Cervical screening in Australia 2001–2002

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Summary

This report is the sixth national report on the performance of the National Cervical Screening Program in Australia. Cervical screening services are provided as part of mainstream health services with general practitioners performing approximately 80% of Pap smears. The program is funded by the Australian Government, and the state and territory governments (AIHW & AACR 2002).

This report presents statistics on the performance monitoring indicators agreed to by the National Advisory Committee to the program.

Overview

The major goals of the program are to reduce incidence and mortality through screening to detect abnormalities of the cervix early so that medical intervention can avert the possible progression to cervical cancer.

The statistics in this report show that the program is continuing to be very successful in meeting this goal. The combined detection rate of both high- and low-grade abnormalities in 2002 was approximately 1.8% (33,096) of all screens; consequently incidence of cervical cancer was halved among women aged 20–69 from 18.0 per 100,000 women in 1989 to 9.5 in 2000 and the mortality rate has declined by 61% from 5.4 per 100,000 women in 1982 to 2.1 in 2002.

The participation level is currently around 61.0%; this is a decline from 63.4% reported in 1998–1999. Part of the reason for the decline is in improvements in measurement by the screening programs of participation. However, the level of participation suggests that there is scope for further improvements in the rate of screening. This is of particular importance for Indigenous women; cervical cancer incidence was higher among Indigenous women than among non-Indigenous women in Queensland and the Northern Territory, the only jurisdictions for which adequate data were available (ABS & AIHW 2003).

The other main features in this report are described below.

Participation

- From January 2001 to December 2002 there were 3,331,013 women screened in Australia for pre-cancerous changes to cervical cells; the target age group, 20–69 years, accounted for 98% of the women screened. These figures exclude women from the Northern Territory because data were unavailable.
- The national participation rate for women aged 20–69 declined from 63.4% in 1998–1999 to 61.3% in 1999-2000; since then the rate has stabilised at 61.0% for the 2000–2001 and 2001–2002 reporting periods.

Early re-screening

- The recommended screening interval is 2 years following a negative smear. Of a cohort of women screened in February 2001 who had a negative Pap smear result, 29% were screened again within 21 months. It is not known what proportion of this early re-screening is justified on clinical grounds.
- There has been an improvement in the proportion of women following a normal Pap smear who are being re-screened within the recommended 2-year interval. For the February 2001 cohort the re-screening rate was 29%, while for the February 1999 and 2000 cohorts it was 32%.

- A low-grade abnormality includes atypia, warty atypia, possible cervical intraepithelial neoplasia (CIN), equivocal CIN, and CIN 1. A high-grade abnormality is defined to include CIN 1/2, CIN 2 and CIN 3 or adenocarcinoma in situ. The ratio of histologically confirmed low-grade abnormalities to high-grade abnormalities was 1.26 for Australia in 2002 compared with 1.34 in 2001; the ratio has fluctuated each year between 1.26 and 1.47 since 1997. The 2001 and 2002 ratios did not include data for the Northern Territory.
- In 2002, the National Cervical Screening Program detected 14,590 women in the target age group 20–69 years with high-grade abnormalities. The number of high-grade abnormalities detected per 1,000 women screened was highest in the younger age groups. For women under 30 years of age, the rate of high-grade abnormalities was over 10 per 1,000 women screened whereas it was less than 2 per 1,000 women aged 50–69 years.

Incidence and mortality

- In 2000 there were 89 new cases of micro-invasive cervical cancer for women of all ages; all but 3 of these women were in the target age group, 20–69 years. The highest detection rates were for women in the 30–34 and 45–49 age groups.
- The number of new cases of cervical cancer in Australia has continued to decline. There were 745 new cases in Australia in 2000 compared with 1,072 detected in 1989 prior to the start of the screening program.
- Cervical cancer is the 18th most common cause of cancer mortality in women, accounting for 227 deaths in 2002. Although there was some fluctuation from year to year, the age-standardised mortality rate from cervical cancer declined between 1982 and 2002. For all women aged 20 years and over there was a decline from 5.1 deaths per 100,000 women in 1982 to 2.1 per 100,000 in 2002. During the same period, for women in the target age group of 20–69 years, the rate declined from 5.4 per 100,000 to 2.1 per 100,000.
- Women in the target age group from remote locations experienced relatively high incidence and mortality rates from cervical cancer compared with women in major cities. A contributor to the higher incidence and mortality rates in remote locations was the higher incidence (ABS & AIHW 2003) and mortality rates among Indigenous women who make up a greater proportion of the remote population than they do in the major cities. The cervical cancer mortality rate for Indigenous women was 14.9 per 100,000 women aged 20–69 and 18.9 for women of all ages in the period 1999–2002.
- Between the periods 1995–1998 and 1999–2002, the age-standardised cervical cancer mortality rate declined in all regions (major cities, regional and remote).
- Prior to 1998, only Western Australia, South Australia and the Northern Territory had Indigenous mortality registration data of sufficient quality to be publishable. In 1998, Queensland's coverage of Indigenous deaths reached an acceptable level to be included in the analysis of Indigenous mortality data. For these jurisdictions, in the period 1999–2002 there were 24 deaths from cervical cancer among Indigenous women in the target age group (an age-standardised mortality rate of 14.9 per 100,000 women). This is almost six times the corresponding rate in non-Indigenous women (2.5 per 100,000 in 1999–2002). However, these rates are based on relatively small numbers of cases and may be subject to large variability.

National cervical screening monitoring indicators

This report monitors the performance of the National Cervical Screening Program using ten indicators which measure program activity, performance and outcome. They help measure changes in disease patterns and examine the contribution health interventions may have in preventing or reducing deaths. They can also be used to help evaluate screening or other health interventions.

Screening indicators for the National Cervical Screening Program cover the areas of participation, early re-screening, low- and high-grade abnormality detection, incidence and mortality. These have been endorsed by the National Advisory Committee and state and territory cervical screening programs. A listing of the ten indicators and their definitions follows. The target age group for the National Cervical Screening Program is 20 to 69 years.

Indicator 1: Participation rate for cervical screening

Percentage of women screened in a 24-month period by 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69), for all ages (20–80+) and the target age group (20–69 years).

Indicator 2: Early re-screening

Proportion of women re-screened by number of re-screens during a 21-month period following a negative smear.

Indicator 3: Low-grade abnormality detection

Number of women with a histologically verified low-grade intraepithelial abnormality detected in a 12-month period as a ratio of the number of women with a histologically verified high-grade intraepithelial abnormality detected in the same period.

Indicator 4: High-grade abnormality detection

Detection rate for histologically verified high-grade intraepithelial abnormalities per 1,000 women screened in a 12-month period by 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+) and for the target age group (20–69 years, age-standardised).

Indicator 5.1: Incidence of micro-invasive squamous cell carcinoma

Incidence rate of micro-invasive squamous cell carcinoma per 100,000 estimated resident female population in a 12-month period by 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+) and for the target age group (20–69 years, age-standardised).

Indicator 5.2: Incidence of squamous, adenocarcinoma, adeno-squamous and other cervical cancer

Incidence rate of squamous, adenocarcinoma, adeno-squamous and other cervical cancers per 100,000 estimated resident female population in a 12-month period by 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+) and for the target age group (20–69 years, age-standardised).

Indicator 6.1: Mortality

Death rate from cervical cancer per 100,000 estimated resident female population in a 12-month period by 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+) and for the target age group (20–69 years, age-standardised).

Periodic indicators

Periodic indicators have been developed to report on issues that are of importance in monitoring the outcomes of the cervical screening program over a longer period of time than 1 year. This longer period allows for a greater aggregation of information on issues that are subject to wide annual fluctuations and for a more confident and meaningful estimate of the outcomes. The periodic indicators presented in this report are based on a reporting period of 4 years.

Periodic incidence and mortality indicators by location

Geographic region

In all previous reports, analysis of incidence and mortality data by geographic region used the Rural, Remote and Metropolitan Areas (RRMA) classification. This classification was developed in 1994 by the then Department of Primary Industries and Energy and the then Department of Human Services and Health. It allows geographic regions to be classified into seven zones—two metropolitan, three rural and two remote zones.

This report uses a more recent geographic classification in place of RRMA. The new system, known as the Australian Standard Geographical Classification (ASGC), groups geographic areas into five classes. These classes are based on Census Collection Districts (CDs) and defined using the Accessibility/Remoteness Index for Australia (ARIA). ARIA is a measure of the remoteness of a location from the services provided by large towns or cities. A higher ARIA score denotes a more remote location. The five classes of the ASGC classification, along with a sixth 'Migratory' class, are listed in Table 1.

Table 1: The Remoteness Areas for the ASGC Remoteness Classification

Region	Collection districts within region
Major cities of Australia	CDs with an average ARIA index value of 0 to 0.2
Inner regional Australia	CDs with an average ARIA index value greater than 0.2 and less than or equal to 2.4
Outer regional Australia	CDs with an average ARIA index value greater than 2.4 and less than or equal to 5.92
Remote Australia	CDs with an average ARIA index value greater than 5.92 and less than or equal to 10.53
Very remote Australia	CDs with an average ARIA index value greater than 10.53
Migratory	Areas composed of off-shore, shipping and migratory CDs

Source: ABS 2001.

The ASGC classification is not directly comparable to the RRMA classification. Accessibility is judged purely on distance to one of the urban centres. For example, the ASGC classification allocates Hobart to its second group (Inner regional Australia) and Darwin to its third group (Outer regional Australia), whereas the RRMA classification grouped them together with the other capital cities.

Indicator 5.3: Incidence by location

Incidence rate of cervical cancer per 100,000 estimated resident female population in a 4-year period by location and 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+) and for the target age group (20–69 years, age-standardised).

Indicator 6.2: Mortality by location

Death rate from cervical cancer per 100,000 estimated resident female population in a 4-year period by location and 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+) and for the target age group (20–69 years, age-standardised).

Indicator 6.3: Indigenous mortality

Death rate from cervical cancer per 100,000 estimated resident female population in a 4-year period by Indigenous status and 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75+) and for the target age group (20–69 years, age-standardised).

This indicator examines the patterns of mortality among Indigenous women.

Identification of Indigenous status is still very fragmented and generally of poor quality in health data collections, and cervical screening data are no exception. Of the seven cervical screening indicators, only one indicator can be stratified by Indigenous status: mortality. Even for this, coverage is not complete. Only Western Australia, South Australia, the Northern Territory and Queensland are currently considered to have adequate coverage of Indigenous deaths in the registration of deaths. Therefore, only mortality data from these jurisdictions are analysed in this report.

Confidence intervals

Where indicators include a comparison between states and territories, between time periods, between geographic location or between Indigenous and non-Indigenous women, a 95% confidence interval is presented along with the rates. This is because the observed value of a rate may vary due to chance even where there is no variation in the underlying value of the rate. The 95% confidence interval represents a range over which variation in the observed rate is consistent with this chance variation. These confidence intervals can be used as an approximate test of whether changes in a particular rate are consistent with chance variation. Where the confidence intervals do not overlap, the change in a rate is greater than that which could be explained by chance. Where the intervals do overlap, then changes in the rate may be taken as approximately consistent with variability due to chance.

For example, the participation rate for Victoria in 2000–2001 was 64.2% with a confidence interval of 64.1% to 64.4%. The corresponding rate for 2001–2002 was 64.8% with a confidence interval of 64.7% to 64.9%. These two intervals do not overlap, so the difference between the 2000–2001 and 2001–2002 rates is larger than we would expect due to chance alone.

Another example is the comparison between cervical mortality rates for women in the target group in the remote areas. In the period 1995 to 1998 there were 6.0 cervical cancer deaths per 100,000 women living in remote areas. This rate had a confidence interval of 3.9 to 8.7. The 1999–2002 rate for women living in remote areas was 3.0 per 100,000, with a confidence interval of 1.7 to 4.9. These confidence intervals overlap, so despite the relatively large difference between the two observed rates they are still consistent with chance variation. This arises from the fact that remote areas of Australia have small populations, resulting in small numbers of deaths from any specific cause, and these rates may fluctuate from year to year over time. This in turn leads to relatively wide confidence intervals for an observed death rate.

It is important to note that this result does not imply that the difference between the two rates is definitely due to chance. Instead, an overlapping confidence interval represents a difference in rates which is too small to differentiate between a real difference and one which is due to chance variation.

Participation

The major objective of the National Cervical Screening Program is to reduce morbidity and deaths from cervical cancer by detecting treatable pre-cancerous lesions before their progression to cancer. Through increased participation, more women with pre-cancerous abnormalities can be detected and treated before progression to cervical cancer, thus reducing morbidity. In addition, increased participation will lead to the detection of more women with early stages of cancer where treatment can reduce mortality.

The program, through a variety of recruitment initiatives, actively targets women in the age group 20–69 years. The recommended screening interval for women in this target age group who have been sexually active at any stage in their lives is 2 years. Pap smears may cease at the age of 70 years for women who have had two normal Pap smears within the previous 5 years. Women over 70 years who have never had a Pap smear, or who request a Pap smear, are screened.

Some women in the target population are unlikely to require screening. They include:

- those who have had a total hysterectomy with their cervix removed
- those who have never been sexually active
- women with a previously diagnosed gynaecological cancer.

Participation rate calculations should, in principle, exclude all three groups from the data. In practice, the data are adjusted to remove women who have had a hysterectomy but the latter two groups cannot be excluded due to the lack of reliable data.

State and territory programs have strategic plans in place to increase participation of women in cervical screening. Such strategies include targeting priority population groups including Indigenous women, rural and remote women, and women from culturally and linguistically diverse backgrounds.

The objectives and usefulness of participation as an indicator are outlined below:

- The participation indicator measures the proportion of the target population covered by the cervical screening program and the current screening policy of a 2-year interval.
- The indicator is important in assessing the contribution of the cervical screening program to changes in incidence and mortality.
- The indicator can be used as a means of evaluating recruitment practices, particularly if participation rates are analysed by demographic characteristics.
- When this indicator is used in conjunction with others, it can be used to support analysis relating to target groups and screening intervals.

State- and territory-specific issues

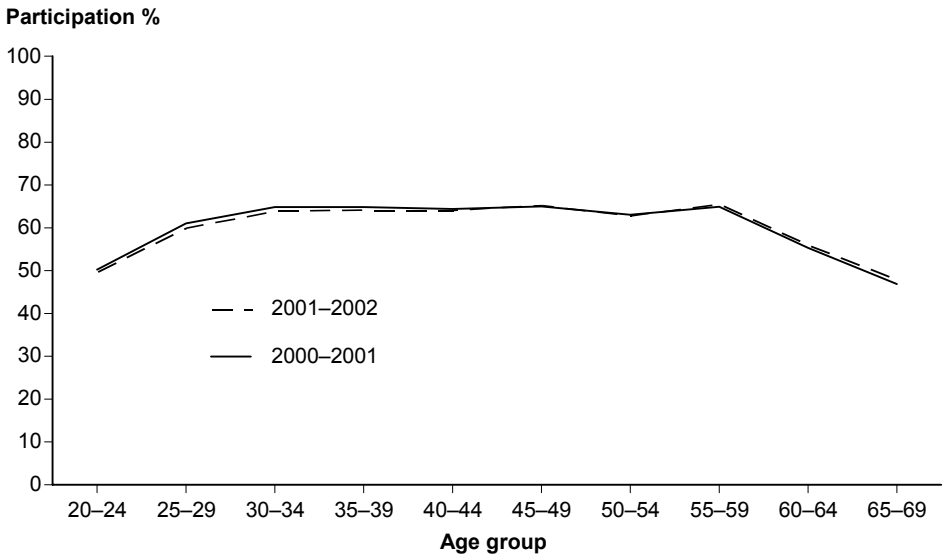
- Except for Victoria and the Australian Capital Territory, the participation rates are based on all women who were screened in that state or territory. This may lead to an over-estimation of numbers of women screened because of double counting of some women between states. This may be the result of difficulty in identifying state of residence for women in border areas, and inclusion of women resident overseas.
- The Western Australian participation rates for the period 2001–2002 includes all women screened in the state. In previous reports, participation rates referred to women resident in Western Australia only.
- The Northern Territory data were unavailable for 2001–2002. Northern Territory data have been excluded from the national comparisons presented in Figures 1–4.

Data issues

- In 2001 the Australian Bureau of Statistics (ABS) carried out a full population census and a national health survey. These led to the revision of the ABS estimated resident population (ERP) data, the introduction of a new Australian standard population for use in age standardisation and the production of new estimates of hysterectomy status among Australian women. The denominators for participation rates presented in this report have been calculated using the 2001 ABS National Health Survey hysterectomy fractions and the revised ERP values and age-adjusted using the 2001 Australian standard population. The denominators for the equivalent rates in previous reports were calculated using the 1995 ABS National Health Survey hysterectomy fractions and unrevised ERP values and age-adjusted using the 1991 Australian standard population. The combined effect of these changes is that participation rates presented in this report are on average between 1 and 2 percentage points lower than equivalent rates in previous reports.
- Recent fluctuations in participation rates over time and between jurisdictions may be influenced by improvements in record linkage procedures in the state and territory screening registers. These allow more accurate tracking of individual screening participants over time and may lead to an apparent decrease in recorded participation rates by up to 3 percentage points. There has also been variation over time and between jurisdictions in the use of short-term mass media campaigns which, in addition to any long-term effect, may have led to short-term fluctuations in screening participation.

Indicator 1: Participation rate for cervical screening

Percentage of women screened in a 24-month period by 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+) and for the target age group (20–69 years).



Refer to Tables 1b and 2b (pages 37 and 39).

Notes

1. Participation rates have been adjusted for the estimated proportion of women who have had a hysterectomy.
2. Northern Territory data were unavailable for 2001–2002 and they were excluded from 2000–2001 data for comparison purposes.
3. These data exclude women who have opted not to be on the register.

Source: AIHW analysis of state and territory Cervical Cytology Registry data.

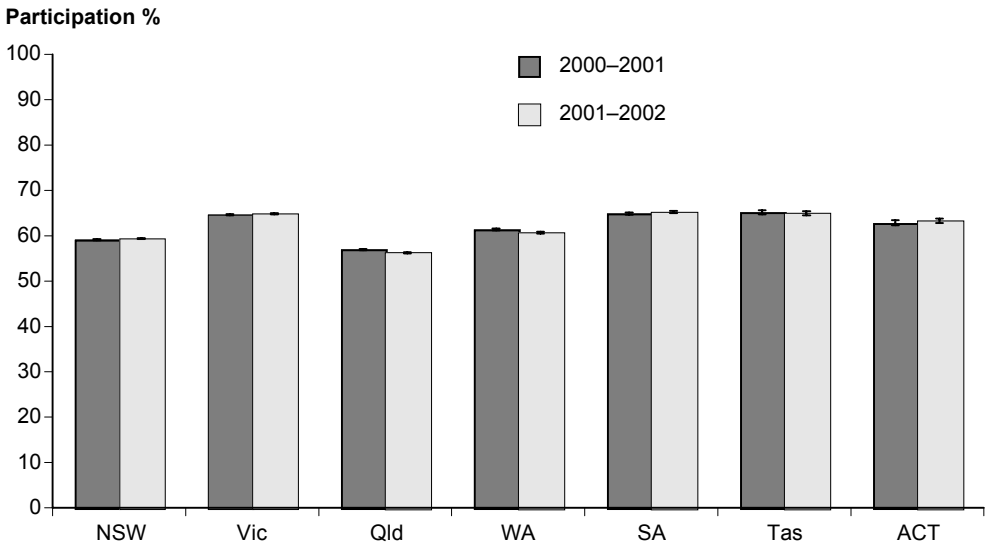
Figure 1: Participation in the National Cervical Screening Program by age group, Australia, 2000–2001 and 2001–2002

24-month period	Age group										
	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	20–69
	(Per cent)										
2000–2001	50.2	61.0	64.8	64.8	64.4	65.0	63.0	64.9	55.3	46.8	**61.0**
2001–2002	49.9	60.2	64.1	64.4	64.3	65.4	63.0	65.7	56.1	48.0	**61.0**

Note: Northern Territory data were unavailable for 2001–2002. In this table and graph the Northern Territory data were excluded from data for 2000–2001 for comparison purposes.

- From January 2001 to December 2002 there were 3,331,013 women screened in Australia for pre-cancerous changes to cervical cells. Of these women, 3,262,574 (98%) were in the target age group 20–69 years (Table 2a, page 38).
- The age-standardised participation rate for women aged 20–69 years was 61.0% in 2000–2001 and 2001–2002 (Tables 1b and 2b, pages 37 and 39).

- Participation in 2001–2002 was lower among women aged in their twenties and sixties than in the other age groups in the target population. Although incidence for women in their twenties is relatively low, among women aged 30–34 it increases to 11.6 per 100,000 women; therefore increasing participation and increasing detection rates of cervical abnormalities in women in their twenties would be likely to result in lower incidence of cervical cancer for women in their thirties. Screening is also very important for women in their sixties because they experience the highest incidence of cervical cancer in the target population with 15.9 and 14.8 per 100,000 women aged 60–64 and 65–69 respectively (Table 2b and 24, pages 39 and 65).



Notes

1. Rates are expressed as the percentage of the eligible female population and age-standardised to the Australian 2001 population.
2. Northern Territory data were unavailable for 2001–2002 and they were excluded from 2000–2001 data for comparison purposes.
3. Bars on graphs represent 95% confidence intervals.

Source: AIHW analysis of state and territory Cervical Cytology Registry data.

Figure 2: Participation (age-standardised) in the National Cervical Screening Program by women aged 20–69 years, states and territories, 2000–2001 and 2001–2002

24-month period/ rate	NSW	Vic[(a)]	Qld	WA[(b)]	SA	Tas	ACT[(a)]	Australia
2000–2001								
AS rate	59.1	64.6	57.0	61.4	64.9	65.2	62.8	61.0
95% CI	59.0–59.3	64.5–64.8	56.8–57.1	61.2–61.6	64.6–65.1	64.7–65.6	62.3–63.4	60.9–61.1
2001–2002								
AS rate	59.4	64.9	56.3	60.7	65.2	65.0	63.3	61.0
95% CI	59.3–59.5	64.7–65.0	56.1–56.4	60.5–60.9	65.0–65.5	64.5–65.4	62.8–63.8	60.9–61.0

(a) The Victorian and Australian Capital Territory registries only register women with a Victorian or Australian Capital Territory address respectively.

(b) Western Australian participation for 2001–2002 includes all women screened in that state, whereas in 2000–2001, and in all previous reports, the registry only registered women resident with a Western Australian address.

Note: Northern Territory data were unavailable for 2001–2002. In this table and graph the Northern Territory data were excluded from data for 2000–2001 for comparison purposes.

- There were no significant increases in participation between 2000–2001 and 2001–2002 in any state or territory. Queensland's and Western Australia's participation rates were significantly lower in 2001–2002 than in the previous reporting period.

- Participation rates varied across the states and the Australian Capital Territory among women aged 20–69 years in 2001–2002, ranging from 65.2% in South Australia to a low of 56.3% in Queensland.
- The largest increase in participation between 2000–2001 and 2001–2002 occurred in the Australian Capital Territory with an increase of 0.5 percentage point but this increase was not statistically significant.

