Indicator 5: 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 outcome. The next two indicators measure the incidence rates of micro-invasive and all cervical cancers in the community.

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, but the rate of more advanced cancers decreases in the longer term.

For this report the most recent national data available on incidence are for 2003, in contrast to screening data and mortality data which are available for 2004–2005. This time lag in availability of incidence data is expected to reduce over the next few 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 for females of all ages and for the target age group 20–69 years.

Trend in incidence of micro-invasive cervical cancer

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

Source: National Cancer Statistics Clearing House (AIHW).

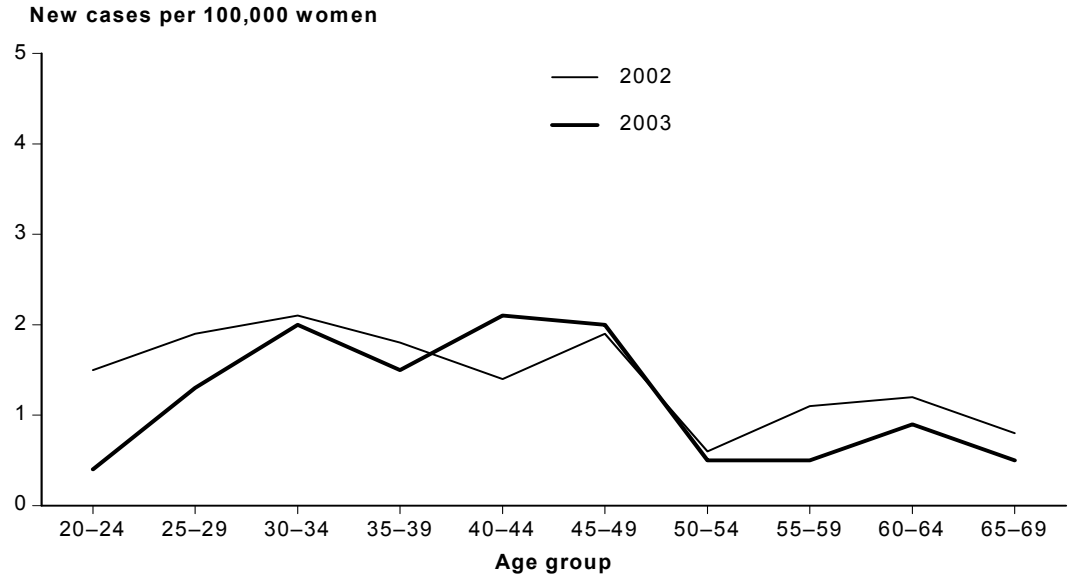
Figure 10: Age-standardised incidence rates for micro-invasive squamous cell cancer, women aged 20–69 years, 1992–2003

AS rate	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
						Number per 100,000 women						
All ages	1.9	1.7	2.1	2.1	1.7	1.4	1.4	1.0	1.0	1.0	1.0	0.8
Ages 20–69 years	2.8	2.6	3.0	3.2	2.5	2.0	2.1	1.5	1.5	1.5	1.5	1.3

- The age-standardised incidence rate of micro-invasive cervical cancer was 1.3 per 100,000 women in 2003 for women in the target age group of 20–69 years and 0.8 per 100,000 for women of all ages. The rate for women aged 20–69 years declined from a peak of 3.2 per 100,000 women in 1995 to 1.3 per 100,000 in 2003.
- In 1995 there were 192 new cases of micro-invasive cervical cancer diagnosed. By 2003 this number had declined to 85, with 80 of these cases in the 20–69 years age group.

For more information, see Tables 17 and 18 beginning on page 48.

Incidence of micro-invasive cervical cancer by age



Note: Rates are expressed per 100,000 women.

Source: National Cancer Statistics Clearing House (AIHW).

Figure 11: Age-specific incidence rates of micro-invasive squamous cell cancer, women aged 20–69 years, 2002 and 2003

	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										
2002	1.5	1.9	2.1	1.8	1.4	1.9	0.6	1.1	1.2	0.8	1.5 (1.2–1.8)
2003	0.4	1.3	2.0	1.5	2.1	2.0	0.5	0.5	0.9	0.5	1.3 (1.0–1.6)

