



Sgrinio Serfigol Cymru
Cervical Screening Wales



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Cervical Screening Wales Annual Statistical Report 2019-20

April 2022



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Public Health Wales exists to protect and improve health and wellbeing and reduce health inequalities for people in Wales.

We are part of the NHS and report to the Minister for Health and Social Services in the Welsh Government.

Our vision is for a healthier, happier and fairer Wales. We work locally, nationally and, with partners, across communities in the following areas:

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Primary, community and integrated care – strengthening its public health impact through policy, commissioning, planning and service delivery

Microbiology – providing a network of microbiology services which support the diagnosis and management of infectious diseases

Safeguarding - providing expertise and strategic advice to help safeguard children and vulnerable adults

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This report is a detailed summary of information on work undertaken by Cervical Screening Wales for the year from 1 April 2019 to 31 March 2020.

Publication Details:

Title: Cervical Screening Wales Annual Statistical Report 2019-20

Date: published October 2022

ISBN: 978-1-78986-154-585

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Quality Assurance Statement

Screening data records are constantly changing. The databases used by Public Health Wales Screening Division are updated on a daily basis when records are added, changed or removed (archived). This might relate to when a person has been identified as needing screening; has had screening results that need to be recorded, or has a change of status and no longer needs screening respectively. Data is received from a large number of different sources with varying levels of accuracy and completeness. The Screening Division checks data for accuracy by comparing datasets, for example GP practice data, and corrects the coding data where possible. It should be noted that there are sometimes delays in data collection, for example a person might not immediately register with their GP. These delays will therefore affect the completeness of the data depending on individual circumstances. In addition, the reader should be aware that data is constantly updated and there might be slight readjustments in the numbers cited in this document year on year because of data refreshing. When dealing with data from small geographical areas we occasionally suppress numbers lower than five when the data is potentially sensitive.

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1 Introduction

Cervical Screening Wales is responsible for the NHS cervical screening programme in Wales. The aim of the cervical screening programme is to reduce the incidence of, and morbidity and mortality from, invasive cervical cancer.

Information contained in this report is collected from the following sources:

1. NHAIS (National Health Application and Infrastructure Services) call and recall system used by the Cervical Screening Administration Departments.
2. National LIMS system (WLIMS) supporting Laboratory Medicine in Wales.
3. Canisc – Cancer Information System Cymru which is a national database and records clinical and administrative data from colposcopy services across all health boards.

An explanation of terms used in the document is in section 5 (Definitions).

1.1 Key messages for the public

- Cervical screening aims to prevent cancer from developing in the cervix by identifying those at higher risk and detecting cell changes early so they can be more easily treated
- Individuals from the age of 25 are invited for screening every three years. Individuals aged 50 to 64 are invited every five years (please note that the stated screening interval for those aged 25 – 49 is correct for the time period covered by this report. From 01/01/2022 the screening interval for this age group is 5 years for those prospectively testing negative for HPV).
- A cervical screening (smear) test is a free NHS test that is carried out at your GP surgery or at some sexual-health clinics.
- The test is quick and simple and should not be painful, but may be uncomfortable for some individuals.
- Evidence shows that attending for regular screening will prevent 7 out of 10 cancers. Taking part in cervical screening is an individual choice. Those invited are requested to read the information leaflet provided carefully to help them make their decision.

1.2 Programme delivery

The Screening Division of Public Health Wales is responsible for managing, delivering and quality assuring the cervical screening programme in Wales. Most cervical screening (smear) tests are carried out by a registered health professional in primary care or in a community or sexual health clinic. A

small number of tests are taken in secondary care, in colposcopy clinics or gynaecology clinics.

The cervical screening programme is an All Wales programme, with a central governance team and three regional centres responsible for the operational management and quality assurance of the screening programme in their area: North Wales, Mid and West Wales and South East Wales.

1.3 Screening pathway

Eligible individuals in Wales are invited for cervical screening from age 24 years and 8 months, with those up to 49 years receiving an invitation for routine screening every 3 years, and those aged 50 – 64 every 5 years.

From April 2017, as part of the planning for full rollout of primary high risk HPV (hrHPV) screening, an 'early adopters' phase of primary screening using HPV testing began throughout Wales. Just under 20% of cervical screening samples were tested for hrHPV as the primary screening test. During June and July 2018, as roll out continued, a further 30% of all screening samples were tested for hrHPV.

Prior to this, HPV testing had been introduced incrementally from 2014 for triage and 'test of cure' testing for defined pathways.

In September 2018, all samples began to be tested for hrHPV as the primary screening test. By 1st October 2018, Wales had fully moved to hrHPV primary screening. Wales was the first country in the UK to fully implement hrHPV as the primary screening test.

All samples are now tested at Public Health Wales' Magden Park laboratory in Llantrisant. If a sample has no hrHPV detected, a result is issued by Magden Park laboratory. The cells in the sample are not examined.

If a sample has hrHPV detected, a slide is made and the cells are examined down a microscope by Cytology Screeners. If there are any cell changes, the slide is sent for medical reporting by one of a formal clinical network of Consultant Pathologists or Consultant Biomedical Scientists across Wales.

Eligible people are identified through GP registrations and sent a letter inviting them to make an appointment for cervical screening. Currently the cervical screening database NHAIS can only identify and invite those registered as 'female' by their GP, however anyone with a cervix within the screening age range is entitled to attend for cervical screening. A leaflet explaining screening is included with this letter. A reminder letter is sent if they do not appear to have attended for screening within a certain time. Demographic details are taken from GP registrations on the NHAIS system and it is important that women ensure that their name and address are up to date with their GP.

More information about the programme and copies of previous statistical reports are available at www.cervicalscreeningwales.wales.nhs.uk

2 Headline statistics 2019-20

This report covers activity from 1 April 2019 to 31 March 2020 inclusive.

- As of 31 March 2020, screening coverage was 73.2% across Wales, and exceeded 70% in all Health Board regions. This figure combines the proportion of 25-49 year olds screened in the previous 3.5 years, and the proportion of 50-64 year olds screened in the previous 5.5 years. This is known as 'age-appropriate' coverage.
- In 2019-20 228,004 individuals aged 25-64 were invited for screening.
- 178,259 individuals were screened in 2019-20, (including those with inadequate results). This number includes individuals who were screened during the year 2019-20 and does not reflect all the individuals that were invited in that year.
- Laboratories examined 185,481 samples from Welsh residents in 2019-20.
- In 0.6% of tests the final result was 'inadequate'. 'Inadequate' means that the sample quality was insufficient for producing either a HPV or cytology result, as appropriate'
- The Positive Predictive Value (PPV) correlates high-grade cytology with high-grade histology. For 2019-20, the PPV for Wales remains within range (76.2 – 92.3%) at 85.5%.
- 8,906 new patients were seen at colposcopy clinics in Wales in 2019-20, 63.8% having been directly referred by Cervical Screening Wales and 36.2% for clinical reasons, e.g. symptoms or an abnormal appearing cervix.
- In 78.5% of cases where the Colposcopist thought there were high grade or worse changes, this was confirmed on biopsy (standard $\geq 65\%$) (PPV of colposcopist impression).
- 1 in 27 individuals screened in the year were directly referred for colposcopy by CSW. Of these, 1 in 123 individuals (less than 1%) had cancer.

3 Data

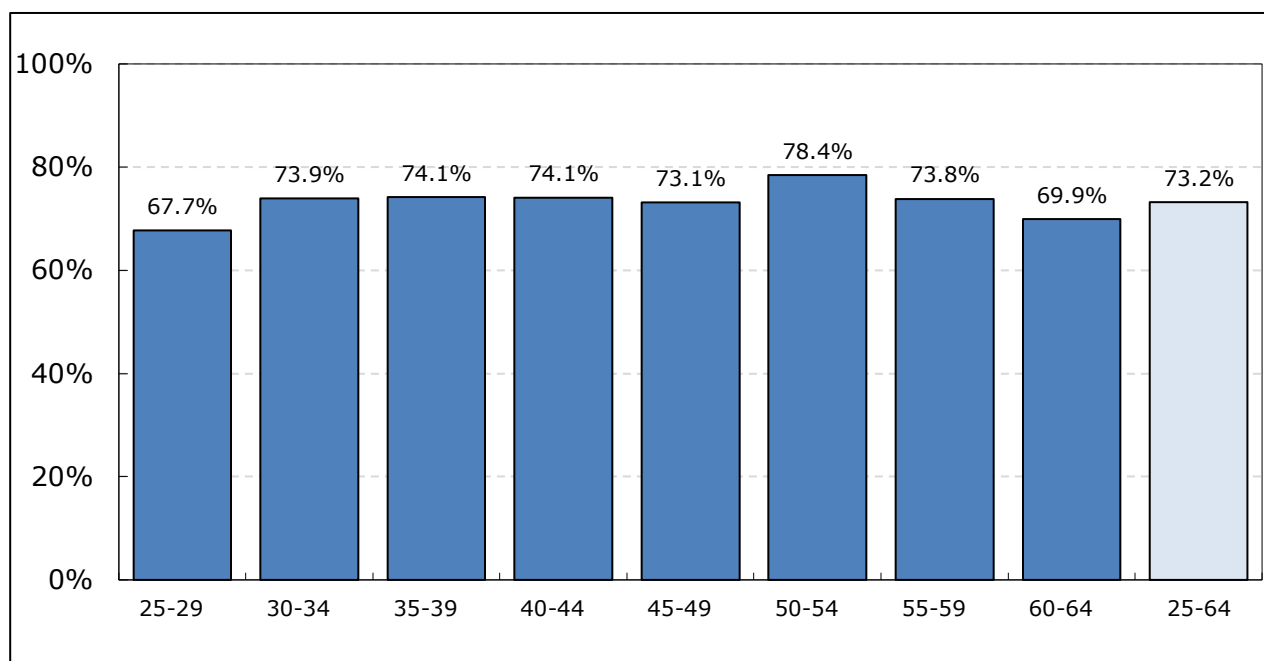
3.1 Coverage

Table 1a: Cervical screening age appropriate coverage by age group

Age Group	Eligible	Tested within 3.5 years	% Coverage within 3.5 years
25-29 years	102,062	69,069	67.7%
30-34 years	104,203	77,048	73.9%
35-39 years	100,105	74,222	74.1%
40-44 years	88,997	65,922	74.1%
45-49 years	97,754	71,455	73.1%
25-49 years	493,121	357,716	72.5%

