CervicalCheck
AN CLÁR NÁISIÚNTA SCAGTHÁSTÁLA CEIRBHEACS
THE NATIONAL CERVICAL SCREENING PROGRAMME

Programme Report

2012-2013

Contents

Introduction

This report contains screening statistics for the fifth year of operation (1 September 2012 to 31 August 2013). CervicalCheck – The National Cervical Screening Programme became available to women aged 25-60 on 1 September 2008. Prior to the launch of CervicalCheck, cervical screening was offered on an ad-hoc basis to women in Ireland. CervicalCheck has ensured that eligible women aged 25-60 are offered free smear tests and follow-up where necessary, as part of a national, quality assured programme.

Coverage

There are over 1.1 million women eligible for CervicalCheck. The programme has a target coverage of 80 per cent. Over time, based on a target coverage of 80 per cent, a successful national, quality assured cervical screening programme has the potential to significantly reduce incidence and mortality rates in the screened population by as much as 80 per cent. During the first five years of the programme, coverage continued to improve year on year and has reached almost 75 per cent. While this indicates a significant acceptance of the programme among eligible women in Ireland, CervicalCheck will continue to strive to reach its target.

During the reporting period, three counties (Carlow, Waterford and Westmeath) achieved 80 per cent coverage and 19 counties achieved higher than 70 per cent. Only four counties had coverage below 70 per cent. Awareness campaigns and promotional activities have been targeted at these counties to improve coverage.

Since CervicalCheck began screening, a consistent pattern in age profile has been evident. In general younger women are more likely to have participated in screening with 79 per cent of women aged 25-29 years screened, compared to only 64 per cent of women in the 55-59 year age group.

The majority of women (89.8%) had their smear tests carried out in a primary care setting with over 93 per cent of these women attending a GP practice. For the remainder of women, the smear test occurred in a colposcopy clinic, gynaecology service or STI/GUM clinic.

Laboratories

Among the criteria for the contracted laboratories providing cytology services are the capacity and ability to process smear tests within 10 days to facilitate the timely provision of results to women following their smear test.

A laboratory turnaround time of less than two weeks in over 90 per cent of cases is a programme standard. In this reporting period, over 81 per cent of results were received by the programme within two weeks of the smear test date. A turnaround time of three weeks was achieved in over 96 per cent of cases.

Colposcopy

The purpose of colposcopy is the diagnosis and treatment of women with abnormal smear test results.

One of the key challenges faced by CervicalCheck has been the provision of timely access to colposcopy for women. Fifteen colposcopy services nationwide support the programme, using a multidisciplinary team (MDT) approach. Significant investments were made to provide adequate staffing and facilities as well as the establishment of information technology links to capture clinical outcome data. Capacity has greatly increased and all colposcopists are either accredited by the British Society for Colposcopy and Cervical Pathology (BSCCP) or training under supervision. All services take part in regular MDT meetings.

In addition, services have been actively engaged in a process to reduce waiting times, resulting in continued improvements across the 15 colposcopy clinics that support the programme. CervicalCheck standards state that 90 per cent of women with high grade cytological abnormalities should be offered an appointment for colposcopy within four weeks and 90 per cent of all women with low grade cytological abnormalities should be offered an appointment within eight weeks.

For the first time since the programme commenced, all standards for waiting times were met during the reporting period.

HPV testing

The introduction of HPV testing in colposcopy, initially for women post treatment (2012) and then including women with low grade abnormalities (2014), means that a significant proportion of women attending colposcopy now have a combined smear and HPV test. The addition of a HPV test (on the same sample) means a longer interval between smear tests (12 months is now the general protocol), as well as progressively more women being discharged to primary care for routine screening rather than annual surveillance screening following treatment.

HPV – risk assessment for women with low grade abnormalities

CervicalCheck is planning to introduce HPV triage in 2015, which will see HPV reflex testing of low grade cytological abnormalities in primary care screening. The introduction of testing for high risk HPV infections will act as a triage by facilitating earlier detection and treatment through referral to colposcopy for women with high risk HPV infection. This avoids unnecessary tests for those women who do not have the virus as they will be recommended for routine screening.

Smeartaking support

CervicalCheck offers a range of support, training and education initiatives. A dedicated Screening Training Unit co-ordinates smeartaker education and training initiatives, as well as clinical updates.

Accredited smeartaker training modules are provided through successful partnerships with the Irish College of General Practitioners (ICGP), Royal College of Surgeons in Ireland (RCSI) and the National University of Ireland, Galway (NUIG).

An eLearning portal provides a virtual learning environment, facilitating busy health professionals to advance their knowledge and skills in an accessible, flexible format. The eLearning portal includes CPD accredited 'eUpdates', a cervix image library, resources for GP trainees, and educational modules on other National Screening Service (NSS) programmes (available at www.cervicalcheck.ie – health professionals section).

An annual Colposcopy Forum gathers clinical staff including consultants, clinical nurse managers and nurse colposcopists from the 15 colposcopy services supported by the programme. The event provides an opportunity to share CervicalCheck performance statistics, discuss treatment protocols and options and review the performance of colposcopy services nationwide.

Programme statistics

Introduction to the statistics 2012/2013

CervicalCheck has been available as a national screening programme since 1 September 2008. The figures reported in this section relate to the fifth year of the programme and completion of the first round of screening. During this period the programme initially operated a "direct entry" system whereby any woman could present for screening. This was followed by a period (second year) of invitation-only entry whereby eligible women received (and required) an invitation letter to screening and since then a combined approach of 'invitation/re-call' and 'direct entry', whereby a woman could be screened by a smeartaker who could check her eligibility using the on-line facility. During the reporting period the response to the programme was very positive with 331,790 women attending for screening. Quality assurance underpins every aspect of the CervicalCheck programme and programme performance is measured against key performance indicators (KPIs) as outlined in Guidelines for Quality Assurance in Cervical Screening Second Edition 2013[1].

Table 1 shows the number of women screened by age group. Women between the ages of 25 and 60 are invited for screening, but a small number of women under the age of 25 may attend under specific circumstances. Those women aged 61 or over include women presenting for the first time at this age as well as those who received an invitation letter before the age of 61 and who delayed screening.

Table 1: Number of women screened by age group

Age group	Number of women screened	%
<25*	1,298	0.4
25 - 29	48,280	14.6
30 - 34	56,328	17.0
35 - 39	51,280	15.5
40 - 44	48,204	14.5
45 - 49	41,496	12.5
50 - 54	35,289	10.6
55 - 59	29,216	8.8
60	5,044	1.5
≥61	15,355	4.6
Total:	331,790	100

