Incidence

A major objective of the National Cervical Screening Program is to reduce the incidence of cervical cancer by detecting treatable pre-cancerous abnormalities before their progression to cancer. However, where these pre-cancerous abnormalities cannot be detected, diagnosis of cancer at its earliest stage, the micro-invasive stage, is the best alternative. The next two indicators measure the incidence rates of micro-invasive and all cervical cancers in the community.

There are several forms of cervical cancer. The greatest proportion of cervical cancers are squamous cell carcinomas. Squamous cell carcinoma of the cervix is preceded, over a period of years, mostly by a spectrum of asymptomatic abnormalities. CIN usually occurs at least a decade before cervical cancer. If CIN remains untreated, some women will develop cervical cancer.

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 greater than 3 mm and no greater than 5 mm in depth and no wider than 7 mm. The depth of invasion should not be more than 5 mm taken 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).

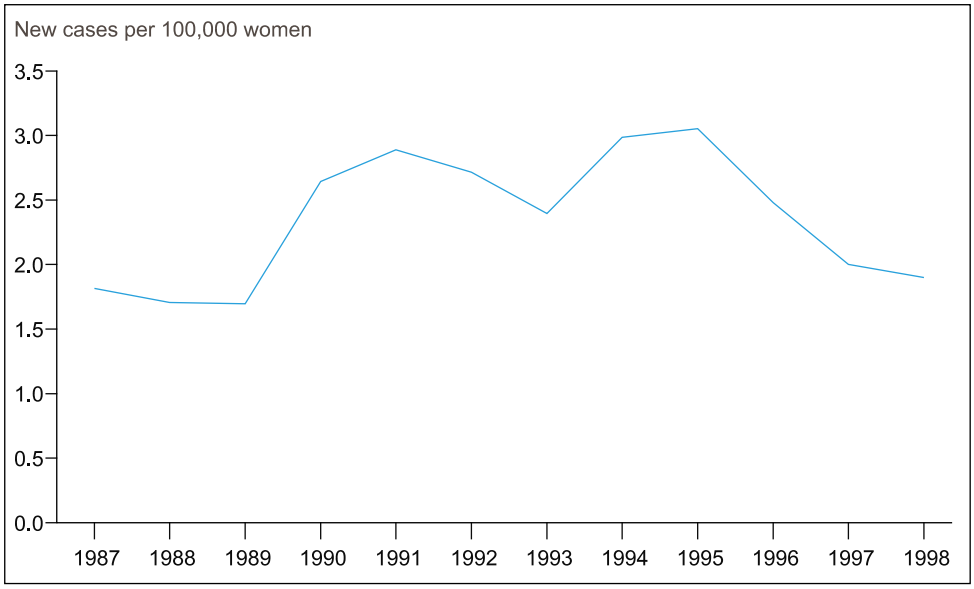
Micro-invasive squamous cell carcinoma is the most common form of micro-invasive cancer, and is reported in Indicator 5. There are also other forms of micro-invasive cancer for which data are not available.

Looking at cervical cancer overall, there has been a considerable reduction in the incidence (35%) since 1987. 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. For this report, the most recent national data available on incidence are for 1998, in contrast to screening data, which are available for 1999. This time lag in availability of incidence data is expected to reduce over the next few years as State and Territory cancer registries implement strategies to reduce data-processing backlogs.

Indicator 5: 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).

The graphs and tables below refer to the data for the target age group only. For detailed data refer to Table 11 (page 56).



