Sgrinio Serfigol Cymru
Cervical Screening Wales

GIG CYMRU NHS WALES
Iechyd Cyhoeddus Cymru
Public Health Wales

Cervical Screening Wales Annual Statistical Report 2021-22

Screening Division of Public Health Wales Publication

About us

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:

Health protection – providing information and advice and taking action to protect people from communicable disease and environmental hazards

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

Screening – providing screening programmes which assist the early detection, prevention and treatment of disease

Health intelligence – providing public health data analysis, evidence finding and knowledge management

NHS quality improvement and patient safety – providing the NHS with information, advice and support to improve patient outcomes

Policy, research and international development – influencing policy, supporting research and contributing to international health development

Health improvement – working across agencies and providing population services to improve health and reduce health inequalities

Further information

Web: www.publichealthwales.org
Email: general.enquiries@wales.nhs.uk
Twitter: @PublichealthW
Facebook: www.facebook.com/PublicHealthWales

This report is a detailed summary of information on work undertaken by Cervical Screening Wales for the year from 1 April 2021 to 31 March 2022.

Publication Details:

Title: Cervical Screening Wales Annual Statistical Report 2020-21

Date: Published October 2024

ISBN: 978-1-83766-501-3

For more information and to feedback about this report contact:
Helen Clayton, Lead Informatics and Data Services Manager,
Informatics Division, Floor 6, Public Health Wales, Number 2 Capital Quarter, Tyndall Street, Cardiff, CF10 4BZ
Tel: 029 2010 4405
Email: Screening.Information@wales.nhs.uk

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.

Contents

Tables and graphs

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) and CSIMS (Cervical Screening Information Management System) call and recall systems 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 25-64 are invited for screening.
- Prior to 01/01/2022 the screening interval was:
    - every three years for 25 to 49 year olds
    - every five years for 50 to 64 year olds
- In Wales the screening interval was extended from three to five years for 25-49 year olds on 01/01/2022 in line with recommendations from the UK National Screening Committee.
- Since 01/01/2022 the screening interval for individuals aged 25-64 year old is every five years, for those testing negative for HPV.
- Those who have high-risk HPV are followed up more often and invited for screening in one year if no cell changes are found or referred to colposcopy for further investigation if cell changes are found.
- 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, up to 64 years of age.

Prior to 01/01/2022 the screening interval was:

every three years for 25 to 49 year olds

every five years for 50 to 64 year olds

Since 01/01/2022 individuals aged 25-64 are invited for screening every five years in line with recommendations from the UK National Screening Committee, for those testing negative for HPV. This change applied to those whose next routine screening test after 01/01/2022 did not have HPV.

Those who have high-risk HPV (hrHPV) are followed up more often and invited for screening in one year if no cell changes are found or referred to colposcopy if cell changes are found.

In September 2018, all samples began to be tested for hrHPV as the primary screening test. 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. During this period 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 2021-22

This report covers activity from 1 April 2021 to 31 March 2022 inclusive.

- As of 31 March 2022, screening coverage was 69.6% across Wales, and exceeded 68% 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 2021-22 295,538 individuals aged 25-64 were invited for screening.
- 198,513 individuals were screened in 2021-22, (including those with inadequate results).This number includes individuals who were screened during the year 2021-22 and does not reflect all the individuals that were invited in that year.
- Laboratories examined 194,316 samples from Welsh residents in 2021-22.
- In 0.3% 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 2020-21, the PPV for Wales is 86.2%.

- 9,641 new patients were seen at colposcopy clinics in Wales in 2021-22, 68.0% having been directly referred by Cervical Screening Wales and 32.0% for clinical reasons, e.g. symptoms or an abnormal appearing cervix.

- 1 in 26 individuals screened in the year were directly referred for colposcopy by CSW. Of these, 1 in 129 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	99,839	64,657	64.8%
30-34 years	107,658	75,124	69.8%
35-39 years	102,929	72,373	70.3%
40-44 years	95,127	66,454	69.9%
45-49 years	90,896	62,602	68.9%
25-49 years	**496,449**	**341,210**	**68.7%**

Age Group	Eligible	Tested within 5.5 years	% Coverage within 5.5 years
50-54 years	104,337	66,828	77.0%
55-59 years	104,529	50,278	70.2%
60-64 years	90,726	50,863	65.6%
50-64 years	**299,592**	**167,969**	**71.2%**

Note: The eligible age range for cervical screening is 25-64 years.

In Wales the screening interval was extended from three to five years for 25-49 year olds on 01/01/2022 in line with recommendations from the UK National Screening Committee.

Since 01/01/2022 the screening interval for individuals aged 25-64 year old is every five years, for those testing negative for HPV.

Coverage data included in this report is reported in line with other UK Nations to allow the comparison of data between nations.

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 69.6%. Please see definition section for more details.

