Indicator 3: Low-grade abnormality detection

The ratio of the 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.

This ratio is an indicator of the success of cytology laboratories in accurately identifying those Pap smears which are appropriate for histological follow-up. Women with low-grade abnormalities identified in the Pap smear are not usually referred for further investigative tests; they are advised to return for early re-screening to test whether the low-grade abnormality has resolved, remains a low-grade abnormality or has progressed to a high-grade abnormality. Therefore, the majority of women referred for follow-up will have had a high-grade abnormality identified in the Pap smear. Some of these apparent high-grade abnormalities will be identified by histological follow-up to have actually been low-grade abnormalities.

This ratio is only based on the results for women who are referred for histological follow-up. The numerator represents those that were confirmed as low-grade abnormalities by the follow-up. The denominator represents those that were identified as high-grade abnormalities by the follow-up. The majority of low-grade abnormalities identified at follow-up represent cases where the initial Pap smear result was incorrectly identified as high grade. Therefore, in this indicator, a lower ratio of low-grade abnormalities to high-grade abnormalities is the desired outcome.

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, and high-grade abnormalities are therefore treated aggressively. The chance of low-grade abnormalities progressing to malignant change is lower.

In this report a low-grade intraepithelial abnormality includes:

- atypia
- warty atypia (human papillomavirus (HPV) effect)
- possible cervical intraepithelial neoplasia (CIN) (see glossary)
- equivocal CIN
- CIN 1
- endocervical dysplasia not otherwise specified (NOS).

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

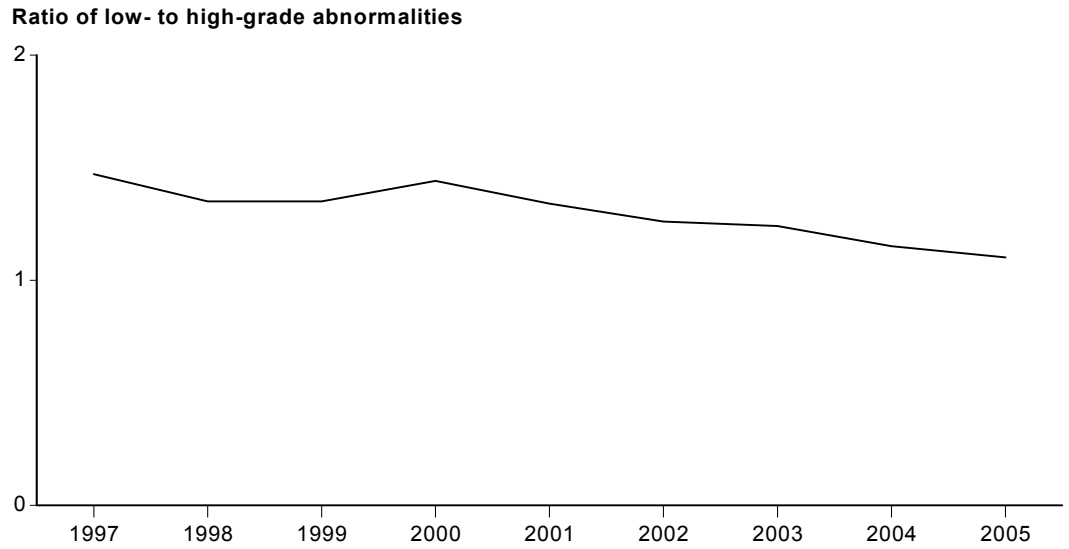
Number of low- to high-grade abnormalities histologically verified for women aged 20–69 years, 1997–2005