Age Group	Eligible	Tested within 5.5 years	% Coverage within 5.5 years
50-54 years	104,185	81,733	78.4%
55-59 years	100,719	74,362	73.8%
60-64 years	84,108	58,778	69.9%
50-64 years	289,012	214,873	74.3%

Note: The eligible age range for cervical screening is 25-64 years. Individuals over 50 are routinely invited for screening every 5 years, coverage within 3.5 years is not applicable in this age group. A combined age appropriate coverage for 25-64 year olds has been calculated as 73.2%. Please see definition section for more details.

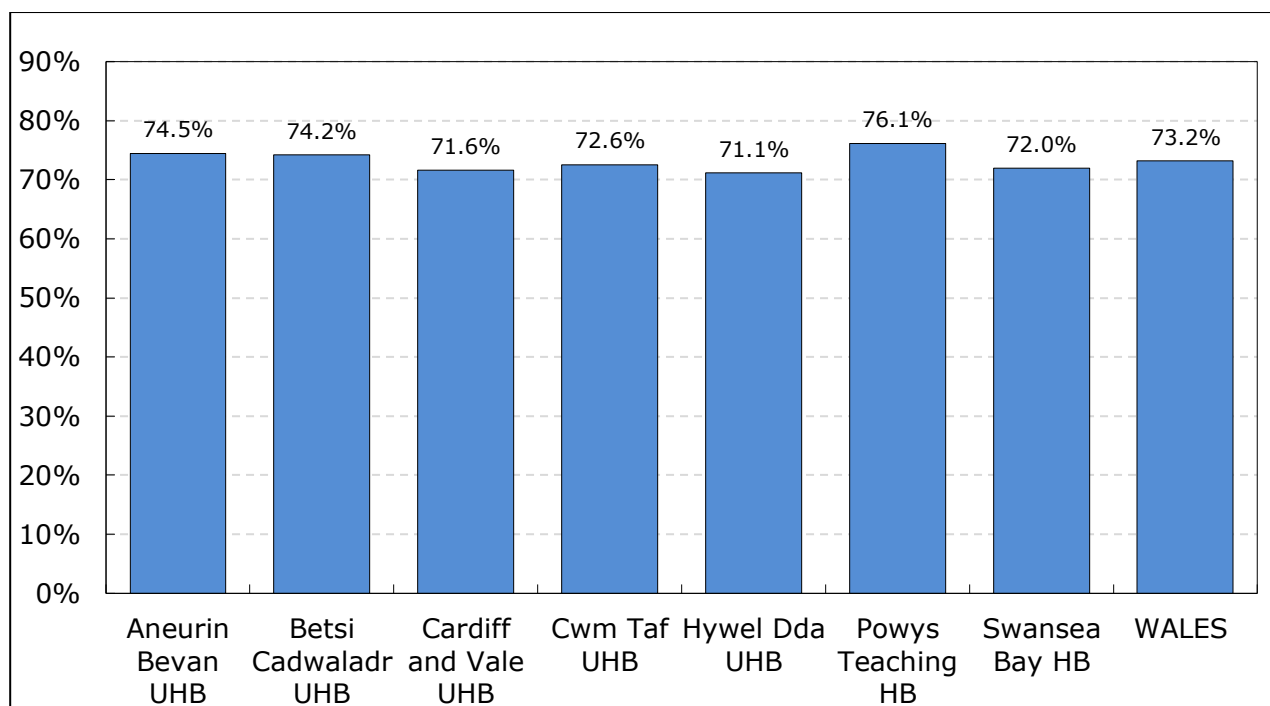
Graph 1a1: Cervical screening age appropriate coverage by age group**Table 1b:** Cervical screening coverage (25-64 year olds) by health board of residence

Health Board	25 - 49		
	Eligible	Tested within 3.5 Years	%Coverage within 3.5 Years
Aneurin Bevan UHB	91,168	67,349	73.9%
Betsi Cadwaladr UHB	98,052	72,574	74.0%
Cardiff and Vale UHB	85,251	59,865	70.2%
Cwm Taf Morgannwg UHB	68,519	49,361	72.0%
Hywel Dda UHB	51,414	35,833	69.7%
Powys Teaching HB	16,639	12,626	75.9%
Swansea Bay HB	58,544	41,736	71.3%
Unknown HB	23,534	18,372	78.1%
TOTAL	493,121	357,716	72.5%

Health Board	50 - 64		
	Eligible	Tested within 5.5 Years	%Coverage within 5.5 Years
Aneurin Bevan UHB	53,991	40,728	75.4%
Betsi Cadwaladr UHB	64,825	48,248	74.4%
Cardiff and Vale UHB	40,621	30,254	74.5%
Cwm Taf Morgannwg UHB	39,543	29,046	73.5%
Hywel Dda UHB	36,851	26,966	73.2%
Powys Teaching HB	13,422	10,260	76.4%
Swansea Bay HB	34,144	24,996	73.2%
Unknown HB	5,615	4,375	77.9%
TOTAL	289,012	214,873	74.3%

This shows the coverage stated of those individuals eligible for cervical screening on 1 April 2020, by the number and proportion with an adequate test within the last 3.5 or 5.5 years.

Graph 1b: Combined cervical screening coverage of target age group (individuals aged 25-64) by health board



3.2 Individuals invited by age group and health board

Table 2: Individuals invited by age group and health board

Health Board	Under 25 years	25-49 years	50-64 years	65+ years	All Ages
Aneurin Bevan UHB	2,960	28,569	13,989	282	45,800
Betsi Cadwaladr UHB	3,151	30,703	16,292	223	50,369
Cardiff and Vale UHB	3,215	26,361	10,195	156	39,927
Cwm Taf UHB	2,194	22,010	9,972	156	34,332
Hywel Dda UHB	1,648	16,271	9,092	142	27,153
Powys Teaching HB	522	4,778	3,316	42	8,658
Swansea Bay HB	1,964	18,536	8,795	121	29,416
Unknown HB	903	7,670	1,455	16	10,044
All Wales	16,557	154,898	73,106	1,138	245,699

Eligible individuals are invited for their first screening test between 24 years 8 months and 24 years 9 months. This ensures that they will have had the opportunity to attend for screening by their 25th birthday. In addition, some individuals under the age of 25 will be invited due to incidental findings of cell changes, which have required follow-up screening tests.

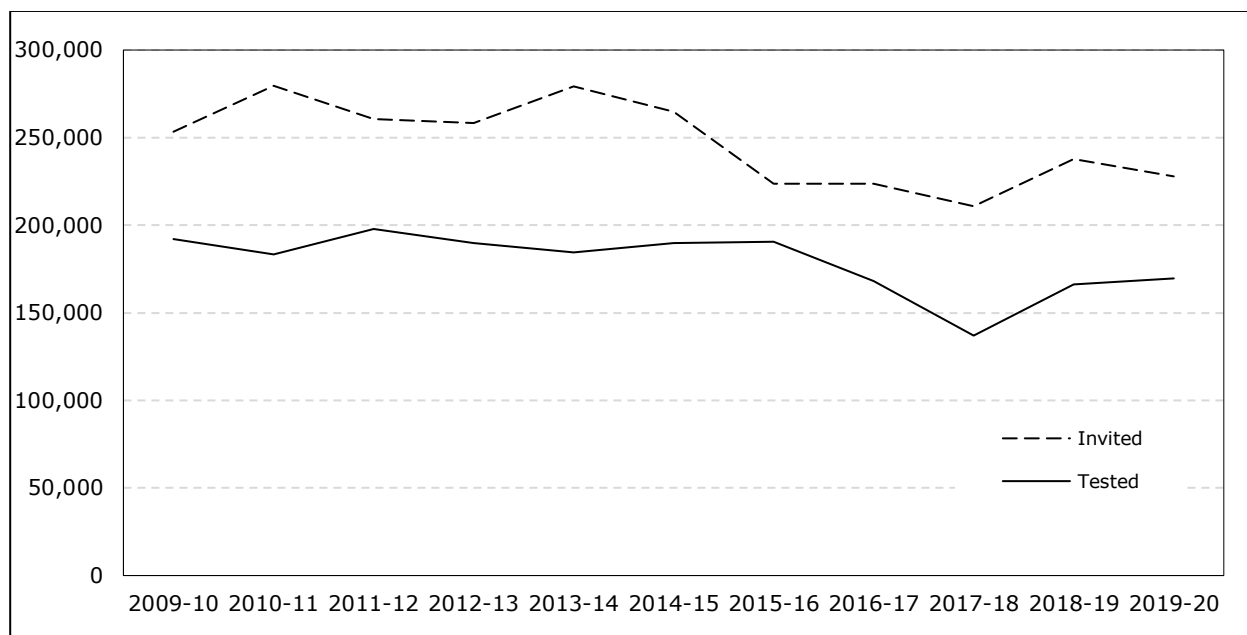
3.3 Individuals tested by age group and health board