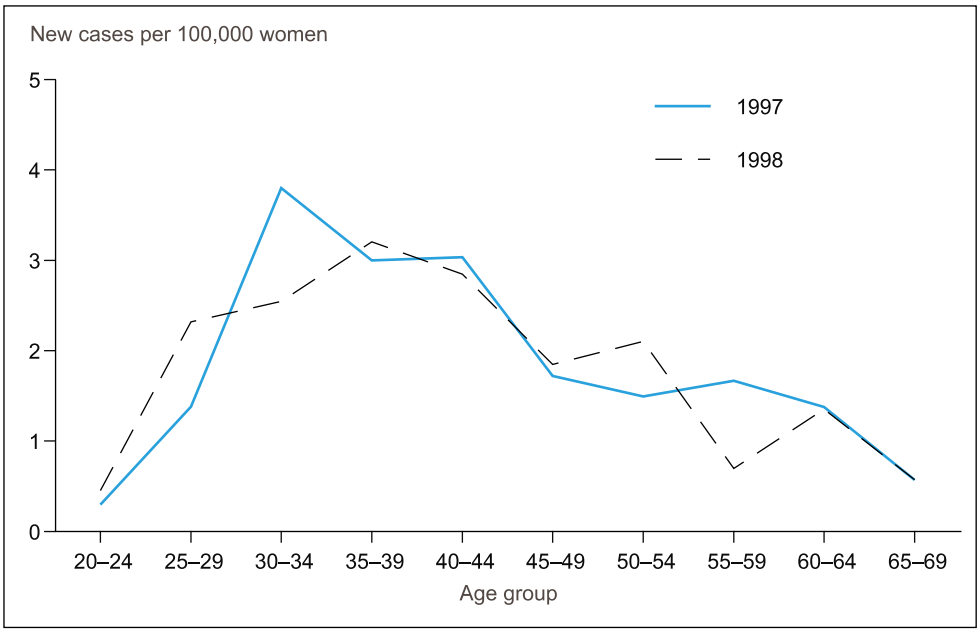
Note: Rates are expressed per 100,000 women and age standardised to the Australian 1991 population.

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, 1987-1998

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
	(Number per 100,000 women)											
AS rate	1.8	1.7	1.7	2.6	2.9	2.7	2.4	3.0	3.1	2.5	2.0	1.9

- The age-standardised incidence rate of micro-invasive cervical cancer was 1.8 per 100,000 women for all women in 1998, and 1.9 per 100,000 for the target age group 20-69 years (Table 11, page 56).
- In 1998 there were 122 new cases of micro-invasive cervical cancer among women of all ages, and for the target age group 20-69 years there were 116 new cases (Table 10, page 55).
- The age-standardised incidence rates for micro-invasive squamous cell carcinoma of the cervix have fluctuated during the period 1987-1998. Note that the number of cases of micro-invasive cancer is very low and the rates are therefore unstable (Table 11, page 56).



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, 1997 and 1998

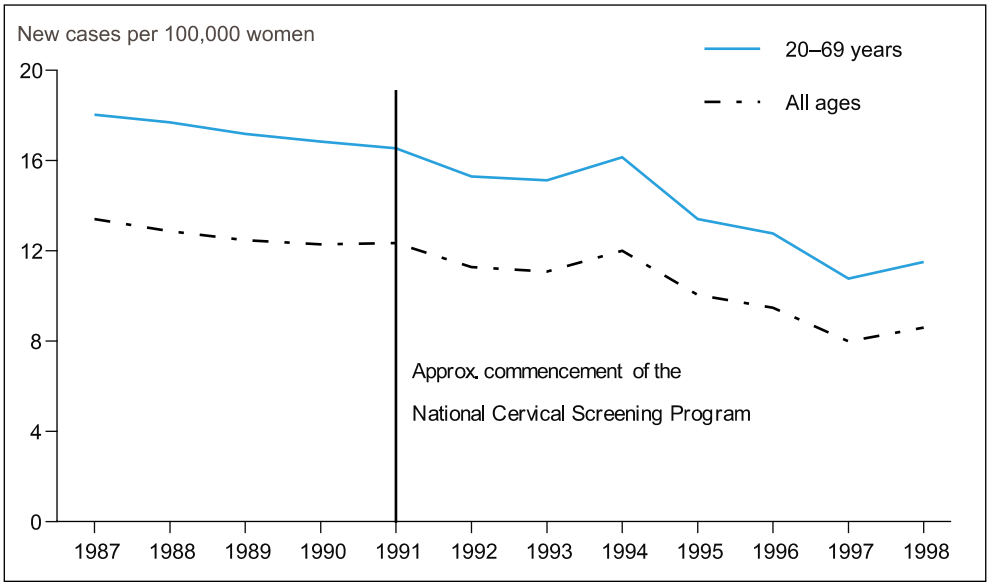
	Age group									
Year	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69
1997	0.3	1.4	3.8	3.0	3.0	1.7	1.5	1.7	1.4	0.6
1998	0.5	2.3	2.5	3.2	2.8	1.8	2.1	0.7	1.4	0.6

- In 1998, women in the age group 35-39 years had the highest incidence rate of micro-invasive squamous cell cancer at 3.2 per 100,000 women, whereas in 1997 women in the 30-34 year age group had the highest incidence. The rate showed a steady decline with age from the 45-49 year age group, reaching a low of 0.6 per 100,000 for the 65-69 age group. It should be noted that the rates for age groups 50-54 and over are based on small numbers of cases (less than 10 cases in each 5-year age group) (Tables 10 and 11, pages 55 and 56).
- In 1998, there were 24 cases of micro-invasive squamous cell cervical cancer in women aged 35-39 years. The number of micro-invasive squamous cell cervical cancers declined in most age groups, apart from the age groups 25-29 years and 50-54 years. Once again, it should be noted that the number of cancers in each age group is small. The number of cancers occurring among women in each age group 55-59 years and over is less than 10 (Table 10, page 55).