Graph 1a1: Cervical screening age appropriate coverage by age group

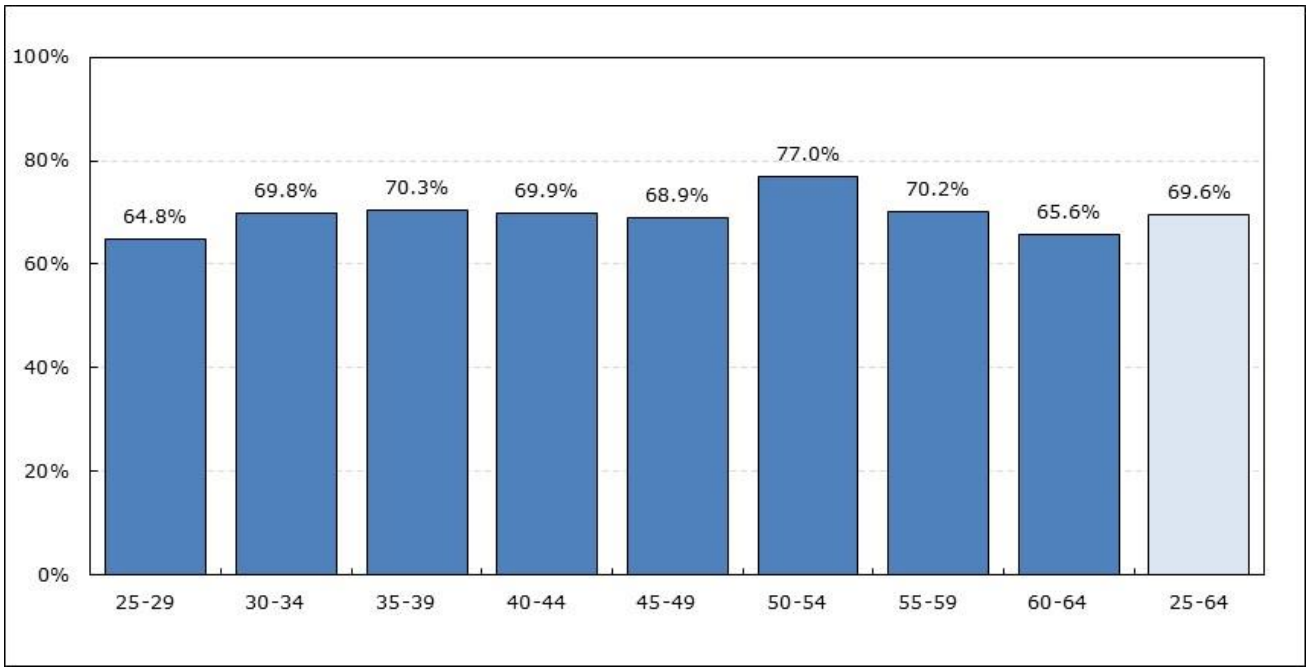


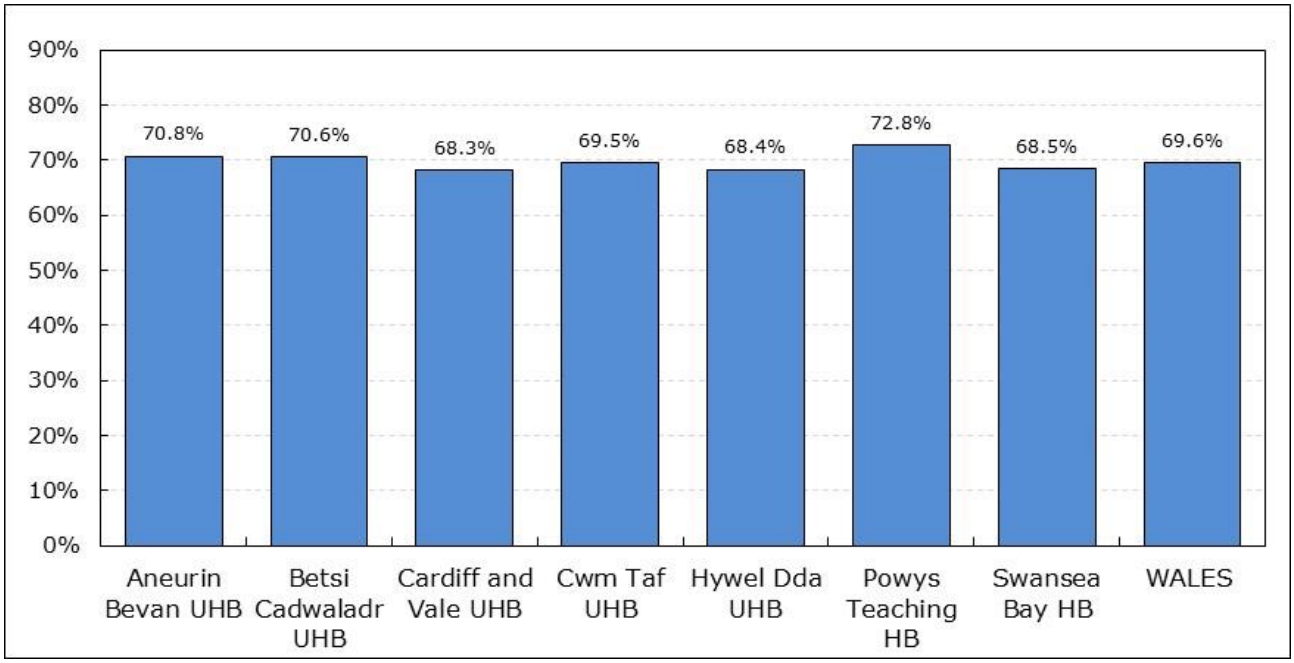
Table 1b: Cervical screening coverage (25-64 year olds) by health board of residence

	25 - 49		
Health Board	**Eligible**	**Tested within 3.5 Years**	**%Coverage within 3.5 Years**
Aneurin Bevan UHB	97,822	68,534	70.1%
Betsi Cadwaladr UHB	101,853	71,355	70.1%
Cardiff and Vale UHB	91,939	61,321	66.7%
Cwm Taf Morgannwg UHB	72,321	49,965	69.1%
Hywel Dda UHB	54,110	36,308	67.1%
Powys Teaching HB	17,145	12,345	72.0%
Swansea Bay HB	61,190	41,340	67.6%
Unknown HB	69	42	60.9%
TOTAL	**496,449**	**341,210**	**68.7%**

	50 - 64		
Health Board	**Eligible**	**Tested within 5.5 Years**	**%Coverage within 5.5 Years**
Aneurin Bevan UHB	57,233	41,243	72.1%
Betsi Cadwaladr UHB	68,695	49,003	71.3%
Cardiff and Vale UHB	42,731	30,639	71.7%
Cwm Taf Morgannwg UHB	41,831	29,356	70.2%
Hywel Dda UHB	39,244	27,506	70.1%
Powys Teaching HB	14,296	10,531	73.7%
Swansea Bay HB	35,528	24,911	70.1%
Unknown HB	34	25	73.5%
TOTAL	**299,592**	**213,214**	**71.2%**

This shows the coverage stated of those individuals eligible for cervical screening on 1 April 2021, 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	4,119	42,180	15,694	314	62,307
Betsi Cadwaladr UHB	4,281	44,110	19,088	329	67,808
Cardiff and Vale UHB	4,409	38,829	11,811	203	55,252
Cwm Taf UHB	3,208	31,225	11,613	199	46,245
Hywel Dda UHB	2,250	22,931	10,767	198	36,146
Powys Teaching HB	692	7,255	3,799	57	11,803
Swansea Bay HB	2,759	26,323	9,849	183	39,114
Unknown HB	4	54	10	0	68
All Wales	**21,722**	**212,907**	**82,631**	**1,483**	**318,743**

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

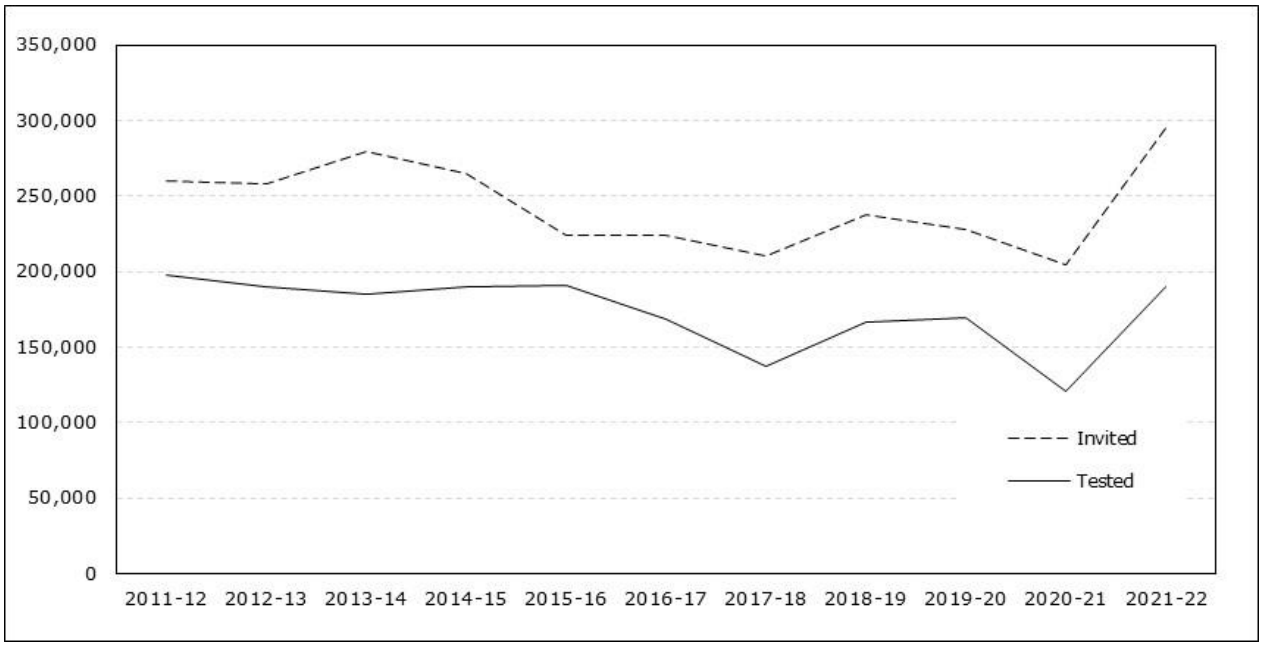
Table 3: Individuals screened by age group and health board