Early re-screening

The National Cervical Screening Program seeks to maximise reductions in incidence and mortality for cervical cancer. The design of the screening program defines two key parameters for achieving these objectives—target populations and screening intervals. Compliance with these parameters is crucial to maintaining the effectiveness of the program and cost efficiency in order that resources may be used to increase population coverage. For most women who have a negative smear, the recommended interval before their next screen is 2 years.

This indicator is defined as the repeating of a Pap smear within 21 months of a negative smear report. Reasons for the choice of 21 months as the time line for reporting are discussed under 'Data issues' below.

This indicator:

- tracks over a period of 21 months a cohort of women from all states and territories, except the Northern Territory, who had a negative smear result in February 2001 to determine the extent of early re-screening within the National Cervical Screening Program. The exception to this is Queensland where the index month is March. February was selected as the index month nationally because it has been shown to be a relatively stable month in terms of the number of women who are screened. This pattern has been consistent over a number of years, partly because fewer women take holidays at this time;
- measures the compliance with the recommended screening interval following a negative smear; and
- is important in assessing screening coverage around the recommended interval, as significant differences may reduce program effectiveness.

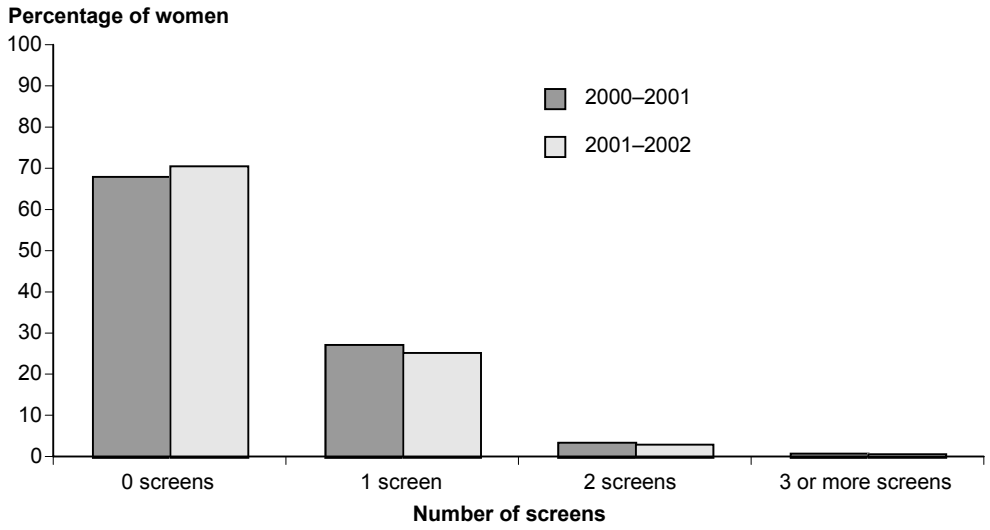
This indicator should be interpreted with caution as some early re-screening after a negative Pap smear report is appropriate and in accordance with the National Health and Medical Research Council (NHMRC) guidelines. Specifically, if a woman has a history of histologically proven high-grade abnormality, then annual screening is recommended. If a woman is being monitored after treatment or during the resolution phase of a low-grade abnormality, it is appropriate for her to be screened earlier than the 24 months recommended screening interval.

Data issues

Northern Territory data were unavailable for the February 2001 to November 2002 reporting period in this report. The data for Indicator 2 published in reports before the *Cervical Screening in Australia 1999–2000* report are not directly comparable with the data in this report as this indicator has been modified to change the follow-up period from 24 months to 21 months. This change was made because women often have their Pap smear taken at a time convenient to them and are likely to have their biennial screening immediately before the 24-month anniversary. Also for some women, prescriptions for oral contraceptives lapse at 22 months and these women are then likely to combine their Pap smears with their visit to the GP for renewing their scripts for contraceptives.

Indicator 2: Early re-screening

Proportion of women re-screened by number of re-screens during a 21-month period following a negative Pap smear.



Refer to Table 4 (page 40).

Notes

1. The reference period for this indicator was the 21 months following the index months February 2000 and February 2001.
2. Northern Territory data were unavailable for the February 2001 to November 2002 cohort and for comparison purposes were excluded from the February 2000 to November 2001 cohort.

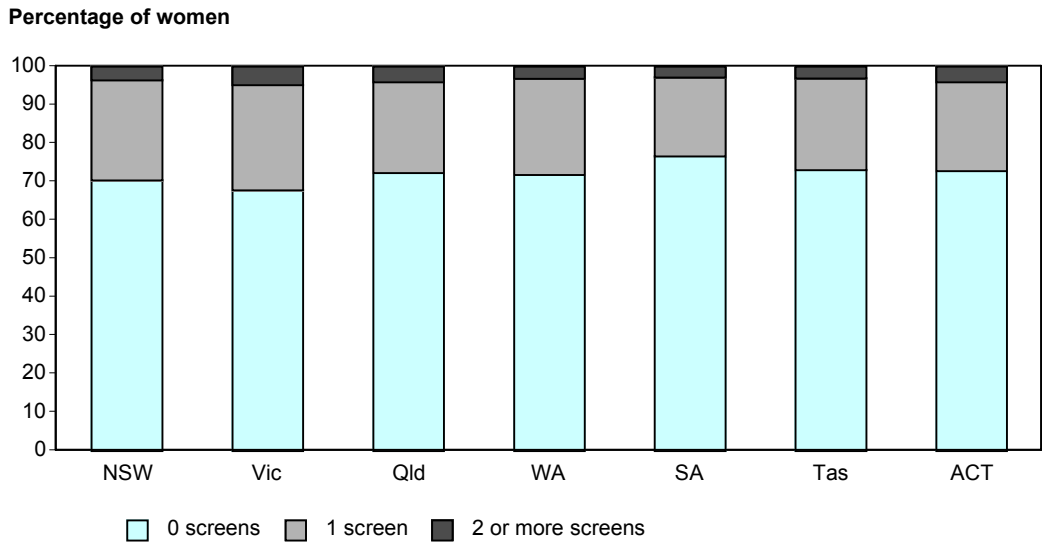
Source: AIHW analysis of state and territory Cervical Cytology Registry data.

Figure 3: Proportion of women re-screened by number of screens during the 21-month period following a negative Pap smear in February 2001, Australia

21-month period	0 screens	1 screen	2 screens	3+ screens
		(Per cent)		
Feb 2000–Nov 2001	68.1	27.3	3.6	0.9
Feb 2001–Nov 2002	70.7	25.4	3.1	0.8

Note: Northern Territory data were unavailable for the February 2001 to November 2002 cohort and for comparison purposes were excluded from the February 2000 to November 2001 cohort.

- A cohort of 170,145 women screened in February 2001 whose Pap smear results were normal was tracked over a 21-month period to measure the extent of early re-screening in Australia. Fewer women in the February 2001 cohort were re-screened early than in the previous cohort.
- Of the February 2001 cohort, 29.3% were re-screened within 21 months, including 3.9% who were re-screened two or more times.
- The proportion of women who did not have any additional Pap smears within 21 months following a negative result increased from 68.1% in 2000–2001 and to 70.7% in 2001–2002.



Refer to Table 4 (page 40).

Notes

1. The reference period for this indicator was the 21 months following the index month February 2001.
2. Northern Territory data were unavailable for the February 2001 to November 2002 cohort and for comparison purposes were excluded from the February 2000 to November 2001 cohort.

Source: AIHW analysis of state and territory Cervical Cytology Registry data.

Figure 4: Proportion of women re-screened by number of screens during the 21-month period following a negative Pap smear in February 2001, states and territory

No. of screens	NSW	Vic	Qld	WA	SA	Tas	ACT	Australia
				(Per cent)				
0 screens	70.4	67.8	72.3	71.8	76.7	73.1	72.9	70.7
1 screen	26.1	27.4	23.6	25.1	20.6	23.9	23.1	25.4
2 or more	3.5	4.8	4.1	3.1	2.7	3.1	4.0	3.9

Note: Northern Territory data were unavailable for the February 2001 to November 2002 cohort and for comparison purposes were excluded from the February 2000 to November 2001 cohort.

- South Australia (76.7%), Tasmania (73.1%) and the Australian Capital Territory (72.9%) had the highest proportions of women who were not re-screened in the 21 months following their negative Pap smears in February 2001.
- Victoria (32.2%) and New South Wales (29.6%) had the highest proportions of re-screens while the lowest proportion of re-screens within 21 months occurred in South Australia (23.3%).

Low-grade abnormalities

The Pap smear test is able to identify a range of abnormalities in cervical cells. Some of these abnormalities have a greater chance of becoming malignant (the so-called high-grade abnormalities), and are therefore treated aggressively. The chance of low-grade abnormalities progressing to malignant change is very much less.

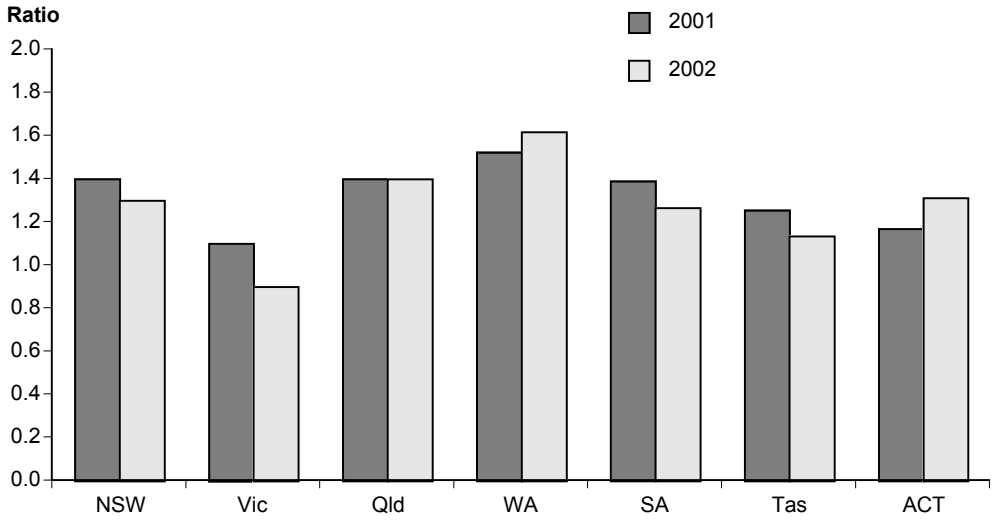
In this report a low-grade intraepithelial abnormality includes:

- atypia;
- warty atypia (human papilloma virus (HPV) effect);
- possible cervical intraepithelial neoplasia (CIN) (see Glossary);
- equivocal CIN;
- CIN 1; and
- endocervical dysplasia not otherwise specified (NOS).

The indicator is the ratio of low-grade to high-grade intraepithelial abnormalities, all histologically verified.

Indicator 3: Low-grade abnormality detection

Ratio of number of women with a histologically verified low-grade intraepithelial abnormality detected in a 12-month period to the number of women with a histologically verified high-grade intraepithelial abnormality detected in the same period.



Refer to Tables 5a and 5b (page 41).

Note: Northern Territory data were not available for 2001 and 2002.

Source: AIHW analysis of state and territory Cervical Cytology Registry data.

Figure 5: Ratio of low- to high-grade abnormalities by women aged 20–69 years, states and territories, 2001 and 2002

Year	NSW	Vic	Qld	WA	SA	Tas	ACT	Australia
				(Ratio)				
2001	1.39	1.09	1.41	1.52	1.39	1.25	1.17	1.34
2002	1.29	0.91	1.40	1.62	1.27	1.13	1.31	1.26

Note: Northern Territory data were not available for 2001 and 2002.

- The ratio of histologically confirmed low-grade abnormalities to high-grade abnormalities found in women aged 20–69 years in Australia declined from 1.34 in 2001 to 1.26 in 2002.
- In 2002 there was some variation between states and the Australian Capital Territory with the highest ratio in Western Australia (1.62), while Victoria (0.91) had the lowest ratio.

High-grade abnormalities

High-grade lesions have a greater probability of progressing to invasive cancer than do low-grade lesions. Therefore one of the aims of the National Cervical Screening Program is to set a screening interval that detects most of these lesions before they progress and become invasive. This indicator measures the frequency of this type of abnormality in the screened community. A high-grade intraepithelial abnormality is defined in this report as CIN 1/2, CIN 2, CIN 3 or adenocarcinoma in situ.

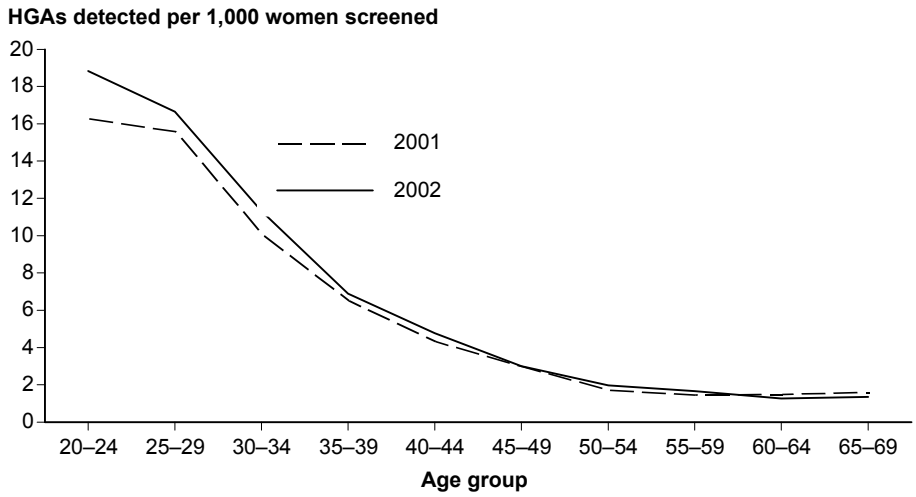
The National Health and Medical Research Council has produced guidelines to assist in the management of women who have low- and high-grade intraepithelial abnormalities (DHSH 1994b). These are summarised in Appendix F.

State- and territory-specific issues

- The reference period for Indicator 4 was the 12 months from January to December 2002 for all states and the Australian Capital Territory. The Northern Territory was unable to provide data for 2001 and 2002.

Indicator 4: High-grade abnormality detection

Detection rate for histologically verified high-grade intra-epithelial abnormalities per 1,000 women screened in a 12-month period by 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+) and for the target age group (20–69 years, age-standardised).



Refer to Tables 6a and 6b (pages 42 and 43).

Notes

1. Northern Territory data were not available for 2001 and 2002.
2. The reference period for this indicator is from January to December 2002.

Source: AIHW analysis of state and territory Cervical Cytology Registry data.

Figure 6: High-grade abnormalities per 1,000 women by age group, Australia, 2001 and 2002

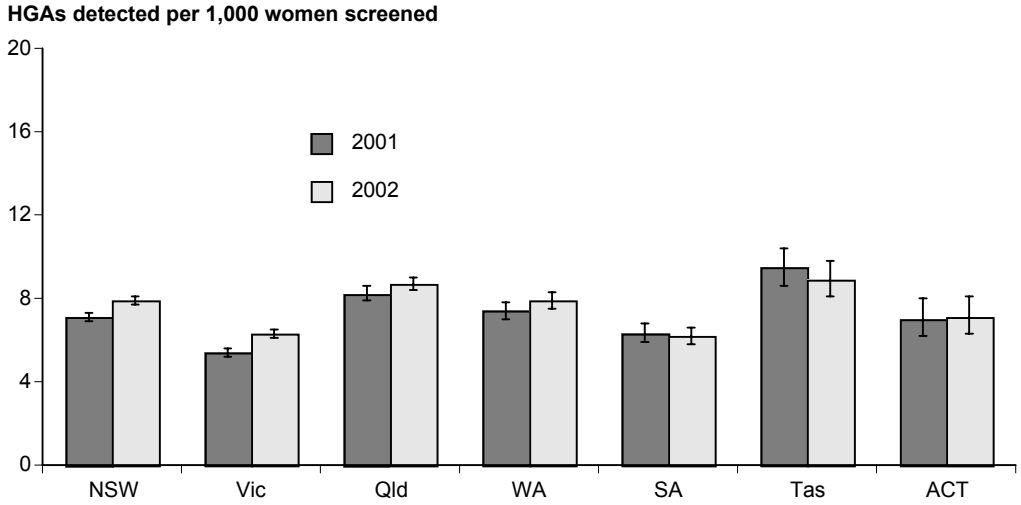
	Age group										
Year	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	20–69*
	(Number per 1,000 women)										
2001	16.3	15.6	10.1	6.6	4.4	3.0	1.8	1.5	1.5	1.6	6.9 (6.8–7.0)
2002	18.8	16.6	11.3	6.9	4.8	3.0	2.0	1.7	1.3	1.4	7.5 (7.4–7.6)

*Age-standardised rates (standardised to the Australian 2001 population) with 95% confidence intervals.

Note: Northern Territory data were not available for 2001 and 2002.

- In 2002, there were 14,590 histologically verified high-grade abnormalities detected in 1,849,294 women screened in the target age range 20–69 years (0.8%), compared with a 0.7% detection rate in 2001 (Table 7b, page 45).
- The age-standardised detection rate for histologically verified high-grade intraepithelial abnormalities increased from 6.9 per 1,000 women in the target age group, 20–69 years, in 2001 to 7.5 per 1,000 women screened in 2002.

- The age-specific detection rate of high-grade intraepithelial abnormalities for women aged 20–69 years increased between 2001 and 2002 in all age groups except for falls in the oldest age groups 60–64 and 65–69, and except for women aged 45–49 where there was no change.
- The rate of high-grade abnormalities detected was much higher in the younger age groups. In the 20–24 age group the rate was 18.8 per 1,000 women screened compared with less than 2 per 1,000 women aged 55–69 years. This age-specific distribution is the inverse of the pattern for cervical cancer mortality.



Refer to Tables 9a and 9b (page 48).

Notes

1. The reference period for this indicator is from January to December 2002.
2. Rates are standardised to the 2001 Australian total population.
3. Northern Territory data were not available for 2001 and 2002.
4. Bars on graphs represent 95% confidence intervals.

Source: AIHW analysis of state and territory Cervical Cytology Registry data.

Figure 7: Age-standardised rate of high-grade abnormalities per 1,000 women screened aged 20–69 years, states and territories, 2001 and 2002

AS rate	NSW	Vic	Qld	WA	SA	Tas	ACT	Australia
2001	7.1	5.4	8.2	7.4	6.3	9.5	7.0	6.9
95% CI	6.9–7.3	5.2–5.6	7.9–8.6	7.0–7.8	5.9–6.8	8.6–10.4	6.2–8.0	6.8–7.0
2002	7.9	6.3	8.7	7.9	6.2	8.9	7.1	7.5
95% CI	7.7–8.1	6.1–6.5	8.4–9.0	7.5–8.3	5.8–6.6	8.1–9.8	6.3–8.1	7.4–7.6

Note: Northern Territory data were unavailable for 2001 and 2002.

- The national rate of high-grade abnormalities found in women aged 20–69 years increased significantly from 6.9 per 1,000 women screened in 2001 to 7.5 in 2002.
- In 2002, Tasmania had the highest rate of 8.9 high-grade abnormalities detected per 1,000 women screened, while South Australia had the lowest with 6.2 for women in the target age group, 20–69 years.
- Detection of high-grade abnormalities increased between 2001 and 2002 in all states with the exception of South Australia and Tasmania.
- The increases in high-grade abnormalities observed in New South Wales and Victoria were statistically significant.

Incidence

A major objective of the National Cervical Screening Program is to minimise the incidence of cervical cancer by detecting treatable pre-cancerous lesions before their progression to cancer. However, where these pre-cancerous lesions cannot be detected, diagnosis of cancer at its earliest stage, the micro-invasive stage, is the most desirable alternative. The next two indicators measure the incidence rates of micro-invasive and all cervical cancers in the community. Data on cervical cancer incidence are collated by the AIHW from state and territory cancer registries.

In 1994 the International Federation of Gynaecology and Obstetrics endorsed the following definition of micro-invasive carcinoma of the cervix:

Stage 1a1. Measured invasion of stroma no greater than 3 mm in depth and no wider than 7 mm.

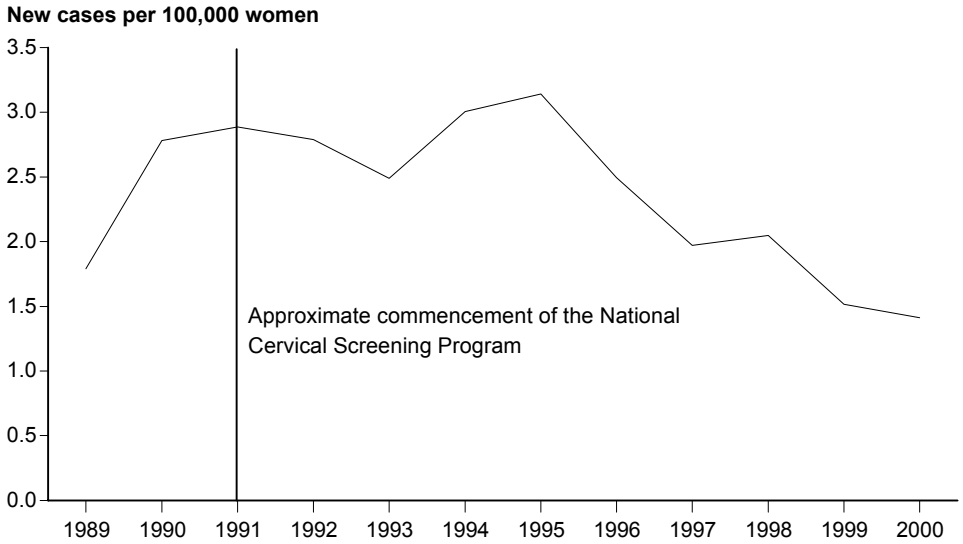
Stage 1a2. Measured invasion of stroma between 3 mm and 5 mm in depth and no wider than 7 mm. The depth of invasion should be measured from the base of the epithelium, either surface or glandular, from which it originates. Vascular space involvement, either venous or lymphatic, should not alter the staging (Ostor & Mulvany 1996).

In interpreting cervical cancer incidence statistics, note that cervical screening has been available on an ad hoc basis since the 1960s, but it is only since the late 1980s and early 1990s that there has been an organised national approach to screening at a population level. The introduction of cervical screening programs which achieve higher participation rates may result in the paradox whereby in the short term the number of new cases of micro-invasive cancer increases because cancers are found earlier than they would have been without screening, with the rate of more advanced cancers decreasing in the longer term.

For this report the most recent national data available on incidence are for 2000, in contrast to screening data which are available for 2001. This time lag in availability of incidence data is expected to reduce over the next 2 years.

Indicator 5.1: Incidence of micro-invasive cervical cancer

Incidence rates of micro-invasive squamous cell carcinoma per 100,000 estimated resident female population in a 12-month period by 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+) and for the target age group (20–69 years, age-standardised).



