes for follow-up with QARCs were resolved satisfactorily. Where data issues were outstanding, footnotes have been placed against the relevant tables as described above.
Appendix I – Related Publications and Useful Web Links

This bulletin and copies of the Korner returns KC53, KC61 and KC65 can be found on the Health and Social Care Information Centre website at:
http://www.hscic.gov.uk/pubs/cervical1415

Since 2004-05 this bulletin has been published by the Health and Social Care Information Centre. Previous editions published by the Department of Health, can be found at:

Audit of invasive cervical cancer - national reports:

Further information about cervical screening is available from the NHS Cancer Screening Programmes website: http://www.cancerscreening.nhs.uk/
References

See also http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2394236/

See also http://msc.sagepub.com/content/19/2/89.long

See also http://www.cancerscreening.nhs.uk/cervical/hpv-sentinel-sites.html

See also http://www.cancerscreening.nhs.uk/cervical/cervical-cancer-profile.html