Health Board	Under 25 years	25-49 years	50-64 years	65+ years	All Ages
Aneurin Bevan UHB	1,471	26,657	10,950	273	39,351
Betsi Cadwaladr UHB	1,386	27,947	12,734	309	42,376
Cardiff and Vale UHB	1,424	24,505	8,177	225	34,331
Cwm Taf UHB	1,116	19,423	7,930	220	28,689
Hywel Dda UHB	590	14,009	7,290	212	22,101
Powys Teaching HB	218	4,614	2,775	68	7,675
Swansea Bay HB	914	16,131	6,690	210	23,945
Unknown HB	-	35	9	1	45
All Wales	**7,119**	**133,321**	**56,555**	**1,518**	**198,513**

In 2021-22 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. The reduction in 2020-2021 is due to the temporary pause of sending invitations to participants for cervical screening due to the Covid-19 pandemic in March 2020. The invitations restarted in June 2020. CSW recovered from the impact of the Covid-19 pandemic by December 2021.

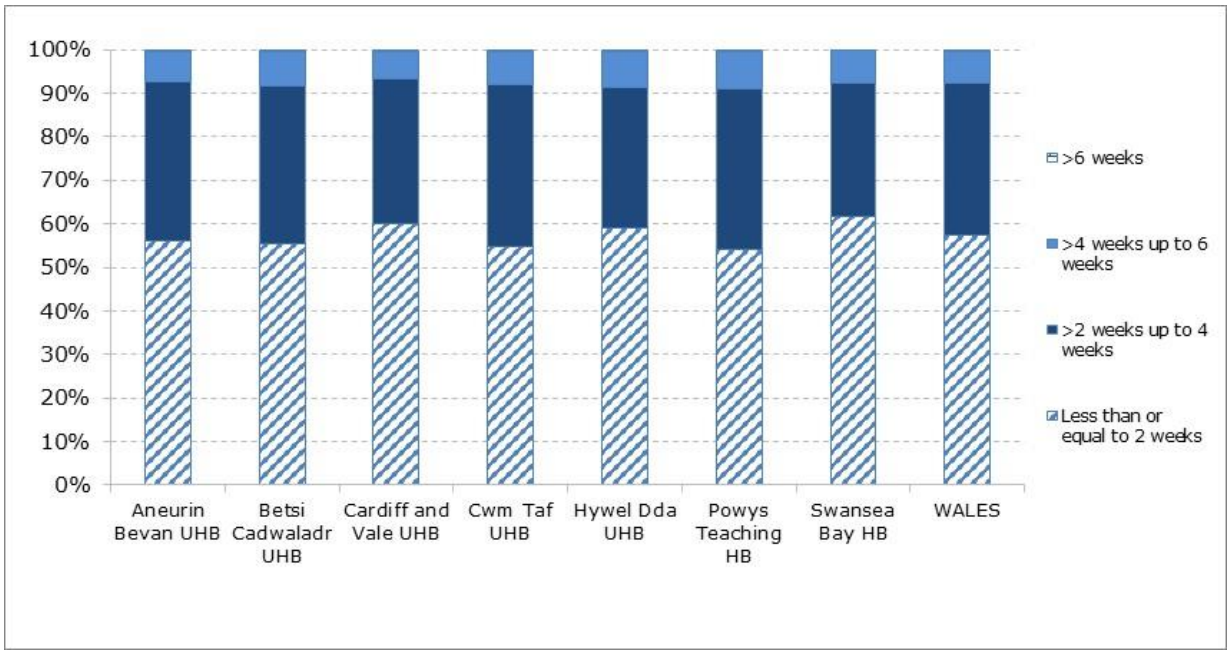
3.4 Screening sample result turnaround times by health board

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	21,193	13,816	2,539	180	37,728
Betsi Cadwaladr UHB	22,440	14,670	3,153	222	40,485
Cardiff and Vale UHB	19,624	10,829	2,058	142	32,653
Cwm Taf UHB	15,206	10,313	2,066	118	27,703
Hywel Dda UHB	12,626	6,934	1,789	60	21,409
Powys Teaching HB	3,929	2,665	620	38	7,252
Swansea Bay HB	14,045	6,963	1,717	51	22,776
Unknown HB	22	17	4	-	43
All Wales	**109,085**	**66,207**	**13,946**	**811**	**190,049**
Cumulative %	**57.4%**	**92.2%**	**99.6%**	**100.0%**	**100.0%**

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



Across Wales 57.4% of results were issued within 2 weeks of the test being taken (range 54.2% to 61.7%), this is a decrease compared with 74.6% in 2020-21).

92.2% of results were issued within 4 weeks (95% standard) compared with 95.8% in 2020-21.

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	**183,215**	**3,429**	**7,135**	**537**	**194,316**

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	35,306	1,678	1,317	18	38,319
Betsi Cadwaladr UHB	39,135	369	1,026	1	40,531
Cardiff and Vale UHB	32,363	192	820	152	33,527
Cwm Taf UHB	25,491	647	1,832	154	28,124
Hywel Dda UHB	20,358	403	1,053	7	21,821
Powys Teaching HB	6,938	11	176	5	7,130
Swansea Bay UHB	22,177	84	857	192	23,310
Unknown HB	1,447	45	54	8	1,554
All Wales	**183,215**	**3,429**	**7,135**	**537**	**194,316**

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	92.1%	4.4%	3.4%	0.0%
Betsi Cadwaladr UHB	96.6%	0.9%	2.5%	0.0%
Cardiff and Vale UHB	96.5%	0.6%	2.4%	0.5%
Cwm Taf UHB	90.6%	2.3%	6.5%	0.5%
Hywel Dda UHB	93.3%	1.8%	4.8%	0.0%
Powys Teaching HB	97.3%	0.2%	2.5%	0.1%
Swansea Bay UHB	95.1%	0.4%	3.7%	0.8%
Unknown HB	93.1%	2.9%	3.5%	0.5%
All Wales %	**94.3%**	**1.8%**	**3.7%**	**0.3%**

Of the 194,316 samples reported, no cytology test was required in 172,354 because high risk HPV was not detected. Cytology testing was carried out on 21,962 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	19,678	490	1,662	132	21,962
	No. inadequate	376	9	37	6	428
	% inadequate	1.9%	1.8%	2.2%	4.5%	1.9%

Of the 172,350 samples where no cytology test was required, 59 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 0.3%.