Refer to Table 11 (page 50).

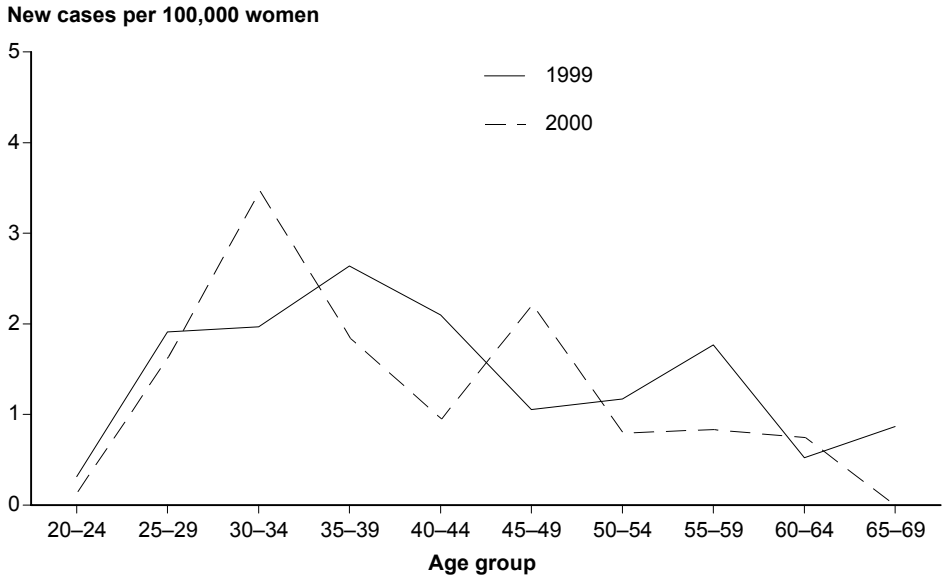
Note: Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population

Source: National Cancer Statistics Clearing House (AIHW).

Figure 8: Age-standardised incidence rates for micro-invasive squamous cell cancer, women aged 20–69 years, Australia, 1989–2000

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	(Number per 100,000 women)											
AS rate	1.8	2.8	2.9	2.8	2.6	3.0	3.2	2.5	2.0	2.1	1.5	1.4

- The age-standardised incidence rate of micro-invasive cervical cancer was 1.4 per 100,000 women in 2000 for women in the target age group of 20–69 years and 0.9 per 100,000 for women of all ages (Table 11, page 50). The rates have been declining since 1995.
- In 2000 there were 89 new cases of micro-invasive cervical cancers for all women and 86 new cases in women aged 20–69 years (Table 10, page 49).



Note: Rates are expressed per 100,000 women.

Source: National Cancer Statistics Clearing House (AIHW).

Figure 9: Age-specific incidence rates of micro-invasive squamous cell cancer, women aged 20–69 years, Australia, 1999 and 2000

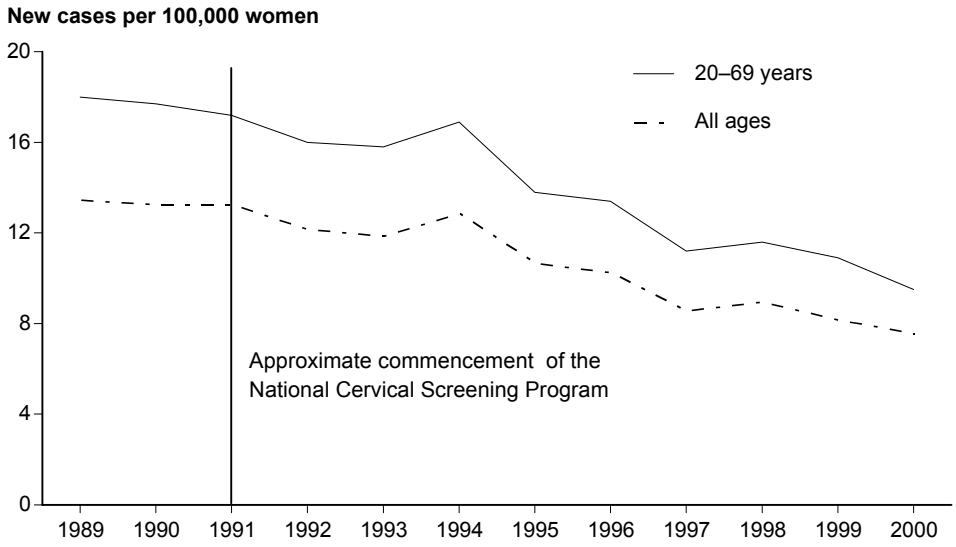
	Age group										
Year	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	20–69*
1999	0.3	1.9	2.0	2.6	2.1	1.1	1.2	1.8	0.5	0.9	1.5 (1.2–1.9)
2000	0.2	1.7	3.5	1.9	1.0	2.2	0.8	0.8	0.8	0.0	1.4 (1.1–1.7)

*Age-standardised rates (standardised to the Australian 2001 population) with 95% confidence intervals.

- The age-standardised incidence rate of micro-invasive squamous cell cancer was 1.4 per 100,000 women aged 20–69 years in 2000; this was statistically no different from the 1.5 per 100,000 in 1999 (Tables 10 and 11, pages 49 and 50). However, the decrease between 1995 and 2000 age-standardised incidence rates is statistically significant.
- The highest detection rates for micro-invasive squamous cell cancer were for women in the 30–34 to 45–49 age groups.

Indicator 5.2: Incidence of squamous, adenocarcinoma, adeno-squamous and other cervical cancers

Incidence rates of squamous, adenocarcinoma, adeno-squamous and other cervical cancer per 100,000 estimated resident female population in a 12-month period by 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+) and for the target age group (20–69 years, age-standardised).



Refer to Table 13 (page 52).

Notes

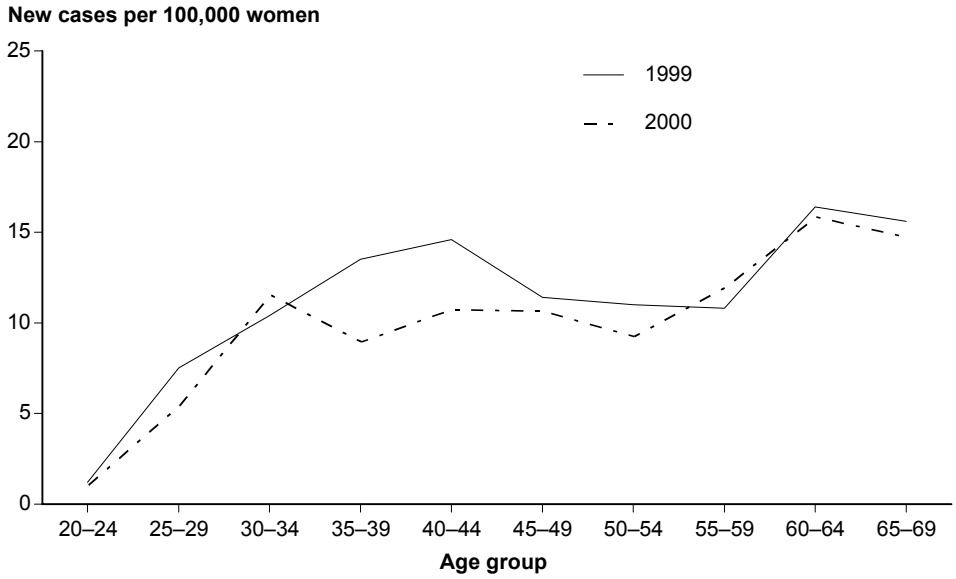
1. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population.
2. Rates for all ages are based on data for women aged 0–85+ years.

Source: National Cancer Statistics Clearing House (AIHW).

Figure 10: Age-standardised incidence rates of squamous, adenocarcinoma, adeno-squamous and other cervical cancer, Australia, 1989–2000

Age	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	(Number per 100,000 women)											
All ages 0–85+ years	13.5	13.3	13.3	12.2	11.9	12.9	10.7	10.3	8.6	9.0	8.2	7.6
20–69 years	18.0	17.7	17.2	16.0	15.8	16.9	13.8	13.4	11.2	11.6	10.9	9.5

- In 2000, there were 745 new cases of all cervical cancer (squamous, adenocarcinoma, adeno-squamous and other cervical cancer) diagnosed in Australia compared with the peak of 1,131 new cases in 1994. Of the 745 new cases, 578 were women in the target age group 20–69 years (Table 12, page 51). All but two cases of the remaining 167 were in women aged 70 years and over.
- The age-standardised incidence rate of all cervical cancers declined to 7.6 per 100,000 women for all women in Australia in 2000, and to 9.5 per 100,000 women in the target group. Between 1989 and 2000 the decline over all ages was 43.7%, and in the target age group was 47.2% (Table 13, page 52).



Refer to Table 13 (page 52).

Note: Rates are expressed per 100,000 women.

Source: National Cancer Statistics Clearing House (AIHW).

Figure 11: Age-specific incidence rates of cervical cancer, Australia, 1999 and 2000

	Age group										
Year	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	20–69
	(Number per 100,000 women)										
1999	1.2	7.5	10.4	13.5	14.6	11.4	11.0	10.8	16.4	15.6	10.9
2000	1.1	5.5	11.6	9.0	10.8	10.7	9.3	12.0	15.9	14.8	9.5

- The age-specific rate of cervical cancer incidence was highest in the 60–64 and 65–69 age groups in 1999 and 2000. It was lower in 2000 than in 1999 in all 5-year age groups for women aged 20–69 years, except in the 30–34 and 55–59 age groups.

Refer to Tables 14b and 15b (pages 54 and 56).

Notes

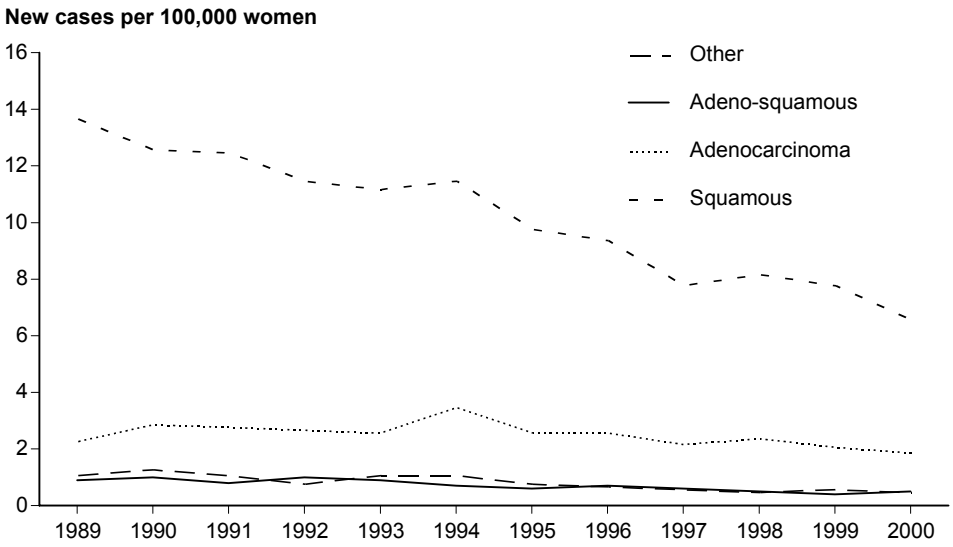
1. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population.
2. Bars on graphs represent 95% confidence intervals.

Source: National Cancer Statistics Clearing House (AIHW).

Figure 12: Age-standardised cervical cancer incidence rates by women aged 20–69 years, states and territories, 1996–1999 and 1997–2000

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
1996–1999	12.0	10.7	13.9	10.9	9.3	14.0	9.4	20.3	11.7
95% CI	11.2–12.8	9.9–11.6	12.8–15.1	9.6–12.4	8.0–10.8	11.1–17.3	6.5–13.1	14.2–28.1	11.3–12.2
1997–2000	11.3	9.4	12.7	9.9	9.3	13.0	8.8	14.7	10.8
95% CI	10.6–12.1	8.6–10.2	11.7–13.9	8.7–11.3	8.0–10.8	10.2–16.2	6.1–12.3	9.6–21.3	10.4–11.2

- In the period 1997–2000, the Australian Capital Territory had the lowest incidence at 8.8 new cases per 100,000 women and the Northern Territory had the highest rate of 14.7 per 100,000 women. Queensland (12.7) was significantly above the national average (10.8) and Victoria (9.4) was significantly below.
- The age-standardised incidence rate declined in all states and territories between the two periods 1996–1999 and 1997–2000 except in South Australia where the rate did not change (Tables 14b and 15b, pages 54 and 56.)



Refer to Table 16b (page 57).

Note: Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population.

Source: National Cancer Statistics Clearing House (AIHW).

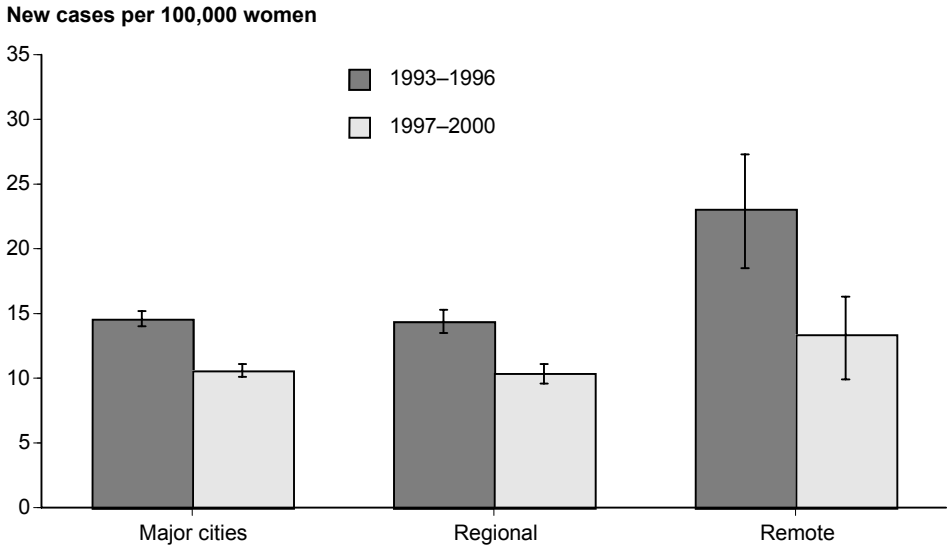
Figure 13: Age-standardised incidence rates of cervical cancer by histological type, women aged 20–69 years, Australia, 1989–2000

Histological type	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Squamous	13.7	12.6	12.5	11.5	11.2	11.5	9.8	9.4	7.8	8.2	7.8	6.6
Adenocarcinoma	2.3	2.9	2.8	2.7	2.6	3.5	2.6	2.6	2.2	2.4	2.1	1.9
Adeno-squamous	0.9	1.0	0.8	1.0	0.9	0.7	0.6	0.7	0.6	0.5	0.4	0.5
Other	1.1	1.3	1.1	0.8	1.1	1.1	0.8	0.7	0.6	0.5	0.6	0.5

- In 2001, squamous cell carcinomas of the cervix accounted for 69.2% of all new cases of cervical cancer in women aged 20–69 years, adenocarcinomas 20.3%, adeno-squamous 5.2%, and the remaining 5.2% comprised a range of other mixed and unknown histologies (Table 16a, page 57).
- The trend from 1989 to 2000 for all histological types has been a decrease in the age-standardised rates of cervical cancer per 100,000 in women aged 20–69 years. However, this trend is not statistically significant for adeno-squamous and adenocarcinoma.

Indicator 5.3: Incidence by location

Incidence rates of cervical cancer per 100,000 estimated resident female population in a 4-year period by location by 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+) and for the target age group (20–69 years, age-standardised).



Refer to Table 19 (page 60).

Notes

1. The age-standardised rates are presented as 4-year rolling blocks of data.
2. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population.
3. Bars on graphs represent 95% confidence intervals.
4. The ASGC classification of remoteness has been used in this report; previous reports used RRMA (see page 2).

Source: National Cancer Statistics Clearing House (AIHW).

Figure 14: Age-standardised incidence rates of cervical cancer by location by women aged 20–69 years, Australia, 1993–1996 and 1997–2000

	Metropolitan		Regional		Remote	
	1993–1996	1997–2000	1993–1996	1997–2000	1993–1996	1997–2000
AS rate	14.6	10.6	14.4	10.4	23.1	13.4
95% CI	13.9–15.2	10.1–11.1	13.5–15.4	9.7–11.2	18.9–27.7	10.5–16.9

- There were 2,127 new cases (67.7% of all new cases) of cervical cancer in major cities in the 4-year period 1997–2000, 933 new cases (29.7% of all new cases) in regional locations and 83 new cases (2.6% of all new cases) in remote locations (Table 18, page 59).
- Age-standardised cervical cancer incidence rates in the period 1997–2000, for women in the target age group 20–69 years, were higher in remote locations (13.4 per 100,000 women) than in regional locations (10.4) and major cities (10.6). This difference was not statistically significant (Table 19, page 60).

Mortality

Cancer of the cervix is one of the few cancers for which there is an efficacious screening test for detection of precursors of the disease. Most deaths due to cervical cancer are potentially avoidable (Marcus & Crane 1998). The objective of the National Cervical Screening Program is to reduce this mortality rate.

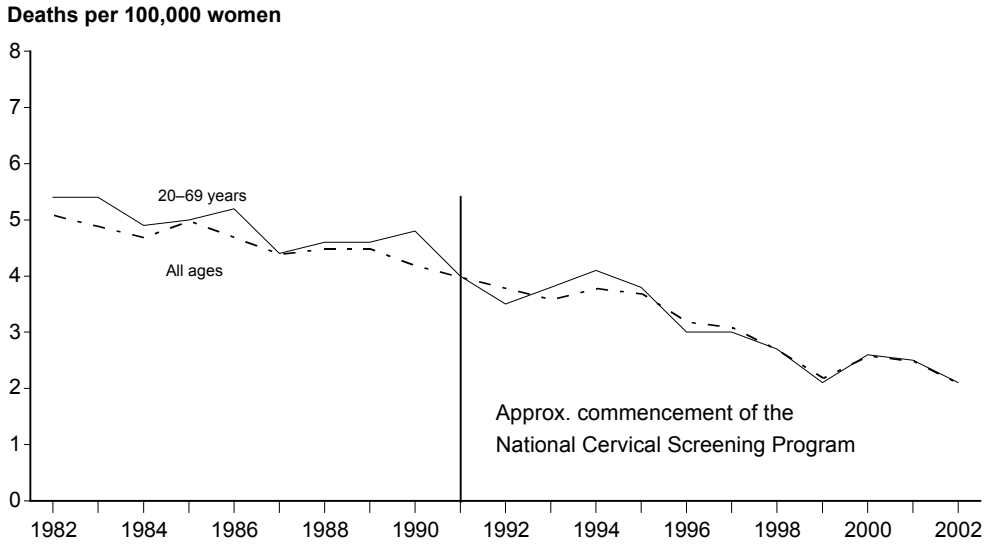
The three mortality indicators are mortality (by age and state), mortality by location (metropolitan, rural and remote), and Indigenous mortality (Indigenous and non-Indigenous). These indicators measure the level of mortality from cervical cancer in the total female population by age and other demographic characteristics. The mortality indicators are important because from them an assessment can be made of changes in mortality in different age groups and particular target groups over time. However, note that changes in the mortality rates may not be evident for a number of years following an improvement in the participation rate. Therefore, the effectiveness of this measure needs to be viewed in the longer rather than the shorter term.

Data issues

- Two major changes that have occurred in the classification and processing of Australian mortality data require some caution when interpreting mortality data over time. They are:
    1. the introduction of the tenth revision of the International Classification of Diseases (ICD-10) for classifying deaths registered from 1 January 1999; and
    2. the introduction by the Australian Bureau of Statistics (ABS) of the Automated Coding System (ACS) for processing deaths registered from 1 January 1997.
- As a result of this there is now a break in the mortality data series. In order to make mortality data coded using ICD-9 and ICD-10 comparable, the ABS has derived comparability factors to adjust data based on ICD-9. These comparability factors are derived from the movements in the underlying causes of death coded in ICD-9 compared with ICD-10 (ABS 2000).
- For cervical cancer deaths, the comparability factor is 0.98, and the pre-1997 mortality data presented in this report have been adjusted accordingly. The effect of this is that the pre-1997 number of deaths appearing in this report is different from figures in previous *Cervical Screening in Australia* reports.
- Prior to 1998, only South Australia, Western Australia and the Northern Territory had a relatively high coverage of Indigenous status identification in the deaths data. In 1998 Queensland's coverage of Indigenous deaths reached an acceptable level following the introduction of a new *Death Information Form* in 1996–97 which included a question on Indigenous status (ABS 1999). Therefore, in this report, cervical cancer deaths for Indigenous Australians include data from Queensland, South Australia, Western Australia and the Northern Territory.

Indicator 6.1: Mortality

Death rate from cervical cancer per 100,000 estimated resident female population in a 12-month period by 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+) and for the target age group (20–69 years, age-standardised).



Refer to Table 21 (page 62).

Notes

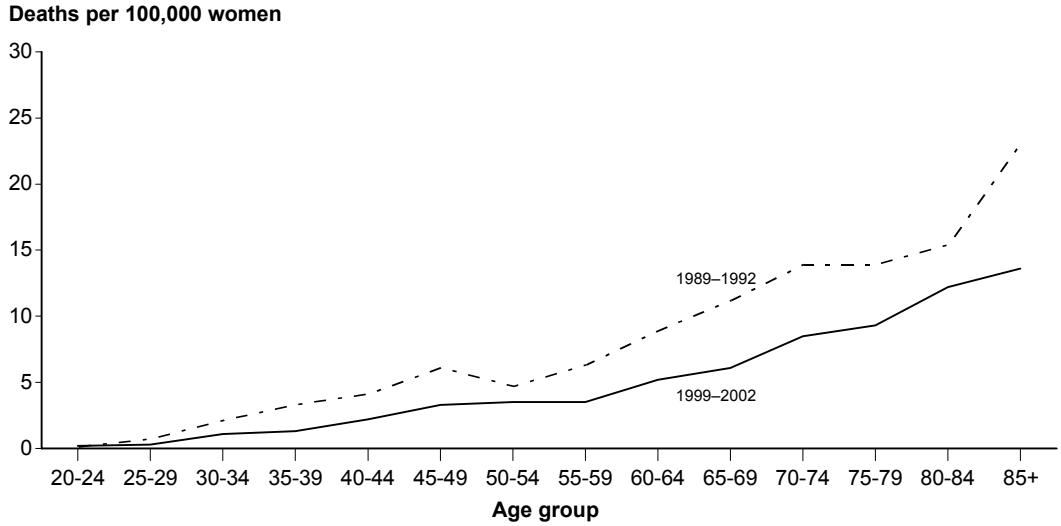
1. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population.
2. Deaths were derived by year of registration.
3. Rates for all ages are based on data for women aged 0–85+ years.

