

Cervical screening in Australia 1999–2000

The Australian Institute of Health and Welfare is Australia's national health and welfare statistics and information agency. The Institute's mission is to improve the health and well-being of Australians by informing community discussion and decision making through national leadership in developing and providing health and welfare statistics and information.

Cancer Series
Number 21

Cervical screening in Australia 1999–2000

**The Australian Institute of Health and Welfare
and the
Commonwealth Department of Health and Aged Care
for the
National Cervical Screening Program**

Australian Institute of Health and Welfare
Canberra

AIHW cat. no. CAN 16

© Australian Institute of Health and Welfare 2003

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced without prior written permission from the Australian Institute of Health and Welfare. Requests and enquiries concerning reproduction and rights should be directed to the Head, Media and Publishing Unit, Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601.

This publication is part of the Australian Institute of Health and Welfare's Cancer Series. A complete list of the Institute's publications is available from the Media and Publishing Unit, Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601, or via the Institute's web site (<http://www.aihw.gov.au>).

ISSN 1039-3307

ISBN 1 74024 253 X

Suggested citation

Australian Institute of Health and Welfare (AIHW) 2003. Cervical screening in Australia 1999–2000. AIHW Cat. No. 16. Canberra: Australian Institute of Health and Welfare (Cancer Series no. 21).

Australian Institute of Health and Welfare

Board Chair
Professor Janice Reid

Director
Dr Richard Madden

Any enquiries about or comments on this publication should be directed to:

Dr Chris Stevenson
Australian Institute of Health and Welfare
GPO Box 570
Canberra ACT 2601

Phone: (02) 6244 1041
Email: Chris.Stevenson@aihw.gov.au

Published by Australian Institute of Health and Welfare

Contents

- List of tables** **vii**
- List of figures** **x**
- Acknowledgments** **xi**
- Summary** **xiii**
- National cervical screening monitoring indicators** **1**
- Participation** **5**
 - Indicator 1: Participation rate for cervical screening 7
- Early re-screening** **11**
 - Indicator 2: Early re-screening 12
- Low-grade abnormalities** **14**
 - Indicator 3: Low-grade abnormality detection 15
- High-grade abnormalities** **17**
 - Indicator 4: High-grade abnormality detection 18
- Incidence** **21**
 - Indicator 5: Incidence of micro-invasive cervical cancer 22
 - Indicator 6: Incidence of invasive squamous, adenocarcinoma, adeno-squamous and other cervical cancer 24
 - Indicator 8: Incidence by location 28
- Mortality** **30**
 - Indicator 7: Mortality 31
 - Indicator 9: Mortality by location 35
 - Indicator 10: Indigenous mortality 37
- Tables** **39**
- Appendixes** **74**
 - Appendix A: Cervical cancer: symptoms, detection and treatment 75
 - Appendix B: Data sources and limitations 76
 - Population data 76
 - Indigenous mortality data 76
 - Other data limitations 76

Appendix C: Methods	78
Appendix D: Population data.....	80
Appendix E: NHMRC guidelines for the management of women with screen-detected abnormalities.....	1
Glossary	86
References	88
Related publications.....	89

List of tables

Table A: Structure of the Rural, Remote and Metropolitan Areas classification	3
Table 1a: Number of women participating in the National Cervical Screening Program, by age, states and territories, 1998–1999	39
Table 1b: Proportion of women participating in the National Cervical Screening Program, by age, states and territories, 1998–1999	40
Table 2a: Number of women participating in the National Cervical Screening Program, by age, states and territories, 1999–2000	41
Table 2b: Proportion of women participating in the National Cervical Screening Program, by age, states and territories, 1999–2000	42
Table 3: Number of women with repeat screenings in the 21 months following a negative Pap smear in February 1999, states and territories, and Australia, 1999–2000	43
Table 4: Percentage of women with repeat screenings in the 21 months following a negative smear in February 1999, states and territories, and Australia, 1999–2000	43
Table 5a: Number of low- and high-grade abnormalities on histology for women aged 20–69 years, states and territories, 1999	44
Table 5b: Number of low- and high-grade abnormalities on histology for women aged 20–69 years, states and territories, 2000	44
Table 6a: Rate of histologically confirmed high-grade abnormalities per 1,000 women screened, by age, states and territories, 1999	45
Table 6b: Rate of histologically confirmed high-grade abnormalities per 1,000 women screened, by age, states and territories, 2000	46
Table 7a: Number of histologically confirmed high-grade abnormalities, by age, states and territories, 1999	47
Table 7b: Number of histologically confirmed high-grade abnormalities, by age, states and territories, 2000	48
Table 8a: Number of women screened, by age, states and territories, 1999	49
Table 8b: Number of women screened, by age, states and territories, 2000	50
Table 9a: Age-standardised high-grade abnormality rate on histology per 1,000 women screened aged 20–69 years, states and territories, 1999	51
Table 9b: Age-standardised high-grade abnormality rate on histology per 1,000 women screened aged 20–69 years, states and territories, 2000	51
Table 10: New cases of micro-invasive cervical cancer, by age, Australia, 1988–1999	52
Table 11: Age-specific and age-standardised rates of micro-invasive cervical cancer, by age, Australia, 1988–1999	53