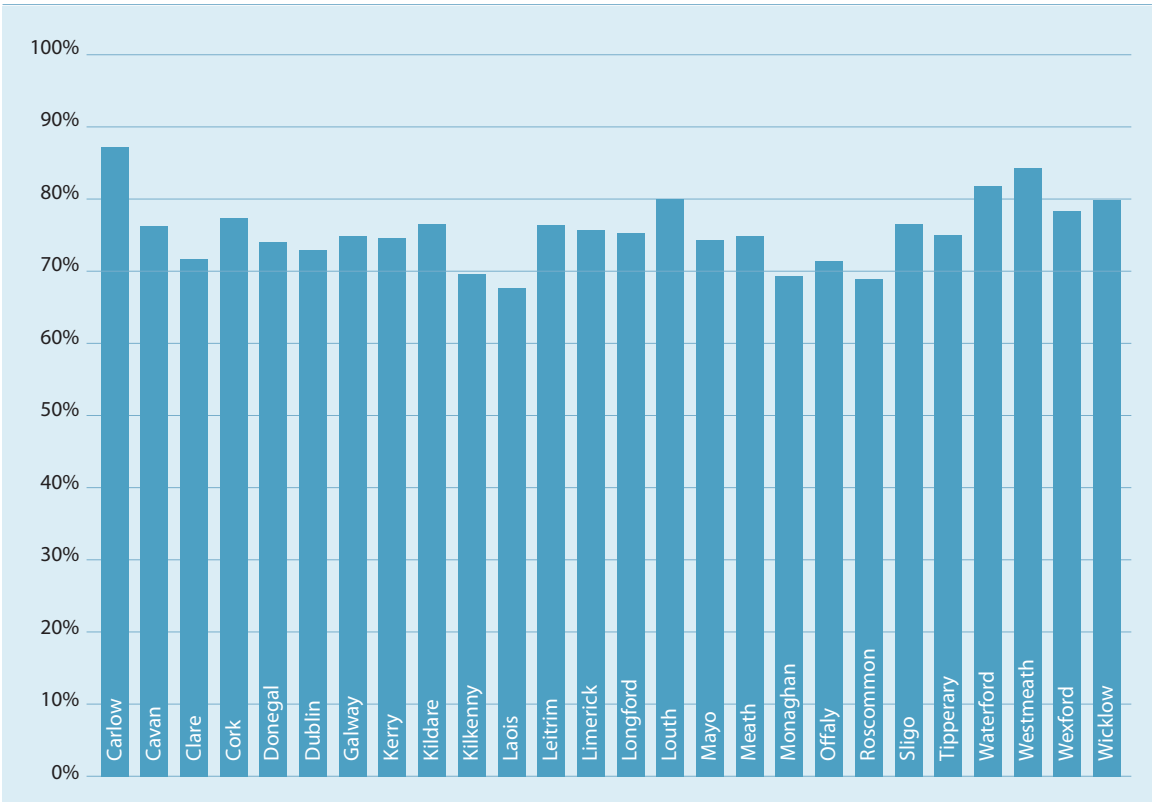
* Based on evidence to date, there is no additional public health benefit in starting population screening below the age of 25. Screening in women under the age of 25 may lead to many women receiving unnecessary treatment for lesions that would never have developed into invasive cancer. Certain exemptions apply where some women over the age of 60 and under the age of 25 are considered eligible. Such exemptions may include women of any age who are post colposcopy, women over the age of 60 who have never had a smear test and women aged 20 and over who are on renal dialysis, have HIV infection, are post organ transplant or who have had a previous abnormal smear test result and are within the recommended follow-up period.

Programme coverage

Coverage is a measure of the effectiveness of the screening programme in reaching the target population and indicates the proportion of the eligible population screened within a period. The coverage for the first five years of the programme was 74.7 per cent. This represents continued improvement over the first five years as CervicalCheck aims to reach of the target five year coverage of 80 per cent overall.

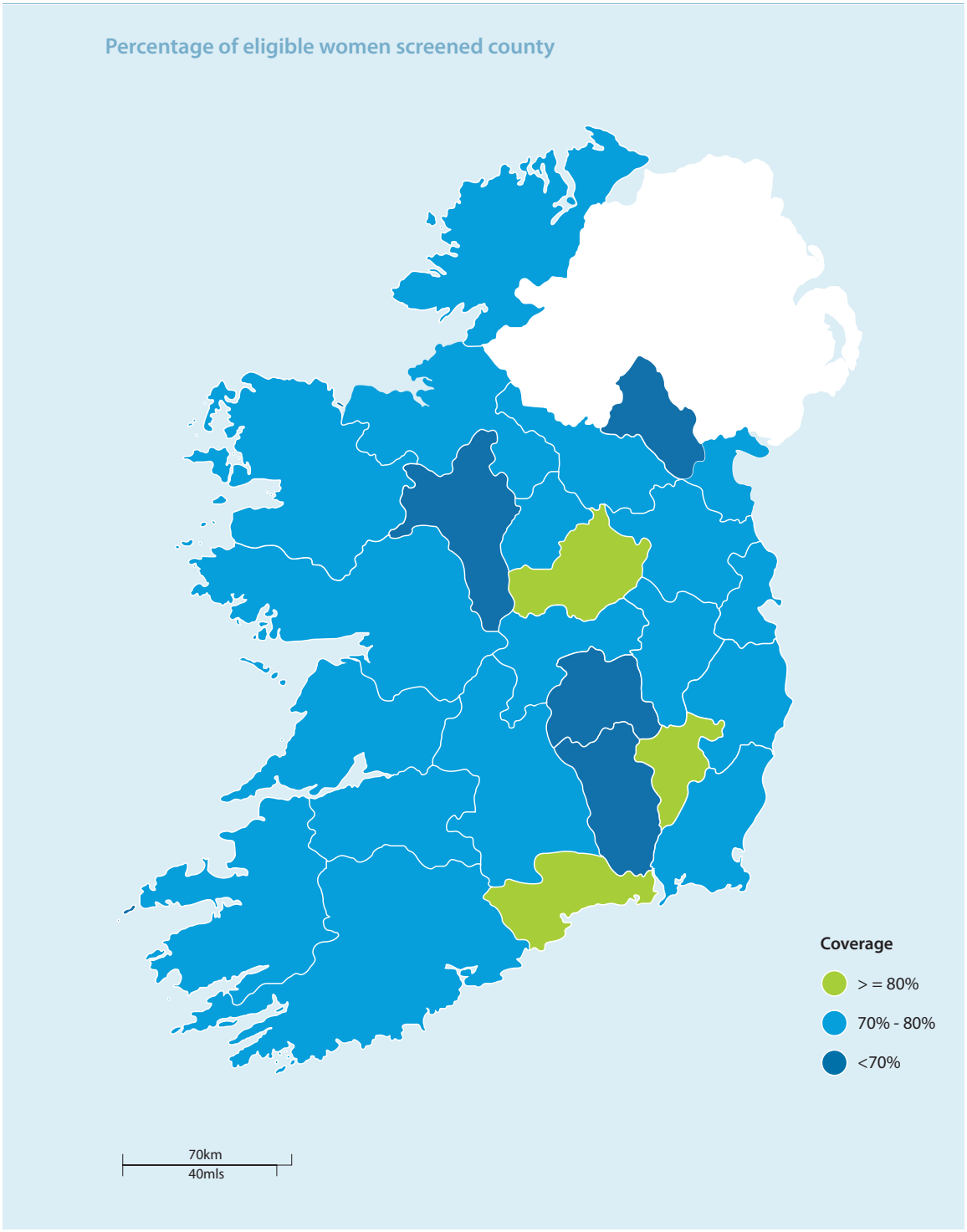
The geographical spread of screening coverage based on the eligible population of each county is shown in Figures 1 and 2. Three counties achieved of 80 per cent coverage and 19 counties achieved higher than 70 per cent during this year. Only four counties had coverage below 70 per cent. Intensified awareness campaigns and promotional activities have been targeted at these counties to improve coverage.