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

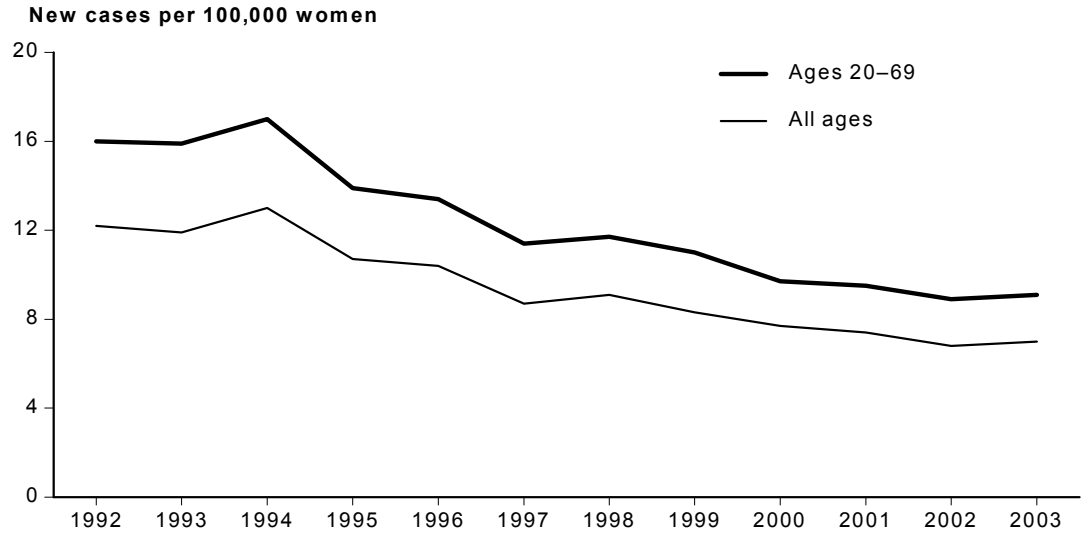
- In 2003, the highest detection rates for micro-invasive squamous cell cancer were for women aged 30–34 years, 40–44 years and 45–49 years respectively, at around two cases per 100,000 women. The rate declined with age to below one per 100,000 and below for women aged 50 years or more.

For more information, see Tables 17 and 18 beginning on page 48.

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

Incidence rates of squamous, adenocarcinoma, adenosquamous and other cervical cancer (micro-invasive and invasive) per 100,000 estimated resident female population in a 12-month period for females of all ages and for the target age group 20–69 years.

Trend in incidence of all cervical cancer



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

Source: National Cancer Statistics Clearing House (AIHW).

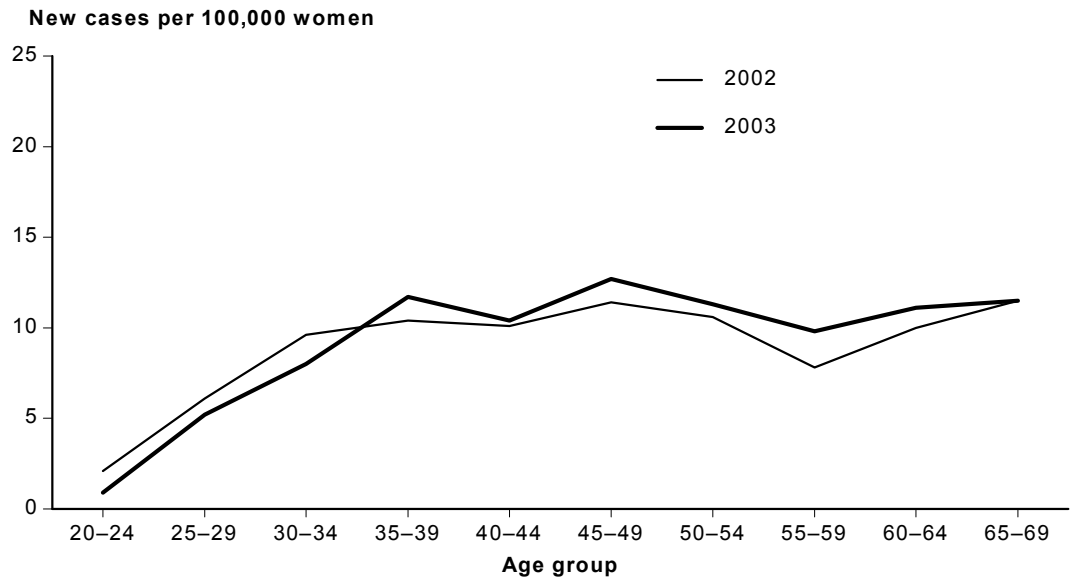
Figure 12: Age-standardised incidence rates of all cervical cancer (invasive squamous, adenocarcinoma, adenosquamous and other cervical cancer), 1992–2003

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
AS rate	**Number per 100,000 women**											
All ages	12.2	11.9	13.0	10.7	10.4	8.7	9.1	8.3	7.7	7.4	6.8	7.0
Ages 20–69	16.0	15.9	17.0	13.9	13.4	11.4	11.7	11.0	9.7	9.5	8.9	9.1

- In 2003, there were 725 new cases of cervical cancer diagnosed in Australia compared with the peak of 1,139 new cases in 1994. Of the 725 new cases, 578 were for women aged 20–69 years. All but one of the remaining 147 cases were in women aged 70 years and over.
- The age-standardised incidence rate of all cervical cancers was 7.0 per 100,000 women for women of all ages in Australia in 2003, and 9.1 per 100,000 for women aged 20–69 years.

