Cervical Cytology Registry (CCR) of Western Australia

2002 Statistical Report

WA Cervical Cancer Prevention Program

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Acknowledgements

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Special thanks must also be reserved for the women of WA.

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Summary

This report is the seventh Annual Statistical Report of the Cervical Cytology Registry (CCR) of WA. The main features of the following statistical report are summarised below. Slight variation from previous Statistical Reports in the proportion of women screened is due to population adjustments, system enhancements and standardisation of reporting parameters i.e. exclusion of women who appear to have had a hysterectomy.

Incidence and mortality

- The number of new cases of cervical cancer in WA has continued to decline. There were 80 new cases in WA in 2002 compared with 88 detected in 1996.
- Cervical cancer mortality rates have fluctuated from 1996 to 2002 with a high point of 30 deaths in 1996 to a low point of 20 deaths in 1998. In 2002, cervical cancer accounted for 29 deaths in WA.
- Since 1996 incidence and mortality rates have generally declined in both metropolitan and country target populations* of WA. The country target population* however, generally experienced higher incidence and mortality rates of cervical cancer than their metropolitan counterparts.
- Cervical cancer incidence rates were 2.2 times higher and mortality rates 3 times higher for Indigenous women compared with non-Indigenous women for the years 1996-2002.

Participation

- In 2002, 195,548 women in the target population* of WA participated in cervical screening. This represented an increase of 1,599 from 2001 (193,949).
- The proportion of women who had been screened in a two-year period declined from 61.6% in 2000-01 to 60.8% in the two-year period 2001-02.
- In the 2001-02 period, women living in metropolitan areas of WA had a cervical screening participation rate 3.3% above that of their country counterparts. Women aged 20-24 years were the exception to this trend where women living in country areas of WA had a cervical screening participation rate 1.8% above women living in metropolitan areas of WA.
- There is a general declining trend in cervical screening participation rates in younger women (under 30 years) and a general inclining trend in older women (55 years and over) in WA.

Early re-screening

- The *National Policy on Screening to Prevent Cancer of the Cervix (1991)* states that the recommended cervical screening interval is 2 years following a normal Pap smear result. Of a cohort of women screened in February 2001 who had a normal Pap smear result, 22% had a subsequent smear within 21 months. The previous year's figure was 26%.

* The target population for the WA Cervical Cancer Prevention Program is those women aged 20 to 69 years of age

Follow-up

- In 2002, 49,819 reminder letters were sent to women following a normal smear which represented a 5.2% decrease from 2001. Of these women, 17.2% had a follow-up smear within three months of the reminder letter being sent.
- In 2002, 4,299 follow-up letters pertaining to unsatisfactory and abnormal Pap smears were sent to providers and 2,299 letters were sent to women.

Abnormalities

- In 2002, 89.5% of smears were reported as normal, 7.7% indicated the presence of a low-grade abnormality and 1.2% reported as either possible or definite high-grade abnormalities. These figures are consistent with previous years.
- Both low and high-grade abnormality rates declined with age and were more prominent for women aged between 20-29 years than any other age group in 2002, which is consistent with previous year's figures.

1. Background

The Western Australian Cervical Cancer Prevention Program (WACCPP) was established in 1992 as part of the Organised Approach to Prevention of Cancer of the Cervix, now the National Cervical Screening Program.

The Cervical Cytology Registry (CCR) is an integral component of the Program. It compiles and maintains the Register - a central database of Pap smear and cervical biopsy test results from women resident in WA at the time of their Pap smear. The CCR has been operational since late 1994.

Participation in the Register is voluntary and the confidentiality of data held is governed by legislation. Service providers are encouraged to inform women about the CCR and if the woman does not object, the pathology laboratory routinely forwards her Pap smear results (together with basic identifying information) to the CCR. The quality of information received by the CCR is dependent on all laboratories providing accurate data by electronic transmission.

As of 31 December 2002, there were approximately 2.1 million records (including all smears and biopsies) in the Register. Provision is made for women to remove their name from the Register at any time by contacting the CCR. Sixteen women were withdrawn from the Register at their request in 2002.

The CCR has produced statistical reports since 1996. The data presented in this report refers to the 2002 calendar year unless otherwise specified.

2. Functions of the CCR

- To act as a 'safety net', providing a reminder to women and medical practitioners when Pap smears and other cervical investigations are overdue.
- To provide a linked record of women's previous smears in order to assist pathologists and cytologists in the reporting of current smear results, and to assist clinicians in the management of abnormalities detected in the screening process.
- To provide feedback to pathology laboratories about cytology and histopathology results to assist with quality control.
- To provide epidemiological data to enable monitoring of participation rates in cervical screening and trends in abnormalities.
- To provide data for use in approved research into cervical cancer, its alleviation and prevention.
- To contribute to the policy requirements of the National Pathology Accreditation Advisory Council (NPAAC) and the National Cervical Screening Program (NCSP).
- To assist with planning and evaluation of recruitment strategies for the WACCPP.

3. Cervical cancer in WA

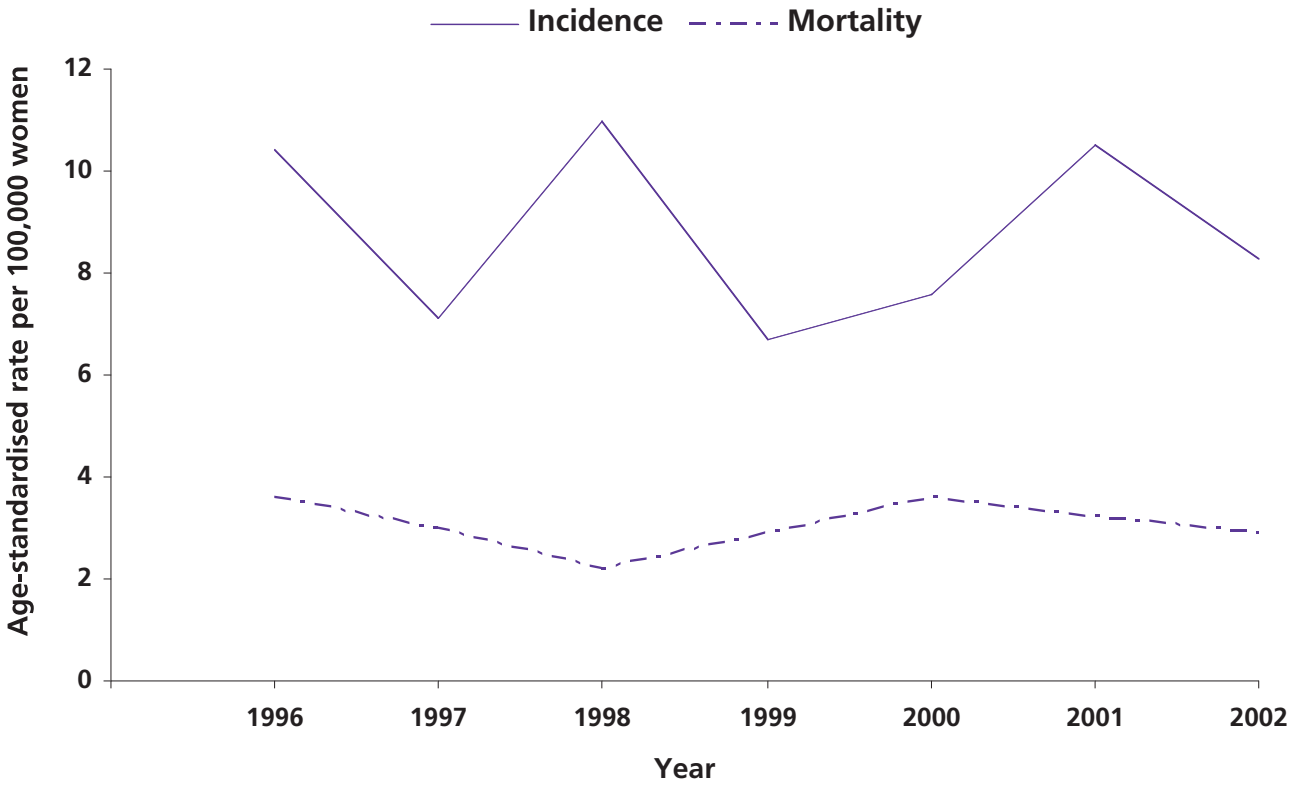
The aim of the WACCPP is to improve the health and well-being of Western Australian women by reducing incidence and mortality from cervical cancer through the implementation of population based cervical screening strategies.

Note: The numbers of cases of cervical cancer and the number of deaths from cervical cancer in WA are relatively small, especially in rural areas, and so even small changes in the numbers can lead to marked fluctuations in the rates.

As seen in Figure 3.1 there has been a general decline in the incidence rate of cervical cancer over the past seven years (1996-2002). The peak seen in 1998 coincided with a national media campaign which effectively increased the number of women participating in cervical screening. The declining incidence rate apparent in 1999 corresponded with a decline in women screened in the same period. By contrast, the ascending rate of incidence in 2001 accompanied the lowest number of participants screened since 1996 (see Table 4.1). Caution should be exercised when interpreting these results as there are many factors contributing to the observed incidence rates of cervical cancer.

The cervical cancer mortality rate has fluctuated, but the general trend has been downwards, with a high point of 3.6 per 100,000 women (30 deaths) in 1996 to a low point of 2.2 per 100,000 women (20 deaths) in 1998. In 2002, this rate was 2.9 per 100,000 women (29 deaths).