Source: AIHW Mortality Database.

Figure 15: Age-standardised death rates from cervical cancer, Australia, 1982–2002

	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
All ages 0–85+ years	5.1	4.9	4.7	5.0	4.7	4.4	4.5	4.5	4.2	4.0	3.8	3.6	3.8	3.7	3.2	3.1	2.7	2.2	2.6	2.5	2.1
Target age 20–69 years	5.4	5.4	4.9	5.0	5.2	4.4	4.6	4.6	4.8	4.0	3.5	3.8	4.1	3.8	3.0	3.0	2.7	2.1	2.6	2.5	2.1

- Cervical cancer was the 18th most common cause of cancer deaths in Australian women in 2002, accounting for 227 deaths.
- The age-standardised death rate for women of all ages fell to 2.1 per 100,000 women in 2002, much lower than the pre-screening program peaks of 5.1 per 100,000 in 1982 and 5.0 per 100,000 in 1985.



Notes

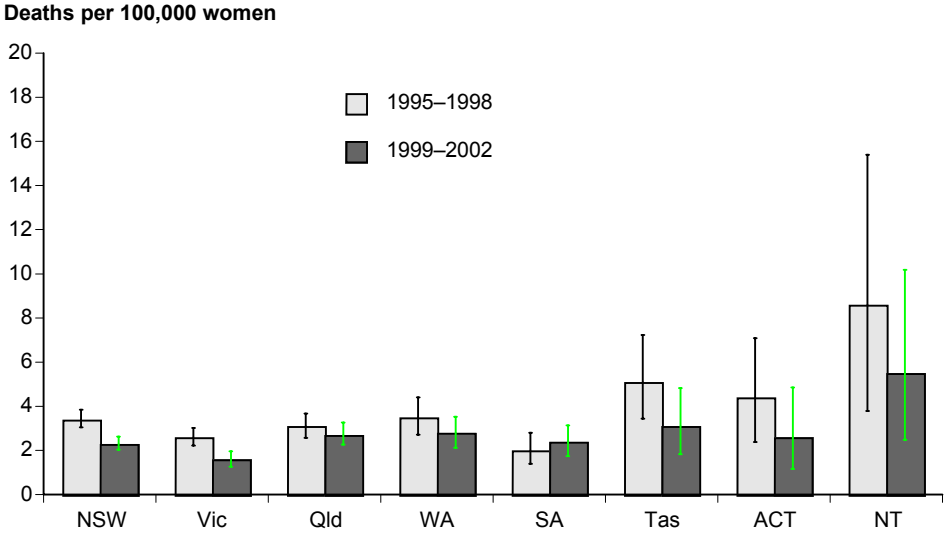
1. Rates are expressed per 100,000 women.
2. Deaths were derived by year of registration.

Source: AIHW Mortality Database.

Figure 16: Age-specific cervical cancer death rates by age group, Australia, 1989–1992 and 1999–2002

	Age group													
	20–24	**25–29**	**30–34**	**35–39**	**40–44**	**45–49**	**50–54**	**55–59**	**60–64**	**65–69**	**70–74**	**75–79**	**80–84**	**85+**
1989–1992	0.2	0.8	2.2	3.4	4.2	6.2	4.8	6.4	9.0	11.3	14.0	14.0	15.5	23.2
1999–2002	0.2	0.3	1.1	1.3	2.2	3.3	3.5	3.5	5.2	6.1	8.5	9.3	12.2	13.6

- Mortality from cervical cancer between the 1989–1992 and 1999–2002 periods declined in all age groups except for the age group 20–24 years where there was no difference.
- In both 1989–1992 and 1999–2002 the age-specific rates of cervical cancer mortality increased with increasing age.



Refer to Tables 23 and 25 (pages 64 and 66).

Notes

1. The age-standardised rates were averaged over 4 years to smooth annual variations that may occur in the smaller states and territories.
2. Deaths derived by year of registration.
3. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population.
4. Bars on graphs represent 95% confidence intervals.

Source: AIHW Mortality Database.

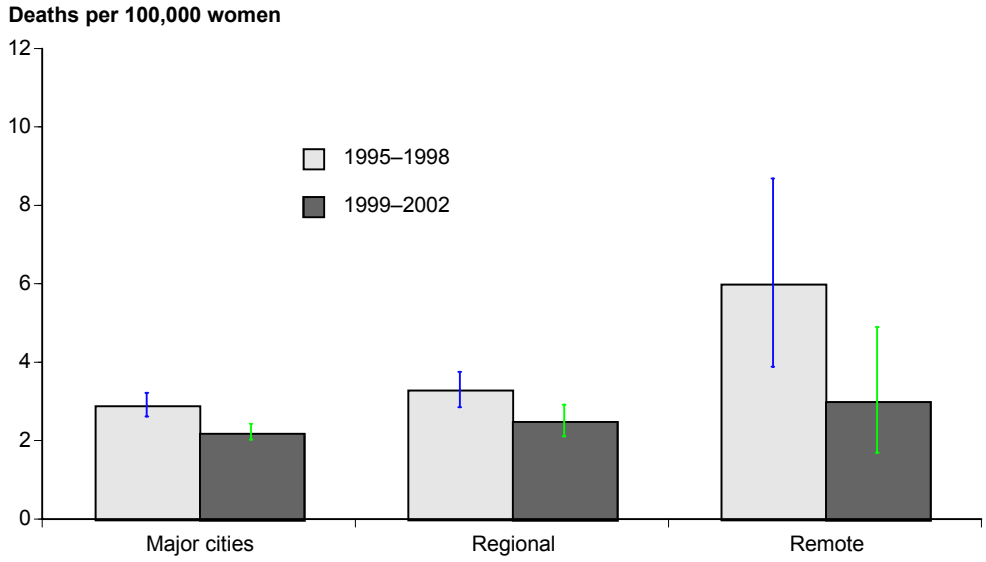
Figure 17: Age-standardised cervical cancer death rates by women aged 20–69 years, states and territories, 1995–1998 and 1999–2002

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Rate 1995–1998	3.4	2.6	3.1	3.5	2.0	5.1	4.4	8.6	3.1
95% CI	3.0–3.8	2.2–3.0	2.6–3.7	2.7–4.4	1.4–2.8	3.4–7.2	2.4–7.1	3.8–15.4	2.9–3.4
Rate 1999–2002	2.3	1.6	2.7	2.8	2.4	3.1	2.6	5.5	2.3
95% CI	2.0–2.6	1.3–2.0	2.3–3.3	2.1–3.5	1.7–3.1	1.8–4.8	1.2–4.9	2.5–10.2	2.1–2.5

- In the 4-year period 1999–2002 there were 976 deaths from cervical cancer in all states and territories compared with 1,183 in 1995–1998.
- Age-standardised mortality varied from 1.6 deaths per 100,000 women in Victoria to 5.5 per 100,000 in the Northern Territory in the 1999–2002 period.
- The age-standardised death rates decreased in all jurisdictions between the two periods except in South Australia. The declines were significant in New South Wales and Victoria. Although the Northern Territory rate decreased sharply between the two periods, the rates are based on very small numbers and are subject to considerable variation.

Indicator 6.2: Mortality by location

Death rate from cervical cancer per 100,000 estimated resident female population in a 4-year period by location and 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+) and for the target age group (20–69 years, age-standardised).



Refer to Table 27 (page 68).

Notes

1. Age-standardised rates are presented as 4-year rolling blocks of data.
2. Deaths were derived from place of usual residence and by year of registration.
3. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population.
4. Bars on graphs represent 95% confidence intervals.
5. The ASGC classification of remoteness has been used in this report; previous reports used RRMA (see page 2).

Source: AIHW Mortality Database.

Figure 18: Age-standardised cervical cancer death rates by location, women aged 20–69 years, 1995–1998 and 1999–2002

	Major cities		Regional		Remote	
	1995–1998	1999–2002	1995–1998	1999–2002	1995–1998	1999–2002
Rate	2.9	2.2	3.3	2.5	6.0	3.0
95% CI	2.6–3.2	2.0–2.4	2.9–3.8	2.1–2.9	3.9–8.7	1.7–4.9

- During the 4-year period 1999–2002, there were 621 deaths (64% of all cervical cancer deaths in that period) in major cities, 321 deaths (33% of all cervical cancer deaths) in regional areas and 26 deaths (3% of all cervical cancer deaths) in remote areas (Table 26, page 67).
- The age-standardised death rate for women in the target age group 20–69 years increased from major cities to rural areas and from rural to remote areas, though these differences were not statistically significant.

- In all three regions the age-standardised mortality rates declined between the periods 1995–1998 and 1999–2002; however, only the decline in the metropolitan area was statistically significant. The largest overall mortality reduction was in remote areas (a mortality reduction of 50% between 1995–1998 and 1999–2002), but these rates are based on small numbers and therefore the decline is not statistically significant.

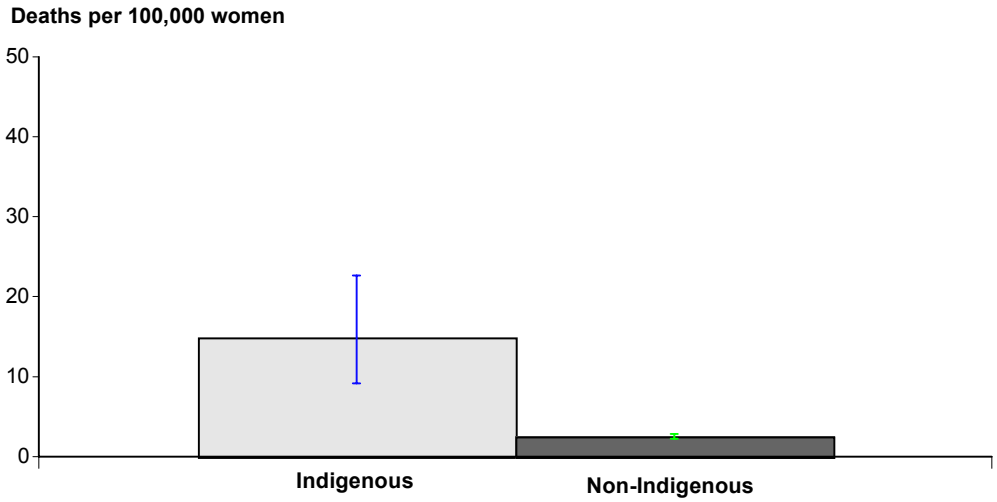
Age-specific features

(Tables 26 and 27, pages 67 and 68)

- In major cities the death rates from cervical cancer increased with age. In regional and remote locations, although there is a general trend of rising death rates with age, the specific pattern is less clear because of the small numbers involved in calculating the rates.
- In major cities, cervical cancer mortality decreased in all age groups between the periods 1995–1998 and 1999–2002. In regional locations, mortality declined in most age groups.

Indicator 6.3: Indigenous mortality

Death rate from cervical cancer per 100,000 estimated resident female population in a 4-year period by Indigenous status and 5-year age groups (20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75+) and for the target age group (20–69 years, age-standardised).



Rrefer to Table 28, page 69.

Notes

1. Age-standardised rates are presented as 4-year rolling blocks of data.
2. Deaths were derived by year of registration.
3. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population.
4. Only Queensland, South Australia, Western Australia and the Northern Territory have Indigenous death registration data considered to be of a publishable standard.
5. Bars on graphs represent 95% confidence intervals.

Source: AIHW Mortality Database.

Figure 19: Age-standardised cervical cancer mortality rates by Indigenous status, women aged 20–69 years (Queensland, Western Australia, South Australia and Northern Territory), 1999–2002

	Indigenous	Non-Indigenous
AS rate (A)	14.9	2.5
95% CI	9.1–22.6	2.2–2.8

- Due to the difficulties of Indigenous identification in mortality data, only data from Queensland, Western Australia, South Australia and the Northern Territory are considered to be of publishable standard. Therefore, all cervical cancer mortality data for both Indigenous women and non-Indigenous women used in this analysis are confined to these jurisdictions.

- The age-standardised mortality rate attributable to cervical cancer among Indigenous women in the target age group in 1999–2002 was 14.9 per 100,000 women and was considerably higher than the mortality rate for non-Indigenous women in the same age range (2.5 per 100,000 women) (Table 28, page 69).
- Compared with non-Indigenous women, Indigenous women experienced high rates of mortality in every age group (Table 28, page 69).

Tables

Indicator 1: Participation

Table 1a: Number of women participating in the National Cervical Screening Program by age, states and territories, 2000–2001

Age group	NSW	Vic[(a)]	Qld	WA[(a)]	SA[(b)]	Tas	ACT[(a)]	NT	Australia
20–24	98,410	81,673	62,480	33,698	25,410	8,804	6,193	4,595	321,263
25–29	143,840	114,693	79,515	43,183	32,306	10,127	7,845	5,898	437,407
30–34	153,836	125,139	81,104	46,448	36,257	10,994	8,158	5,827	467,763
35–39	154,920	121,537	80,964	47,090	37,436	11,924	7,976	5,043	466,890
40–44	140,924	112,399	74,268	43,390	35,941	11,193	7,474	4,188	429,777
45–49	118,907	95,793	62,383	36,619	30,829	9,475	6,708	3,464	364,178
50–54	99,838	82,150	52,047	29,221	26,386	8,081	6,059	2,509	306,291
55–59	68,905	56,506	35,118	18,729	18,311	5,505	3,665	1,375	208,114
60–64	50,567	42,868	24,336	14,060	14,155	4,106	2,378	766	153,236
65–69	35,430	31,124	16,749	9,621	10,236	2,974	1,519	359	108,012
70–74	14,641	10,486	8,042	3,641	6,495	798	483	149	44,735
75–79	5,341	3,617	3,098	1,173	n.a.	327	168	53	13,777
80+	2,190	1,584	1,354	542	n.a.	133	46	26	5,875
Not stated	3,720	0	320	0	20	3	9	18	4,090
All ages									
20–80+ years	**1,091,469**	**879,569**	**581,778**	**327,415**	**273,782**	**84,444**	**58,681**	**34,270**	**3,331,408**
Target age									
20–69 years	1,065,577	863,882	568,964	322,059	267,267	83,183	57,975	34,024	3,262,931

(a) The Victorian, Western Australian and Australian Capital Territory registers only register women with a Victorian, Western Australian or Australian Capital Territory address respectively.

(b) South Australia has grouped women aged 70 years or more, and for the purpose of this table, they appear in the 70–74 age group.

Note: These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

Source: AIHW analysis of state and territory Cervical Cytology Registry data.

Table 1b: Proportion of women participating in the National Cervical Screening Program by age, states and territories, 2000–2001

Age group	NSW	Vic[(a)]	Qld	WA[(a)]	SA	Tas	ACT[(a)]	NT	Australia
					(Per cent)				
20–24	46.4	51.1	51.0	53.0	54.8	62.7	47.8	59.9	50.3
25–29	58.8	63.3	59.3	62.7	64.2	66.9	59.5	64.2	61.0
30–34	63.7	67.2	61.2	65.9	68.6	68.5	64.9	65.9	64.9
35–39	63.7	67.6	60.5	66.1	68.3	69.8	64.9	64.1	64.8
40–44	62.9	68.0	59.9	64.8	68.5	67.5	64.6	63.1	64.4
45–49	63.7	69.3	60.0	64.3	68.9	67.6	66.0	64.9	65.0
50–54	61.7	68.1	57.1	61.7	65.8	65.8	68.5	61.9	63.0
55–59	63.2	71.2	58.3	62.7	69.0	66.1	72.1	62.3	64.9
60–64	52.9	61.1	48.8	54.9	60.7	55.2	63.2	55.5	55.3
65–69	43.7	52.3	41.9	46.5	51.2	48.1	54.4	42.6	46.7
70–74	18.1	17.7	20.8	18.9	31.3	13.4	19.0	24.7	19.7
75–79	7.6	7.1	9.4	7.3	0.0	6.2	7.6	13.6	7.0
80+	2.4	2.4	3.1	2.5	0.0	1.9	1.8	5.5	2.3
All ages 20–80+ years									
Crude rate	53.5	58.0	52.6	56.6	57.5	58.1	58.4	61.8	55.3
AS rate	53.0	57.7	51.3	55.0	58.2	58.0	56.2	55.9	54.7
95% CI	52.9–53.1	57.6–57.9	51.2–51.4	54.8–55.1	58.0–58.4	57.6–58.3	55.8–56.7	55.2–56.6	54.6–54.7
Target age 20–69 years									
Crude rate	59.2	64.5	57.4	61.7	64.9	65.4	62.2	63.0	61.1
AS rate	59.1	64.6	57.0	61.4	64.9	65.2	62.8	61.7	61.0
95% CI	59.0–59.3	64.5–64.8	56.8–57.1	61.2–61.6	64.6–65.1	64.7–65.6	62.3–63.4	61.0–62.4	60.9–61.1

(a) The Victorian, Western Australian and Australian Capital Territory registers only register women with a Victorian, Western Australian or Australian Capital Territory address respectively.

Notes

1. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

2. Rates are standardised to the 2001 Australian total population.

Source: AIHW analysis of state and territory Cervical Cytology Registry data.

Table 2a: Number of women participating in the National Cervical Screening Program by age, states and territory, 2001–2002

Age group	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT[(a)]	Australia
20–24	99,958	83,123	61,476	33,910	25,410	8,697	6,521	319,095
25–29	139,111	110,646	75,345	41,288	30,743	9,517	7,710	414,360
30–34	156,878	127,812	81,561	46,471	36,394	11,037	8,296	468,449
35–39	152,364	121,345	79,222	45,781	36,643	11,353	7,980	454,688
40–44	144,459	114,935	75,625	43,631	36,315	11,304	7,582	433,851
45–49	121,346	98,330	63,458	37,083	31,474	9,552	6,746	367,989
50–54	101,738	83,979	53,402	30,153	26,856	8,156	6,048	310,332
55–59	74,048	60,692	38,083	19,973	20,004	5,853	4,028	222,681
60–64	52,909	44,356	25,943	14,410	14,611	4,307	2,529	159,065
65–69	37,174	31,840	17,759	9,880	10,729	3,069	1,613	112,064
70–74	14,522	10,825	8,446	3,595	4,108	849	474	42,819
75–79	5,165	3,851	3,115	1,123	1,642	307	152	15,355
80+	2,183	1,721	1,406	506	660	138	46	6,660
Not stated	3,366	0	207	0	21	7	4	3,605
All ages								
20–80+ years	**1,105,221**	**893,455**	**585,048**	**327,804**	**275,610**	**84,146**	**59,729**	**3,331,013**
Target age								
20–69 years	1,079,985	877,058	571,874	322,580	269,179	82,845	59,053	3,262,574

(a) The Victorian and Australian Capital Territory registers only register women with a Victorian or Australian Capital Territory address respectively.

Notes

1. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

2. Northern Territory data were not available for 2002.

Source: AIHW analysis of state and territory Cervical Cytology Registry data.

Table 2b: Proportion of women participating in the National Cervical Screening Program by age, states and territory, 2001–2002

Age group	NSW	Vic[(a)]	Qld	WA	SA	Tas	ACT[(a)]	Australia
				(Per cent)				
20–24	46.7	51.1	49.5	52.6	54.4	61.9	49.3	49.9
25–29	58.4	62.9	57.5	61.6	63.6	66.3	59.8	60.2
30–34	63.0	66.9	59.5	64.6	68.4	68.5	64.5	64.1
35–39	63.5	67.8	59.3	64.7	68.3	68.8	65.8	64.4
40–44	63.1	68.2	59.1	64.1	68.5	67.4	65.0	64.3
45–49	64.3	70.2	59.8	64.0	69.9	67.5	66.7	65.4
50–54	61.8	68.4	57.0	61.5	66.2	65.5	67.1	63.0
55–59	64.2	72.1	58.7	62.7	70.7	66.3	73.2	65.7
60–64	54.2	62.0	49.6	54.1	61.6	56.3	64.2	56.1
65–69	45.4	52.9	43.3	46.5	53.5	49.2	55.4	48.0
70–74	18.0	18.4	21.6	18.5	20.1	14.2	18.7	18.9
75–79	7.3	7.4	9.3	6.9	8.7	5.8	6.7	7.7
80+	2.3	2.4	3.1	2.2	2.5	1.9	1.7	2.5
All ages 20–80+ years								
Crude rate	53.5	58.1	51.8	55.8	57.7	57.7	58.6	55.1
AS rate	53.2	58.0	50.7	54.3	58.4	57.8	56.6	54.6
95% CI	53.1–53.3	57.9–58.1	50.6–50.9	54.1–54.5	58.2–58.7	57.4–58.2	56.1–57.0	54.5–54.7
Target age 20–69 years								
Crude rate	59.4	64.7	56.5	61.0	65.3	65.2	62.6	61.0
AS rate	59.4	64.9	56.3	60.7	65.2	65.0	63.3	61.0
95% CI	59.3–59.5	64.7–65.0	56.1–56.4	60.5–60.9	65.0–65.5	64.5–65.4	62.8–63.8	60.9–61.0

(a) The Victorian and Australian Capital Territory registers only register women with a Victorian or Australian Capital Territory address respectively.

Notes

1. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.
2. Rates are standardised to the 2001 Australian total population.
3. Northern Territory data were not available for 2002 so all Australia rates in the table exclude the Northern Territory.

Source: AIHW analysis of state and territory Cervical Cytology Registry data.

Indicator 2: Early re-screening

Table 3: Number of women with repeat screenings in the 21 months following a negative Pap smear in February 2001, states and territory, and Australia 2000–2001 and 2001–2002

No. of tests	NSW	Vic[(a)]	Qld	WA[(b)]	SA	Tas	ACT[(a)]	Australia 2000–2001	Australia 2001–2002
					Number of women				
0	38,571	33,610	21,578	11,440	10,103	2,790	2,246	114,902	120,338
1	14,276	13,557	7,049	3,991	2,711	912	713	46,105	43,209
2	1,595	1,768	954	423	308	95	104	6,075	5,247
3	251	482	209	67	41	21	14	1,199	1,085
4	48	94	44	6	7	1	5	251	205
5 or more	14	38	5	0	4	0	0	108	61

(a) The Victorian and Australian Capital Territory registries only register women with a Victorian or Australian Capital Territory address respectively.

(b) In 2000–2001 Western Australia only provided data for women with a Western Australian address.

Notes

1. Northern Territory data were unavailable for 2001 and 2002.
2. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

Source: State and territory Cervical Cytology Registry data.

Table 4: Percentage of women with repeat screenings in the 21 months following a negative Pap smear in February 2001, states and territory, and Australia 2000–2001 and 2001–2002

No. of tests	NSW	Vic[(a)]	Qld	WA[(b)]	SA	Tas	ACT[(a)]	Australia 2000–2001	Australia 2001–2002
					Percentage				
0	70.4	67.8	72.3	71.8	76.7	73.1	72.9	68.1	70.7
1	26.1	27.4	23.6	25.1	20.6	23.9	23.1	27.3	25.4
2	2.9	3.6	3.2	2.7	2.3	2.5	3.4	3.6	3.1
3	0.5	1.0	0.7	0.4	0.3	0.6	0.5	0.7	0.6
4	0.1	0.2	0.1	0.0	0.1	0.0	0.2	0.1	0.1
5 or more	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0

(a) The Victorian and Australian Capital Territory registries only register women with a Victorian or Australian Capital Territory address respectively.