For more information, see Tables 19 and 20 beginning on page 50.

Incidence by age



Note: Rates are expressed per 100,000 women.

Source: National Cancer Statistics Clearing House (AIHW).

Figure 13: Age-specific incidence rates of cervical cancer in women aged 20–69 years, 2002 and 2003

	Age group										
	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										
Age-specific rate 2002	2.1	6.1	9.6	10.4	10.1	11.4	10.6	7.8	10.0	11.5	8.9
Age-specific rate 2003	0.9	5.2	8.0	11.7	10.4	12.7	11.3	9.8	11.1	11.5	9.1

- The age-specific rate of cervical cancer was highest in 2003 for women aged 45–49 years with 12.7 new cases per 100,000 women, and lowest for women aged 20–24 years, with 0.9 per 100,000.

For more information, see Tables 19 and 20 beginning on page 50.

Incidence by states and territories

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).

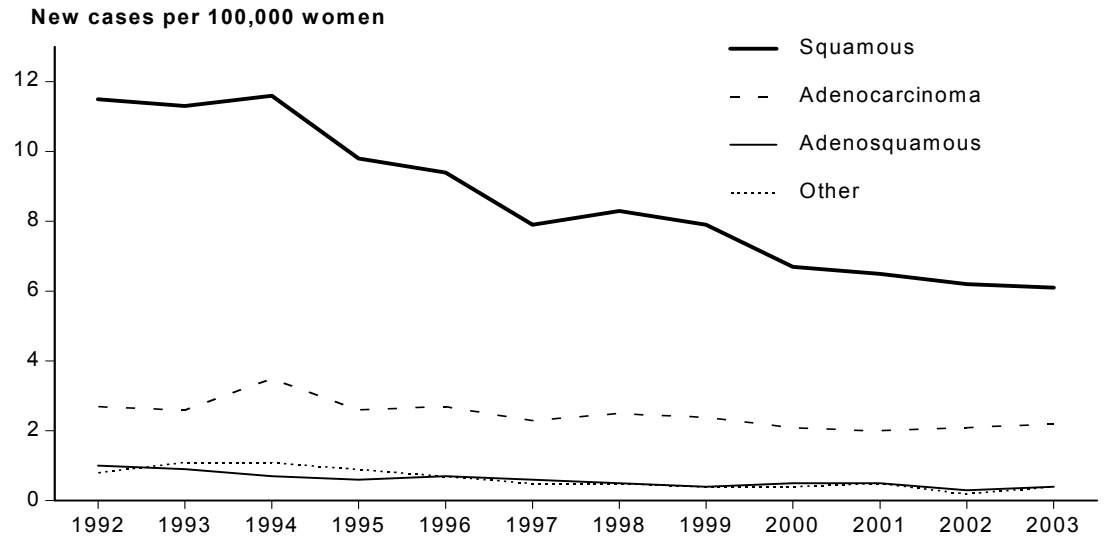
Figure 14: Age-standardised cervical cancer incidence rates in women aged 20–69 years, states and territories, 1996–1999 and 2000–2003

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
AS rate									
1996–1999	12.0	10.8	14.3	11.0	9.5	14.0	9.7	21.9	11.9
95% CI	11.2–12.8	9.9–11.6	13.2–15.5	9.6–12.4	8.2–11.0	11.1–17.3	6.8–13.4	15.4–29.9	11.4–12.3
AS rate									
2000–2003	9.4	7.6	10.8	10.8	7.6	10.6	7.8	15.4	9.3
95% CI	8.8–10.1	7.0–8.3	9.9–11.8	9.6–12.2	6.5–9.0	8.1–13.5	5.4–11.0	10.2–22.3	8.9–9.7

- In the period 2000–2003, Victoria and South Australia had the lowest incidence of cervical cancer at 7.6 new cases per 100,000 women aged 20–69 years and the Northern Territory had the highest rate of 15.4 per 100,000 women.
- The age-standardised incidence rate declined in all states and territories between the two periods 1996–1999 and 2000–2003. The declines were significant in New South Wales, Victoria, Queensland and Australia as a whole.

For more information, see Tables 21–24 beginning on page 52.

Incidence by histological type



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

Source: National Cancer Statistics Clearing House (AIHW).