Abnormalities	1997	1998	1999	2000	2001	2002	2003	2004	2005
Low-grade	15,314	14,411	15,753	19,985	18,126	18,781	18,443	16,627	16,274
High-grade	10,392	10,704	11,686	13,851	13,555	14,903	14,840	14,507	14,837
Total	**25,706**	**25,115**	**27,439**	**33,836**	**31,681**	**33,684**	**33,283**	**31,134**	**31,111**
Ratio	**1.47**	**1.35**	**1.35**	**1.44**	**1.34**	**1.26**	**1.24**	**1.15**	**1.10**
95% CI	1.44–1.51	1.31–1.38	1.32–1.38	1.41–1.47	1.31–1.37	1.23–1.29	1.22–1.27	1.12–1.17	1.07–1.12
As a percentage of all screens									
Low-grade	1.04	0.93	1.02	1.07	0.98	1.01	1.01	0.88	0.84
High-grade	0.71	0.69	0.75	0.74	0.73	0.80	0.79	0.77	0.77
Total	**1.75**	**1.61**	**1.77**	**1.81**	**1.71**	**1.80**	**1.77**	**1.64**	**1.61**

Notes

1. The Queensland Health Pap Smear Register began operations in February 1999; therefore no data are available for this report.
2. Australian Capital Territory data were unavailable for 1997 and 1998.

Trend in ratio of low- to high-grade abnormalities



Notes

1. The Queensland Health Pap Smear Register began operations in February 1999; therefore no data are available for this report.
2. Australian Capital Territory data were unavailable for 1997 and 1998.
3. Northern Territory data were unavailable for 2001.

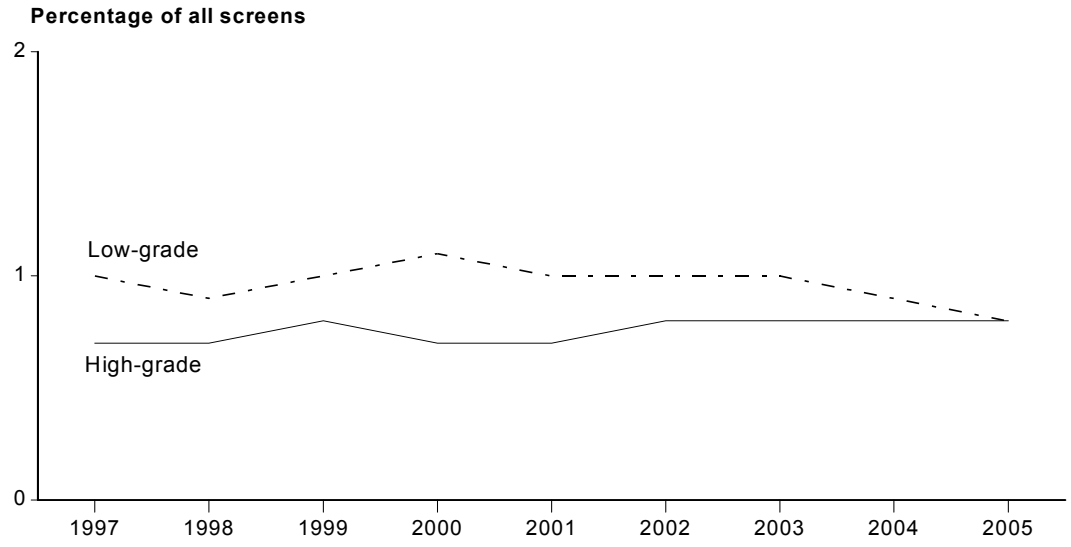
Source: AIHW analysis of state and territory Cervical Cytology Registry data.

Figure 5: Ratio of histologically verified low-grade to high-grade abnormalities in women aged 20–69 years, 1997–2005

- The screening program in 2005 detected 31,111 histologically verified abnormalities of which 16,274 were low grade and 14,837 were high grade.
- Between 1997 and 2005 the ratio of low-grade to high-grade abnormalities diagnosed in women aged 20–69 years declined from 1.47 to 1.10.
- The percentage of abnormalities detected in 2005 was 1.6% of women being screened, slightly lower than in 1997 (1.8%); however, in 1997 there was a much higher proportion of low-grade abnormalities being detected.

For more information, see Tables 9 and 10 on page 41. Tables with data other than for the latest reporting period can be found on the AIHW's website at <www.aihw.gov.au>.

Trend in proportion of screens by low- and high-grade status



Notes

1. The Queensland Health Pap Smear Register began operations in February 1999; therefore no data are available for this report.
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3. Northern Territory data were unavailable for 2001.