(b) In 2000–2001 Western Australia only provided data for women with a Western Australian address.

Notes

1. Northern Territory data were unavailable for 2001 and 2002. All Australia rates exclude the Northern Territory.
2. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

Source: State and territory Cervical Cytology Registry data.

Indicator 3: Low-grade abnormality detection

Table 5a: Number of low- and high-grade abnormalities on histology for women aged 20–69 years, states and territory, 2001

Abnormalities	NSW	Vic	Qld	WA	SA	Tas	ACT	Australia
Low-grade	6,416	3,099	4,086	2,308	1,335	591	291	18,126
High-grade	4,614	2,855	2,890	1,515	961	471	249	13,555
Ratio	**1.39**	**1.09**	**1.41**	**1.52**	**1.39**	**1.25**	**1.17**	**1.34**
				As a percentage of all screens in 2001				
Low-grade	1.0	0.6	1.3	1.2	0.9	1.2	0.9	1.0
High-grade	0.8	0.6	0.9	0.8	0.7	1.0	0.8	0.7

Notes

1. Northern Territory data were unavailable for 2001.
2. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

Source: State and territory Cervical Cytology Registry data.

Table 5b: Number of low- and high-grade abnormalities on histology for women aged 20–69 years, states and territory, 2002

Abnormalities	NSW	Vic	Qld	WA	SA	Tas	ACT	Australia
Low-grade	6,477	3,015	4,273	2,661	1,205	473	332	18,436
High-grade	5,034	3,301	3,056	1,647	952	417	253	14,660
Ratio	**1.29**	**0.91**	**1.40**	**1.62**	**1.27**	**1.13**	**1.31**	**1.26**
				As a percentage of all screens in 2002				
Low-grade	1.1	0.6	1.3	1.4	0.8	1.1	1.0	1.0
High-grade	0.8	0.7	1.0	0.9	0.6	0.9	0.8	0.8

Notes

1. Northern Territory data were unavailable for 2001–2002.
2. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

Source: State and territory Cervical Cytology Registry data.

Indicator 4: High-grade abnormality detection

Table 6a: Rate of histologically confirmed high-grade abnormalities per 1,000 women screened, states and territory, 2001

Age group	NSW	Vic	Qld	WA	SA[(a)]	Tas	ACT	Australia
20–24	18.2	12.6	18.9	17.8	13.7	23.7	2.2	16.3
25–29	16.5	12.7	18.0	17.6	13.3	20.4	13.0	15.6
30–34	10.4	8.1	12.1	11.0	9.4	11.8	11.1	10.1
35–39	6.2	5.2	8.1	7.2	6.4	10.0	11.3	6.6
40–44	4.2	3.5	5.1	4.8	3.9	7.0	9.9	4.4
45–49	3.1	2.0	3.7	3.2	3.6	4.9	5.3	3.0
50–54	1.7	1.3	2.7	1.5	2.2	1.3	1.7	1.8
55–59	1.4	0.9	2.4	1.4	1.5	2.1	2.8	1.5
60–64	1.6	0.9	2.1	1.0	2.2	2.9	3.0	1.5
65–69	1.6	1.2	2.2	1.6	1.8	2.3	4.7	1.6
70–74	1.2	1.4	1.7	3.0	4.8	4.4	11.7	2.1
75–79	3.7	3.9	6.0	1.2	n.a.	0.0	0.0	3.9
80–84	3.4	1.6	10.6	3.6	n.a.	17.9	0.0	4.9
85+	6.1	0.0	0.0	7.9	n.a.	0.0	0.0	3.2
All ages								
20–85+ years	**7.4**	**5.6**	**8.9**	**7.9**	**6.5**	**9.8**	**7.6**	**7.2**
Target age								
20–69 years	7.5	5.7	9.0	8.0	6.5	9.8	7.6	7.3

(a) South Australia has grouped all women aged 70 years or more, and for the purpose of this table they appear in the 70–74 age group.

Notes

1. Northern Territory data were unavailable for 2001. All Australia rates exclude the Northern Territory.
2. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

Source: State and territory Cervical Cytology Registry data.

Table 6b: Rate of histologically confirmed high-grade abnormalities per 1,000 women screened by age, states and territory, 2002

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	Australia
20–24	21.0	17.2	19.7	18.4	13.5	24.0	15.8	18.8
25–29	18.0	14.5	17.4	18.8	14.9	15.4	13.3	16.6
30–34	11.2	9.5	14.4	12.0	9.7	13.6	12.5	11.3
35–39	7.5	5.4	7.8	7.5	6.2	9.4	6.8	6.9
40–44	4.9	4.0	6.0	4.8	3.4	7.3	4.9	4.8
45–49	3.0	2.1	4.5	2.9	2.9	2.9	1.8	3.0
50–54	1.9	1.3	2.6	2.7	1.6	3.5	2.7	2.0
55–59	1.6	1.1	2.6	1.7	1.7	2.1	2.6	1.7
60–64	1.2	0.8	2.2	1.6	1.2	0.9	1.4	1.3
65–69	1.1	1.0	2.4	0.9	1.4	1.8	4.5	1.4
70–74	2.4	2.1	3.3	2.5	3.1	8.4	4.0	2.7
75–79	1.8	0.9	3.0	0.0	10.2	0.0	0.0	2.5
80–84	3.5	0.0	8.8	5.7	4.0	0.0	47.6	4.2
85+	3.5	0.0	30.6	11.6	55.6	0.0	0.0	13.5
All ages 20–85+ years	**8.1**	**6.5**	**9.4**	**8.4**	**6.3**	**9.2**	**7.6**	**7.8**
Target age 20–69 years	8.2	6.6	9.5	8.5	6.3	9.3	7.6	7.9

Notes

1. Northern Territory data were unavailable for 2002. All Australia rates exclude the Northern Territory.
2. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

Source: State and territory Cervical Cytology Registry data.

Table 7a: Number of histologically confirmed high-grade abnormalities by age, states and territory, 2001

Age group	NSW	Vic	Qld	WA	SA[(a)]	Tas	ACT	Australia
20–24	1,008	588	652	343	194	116	8	2,909
25–29	1,334	821	786	429	232	116	57	3,775
30–34	929	600	558	297	189	75	51	2,699
35–39	544	366	365	193	130	68	51	1,717
40–44	343	232	218	122	78	45	42	1,080
45–49	216	110	130	70	62	27	20	635
50–54	102	63	82	27	33	6	6	319
55–59	58	32	49	16	16	7	6	184
60–64	48	22	29	9	17	7	4	136
65–69	32	21	21	9	10	4	4	101
70–74	10	8	8	7	16	2	3	54
75–79	11	8	10	1	0	0	0	30
80–84	3	1	6	1	0	1	0	12
85+	2	0	0	1	0	0	0	3
Age not stated	0	0	1	0	0	0	0	1
All ages 20–85+ years	**4,640**	**2,872**	**2,915**	**1,525**	**977**	**474**	**252**	**13,655**
Target age 20–69 years	4,614	2,855	2,890	1,515	961	471	249	13,555

(a) South Australia has grouped all women aged 70 years or more, and for the purpose of this table they appear in the 70–74 age group.

Notes

1. Northern Territory data were unavailable for 2001.
2. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

Source: State and territory Cervical Cytology Registry data.

Table 7b: Number of histologically confirmed high-grade abnormalities by age, states and territory, 2002

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	Australia
20–24	1,152	806	680	358	192	113	58	3,359
25–29	1,378	894	760	434	254	78	57	3,855
30–34	1,004	705	664	322	198	82	59	3,034
35–39	640	375	352	194	127	56	30	1,774
40–44	406	262	254	122	69	46	21	1,180
45–49	211	122	161	62	51	15	7	629
50–54	113	60	79	47	24	15	9	347
55–59	72	38	53	20	19	7	6	215
60–64	35	21	30	13	10	2	2	113
65–69	23	18	23	5	8	3	4	84
70–74	19	13	15	5	7	4	1	64
75–79	5	2	5	0	9	0	0	21
80–84	3	0	5	1	1	0	1	11
85+	1	0	6	1	5	0	0	13
Age not stated	0	0	1	0	0	0	0	1
All ages 20–85+ years	**5,062**	**3,316**	**3,088**	**1,584**	**974**	**421**	**255**	**14,700**
Target age 20–69 years	5,034	3,301	3,056	1,577	952	417	253	14,590

Notes

1. Northern Territory data were unavailable for 2001–2002.
2. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

Source: State and territory Cervical Cytology Registry data.

Table 8a: Number of women screened by age, states and territory, 2001

Age group	NSW	Vic	Qld	WA	SA[(a)]	Tas	ACT	Australia
20–24	55,327	46,511	34,551	19,292	14,136	4,892	3,558	178,267
25–29	81,027	64,645	43,714	24,378	17,509	5,700	4,380	241,353
30–34	89,191	73,696	46,004	27,016	20,161	6,369	4,601	267,038
35–39	88,177	69,967	45,033	26,936	20,314	6,779	4,522	261,728
40–44	81,892	66,241	42,340	25,501	20,004	6,412	4,250	246,640
45–49	69,104	56,362	35,401	21,883	17,098	5,521	3,794	209,163
50–54	58,595	48,786	29,858	18,232	14,698	4,783	3,473	178,425
55–59	40,658	33,830	20,348	11,590	10,340	3,283	2,119	122,168
60–64	29,437	24,988	13,923	8,580	7,669	2,418	1,336	88,351
65–69	20,375	17,710	9,555	5,758	5,585	1,713	860	61,556
70–74	8,283	5,923	4,572	2,321	3,344	452	257	25,152
75–79	2,945	2,071	1,665	809	0	178	106	7,774
80–84	890	626	566	278	0	56	19	2,435
85+	327	255	196	126	0	21	4	929
Age not stated	1,895	0	147	0	8	3	5	2,058
All ages 20–85+ years	**628,123**	**511,611**	**327,873**	**192,700**	**150,866**	**48,580**	**33,284**	**1,893,037**
Target age 20–69 years	613,783	502,736	320,727	189,166	147,514	47,870	32,893	1,854,689

(a) South Australia has grouped all women aged 70 years or more, and for the purpose of this table they appear in the 70–74 age group.

Notes

1. Northern Territory data were unavailable for 2001.
2. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

Source: State and territory Cervical Cytology Registry data.

Table 8b: Number of women screened by age, states and territory, 2002

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	Australia
20–24	54,880	46,923	34,551	19,450	14,198	4,715	3,676	178,393
25–29	76,499	61,866	43,714	23,061	17,059	5,055	4,278	231,532
30–34	89,887	74,403	46,004	26,730	20,357	6,046	4,727	268,154
35–39	85,841	69,551	45,033	26,005	20,480	5,976	4,427	257,313
40–44	83,130	65,928	42,340	25,315	20,270	6,269	4,288	247,540
45–49	69,803	56,897	35,401	21,614	17,643	5,201	3,790	210,349
50–54	58,172	47,711	29,858	17,274	14,825	4,336	3,280	175,456
55–59	43,921	35,963	20,348	11,916	11,371	3,346	2,335	129,200
60–64	30,177	25,118	13,923	8,079	8,053	2,343	1,447	89,140
65–69	20,961	17,777	9,555	5,535	5,849	1,655	885	62,217
70–74	7,840	6,280	4,572	1,977	2,242	478	250	23,639
75–79	2,770	2,181	1,665	619	880	151	57	8,323
80–84	866	705	566	176	248	51	21	2,633
85+	287	284	196	86	90	17	4	964
Age not stated	1,687	0	147	0	14	4	0	1,852
All ages								
20–85+ years	**626,721**	**511,587**	**327,873**	**187,837**	**153,579**	**45,643**	**33,465**	**1,886,705**
Target age								
20–69 years	613,271	502,137	320,727	184,979	150,105	44,942	33,133	1,849,294

Notes

1. Northern Territory data were unavailable for 2001.
2. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

Source: State and territory Cervical Cytology Registry data.

Table 9a: Age-standardised high-grade abnormality rate on histology per 1,000 women screened aged 20–69 years, states and territory, 2001

	NSW	Vic	Qld	WA	SA	Tas	ACT	Australia
All ages 20–85+ years								
AS rate	6.6	4.9	7.8	6.9	6.1	8.9	6.7	6.4
95% CI	6.4–6.9	4.7–5.2	7.4–8.1	6.4–7.4	5.8–6.5	7.8–10.1	5.7–7.7	6.3–6.6
Target age 20–69 years								
AS rate	7.1	5.4	8.2	7.4	6.3	9.5	7.0	6.9
95% CI	6.9–7.3	5.2–5.6	7.9–8.6	7.0–7.8	5.9–6.8	8.6–10.4	6.2–8.0	6.8–7.0

Notes

1. Northern Territory data were unavailable for 2001. All Australia rates exclude the Northern Territory.
2. Rates are standardised to the 2001 Australian total population.
3. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

Source: AIHW analysis of state and territory Cervical Cytology Registry data.

Table 9b: Age-standardised high-grade abnormality rate on histology per 1,000 women screened aged 20–69 years, states and territory, 2002

	NSW	Vic	Qld	WA	SA	Tas	ACT	Australia
All ages 20–85+ years								
AS rate	7.2	5.6	8.7	7.4	7.1	8.2	7.5	7.1
95% CI	7.0–7.5	5.4–5.8	8.1–9.3	6.8–8.0	6.1–8.2	7.4–9.1	5.3–10.0	6.9–7.3
Target age 20–69 years								
AS rate	7.9	6.3	8.7	7.9	6.2	8.9	7.1	7.5
95% CI	7.7–8.1	6.1–6.5	8.4–9.0	7.5–8.3	5.8–6.6	8.1–9.8	6.3–8.1	7.4–7.6

Notes

1. Northern Territory data were unavailable for 2002. All Australia rates exclude the Northern Territory.
2. Rates are standardised to the 2001 Australian total population.
3. These numbers may be over-estimated because of double counting of some women between some states. This may be the result of difficulty in identifying state of residence for women in border areas, tests inadvertently transferred to interstate registers and inclusion of women resident overseas; however, the likely impact of double counting is probably very small.

Source: AIHW analysis of state and territory Cervical Cytology Registry data.

Indicator 5.1: Incidence of micro-invasive cervical cancer

Table 10: New cases of micro-invasive cervical cancer by age, Australia, 1989–2000

Age group	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
0–4	0	0	0	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0	0	0	0
10–14	0	0	0	0	0	0	0	0	0	0	0	0
15–19	0	0	1	0	0	0	0	1	0	0	0	0
20–24	1	4	0	5	1	7	1	6	3	2	2	1
25–29	13	14	14	14	9	17	16	17	10	18	14	12
30–34	28	32	31	32	32	36	42	18	27	18	14	25
35–39	10	25	40	25	26	30	29	35	21	26	20	14
40–44	17	26	30	24	17	24	30	23	21	22	15	7
45–49	6	18	9	13	15	26	23	12	11	15	7	15
50–54	4	6	11	12	17	9	12	11	8	13	7	5
55–59	5	8	7	11	5	5	9	7	8	3	8	4
60–64	7	8	7	8	7	10	11	6	5	5	2	3
65–69	2	6	7	9	10	6	7	10	2	2	3	0
70–74	0	2	4	2	3	6	5	3	4	3	2	0
75–79	1	3	3	2	1	3	5	2	2	2	1	1
80–84	1	0	2	0	0	0	1	1	0	2	0	2
85+	0	0	0	0	1	2	1	1	0	0	0	0
All ages												
0–85+ years	**95**	**152**	**166**	**157**	**144**	**181**	**192**	**153**	**122**	**131**	**95**	**89**
Target age												
20–69 years	93	147	156	153	139	170	180	145	116	124	92	86

Note: Cancer incidence estimates provided in this publication were made in February 2004. These estimates may be updated at any time as case details are added, modified or deleted in the national database. These modifications may occur several years after the initial diagnosis as additional case details are received by the state and territory cancer registries from data suppliers and then passed to the NCSCH. This may have the impact of making incidence estimates for the same year incompatible between publications, but for the most part these changes are very small.

Source: National Cancer Statistics Clearing House (AIHW).

Table 11: Age-specific and age-standardised incidence rates of micro-invasive cervical cancer by age, Australia, 1989–2000

Age group	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
20–24	0.2	0.6	0.0	0.7	0.1	1.0	0.1	0.9	0.4	0.3	0.3	0.2
25–29	1.8	2.0	2.0	2.0	1.3	2.5	2.3	2.4	1.4	2.5	1.9	1.7
30–34	4.1	4.6	4.4	4.4	4.4	4.9	5.7	2.5	3.8	2.5	2.0	3.5
35–39	1.5	3.8	6.0	3.7	3.8	4.3	4.1	4.8	2.8	3.5	2.6	1.9
40–44	2.9	4.2	4.7	3.7	2.6	3.7	4.5	3.4	3.0	3.1	2.1	1.0
45–49	1.3	3.8	1.8	2.4	2.6	4.4	3.7	1.9	1.7	2.3	1.1	2.2
50–54	1.0	1.5	2.7	2.8	3.9	2.0	2.5	2.2	1.5	2.3	1.2	0.8
55–59	1.4	2.2	2.0	3.0	1.3	1.3	2.3	1.7	1.9	0.7	1.8	0.8
60–64	1.9	2.2	1.9	2.2	1.9	2.8	3.1	1.7	1.4	1.3	0.5	0.8
65–69	0.6	1.7	2.0	2.5	2.8	1.7	2.0	2.8	0.6	0.6	0.9	0.0
70–74	0.0	0.7	1.4	0.7	1.0	1.9	1.5	0.9	1.2	0.9	0.6	0.0
75–79	0.5	1.4	1.3	0.9	0.4	1.3	2.1	0.8	0.8	0.7	0.4	0.3
80–84	0.7	0.0	1.4	0.0	0.0	0.0	0.6	0.6	0.0	1.1	0.0	1.1
85+	0.0	0.0	0.0	0.0	0.8	1.6	0.7	0.7	0.0	0.0	0.0	0.0
All ages 0–85+ years												
Crude rate	1.1	1.8	1.9	1.8	1.6	2.0	2.1	1.7	1.3	1.4	1.0	0.9
AS rate (A)	1.2	1.8	2.0	1.8	1.7	2.0	2.1	1.7	1.3	1.4	1.0	0.9
95% CI	0.9–1.4	1.6–2.2	1.7–2.3	1.6–2.2	1.4–2.0	1.7–2.3	1.9–2.5	1.4–2.0	1.1–1.6	1.2–1.6	0.8–1.2	0.7–1.1
AS rate (W)	1.1	1.7	1.8	1.7	1.5	1.9	1.9	1.5	1.2	1.3	0.9	0.9
95% CI	0.9–1.3	1.4–2.0	1.5–2.1	1.4–2.0	1.3–1.8	1.6–2.1	1.7–2.2	1.3–1.8	1.0–1.4	1.1–1.5	0.7–1.1	0.7–1.1
Target age 20–69 years												
Crude rate	1.8	2.8	2.9	2.8	2.5	3.0	3.2	2.5	2.0	2.1	1.5	1.4
AS rate (A)	1.8	2.8	2.9	2.8	2.6	3.0	3.2	2.5	2.0	2.1	1.5	1.4
95% CI	1.4–2.2	2.4–3.3	2.5–3.4	2.4–3.3	2.1–3.0	2.6–3.5	2.7–3.7	2.1–2.9	1.6–2.4	1.7–2.5	1.2–1.9	1.1–1.7
AS rate (W)	1.8	2.7	2.8	2.8	2.5	3.0	3.1	2.5	2.0	2.0	1.5	1.4
95% CI	1.4–2.2	2.3–3.2	2.4–3.3	2.3–3.2	2.1–2.9	2.5–3.4	2.7–3.6	2.1–2.9	1.6–2.3	1.7–2.4	1.2–1.8	1.1–1.7

Notes

1. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population (A) and the WHO World Standard Population (W).

2. In 2001 the Australian Bureau of Statistics (ABS) carried out a full population census and a national health survey. These led to the revision of the ABS estimated resident population (ERP) data, the introduction of a new Australian standard population for use in age standardisation and the production of new estimates of hysterectomy status among Australian women. The denominators for participation rates presented in this report have been calculated using the 2001 ABS National Health Survey hysterectomy fractions and the revised ERP values and age-adjusted using the 2001 Australian standard population. The denominators for the equivalent rates in previous reports were calculated using the 1995 ABS National Health Survey hysterectomy fractions and unrevised ERP values and age-adjusted using the 1991 Australian standard population. The combined effect of these changes is that participation rates presented in this report are on average between 1 and 2 percentage points lower than equivalent rates in previous reports.

Source: National Cancer Statistics Clearing House (AIHW).

Indicator 5.2: Incidence of invasive squamous, adenocarcinoma, adeno-squamous and other cervical cancer

Table 12: New cases of cervical cancer by age, Australia, 1989–2000

Age group	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
0–4	1	0	0	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	1	0	0	0	0	0	0
10–14	0	0	0	0	0	0	0	0	0	0	0	0
15–19	1	1	1	0	1	1	2	1	1	2	0	2
20–24	16	12	12	9	10	16	4	15	10	10	8	7
25–29	67	59	49	53	37	49	52	43	44	48	55	40
30–34	130	113	120	107	105	124	112	68	78	84	74	83
35–39	122	156	140	126	129	131	110	141	99	102	102	68
40–44	128	139	150	132	128	131	118	117	102	101	104	79
45–49	94	120	104	101	101	131	99	102	79	110	76	72
50–54	82	70	90	77	89	87	58	80	74	65	66	58
55–59	83	80	63	78	79	73	69	64	51	52	49	57
60–64	85	78	81	76	76	88	71	61	52	56	63	63
65–69	100	76	89	88	91	94	78	65	57	55	54	51
70–74	67	66	79	72	63	78	71	59	45	61	46	57
75–79	51	51	48	53	46	65	50	51	45	44	42	50
80–84	28	29	35	34	37	40	30	41	32	39	33	37
85+	18	23	33	22	21	22	33	25	28	29	21	21
All ages												
0–85+ years	**1,072**	**1,073**	**1,094**	**1,028**	**1,013**	**1,131**	**957**	**933**	**797**	**858**	**793**	**745**
Target age												
20–69 years	907	903	898	847	845	924	771	756	646	683	651	578

Notes

1. The above table includes the incidence of micro-invasive and invasive cervical cancers.

2. Cancer incidence estimates provided in this publication were made in February 2004. These estimates may be updated at any time as case details are added, modified or deleted in the national database. These modifications may occur several years after the initial diagnosis as additional case details are received by the state and territory cancer registries from data suppliers and then passed to the NCSCH. This may have the impact of making incidence estimates for the same year incompatible between publications, but for the most part these changes are very small.

Source: National Cancer Statistics Clearing House (AIHW).