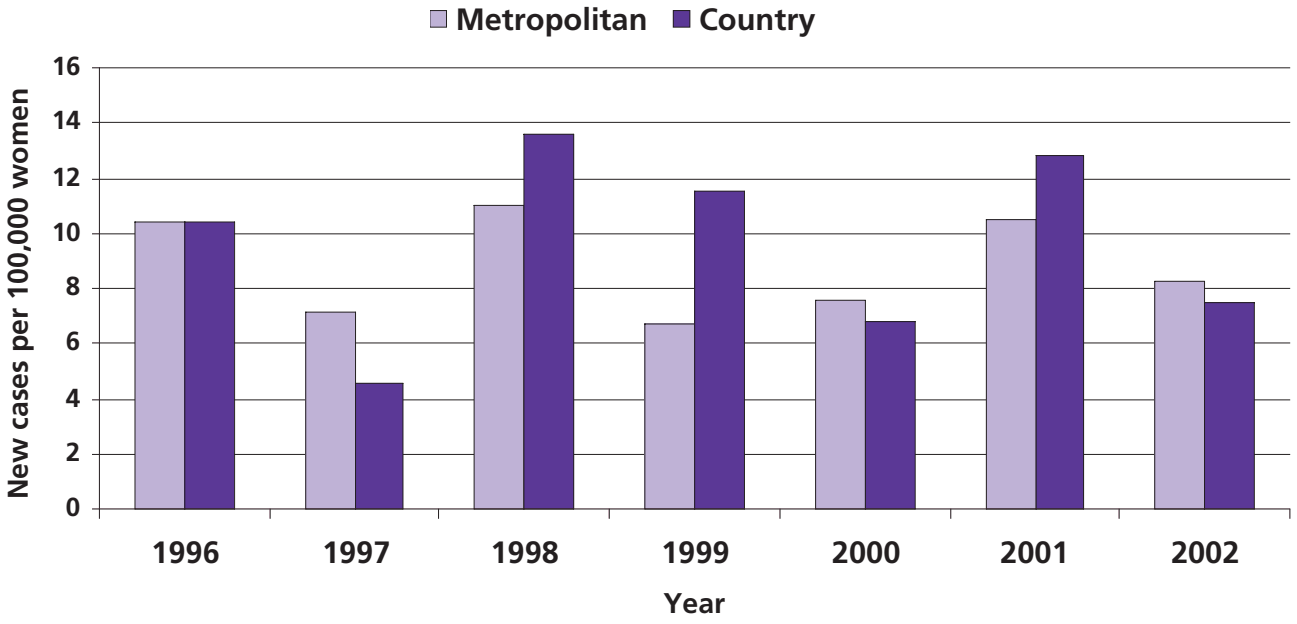
Figure 3.1 Age-standardised cervical cancer incidence and mortality rates WA 1996-2002



Note: Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population.
Source: WA Cancer Registry, Department of Health WA (unpublished data current as at February 2005).

Figure 3.2 indicates women from country areas generally experienced higher incidence rates of cervical cancer than their metropolitan counterparts.

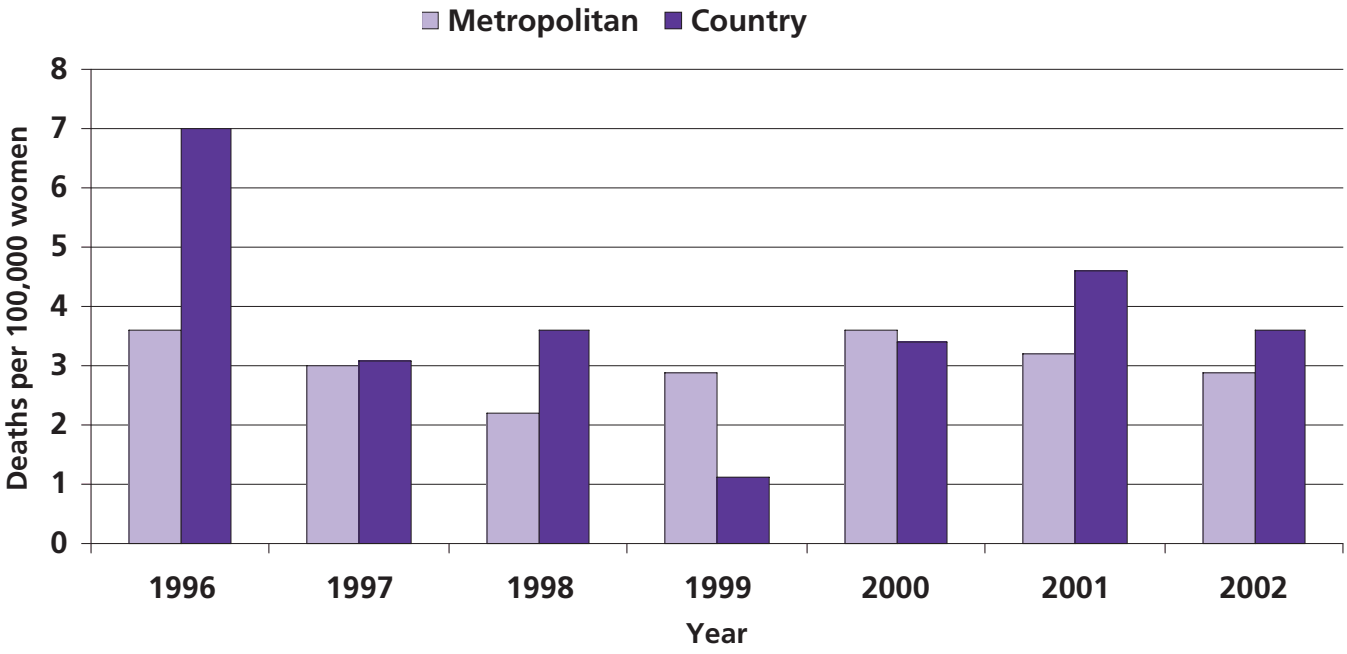
Figure 3.2 Age-standardised incidence rates of cervical cancer in women aged 20-69 years (metropolitan and country areas of WA) 1996-2002



Note: Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population.
Source: WA Cancer Registry, Department of Health WA (unpublished data current as at February 2005).

Mortality rates from cervical cancer for both metropolitan and country target populations have generally declined over the past seven years.

Figure 3.3 Age-standardised mortality rates from cervical cancer in women aged 20-69 years (metropolitan and country areas of WA) 1996-2002

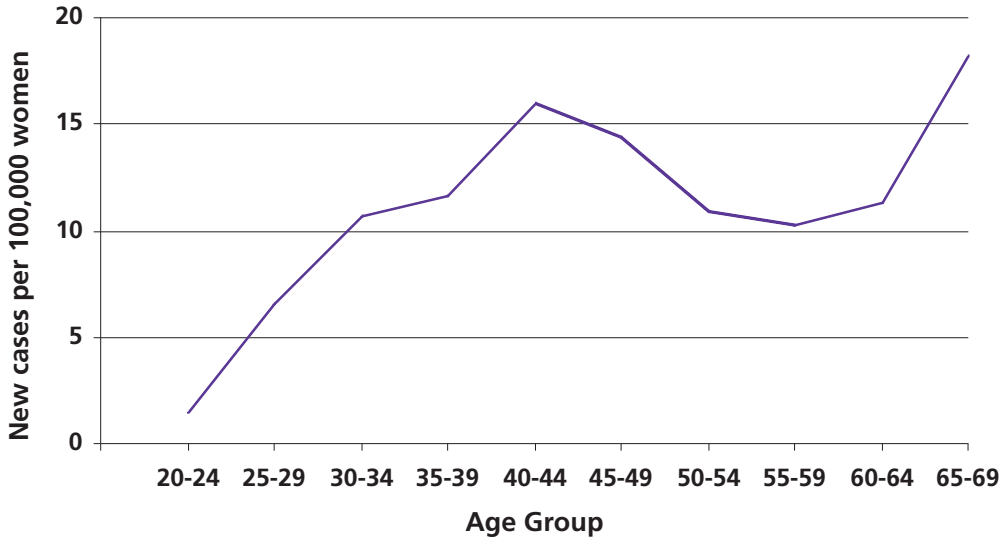


Note: Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population.
Source: WA Cancer Registry, Department of Health WA (unpublished data current as at February 2005).

Figures for 1996-2002 were pooled for examination of incidence (Figure 3.4) and mortality (Figure 3.5) rates by age.

From Figure 3.4 it is evident that the incidence rate of cervical cancer was higher among women aged 40-49 years and also women in the 65-69 years age group during 1996-2002.

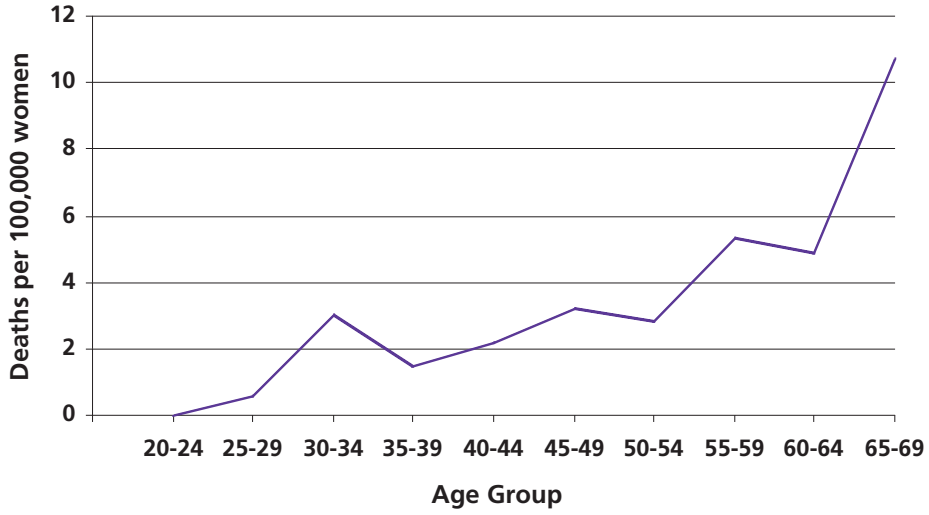
Figure 3.4 Age-specific incidence rates of cervical cancer in women aged 20-69 years WA 1996-2002



Note: Rates are expressed per 100,000 women.
Source: WA Cancer Registry, Department of Health WA (unpublished data current as at March 2005).

Figure 3.5 shows that the highest mortality rate was in women aged 65-69 years (10.7 per 100,000 women). This age group accounted for 23 deaths out of the total 193 deaths for WA during the period 1996-2002.

Figure 3.5 Age-specific mortality rates from cervical cancer in women aged 20-69 years WA 1996-2002



Note: Rates are expressed per 100,000 women.
Source: WA Cancer Registry, Department of Health WA (unpublished data current as at March 2005).

In WA, cervical cancer incidence rates were 2.2 times higher and mortality rates 3 times higher for Indigenous women compared with non-Indigenous women, for the years 1996-2002[1].

[1] WA Cancer Registry, Department of Health WA (unpublished data current as at February 2005).

4. Participation

The National Policy on Screening to Prevent Cancer of the Cervix (1991) provides consensus guidelines on women who require screening and how often Pap smears should be taken. It states:

*Routine screening with Pap smears should be carried out every **two** years for women who have no symptoms or history suggestive of cervical pathology.*

All women who have ever been sexually active should commence having Pap smears between the ages of 18 to 20 years, or one or two years after first sexual intercourse, whichever is later. In some cases, it may be appropriate to start screening before 18 years of age.

Pap smears may cease at the age of 70 years for women who have had two normal Pap smears within the last five years. Women over 70 years who have never had a Pap smear, or who request a Pap smear, should be screened.

This policy only applies to women without symptoms that could be due to cervical pathology. Women with a past history of high-grade cervical lesions, or who are being followed-up for a previous abnormal smear, should be managed in accordance with the National Health and Medical Research Council (NHMRC) guidelines[2], which were updated and endorsed in June 2005, following extensive review of the previous guidelines (1994).

4.1 Number of tests and women screened per year

A total of 207,243 cytology tests were performed in 2002 with 195,548 women screened during the year (Table 4.1).