Figure 1: Percentage of eligible women screened based on county of residence* from 1 September 2008 to 31 August 2013



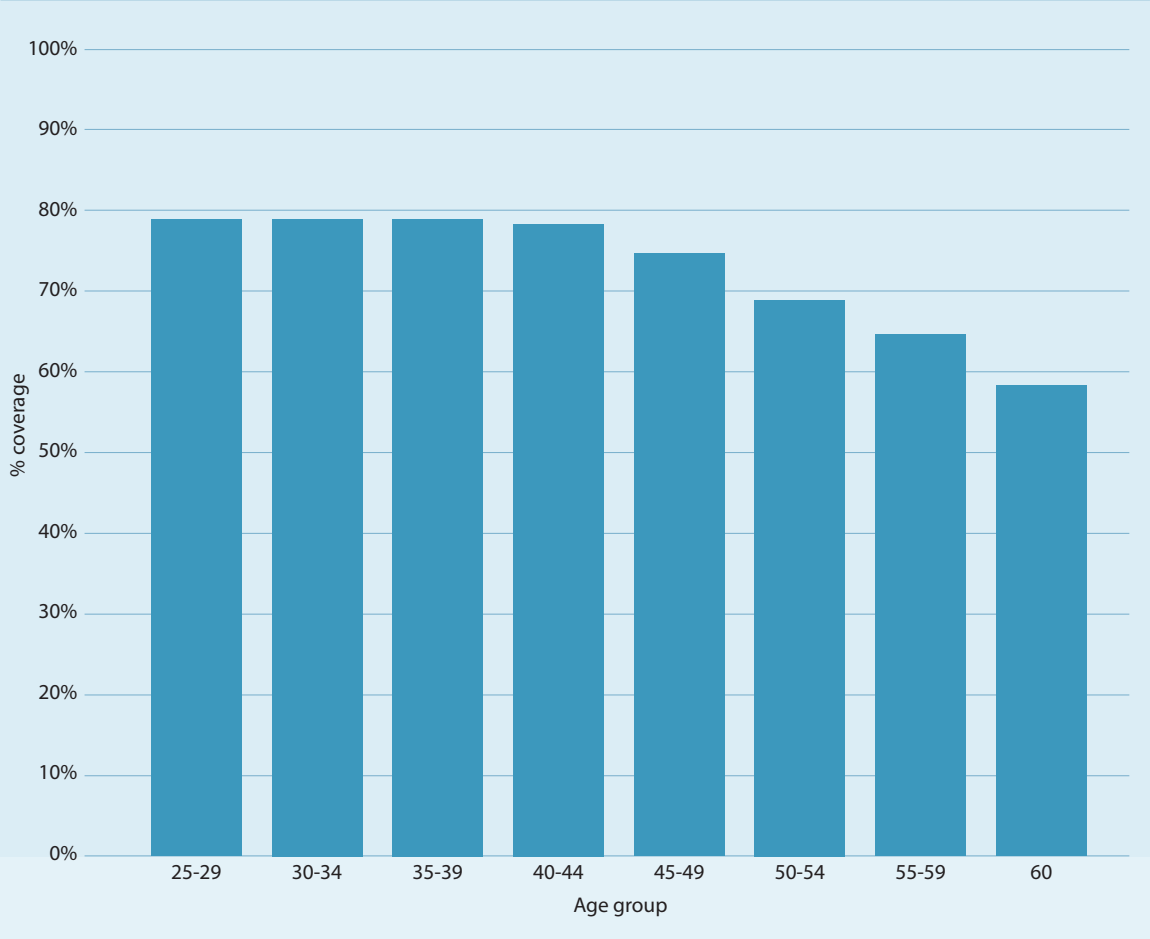
* Population based on CSO 2011[2]

Figure 2: Map showing percentage of eligible women screened by county of residence* from 1 September 2008 to 31 August 2013



* Data analysed using Health Atlas Ireland.
Population based on CSO 2011[2]

Figure 3: Coverage of women by age group*



* Population based on CSO 2011[2]

Figure 3 demonstrates coverage by age group for the first five years. A consistent pattern has been evident since the inception of the programme. In general younger women are more likely to have participated in screening with 79 per cent of women aged 25-29 years screened compared to only 64 per cent of women in the 55-59 year old group. For greater accuracy in coverage, women who have had a total hysterectomy with complete removal of the cervix should ideally be excluded from the eligible population; as this surgery is more common in the upper age ranges this would alter the coverage rates to a greater degree in the older age cohorts. CervicalCheck is working to try to establish hysterectomy rates that could be meaningfully applied by age cohort to help determine the actual eligible population.

During the reporting period, most women (89.8%) had their smear tests carried out in a primary care setting with 93.6 per cent of these women attending a GP practice. For the remainder of women, the smear test occurred in a colposcopy clinic, gynaecology service or STI/GUM clinic.

Laboratory turnaround time

A laboratory turnaround time of less than two weeks in over 90 per cent of cases is a programme standard. In this reporting year 81.3 per cent of results were received by the programme within two weeks of the smear test date (Table 2). This is below the target set and relates to a temporary challenge setting up a new laboratory provider. However it is important to note that a turnaround time of three weeks was achieved in over 96 per cent of cases.

Table 2: Laboratory turnaround time - time from receipt of sample at laboratory to results returned to the programme

Performance parameter	2012/13	Target
% results returned within two weeks of receipt of sample at laboratory.	81.3%	>90%
% results returned within three weeks of receipt of sample at laboratory.	96.2%	

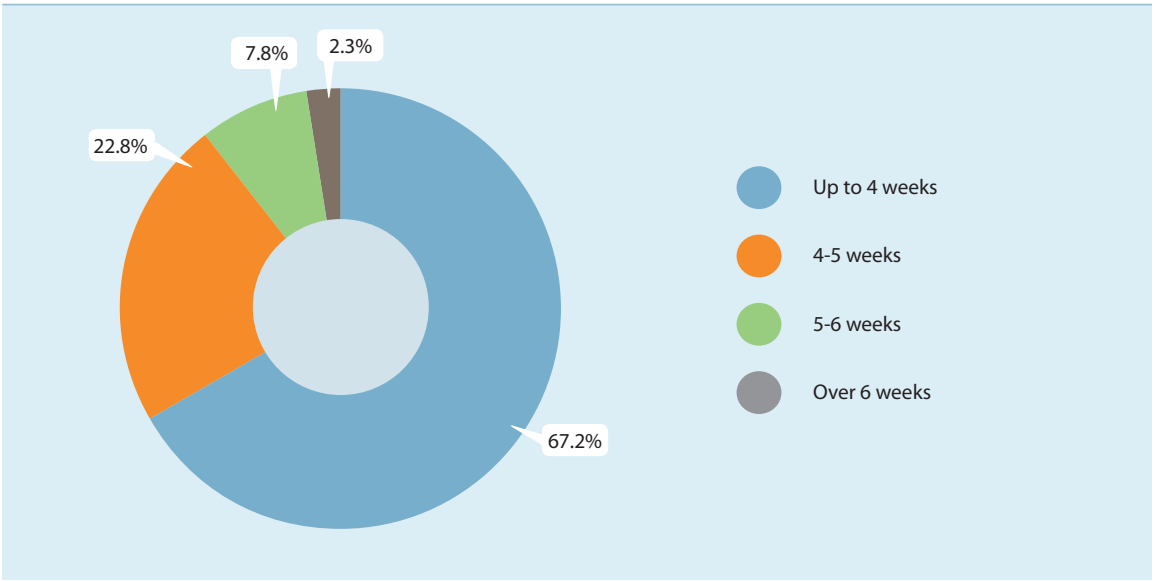
CervicalCheck Women's Charter

The CervicalCheck Women's Charter includes the commitment that 'your result and any treatment recommendation will be provided to you and your smeartaker by the programme within four weeks of the smear test date. Table 3 illustrates the performance of the programme against this standard with a notable improvement from 40 per cent in the first year to 67 per cent in the fifth year of the programme (Table 3 & Figure 4). Again it is important to note that the result letter was issued within five weeks in 90 per cent of cases. Ongoing monitoring and actions including working with smeartakers on sample submission times are being undertaken to progressively improve this response time.