Table 3: Individuals screened by age group and health board

Health Board	Under 25 years	25-49 years	50-64 years	65+ years	All Ages
Aneurin Bevan UHB	1,466	22,191	9,921	225	33,803
Betsi Cadwaladr UHB	1,440	24,154	11,427	216	37,237
Cardiff and Vale UHB	1,375	19,811	7,259	139	28,584
Cwm Taf UHB	1,002	16,184	6,670	119	23,975
Hywel Dda UHB	667	12,246	6,352	141	19,406
Powys Teaching HB	261	3,965	2,413	38	6,677
Swansea Bay HB	858	13,854	5,962	119	20,793
Unknown HB	442	6,282	1,046	14	7,784
All Wales	7,511	118,687	51,050	1,011	178,259

In 2019-20 this data was calculated directly from information taken from the call and recall system, more detailed definitions are given in section 5 of this report.

Uptake is generally defined as the proportion of invited individuals who attend for screening within a defined period following an invitation. The uptake of cervical screening invitations cannot be precisely measured as some tests undertaken in the screening year (1 April to 31 March) may result from invitations that are either issued in the previous screening year, or taken up in the following year. There is currently no standard for 'uptake' within Cervical Screening in England and Wales and therefore coverage has been presented.

Graph 3: Number of individuals (aged 25-64 years) invited and screened each year

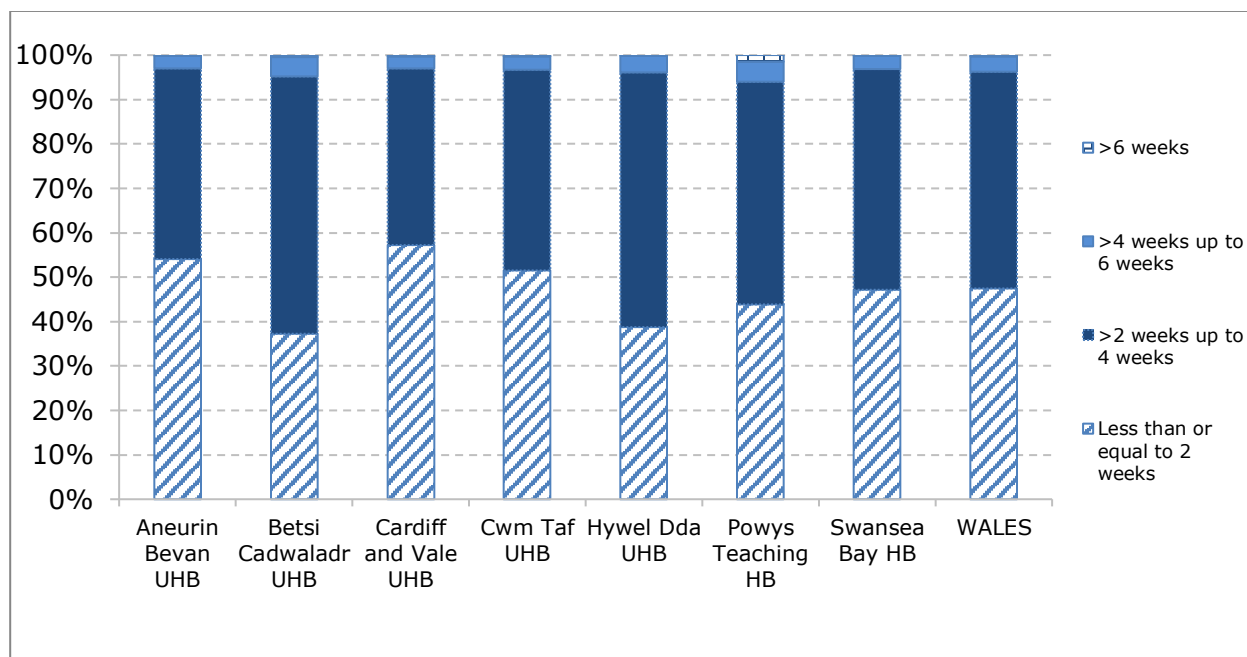
The reduction in the number of individuals invited during 2017-18 is due to the age and frequency changes implemented in September 2013 (described in section 1.3), where the age for first screening invitation was raised from 20 to 25 and the frequency of invitation for individuals aged 50-64 was changed from 3 years to 5 years. The rise seen in 2018-19 includes individuals aged 25 being invited for the first time, and those individuals aged 50 or over in 2013 now being invited back after 5 years.

3.4 Screening sample result turnaround times by health board

The Public Health Wales standard is for 95% of individuals to be sent their results within 4 weeks (28 calendar days) of the screening sample being taken.

Table 4: Time from date sample was taken to issue of result letter, by health board

Health Board	Less than or equal to 2 weeks	>2 weeks up to 4 weeks	>4 weeks up to 6 weeks	>6 weeks	Total
Aneurin Bevan UHB	18,761	14,841	987	70	34,659
Betsi Cadwaladr UHB	14,762	22,977	1,710	182	39,631
Cardiff and Vale UHB	16,619	11,564	792	75	29,050
Cwm Taf UHB	12,785	11,230	754	71	24,840
Hywel Dda UHB	7,741	11,468	737	40	19,986
Powys Teaching HB	2,972	3,400	307	100	6,779
Swansea Bay HB	10,170	10,700	646	23	21,539
Unknown HB	3,831	3,937	264	24	8,056
All Wales	87,641	90,117	6,197	585	184,540
Cumulative %	47.5%	96.3%	99.7%	100.0%	100.0%

Graph 4: Time from date sample was taken to issue of result letter, by health board

Across Wales 47.5% of results were issued within 2 weeks of the test being taken (range 37.2% to 57.2%), this is a decrease compared with 68.6% in 2018-19).

96.3% of results were issued within 4 weeks (95% standard) compared with 94.9% in 2018-19.

3.5 Samples reported by cervical screening laboratory

Table 5a: Number of cervical screening samples reported by source of test

	GP	Integrated Sexual Health Clinics	NHS Hospital	Not Specified	Total
All Wales	171,282	5,621	8,127	451	185,481

Table 5b1: Number of cervical screening samples reported by health board of residence and source of test

Health Board	GP	Integrated Sexual Health Clinics	NHS Hospital	Not Specified	Total
Aneurin Bevan UHB	31,161	2,148	1,285	84	34,678
Betsi Cadwaladr UHB	37,387	952	919	2	39,260
Cardiff and Vale UHB	27,923	296	986	48	29,253
Cwm Taf UHB	22,101	595	2,126	91	24,913
Hywel Dda UHB	17,679	1,204	1,140	8	20,031
Powys Teaching HB	6,389	19	173	17	6,598
Swansea Bay UHB	20,299	51	1,145	172	21,667
Unknown HB	8,343	356	353	29	9,081
All Wales	171,282	5,621	8,127	451	185,481

Table 5b2: Percentage of cervical screening samples taken in each health board of residence by source of test

Health Board	GP	Integrated Sexual Health Clinics	NHS Hospital	Not Specified
Aneurin Bevan UHB	89.9%	6.2%	3.7%	0.2%
Betsi Cadwaladr UHB	95.2%	2.4%	2.3%	0.0%
Cardiff and Vale UHB	95.5%	1.0%	3.4%	0.2%
Cwm Taf UHB	88.7%	2.4%	8.5%	0.4%
Hywel Dda UHB	88.3%	6.0%	5.7%	0.0%
Powys Teaching HB	96.8%	0.3%	2.6%	0.3%
Swansea Bay UHB	93.7%	0.2%	5.3%	0.8%
Unknown HB	91.9%	3.9%	3.9%	0.3%
All Wales %	92.3%	3.0%	4.4%	0.2%

Of the 185,481 samples reported, no cytology test was required in 163,159 because high risk HPV was not detected. Cytology testing was carried out on 22,322 samples.

Table 5c1: Inadequate cytology samples reported by cervical screening laboratory

		GP	Integrated Sexual Health Clinics	NHS Hospital	Not Specified	Total
All Wales	Total Samples	19,568	924	1,729	101	22,322
	No. inadequate	794	39	105	4	942
	% inadequate	4.1%	4.2%	6.1%	4.0%	4.2%

Of the 163,159 samples where no cytology test was required, 104 samples had been reported as 'hrHPV result unavailable/unreliable (HPVU)'. If these results are added to the 'inadequate cytology' results, this would give an overall combined 'inadequate' rate of 0.6%.