Table 4.1 Number of tests performed and the number of individual women screened 1996-2002

Year	Number of tests performed	Number of women screened
1996	208,132	192,756
1997	209,319	194,989
1998	222,987	209,796
1999	208,274	196,378
2000	208,524	197,499
2001	204,531	193,949
2002	207,243	195,548

Note: Includes all women with an address in WA at the time of the Pap smear. Excludes women's records after the date of hysterectomy or from the initial vault smear i.e. post-hysterectomy.

From 1996 to 1998, the number of Pap smears performed and the number of women screened increased steadily. From 1998 these numbers declined to a low point in 2001, with a slight improvement experienced in 2002. The peak shown in 1998 may be attributed to the national media campaign conducted over that period. The ensuing variable annual numbers however, highlight difficulties around sustaining and increasing screening participation.

[2] Guidelines for the Management of Asymptomatic Women with Screen-Detected Abnormalities, National Health and Medical Research Council (NHMRC) 2005.

Several factors influence the number of tests performed and recorded on the CCR. Women who choose not to have their results available to the CCR (opt off) are omitted from these figures, however these constitute less than 1% of the tests performed. This data is dependent on medical and laboratory data management and transmission to the CCR.

It must be acknowledged that there are likely to be minor inaccuracies in the number of women screened according to the CCR due to incomplete record linkage, as there is no unique identifier for each woman available to the CCR at this time.

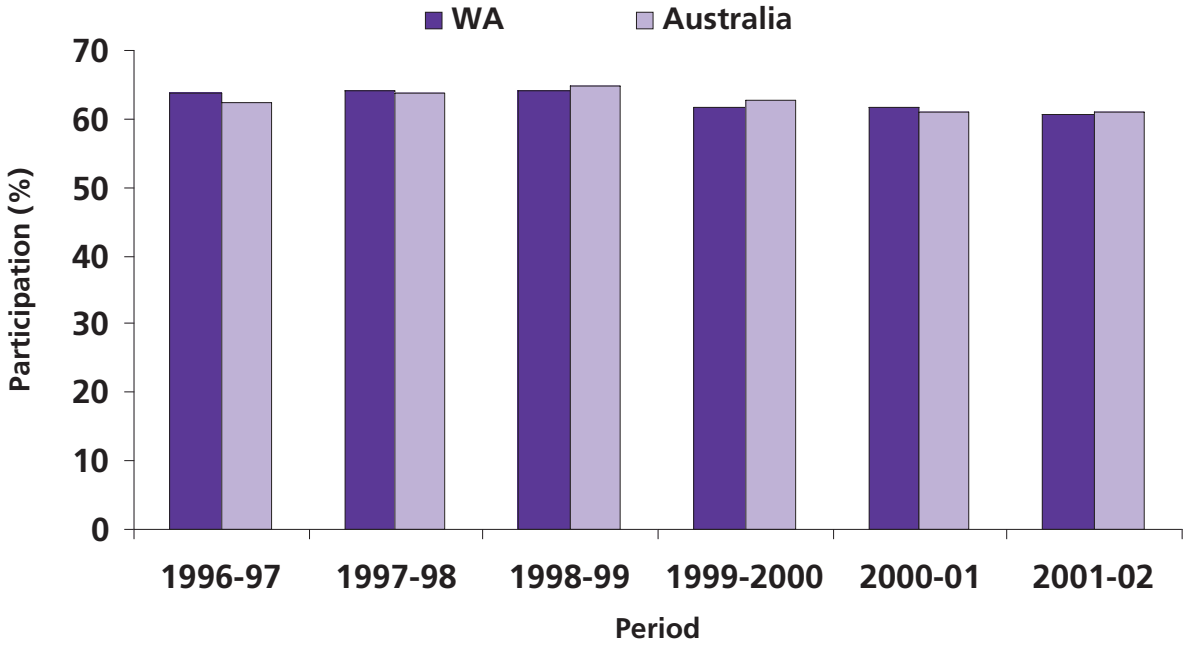
4.2 Proportion of target population screened

The proportion of the target population screened is measured by the number of women having a Pap smear in a two-year period.

The denominators for the following percentages are based on the Australian Bureau of Statistics (ABS) *Estimated Resident Population (ERP) - Female - by Statistical Local Areas (SLA) in WA by five-year age groups*, adjusted for hysterectomy using ABS *1995 National Health Survey* for 1996 ERP and ABS *2001 National Health Survey* for 1997-2002 ERP (1997-2000 ERP have been revised based on the 2001 census). The proportion of women screened in the two-year periods (1996-97, 1997-98, 1998-99, 1999-2000, 2000-01 and 2001-02) was calculated using an average of yearly ERP data.

WA screening participation rates are comparable with national rates. In the 2001-02 period the participation rate in WA was marginally lower (60.8%) than the national cervical screening rate of 61.0%. Attention to identified barriers and strengthening of regional collaborative working relationships is required to ensure continual improvement of the uptake of cervical screening in WA.

Figure 4.1 Estimated percentage of women with an intact uterus who had at least one Pap smear for the two-year periods 1996-97, 1997-98, 1998-99, 1999-2000, 2000-01 and 2001-02: comparison of WA with Australia as a whole



Note: Includes all women aged between 20 and 69 years with an address in WA at the time of the Pap smear.
Source: National figures - Australian Institute of Health and Welfare (AIHW) Cervical Screening in Australia 1996-97, 1997-98, 1998-99, 1999-2000, 2000-01 and 2001-02.

In keeping with the results seen in the number of women screened (Table 4.1)[3], the 1997-98 period witnessed a peak in the rate of participation of WA women in the target age group (20-69 years) corresponding with the 1998 National Media Campaign (Table 4.2). Between the 1997-98 period and 2001-02 period, cervical screening participation rates in WA have experienced a decline of 3.4%.

The overall participation rates for cervical screening have marginally declined from the two-year period 2000-01 to the period 2001-02. There has been a declining trend in younger women (under 30 years) and an inclining trend among older women (55 years and over) across the entire study period (1996-97 to 2001-02). The decline in the rate of participation among women under the age of 30 years seen in the 1999-2000 period has continued through to the 2001-02 period. While participation rates among older women show overall improvement, the participation rate of women aged 60-69 years has remained low (50.8%) compared to other age groups.

Some fluctuations in participation rates over time may be influenced by the implementation of improvements in record linkage procedures in the CCR. These allow more accurate tracking of individual screening participants over time and may lead to an apparent decrease in recorded participation rates.

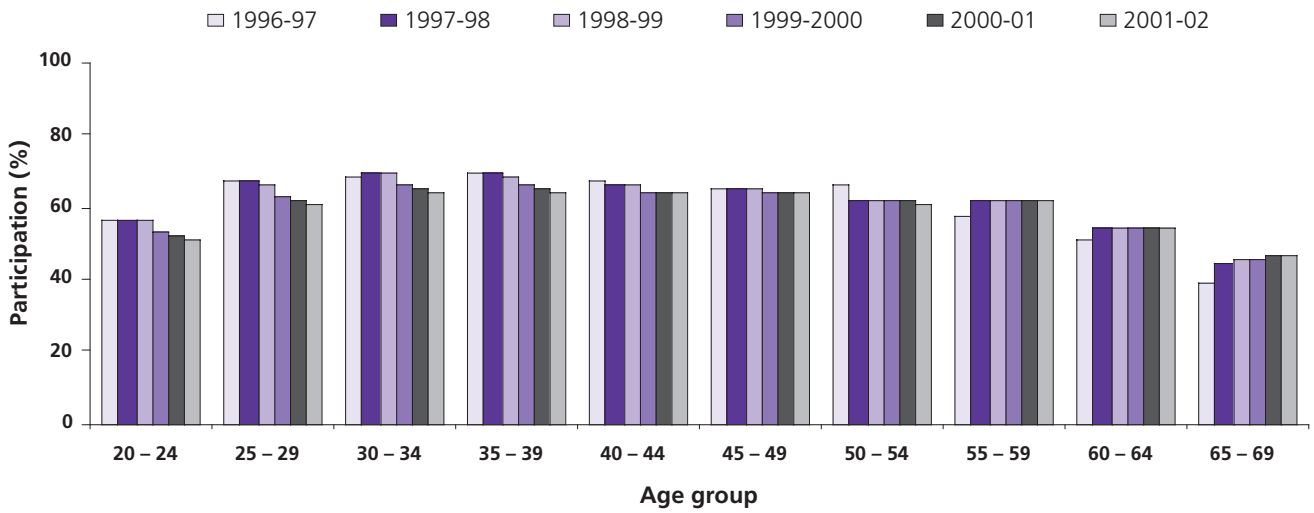
Table 4.2 Estimated percentage of women with an intact uterus who had at least one Pap smear for the two-year periods 1996-97, 1997-98, 1998-99, 1999-2000, 2000-01 and 2001-02

Age group	% women screened						% change from 1996-97 to 2001-02
	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	
20 – 24	56.4	56.9	57.0	53.9	52.9	51.9	-4.5
25 – 29	67.2	67.7	66.8	62.9	62.4	61.4	-5.8
30 – 34	69.2	70.1	69.5	66.1	65.5	64.5	-4.7
35 – 39	69.5	69.6	68.9	66.2	66.0	64.6	-4.9
40 – 44	67.8	66.6	66.5	64.7	64.7	64.1	-3.7
45 – 49	65.6	65.2	65.2	64.1	64.3	64.0	-1.6
50 – 54	66.3	62.2	62.3	62.0	61.7	61.4	-4.9
55 – 59	58.2	62.5	62.6	61.8	62.4	62.7	4.5
60 – 64	51.7	54.3	55.0	54.1	54.6	54.1	2.4
65 – 69	39.9	44.7	46.4	45.8	46.6	46.6	6.7
20 – 69	**63.8**	**64.2**	**64.1**	**61.8**	**61.6**	**60.8**	**-3.0**

Note: Includes all women aged between 20 and 69 years, with an address in WA at the time of the Pap smear.

[3] Slight variation from previous Statistical Reports in the proportion of women screened is due to population adjustments, system enhancements and standardisation of reporting parameters i.e. exclusion of women who appear to have had a hysterectomy.

Figure 4.2 Estimated percentage of women with an intact uterus who had at least one Pap smear for the two-year periods 1996-97, 1997-98, 1998-99, 1999-2000, 2000-01 and 2001-02



The following table shows the estimated percentage of eligible women who had at least one Pap smear during a two-year period compared with a three-year period.

Table 4.3 Estimated percentage of women with an intact uterus who had at least one Pap smear for the two-year period 2001-02 and the three-year period 2000-02

Age group	% women screened	
	2001-02	2000-02
20 – 24	51.9	66.9
25 – 29	61.4	77.7
30 – 34	64.5	79.0
35 – 39	64.6	78.8
40 – 44	64.1	76.7
45 – 49	64.0	75.4
50 – 54	61.4	71.1
55 – 59	62.7	70.1
60 – 64	54.1	61.9
65 – 69	46.6	53.2
20 – 69	**60.8**	**73.5**

Note: Includes all women aged between 20 and 69 years, with an address in WA at the time of the Pap smear.