Table 3: Percentage of result letters sent within four and five weeks of smear test date

Time from smear test to results letter printed date	2012/2013	Target
Within 4 weeks	67%	>90%
Within 5 weeks	90%	

Figure 4: Time in weeks for results letter to be sent to women (%)



Cytology

Cytology findings reported in Tables 4 and 5 are based on smear test results received by the programme in the period 1 September 2012 to 31 August 2013, rather than the date on which the smear test was taken during the reporting period. Of the 351,902 smear tests examined a small number, 6,650 (1.9%), were unsatisfactory (Table 4). The outcomes of the remaining 345,252 satisfactory smear tests are reported in Table 5. Over 91 per cent of satisfactory smear test results in the period were found to be negative or normal. Of the remainder 7.1 per cent showed low grade abnormalities and 1.4 per cent showed high grade abnormalities (HSIL (moderate or severe), query invasive squamous carcinoma or query glandular neoplasia). In previous years there was a higher than anticipated rate of ASCUS. During the current reporting period the ASCUS rate was 3.7 per cent compared to a peak of 10.2 per cent during the third year of the programme. This improvement has been brought about through a laboratory quality assurance (QA) process in addition to an increase in the screening interval for repeat smear tests after a smear test showing ASCUS.

Table 4: Cytology findings for smear test results

	Cytology findings			
Total number of smear tests processed	**Unsatisfactory/ inadequate smear test**		**Satisfactory/ adequate smear test**	
N	**N**	**%**	**N**	**%**
351,902	6,650	1.9	345,252	98.1

Table 5: Cytology results excluding unsatisfactory smear tests

Cytology results	N	%
NAD (no abnormality detected)	316,116	91.6
Low Grade		
ASCUS	12,695	3.7
AGC (borderline glandular)	697	0.2
LSIL	10,944	3.2
High Grade		
ASC-H	1,344	0.4
HSIL (moderate)	1,559	0.5
HSIL (severe)	1,812	0.5
Query invasive squamous carcinoma	32	0.01
Query glandular neoplasia AIS / adenocarcinoma	53	0.02
Total	345,252	100.0

Of the smear tests performed in the community 10,781 (3.3%) resulted in a referral to colposcopy.

Performance measures for cytology

Cervical screening programmes have to balance the early detection of high grade abnormalities with avoiding unnecessary investigations and possible overtreatment. Internationally accepted performance measures have been developed to correlate referral cytology results with histological outcomes in organised programmes[3]. These include the positive predictive value (PPV), as well as abnormal predictive value (APV), total predictive value (TPV) and referral value (RV). These are used to benchmark CervicalCheck against other European cervical cancer screening programmes.

Measures of the performance of cytology	
PPV	74.3%
APV	27.5%
TPV	44.8%
RV	2.23

The positive predictive value (PPV) is reported as the percentage of women referred with high-grade cytological abnormality who have a histological diagnosis of CIN2 or higher. During the current reporting year the PPV was 74.3 per cent.

The abnormal predictive value (APV) calculates the percentage of samples reported as borderline or low grade that led to referral to colposcopy and subsequent histological diagnosis of CIN2 or worse. During the current reporting year the APV was 27.5 per cent.

The total predictive value (TPV) examines the percentage of all women referred to colposcopy on the basis of an abnormal smear test result who have a histological outcome of CIN2 or higher. During the reporting year, 44.8 per cent of women referred to colposcopy had CIN2 or higher demonstrated on histology.

The referral value (RV) looks at this in another way and examines the number of women referred to colposcopy for the detection of one case of CIN2 or higher. During the current reporting year, for every 2.23 women referred to colposcopy one had CIN2 or higher detected (for every 223 women referred to colposcopy 100 had CIN2 or higher detected).

Diagnosis and treatment

Quality assured colposcopy services with timely diagnosis and treatment are an important requirement for successful cervical screening programmes. Fifteen colposcopy services nationwide work with the programme. Each has agreed individualised service plans delivered by dedicated multidisciplinary teams. Information is collected electronically and a central data extraction performed. These data form the basis for this section of the report.

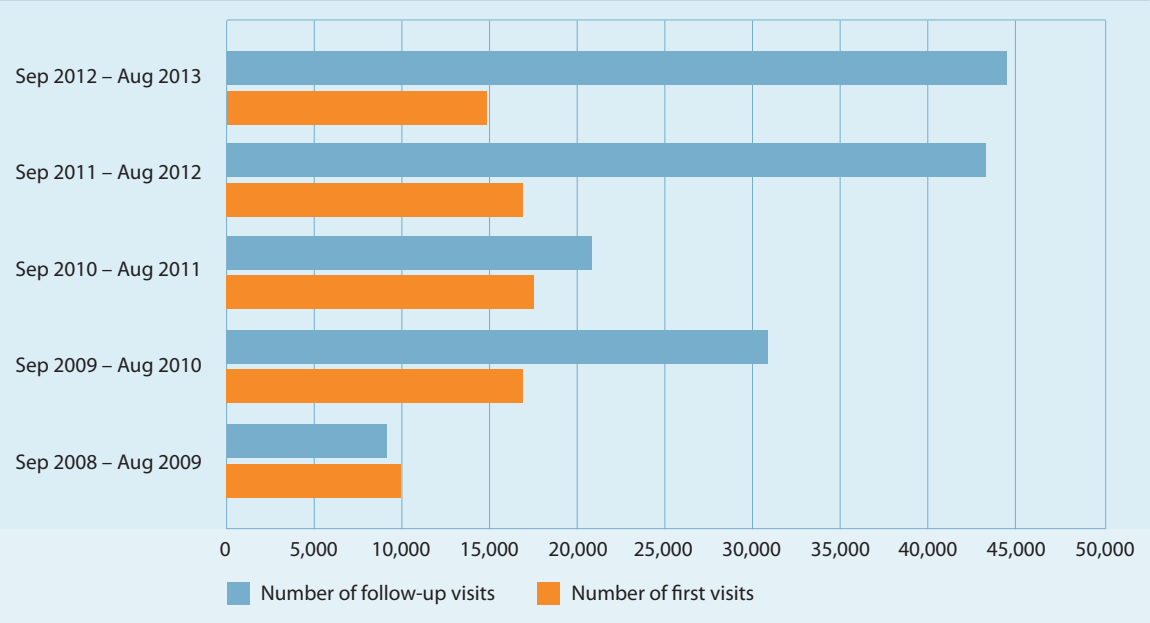
Table 6: Outcome of appointments at colposcopy clinics

	First visits		Follow-ups		Total	
	N	%	N	%	N	%
Attended	14,796	72.7	44,341	52.7	59,137	56.6
Cancelled	4,146	20.4	28,772	34.2	32,918	31.5
DNA	1,354	6.7	10,986	13.1	12,340	11.8
Not recorded	55	0.3	62	0.1	114	0.1
Total	20,348	100	84,161	100	104,509	100

During the year, 14,796 women attended colposcopy for the first time representing a decrease when compared to the previous year (Table 6). As the programme completes its first round of screening, a decrease in first time attendances at colposcopy is to be expected however, the numbers of women attending for follow-up appointments continues to increase (Figure 5).