Table 13: Age-specific and age-standardised incidence rates of cervical cancer by age, Australia, 1989–2000

Age group	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.1	0.1	0.2	0.0	0.2	0.2	0.3	0.2	0.2	0.3	0.0	0.3
20–24	2.4	1.8	1.7	1.3	1.4	2.3	0.6	2.2	1.5	1.5	1.2	1.1
25–29	9.5	8.3	7.0	7.7	5.4	7.2	7.6	6.1	6.1	6.5	7.5	5.5
30–34	19.2	16.3	16.9	14.8	14.4	16.9	15.3	9.4	10.9	11.8	10.4	11.6
35–39	18.9	23.8	21.1	18.6	18.7	18.8	15.4	19.3	13.3	13.6	13.5	9.0
40–44	21.5	22.5	23.5	20.6	19.8	19.9	17.7	17.2	14.7	14.4	14.6	10.8
45–49	20.6	25.1	20.7	18.8	17.6	22.0	16.1	15.9	12.3	16.8	11.4	10.7
50–54	21.1	17.5	21.8	18.2	20.5	19.2	12.2	16.1	13.8	11.4	11.0	9.3
55–59	23.0	22.3	17.6	21.3	21.0	18.9	17.4	15.7	12.1	12.0	10.8	12.0
60–64	22.9	21.0	21.9	20.8	21.1	24.7	19.9	17.1	14.3	15.0	16.4	15.9
65–69	29.2	21.8	25.3	24.9	25.6	26.5	22.0	18.3	16.2	15.8	15.6	14.8
70–74	25.2	24.4	28.0	24.6	20.8	24.6	22.0	18.0	13.7	18.4	13.8	17.1
75–79	23.7	23.1	21.3	23.1	20.0	28.5	21.4	20.9	17.5	16.4	15.0	17.4
80–84	20.9	20.8	24.1	22.5	23.4	23.9	17.4	23.2	17.8	21.4	18.0	19.5
85+	17.4	21.8	30.0	19.0	17.2	17.3	24.6	17.7	18.7	18.5	12.6	12.0
All ages 0–85+ years												
Crude rate	12.7	12.5	12.6	11.7	11.4	12.6	10.5	10.1	8.6	9.1	8.3	7.7
AS rate (A)	13.5	13.3	13.3	12.2	11.9	12.9	10.7	10.3	8.6	9.0	8.2	7.6
AS rate (W)	11.5	11.3	11.2	10.3	10.0	10.9	9.0	8.7	7.3	7.7	7.0	6.4
Target age 20–69 years												
Crude rate	17.4	17.0	16.6	15.4	15.2	16.4	13.5	13.1	11.0	11.5	10.8	9.5
AS rate (A)	18.0	17.7	17.2	16.0	15.8	16.9	13.8	13.4	11.2	11.6	10.9	9.5
AS rate (W)	17.2	16.8	16.3	15.1	14.9	16.0	13.1	12.7	10.6	11.1	10.4	9.1

Notes

1. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population (A) and the WHO World Standard Population (W).
2. In 2001 the Australian Bureau of Statistics (ABS) carried out a full population census and a national health survey. These led to the revision of the ABS estimated resident population (ERP) data, the introduction of a new Australian standard population for use in age standardisation and the production of new estimates of hysterectomy status among Australian women. The denominators for participation rates presented in this report have been calculated using the 2001 ABS National Health Survey hysterectomy fractions and the revised ERP values and age-adjusted using the 2001 Australian standard population. The denominators for the equivalent rates in previous reports were calculated using the 1995 ABS National Health Survey hysterectomy fractions and unrevised ERP values and age-adjusted using the 1991 Australian standard population. The combined effect of these changes is that participation rates presented in this report are on average between 1 and 2 percentage points lower than equivalent rates in previous reports.

Source: National Cancer Statistics Clearing House (AIHW).

Table 14a: New cases of cervical cancer by age, states and territories, 1996–1999

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0
10–14	0	0	0	0	0	0	0	0	0
15–19	2	1	1	0	0	0	0	0	4
20–24	11	8	16	3	0	5	0	0	43
25–29	61	37	48	13	16	7	5	3	190
30–34	105	57	72	30	26	12	0	2	304
35–39	147	94	103	33	24	24	9	10	444
40–44	130	108	91	52	24	8	5	6	424
45–49	134	91	65	34	25	6	5	7	367
50–54	122	60	54	21	14	5	3	6	285
55–59	65	62	41	19	16	5	4	4	216
60–64	80	60	47	17	18	7	1	2	232
65–69	89	49	51	22	12	4	4	0	231
70–74	83	57	28	22	12	4	3	2	211
75–79	65	45	37	14	14	5	1	1	182
80–84	53	46	19	15	8	2	2	0	145
85+	35	29	20	13	5	0	1	0	103
All ages									
0–85+ years	**1,182**	**804**	**693**	**308**	**214**	**94**	**43**	**43**	**3,381**
Target age									
20–69 years	944	626	588	244	175	83	36	40	2,736

Source: National Cancer Statistics Clearing House (AIHW).

Table 14b: Age-specific and age-standardised incidence rates of cervical cancer, states and territories, 1996–1999

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2
20–24	1.2	1.2	3.1	1.1	0.0	8.1	0.0	0.0	1.6
25–29	6.3	5.0	9.0	4.6	7.5	10.7	9.5	8.0	6.6
30–34	10.9	7.9	14.0	10.8	11.9	17.7	0.0	5.9	10.6
35–39	14.6	12.7	19.0	11.3	10.2	31.7	17.5	31.9	14.9
40–44	13.9	15.6	18.0	18.5	10.8	11.2	10.0	21.9	15.2
45–49	15.5	14.1	13.7	13.3	11.8	9.1	10.2	30.4	14.1
50–54	16.4	10.9	13.3	10.2	7.7	8.9	7.8	35.2	12.9
55–59	11.1	14.4	13.3	12.0	11.2	11.0	15.7	38.6	12.6
60–64	15.6	15.8	18.6	12.9	14.2	17.7	5.3	29.9	15.7
65–69	17.9	13.5	21.4	18.2	9.6	10.5	25.3	0.0	16.5
70–74	17.7	16.6	12.8	20.6	9.7	11.3	20.8	63.3	16.0
75–79	17.3	16.6	21.0	16.7	13.9	17.1	9.1	49.3	17.3
80–84	20.8	24.9	15.9	25.6	11.7	9.8	29.2	0.0	20.1
85+	16.3	17.8	20.0	24.9	8.4	0.0	19.5	0.0	16.8
All ages 0–85+ years									
Crude rate	9.3	8.6	10.1	8.6	7.1	9.8	6.9	12.1	9.0
AS rate (A)	9.2	8.5	10.4	8.8	6.9	9.9	7.7	16.3	9.0
95% CI	8.7–9.8	7.9–9.1	9.6–11.2	7.9–9.9	6.0–7.9	8.0–12.1	5.5–10.4	11.0–23.0	8.7–9.3
AS rate (W)	7.8	7.1	8.9	7.3	6.0	9.0	6.3	13.5	7.6
95% CI	7.3–8.3	6.6–7.6	8.3–9.6	6.5–8.2	5.2–6.9	7.2–11.0	4.6–8.6	9.4–18.7	7.4–7.9
Target age 20–69 years									
Crude rate	11.8	10.5	13.7	10.7	9.3	14.1	8.9	17.9	11.6
AS rate (A)	12.0	10.7	13.9	10.9	9.3	14.0	9.4	20.3	11.7
95% CI	11.2–12.8	9.9–11.6	12.8–15.1	9.6–12.4	8.0–10.8	11.1–17.3	6.5–13.1	14.2–28.1	11.3–12.2
AS rate (W)	11.4	10.2	13.4	10.3	9.0	13.9	8.9	19.0	11.2
95% CI	10.6–12.1	9.4–11.0	12.3–14.5	9.1–11.7	7.7–10.4	11.0–17.2	6.2–12.4	13.3–26.1	10.8–11.6

Note: Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population (A) and the WHO World Standard Population (W).

Source: National Cancer Statistics Clearing House (AIHW).

Table 15a: Number of new cases of cervical cancer by age, states and territories, 1997–2000

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0
10–14	0	0	0	0	0	0	0	0	0
15–19	3	1	1	0	0	0	0	0	5
20–24	12	5	12	2	0	4	0	0	35
25–29	63	32	46	13	16	9	6	2	187
30–34	118	55	76	28	28	10	2	2	319
35–39	122	69	91	31	22	20	8	8	371
40–44	123	95	85	44	21	8	5	5	386
45–49	119	85	56	39	24	5	5	4	337
50–54	113	54	46	20	18	6	2	4	263
55–59	73	56	40	15	14	5	3	3	209
60–64	78	58	54	16	21	4	1	2	234
65–69	86	47	44	19	12	6	3	0	217
70–74	78	55	34	21	14	3	3	1	209
75–79	64	45	32	14	17	4	2	3	181
80–84	51	40	19	18	10	1	2	0	141
85+	35	25	20	11	6	1	1	0	99
All ages									
0–85+ years	**1,138**	**722**	**656**	**291**	**223**	**86**	**43**	**34**	**3,193**
Target age									
20–69 years	907	556	550	227	176	77	35	30	2,558

Source: National Cancer Statistics Clearing House (AIHW).

Table 15b: Age-specific and age-standardised incidence rates of cervical cancer, states and territories, 1997–2000

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2
20–24	1.4	0.8	2.4	0.8	0.0	6.7	0.0	0.0	1.3
25–29	6.4	4.3	8.5	4.6	7.6	13.9	11.3	5.3	6.4
30–34	12.3	7.6	14.7	10.0	13.0	15.1	4.0	5.8	11.2
35–39	12.0	9.3	16.5	10.5	9.4	26.7	15.6	25.0	12.3
40–44	12.9	13.5	16.4	15.4	9.3	11.1	10.0	17.8	13.6
45–49	13.6	13.0	11.6	14.9	11.2	7.5	10.2	16.7	12.8
50–54	14.5	9.3	10.7	9.1	9.4	10.1	4.9	21.8	11.3
55–59	12.0	12.6	12.3	9.1	9.5	10.7	11.1	26.5	11.7
60–64	14.9	15.0	20.5	11.7	16.2	9.9	5.1	28.4	15.4
65–69	17.5	13.1	18.5	15.7	9.8	15.9	18.7	0.0	15.6
70–74	16.6	16.0	15.3	19.3	11.4	8.5	20.5	30.7	15.8
75–79	16.4	15.9	17.5	15.9	16.2	13.3	16.9	142.5	16.5
80–84	19.6	21.4	15.5	30.4	14.4	4.8	27.8	0.0	19.2
85+	15.5	14.6	18.9	19.9	9.5	5.8	17.9	0.0	15.3
All ages 0–85+ years									
Crude rate	8.9	7.6	9.4	8.0	7.4	9.0	6.9	9.4	8.4
AS rate (A)	8.7	7.5	9.6	8.1	7.1	9.0	7.4	14.1	8.4
95% CI	8.2–9.3	6.9–8.1	8.9–10.4	7.2–9.1	6.2–8.1	7.2–11.2	5.3–10.1	8.7–21.1	8.1–8.6
AS rate (W)	7.4	6.2	8.3	6.7	6.1	8.2	6.2	11.1	7.1
95% CI	7.0–7.9	5.8–6.7	7.6–8.9	6.0–7.6	5.3–7.0	6.6–10.2	4.5–8.3	7.3–16.0	6.8–7.3
Target age 20–69 years									
Crude rate	11.3	9.3	12.6	9.8	9.3	13.1	8.6	13.1	10.7
AS rate (A)	11.3	9.4	12.7	9.9	9.3	13.0	8.8	14.7	10.8
95% CI	10.6–12.1	8.6–10.2	11.7–13.9	8.7–11.3	8.0–10.8	10.2–16.2	6.1–12.3	9.6–21.3	10.4–11.2
AS rate (W)	10.8	8.9	12.3	9.4	9.0	12.9	8.5	13.7	10.3
95% CI	10.1–11.5	8.1–9.6	11.3–13.4	8.2–10.7	7.7–10.4	10.2–16.2	5.9–11.8	9.1–19.9	9.9–10.7

Note: Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population (A) and the WHO World Standard Population (W).

Source: National Cancer Statistics Clearing House (AIHW).

Table 16a: New cases of cervical cancer by histological type for women aged 20–69 years, Australia, 1989–2000

Histological type	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Squamous	687	641	650	612	597	630	545	529	449	484	466	398
Adenocarcinoma	116	148	144	141	142	192	147	148	129	140	127	117
Adeno-squamous	48	50	43	51	47	40	34	40	32	30	23	30
Other	56	64	61	43	59	62	45	39	36	29	35	30
Total	**907**	**903**	**898**	**847**	**845**	**924**	**771**	**756**	**646**	**683**	**651**	**575**
Micro-invasive	*93*	*147*	*156*	*153*	*139*	*170*	*180*	*145*	*116*	*124*	*92*	*86*

Source: National Cancer Statistics Clearing House (AIHW).

Table 16b: Age-standardised incidence rates for cervical cancer by histological type for women aged 20–69 years, Australia, 1989–2000

Histological type	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Squamous	13.7	12.6	12.5	11.5	11.2	11.5	9.8	9.4	7.8	8.2	7.8	6.6
Adenocarcinoma	2.3	2.9	2.8	2.7	2.6	3.5	2.6	2.6	2.2	2.4	2.1	1.9
Adeno-squamous	0.9	1.0	0.8	1.0	0.9	0.7	0.6	0.7	0.6	0.5	0.4	0.5
Other	1.1	1.3	1.1	0.8	1.1	1.1	0.8	0.7	0.6	0.5	0.6	0.5
Micro-invasive	*1.8*	*2.8*	*2.9*	*2.8*	*2.6*	*3.0*	*3.2*	*2.5*	*2.0*	*2.1*	*1.5*	*1.4*

Note: Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population.

Source: National Cancer Statistics Clearing House (AIHW).

Table 17a: New cases of cervical cancer by histological type for women, all ages, Australia, 1989–2000

Histological type	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Squamous	808	769	792	753	706	780	675	667	546	609	574	520
Adenocarcinoma	136	171	172	157	164	222	173	168	159	166	147	137
Adeno-squamous	53	56	50	56	56	50	39	47	38	35	25	31
Other	75	77	80	62	87	78	70	51	54	48	47	54
Total	**1,072**	**1,073**	**1,094**	**1,028**	**1,013**	**1,130**	**957**	**933**	**797**	**858**	**793**	**742**
Micro-invasive	*95*	*152*	*166*	*157*	*144*	*181*	*192*	*153*	*122*	*131*	*95*	*89*

Source: National Cancer Statistics Clearing House (AIHW).

Table 17b: Age-standardised incidence rates for cervical cancer by histological type for women, all ages, Australia, 1989–2000

Histological type	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Squamous	10.2	9.5	9.6	8.9	8.3	8.9	7.6	7.3	5.9	6.4	6.0	5.3
Adenocarcinoma	1.7	2.1	2.1	1.9	1.9	2.5	1.9	1.8	1.7	1.8	1.5	1.4
Adeno-squamous	0.7	0.7	0.6	0.7	0.6	0.6	0.4	0.5	0.4	0.4	0.3	0.3
Other	0.9	1.0	0.9	0.7	1.0	0.9	0.8	0.6	0.6	0.5	0.5	0.5
Micro-invasive	*1.2*	*1.8*	*2.0*	*1.8*	*1.7*	*2.0*	*2.1*	*1.7*	*1.3*	*1.4*	*1.0*	*0.9*

Note: Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population.

Source: National Cancer Statistics Clearing House (AIHW).

Indicator 5.3: Incidence by location

Table 18: New cases of cervical cancer by age and location, 1993–1996 and 1997–2000

	Major cities		Regional		Remote	
Age group	**1993–1996**	**1997–2000**	**1993–1996**	**1997–2000**	**1993–1996**	**1997–2000**
0–4	0	0	0	0	0	0
5–9	1	0	0	0	0	0
10–14	0	0	0	0	0	0
15–19	3	3	2	2	0	0
20–24	31	23	11	11	1	1
25–29	115	127	52	52	8	5
30–34	248	208	140	98	13	8
35–39	336	225	153	126	16	16
40–44	321	250	151	112	15	16
45–49	298	230	107	93	19	9
50–54	202	180	99	73	10	6
55–59	183	138	83	61	15	5
60–64	200	148	86	74	6	8
65–69	211	153	103	59	13	2
70–74	176	151	81	52	10	2
75–79	135	122	73	53	3	4
80–84	97	97	44	42	4	1
85+	72	71	27	27	2	1
All ages 0–85+ years	**2,628**	**2,127**	**1,211**	**933**	**135**	**83**
Target age 20–69 years	**2,144**	**1,683**	**985**	**758**	**116**	**75**

Note: The numbers are presented as 4-year rolling blocks of data.

Source: National Cancer Statistics Clearing House (AIHW).

Table 19: Age-specific and age-standardised incidence rates for cervical cancer by age and location, 1993–1996 and 1997–2000

	Major cities		Regional		Remote	
Age group	**1993–1996**	**1997–2000**	**1993–1996**	**1997–2000**	**1993–1996**	**1997–2000**
0–4	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.1	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.2	0.2	0.3	0.3	0.0	0.0
20–24	1.5	1.2	1.6	1.7	1.3	1.5
25–29	6.0	6.1	6.9	6.8	9.6	5.6
30–34	12.6	10.6	16.1	12.0	14.7	10.1
35–39	18.0	11.2	17.3	13.5	21.1	19.6
40–44	18.1	13.3	18.6	12.6	22.8	23.2
45–49	18.1	13.0	14.7	11.4	33.8	15.9
50–54	16.2	11.6	17.2	10.1	24.6	12.1
55–59	17.9	11.9	16.3	10.5	45.5	12.8
60–64	21.5	15.1	18.3	14.4	24.0	27.0
65–69	22.5	17.0	22.2	12.7	57.2	6.9
70–74	20.7	17.2	20.3	12.0	60.6	12.8
75–79	21.4	16.6	24.8	15.3	21.3	30.7
80–84	21.2	19.7	21.0	17.9	50.6	11.7
85+	20.1	16.2	17.1	13.4	24.8	13.0
All ages 0–85+ years						
AS rate (A)	11.1	8.3	11.1	7.9	18.4	10.1
95% CI	10.7–11.6	8.0–8.7	10.5–11.7	7.4–8.4	15.3–21.9	8.0–12.6
AS rate (W)	9.4	7.0	9.4	6.8	15.3	8.6
95% CI	9.0–9.8	6.7–7.3	8.9–10.0	6.3–7.2	12.8–18.1	6.8–10.6
Target age 20–69 years						
AS rate (A)	14.6	10.6	14.4	10.4	23.1	13.4
95% CI	13.9–15.2	10.1–11.1	13.5–15.4	9.7–11.2	18.9–27.7	10.5–16.9
AS rate (W)	13.8	10.1	13.7	10.0	21.7	12.7
95% CI	13.2–14.4	9.6–10.6	12.9–14.6	9.3–10.8	17.8–25.9	10.0–16.0

Notes

1. The numbers are presented as 4-year rolling blocks of data.
2. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population (A) and the WHO World Standard Population (W).

Source: National Cancer Statistics Clearing House (AIHW).

Indicator 6.1: Mortality

Table 20: Deaths from cervical cancer by age, Australia, 1982–2002

Age group	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
0–4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10–14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15–19	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0
20–24	1	1	0	0	2	2	0	1	1	3	0	0	0	0	1	0	3	1	1	0	2
25–29	7	8	10	6	6	5	3	3	10	5	5	2	6	3	1	2	6	2	4	1	2
30–34	13	12	13	20	12	15	12	21	14	13	15	11	11	7	13	8	5	6	10	11	6
35–39	12	18	19	17	16	20	15	18	30	25	19	25	11	16	23	18	19	7	12	12	9
40–44	22	20	20	18	26	20	24	24	36	19	27	32	28	21	20	16	19	18	14	19	13
45–49	24	28	26	21	24	19	27	31	36	29	26	23	35	32	30	28	16	25	27	23	15
50–54	29	26	25	25	25	24	19	27	17	21	13	29	37	26	13	21	24	15	19	21	32
55–59	41	40	21	31	41	32	41	20	25	25	23	20	26	34	22	24	15	14	19	20	15
60–64	47	36	41	41	41	28	41	33	34	33	31	25	24	30	21	22	28	15	24	25	19
65–69	39	49	43	52	50	46	41	54	43	35	25	30	37	37	29	30	19	21	26	20	18
70–74	35	30	33	43	32	55	34	48	25	37	45	38	33	43	41	36	28	30	37	28	18
75–79	34	20	29	29	23	29	35	29	32	30	32	28	30	30	38	32	26	26	25	30	26
80–84	21	22	26	26	23	20	34	24	8	22	35	24	26	27	22	27	26	19	23	28	26
85+	18	21	21	29	24	16	17	22	25	32	23	24	24	20	24	30	31	21	26	24	26
All ages																					
0–85+ years	**342**	**330**	**327**	**359**	**343**	**329**	**343**	**355**	**337**	**329**	**319**	**311**	**329**	**328**	**296**	**294**	**265**	**220**	**267**	**262**	**227**
Target age																					
20–69 years	234	238	218	230	242	210	222	231	246	208	184	197	216	207	172	169	154	124	156	152	131

Note: Deaths were derived by year of registration.

Source: AIHW Mortality Database.