Table 5c2: High grade cytology samples reported

		GP	Integrated Sexual Health Clinics	NHS Hospital	Not Specified	Total
All Wales	No. Adequate	182,838	3,420	7,098	531	193,887
	No. high grade	1,231	49	202	14	1,496
	% high grade	0.7%	1.4%	2.8%	2.6%	0.8%

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	10,994	3,162	14,988
Borderline Change in squamous cells	2,113	447	2,692
Borderline Change in endocervical cells	44	7	51
Low Grade Dyskaryosis	1,807	336	2,307
High Grade Dyskaryosis (Moderate)	411	56	492
High Grade Dyskaryosis (Severe)	782	94	898
High Grade Dyskaryosis (?invasive squamous carcinoma)	33	9	43
?Glandular neoplasia of endocervical type	51	9	60
?Glandular neoplasia of non-cervical origin	1	2	3
No cytology	114,361	51,569	172,354
All Wales	**130,597**	**55,691**	**193,888**

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	14,987	1	0	14,988
Borderline Change in squamous cells	2,692	0	0	2,692
Borderline Change in endocervical cells	51	0	0	51
Low Grade Dyskaryosis	2,307	0	0	2,307
High Grade Dyskaryosis (Moderate)	492	0	0	492
High Grade Dyskaryosis (Severe)	898	0	0	898
High Grade Dyskaryosis (?invasive squamous carcinoma)	43	0	0	43
?Glandular neoplasia of endocervical type	60	0	0	60
?Glandular neoplasia of non-cervical origin	3	0	0	3
No cytology	0	172,295	59	172,354
All Wales	**21,533**	**172,296**	**59**	**193,888**

Table 5f: Outcome for individuals referred for colposcopy during April 2020-March 2021 following an inadequate, negative or low grade result

Outcome	ALL WALES	Percentage
Cervical Cancer	8	0.3%
CGIN	6	0.2%
High Grade CIN	651	21.1%
CIN1	811	26.3%
No Abnormality Detected	594	19.3%
Inadequate Biopsy	44	1.4%
No Biopsy Taken	967	31.4%
Non Cervical Cancer	1	0.03%
TOTAL	**3,082**	**100.0%**

Table 5g: Outcome for individuals referred during April 2020-March 2021 following a high grade cytology result

Outcome	ALL WALES	Percentage
Cervical Cancer	44	4.2%
CGIN	44	4.2%
High Grade CIN	811	78.1%
CIN1	79	7.6%
No Abnormality Detected	36	3.5%
Inadequate Biopsy	3	0.3%
No Biopsy Taken	21	2.0%
Non Cervical Cancer	1	0.1%
TOTAL	**1,039**	**100.0%**

Table 5h: Outcome for individuals directly referred for colposcopy during April 2020-March 2021

	Positive Predictive Value (PPV)%	Abnormal Predictive Value (APV)%	Referral Value (RV)
All Wales	86.9%	22.0%	3.1%

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	150,483	36,414	7,037	382	194,316
Cumulative %	**77.4%**	**96.2%**	**99.8%**	**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	111	10	121	91.7%	8.3%
Bronglais	129	128	257	50.2%	49.8%
Cardiff and Vale	1,387	866	2,253	61.6%	38.4%
Glan Clwyd	458	53	511	89.6%	10.4%
Neath Port Talbot	880	222	1,102	79.9%	20.1%
Nevill Hall	390	168	558	69.9%	30.1%
Newtown	134	35	169	79.3%	20.7%
Prince Charles	339	624	963	35.2%	64.8%
Royal Glamorgan	385	592	977	39.4%	60.6%
Royal Gwent	57	19	76	75.0%	25.0%
Singleton	615	297	912	67.4%	32.6%
West Wales General	402	283	685	58.7%	41.3%
Withybush	205	236	441	46.5%	53.5%
Wrexham	535	114	649	82.4%	17.6%
Ysbyty Gwynedd	449	198	647	69.4%	30.6%
Ysbyty Ystrad Fawr	1,190	357	1,547	76.9%	23.1%
All Wales	**7,666**	**4,202**	**11,868**	**64.6%**	**35.4%**

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	54	19	25	9	107
Bronglais	69	34	22	96	221
Cardiff and Vale	708	197	271	554	1730
Glan Clwyd	257	82	101	28	468
Neath Port Talbot	444	125	206	162	937
Nevill Hall	188	57	72	133	450
Newtown	76	15	22	34	147
Prince Charles	177	82	92	432	783
Royal Glamorgan	242	58	126	380	806
Royal Gwent	62	16	20	25	123
Singleton	297	114	117	194	722
West Wales General	234	86	89	154	563
Withybush	137	52	48	129	366
Wrexham	207	77	86	116	486
Ysbyty Gwynedd	260	81	108	80	529
Ysbyty Ystrad Fawr	572	162	213	256	1203
All Wales	**3,984**	**1,257**	**1,618**	**2,782**	**9,641**
%	**41.3%**	**13.0%**	**16.8%**	**28.9%**	**100.0%**