Table 5c2: High grade cytology samples reported

		GP	Integrated Sexual Health Clinics	NHS Hospital	Not Specified	Total
All Wales	No. Adequate	170,488	5,582	8,022	447	184,539
	No. high grade	1,497	81	222	12	1,812
	% high grade	0.9%	1.5%	2.8%	2.7%	1.0%

High grade includes results reported as high grade dyskaryosis (moderate or severe), high grade dyskaryosis (query invasive squamous carcinoma), query glandular neoplasia of endocervical type and query glandular neoplasia of non-cervical origin. The proportion is calculated from all cervical screening test results.

Table 5d: Number of adequate samples reported by result of test and age group

Result	25-49 years	50-64 years	All Ages
Negative	11,550	2,531	15,251
Borderline Change in squamous cells	1,527	229	1,894
Borderline Change in endocervical cells	79	10	91
Low Grade Dyskaryosis	1,861	271	2,332
High Grade Dyskaryosis (Moderate)	609	64	714
High Grade Dyskaryosis (Severe)	834	96	986
High Grade Dyskaryosis (?invasive squamous carcinoma)	29	12	43
?Glandular neoplasia of endocervical type	58	10	69
?Glandular neoplasia of non-cervical origin	0	0	0
No cytology	106,801	49,416	163,159
All Wales	123,348	52,639	184,539

All ages includes participants outside of the eligible age range.

Table 5e: Number and outcome of adequate samples reported

Result	High Risk HPV detected	High Risk HPV not detected	HPV unavailable / unreliable	TOTAL
Negative	15,249	0	0	15,251
Borderline Change in squamous cells	1,894	0	0	1,894
Borderline Change in endocervical cells	90	<5	0	91
Low Grade Dyskaryosis	2,332	0	0	2,332
High Grade Dyskaryosis (Moderate)	714	0	0	714
High Grade Dyskaryosis (Severe)	986	0	0	986
High Grade Dyskaryosis (?invasive squamous carcinoma)	43	0	0	43
?Glandular neoplasia of endocervical type	69	0	0	69
?Glandular neoplasia of non-cervical origin	0	0	0	0
No cytology	0	163,055	104	163,159
All Wales	21,377	163,056	104	184,539

Two negative cytology samples that were not tested for HPV have not been included in the table above. The samples were taken outside of the reporting year but had been re-authorised during April 2019 – March 2020.

Table 5f: Outcome for individuals referred for colposcopy during April 2018-March 2019 following an inadequate, negative or low grade result

Outcome	ALL WALES	Percentage
Cervical Cancer	9	0.2%
CGIN	7	0.2%
High Grade CIN	762	17.0%
CIN1	921	20.6%
No Abnormality Detected	1,020	22.8%
Inadequate Biopsy	55	1.2%
No Biopsy Taken	1,701	38.0%
Non Cervical Cancer	1	0.0%
TOTAL	4,476	100.0%

Table 5g: Outcome for individuals referred during April 2018-March 2019 following a high grade cytology result

Outcome	ALL WALES	Percentage
Cervical Cancer	56	4.3%
CGIN	45	3.5%
High Grade CIN	1,006	77.5%
CIN1	92	7.1%
No Abnormality Detected	76	5.9%
Inadequate Biopsy	2	0.2%
No Biopsy Taken	19	1.5%
Non Cervical Cancer	2	0.2%
TOTAL	1,298	100.0%

Table 5h: Outcome for individuals directly referred for colposcopy during April 2018-March 2019

	Positive Predictive Value (PPV)%	Abnormal Predictive Value (APV)%	Referral Value (RV)
All Wales	85.5%	20.6%	3.0

For definitions of PPV, APV and RV please see section 5.

Table 5i: Turnaround times for cervical screening laboratory, from date of receipt of sample, to date result first authorised

	Less than or equal to 2 weeks	>2 weeks up to 4 weeks	>4 weeks up to 6 weeks	>6 weeks	Total
All Wales	118,433	63,198	3,643	207	185,481
Cumulative %	63.9%	97.9%	99.9%	100.0%	100.0%

3.6 Colposcopy activity

Table 6a: Number of colposcopy referrals by source of referral and colposcopy clinic

Colposcopy Clinic	CSW Direct Referral	Other Referral	TOTAL	% CSW Direct Referral	% Other Referral
Brecon	71	7	78	91.0%	9.0%
Bronglais	121	167	288	42.0%	58.0%
Cardiff and Vale	1,068	866	1,934	55.2%	44.8%
Glan Clwyd	615	54	669	91.9%	8.1%
Neath Port Talbot	826	240	1,066	77.5%	22.5%
Nevill Hall	265	148	413	64.2%	35.8%
Newtown	109	41	150	72.7%	27.3%
Prince Charles	288	559	847	34.0%	66.0%
Royal Glamorgan	341	605	946	36.0%	64.0%
Royal Gwent	870	401	1,271	68.5%	31.5%
Singleton	450	469	919	49.0%	51.0%
West Wales General	392	328	720	54.4%	45.6%
Withybush	187	166	353	53.0%	47.0%
Wrexham	358	105	463	77.3%	22.7%
Ysbyty Gwynedd	416	159	575	72.3%	27.7%
Ysbyty Ystrad Fawr	306	95	401	76.3%	23.7%
All Wales	6,683	4,410	11,093	60.2%	39.8%

The other referrals that are not directly referred from CSW are a mixture of individuals referred from primary or secondary care with symptoms or an abnormal appearance of cervix, individuals moving into Wales with recent cell changes on cytology or those where there were difficulties in obtaining a sample in primary care.

Table 6b: Number of new patients seen in colposcopy clinics by referral test result

Colposcopy Clinic	Low Grade	High Grade	Negative Cytology HPV Positive	No Abnormal Smear	Total
Brecon	42	16	7	9	74
Bronglais	71	25	8	136	240
Cardiff and Vale	646	181	79	669	1,575
Glan Clwyd	273	197	42	48	560
Neath Port Talbot	412	206	68	181	867
Nevill Hall	130	60	21	87	298
Newtown	51	27	4	25	107
Prince Charles	147	75	33	449	704
Royal Glamorgan	186	71	43	475	775
Royal Gwent	412	218	71	336	1,037
Singleton	269	116	40	335	760
West Wales General	217	110	34	170	531
Withybush	103	44	8	80	235
Wrexham	210	57	32	79	378
Ysbyty Gwynedd	255	110	28	84	477
Ysbyty Ystrad Fawr	142	56	29	61	288
All Wales	3,566	1,569	547	3,224	8,906
%	40.0%	17.6%	6.1%	36.2%	100.0%

Low grade referrals include borderline change in squamous cells and low grade dyskaryosis

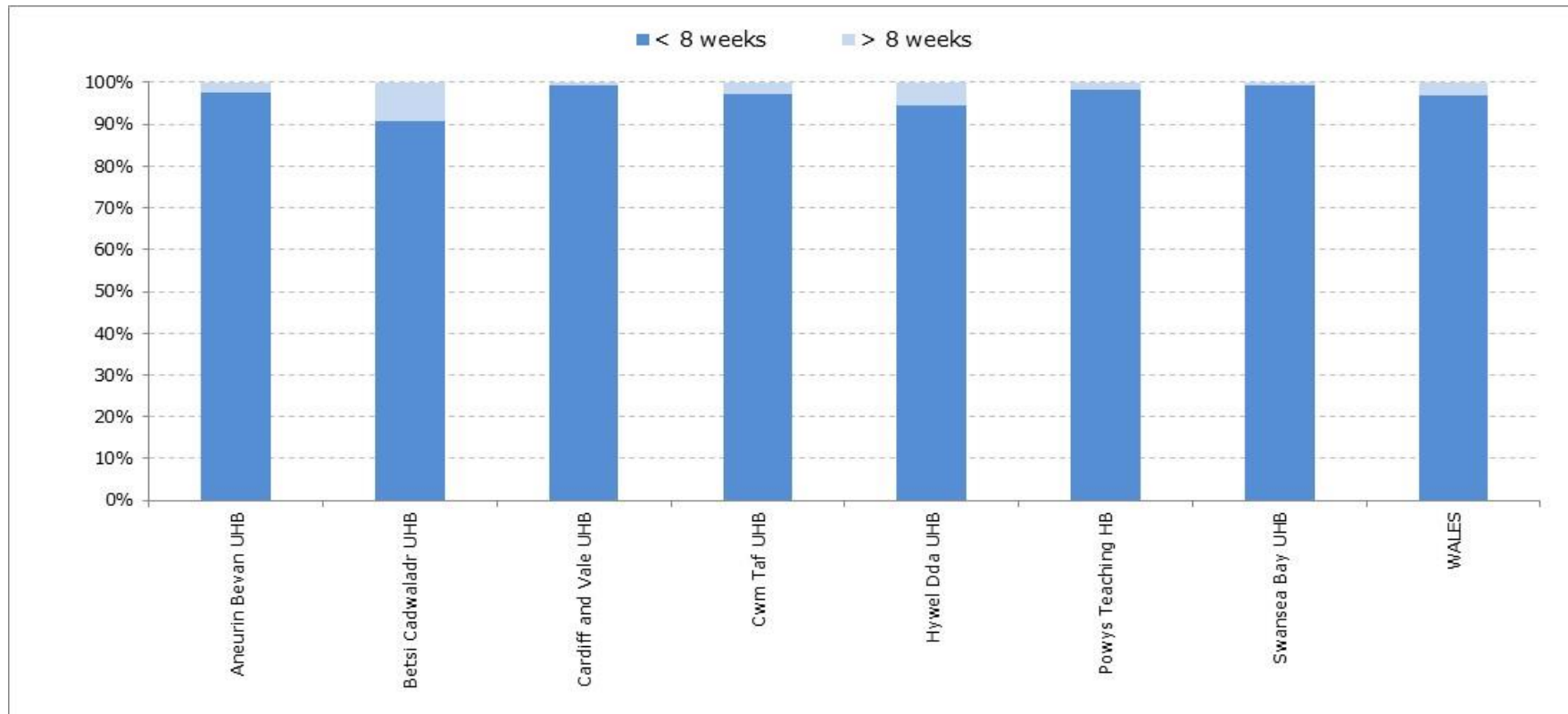
High grade referrals include borderline changes in endocervical cells, high grade dyskaryosis (moderate and severe), high grade dyskaryosis (query invasive squamous carcinoma), query glandular neoplasia of endocervical type and query glandular neoplasia of non-cervical origin.