Table 21: Age-specific and age-standardised death rates for cervical cancer by age, Australia, 1982–2002

Age group	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20–24	0.1	0.1	0.0	0.0	0.3	0.3	0.0	0.1	0.1	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.5	0.2	0.2	0.0	0.3
25–29	1.1	1.2	1.5	0.9	0.9	0.7	0.4	0.4	1.4	0.7	0.7	0.3	0.9	0.4	0.1	0.3	0.8	0.3	0.6	0.1	0.3
30–34	2.1	1.9	2.1	3.1	1.9	2.3	1.8	3.0	2.0	1.8	2.0	1.5	1.5	0.9	1.8	1.1	0.7	0.8	1.4	1.5	0.8
35–39	2.2	3.2	3.2	2.8	2.5	3.1	2.3	2.7	4.6	3.7	2.7	3.6	1.5	2.2	3.1	2.4	2.5	0.9	1.6	1.6	1.2
40–44	5.1	4.5	4.3	3.7	5.4	3.7	4.1	3.9	5.9	2.9	4.3	5.0	4.3	3.1	2.9	2.3	2.7	2.5	1.9	2.6	1.7
45–49	6.4	7.6	6.9	5.2	5.7	4.4	6.3	6.9	7.6	5.8	4.9	3.9	5.9	5.2	4.7	4.4	2.4	3.8	4.0	3.4	2.2
50–54	7.9	7.2	7.0	7.1	6.8	6.4	4.9	7.1	4.2	5.0	3.0	6.8	8.2	5.6	2.6	3.9	4.2	2.5	3.0	3.2	4.9
55–59	11.1	10.7	5.5	8.4	11.1	8.8	11.3	5.4	6.8	7.1	6.2	5.2	6.9	8.7	5.3	5.7	3.5	3.1	4.0	4.0	2.8
60–64	14.2	10.6	11.5	11.3	11.2	7.7	11.1	9.0	9.3	9.0	8.6	7.1	6.6	8.5	5.8	6.0	7.5	3.9	6.0	6.1	4.5
65–69	13.5	16.8	14.9	17.8	16.4	14.6	12.5	15.7	12.4	10.0	7.2	8.5	10.5	10.5	8.3	8.5	5.4	6.1	7.5	5.8	5.1
70–74	15.0	12.5	13.2	16.6	12.3	20.5	12.8	18.1	9.4	13.2	15.4	12.6	10.5	13.4	12.6	11.0	8.5	9.0	11.1	8.4	5.4
75–79	21.3	11.6	16.7	16.0	11.8	14.8	17.1	13.7	14.7	13.5	14.1	12.4	13.3	13.0	15.7	12.5	9.7	9.3	8.7	10.3	8.8
80–84	19.6	19.9	23.4	22.9	19.0	15.8	26.6	17.6	5.6	14.8	23.3	14.9	15.8	15.9	12.2	15.0	14.3	10.4	12.1	13.9	12.3
85+	22.7	25.6	24.7	33.1	24.9	16.1	16.7	20.9	23.2	29.4	19.5	19.3	18.4	14.6	16.6	20.1	19.8	12.6	14.8	13.1	13.6
All ages 0–85+ years																					
AS rate (A)	5.1	4.9	4.7	5.0	4.7	4.4	4.5	4.5	4.2	4.0	3.8	3.6	3.8	3.7	3.2	3.1	2.7	2.2	2.6	2.5	2.1
AS rate (W)	4.0	3.8	3.6	3.8	3.7	3.4	3.4	3.5	3.3	3.1	2.8	2.8	2.9	2.8	2.4	2.3	2.1	1.7	2.0	1.9	1.6
Target age 20–69 years																					
AS rate (A)	5.4	5.4	4.9	5.0	5.2	4.4	4.6	4.6	4.8	4.0	3.5	3.8	4.1	3.8	3.0	3.0	2.7	2.1	2.6	2.5	2.1
AS rate (W)	5.0	5.0	4.5	4.6	4.8	4.1	4.2	4.3	4.5	3.8	3.3	3.4	3.7	3.5	2.8	2.7	2.5	1.9	2.4	2.3	1.9

Notes

1. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population (A) and the WHO World Standard Population (W).
2. In 2001 the Australian Bureau of Statistics (ABS) carried out a full population census and a national health survey. These led to the revision of the ABS estimated resident population (ERP) data, the introduction of a new Australian standard population for use in age standardisation and the production of new estimates of hysterectomy status among Australian women. The denominators for participation rates presented in this report have been calculated using the 2001 ABS National Health Survey hysterectomy fractions and the revised ERP values and age-adjusted using the 2001 Australian standard population. The denominators for the equivalent rates in previous reports were calculated using the 1995 ABS National Health Survey hysterectomy fractions and unrevised ERP values and age-adjusted using the 1991 Australian standard population. The combined effect of these changes is that participation rates presented in this report are on average between 1 and 2 percentage points lower than equivalent rates in previous reports.

Source: AIHW Mortality Database.

Table 22: Deaths from cervical cancer by age, states and territories, 1995–1998

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0
10–14	0	0	0	0	0	0	0	0	0
15–19	1	0	0	0	0	0	0	0	1
20–24	0	2	2	0	0	0	0	0	4
25–29	0	3	5	2	1	0	1	0	12
30–34	8	8	7	7	2	1	0	0	33
35–39	28	15	13	11	5	3	0	1	75
40–44	35	14	12	6	3	2	3	1	75
45–49	42	22	14	11	5	4	4	5	107
50–54	36	18	16	8	2	2	3	0	84
55–59	33	14	20	12	8	6	2	1	95
60–64	35	22	20	6	7	9	1	2	101
65–69	43	33	17	12	5	3	2	2	116
70–74	56	38	26	8	12	6	2	1	148
75–75	46	28	31	5	10	6	1	1	127
80–84	33	31	14	9	14	1	1	0	102
85+	38	24	12	16	10	3	2	0	104
All ages									
0–85+ years	**431**	**269**	**207**	**112**	**83**	**46**	**22**	**14**	**1,183**
Target age									
20–69 years	258	149	125	74	38	30	16	12	701

Notes

1. Numbers were averaged over 4 years to smooth annual variations that may occur in the smaller states and territories.
2. Deaths were derived by year and state of registration.

Source: AIHW Mortality Database.

Table 23: Age-specific and age-standardised death rates for cervical cancer by age, states and territories, 1995–1998

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20–24	0.0	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.1
25–29	0.0	0.4	0.9	0.7	0.5	0.0	1.9	0.0	0.4
30–34	0.8	1.1	1.3	2.5	0.9	1.4	0.0	0.0	1.1
35–39	2.8	2.0	2.4	3.8	2.1	3.9	0.0	3.2	2.6
40–44	3.8	2.0	2.4	2.2	1.3	2.8	5.9	3.7	2.7
45–49	5.0	3.4	3.0	4.3	2.4	6.0	8.2	21.9	4.2
50–54	5.0	3.4	4.2	4.1	1.2	3.7	8.2	0.0	4.0
55–59	5.7	3.3	6.7	7.7	5.6	13.3	8.1	10.0	5.7
60–64	6.8	5.8	8.0	4.6	5.5	22.8	5.4	31.2	7.0
65–69	8.5	8.9	7.1	9.9	3.9	7.8	12.7	44.5	8.2
70–74	12.0	11.0	11.8	7.5	9.6	16.6	13.8	33.1	11.3
75–75	12.7	10.7	18.2	6.2	10.3	21.1	9.6	50.7	12.6
80–84	12.9	16.6	11.8	15.2	20.2	4.8	14.8	0.0	14.3
85+	18.4	15.3	12.6	32.1	17.4	19.1	41.5	0.0	17.9
All ages 0–85+ years									
AS rate (A)	3.3	2.8	3.2	3.3	2.4	4.7	4.3	7.9	3.2
95% CI	3.0–3.7	2.5–3.1	2.8–3.7	2.7–4.0	1.9–3.0	3.4–6.2	2.6–6.6	3.6–13.9	3.0–3.4
AS rate (W)	2.5	2.1	2.5	2.6	1.8	3.7	3.3	6.2	2.4
95% CI	2.3–2.8	1.8–2.4	2.1–2.9	2.1–3.1	1.4–2.2	2.6–4.9	2.0–4.9	3.0–10.7	2.3–2.6
Target age 20–69 years									
AS rate (A)	3.4	2.6	3.1	3.5	2.0	5.1	4.4	8.6	3.1
95% CI	3.0–3.8	2.2–3.0	2.6–3.7	2.7–4.4	1.4–2.8	3.4–7.2	2.4–7.1	3.8–15.4	2.9–3.4
AS rate (W)	3.1	2.4	2.9	3.2	1.9	4.7	4.0	7.9	2.9
95% CI	2.7–3.5	2.0–2.8	2.4–3.5	2.5–4.1	1.3–2.6	3.1–6.7	2.2–6.5	3.5–14.0	2.7–3.1

Notes

1. The age-standardised rates were averaged over 4 years to smooth annual variations that may occur in the smaller states and territories.
2. Deaths were derived by year and state of registration.
3. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population (A) and the WHO World Standard Population (W).

Source: AIHW Mortality Database.

Table 24: Deaths from cervical cancer by age, states and territories, 1999–2002

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0
10–14	0	0	0	0	0	0	0	0	0
15–19	0	0	0	0	0	0	0	0	0
20–24	4	0	0	0	0	0	0	0	4
25–29	1	3	2	1	0	0	1	1	9
30–34	5	4	11	9	2	1	1	0	33
35–39	14	9	8	2	2	2	1	2	40
40–44	18	12	20	5	4	1	2	2	64
45–49	29	16	19	11	13	1	0	1	90
50–54	33	16	13	7	8	6	1	3	87
55–59	25	13	14	7	5	2	1	1	68
60–64	31	15	20	9	6	2	0	0	83
65–69	28	12	16	14	7	4	3	1	85
70–74	36	29	23	17	4	3	0	1	113
75–79	31	30	16	13	10	3	3	1	107
80–84	30	27	16	14	5	3	0	1	96
85+	35	22	16	12	7	5	0	0	97
All ages 0–85+ years	**320**	**208**	**194**	**121**	**73**	**33**	**13**	**14**	**976**
Target age 20–69 years	**188**	**100**	**123**	**65**	**47**	**19**	**10**	**11**	**563**

Notes

1. Numbers were averaged over 4 years to smooth annual variations that may occur in the smaller states and territories.
2. Deaths were derived by year and state of registration.

Source: AIHW Mortality Database.

Table 25: Age-specific and age-standardised death rates for cervical cancer by age, states and territories, 1999–2002

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20–24	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
25–29	0.1	0.4	0.4	0.4	0.0	0.0	1.9	2.7	0.3
30–34	0.5	0.5	2.0	3.2	0.9	1.5	2.0	0.0	1.1
35–39	1.4	1.2	1.4	0.7	0.9	2.8	2.0	6.1	1.3
40–44	1.8	1.6	3.6	1.7	1.7	1.4	3.9	6.8	2.2
45–49	3.2	2.4	3.8	4.0	6.0	1.5	0.0	3.9	3.3
50–54	3.9	2.6	2.8	2.9	3.9	9.4	2.2	14.3	3.5
55–59	3.8	2.7	3.8	3.8	3.1	3.9	3.2	7.5	3.5
60–64	5.6	3.7	6.9	6.0	4.4	4.6	0.0	0.0	5.2
65–69	5.7	3.3	6.6	11.2	5.8	10.7	17.9	19.7	6.1
70–74	7.6	8.4	10.1	15.1	3.3	8.5	0.0	28.0	8.5
75–75	7.5	10.0	8.3	13.8	9.1	9.7	23.0	42.7	9.3
80–84	10.7	13.4	12.0	22.0	6.7	13.7	0.0	65.2	12.2
85+	13.9	11.7	13.6	19.5	10.1	26.2	0.0	0.0	13.6
All ages 0–85+ years									
AS rate (A)	2.3	2.0	2.7	3.3	2.1	3.1	2.3	6.7	2.4
95% CI	2.0–2.5	1.7–2.3	2.3–3.1	2.7–3.9	1.6–2.7	2.1–4.3	1.2–3.9	3.0–12.2	2.2–2.5
AS rate (W)	1.7	1.4	2.1	2.4	1.6	2.3	1.8	4.9	1.8
95% CI	1.5–1.9	1.2–1.7	1.8–2.4	2.0–2.9	1.3–2.1	1.5–3.3	1.0–3.2	2.4–8.6	1.7–1.9
Target age 20–69 years									
AS rate (A)	2.3	1.6	2.7	2.8	2.4	3.1	2.6	5.5	2.3
95% CI	2.0–2.6	1.3–2.0	2.3–3.3	2.1–3.5	1.7–3.1	1.8–4.8	1.2–4.9	2.5–10.2	2.1–2.5
AS rate (W)	2.1	1.5	2.5	2.6	2.2	2.8	2.5	5.0	2.1
95% CI	1.8–2.4	1.2–1.8	2.1–3.0	2.0–3.3	1.6–2.9	1.7–4.3	1.2–4.6	2.3–9.3	2.0–2.3

Notes

1. The age-standardised rates were averaged over 4 years to smooth annual variations that may occur in the smaller states and territories.
2. Deaths were derived by year and state of registration.
3. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population (A) and the WHO World Standard Population (W).

Source: AIHW Mortality Database.

Indicator 6.2: Mortality by location

Table 26: Deaths from cervical cancer by age and location, 1995–1998 and 1999–2002

	Major cities		Regional		Remote	
Age group	**1995–1998**	**1999–2002**	**1995–1998**	**1999–2002**	**1995–1998**	**1999–2002**
0–4	0	0	0	0	0	0
5–9	0	0	0	0	0	0
10–14	0	0	0	0	0	0
15–19	1	0	0	0	0	0
20–24	3	1	1	3	0	0
25–29	6	4	5	5	0	0
30–34	20	21	12	8	1	4
35–39	46	23	25	17	2	0
40–44	45	35	28	24	2	5
45–49	63	66	34	22	7	0
50–54	57	55	25	30	2	1
55–59	61	41	32	24	1	3
60–64	56	52	39	29	5	0
65–69	73	53	36	30	7	2
70–74	91	73	52	36	5	3
75–75	82	70	43	35	2	1
80–84	72	64	26	28	3	2
85+	76	64	28	30	0	3
All ages 0–85+ years	**751**	**621**	**387**	**321**	**38**	**26**
Target age 20–69 years	430	350	238	192	28	17

Notes

1. Deaths were derived from place of usual residence and by year of registration.
2. The number of deaths is presented as 4-year rolling blocks of data.

Source: AIHW Mortality Database.

Table 27: Age-specific and age-standardised death rates for cervical cancer by age and location, 1995–1998 and 1999–2002

	Major cities		Regional		Remote	
Age group	**1995–1998**	**1999–2002**	**1995–1998**	**1999–2002**	**1995–1998**	**1999–2002**
0–4	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.1	0.0	0.0	0.0	0.0	0.0
20–24	0.2	0.0	0.1	0.5	0.0	0.0
25–29	0.3	0.2	0.7	0.6	0.0	0.5
30–34	1.0	1.0	1.4	1.0	1.2	5.0
35–39	2.4	1.1	2.7	1.9	2.5	0.2
40–44	2.5	1.8	3.3	2.6	3.5	6.5
45–49	3.7	3.6	4.5	2.6	12.5	0.4
50–54	4.1	3.2	3.9	3.9	4.5	2.4
55–59	5.7	3.2	6.0	3.7	3.4	8.3
60–64	6.0	5.1	8.1	5.3	18.8	1.3
65–69	7.9	5.9	7.7	6.4	31.8	8.6
70–74	10.4	8.3	12.5	8.1	29.6	15.2
75–75	12.1	9.0	13.6	9.5	16.5	9.1
80–84	14.9	12.2	11.9	11.3	34.9	26.4
85+	19.2	13.2	15.6	13.4	5.9	35.8
All ages 0–85+ years						
AS rate (A)	3.0	2.3	3.3	2.5	5.9	3.6
95% CI	2.8–3.2	2.1–2.5	3.0–3.7	2.2–2.8	4.1–8.1	2.3–5.3
AS rate (W)	2.3	1.7	2.6	1.9	4.6	2.6
95% CI	2.1–2.4	1.6–1.9	2.3–2.8	1.7–2.1	3.2–6.2	1.7–3.9
Target age 20–69 years						
AS rate (A)	2.9	2.2	3.3	2.5	6.0	3.0
95% CI	2.6–3.2	2.0–2.4	2.9–3.8	2.1–2.9	3.9–8.7	1.7–4.9
AS rate (W)	2.7	2.0	3.1	2.3	5.5	2.8
95% CI	2.4–2.9	1.8–2.2	2.7–3.5	2.0–2.7	3.6–7.9	1.6–4.6

Notes

1. The age-standardised rates are presented as 4-year rolling blocks of data.
2. Deaths were derived from place of usual residence and by year of registration.
3. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population (A) and the WHO World Standard Population (W).

Source: AIHW Mortality Database.

Indicator 6.3: Mortality by Indigenous status

Table 28: Number of deaths and age-specific and age-standardised death rates for cervical cancer by age and Indigenous status, Queensland, South Australia, Western Australia and Northern Territory, 1999–2002

	Indigenous		Non-Indigenous	
Age group	**Number**	**Rate**	**Number**	**Rate**
0–4	0	0.0	0	0.0
5–9	0	0.0	0	0.0
10–14	0	0.0	0	0.0
15–19	0	0.0	0	0.0
20–24	0	0.0	0	0.0
25–29	1	2.8	3	0.3
30–34	4	11.9	18	1.7
35–39	0	0.0	14	1.3
40–44	7	30.3	24	2.2
45–49	6	32.8	37	3.7
50–54	2	15.1	29	3.1
55–59	1	11.3	26	3.6
60–64	1	15.7	33	5.7
65–69	2	41.7	35	7.2
70–74	5	150.7	40	8.7
75+	3	77.9	107	11.6
All ages 0–75+ years	**32**		**366**	
AS rate (A)		18.9		2.5
95% CI		11.7–28.1		2.3–2.8
AS rate (W)		14.0		1.9
95% CI		9.1–20.2		1.7–2.1
Target age 20–69 years	24		219	
AS rate (A)		14.9		2.5
95% CI		9.1–22.6		2.2–2.8
AS rate (W)		13.7		2.3
95% CI		8.5–20.8		2.0–2.6

Notes

1. Deaths were derived by state and year of registration.
2. The number of deaths and the age-standardised rates are presented as a 4-year rolling block of data.
3. Rates are expressed per 100,000 women and age-standardised to the Australian 2001 population (A) and the WHO World Standard Population (W).
4. Only Queensland, South Australia, Western Australia and the Northern Territory have Indigenous death registration data considered to be of a publishable standard.

Source: AIHW Mortality Database.

Appendixes

Appendix A: Cervical cancer—symptoms, detection and treatment

Cervical cancer affects the cells of the cervix, which is the lower part of the womb or uterus as it joins the inner end of the vagina. Like other cancers, cervical cancer is a disease where normal cells change, begin to multiply out of control, and form a growth or tumour. The cancer may arise from the squamous cells at the transformation zone where the squamous cells on the outside of the cervix join the columnar cells in the lining of the cervical canal (squamous cell carcinoma) or from the cells in the cervical canal (adenocarcinoma). Over two-thirds of cervical cancers are squamous cell carcinomas, which are most easily detected on the Pap smear, and about 20% are adenocarcinomas. If not detected early, the tumour can invade local tissue and spread (metastasise) to other parts of the body. The main symptoms of cervical cancer are unusual bleeding from the vagina, and very rarely an unusual vaginal discharge. However, these symptoms are quite common and may not be due to cancer.

A cervical cancer may take 10 or more years to develop, but before this the cells may show pre-cancerous changes. These early changes can be detected by a Pap smear (which is described in more detail below), and with early treatment of these abnormalities, cervical cancer can be prevented. The most recent classification of these pre-cancerous lesions has two levels of severity: low-grade epithelial abnormalities (LGEA) and high-grade epithelial abnormalities (HGEA). An earlier classification described various grades of cervical intra-epithelial neoplasia (CIN). Low-grade abnormalities include minor changes in squamous cells and CIN 1, and high-grade abnormalities include CIN 2, CIN 3, squamous carcinoma-in-situ, adenocarcinoma-in-situ and invasive carcinoma (squamous or adenocarcinoma).

The Pap smear is the most common way to detect pre-cancerous changes, which rarely cause any symptoms. The test involves a doctor inserting a speculum into the vagina and gently scraping the surface of the cervix. This process collects cells that are transferred onto a slide or into a special liquid, which is then sent to a pathology laboratory for assessment. Pap smears are offered by general practitioners, gynaecologists, family planning clinics, women's health centres, hospital outpatient clinics and, in some circumstances, specially trained nurses.

If the Pap smear shows an abnormality, the woman may be advised to have a repeat smear if the abnormality is low-grade or she may be advised to have a colposcopy. With colposcopy, a doctor is able to look directly at the cervix under magnification using an instrument called a colposcope. Using a special stain the doctor can highlight any suspicious area, which may be pre-cancerous or cancerous. The doctor will then take a tissue sample (a biopsy) of the suspicious area for further examination by the pathologist.

Pre-cancerous changes can be easily and effectively treated to prevent the progression to cervical cancer. The type of treatment depends on whether the change observed is low or high grade, the woman's age and general health, whether she wants to have children, and her preferences.

There is a range of treatments for pre-cancerous changes, including laser treatment, loop excision (LLETZ), cryosurgery (cold coagulation), electrodiathermy, or cone biopsy (either by laser or by scalpel). In a small number of instances, a hysterectomy may be necessary.

For invasive cancer, a cone biopsy or hysterectomy is generally performed. If the cancer cells are detected on the surface of the cervix only, it may be treated by a cone biopsy. If it has invaded deeper into the cervix, a hysterectomy is generally performed. In advanced cases, a radical hysterectomy is needed to remove the cervix and uterus along with a margin of tissue around the cervix and lymph nodes from the pelvis. Radiotherapy is sometimes used as well as surgery, and for more advanced cases it may be used on its own.

Appendix B: Data sources and limitations

All data used in this report are based on calendar years. Data are derived from multiple sources and are summarised below.

Table B1: Cervical cancer screening indicators data sources

Indicator	Description	Data source
1	Participation rate for cervical cancer screening	National Cervical Screening Program
2	Early re-screening	National Cervical Screening Program
3	Low-grade abnormality detection	National Cervical Screening Program
4	High-grade abnormality detection	National Cervical Screening Program
5.1	Incidence of micro-invasive cervical cancer National Cancer Statistics Clearing House (ICD-10 C53)	National Cancer Statistics Clearing House
5.2	Incidence of squamous, adenocarcinoma, adeno-squamous and other cervical cancer (ICD-10 C53)	National Cancer Statistics Clearing House
5.3	Incidence by location (ICD-10 C53)	National Cancer Statistics Clearing House
6.1	Mortality from cervical cancer (ICD-9 180 for data up to and including 1996; ICD-10 C53 for data from 1997 onwards)	AIHW Mortality Database
6.2	Mortality by location	AIHW Mortality Database
6.3	Mortality by Indigenous status	AIHW Mortality Database

Population data

The Australian Bureau of Statistics estimated resident female population has been used to calculate incidence and mortality rates. Participation rates were calculated using the average of the 2001 and 2002 estimated resident female population (see Appendix D for tables). There may be some variation in published participation rates because national rates use estimated resident population data in the denominator whereas local data analysis may use census counts. The denominator population used to calculate cervical screening participation rates has been adjusted by the estimated proportion of women who have had a hysterectomy by age. These data were derived from the 2001 National Health Survey, and are tabled in Appendix D.

The age-standardised rates in this publication are calculated using the total estimated 2001 mid-year Australian resident population. Where appropriate, rates are also standardised to the WHO World Standard Population for international comparison. Both the Australian and the WHO World Standard Populations are in Appendix D.

Indigenous mortality data

Due to the difficulties of Indigenous identification, mortality data used in Indicator 10 are based on deaths in Queensland (for 1998, 1999, 2000, 20001 and 2002), Western Australia, South Australia and the Northern Territory only.

Other data limitations

- Hysterectomy fractions are calculated using national data derived from the National Health Survey using aggregate data that do not necessarily reflect variation at the state or territory level. In this report, data from the 2001 National Health Survey have been used.
- Participation rates will be underestimates to the extent that a small percentage of women choose to opt-off local registers and have been excluded from the statistics in this report.
- The participation numbers for states and territories other than Western Australia and Australian Capital Territory, and the Australian totals, may be overestimated because of double counting of some women in registers. This may be the result of difficulty in identifying state or territory of residence for women in border areas and the inclusion in registers of women resident overseas.
- Participation rates published by state and territory programs may differ from those in this publication because of variation in denominators used.