Policies for screening intervals vary internationally, with most countries having a three-year screening interval. Australian policy advises a two-year screening cycle for women who have had a negative Pap smear[4]. While discussion continues around the length of screening intervals required to maximise early detection, there is a recognised need for development of health systems to identify and actively target two important groups. They consist of women who have never been screened and women who have not been screened for more than four years (underscreened). Implementation of the 2001 Federal Cervical Screening Budget Initiative, which builds on the existing Practice Incentives Program, has attempted to address this issue through incentives for general practitioners who screen women in these groups.

[4] Guidelines for the Management of Asymptomatic Women with Screen Detected Abnormalities, National Health and Medical Research Council (NHMRC) 2005.

It can be seen from Table 4.3 that a high proportion of women aged 25 to 59 years were screened at least once in the three-year period 2000-2002. This is consistent with previous years. Women over 60 years of age appear to have a low level of participation in both the two-year and three-year periods.

4.3 Comparison of metropolitan and country participation

Table 4.4 and Figure 4.3 compare the screening coverage for women living in the Perth metropolitan area with those living in country WA.

The denominators for these percentages are as previously described in Section 4.2. Classification as metropolitan or country was based on information provided by the Health Information Centre, Department of Health WA[5].

Table 4.4 demonstrates that for all six time-periods, the proportion of women aged 20-69 years living in country WA, who had been screened within two years, was lower than for women living in the Perth metropolitan area. In the 1996-97 period, a 2.9% difference in participation rates between metropolitan and country areas was reported. This difference peaked at 3.7% in the 2000-01 period and has since declined slightly to a difference of 3.3% in 2001-02.

The exception to this was women in the 20-24 years age group, who experienced a higher rate of cervical screening participation in country areas for all six time-periods.

[5] Postcode Allocation, Epidemiology, Health Information Centre, Department of Health WA.

Table 4.4 **Estimated percentage of women with an intact uterus who had at least one Pap smear for the two-year periods 1996-97, 1997-98, 1998-99, 1999-2000, 2000-01 and 2001-02: comparison of the Perth metropolitan area with country WA**

Age group		% women screened					
		1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02
20 – 24	Metro	55.7	56.1	56.5	53.8	52.7	51.5
	Country	58.6	59.6	58.8	54.4	53.5	53.3
25 – 29	Metro	67.7	68.2	67.4	63.6	63.2	62.2
	Country	64.5	66.0	64.6	60.3	59.4	58.5
30 – 34	Metro	70.0	71.0	70.7	67.3	66.6	65.7
	Country	65.0	66.8	65.6	61.9	61.8	60.6
35 – 39	Metro	69.1	70.3	69.6	66.9	67.0	65.6
	Country	64.3	66.7	66.2	63.6	62.2	61.0
40 – 44	Metro	66.9	67.7	67.5	65.7	65.5	64.7
	Country	60.8	62.0	62.3	60.9	61.4	61.8
45 – 49	Metro	65.1	66.2	66.7	65.5	65.7	65.1
	Country	60.2	61.0	59.4	58.6	58.4	59.4
50 – 54	Metro	63.7	63.2	63.4	63.3	62.9	62.4
	Country	57.9	57.9	57.6	56.8	56.6	57.1
55 – 59	Metro	59.8	63.2	63.5	62.7	63.2	63.8
	Country	57.0	59.6	58.8	58.2	59.2	58.3
60 – 64	Metro	51.3	54.4	55.3	54.4	55.0	54.7
	Country	51.2	53.5	53.6	52.8	52.9	51.8
65 – 69	Metro	41.0	45.1	46.8	46.3	47.1	46.7
	Country	38.5	43.3	44.9	43.9	44.4	46.1
20 – 69	**Metro**	**63.5**	**64.7**	**64.7**	**62.5**	**62.3**	**61.5**
	Country	**60.6**	**62.2**	**61.5**	**59.0**	**58.6**	**58.2**

Note: Includes all women aged between 20 and 69 years, with an address in WA at the time of the Pap smear.

Figure 4.3 **Estimated percentage of women with an intact uterus who had at least one Pap smear for the two-year period 2001-02: comparison of the Perth metropolitan area with country WA**

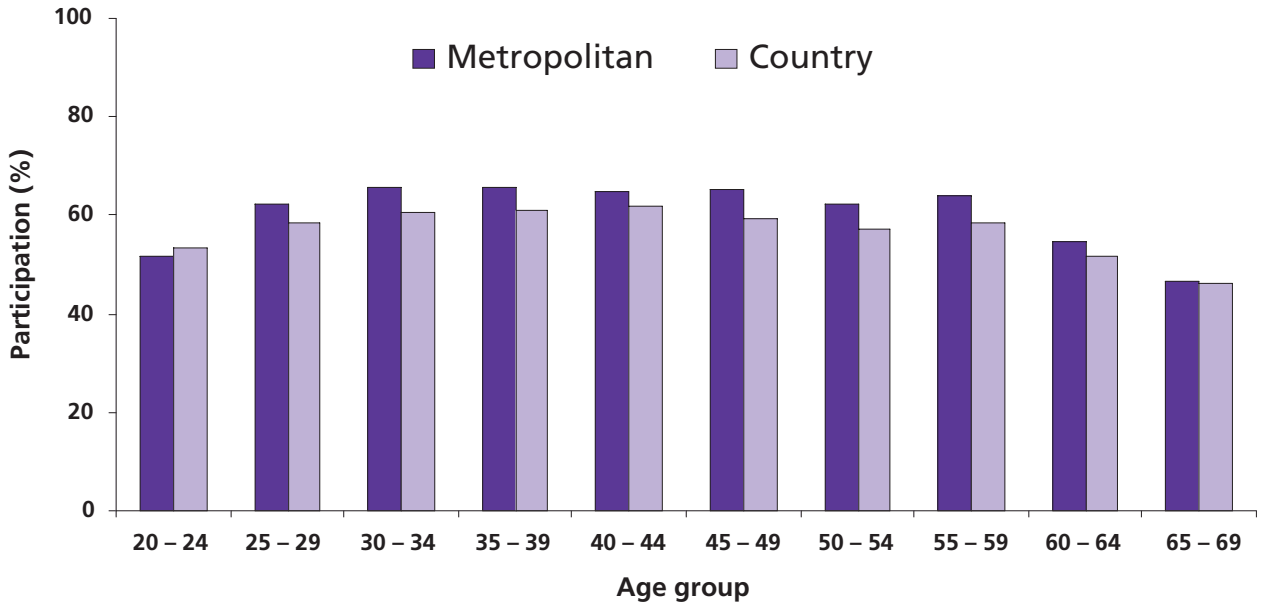
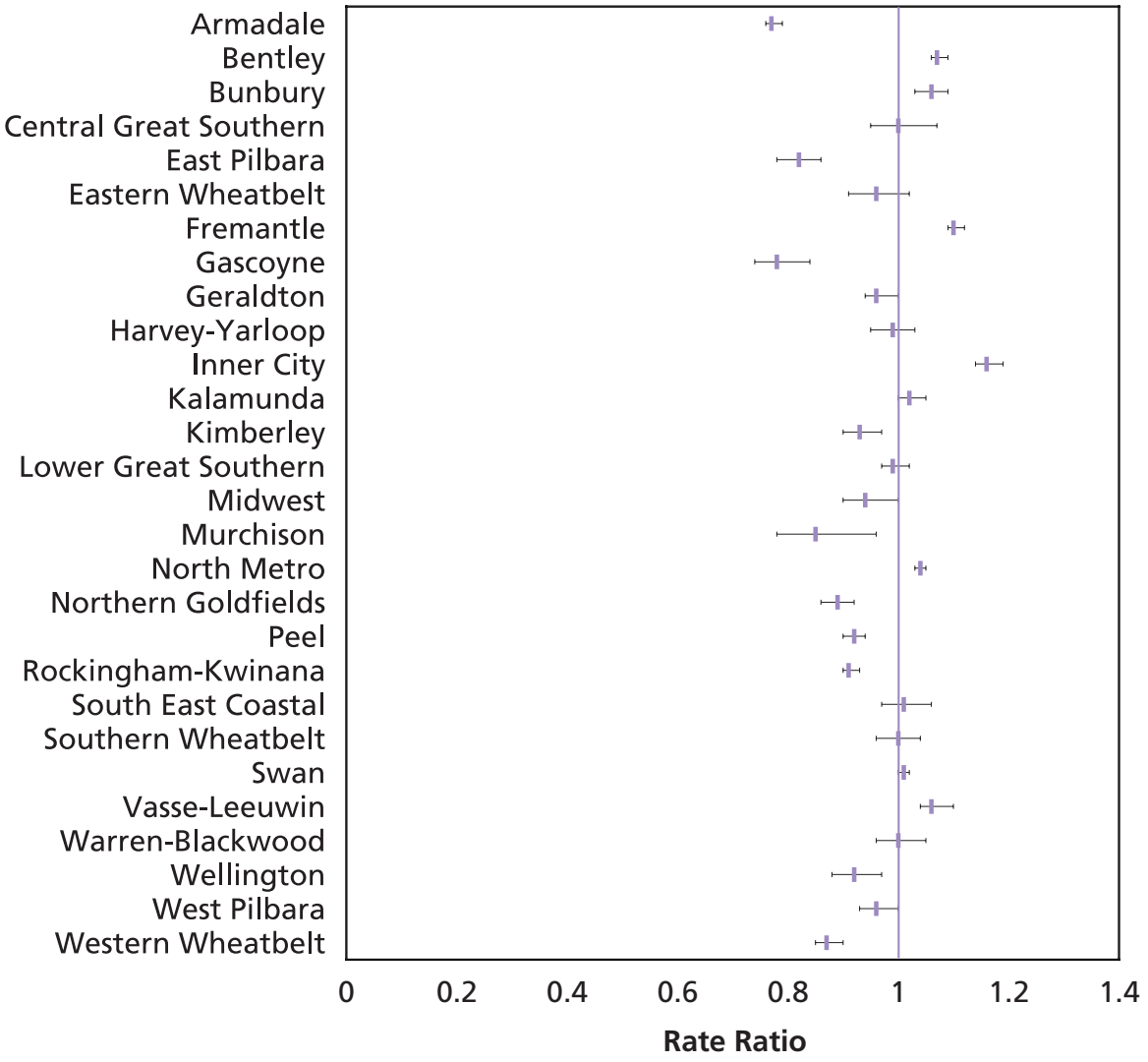


Figure 4.4 Rate ratios of cervical screening participation by Health District compared with WA 2001-02



Note: Bars on graph represent 95% confidence intervals. Those to the right of the line are significantly higher than the State rate while those to the left of the line are significantly lower than the State rate.