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

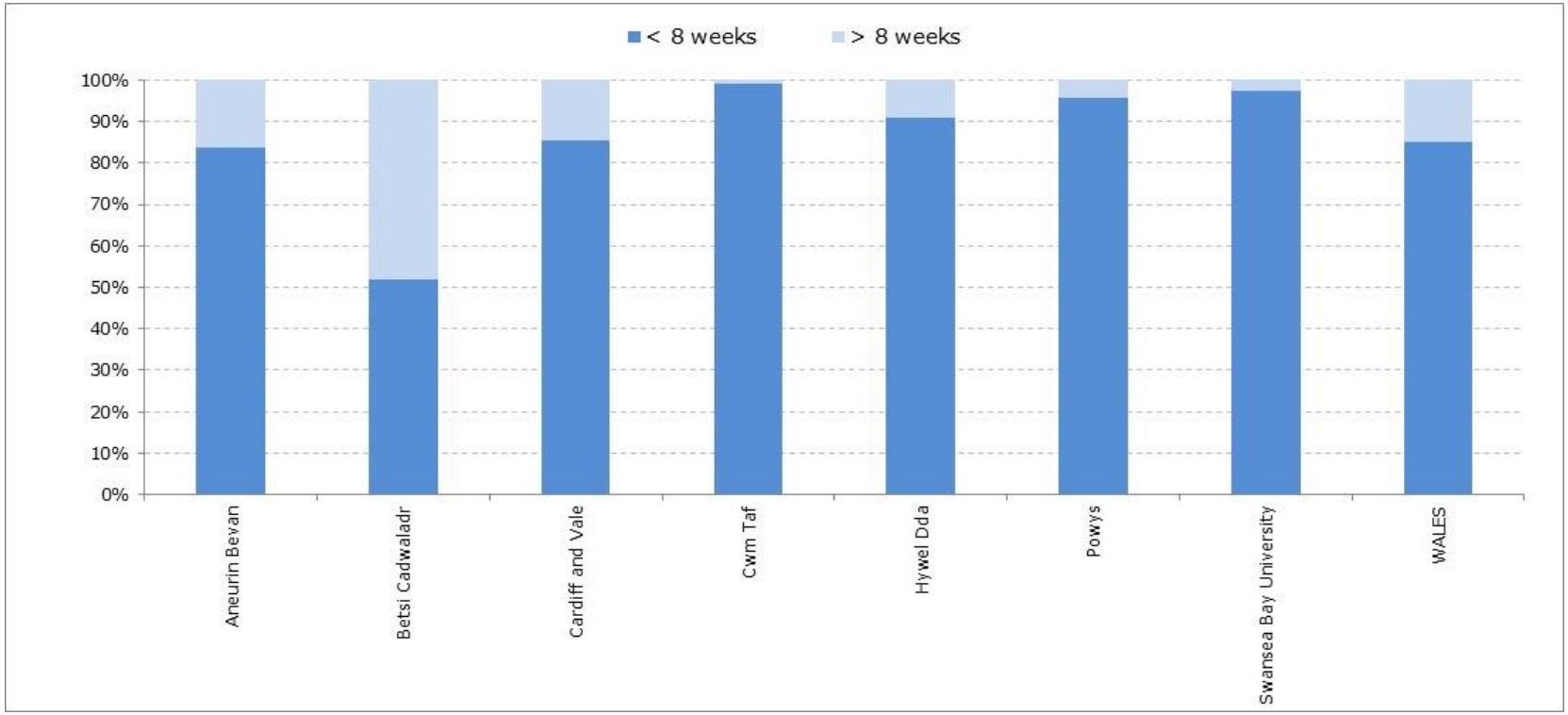
High grade referrals include borderline changes in endocervical cells, high grade dyskaryosis (moderate and severe), high grade dyskaryosis (query invasive squamous carcinoma), query glandular neoplasia of endocervical type and query glandular neoplasia of non-cervical origin.

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.

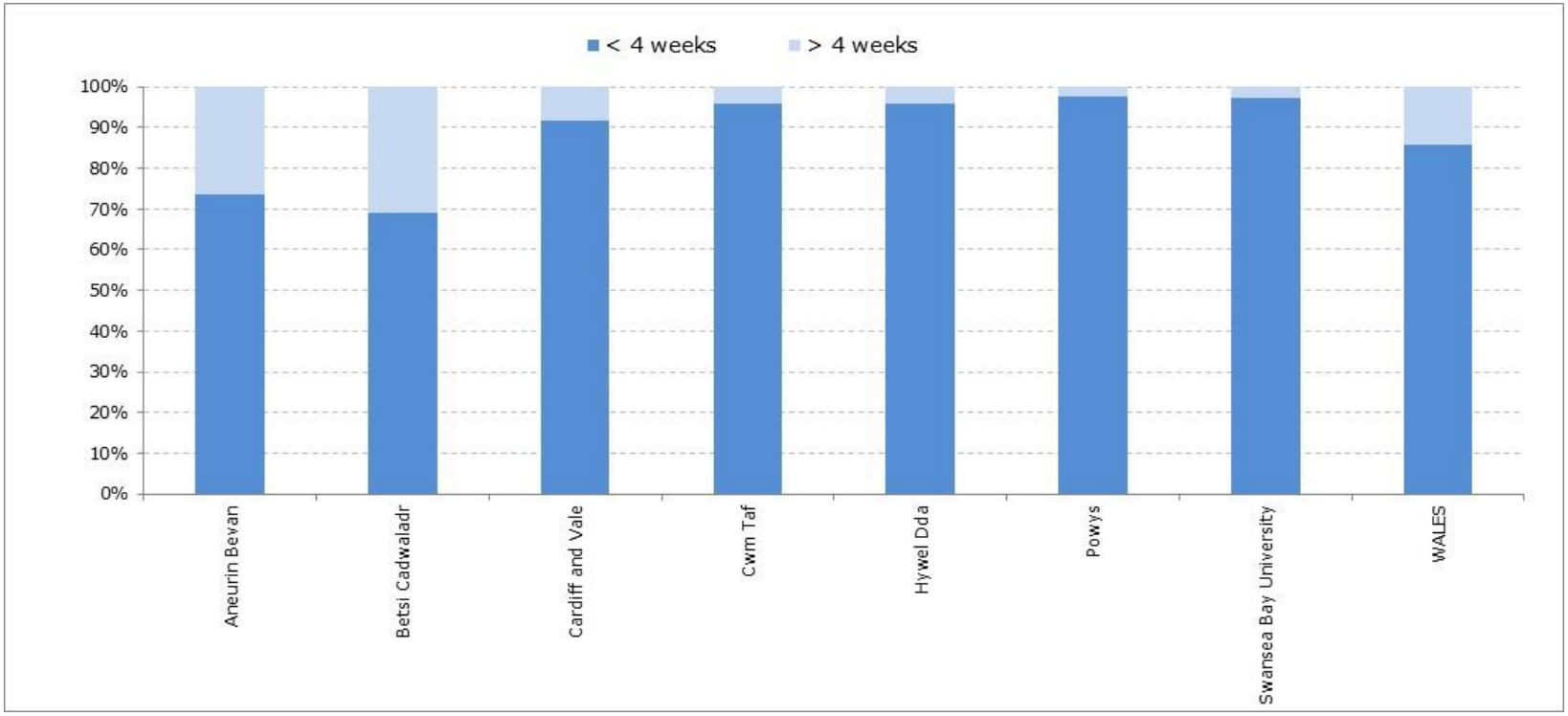
Table 6c: Waiting times by health board and type of referral

	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	2,193	429	2,622	83.6%	279	101	380	73.4%
Betsi Cadwaladr UHB	905	839	1,744	51.9%	177	80	257	68.9%
Cardiff and Vale UHB	1,821	308	2,129	85.5%	211	19	230	91.7%
Cwm Taf UHB	1,873	18	1,891	99.0%	160	7	167	95.8%
Hywel Dda UHB	1,244	125	1,369	90.9%	190	8	198	96.0%
Powys Teaching HB	277	13	290	95.5%	39	1	40	97.5%
Swansea Bay UHB	1,935	51	1,986	97.4%	284	8	292	97.3%
All Wales	**10,248**	**1,783**	**12,031**	**85.2%**	**1,340**	**224**	**1,564**	**85.7%**
%	**85.2%**	**14.8%**	**100.0%**	**-**	**85.7%**	**14.3%**	**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. 85.7% of patients referred with a result of high grade dyskaryosis or worse were offered an appointment within four weeks (90% standard). 85.2% 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	1,967	163	279	555	6	2,970
Betsi Cadwaladr UHB	1,839	47	463	266	49	2,664
Cardiff and Vale UHB	2,124	80	250	217	3	2,674
Cwm Taf UHB	1,714	60	402	534	14	2,724
Hywel Dda UHB	1,156	55	302	821	12	2,346
Powys Teaching HB	245	29	50	97	3	424
Swansea Bay UHB	1,736	18	481	698	1	2,934
All Wales	**10,781**	**452**	**2,227**	**3,188**	**88**	**16,736**
%	**64.4%**	**2.7%**	**13.3%**	**19.0%**	**0.5%**	**100.0%**