It is important to note the number of women referred and the number of new referrals attended will not be the same in any given time period. This is because of the lead time between the colposcopy referral and the date of the first colposcopy visit as well as additional referrals for clinical reasons.

Figure 5: Attendance at colposcopy services from 1 September 2008 – 31 August 2013



Attendance at colposcopy services

Performance parameter	2012/13	Target
The percentage of women who do not attend and who do not notify the clinic should be maintained at a low level to maximise the efficiency of the clinic and to avoid the loss of women to follow-up.	11.8%	<15%

Of the 14,796 new attendances at colposcopy, information on the age of the woman was available for 14,716. The mean age at referral was 37 years. The majority of women were aged between 25-45 years with 3.5 per cent under 25 years of age and 12.5 per cent aged 50 or over.

The rate of defaulted appointments where no prior notice was given (DNA) should be kept to a minimum and maintained below 15 per cent. The recorded rate for the fifth year of the programme was 11.8 per cent which met this standard.

The rate of DNA appointments is presented in Table 7 according to the type of visit and the age of the woman. The DNA rate is higher for return visits than for first visits reflecting the longer lead time for these appointments. Again, this year, younger women were more likely to default than older women. This may reflect higher levels of mobility within this population of women.

Table 7: DNA rates for appointments offered to women by age group

Age in years at first offered appointments	Number of first appointments	First visit DNA rate (%)	Number of follow-up appointments	Follow-up visit DNA rate (%)
<25	780	12.1	4,650	18.0
25 – 29	5,193	7.9	25,290	15.2
30 – 34	4,579	6.7	19,161	13.0
35 – 39	3,062	7.0	11,818	12.0
40 – 44	2,361	4.9	9,068	11.0
45 – 49	1,653	3.9	6,558	10.2
50 – 54	1,123	5.5	3,833	8.3
55 – 59	653	3.8	1,956	9.3
60	89	4.5	237	9.3
61+	502	3.4	837	8.5

Reasons for referral

Women are referred to colposcopy on the basis of an abnormal smear test result or for clinical reasons such as abnormal vaginal bleeding or suspicion of an anatomical abnormality of the cervix.

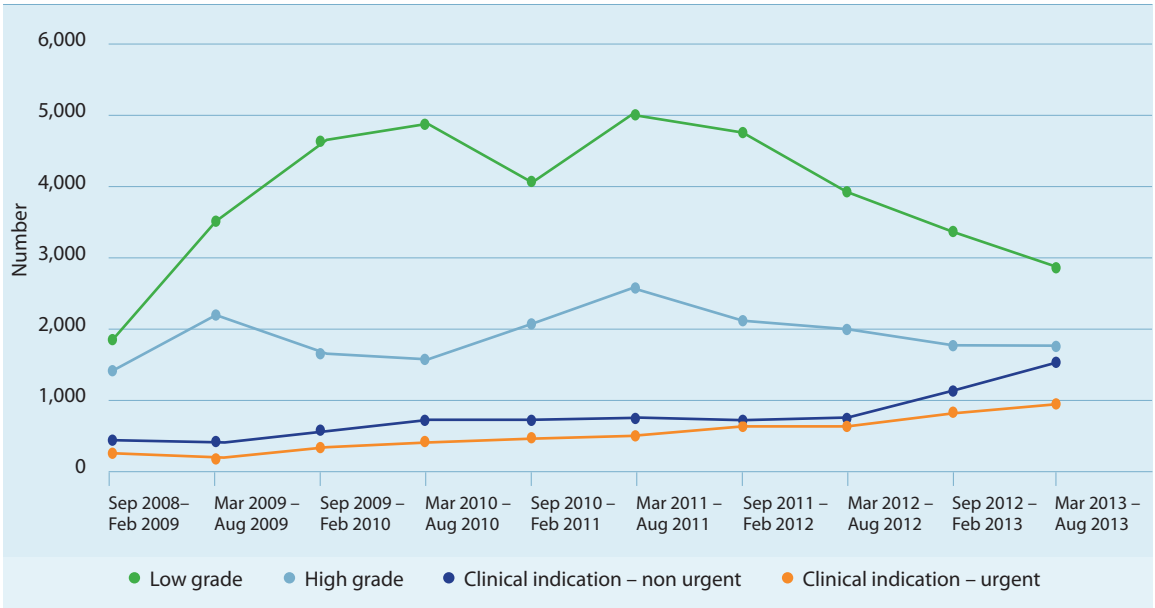
The reasons for referral to colposcopy for 14,753 new referrals are presented in Table 8 below. This table excludes 29 women for whom no consent information was recorded. Over 69 per cent of women were referred on the basis of an abnormal smear test result and 30 per cent were referred for clinical reasons. This relative increase in clinical referrals (women with anatomical abnormalities of the cervix or those with intermenstrual or post coital bleeding) represents an increase in capacity at colposcopy as these women would have been previously seen in outpatient gynaecology services (Figure 6).

Table 8: Reason for referral to colposcopy

	New referrals	
Reason for referral to colposcopy	**N**	**%**
Abnormal smear test result	10,316	69.9
Clinical indication – non urgent	2,647	17.9
Clinical indication – urgent	1,790	12.1
Total*	14,753	100

* 14 women had no reason entered

Figure 6: Reason for referral for women attending colposcopy services from 1 September 2008 – 31 August 2013



Of the 10,316 women who attended with an abnormal smear test result, 3,475 (33.8%) were referred following detection of a high-grade abnormality (Table 9). The detection of a low grade smear test result (LSIL or ASCUS) was the reason for referral for 6,290 (60.9%) women and a smear test showing AGC (borderline glandular abnormalities) was the reason for referral in 475 cases (4.6%). The number of women referred with persistent unsatisfactory or inadequate results (76; 0.7%) remained consistently low.

Table 9: Reason for referral to colposcopy as a result of an abnormal smear test result

	New referrals	
Referral smear abnormality	**N**	**%**
Unsatisfactory / inadequate	76	0.7
Low Grade		
ASCUS	**2,757**	**26.7**
AGC (borderline glandular)	**475**	**4.6**
LSIL	**3,533**	**34.2**
High Grade		
ASC-H	1,023	9.9
HSIL (moderate)	1,099	10.7
HSIL (severe)	1,299	12.6
Query invasive squamous carcinoma	20	0.2
Query glandular neoplasia AIS / adenocarcinoma	34	0.3
Total	10,316	100