Indicator 6: Incidence of squamous, adenocarcinoma, adeno-squamous and other cervical cancer

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).

For detailed data refer to Table 13 (page 58).



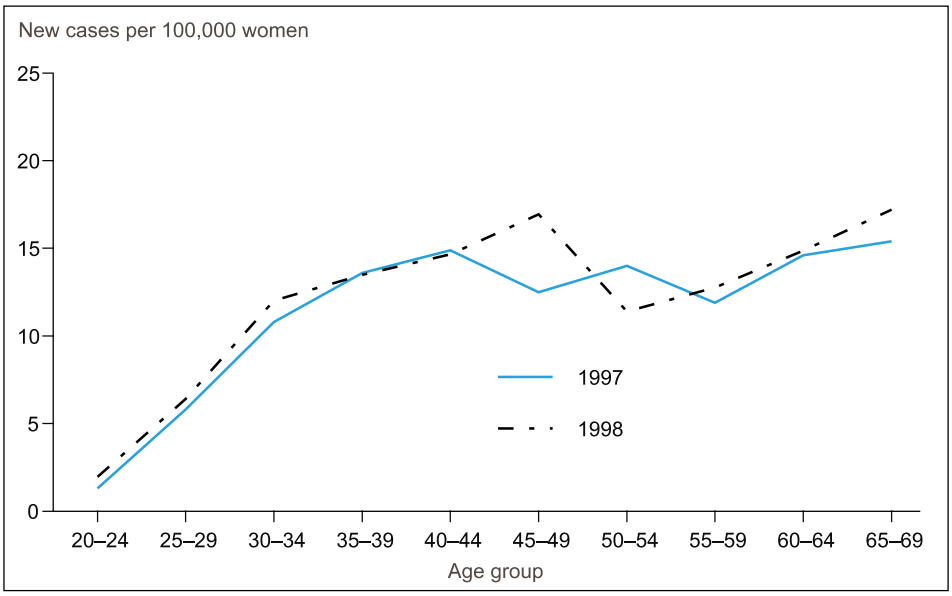
Note: Rates are expressed per 100,000 women and age standardised to the Australian 1991 population.

Source: National Cancer Statistics Clearing House (AIHW).

Figure 10: Age-standardised incidence rates of cervical cancer, Australia, 1987-1998

Age	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
	(Number per 100,000 women)											
All ages	13.4	12.9	12.5	12.3	12.3	11.3	11.1	12.0	10.0	9.5	8.0	8.6
20-69 years	18.0	17.7	17.2	16.8	16.5	15.3	15.1	16.1	13.3	12.8	10.8	11.5

- In 1998, the incidence rate of all cervical cancers declined to 8.6 per 100,000 women for all women in Australia, and 11.5 per 100,000 women for the target group (Table 13, page 58).
- In 1998, cervical cancer was the 10th most frequently diagnosed new cancer in women. There were 868 new cases of cervical cancer diagnosed in Australia in 1998, and of these 694 were women in the target age group 20-69 years (Table 12, page 57).
- Between 1987 and 1998 the age-standardised incidence rate for cervical cancer for women of all ages declined by 35.8%, and for the target age group by 36.1% (Table 13, page 58).



Refer to Table 13 (page 58).