Appendix C: Methods

This section describes the methods employed to calculate the estimates presented in the tables in the body of this publication.

Crude rates

A crude rate is defined as the number of events over a specified period of time (e.g. a year) divided by the total population. For example, a crude cancer incidence rate is similarly defined as the number of new cases of cancer in a specified period of time divided by the population at risk. Crude death rates and cancer incidence rates are expressed in this report as rates per 100,000 population. Crude participation rate is expressed as a percentage.

Age-specific rates

Age-specific rates are calculated by dividing the number of cases occurring in each specified age group by the corresponding population in the same age group expressed as a percentage or a rate per 1,000 or 100,000 population. This rate may be calculated for particular age and sex groupings, for example:

Age-specific cervical cancer incidence rate in females aged 50–54 in the year 2000

$$= \frac{\text{New cases aged } 50-54 \text{ years (year 2000)}}{2000 \text{ female population aged } 50-54 \text{ years}} \times 100{,}000$$

$$= \frac{58}{623{,}134} \times 100{,}000$$

$$= 9.3 \text{ per } 100{,}000$$

Age-standardised rates (AS rate)

Rates are adjusted for age to facilitate comparisons between populations that have different age structures, e.g. between youthful and ageing communities. There are two different methods commonly used to adjust for age. In this publication we use direct standardisation in which age-specific rates are multiplied against a constant population (the Australian 2001 Population Standard unless otherwise specified). This effectively removes the influence of age structure on the summary rate that is described as the age-standardised rate. The method may be used for the calculation of participation, incidence and mortality rates. The method used for this calculation comprises three steps:

Step 1: Calculate the age-specific rate (as shown above) for each age group.

Step 2: Calculate the expected number of cases in each 5-year age group by multiplying the age-specific rates by the corresponding standard population and dividing by 100,000, giving the expected number of cases.

Step 3: Sum the expected number of cases in each age group to give the age-standardised rate. Divide this sum by the total of the standard population and multiply by 100,000.

Confidence intervals

Population numbers for incidence, mortality and screening have a natural level of variability for a single year above and below what might be expected in the mean over many years. The percentage variability is small for large population numbers but high for small numbers such as mortality in a young age group. One measure of the likely difference is the standard error, which indicates the extent to which a population number might have varied by chance in only one year of data.

In the 95% confidence interval there are about 19 chances in 20 that the difference will be less than two standard errors.

The 95% confidence intervals in this report were calculated using a method for obtaining approximate confidence intervals for a weighted sum of Poisson parameters developed by Dobson et al. (1991).

Appendix D: Population data

Table D1: Australian Standard Population[a] and WHO World Standard Population[b]

Age group	World Standard Population (W)	Australian 2001 Population Standard (A)
0–4	8.86	1,282,357
5–9	8.69	1,351,664
10–14	8.60	1,353,177
15–19	8.47	1,352,745
20–24	8.22	1,302,412
25–29	7.93	1,407,081
30–34	7.61	1,466,615
35–39	7.15	1,492,204
40–44	6.59	1,479,257
45–49	6.04	1,358,594
50–54	5.37	1,300,777
55–59	4.55	1,008,799
60–64	3.72	822,024
65–69	2.96	682,513
70–74	2.21	638,380
75–79	1.52	519,356
80–84	0.91	330,050
85+	0.63	265,235
Total	**100.03**	**19,413,240**

Sources

(a) ABS 2002.

(b) Ahmad et al. 2002.

Table D2: Hysterectomy fractions for women aged 15–80+ years, Australia, 2001

Age group	% of women who have not had a hysterectomy
18–19	100.0
20–24	100.0
25–29	100.0
30–34	98.9
35–39	95.6
40–44	90.6
45–49	82.5
50–54	76.5
55–59	66.2
60–64	68.9
65–69	66.8
70–74	68.1
75–79	67.9
80+	69.0
Total	**85.5**

Source: ABS 2001 National Health Survey.

Table D3: Estimated resident female populations, by age, states and territories, June 1999

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	212,896	150,627	118,871	62,017	46,320	15,570	10,429	8,483	625,323
5–9	219,794	158,442	125,119	65,462	48,658	16,689	10,934	8,350	653,586
10–14	215,692	156,263	122,701	67,214	49,281	17,108	11,032	7,512	646,949
15–19	210,302	153,602	123,744	64,498	48,892	16,594	11,696	7,028	636,395
20–24	212,148	160,173	122,506	63,953	47,281	14,433	12,859	7,749	641,165
25–29	247,927	186,116	136,149	70,807	52,790	15,998	13,384	9,528	732,790
30–34	238,251	182,559	129,445	69,843	53,571	16,243	12,485	8,590	711,121
35–39	256,665	187,952	139,681	74,926	58,791	18,752	12,924	8,147	757,978
40–44	240,204	176,816	131,091	72,122	56,405	17,996	12,556	7,107	714,395
45–49	221,730	164,786	122,752	66,644	53,974	16,768	12,354	6,217	665,314
50–54	200,666	148,449	111,303	56,992	49,678	15,179	10,806	4,770	597,901
55–59	154,990	113,020	83,131	42,273	37,332	11,927	6,949	3,007	452,671
60–64	133,768	98,142	67,264	35,212	32,754	10,225	5,079	1,780	384,242
65–69	122,098	89,625	59,056	30,382	30,459	9,315	3,989	1,173	346,104
70–74	118,688	86,729	55,999	27,589	30,979	8,800	3,718	821	333,331
75–79	100,171	72,968	46,664	22,867	26,840	7,685	3,108	564	280,869
80–84	65,814	46,704	30,935	14,744	17,445	5,217	1,872	330	183,067
85+	58,306	44,007	27,284	14,204	16,231	4,380	1,434	260	166,106
Total	**3,230,110**	**2,376,980**	**1,753,695**	**921,749**	**757,681**	**238,879**	**157,608**	**91,416**	**9,529,307**

Source: AIHW Population Database based on estimated resident population data compiled by ABS.

Table D4: Estimated resident female populations, states and territories, June 2000

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	212,248	150,048	119,160	61,978	45,470	15,236	10,327	8,521	623,100
5–9	220,812	159,285	126,800	65,717	48,675	16,633	10,858	8,396	657,321
10–14	217,827	157,685	124,667	67,662	49,127	16,792	11,001	7,584	652,475
15–19	214,103	157,159	126,223	66,450	49,724	16,702	11,844	7,147	649,402
20–24	211,077	158,650	121,765	63,301	46,456	14,071	12,778	7,714	635,881
25–29	247,422	184,117	135,753	69,930	51,486	15,541	13,323	9,359	727,009
30–34	240,000	185,289	131,615	70,453	53,291	16,169	12,582	8,816	718,323
35–39	255,711	188,110	140,417	74,799	57,901	18,242	12,852	8,251	756,421
40–44	244,599	180,407	134,766	73,321	57,577	18,175	12,722	7,226	728,900
45–49	224,723	166,671	124,670	68,226	54,103	16,897	12,337	6,405	674,128
50–54	207,920	154,790	116,441	60,200	51,550	15,772	11,315	5,088	623,134
55–59	161,449	117,249	88,394	44,223	39,070	12,350	7,449	3,255	473,483
60–64	137,200	100,964	70,601	36,564	33,626	10,633	5,336	1,900	396,853
65–69	121,266	89,014	59,494	30,663	30,036	9,263	4,102	1,235	345,081
70–74	118,405	86,798	56,363	28,027	30,669	8,777	3,742	853	333,643
75–79	102,665	74,696	48,012	23,354	27,472	7,758	3,225	560	287,744
80–84	68,156	48,613	32,106	15,366	18,064	5,345	1,975	369	190,000
85+	61,529	46,288	28,770	15,009	16,988	4,673	1,607	286	175,151
Total	**3,267,112**	**2,405,833**	**1,786,017**	**935,243**	**761,285**	**239,029**	**159,375**	**92,965**	**9,648,049**

Source: AIHW Population Database based on estimated resident population data compiled by ABS.

Table D5: Estimated resident female populations, states and territories, June 2001

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	213,086	150,321	120,456	61,905	44,962	15,150	10,272	8,594	624,858
5–9	220,990	159,060	127,970	65,655	48,495	16,360	10,824	8,379	657,874
10–14	220,821	159,577	127,233	68,044	48,716	16,771	11,073	7,723	660,094
15–19	218,197	160,653	128,582	68,177	50,536	16,636	12,060	7,173	662,077
20–24	212,719	160,769	123,091	63,913	46,344	13,999	13,122	7,616	641,636
25–29	241,462	178,268	132,503	67,908	49,170	14,721	13,030	9,029	706,171
30–34	248,361	191,148	136,310	72,069	53,575	16,257	12,838	9,047	739,696
35–39	253,112	187,977	139,855	74,293	56,832	17,524	12,849	8,204	750,770
40–44	250,299	184,241	138,896	74,398	58,196	18,437	12,815	7,428	744,821
45–49	227,525	168,515	127,283	69,797	54,391	17,073	12,302	6,543	683,539
50–54	215,107	160,647	121,798	63,711	53,246	16,338	11,817	5,513	648,237
55–59	168,272	122,587	93,692	46,062	41,110	12,818	7,906	3,418	495,911
60–64	140,535	102,654	74,133	37,870	34,124	10,988	5,594	2,111	408,042
65–69	121,568	89,321	60,179	31,244	29,788	9,248	4,265	1,290	346,923
70–74	118,705	86,795	57,118	28,484	30,325	8,740	3,731	918	334,826
75–79	103,805	75,974	48,959	23,787	27,745	7,819	3,320	588	292,000
80–84	72,230	51,628	34,293	16,288	19,239	5,547	2,159	412	201,800
85+	64,220	48,296	30,155	15,998	17,672	4,899	1,765	307	183,313
Total	**3,311,014**	**2,438,431**	**1,822,506**	**949,603**	**764,466**	**239,325**	**161,742**	**94,293**	**9,782,588**

Source: AIHW Population Database based on estimated resident population data compiled by ABS.

Table D6: Estimated resident female populations, states and territories, June 2002

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	209,998	149,393	120,635	61,267	44,412	14,878	10,193	8,471	619,365
5–9	219,545	158,360	128,718	65,354	47,919	16,064	10,602	8,240	654,942
10–14	222,365	160,854	130,986	68,209	48,895	16,673	11,090	7,690	666,903
15–19	219,024	160,582	129,704	68,547	50,462	16,639	11,914	7,129	664,072
20–24	215,476	164,600	125,384	65,016	47,029	14,105	13,331	7,456	652,455
25–29	235,186	173,789	129,576	66,068	47,466	13,970	12,776	8,558	687,472
30–34	254,762	195,255	140,697	73,271	53,979	16,314	13,161	9,154	756,676
35–39	248,713	186,794	139,540	73,748	55,450	16,992	12,540	8,060	741,963
40–44	255,317	187,635	143,484	75,781	58,882	18,600	12,938	7,521	760,266
45–49	230,346	171,093	130,107	70,701	54,719	17,258	12,223	6,522	693,084
50–54	215,417	160,557	123,151	64,600	52,781	16,242	11,745	5,655	650,212
55–59	180,476	131,947	102,248	50,183	44,420	13,861	8,727	3,635	535,541
60–64	143,193	105,156	77,891	39,445	34,713	11,236	5,845	2,325	419,844
65–69	123,633	91,020	62,742	32,380	30,288	9,446	4,447	1,366	355,344
70–74	117,855	85,628	57,482	28,694	29,724	8,816	3,725	978	332,914
75–79	104,309	76,984	49,611	24,224	27,842	7,709	3,401	632	294,715
80–84	75,377	54,172	36,110	17,269	20,125	5,744	2,266	422	211,487
85+	67,203	49,844	31,552	16,378	18,279	5,118	1,891	324	190,591
Total	**3,338,195**	**2,463,663**	**1,859,618**	**961,135**	**767,385**	**239,665**	**162,815**	**94,138**	**9,887,846**

Source: AIHW Population Database based on estimated resident population data compiled by ABS.

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Appendix F: NHMRC guidelines for the management of women with screen-detected abnormalities (under review)

This reference sheet is a summary of the NHMRC guidelines for the management of women with screen-detected abnormalities. It is intended to assist medical practitioners to take appropriate action on receipt of Pap smear reports. In 2004 the NHMRC commenced a review of these guidelines.

Low-grade epithelial abnormalities		
Pap smear report	**Investigation**	**Management**
Non-specific minor squamous cell changes/atypia		Repeat smear at 12-monthly intervals until it reverts to normal.
Minor changes in endocervical cells/ low-grade glandular change	Repeat smear in 6 months using cytobrush and spatula. If low-grade abnormality persists, refer for colposcopy and biopsy if indicated.	If endocervical cell abnormality confirmed, refer to gynaecologist for appropriate treatment.
HPV effect/HPV-associated cell changes	Repeat smear at 6-monthly intervals. If HPV-associated cell changes persist after 12 months, refer for colposcopy.	If HPV confirmed, continue with 6 monthly smears until 2 negative reports are received. Repeat smear annually for 2 years then revert to 2-yearly screening.
Possible CIN 1 ± HPV/possible mild dysplasia	Repeat smear at 6-monthly intervals until 2 successive negative reports are received. If lesion persists for 12 months, refer for colposcopy.	If CIN 1 confirmed, follow either observational or active management program as explained on reverse of sheet.
CIN 1 ± HPV/mild dysplasia	Refer for colposcopy and biopsy if indicated.	If CIN 1 confirmed, follow either observational or active management program as explained on reverse of sheet. If higher grade abnormality diagnosed, see below.
High-grade epithelial abnormalities		
Pap smear report	**Investigation**	**Management**
CIN 2 ± HPV/moderate dysplasia	Refer for colposcopy and directed biopsy.	If CIN 2 confirmed, treatment by gynaecologist with appropriate expertise is required.
CIN 3 ± HPV/severe dysplasia	Refer for colposcopy and directed biopsy.	If CIN 3 confirmed, treatment by gynaecologist with appropriate expertise is required.
CIN 3 ± HPV with possible invasion; Endocervical glandular dysplasia; or Adenocarcinoma in situ	Refer to gynaecologist with expertise in colposcopic evaluation of malignancies.	Treatment by gynaecologist with appropriate expertise is required.
Invasive squamous cell carcinoma (SCC) or Adenocarcinoma	Refer to gynaecologist skilled in the management of malignancies, or a specialist unit, for urgent evaluation and management.	Treatment by gynaecologist with appropriate expertise is required.
Inconclusive – abnormal cells highly suggestive but not diagnostic of a high-grade abnormality	Refer for colposcopy and possible biopsy, unless there is an obvious diagnostic difficulty e.g. epithelial atrophy or infection. In this case, treat the problem and repeat the smear.	If high-grade lesion confirmed, treatment by gynaecologist with appropriate expertise is required.

Management of women with low-grade epithelial abnormalities

A cytological assessment of CIN 1 requires referral for colposcopy and, if indicated, biopsy. There is controversy over the management—**observational** and **active**. Both treatment options should be fully discussed with the woman.

Observational management

If the diagnosis of CIN 1 is confirmed and the woman elects not to be treated, cervical smears should be taken at 6-monthly intervals until the abnormality either regresses or progresses. After 2 negative smears at 6-monthly intervals, smears should be taken at yearly intervals. If two consecutive annual smears are normal the woman can revert to 2-yearly screening.

Active management

Treatment by an accepted method, either ablative or excisional.

Pap smear report	Management
Negative/within normal limits	Repeat smear in 2 years.
Negative/within normal limits and no endocervical cells present	Repeat smear in 2 years.
Negative with inflammation	Repeat smear in 2 years.
Note: Investigate any symptoms that are not readily explained, such as post-coital or intermenstrual bleeding. A negative Pap smear must not be taken as reassurance in these circumstances. Further investigation may involve referral to a gynaecologist.	
Unsatisfactory	Repeat smear in 6–12 weeks, with treatment and where possible correction of any problems beforehand if appropriate.

Post-treatment assessment	After initial post-treatment colposcopic assessment by gynaecologist, repeat smear at 6-monthly intervals for 1 year. Following treatment of a high-grade epithelial abnormality, smears should be repeated yearly thereafter. Following treatment for a low-grade epithelial abnormality, revert to normal 2-yearly screening after 2 consecutive normal smears at yearly intervals.
Special circumstances	
Total hysterectomy for CIN	Annual smears from vaginal vault for 5 years, then revert to 2-yearly smears.
Total hysterectomy for benign causes	No further smears required if previous smears were negative. Baseline smear if reason for hysterectomy and/or previous Pap smear history unknown.
Subtotal hysterectomy for benign causes—cervix present	Continue normal 2-yearly screening.
Abnormality during pregnancy	Refer for colposcopy during 1st trimester to exclude invasive disease. If confirmed high-grade abnormality, repeat colposcopy during mid-trimester to exclude progression. Lesion should be reassessed 8 weeks post-partum.

Glossary

Ablative therapy: the destruction of cells on the surface of the cervix using laser therapy, chemicals or diathermy.

ABS: Australian Bureau of Statistics.

ACT: Australian Capital Territory—a land-locked territory of Australia situated within the state of New South Wales on the eastern seaboard with a population of 319,317 (2001). Its capital city is Canberra, which is also Australia's capital city.

Adeno-squamous: a mix of adenocarcinoma and squamous cells in the same sample.

Adenocarcinoma: a cancer formed from the cells of a gland.

Adjuvant: enhancing or administered to enhance the effectiveness of a treatment or substance.

AHMAC: Australian Health Ministers' Advisory Council.

AIHW: Australian Institute of Health and Welfare.

ASGC: Australian Standard Geographical Classification: the classification designed by the ABS to define the geography of Australia.

AS rate: age-standardised rate

Atypia: the condition of being irregular.

Basement membrane: the delicate, non-cellular layer on which an epithelium is seated. The epithelium forms the surface portion of the skin and lines hollow organs and all passages of the respiratory, digestive and genito-urinary systems.

Benign: not malignant.

Cancer (malignant neoplasm): a term used to describe one of several diseases which result when the process of cell division, by which tissues normally grow and renew themselves, becomes uncontrolled and leads to the development of malignant cells. These cancer cells multiply in an uncoordinated way, independently of normal growth control mechanisms, to form a tumour. This tumour may expand locally by invasion or systemically by metastasis via the lymphatic or vascular systems. If left untreated, most malignant tumours will eventually result in death.

Cancer death: a death where the underlying cause is indicated as cancer. Persons with cancer who die of other causes are not counted in the death statistics in this publication.

CIN (cervical intraepithelial neoplasia): squamous cell carcinoma of the cervix is mostly preceded, over a period of years, by a spectrum of asymptomatic abnormalities known as cervical intraepithelial neoplasia (CIN) graded as CIN 1 (mild dysplasia), CIN 2 (moderate dysplasia) and CIN 3 (severe dysplasia and carcinoma-in-situ). CIN usually occurs at least a decade before cervical cancer. If CIN remains untreated, some women will develop cervical cancer and others will progress to invasive cervical cancer, despite treatment (Jelfs 1995).

Cone biopsy: biopsy in which an inverted cone of tissue is excised, as from the uterine cervix.

Colposcopy: an examination of the lower genital tract with a magnifying instrument called a colposcope. This method of conservative evaluation allows the clinician to more accurately assess the cytologic abnormality by focusing on the areas of greatest cellular abnormality and by sampling them with a punch biopsy to attain diagnosis.

Cryosurgery: the destruction of tissue using extreme cold.

Dysplasia: abnormal cell growth.

Endocervical: the inside of the uterine cervix or the mucous membrane lining of the cervix.

Epidemiology: the quantitative study of the distribution and determinants of health-related states and events in populations, and the application of this study to the control of health problems.

Epithelium: the covering of internal and external surfaces of the body, including the lining of vessels and other small cavities. It consists of cells joined by small amounts of cementing substances. It is classified into types on the basis of the number of layers deep and the shape of the superficial cells.

Exfoliate: to break away or remove.

HGA: high-grade abnormalities as defined for this report include CIN 1/2, CIN 2, CIN 3 or adenocarcinoma-in-situ.

Histology: the microscopic study of the minute structure and composition of tissues.

Hysterectomy: the surgical procedure whereby all or part of the uterus is removed.

Hysterectomy fractions: the proportion of women who have had their uterus removed by hysterectomy.

HPV: human papilloma virus.

ICD-10: International Classification of Disease—a coding system used to identify the primary site of the malignancy. This classification is in its tenth revision.

Incidence: see *new cancer case*

Intraepithelial: the area within the layer of cell tissues forming the epidermis of a body cavity. These cells comprise contiguous cells having minimum intercellular substance.

Invasive cancer: a tumour whose cells have a tendency to invade healthy or normal tissues.

LGA: low-grade abnormalities include atypia, warty atypia (human papilloma virus (HPV) effect), possible CIN, equivocal CIN, CIN 1 or endocervical dysplasia not otherwise specified (NOS).

Lymph node: masses of lymphatic tissue, often bean-shaped, that produce lymphocytes and through which lymph filters. These are located throughout the body.

Malignant: abnormal changes consistent with cancer.

Metastasis: the process by which a disease is transferred from one part of the body to another, for example via the lymphatic system or the bloodstream.

Mortality: see *cancer death.*

Neoplasia: the process by which tumours are formed.

New cancer case: a person who has a new cancer diagnosed for the first time. One person may have more than one cancer and therefore may be counted twice in incidence statistics if it is decided that the two cancers are not of the same origin. This decision is based on a series of principles set out in more detail in a publication by Jensen et al. (1991).

NOS: not otherwise specified.

NSW: New South Wales—a state of Australia on the eastern seaboard which has the largest state capital city in Australia, Sydney, and a population of 6,575,217 (2001).

NT: Northern Territory—a territory in the north of Australia with a population of 197,768 (2001) and Darwin as its capital city.

Pap smear: a test prepared for the study of exfoliated cells from the cervix (refer to Appendix A).

Post-partum: following childbirth.

Qld: Queensland—a state in the north-east of Australia with a population of 3,628,946 (2001) and Brisbane as its capital city.

Radiation therapy: the treatment of disease with any type of radiation, most commonly with ionising radiation, such as X-rays, beta rays and gamma rays.

RRMA: Rural, Remote and Metropolitan Areas Classification.

SA: South Australia—a state in the southern part of Australia with a population of 1,511,728 (2001) and Adelaide as its capital city.

Screening: the performance of tests on apparently well people in order to detect a medical condition at an earlier stage than would otherwise be the case.

Sensitivity: the proportion of individuals with the disease whom the screening test labels positive.

Squamous malignancy: cervical cancer can be derived from several cell types. One of these cell types is the squamous cell and most cervical cancers are derived from this cell type.

Stroma: the supporting framework of an organ.

Tas: Tasmania—an island state in the south-east of Australia with a population of 471,795 (2001) and Hobart as its capital city.

The Institute: the Australian Institute of Health and Welfare.

Vic: Victoria—a state in the south-east of Australia with a population of 4,804,726 (2001) and Melbourne as its capital city.

WA: Western Australia—the largest state in Australia, located in the west with a population of 1,901,159 (2001) and Perth as its capital city.

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