Table 6b shows referrals for colposcopy following a negative (normal) cytology result. These individuals are referred either because of persistent hrHPV in their sample, or because of previous high grade disease ('test of cure') and current hrHPV. Due to the persistence of hrHPV or their previous history, they are at higher risk of high grade disease.

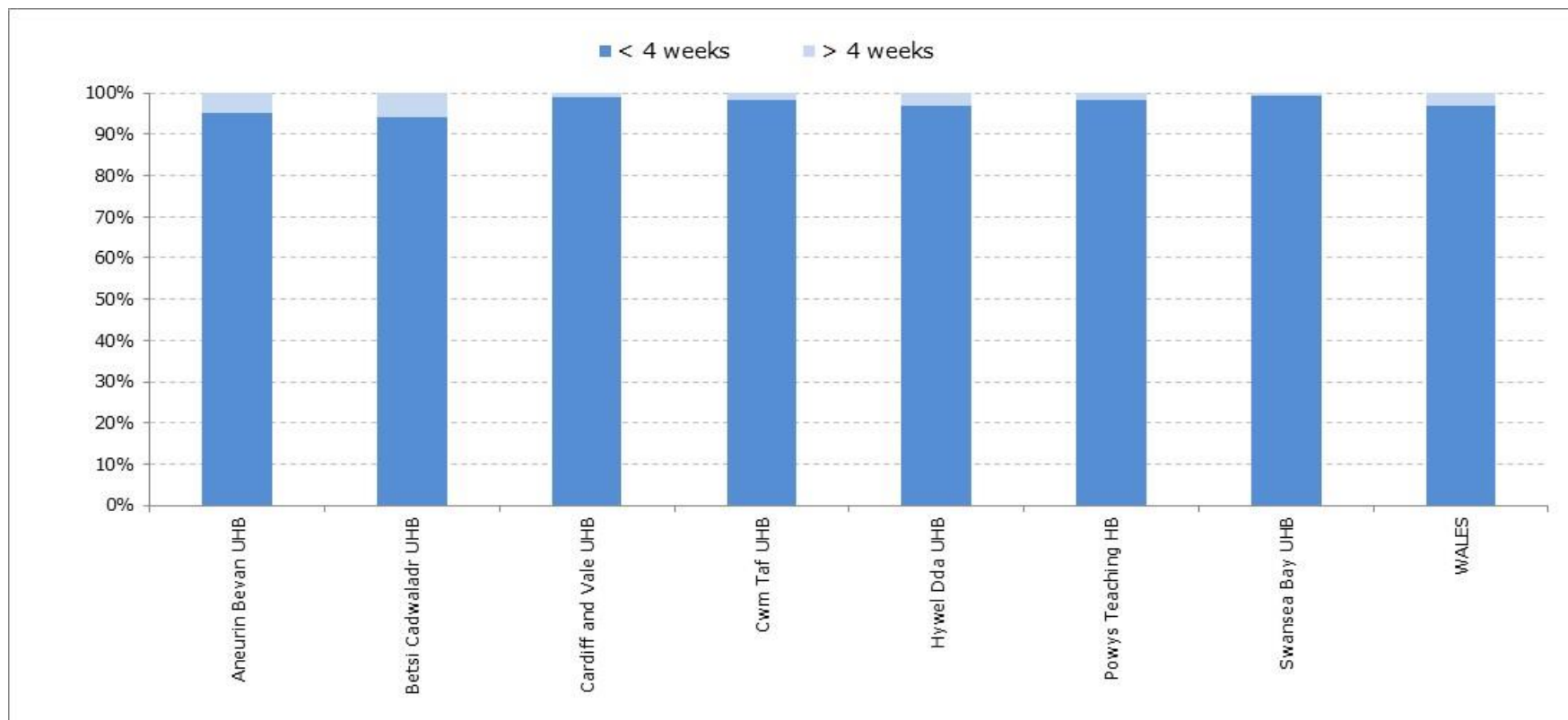
Table 6c: Waiting times by health board and type of referral

	All referrals				High grade dyskaryosis or worse			
Health Board	<8 weeks	8 weeks or over	TOTAL	% within 8 weeks	<4 weeks	4 weeks or over	TOTAL	% within 4 weeks
Aneurin Bevan UHB	1986	49	2035	97.6%	393	20	413	95.2%
Betsi Cadwaladr UHB	1574	163	1737	90.6%	396	25	421	94.1%
Cardiff and Vale UHB	1979	17	1996	99.1%	218	2	220	99.1%
Cwm Taf UHB	1780	49	1829	97.3%	170	3	173	98.3%
Hywel Dda UHB	1147	68	1215	94.4%	220	7	227	96.9%
Powys Teaching HB	219	4	223	98.2%	53	1	54	98.1%
Swansea Bay UHB	1993	13	2006	98.2%	383	3	386	99.2%
All Wales	10,678	363	11,041	96.7%	1833	61	1894	96.8%
%	96.7%	3.3%	100.0%	-	96.8%	3.2%	100.0%	-

Graph 6c1: Percentage of all new referrals offered an appointment within 8 weeks by health board (excluding patient instigated delays)



Graph 6c2: Percentage of high grade referrals offered an appointment within 4 weeks by health board (excluding patient instigated delays)



The tables and graphs above show the time taken from the receipt of referral by health board to the first appointment offered by health board, excluding delays initiated by patients. 96.8% of patients referred with a result of high grade dyskaryosis or worse were offered an appointment within four weeks (90% standard). 96.7% of all referrals were offered an appointment within eight weeks (90% standard).

Table 6d: Total attended colposcopy appointments by type of visit and health board

Health Board	Colposcopic assessment	Select and treat	Planned treatment	Follow up	Not specified	Total
Aneurin Bevan UHB	1740	204	297	462	9	2712
Betsi Cadwaladr UHB	1683	78	555	281	66	2663
Cardiff and Vale UHB	1946	70	333	393	0	2742
Cwm Taf UHB	1760	62	396	584	36	2838
Hywel Dda UHB	1059	19	302	894	21	2295
Powys Teaching HB	184	20	34	119	5	362
Swansea Bay UHB	1711	24	446	629	2	2812
All Wales	10,083	477	2,363	3,362	139	16,424
%	61.4%	2.9%	14.4%	20.5%	0.8%	100.0%

There were 16,424 recorded attended visits during 2019-20. The majority of these were for 'colposcopic assessment'. 477 visits were recorded as 'select and treat' (where treatment is performed at a first visit to colposcopy), although there was variation in this practice across Wales.

Table 6e: New patients seen by type of referral and worst outcome of histology

Referral Type	Cancer	CGIN	High grade CIN	CIN1	No abnormality detected	Inadequate biopsy	Unknown	No biopsy taken	TOTAL
CSW Direct Referral	45	67	1,851	980	921	49	21	1,598	5,532
Other Referral	16	3	127	237	634	28	26	2,303	3,374
All Wales	61	70	1,978	1,217	1,555	77	47	3,901	8,906

Table 6f: New patients seen by health board and worst outcome of histology

Health Board	Cancer	CGIN	High grade CIN	CIN1	No abnormality detected	Inadequate biopsy	Unknown	No biopsy taken	Total
Aneurin Bevan UHB	13	18	365	128	291	18	7	783	1623
Betsi Cadwaladr UHB	18	22	521	292	256	9	2	295	1415
Cardiff and Vale UHB	8	11	234	181	284	9	19	829	1575
Cwm Taf UHB	10	4	212	182	330	13	8	720	1479
Hywel Dda UHB	4	7	224	214	171	19	1	366	1006
Powys Teaching HB	0	1	43	22	40	1	0	74	181
Swansea Bay UHB	8	7	379	198	183	8	10	834	1627
All Wales	61	70	1,978	1,217	1,555	77	47	3,901	8,906
%	0.7%	0.8%	22.2%	13.7%	17.5%	0.9%	0.5%	43.8%	100.0%

4 Audit of cervical cancer in Wales 2018-19

The Cervical Screening Wales Audit of Cervical Cancer (CSWACC) database is a bespoke web-enabled database, used solely by CSW. All cervical cancer diagnoses for individuals resident in Wales at the time of diagnosis are entered onto the CSWACC database.