Figure 15: Age-standardised incidence rates of cervical cancer, by histological type, women aged 20–69 years, 1992–2003

Histological type	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
						Number per 100,000 women						
Squamous	11.5	11.3	11.6	9.8	9.4	7.9	8.3	7.9	6.7	6.5	6.2	6.1
Adenocarcinoma	2.7	2.6	3.5	2.6	2.7	2.3	2.5	2.4	2.1	2.0	2.1	2.2
Adenosquamous	1.0	0.9	0.7	0.6	0.7	0.6	0.5	0.4	0.5	0.5	0.3	0.4
Other	0.8	1.1	1.1	0.9	0.7	0.5	0.5	0.4	0.4	0.5	0.2	0.4

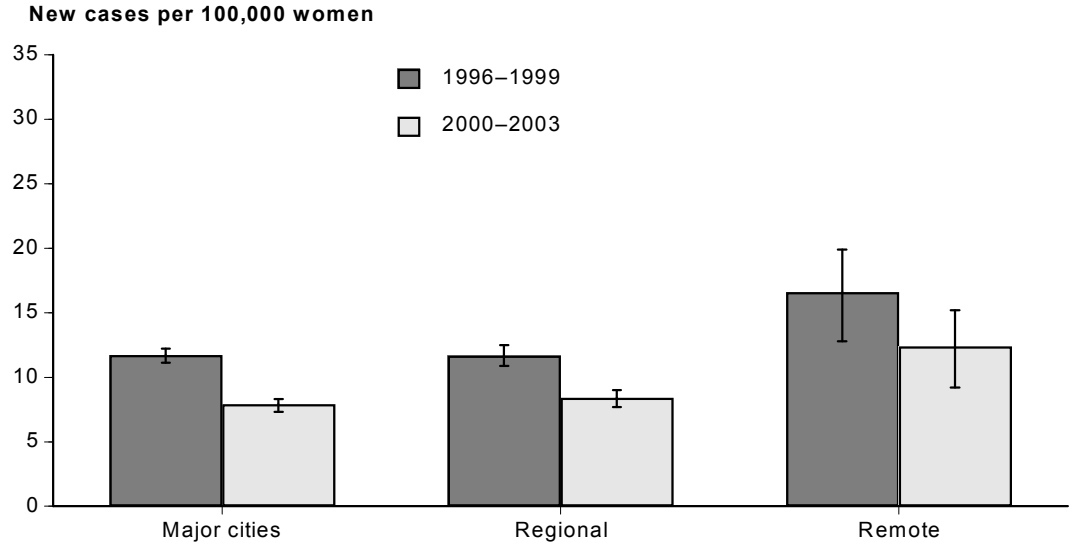
- In 2003, squamous cell carcinomas of the cervix accounted for 67.6% of all new cases of cervical cancer in women aged 20–69 years, adenocarcinomas 23.7%, adenosquamous 4.3%, and the remaining 4.3% a range of other mixed and unknown histologies.
- With the exception of adenocarcinoma, the trend from 1992 to 2003 for all histological types has been a statistically significant decrease in the age-standardised rates of cervical cancer per 100,000 women aged 20–69 years.
- Cervical screening has been less effective in reducing adenocarcinoma incidence rates than other types of cervical cancers because these cells may be too deep in the endocervical canal to be easily detected with a Pap smear (Heley 2007).

For more information, see Tables 21–24 beginning on page 52.

Indicator 5.3: Incidence by location

Incidence rates of cervical cancer per 100,000 estimated resident female population in a four-year period by location for females of all ages and for the target age group 20–69 years.

Incidence by location



Notes

1. The age-standardised rates are presented as four-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 has been used in this report; previous reports used the RRMA classification (see page xiii).

Source: National Cancer Statistics Clearing House (AIHW).

Figure 16: Age-standardised incidence rates of cervical cancer in women aged 20–69 years, by location, 1996–1999 and 2000–2003

	Metropolitan		Regional		Remote	
	1996–1999	2000–2003	1996–1999	2000–2003	1996–1999	2000–2003
AS rate	11.7	7.9	11.7	8.4	16.6	12.4
95% CI	11.2–12.3	7.5–8.4	10.9–12.5	7.8–9.1	13.3–20.4	9.6–15.6

- In 2000–2003 there were 1,907 new cases of cervical cancer in major cities (65.7% of all new cases), 918 new cases in regional locations (31.6% of all new cases) and 79 new cases (2.7% of all new cases) in remote locations.
- In 2000–2003 age-standardised cervical cancer incidence rates for women aged 20–69 years were higher in remote locations (12.3 per 100,000 women) than in regional areas (9.8) and major cities (8.9). The rate for remote locations was significantly higher than for women in major cities.

For more information, see Tables 29 and 30 beginning on page 58.