From Figures 4.4 and 4.5 it can be seen that Armadale, East Pilbara, Gascoyne, Kimberley, Murchison, Northern Goldfields, Peel, Rockingham-Kwinana, Wellington and Western Wheatbelt Health Districts all experienced cervical screening participation rates lower than the State rate, and that these rates were statistically significant.

It is also evident that Bentley, Bunbury, Fremantle, Inner City, Kalamunda, North Metropolitan, Swan and Vasse-Leeuwin Health Districts experienced statistically significant higher rates than the State rate.

Figure 4.5 Geographical view of cervical screening participation by Health District compared with WA 2001-02

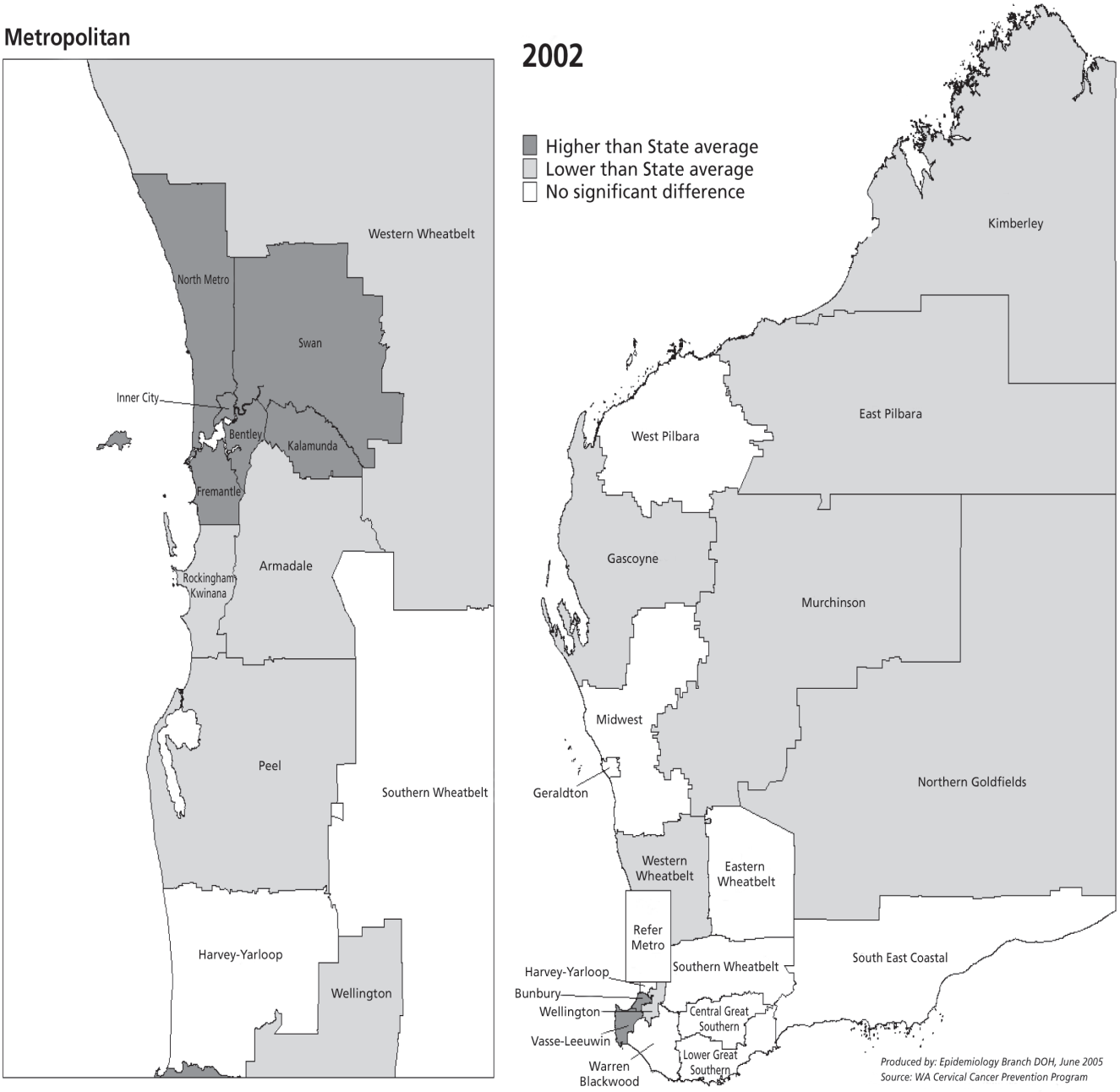


Figure 4.5 also highlights Health Districts with screening rates that were not significantly different to the State rate. In 2002 these were Central Great Southern, Eastern Wheatbelt, Southern Wheatbelt, Lower Great Southern, Midwest, Geraldton, West Pilbara, South East Coastal, Harvey-Yarloop and Warren-Blackwood.

5. Early re-screening

To assess the level of adherence to the National Policy of two-yearly screening, figures were obtained for the proportion of women who were re-screened within a 21-month period, following a normal Pap smear result.

To comply with National standards, February was selected as the index month for all States and Territories, as it is a relatively stable month in terms of the number of women who present for screening. Table 5.1 displays the frequency of women who have had subsequent smears within 21 months (following a normal smear report taken in February 2001).

Table 5.1 Early re-screening: number and percentage of women having a repeat test within 21 months of a normal Pap smear

Number of repeat tests in a 21-month period after a normal Pap smear	Number of women	Percentage of women
0 (ie. no repeat test)	11,069	77.9
1	2,991	21.1
2	131	0.9
3	12	0.1
4	1	0.0
5 or more	0	0.0
Total	**14,204**	**100**

Note: Includes all women with an address in WA at the time of the Pap smear. Excludes women's records after the date of hysterectomy or from the initial vault smear i.e. post-hysterectomy.

A total of 78% of women did not have subsequent smears performed over the selected 21-month period, meaning 22% of women were re-screened early. This is an improvement of 4% from the previous year's figures, which were 74% and 26% respectively. In 2002 only 1% of the early re-screened women exceeded one repeat smear, an improvement of 0.3% from the 2001 figure of 1.3%.

Prior to 2001 these figures were not directly comparable due to a change in definition of 'early re-screening' by the NCSP. This redefinition partly contributed to a decrease in numbers from 1998-99 (46%) to 1999-2000 (33%).

Early re-screening is the repeating of a Pap smear within 21 months of a negative report, except for women who are being followed up in accordance with the NHMRC guidelines for the management of cervical abnormalities.

It is anticipated that women with a history of abnormality may re-screen within 24 months. Recent improvements to the Register have enabled the extraction of data that provides a clearer picture of women who are re-screening outside of NHMRC guidelines. Clinical reasons and/or symptoms for subsequent Pap smears within two years are not recorded in the Register.

6. Cytology reports

Pap smear results are coded according to standard CCR report categories (see Appendix A - Cytology Codes). This code consists of a combination of results observed for a range of cell types. Table 6.1 summarises the profile of cytology reports for all laboratories combined and the range among the various laboratories. In 2002, 89.5% of smears were reported as normal, 7.7% indicated the presence of a low-grade abnormality and 1.2% reported as either possible or definite high-grade abnormalities (Table 6.1). These figures are consistent with previous years.

The wide variation between laboratories in the proportion of normal smears is partly accounted for by the fact that some laboratories primarily serve doctors investigating women with abnormalities.

Table 6.1 Cytology report categories 2002

Cytology report category	Number	All laboratories (%)	Range (%)
Unsatisfactory smear	3,303	1.6	0.7 - 7.2
Normal smear	185,522	89.5	61.1 - 94.3
Low-grade epithelial abnormality	15,962	7.7	3.9 - 32.7
Inconclusive (possible high-grade lesion)	754	0.4	0.2 - 1.5
High-grade epithelial abnormality (CIN II or higher)	1,702	0.8	0.4 - 6.2
Total	**207,243**	**100**	

6.1 Analysis of individual components

Table 6.2 shows the distribution of results for the squamous cell component of the cytology reports. The percentage of Pap smears reported as having an unsatisfactory squamous cell component was 1.6%, which is in accordance with the *Royal College of Pathologists of Australasia (RCPA)* performance standards[6]. The percentage of abnormal squamous cell categories (includes all categories from mild cellular changes up to squamous cell carcinoma) reported was 8.7%. In 2001 this figure was 8.3%. The proportion of smears with mild cellular changes had been declining in previous years. However, a marginal increase was reported from 2000 (5.7%) to 2001 (6.1%); and another marginal increase was experienced in 2002 to 6.3%.

[6] Royal College of Pathologists of Australasia (RCPA) Performance Standards for Gynaecological Cytology.

Table 6.2 Squamous cell categories 2002

Squamous cell category	Number	All laboratories (%)	Range (%)
Unsatisfactory	3,303	1.6	0.7 - 7.2
No abnormal squamous cells	185,913	89.7	61.5 - 94.3
Mild cellular changes	13,029	6.3	3.7 - 28.4
Mild dysplasia (CIN I)	2,711	1.3	0.0 - 4.7
Inconclusive (possible high-grade lesion)	648	0.3	0.1 - 1.2
Moderate dysplasia (CIN II)	870	0.4	0.2 - 1.9
Severe dysplasia/carcinoma-in-situ (CIN III)	722	0.4	0.2 - 3.6
Suspicious of microinvasion or invasion	30	<0.1	0.0 - 0.1
Squamous cell carcinoma	17	<0.1	0.0 - 0.2
Total	**207,243**	**100**	

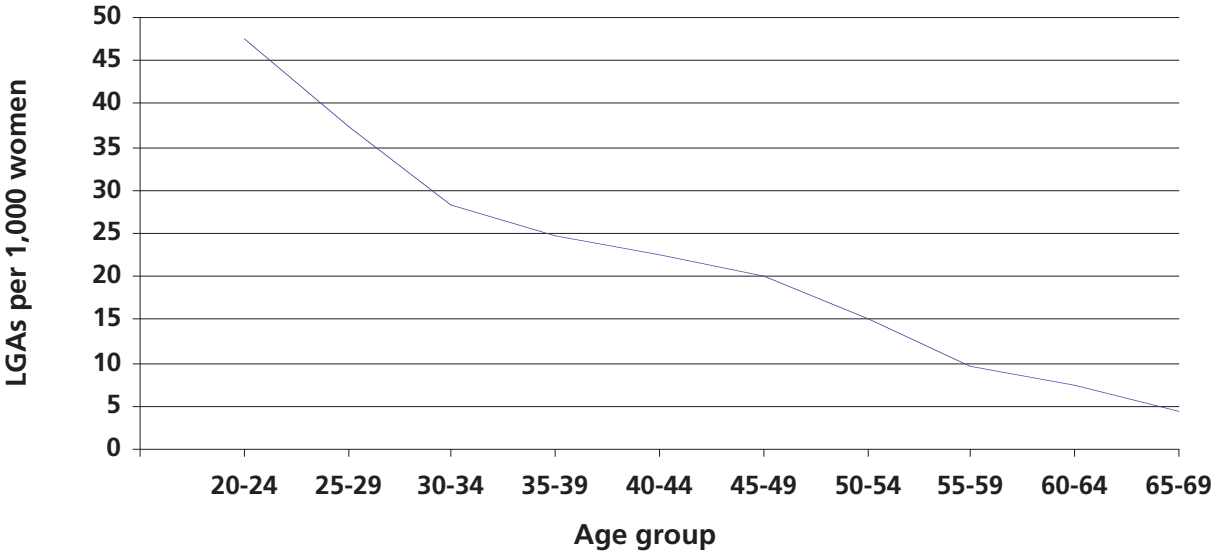
Table 6.3 Endocervical cell categories 2002