Information regarding cervical cancer diagnoses is received from: -

- Pathology reports
- Hospital/GP letters
- Death reports
- Welsh Cancer Intelligence and Surveillance Unit (WCISU)

The demographics for each individual are uploaded automatically. Each case is then reviewed by the Clinical Lead for CSW who checks that the case is a cervical cancer, and that the following data are complete, where possible:

- Histological cancer type
- Cancer staging
- Overall treatment
- Screen detected status
 - If non-screen detected (as per NHSCSP definition), then further categorization is given (e.g. never screened, lapsed screening)

The CSW Clinical Lead ensures that reviews are requested and completed for eligible screening samples, screening pathway (invitations and results sent) and any colposcopy episodes over the 10 year period prior to diagnosis. The review is primarily for education and improvement of the screening programme, but individuals are informed of the review and are able to have a disclosure of any review results, on request.

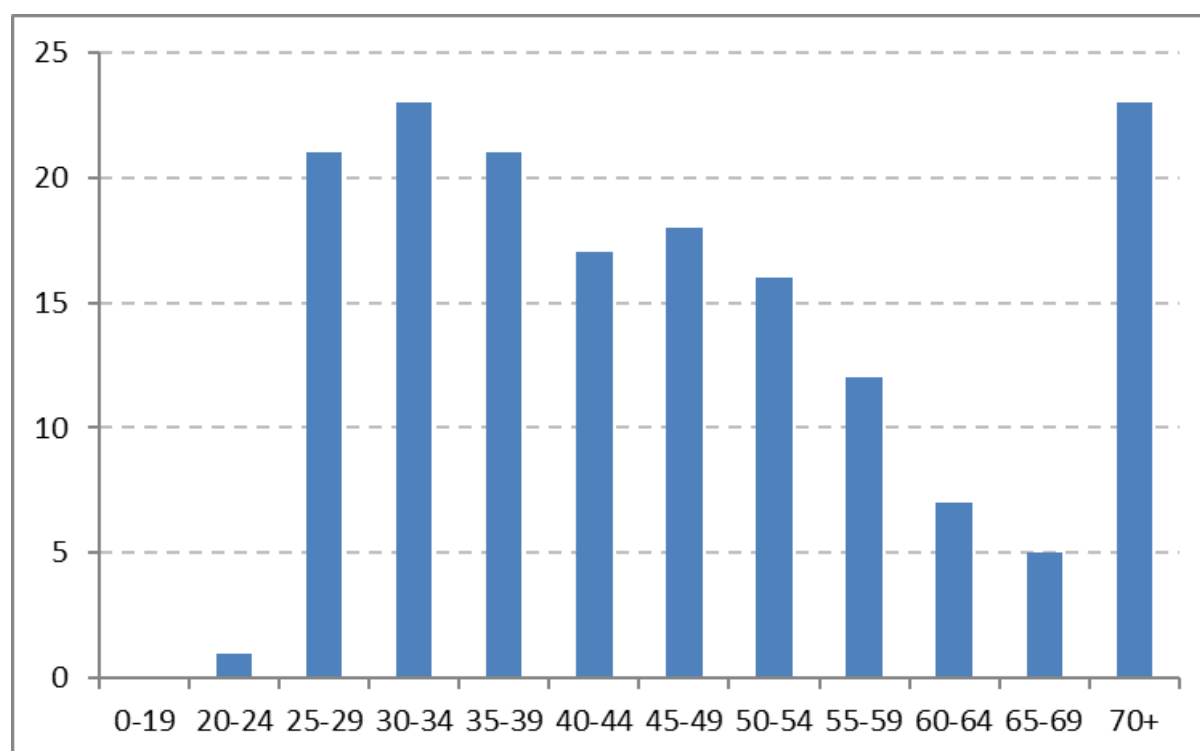
As of September 2021, there were 164 cervical cancers on the CSWACC database for the period 1 April 2018 – 31 March 2019. The final number of cancers for this period may increase as cancer registry data can be delayed, and also as some resident individuals may be diagnosed 'out of area'.

During the period April 2018 – March 2019, 9 women requested meetings to discuss their review results.

4.1 Age at diagnosis of all cervical cancers reported in Wales (both screen and non-screen detected)

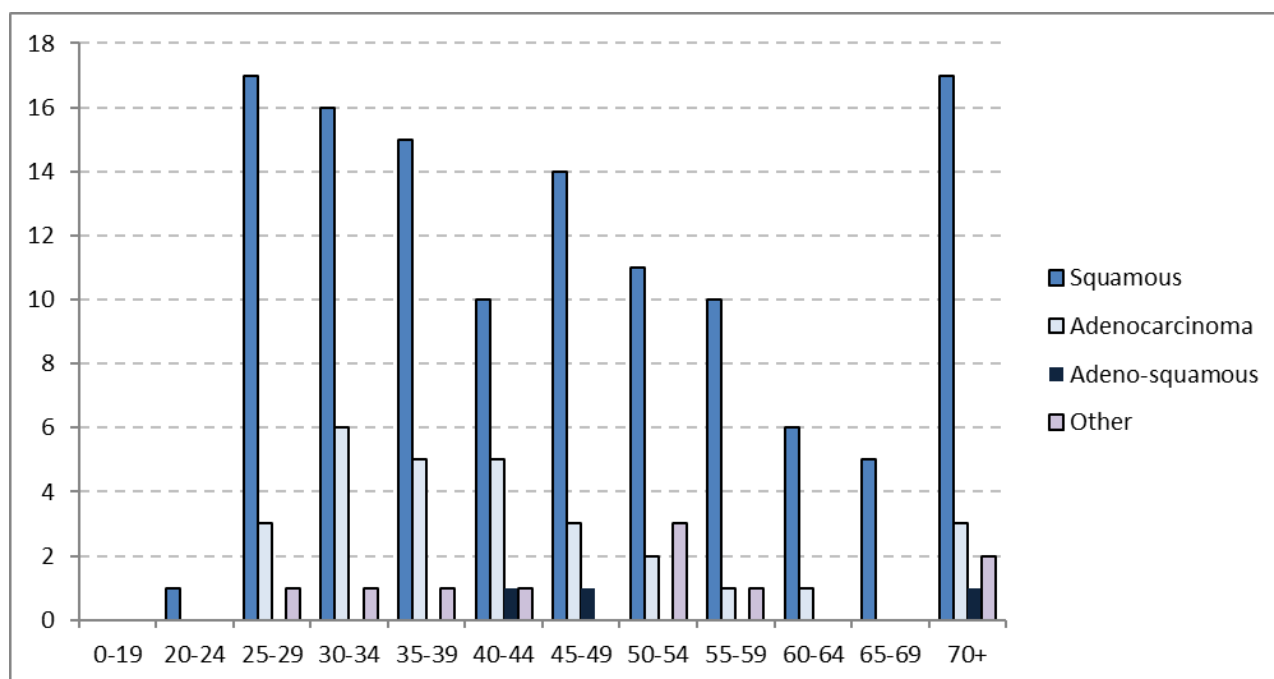
The age range at diagnosis was 24 years to 92 years. The median was in the 40-44 age group, with a peak in the 30-34 and 70+ age groups (Graph 7a).