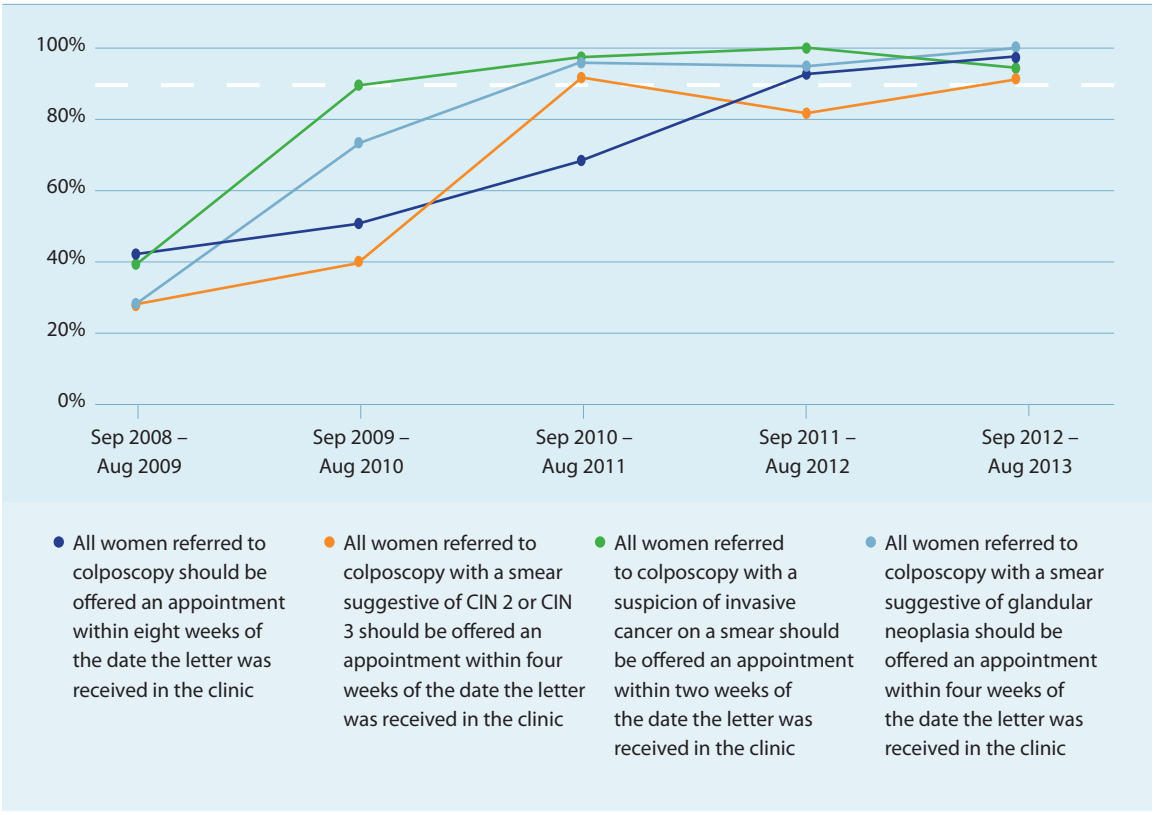
Waiting times

One of the key challenges faced by the CervicalCheck programme has been the provision of access to colposcopy in a timely fashion for women. Since the programme began, services have been actively engaged in a process to reduce waiting times resulting in sustained improvements year on year.

Standards for the programme state that 90 per cent of women with high grade cytological abnormalities should be offered an appointment for colposcopy within four weeks and 90 per cent of all women with low grade cytological abnormalities should be offered an appointment within eight weeks.

For the period 1 September 2012 to 31 August 2013 information on waiting times was available for 14,288 of the 14,767 new attendances (Table 10 and Figure 7). For the first time all standards for waiting times were met. For women referred to colposcopy with a smear test suggestive of CIN2/CIN3, 91.3 per cent were seen within four weeks. Overall only three per cent of women experienced waiting times of longer than eight weeks and in only 0.7 per cent of cases the wait was longer than 12 weeks.

Figure 7: Waiting time for colposcopy services 2008 to 2013



Waiting times for colposcopy

Performance parameter	2012/13	Target
All women referred to colposcopy should be offered an appointment within 8 weeks of date the letter was received in the clinic	97.0%	> 90%
All women referred to colposcopy with a smear suggestive of CIN 2 or CIN 3 should be offered an appointment within 4 weeks of date the letter was received in the clinic	91.3%	> 90%
All women referred to colposcopy with a suspicion of invasive cancer on a smear should be offered an appointment within 2 weeks of date the letter was received in the clinic	94.7%	> 90%
All women referred to colposcopy with a smear test result suggestive of glandular neoplasia should be offered an appointment within 4 weeks of the date the letter was received in the clinic	100%	> 90%

Table 10: Waiting times for women referred to colposcopy grouped by grade of referral smear test

	High grade		Low grade		Total	
	N	%	N	%	N	%
Less than 2 weeks	1,672	49.2	1,919	28.8	3,591	35.7
Between 2 and 4 weeks	1,441	42.4	2,302	34.5	3,743	37.2
Between 4 and 8 weeks	265	7.8	2,222	33.3	2,487	24.7
Between 8 and 12 weeks	17	0.5	158	2.4	175	1.7
Greater than 12 weeks	6	0.2	62	0.9	68	0.7
Total	3,401	100	6,663	100	10,064	100

Biopsy rate

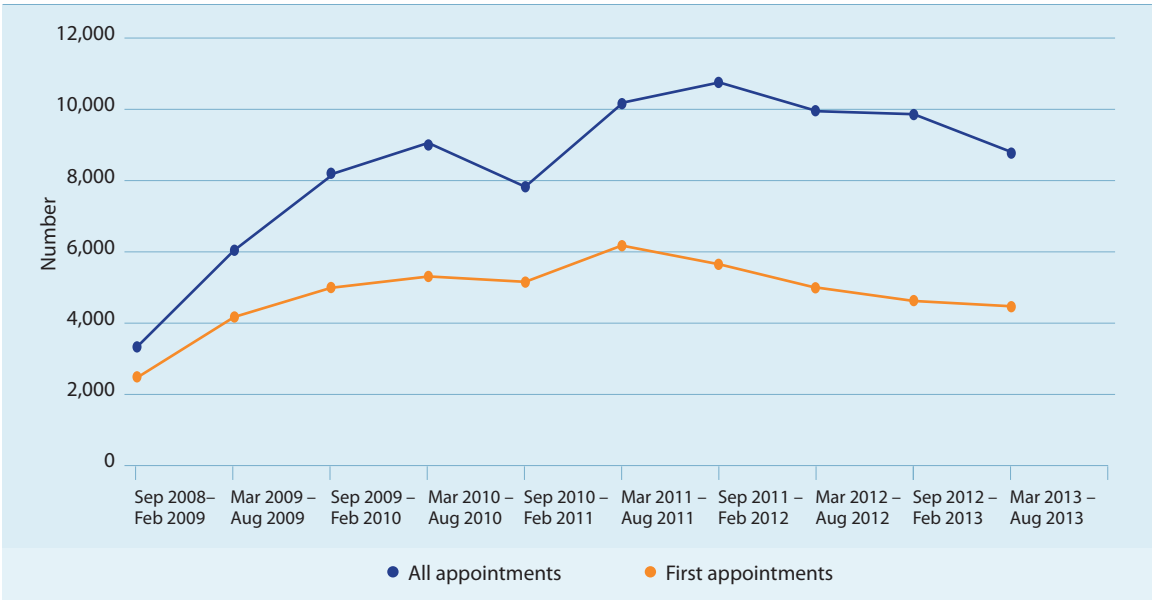
The role of colposcopy is to facilitate diagnosis and treatment of women with abnormal smear test results. Where an abnormality is suspected at colposcopy it is good practice to perform a biopsy to confirm the diagnosis. There are two main types of biopsy performed – a diagnostic biopsy, which involves sampling a portion of the abnormal area only, and an excisional biopsy which removes the abnormal area in its entirety.

During the reporting period, 12,972 diagnostic biopsies, 5,812 excisional biopsies and nine miscellaneous biopsies were performed. The initial colposcopy visit determines the presence or absence of an atypical Transformation Zone (TZ). A biopsy was performed in 89 per cent of cases where the TZ was documented as atypical or abnormal. A biopsy was performed in all cases where an invasive cancer was suspected (Figure 8).