Endocervical cell category	Number	All laboratories (%)	Range (%)
Unsatisfactory	2,838	1.4	0.3 - 5.7
No endocervical cells	35,271	17.0	4.2 - 19.6
No abnormal endocervical cells	168,565	81.3	79.2 - 89.9
Atypical endocervical cells	377	0.2	0.0 - 1.4
Possible high-grade (including dysplasia)	142	0.1	0.0 - 0.2
Adenocarcinoma-in-situ	41	<0.1	0.0 - 0.1
Suspicious of adenocarcinoma of the cervix	2	<0.1	0.0 - 0.0
Adenocarcinoma of the cervix	7	<0.1	0.0 - 0.0
Total	**207,243**	**100**	

Table 6.3 shows the distribution of results for the endocervical cell component of cytology reports. Abnormalities of endocervical cells (which include all categories from atypical up to adenocarcinoma of the cervix) were reported in 0.3% of smears and possible or definite high-grade glandular abnormalities in 0.1%.

An endocervical component was absent in 17% of smears - this figure was 15.6% for the 2001 period, which represented 31,846 smears. The absence of endocervical cells on a Pap smear may be due to a number of reasons (including the adequacy of the sampling of the transformation zone).

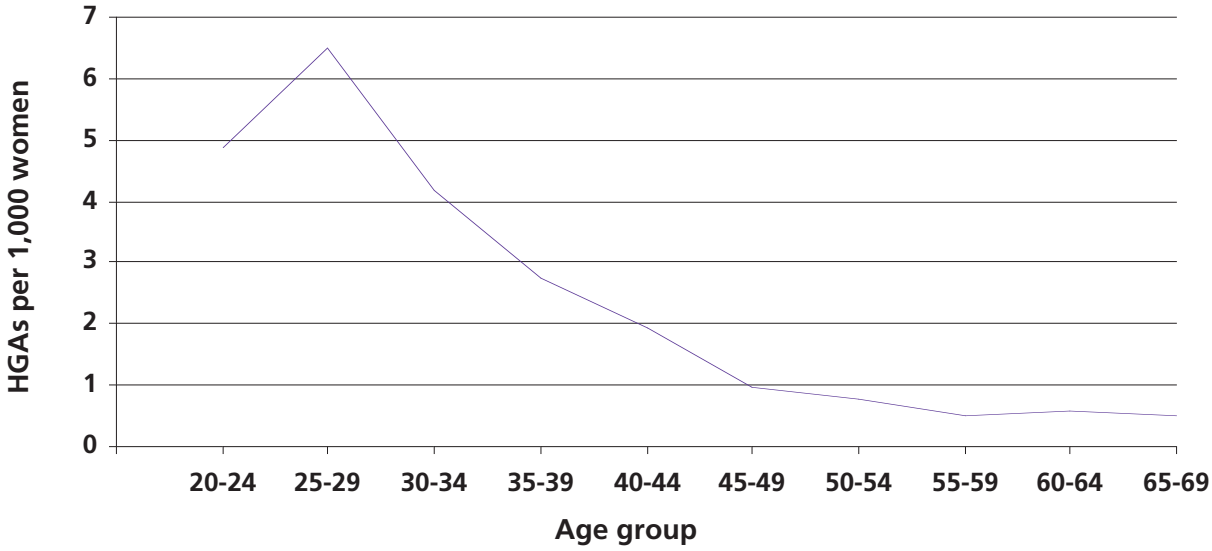
Figure 6.1 Age-specific low-grade abnormality rates in women aged 20-69 years WA 2002



Note: A low-grade abnormality is defined as: Epithelial abnormality (E2, S2 or S3 (CIN I)). Includes Human Papilloma Virus (HPV) effect alone and atypia short of dysplasia. Rates are expressed per 1,000 women.
Source: Cytology Codes, WA Cervical Cancer Prevention Program (Appendix A).

Figures 6.1 and 6.2 suggest that both low and high-grade abnormality rates decline with age. These results indicate that low-grade and high-grade abnormalities on cytology were more prominent for females aged between 20-29 years than any other age group.

Figure 6.2 Age-specific high-grade abnormality rates in women aged 20-69 years WA 2002



Note: A high-grade abnormality is defined as: Intraepithelial abnormality (E4, S5 (CIN II), S6 (CIN III)); Invasive/ Malignant (E5, E6, S7, S8); Inconclusive (E3, S4). Rates are expressed per 1,000 women.
Source: Cytology Codes, WA Cervical Cancer Prevention Program (Appendix A).

7. Follow-up and reminder letters to women and practitioners

An important function of the CCR is to provide a 'safety net' to help ensure that women with abnormal results are appropriately followed-up. The CCR has a series of protocols for the generation of letters to practitioners and/ or women depending on the most recent Pap smear or biopsy result. Table 7.1 outlines the CCR's *Protocol of Actions*. The *Protocol of Actions* for follow-up of low-grade abnormalities on Pap smears were reviewed and amended in November 2000 to allow for appropriate clinical management of women, as recommended by the WACCPP Advisory Group. Previously, reminder letters for this category were initiated at 15 months for providers and 21 months for women. At this time, the WACCPP Advisory Group also endorsed the generation of follow-up and reminder letters following a cervical biopsy result to providers and women (Table 7.1).

The CCR is updated monthly with information from the WA Death Registry to minimise the risk of reminder letters being sent to deceased women.

The CCR allows for withholding of follow-up letters in such cases as pregnancy. The service provider advises the expected date of delivery, and a letter is normally sent six months after this date.

Table 7.1 CCR Protocol of Actions (as at December 2002)

Cytology report	Action
	If no follow-up information is received by the Registry:
Unsatisfactory	• Reminder letter to provider at 6 months; • Reminder letter to woman at 12 months if still no follow-up information received.
Normal	• Reminder letter to woman at 3 years unless hysterectomy is known.
Low-grade abnormality	• Reminder letter to provider at 18 months; • Reminder letter to woman at 24 months if still no follow-up information received.
Inconclusive or High-grade abnormality	• Questionnaire letter to provider at 9 months; • Reminder letter to woman at 12 months if still no follow-up information received; • If still no follow-up information received, reminder letter (registered post with delivery confirmation) to the woman at 15 months.
Histopathology report	**Action**
	If no follow-up information is received by the Registry:
Unsatisfactory, Normal, Low-grade abnormality or High-grade abnormality	• Reminder letter to provider at 12 months; • Reminder letter to woman at 18 months if still no follow-up information received.

7.1 Reminders to women with normal Pap smears

A reminder letter is sent to women whose last Pap smear result was normal and for whom no further smear has been recorded within a three-year period. In the 2002 calendar year, 49,819 reminder letters were sent to women following a normal smear. This represented a 5.2% decrease from the previous year. Of these women, 17.2% had a follow-up smear within three months of the reminder letter being sent (see Table 7.2). This level of response was similar to that seen in previous years.

7.2 Follow-up letters for unsatisfactory and abnormal Pap smear results

For follow-up of unsatisfactory and low-grade abnormal Pap smears, a letter is sent to the provider according to the CCR's *Protocol of Actions*. If follow-up information is not received within six months, a letter is sent directly to the woman. For high-grade abnormal Pap smears (including inconclusive findings), if no follow-up information is received within three months of sending a letter to the provider, a letter is sent directly to the woman. Various databases are searched for a current address when locating women with high-grade abnormalities. If no follow-up information is received within three months of that letter being sent, another reminder letter is sent by registered post (with delivery confirmation) to the woman.

In 2002, a total of 4,299 follow-up letters pertaining to unsatisfactory and abnormal Pap smears were sent to providers and 2,299 letters were sent to women.

Table 7.2 displays the outcome of these reminder and follow-up letters. Letters are sent directly to the woman only if the CCR has not received follow-up information. It is important to note that Table 7.2 represents women who have not had a repeat smear or appropriate biopsy prior to activation of the *Protocol of Actions*. Also worth noting is that of the 52,118 letters sent to women in 2002, approximately 18% were returned to sender, indicating that the woman had changed address since the time of her most recent smear.

Table 7.2 Outcome of reminder and follow-up Pap smear letters sent by the CCR in 2002

Letter type	Follow-up within three months of letter		
	Number of letters sent**	Number	Percentage
'Normal' to woman	49,819	8,576	17.2
'Unsatisfactory' to provider	1,568	518	33.0
'Unsatisfactory' to woman	683	174	25.5
'Low-grade abnormality' to provider	2,569	565	22.0
'Low-grade abnormality' to woman	1,493	325	21.8
'High-grade abnormality'* to provider	162	51	31.5
'High-grade abnormality'* to woman	82	18	22.0
2nd 'high-grade abnormality' to woman	41	12	29.3

* High-grade abnormalities include results classified as 'Inconclusive – raising the possibility of a high-grade lesion'.

** This refers only to follow-up letters generated in 2002. The number of letters shown as sent to women is less than the number of women who were overdue for follow-up, as reminder letters continued to be sent into 2003.

Table 7.2 demonstrates one of the 'safety net' functions of the CCR, whereby follow-up letters are sent as a timely reminder to support both providers and women. Eighty-one women with an inconclusive/ high-grade abnormality and no initial follow-up information had either a Pap smear or biopsy within three months of the follow-up letter to their provider or themselves.

The CCR was initially unable to monitor follow-up for only 29 women with inconclusive/ high-grade abnormalities during 2002. The *Protocol of Actions* and various other methods, including requesting information from the Health Insurance Commission, were utilised in obtaining further follow-up information. According to information since received into the Register, 15 of these women have now been re-screened. Further attempts to locate the remaining 14 women who are lost to follow-up are carried out periodically.

7.3 Follow-up letters for biopsy results

For the follow-up of unsatisfactory and low-grade abnormal and high-grade abnormal cervical biopsies, a letter is sent to the provider at 12 months, according to the CCR's *Protocol of Actions* (Table 7.1). If follow-up information is not received within six months, a letter is sent directly to the woman. Various databases are searched for a current address when locating women.

In 2002, a total of 816 follow-up letters pertaining to unsatisfactory and abnormal cervical biopsies were sent to providers and 360 letters were sent to women.