Graph 7a: Number of Cervical Cancers by Age Band



4.2 Cancer type

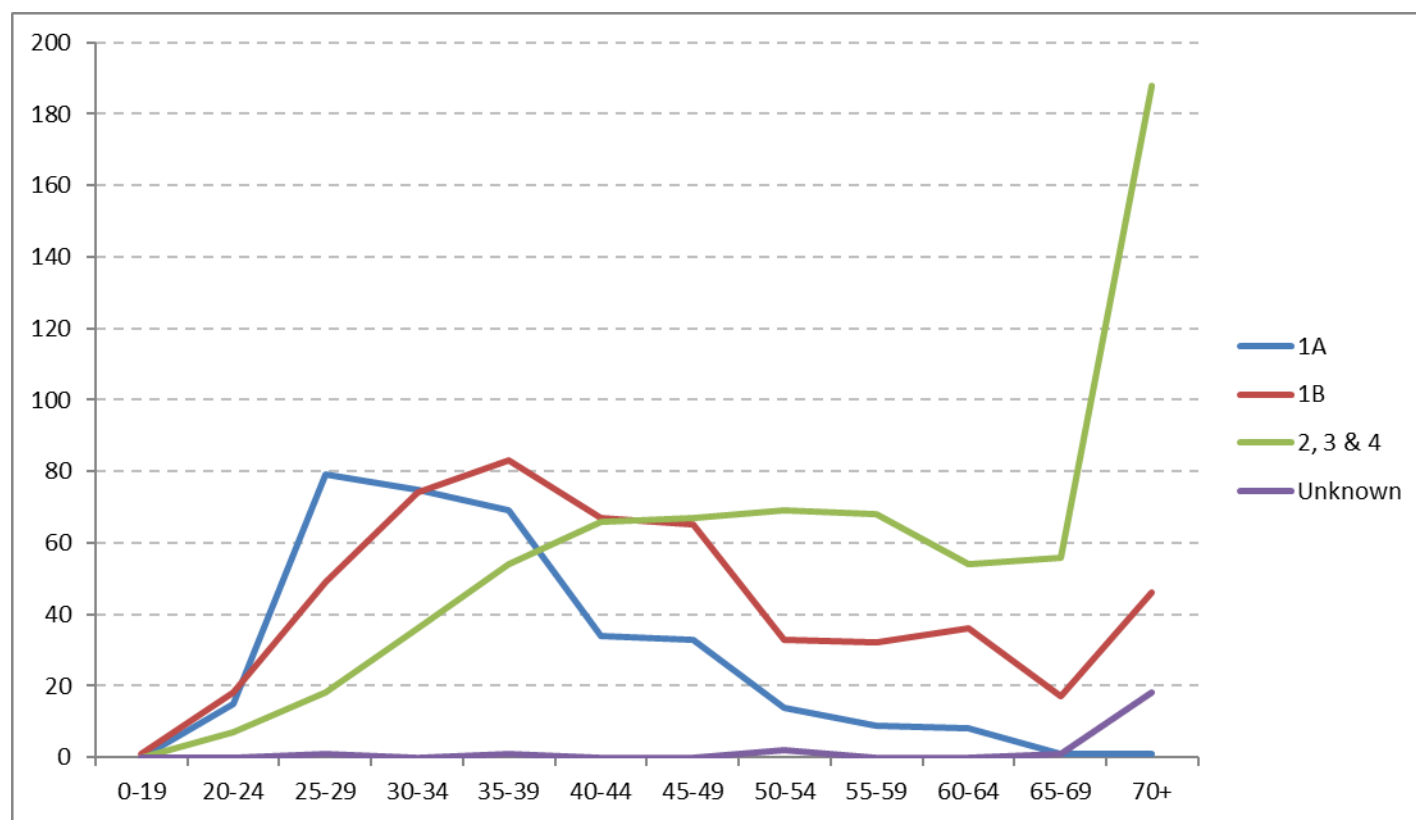
Of the 164 cancers diagnosed, 122 (74.4%) were squamous cell carcinomas, 29 (17.7%) were adenocarcinomas, 3 (1.8%) were adeno-squamous carcinomas and 3 (1.8%) were 'other'. The 'other' group included neuroendocrine, small cell and cases where no biopsy had been taken to confirm histological diagnosis. There were 7 cases that were not categorized into cancer type.

Graph 7b: Number of cervical cancers by type and age at diagnosis

4.3 Cancer stage

Of the 164 cases, 34 (20.7%) were stage 1A, 50 (30.5%) were stage 1B, 29 (17.7%) were stage 2, 21 (12.8%) were stage 3 and 26 (15.9%) were stage 4. In four cases staging was not undertaken, which may have been due to the diagnosis only being recorded on a death certificate.

Due to the small numbers, the cancers diagnosed from 2010-2019 are shown by age and stage (graph 7c). This shows the peak for stage 1A is in the 25-29 age group, for 1B in the 35-39 age group and for more advanced stage cancers the peak occurs in the older age group.

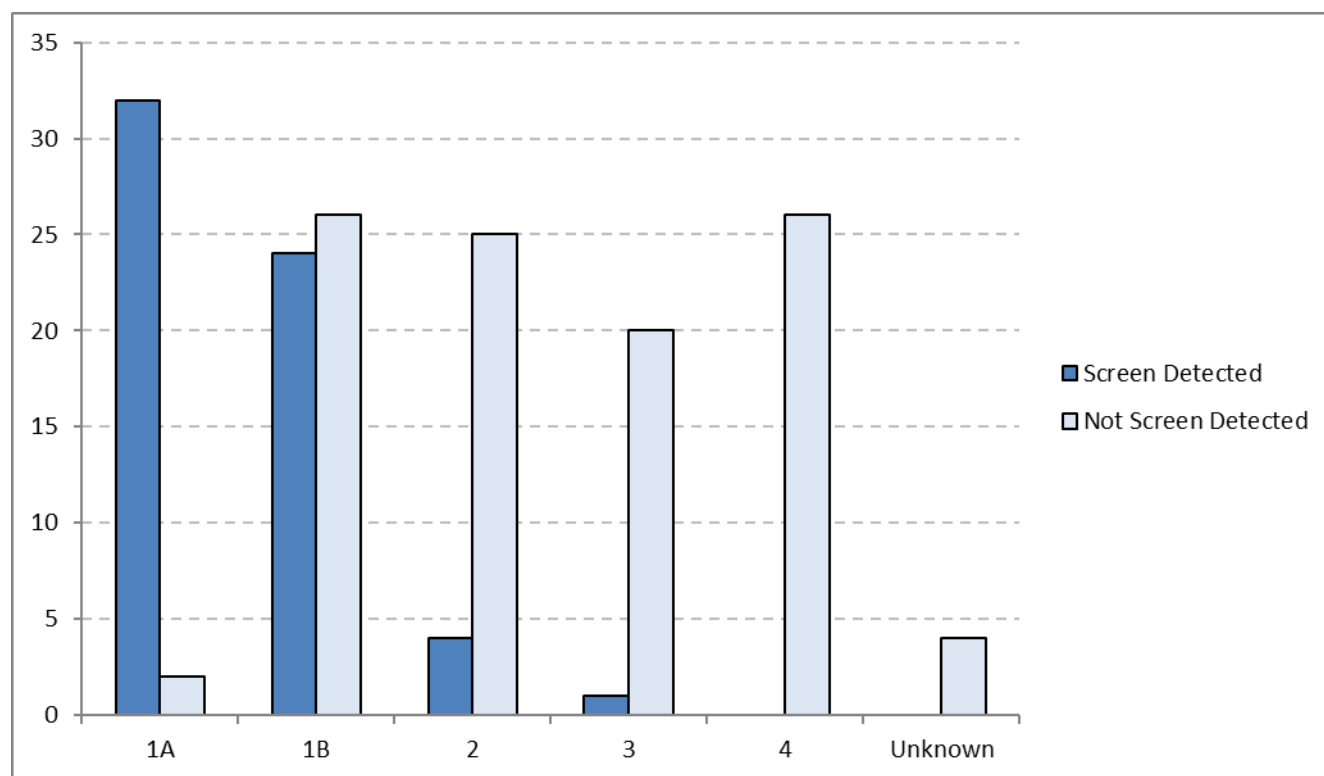
Graph 7c: Number of cervical cancers diagnosed between 2010 and 2019 by stage and age at diagnosis

4.4 Screen-detected status

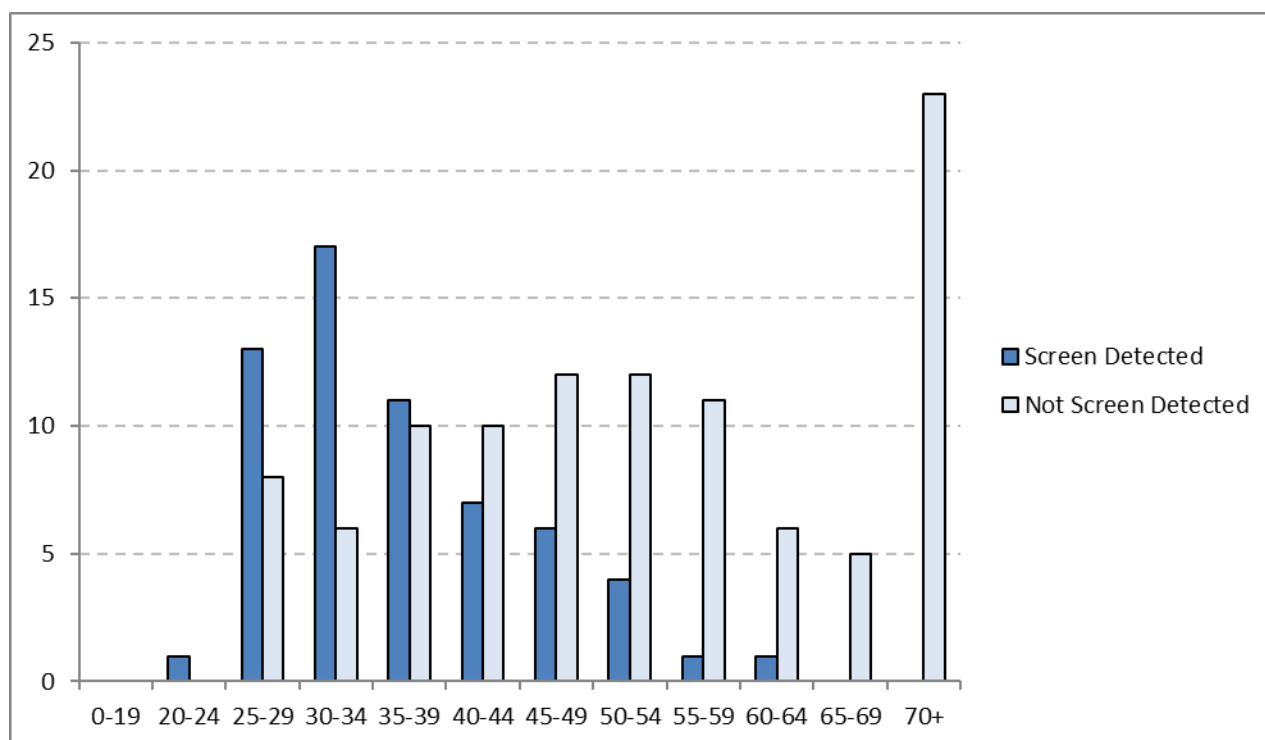
The definition of screen-detected cancer is a cancer detected following referral due to an abnormal screening test. This may include cases where individuals have not attended for screening for many years, as long as they did not present for screening due to symptoms. Although the aim of the screening programme is to reduce the incidence of invasive cervical cancer, sometimes cancer is detected by the screening test.