There were 16,736 recorded attended visits during 2021-22. The majority of these were for 'colposcopic assessment'. 452 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	51	56	1,895	1,298	1,154	115	36	1,954	6,559
Other Referral	24	4	116	262	671	51	33	1,921	3,082
All Wales	**75**	**60**	**2,011**	**1,560**	**1,825**	**166**	**69**	**3,875**	**9,641**

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	9	11	338	176	349	23	2	868	1,776
Betsi Cadwaladr UHB	14	11	436	409	284	30	18	281	1,483
Cardiff and Vale UHB	12	13	247	163	286	23	5	981	1,730
Cwm Taf UHB	17	8	240	229	403	20	35	637	1,589
Hywel Dda UHB	7	11	249	235	221	33	4	390	1,150
Powys Teaching HB	1	1	50	44	62	5	0	91	254
Swansea Bay UHB	15	5	451	304	220	32	5	627	1,659
All Wales	**75**	**60**	**2,011**	**1,560**	**1,825**	**166**	**69**	**3,875**	**9,641**
%	**0.8%**	**0.6%**	**20.9%**	**16.2%**	**18.9%**	**1.7%**	**0.7%**	**40.2%**	**100.0%**

4 Audit of cervical cancer in Wales 2020-21

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)

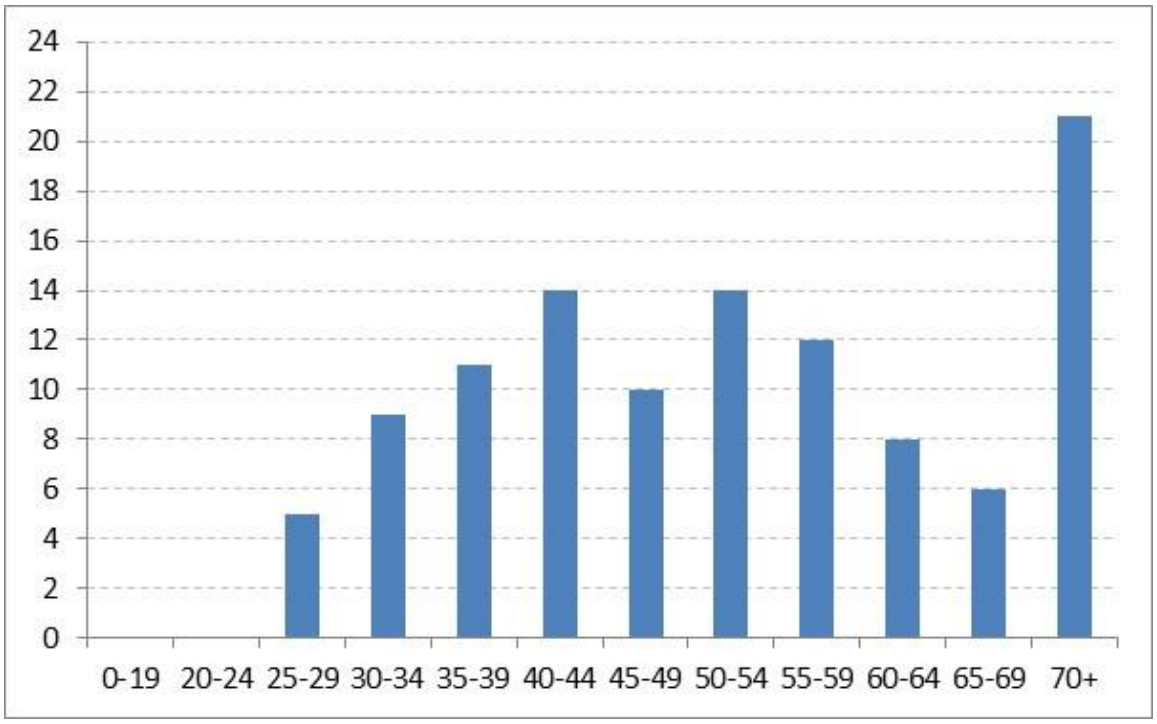
The CSW Clinical Lead ensures that reviews are requested and completed for eligible screening samples, screening pathway (invitations and results sent) and any colposcopy episodes over the 10 year period prior to diagnosis. The review is primarily for education and improvement of the screening programme,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

As of December 2022, there were 110 cervical cancers on the CSWACC database for the period 1 April 2020 – 31 March 2021. 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’.

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

The age range at diagnosis was 25 years to 94 years. The median was in the 50-54 age group, with a peak in the same age group (Graph 7a).

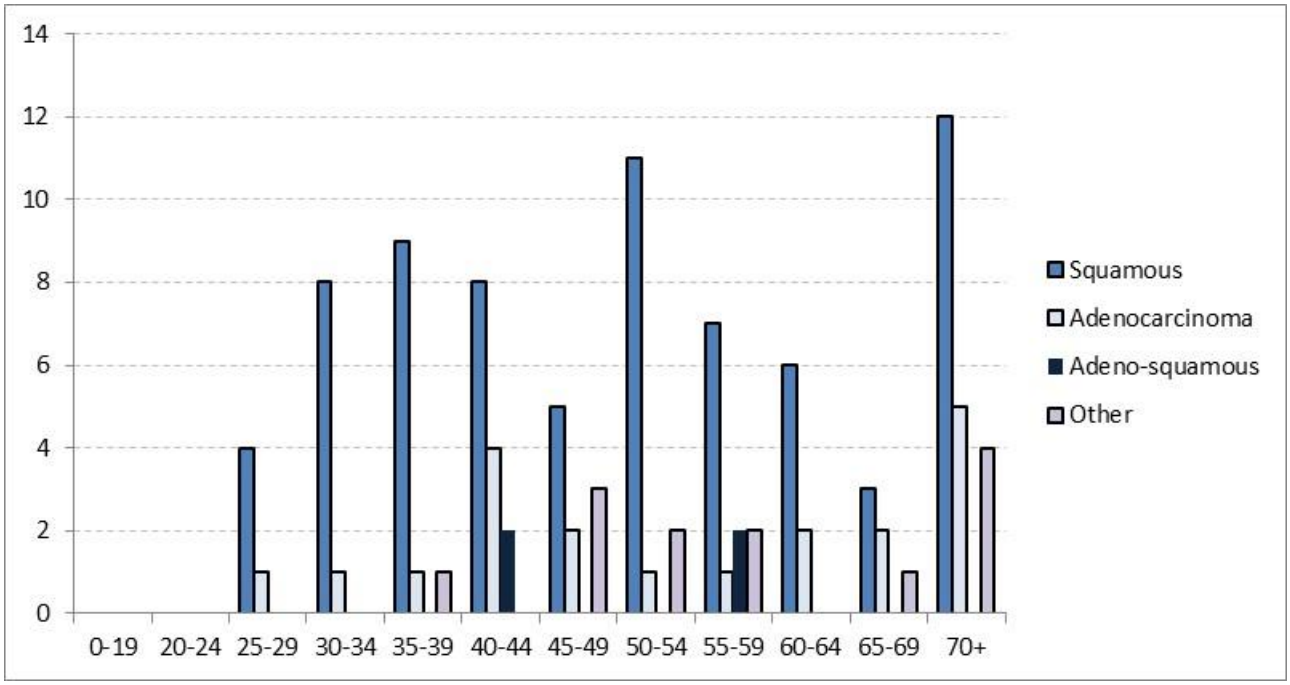
Graph 7a: Number of Cervical Cancers by Age Band