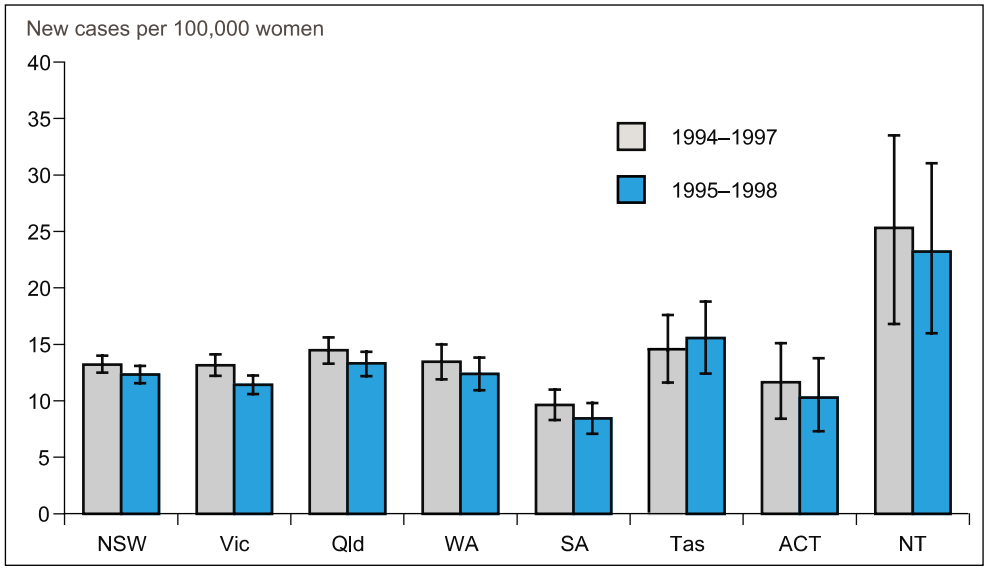
Note: Rates are expressed per 100,000 women.

Source: National Cancer Statistics Clearing House (AIHW).

Figure 11: Age-specific incidence rates of cervical cancer, Australia, 1997 and 1998

Year	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)										
1997	1.3	5.8	10.8	13.6	14.9	12.5	14.0	11.9	14.6	15.4	10.8
1998	2.0	6.4	12.0	13.5	14.7	16.9	11.4	12.8	14.9	17.2	11.5

- The age-specific rate of cervical cancer incidence differs from most other cancers in that it rises rapidly in women in the young age groups; in 1998 the age-specific rate for women aged 45-49 years was 16.9 per 100,000 women. From that age, the rate declines to 11.4 at age group 50-54, then has an upward trend to 17.2 at age group 65-69.



Refer to Tables 14b and 15b (pages 60 and 62).

Notes

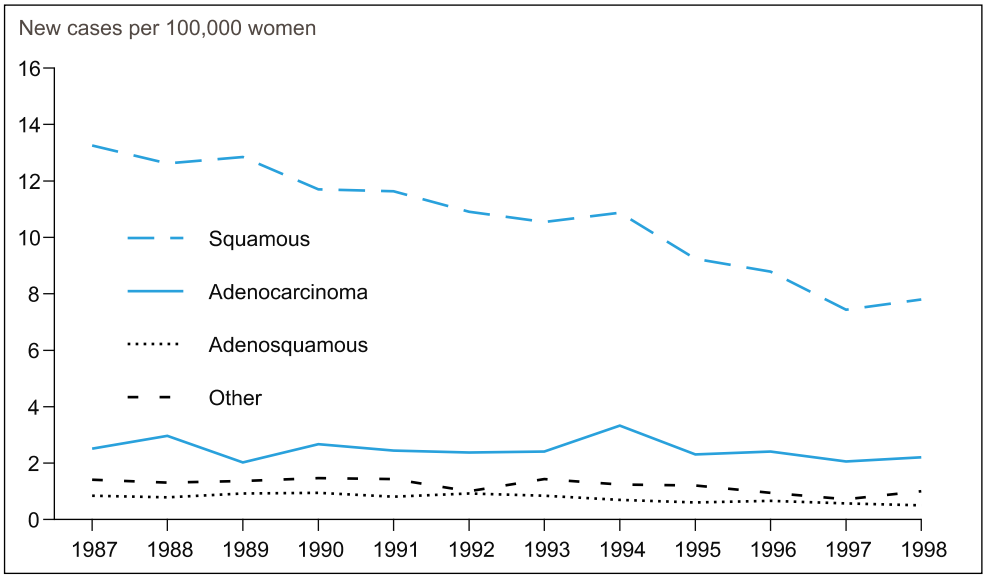
1. Rates are expressed per 100,000 women and age standardised to the Australian 1991 population.
2. Bars on graphs represent 95% confidence intervals.

Source: National Cancer Statistics Clearing House (AIHW).