Biopsy rates measured against colposcopy standards

Performance parameter	2012/2013	Target
A biopsy should be performed in the presence of an atypical Transformation Zone and a smear test which suggests underlying CIN	89.2%	>95%
If there is a suspicion of invasive disease a biopsy must be performed immediately	100.0%	>90%

Figure 8: Number of women undergoing biopsy at colposcopy services



The biopsy rates according to the grade of the referral smear test and reasons for referral are presented in Table 11. Eighty six per cent of women presenting with a high grade cytological abnormality had a biopsy performed at the first visit compared with 63 per cent of women presenting with a low grade cytological abnormality. Seventy six per cent of women presenting with AGC (borderline glandular cells) had a biopsy at the first visit which included an excisional biopsy in 9.5 per cent of cases.

Table 11: Biopsies performed during the first visit to colposcopy according to referral smear test result grade

	Type of biopsy performed							
	Excisional biopsy		Diagnostic biopsy		No biopsy taken		Total	
Grade of cytology result of referral smear test	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
AGC (borderline glandular)	45	9.5	318	66.9	112	23.6	475	100
High Grade	855	24.6	2,151	61.9	469	13.5	3,475	100
Low Grade	185	2.9	3,800	60.4	2,305	36.6	6,290	100
Unsatisfactory / inadequate	1	1.3	23	30.3	52	68.4	76	100
Total	1,084	10.5	6,292	61.0	2,940	28.5	10,316	100

Treatment at colposcopy

Effective treatment of high grade CIN and adenocarcinoma in situ (AIS) with subsequent reduction of the risk of invasive cancer is vital to the success of any cervical screening programme. This treatment should be effective, safe and acceptable. It should aim to eradicate all CIN from the cervix and should be tailored to the circumstances of the individual woman.

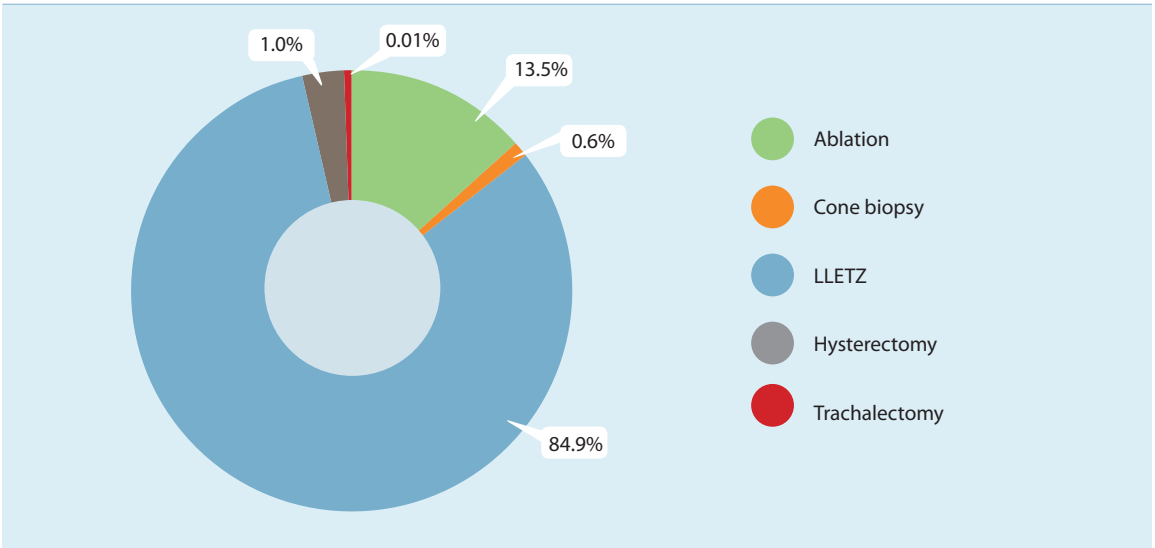
The standards for the CervicalCheck programme state that treatments are to be performed as an outpatient procedure under local anaesthetic more than 80 per cent of the time. During the fifth year of the programme treatment was performed as an outpatient procedure using local anaesthetic 95.7 per cent of the time surpassing this target.

The outcome of use of local anaesthetic

Performance parameter	2012/2013	Target
The majority of women should have treatment performed as an outpatient under local anaesthetic	95.7%	>80%

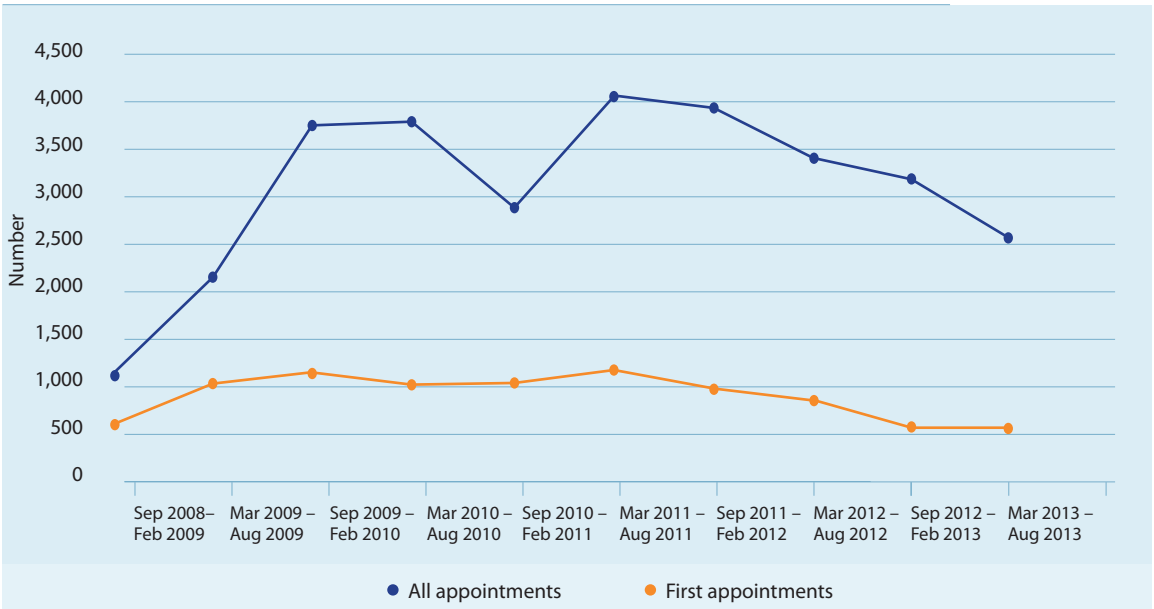
During the reporting period, 6,719 treatments were recorded at colposcopy. Large Loop Excision of the Transformation Zone (LLETZ) was performed in 5,702 (84.9%) cases and ablative treatment was used in 910 (13.5%) cases (Figure 9). Forty two cone biopsies (0.6%), 64 hysterectomies (1.0%) and one trachalectomy (0.01%) were performed.

Figure 9: Treatments at colposcopy services



The number of treatments performed grew markedly at the start of the CervicalCheck programme with the increased capacity for colposcopy as well as the prioritisation of women with high grade cytological changes. This number has been falling since 2011 representing the relatively increased numbers of women with low grade abnormalities, many of whom do not require treatment (Figure 10).

Figure 10: Number of women undergoing treatment at colposcopy services



One of the principles of screening is the avoidance of overtreatment. This is of particular relevance to cervical screening because treatment has the potential to have an adverse effect on future fertility. In this regard, treatment at the first visit for women who present with low grade abnormalities should be avoided and kept below 10 per cent. During the fifth year of the programme this figure was within the target at 2.9 per cent (Table 12).