Table 7.3 displays the outcome of these reminder and follow-up letters, once again demonstrating the 'safety net' function of the CCR. Two hundred and seventeen women had either a Pap smear or biopsy within three months of the follow-up letter to their provider or themselves. These figures will form a baseline for future comparisons in response rates.

Table 7.3 Outcome of reminder and follow-up biopsy letters sent by the CCR in 2002

Letter type	Follow-up within three months of letter		
	Number of letters sent**	Number	Percentage
'Unsatisfactory, Normal, Low-grade abnormality' to provider	717	142	19.8
'Unsatisfactory, Normal, Low-grade abnormality' to woman	314	52	16.6
'High-grade abnormality'* to provider	99	15	15.2
'High-grade abnormality'* to woman	46	8	17.4

* High grade abnormalities include results classified as 'Inconclusive – raising the possibility of a high-grade lesion'

** This refers only to follow-up letters generated in 2002. The number of letters shown as sent to women is less than the number of women who were overdue for follow-up, as reminder letters continued to be sent into 2003.

8. Histopathology (biopsy) reports

The CCR collects information relevant to cervical biopsies. In 2002, a total of 9,452 women had at least one cervical biopsy. Corresponding figures for 2000 and 2001 were 5,490 and 7,923 respectively. Table 8.1 shows biopsies by report category for women of all ages.

Table 8.1 Biopsy report categories 2002

Biopsy report category	Number	Percentage
Unsatisfactory biopsy	85	0.8
Normal biopsy (no abnormality reported)	5,139	46.8
Low-grade intra-epithelial abnormality	3,333	30.3
High-grade intra-epithelial abnormality	2,179	19.8
Invasive malignancy	253	2.3
Total	**10,989**	**100**

Note: As some women had more than one biopsy in 2002, the number of biopsies recorded is higher than the number of women. This table includes results for women who have had a hysterectomy.

A normal result was reported for 46.8% of biopsies (compared with 42.7% in 2001), while 30.3% showed the presence of a low-grade intraepithelial abnormality (compared with 32.1% in 2001), and 19.8% of biopsies revealed a high-grade intraepithelial abnormality (compared with 22% in 2001). Invasive malignancy was shown in 2.3% of biopsies (compared with 2.1% in 2001). Overall, these figures represent an increase in the number of biopsies performed, but a lower proportion of abnormalities found. Refer to Appendix B - Histology Codes.

9. Cytology and histopathology correlation

The CCR provides information for the correlation of cytology and histopathology results to assist with quality control in pathology laboratories. In 2002, 1,702 Pap smears were reported as having a high-grade intraepithelial lesion (CIN II, CIN III, or adenocarcinoma-in-situ). Of these cases, 1,535 (90%) had a follow-up biopsy within six months.

Table 9.1 shows that in approximately 11% of cases the biopsies were negative or benign while 18% showed a low-grade intraepithelial abnormality. RCPA Performance Standards require that not less than 65% of women with a cytological report of high-grade intraepithelial abnormality are confirmed on histology within six months as having a high-grade abnormality[7]. Almost 67% of histology reports in WA confirmed the cytology finding of a high-grade intraepithelial abnormality. Invasive malignancy was present in 4.6% of cases.

Table 9.1 Biopsy reports following high-grade intraepithelial abnormality on cytology 2002

Biopsy report	State number	State percentage	*National (%)	*National range (%)
Unsatisfactory specimens	2	0.1	0.4	0 - 4.2
Negative/benign findings	164	10.7	6.9	0 - 20
Low-grade intraepithelial abnormality	274	17.9	15.5	0 - 42.9
High-grade intraepithelial abnormality	1025	66.8	75.1	28.6 - 100
Invasive malignancy	70	4.6	1.9	0 - 28.6
Total	**1,535**	**100**		

* Includes national aggregate percentages and range taken from RCPA Cytopathology Quality Assurance Program 2003 for Performance Measure 3; *Reliability of a cytological report of high-grade intraepithelial lesion (Data for January 1 to December 31, 2002).*

[7] Suggested acceptable standard set by the Royal College of Pathologists of Australasia Cytopathology Quality Assurance Program 2003 for Performance Measure 3; Reliability of a cytological report of high-grade intraepithelial lesion.

9.1 Correlation between cytology and histopathology reports

The following data (Tables 9.2 and 9.3) refer to numbers of women rather than numbers of Pap smears or biopsies. Table 9.2 attempts to gauge the accuracy of cytological predictions of abnormality by correlating histology findings for the same woman within a six-month period. The figures in this table represent all women who had an abnormal Pap smear recorded at the CCR in 2002 with histological follow-up within six months. Proportions should be interpreted carefully, as some predictions represent small numbers. It should also be noted that Pap smears showing atypia and HPV effect are not normally followed up by biopsy.

A hierarchical ranking was used to select the most severe Pap smear for individual women and the most severe biopsy. Where both squamous and glandular abnormalities were present and at a level of at least severe dysplasia, both components are presented e.g. CIN III and adenocarcinoma-in-situ. Table 9.2 expresses the results of histology within a six-month time frame and so women followed up after that are not included in the table.

For high-grade squamous or combined squamous and glandular abnormalities on smears, the positive predictive value ([PPV] proportion of those with a predicted abnormality in whom the abnormality was confirmed on biopsy) was as follows:

- Inconclusive 34.2%
- CIN II 64.2%
- CIN III 87.7%
- CIN III + AIS 71.5%
- SCC 92.7%

The CCR does not collect information relating to colposcopy. Follow-up that may have involved this investigation alone is therefore not included in the following table. It is also recognised that women who do not appear to have had histological follow-up for high-grade predictions, may have been followed up outside of the six-month period. Histology findings with no preceding Pap smears have been excluded from the following data in Tables 9.2 and 9.3.

Table 9.2 Correlation between cytology and histopathology reports for squamous or combined squamous and glandular abnormalities on Pap smears with histology findings within six months

HISTOLOGY FINDINGS	CYTOLOGY PREDICTIONS																	
	ATYPIA		HPV		CIN I		INCONCLUSIVE Poss HSIL[1], Poss AIS[2],		CIN II		CIN III		CIN III + AIS[3]		SCC[4]		SCC[4] + AdenoCa Cx[5]	
	Total=9884[7]		Total=1282[7]		Total=2382[7]		Total=577[7]		Total=777[7]		Total=636[7]		Total=8[7]		Total=43[7]		Total=1[7]	
UNSATISFACTORY	19	1.5%	1	0.5%	12	0.8%	3	0.7%			1	0.2%						
NORMAL	483	37.5%	48	23.7%	302	20.4%	128	30.4%	73	10.8%	26	4.4%	1	14.3%	1	2.4%		
ATYPIA	330	25.6%	41	20.2%	217	14.7%	75	17.8%	47	6.9%	23	3.9%			1	2.4%		
HPV	171	13.3%	52	25.6%	182	12.3%	26	6.2%	30	4.4%	6	1.0%						
CIN I	173	13.4%	45	22.2%	484	32.8%	45	10.7%	92	13.6%	17	2.9%	1	14.3%	1	2.4%		
CIN II	61	4.7%	11	5.4%	185	12.5%	59	14.0%	244	36.0%	92	15.6%						
CIN III	44	3.4%	5	2.5%	92	6.2%	71	16.9%	185	27.3%	388	65.9%	2	28.6%	14	34.2%		
CIN III + AIS[3]					2	0.1%	3	0.7%	2	0.3%	10	1.7%	1	14.3%				
AIS[3]	2	0.2%			1	0.1%	5	1.2%	1	0.2%	4	0.7%						
SCC[4]							3	0.7%	3	0.4%	20	3.4%			21	51.2%		
AdenoCa Cx[5]	1	0.1%			1	0.1%							1	14.3%				
SCC[4] + AdenoCa Cx[5]											1	0.2%						
Other Carcinomas[6]	5	0.4%					3	0.7%			1	0.2%	1	14.3%	3	7.3%		
Total with biopsy follow-up	**1289**	**100.0%**	**203**	**100.0%**	**1478**	**100.0%**	**421**	**100.0%**	**677**	**100.0%**	**589**	**100.0%**	**7**	**100.%**	**41**	**100.%**	**0**	**0.0%**
No biopsy follow-up recorded at CCR within six months of index smear	8595		1079		904		156		100		47		1		2		1	

Notes:
[1] Possible High-grade Squamous Intraepithelial Lesion
[2] Possible Adenocarcinoma-In-Situ
[3] Adenocarcinoma-In-Situ
[4] Squamous Cell Carcinoma
[5] Adenocarcinoma of cervix
[6] Endometrial, vaginal or ovarian cancer
[7] Total number of cases with and without biopsy follow-up

Table 9.3 Correlation between cytology and histopathology reports for glandular abnormalities on Pap smears with histology findings within six months

HISTOLOGY FINDINGS	CYTOLOGY PREDICTIONS							
	ATYPIA Total=209[6]		INCONCLUSIVE Possible AIS[1] Total=56[6]		AIS[2] Total=25[6]		AdenoCa Cx[4] Total=8[6]	
UNSATISFACTORY			1	2.3%				
NORMAL	12	52.2%	23	52.3%	1	4.4%		
ATYPIA	5	21.7%	3	6.8%				
HPV	4	17.4%						
CIN I					1	4.4%		
CIN II			2	4.6%	1	4.4%		
CIN III			2	4.6%			1	20.0%
CIN III + AIS[2]			3	6.8%	2	8.7%		
AIS[2]	2	8.7%	5	11.4%	16	69.6%		
SCC[3]								
AdenoCa Cx[4]					2	8.7%	2	40.0%
SCC[3] + AdenoCa Cx[4]								
Other Carcinomas[5]			5	11.4%			2	40.0%
Total with biopsy follow-up	**23**	**100.0%**	**44**	**100.0%**	**23**	**100.0%**	**5**	**100.0%**
No biopsy follow-up recorded at CCR within six months of index smear	186		12		2		3	

Notes:
[1] Possible Adenocarcinoma-In-Situ
[2] Adenocarcinoma-In-Situ
[3] Squamous Cell Carcinoma
[4] Adenocarcinoma of cervix
[5] Endometrial, vaginal or ovarian cancer
[6] Total number of cases with and without biopsy follow-up

Pap smears reporting glandular abnormalities are analysed in Table 9.3. As with Table 9.2, caution should be used when evaluating figures where small numbers are specified. Histological follow-up is not normally done for glandular atypia.