Non-screen detected cancers are those where the individual presents because of symptoms, leading to their cancer diagnosis, rather than as a result of a screening test. Non-screen detected cancers may occur in individuals with full screening histories, with long periods of non-attendance, or with no screening history.

Of the 164 cancers, 61 (37.2%) were screen detected and 100 (61.0%) were not. There were 3 cancers that were not classified into screen-detected status. It is clear that the majority of screen detected cancers were early stage (1A and 1B), whereas non-screen detected cancers were mainly detected at a more advanced stage.

Graph 7d: Number of cervical cancers by stage and screen-detected status

Across the age range, cancers in younger individuals were more likely to have been screen-detected, whereas those in older individuals were mainly non screen-detected. In individuals aged over 65 years, many had never been screened, or had not been screened for many years. This latter group includes those who had not been screened for many years before the age of 65 (when they exited the programme), but also those who were fully screened up to the age of 65 but were diagnosed over the age of 70.

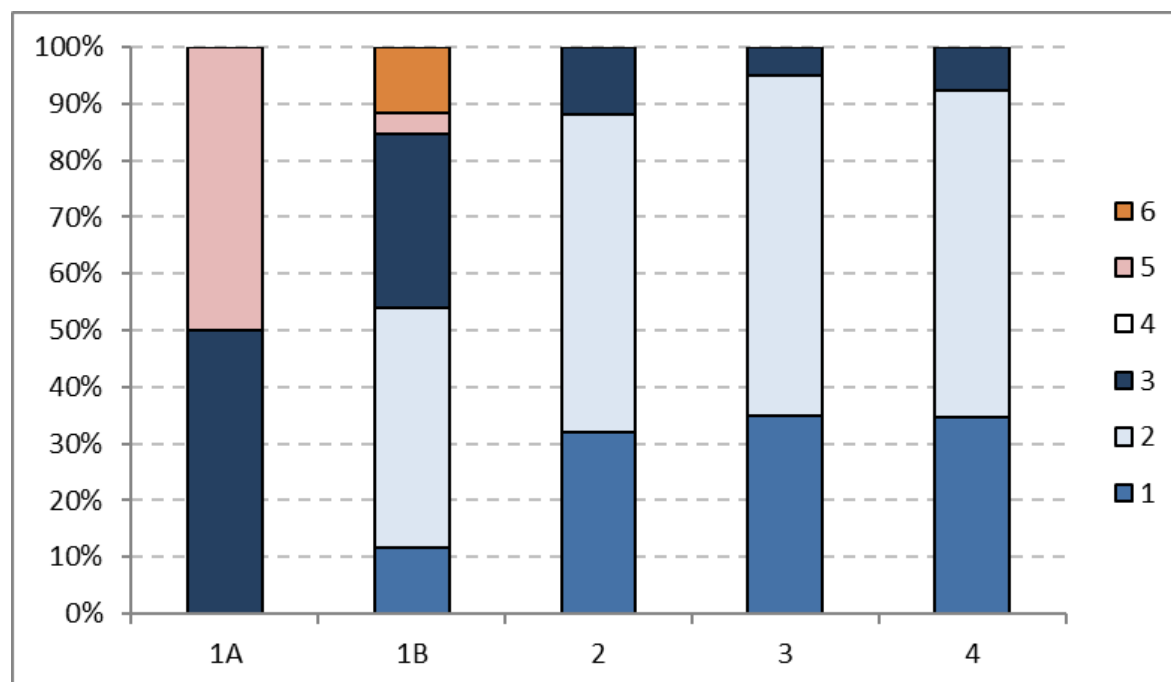
Graph 7e: Number of cervical cancers by age and screen-detected status

Where a cancer is non screen-detected, the individual's screening history is categorized as per the list below (using NHSCSP definitions): -

- 1 - No record of a cervical screening
- 2 - Screened more than 5.5 years before diagnosis (this includes individuals over 65 who may have been fully screened up till that age)
- 3 - Screening reported only as negative within preceding 6 months - 5.5 years (may include an occasional inadequate screening if quickly repeated as negative)
- 4 - Non-negative screening(s), including inadequate screening(s), recommending repeat (within the preceding 6 months - 5.5 years)
- 5 - Previous treatment for cervical intraepithelial neoplasia (CIN) (within preceding 6 months - 5.5 years) following abnormal screening recommending referral

6 - Abnormal screening within the preceding 6 months - 5.5 years recommending referral to colposcopy with subsequent delay in diagnosis

Graph 7f: Non screen-detected cancers by stage and screening history



There is a pattern between the non-screening detected category for these cases and the cancer stage. The higher the stage, the more likely they are to be individuals who have either no record of a cervical screening (smear) test, or it has been over 5.5 years since their last screen.

5 Terminology

This section provides further detail on terminology and calculations used in this report.

Eligibility

Eligible women and people with a cervix were those resident in Wales.

Uptake

Note that the percentage of individuals attending for screening vs the percentage invited cannot be precisely measured as some tests undertaken in the screening year (1 April to 31 March) may result from 'marginal' invitations, either issued in the previous screening year, or taken up in the following year.

Coverage

Coverage figures are not directly comparable year on year.

- Prior to 1997-98, all individuals classified as 'recall ceased' by the programme (for medical, age or other reasons) were excluded from the denominator used to calculate coverage
- In 1998/99 the definition changed to exclude only those individuals with "recall ceased for clinical reasons" (no cervix)
- Since 2001-02, coverage figures include only those individuals who received an adequate test in the last 3.5 or 5 years in the numerator.

Age Appropriate Coverage

Age appropriate coverage figures include individuals aged 25-49 years who received an adequate test in the last 3.5 years and individuals aged 50-64 years who received an adequate test in the last 5.5 years in the numerator.

Health Board

This is health board of residence. Where health board cannot be ascertained, individuals will appear in the report under the title unknown HB.

Invited

From 2016-17 onwards, the number of individuals invited by Cervical Screening Wales, has been calculated by analysis of the data extracted from the call and recall system (NHAIS/Exeter system) – invitations that were issued by the Welsh programme for individuals during the time period.

Tested

From 2016-17 onwards, the number of individuals tested by Cervical Screening Wales, has been calculated by analysis of the data extracted from the call and recall system – tests that have been taken in Wales during the time period.

Direct referral

Where a screening sample result indicates that an individual needs a colposcopic examination, the referral is made by Cervical Screening Wales, rather than the sample taker.

Cytology

The examination of individual cells under a microscope, to look for cell changes.

Histology

The examination of body tissue (e.g. biopsies) under a microscope.

Colposcopy

Examination of the cervix using visual inspection with acetic acid and magnification.

Positive Predictive Value

The positive predictive value (PPV) is the proportion of those thought to have high grade cell changes on cytology, that then go on to have a proven high grade abnormality.

Cytology PPV correlates high grade cytology opinion with histology outcome. It calculates the proportion of cases in which an adequate biopsy, following a screening test reported as high-grade dyskaryosis (moderate) or worse, yields a histological diagnosis of CIN2 or worse. This excludes individuals referred to colposcopy following a test result of non-cervical query glandular neoplasia.

Non-cervical cancers are excluded from PPV calculations. From 2012-13 the definition for calculating PPV has changed, the denominator now includes – colposcopy no abnormality detected (NAD) with no biopsy taken.

Colposcopy PPV correlates high grade colposcopy opinion with histology outcome.

Abnormal Predictive Value

The Abnormal Predictive Value (APV) calculates the percentage of samples reported as borderline changes or low-grade dyskaryosis that led to referral and subsequent histological diagnosis of CIN2 or worse. For the period of this report, this also includes samples reported as showing 'borderline change in endocervical cells'.

Referral Value

The referral value (RV), is defined as the number of individuals referred to colposcopy per detection of one CIN2 or worse histology result. This excludes

individuals referred to colposcopy following a test result of inadequate or query glandular neoplasia (non-cervical).

Incidence

The number of new cases per year of invasive cervical cancer

Morbidity

The harm caused by cervical cancer and by treating cervical cancer, both physical and psychological

Mortality

Deaths caused from invasive cervical cancer.

6 Production Team

The production team for this report are all employed within Public Health Wales and are listed below.

Kate Lilly	Senior Informatics and Data Specialist
Helen Clayton	Lead Informatics and Data Services Manager
Louise Dunk	Head of Programme for Cervical Screening Wales (retired)
Lisa Henry	Head of programme for Cervical Screening Wales (new)
Dr Katie Walbeoff	Clinical Lead for Cervical Screening Wales
Dr Sharon Hillier	Director of Screening Division
Dr Sikha DeSouza	Public Health Consultant
Heather Lewis	Public Health Consultant
Sheona Roberts	Communications Executive
Diane Rawlings	Screening Personal Assistant

This report was not published as official statistics.