4.2 Cancer type

Of the 110 cancers diagnosed, 73 (66.4%) were squamous cell carcinomas, 20 (18.2%) were adenocarcinomas, 4 (3.6%) were adeno-squamous carcinomas and 6 (5.5%) 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

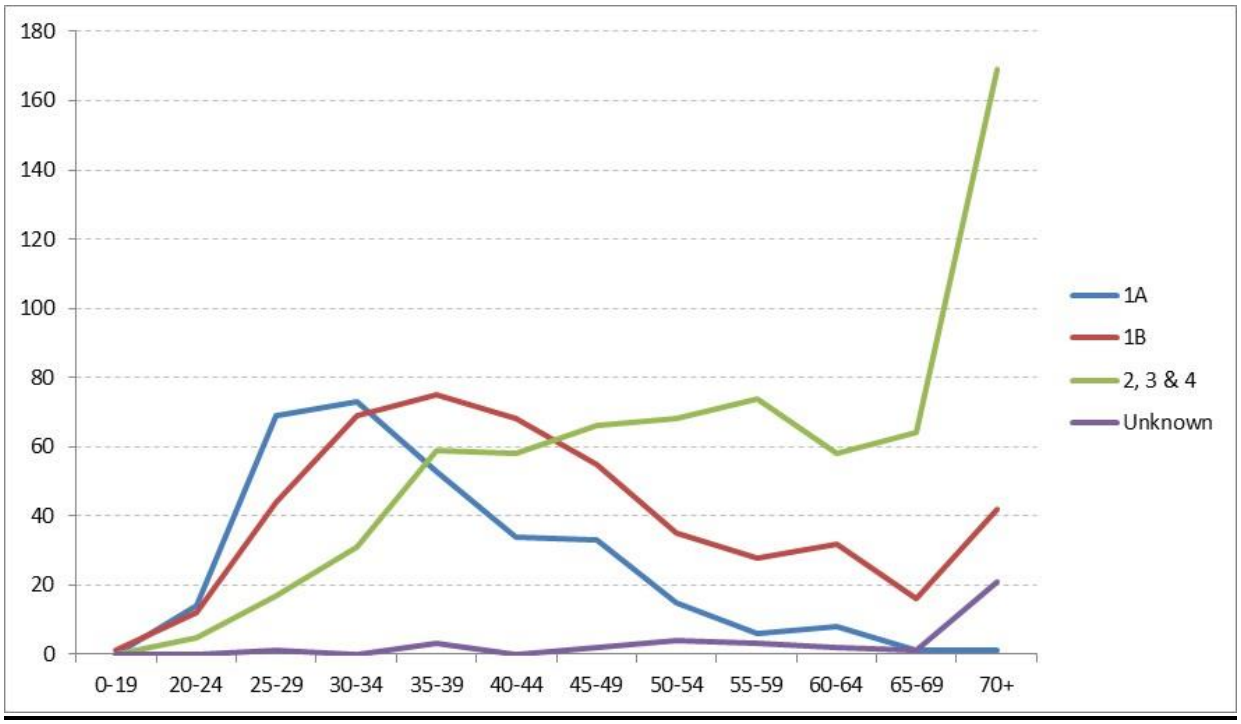


4.3 Cancer stage

Of the 110 cases, 19 (17.3%) were stage 1A, 25 (22.7%) were stage 1B, 22 (20.0%) were stage 2, 18 (16.4%) were stage 3 and 10 (9.1%) were stage 4. In sixteen 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 2012-2021 are shown by age and stage (graph 7c). This shows the peak for stage 1A is in the 30-34 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 2012 and 2021 by stage and age at diagnosis



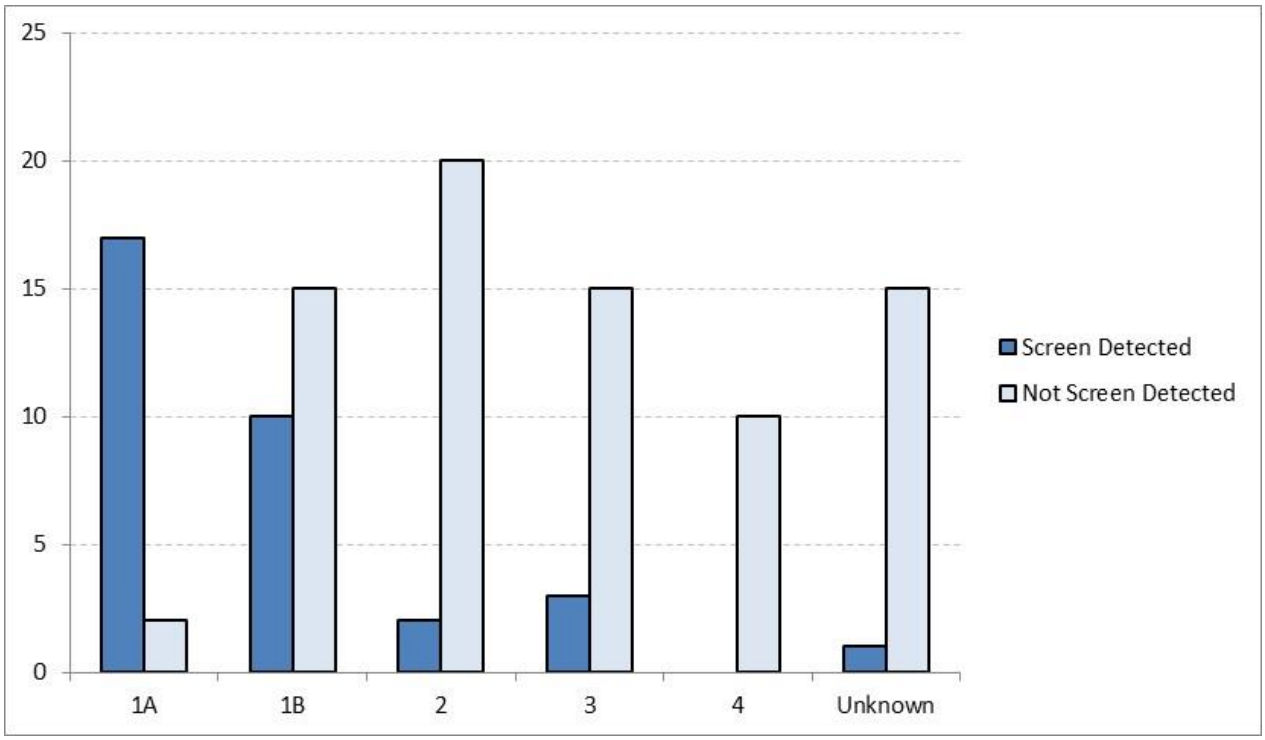
4.4 Screen-detected status

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.