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

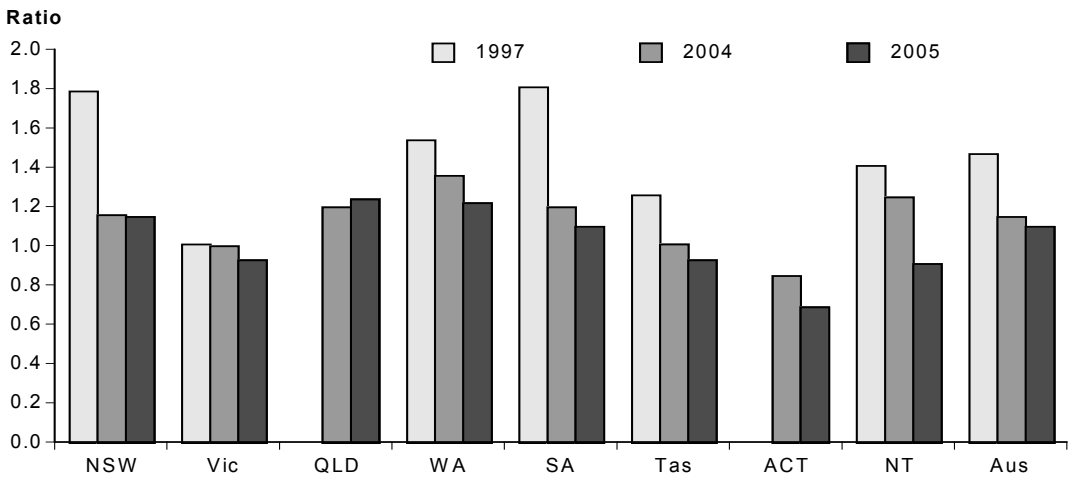
Figure 6: Percentage of all screens, by low- and high-grade status, 1997–2005

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
					Percentage of all screens				
Low-grade	1.0	0.9	1.0	1.1	1.0	1.0	1.0	0.9	0.8
High-grade	0.7	0.7	0.8	0.7	0.7	0.8	0.8	0.8	0.8

- The gap in the percentage of all screens that were histologically verified as low- or high-grade abnormalities narrowed over the period 1997 to 2005.

For more information, see Tables 9 and 10 on page 41. Tables with data other than for the latest reporting period can be found on the AIHW's website at <www.aihw.gov.au>.

Ratio of low- to high-grade abnormalities by state and territory



Notes

1. The Queensland Health Pap Smear Register began operations in February 1999; therefore no data are available for this report.
2. Australian Capital Territory data were unavailable for 1997.

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

Figure 7: Ratio of low-grade to high-grade abnormalities in women aged 20–69 years, states and territories, 1997, 2004 and 2005

Year	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Ratio				
1997	1.79	1.01	. .	1.54	1.81	1.26	n.a.	1.41	1.47
1998	1.46	1.11	. .	1.48	1.45	1.42	n.a.	0.87	1.35
1999	1.37	1.18	. .	1.70	1.43	1.36	1.24	0.88	1.35
2000	1.42	1.24	1.62	1.67	1.47	1.42	1.24	1.13	1.44
2001	1.39	1.09	1.41	1.52	1.39	1.25	1.17	n.a.	1.34
2002	1.29	0.91	1.40	1.62	1.27	1.13	1.31	1.42	1.26
2003	1.41	0.95	1.11	1.71	1.32	0.96	1.06	1.31	1.24
2004	1.16	1.00	1.20	1.36	1.20	1.01	0.85	1.25	1.15
2005	1.15	0.93	1.24	1.22	1.06	0.93	0.69	0.91	1.10

. . Not applicable.

n.a. Not available.

Notes

1. The Queensland Health Pap Smear Register began operations in February 1999; therefore no data are available for this report.
2. Australian Capital Territory data were unavailable for 1997 and 1998.
3. Northern Territory data were unavailable for 2001.

For more information, see Tables 9 and 10 on page 41. Tables with data other than for the latest reporting period can be found on the AIHW's website at <www.aihw.gov.au>.