Table 12: Treatment at first visit to colposcopy

Reason for referral to colposcopy	No treatment on first visit		Treatment on first visit		Total number of women attended	
	N	%	N	%	N	%
Clinical indication – non urgent	2,547	96.2	100	3.8	2,647	100
Clinical indication – urgent	1,759	98.3	31	1.7	1,790	100
AGC (borderline glandular)	430	90.5	45	9.5	475	100
High Grade	2,622	75.5	853	24.5	3,475	100
Low Grade	6,105	97.1	185	2.9	6,290	100
Unsatisfactory /Inadequate	75	98.7	1	1.3	76	100
Total	13,538	91.8	1,215	8.2	14,753	100

Most women who undergo excisional procedures should have histologically-proven CIN detected on the excised specimen. This is particularly true if the procedure is performed at the first visit to colposcopy. During the fifth year of the programme 91.7 per cent of women treated at the first visit had CIN detected on histology which met this standard. In addition, 90.6 per cent of women who had an excisional treatment at any visit had CIN on histology, meeting the standard of greater than 80 per cent.

The performance of colposcopy treatment parameters

Performance parameter	2012/2013	Target
Treatment at first visit to colposcopy should not be performed on women who present with low grade cytological change (even if there is a colposcopic suspicion of high grade disease) except in special circumstances.	2.9%	<10%
Women treated by excisional treatments at first visit should have CIN on histology	91.7%	>90%
Women treated by excisional treatments at any visit should have CIN on histology	90.6%	>80%

Colposcopy plays an important role in the evaluation of women with suspected cervical abnormalities. It allows the identification of the site of the abnormality as well as an estimation of the grade of abnormality including the presence or absence of features suggestive of invasive cancer. The correlation between the colposcopic impression and histological diagnosis is a useful marker of the quality of colposcopy. During the year the positive predictive value of a colposcopic impression of high grade disease was 72 per cent which is in excess of the CervicalCheck's standard (>65%).

The positive predictive value of colposcopy

Performance parameter	2012/13	Target
Compliance between colposcopic impression of high grade disease and histologically proven high grade CIN.	71.9%	>65%

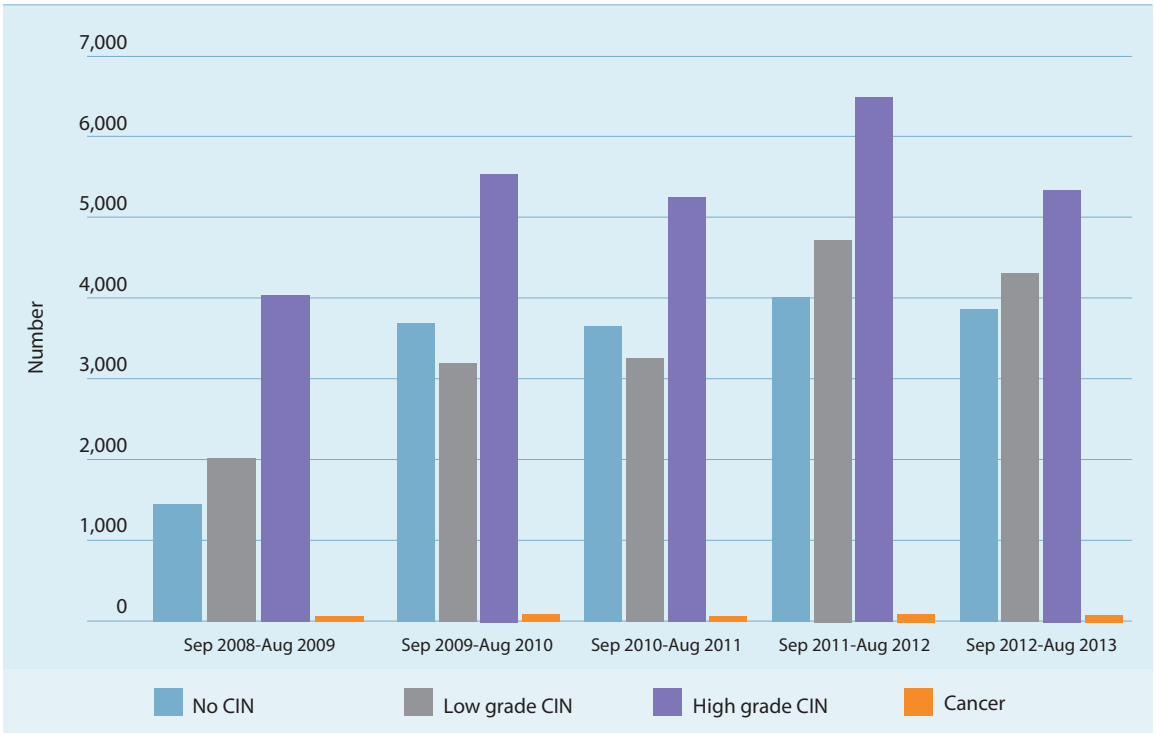
Histology

The objective of a cervical screening programme is the detection and treatment of high grade CIN and the yield of these abnormalities is one of the hallmarks of success. The histology is presented by year in Figure 11. The yield of high grade abnormalities remained consistently high. This reflects the sustained high levels of activity in the colposcopy services.

Overall, for all women who attended colposcopy in the fifth year of the programme (regardless of their reason for referral) there were 160 cancers detected, 5,421 high grade CIN (CIN2, CIN3 or adenocarcinoma in situ [AIS]), 4,439 low grade CIN and 3,888 women with no CIN (Table 13). The specimen was suitable for histological analysis in 98.7% of women biopsied (target >95%).

In the first five years of CervicalCheck, there have been 17,606 low grade CIN, 26,734 high grade CIN and 685 cancers detected.

Figure 11: Detection of CIN and cancer



Performance parameter	2012/13	Target
Biopsy specimens should be suitable for histological diagnosis	98.7%	>95%

Table 13: Histology results for women who had a satisfactory biopsy in colposcopy from 1 September 2012 to 31 August 2013

	No CIN/No HPV (normal)		HPV / Cervitis only		CIN 1		CIN 2		CIN 3		Adenocarcinoma in situ / CGIN		Cancer (including micro invasive)	
Grade of cytology result of referral smear	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
ASCUS	702	26.3	214	8.0	1,092	40.9	381	14.3	260	9.7	13	0.5	8	0.3
AGC (borderline glandular)	163	29.8	44	8.0	169	30.9	51	9.3	70	12.8	37	6.8	13	2.4
LSIL	799	20.3	225	5.7	1,668	42.4	760	19.3	476	12.1	7	0.2	3	0.1
ASC-H	146	11.9	52	4.2	316	25.6	220	17.9	465	37.7	16	1.3	17	1.4
HSIL (moderate or severe)	271	8.5	89	2.8	459	14.4	564	17.8	1,704	53.6	40	1.3	51	1.6
Query invasive squamous carcinoma	2	9.5	0	0.0	1	4.8	0	0.0	8	38.1	1	4.8	9	42.9
Query glandular neoplasia AIS / adenocarcinoma	3	9.4	1	3.1	3	9.4	1	3.1	4	12.5	14	43.8	6	18.8
Unsatisfactory/ inadequate	18	66.7	3	11.1	4	14.8	1	3.7	0	0.0	0	0.0	1	3.7
Total	2,104	18.1	628	5.4	3,712	31.9	1,978	17.0	2,987	25.7	128	1.1	108	0.9

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CS/PR/PM-18 Rev 1
ISBN 978-1-907487-17-0