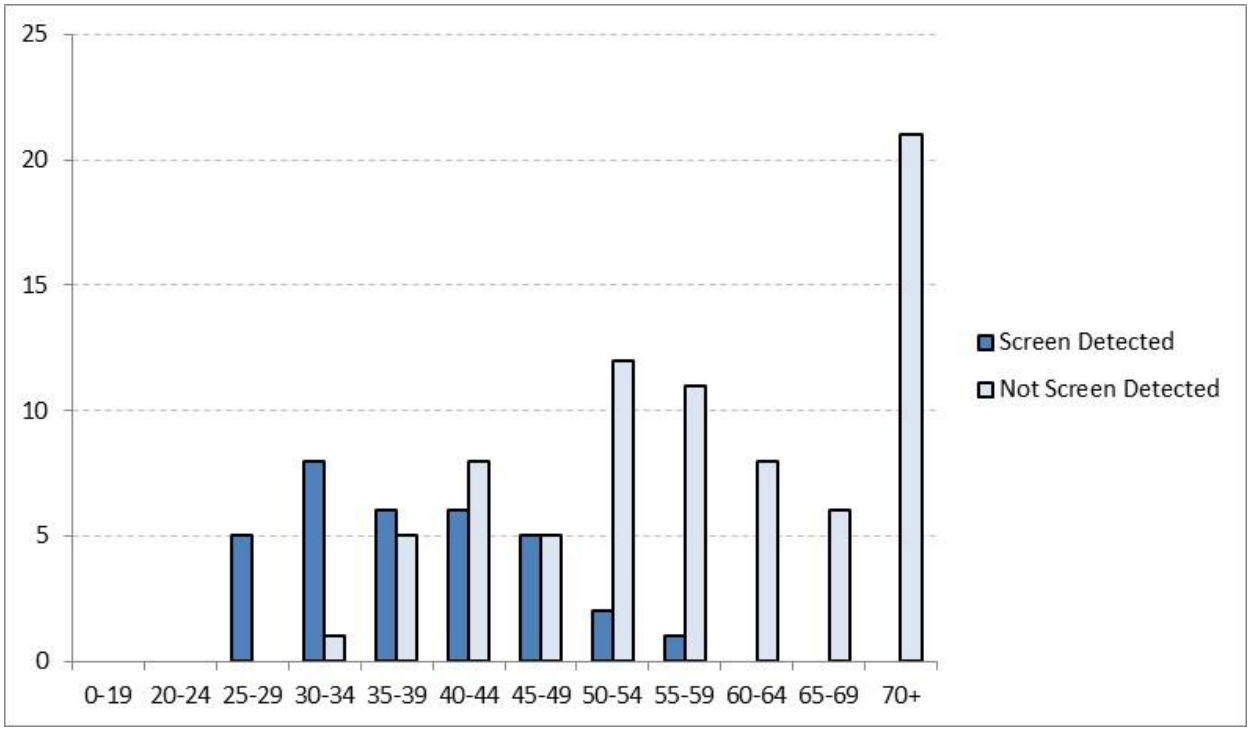
Of the 110 cancers, 33 (30.0%) were screen detected and 73 (66.4%) were not. There were 4 cancers that were not classified into screen-detected status. It is clear that the majority of screen detected cancers were early stage (1A and 1B), whereas non-screen detected cancers were mainly detected at a 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)

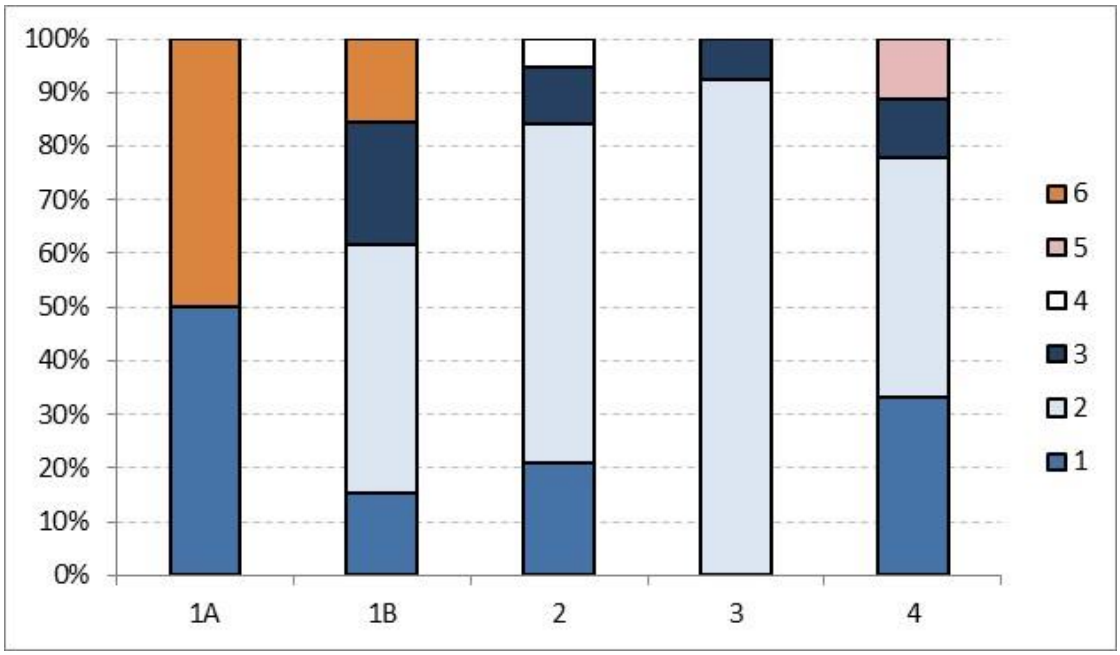
3 - Screening reported only as negative within preceding 6 months - 5.5 years (may include an occasional inadequate screening if quickly repeated as negative)

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 heath 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
Lisa Henry	Head of programme for Cervical Screening Wales
Dr Katie Walbeoff	Clinical Lead for Cervical Screening Wales
Dr Graham Brown	Public Health Consultant in Medicine
Dr Sharon Hillier	Director of Screening Division

This report was not published as official statistics.