The positive predictive values (PPV) for diagnosis of high-grade glandular abnormalities were as follows:

- Inconclusive 38.8%
- AIS 91.4%
- AdenoCa Cx 100.0%

List of Abbreviations

ABS	Australian Bureau of Statistics
AdenoCa	Adenocarcinoma
AIHW	Australian Institute of Health and Welfare
AIS	Adenocarcinoma-In-Situ
CIN	Cervical Intraepithelial Neoplasia
CCR	Cervical Cytology Registry
Cx	Cervix
ERP	Estimated Resident Population
HPV	Human Papilloma Virus
HSIL	High-grade Squamous Intraepithelial Lesion
NCSP	National Cervical Screening Program
NHMRC	National Health and Medical Research Council
NPAAC	National Pathology Accreditation Advisory Council
PPV	Positive Predictive Value
Poss HSIL	Possible High-grade Squamous Intraepithelial Lesion
Poss AIS	Possible Adenocarcinoma-In-Situ
RCPA	Royal College of Pathologists of Australasia
SCC	Squamous Cell Carcinoma
SLA	Statistical Local Area
WA	Western Australia
WACCPP	WA Cervical Cancer Prevention Program

Glossary

Age-standardised rates: Calculated by the direct method and represent a summation of weighted age-specific rates (weighting being determined by the relative proportion of the population in each age group compared with the proportion in the Australian Standard Population).

Age-specific rates: Based on five-year age intervals and are calculated by dividing the number of cases by the population of the same sex and age group.

Atypia or minor atypia: Very slight changes in cells for which the cause is not obvious. Often these changes are due to inflammation and sometimes due to HPV effect.

CIN (Cervical Intraepithelial Neoplasia): Present when normal surface epithelium (tissue) is replaced by neoplastic (abnormal) cells.

CIN I (Mild dysplasia): Present when the lowest layer of tissue is replaced by abnormal cells.

CIN II (Moderate dysplasia): Present when the lowest and middle layers of tissue are replaced by abnormal cells.

CIN III (Severe dysplasia/ carcinoma-in-situ): Present when the whole thickness of tissue is affected.

Country: Rural and remote regions of WA.

High-grade abnormality - Pap smear: CIN II; CIN III; suspicious of microinvasion or invasion; squamous carcinoma; adenocarcinoma-in-situ; suspicious of adenocarcinoma of the cervix; or adenocarcinoma.

HPV effect: Cellular changes due to Human Papilloma Virus.

Incidence rate: The number of new cases of disease during a given time period in a specified population, divided by the population at risk.

Inconclusive - Pap smear: Cytological findings raising the possibility of a high-grade lesion; accurate diagnosis is not possible.

Low-grade abnormality - Pap smear: Mild cellular changes including minor squamous atypia, HPV effect alone; CIN I; or atypical endocervical cells.

Mortality rate: The number of deaths during a given time period in a specified population, divided by the population at risk. The mortality rate in this report is a 'cause-specific mortality rate', showing deaths from cancer of the cervix.

Positive Predictive Value (PPV): Percentage of cytological predictions of a given cytological category that are confirmed to be a high-grade lesion on histology. The denominator is the number of cases with biopsy follow-up.

Unsatisfactory - Pap smear: The cervical cells cannot be assessed sufficiently to give an accurate report.

Appendix A - Cytology Codes

C	Report Category[1]	S	Squamous Cell	W	Wart Virus Changes	E	Endocervical	M	Endometrial	O	Other
CØ	Unsatisfactory.	SØ	Unsatisfactory for evaluation e.g. poor cellularity, poor preservation, cell detail obscured by inflammation/blood staining, degenerate cells.	WU	Due to the unsatisfactory nature of the smear, no assessment has been made[2].	EU	Due to the unsatisfactory nature of the smear, no assessment has been made[2].	MU	Due to the unsatisfactory nature of the smear, no assessment has been made.	OU	Due to the unsatisfactory nature of the smear, no assessment has been made.
C1	Normal.	S1	Cell numbers and preservation satisfactory. No abnormality or only reactive changes.	W1	Absent.	E-	Not applicable; vault smear; previous hysterectomy.	M1	No endometrial cells.	O1	No other abnormal cells.
						EØ	No endocervical cells.	M2	Endometrial cells present (cytologically benign).		
						E1	Endocervical cells present. No abnormality or only reactive changes.				
C2	Low-grade epithelial abnormality[3].	S2	Mild cellular changes including minor squamous atypia, HPV effect alone.	W2	Possibly present.	E2	Atypical endocervical cells.				
		S3	Cytological findings raising the possibility of a high-grade lesion: accurate diagnosis is not possible.	W3	Present (Koilocytosis). See stringent criteria as outlined by NHMRC guidelines.						
C3	Inconclusive[4].	S4	Mild dysplasia (CIN I).			E3	Cytological findings raising the possibility of a high-grade lesion (including glandular dysplasia); accurate diagnosis not possible.	M4	Atypical endometrial cells of uncertain significance.	O2	Abnormal cells present: other.
C4	High-grade epithelial abnormality.	S5	Moderate dysplasia (CIN II).			E4	Adenocarcinoma-in-situ.	M6	Abnormal endometrial cells suggesting atypical hyperplasia or malignancy.	O3	Malignant cells present: ovary.
		S6	Severe dysplasia (CIN III).			E5	Suspicious of adenocarcinoma of cervix.	M7	Adenocarcinoma.	O4	Malignant cells present: vagina.
		S7	Suspicious of microinvasion or invasion.			E6	Adenocarcinoma.			O5	Malignant cells present: metastatic malignancy.
		S8	Squamous carcinoma.							O6	Malignant cells present: uncertain or unknown origin.

1 The Report Category (C code) is provided by laboratories. The CCR system also assigns a report category or state code based on an algorithm of S, W, E, M and Other cell codes. The state code determines the protocol of actions.

2 If the smear is unsatisfactory (i.e. CØ, SØ) but an assessment of warts and endocervical cells is possible, then they should be coded accordingly.

3 "Low-grade epithelial abnormality" includes CIN I, HPV effect alone, and atypia short of dysplasia.

4 "Inconclusive" refers to: (a) cytological findings which raise the possibility of a high-grade lesion, in squamous and endocervical cells, but where accurate diagnosis is not possible.
(b) atypical endometrial cells of uncertain significance.

Cytology Recommendation Codes

R	Recommendation Code
RØ	No recommendation.
R1	Repeat smear 2 years.
R2	Repeat smear 12 months.
R3	Repeat smear 6 months.
R4	Repeat smear 3 months.
R5	Repeat smear 4 weeks.
R6	Colposcopy/ biopsy recommended.
R7	Endometrial curettage recommended.
R8	Already under gynaecological management.
R9	Refer to specialist.

Cytology Infection Codes

I	Infection Code
IU	Due to the unsatisfactory nature of the smear, no assessment has been made.
I1	Normal flora/ doderleins.
I2	Coccoid flora.
I3	Mixed bacteria.
I4	Gardnerella/ clue cells.
I5	Monilia/ candida.
I6	Trichomonads.
I7	Herpes virus.
I8	Lepothrix.
I9	Actinomyces.
IA	Other e.g. chlamydia, adenovirus, cytomegalovirus, Donovan bodies.

Appendix B - Histology Codes

C	Report Category[1]	S	Squamous Cell	W	Wart Virus (HPV Effect)	E	Endocervical	M	Endometrial	O	Other
CØ	Unsatisfactory[1].	SØ	Unsatisfactory for evaluation[1].	WU	Due to the unsatisfactory nature of the biopsy, no assessment has been made[1].	EU	Due to the unsatisfactory nature of the biopsy, no assessment has been made[1].	MU	Because the endometrial specimen appears to be unsatisfactory, no CCR code has been assigned. See notes.	OU	Because the vaginal specimen appears to be unsatisfactory, no CCR code has been assigned. See notes.
C1	Normal (no abnormality reported).	S-	Not applicable (no squamous epithelium collected)[2].	W-	Not applicable (no squamous epithelium collected)[2].	E-	Not applicable[2].	M-	Not applicable.	O-	Not applicable.
		S1	Native squamous epithelium; squamous metaplasia; immature squamous metaplasia with or without inflammatory or reactive changes; atrophy.	W1	Absent.	E1	Normal; inflammatory; reactive changes; endocervical polyp.	M1	Normal; inflammatory; reactive; hormonal changes.	O1	Normal vaginal tissues; inflammatory; reactive; hormonal changes.
						E2	Mild nuclear changes (probably reactive).	M2	Endometrial hyperplasia.		
C2	Low-grade intraepithelial abnormality.	S2	Atypia; atypical immature squamous metaplasia.	W2	Suggestive/ possible.			M3	Endometrial atypical hyperplasia (mild).	O2	HPV effect in vaginal tissues.
		S3	HPV effect.	W3	Definite/ consistent.					O3	Vaginal intraepithelial dysplasia (VAIN I).
		S4	Mild dysplasia (CIN I).								
C3	High-grade intraepithelial abnormality.	S5	Moderate dysplasia (CIN II).			E3	Endocervical dysplasia.	M4	Endometrial atypical hyperplasia (moderate to severe).	O4	Vaginal intraepithelial neoplasia (VAIN II - VAIN III).
		S6	Severe dysplasia/CIS (CIN III).			E4	Adenocarcinoma-in-situ.				
C4	Invasive malignancy.	S7	Microinvasive squamous cell carcinoma.			E5	Microinvasive adenocarcinoma.	M5	Endometrial carcinoma (all types).	O5	Vaginal squamous cell carcinoma.
		S8	Invasive squamous cell carcinoma.			E6	Invasive adenocarcinoma.	M6	Endometrial stromal tumour.	O6	Vaginal adenocarcinoma.
						E7	Adenosquamous carcinoma (cervix).	M7	Mixed mullerian tumour.	O7	Ovarian carcinoma (all types).
						E8	Carcinoma of cervix (other).			O8	Metastatic tumour.
										O9	Other malignancy.

1 Unsatisfactory cervical biopsies should be coded: CØ, SØ, WU, EU, M-, O-. If the biopsy is unsatisfactory (i.e. CØ, SØ) but an assessment of warts and endocervical cells is possible, then they can be coded accordingly.

2 Use of S-, W-, E- codes applies to specimens other than cervical biopsies (e.g. endometrial curettage).

Endometrial codes: MU should only be used if the type of specimen was T5 (endometrial curettage), T6 (hysterectomy) or TS (subtotal hysterectomy) and it was not possible to assign a CCR endometrial code, because the specimen appeared to be unsatisfactory or the findings of the endometrial histology were not evident from the report.

Other Codes: OU should only be used if the type of specimen was T7 (vaginal biopsy) and it was not possible to assign a CCR "other" code because the specimen appeared to be unsatisfactory.

Histology Specimen Types

T	Specimen Type
TA	Amputated cervix.
TP	Cervical polyp.
TS	Subtotal hysterectomy.
TØ	Not disclosed.
T1	Punch biopsy of cervix.
T2	Endocervical curettage.
T3	Large loop excision of TZ.
T4	Cone biopsy.
T5	Endometrial curettage.
T6	Hysterectomy.
T7	Vaginal biopsy.
T8	Other pelvic tissues.
T9	Metastatic sites.

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WA Cervical Cancer Prevention Program

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