Figure 12: Age-standardised cervical cancer incidence rates by women aged 20-69 years, by States and Territories, 1994-1997 and 1995-1998

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
1994-1997	13.2	13.1	14.5	13.5	9.6	14.4	11.6	25.3	13.2
95% CI	12.5-14.0	12.2-14.1	13.3-15.6	11.9-15.0	8.3-11.0	11.6-17.6	8.4-15.1	16.8-33.5	12.8-13.7
1995-1998	12.3	11.4	13.3	12.4	8.4	15.6	10.3	23.2	12.1
95% CI	11.6-13.1	10.6-12.2	12.2-14.3	10.9-13.8	7.1-9.8	12.4-18.8	7.3-13.8	16.0-31.0	11.6-12.5

- There was a considerable range in the incidence of cervical cancer among States and Territories for women aged 20-69 years. In the period 1995-1998 South Australia had the lowest incidence at 8.4 per 100,000 women compared with the Northern Territory, which had the highest rate of 23.2 per 100,000 women. The South Australian rate was significantly different from all States while the Northern Territory was significantly different from all States and the Australian Capital Territory except Tasmania (Table 15b, page 62).
- Between the two periods 1994-1997 and 1995-1998 the incidence rate declined in all States and Territories except Tasmania. However, the decline is not statistically significant. The rate of decrease in Victoria, South Australia and the Australian Capital Territory was over 11% (Tables 14b and 15b, pages 60 and 62).



Refer to Table 16b (page 63).

Note: Rates are expressed per 100,000 women and age standardised to the Australian 1991 population.

Source: National Cancer Statistics Clearing House (AIHW).

Figure 13: Age-standardised incidence rates of cervical cancer by histological type by women aged 20-69 years, Australia, 1987-1998

Histological type	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Squamous	13.3	12.6	12.8	11.7	11.6	10.9	10.5	10.9	9.2	8.8	7.5	7.8
Adenocarcinoma	2.5	3.0	2.0	2.7	2.4	2.4	2.4	3.3	2.3	2.4	2.1	2.2
Adeno-squamous	0.8	0.8	0.9	0.9	0.8	0.9	0.8	0.7	0.6	0.7	0.5	0.5
Other	1.4	1.3	1.4	1.5	1.4	1.0	1.4	1.2	1.1	0.9	0.7	1.0

- In 1998, squamous cell carcinomas of the cervix accounted for approximately 68.0% of all new cases of cervical cancer in women aged 20-69 years, adenocarcinomas 19.3%, adeno-squamous 4.3% and a range of other mixed and unknown histologies comprised the remaining 8.4% (Table 16a, page 63).

Indicator 8: Incidence by location

Incidence rates of cervical cancer per 100,000 estimated resident female population in a 3-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).

The graph and table below refer to the data for the target age group only. For detailed data refer to Table 19 (page 65).

Notes:

1. The age-standardised rates are presented as 3-year rolling blocks of data. These years were selected to be comparable with the mortality by location indicator presented later in this report.
2. Rates are expressed per 100,000 women and age standardised to the Australian 1991 population.
3. Bars on graphs represent 95% confidence intervals.

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, 1995-1997 and 1996-1998

	Metropolitan		Rural		Remote	
	1995-1997	1996-1998	1995-1997	1996-1998	1995-1997	1996-1998
AS rate	12.5	11.7	11.6	11.5	16.1	14.9
95% CI	11.9-13.0	11.1-12.2	10.6-12.5	10.6-12.6	12.2-20.1	11.1-18.4

- In the 3-year period 1996-1998 there were 1,874 new cases (72% of all new cases) of cervical cancer in metropolitan locations, 638 new cases (25% of all new cases) in rural locations and 77 new cases (3% of all new cases) in remote locations (Table 18, page 64).
- In the period 1996-1998, the age-standardised cervical cancer incidence rate for women in the target age group 20-69 years was higher in remote locations (14.9 per 100,000 women) than in metropolitan and rural locations. This difference was not statistically significant. During the same period, the corresponding rates for cervical cancer incidence in metropolitan and rural locations were 11.7 and 11.5 per 100,000 women respectively (Table 19, page 65).

- The age-standardised incidence rate of cervical cancer in all locations for women aged 20-69 years declined between the periods 1995-1997 and 1996-1998. However, the decline is not statistically significant.

Age-specific features

(Table 19, page 65)

- Very few cervical cancers occur in women under the age of 20. The incidence rate of cervical cancer increases with age.
- Between the periods 1995-1997 and 1996-1998 age-specific rates for the incidence of cervical cancer declined in almost all ages in metropolitan areas. However, the age pattern of cervical cancer incidence in rural and remote areas shows fluctuations between the same periods. This may be due to small numbers of cervical cancer occurring in these areas.