Table 12: New cases of cervical cancer, by age, Australia, 1988–1999	54
Table 13: Age-specific and age-standardised incidence rates of cervical cancer, by age, Australia, 1988–1999	55
Table 14a: Number of new cases of cervical cancer by age, states and territories, 1995–1998	56
Table 14b: Age-specific rates of cervical cancer, by age, states and territories, 1995–1998	57
Table 15a: Number of new cases of cervical cancer, by age, states and territories, 1996–1999	58
Table 15b: Age-specific rates of cervical cancer, by age, states and territories, 1996–1999	59
Table 16a: Number of new cases of cervical cancer, by histological type for women aged 20–69 years, Australia, 1988–1999	60
Table 16b: Age-standardised incidence rates for cervical cancer, by histological type for women aged 20–69 years, Australia, 1988–1999	60
Table 17a: Number of new cases of cervical cancer, by histological type for women, all ages, Australia, 1988–1999	61
Table 17b: Age-standardised incidence rates for cervical cancer, by histological type for women, all ages, Australia, 1988–1999	61
Table 18: Number of new cases of cervical cancer, by age and location, 1995–1998 and 1996–1999	62
Table 19: Age-specific and age-standardised incidence rates for cervical cancer, by age and location, 1995–1998 and 1996–1999	63
Table 20: Number of deaths from cervical cancer, by age, Australia, 1981–2000	64
Table 21: Age-specific and age-standardised death rates for cervical cancer, by age, Australia, 1981–2000	65
Table 22: Number of deaths from cervical cancer, by age, states and territories, 1993–1996	66
Table 23: Age-specific and age-standardised death rates for cervical cancer, by age, states and territories, 1993–1996	67
Table 24: Number of deaths from cervical cancer, by age, states and territories, 1997–2000	68
Table 25: Age-specific and age-standardised death rates for cervical cancer, by age, states and territories, 1997–2000	69
Table 26: Number of deaths from cervical cancer, by age and location, 1993–1996 and 1997–2000	70
Table 27: Age-specific and age-standardised death rates for cervical cancer, by age and location, 1993–1996 and 1997–2000	71

Table 28: Number of deaths from cervical cancer, by age and Indigenous status, 1995–1998, 1996–1999 and 1997–2000	72
Table 29: Age-specific and age-standardised death rates for cervical cancer, by age and Indigenous status, 1995–1998, 1996–1999 and 1997–2000	73
Table B1: Cervical cancer screening indicators data sources	76
Table D1: Australian Standard Population and World Standard Population.....	80
Table D2: Hysterectomy fractions for women aged 15–80+ years, Australia, 1995.....	81
Table D3: Estimated resident female populations, by age, states and territories, June 1999	82
Table D4: Estimated resident female populations, states and territories, June 2000.....	83

List of figures

- Figure 1: Participation rates in the National Cervical Screening Program, by age group, Australia, 1998–1999 and 1999–2000..... 7
- Figure 2: Participation (age-standardised) in the National Cervical Screening Program by women aged 20–69 years, states and territories, 1998–1999 and 1999–2000..... 9
- Figure 3: Proportion of women re-screened, by number of screens during the 21-month period following a negative smear in February 1999, Australia 12
- Figure 4: Proportion of women re-screened, by number of screens during the 21-month period following a negative smear in February 1999, states and territories..... 13
- Figure 5: Ratio of low- to high-grade abnormalities, by women aged 20–69 years, states and territories, 1999 and 2000 15
- Figure 6: High-grade abnormalities per 1,000 women, by age group, Australia, 1999 and 2000 18
- Figure 7: Age-standardised rate of high-grade abnormalities per 1,000 women screened aged 20–69 years, states and territories, 1999 and 2000 20
- Figure 8: Age-standardised incidence rates for micro-invasive squamous cell cancer, women aged 20–69 years, Australia, 1988–1999 22
- Figure 9: Age-specific incidence rates of micro-invasive squamous cell cancer, women aged 20–69 years, Australia, 1998 and 1999..... 23
- Figure 10: Age-standardised incidence rates of cervical cancer, Australia, 1988–1999 24
- Figure 11: Age-specific incidence rates of cervical cancer, Australia, 1998 and 1999 25
- Figure 12: Age-standardised cervical cancer incidence rates, women aged 20–69 years, states and territories, 1995–1998 and 1996–1999 26
- Figure 13: Age-standardised incidence rates of cervical cancer by histological type, women aged 20–69 years, Australia, 1988–1999 27
- Figure 14: Age-standardised incidence rates of cervical cancer, by location, women aged 20–69 years, Australia, 1995–1998 and 1996–1999..... 28
- Figure 15: Age-standardised death rates from cervical cancer, Australia, 1981–2000 31
- Figure 16: Age-specific cervical cancer death rates, by age group, Australia, 1987–1990 and 1997–2000 32
- Figure 17: Age-standardised cervical cancer death rates, women aged 20–69 years, states and territories, 1993–1996 and 1997–2000 33
- Figure 18: Age-standardised cervical cancer death rates, by location, women aged 20–69 years, 1993–1996 and 1997–2000..... 35
- Figure 19: Age-standardised cervical cancer mortality rates, by Indigenous status, women aged 20–69 years, 1995–1998, 1996–1999 and 1997–2000 37

Acknowledgments

This report is funded by the Commonwealth Department of Health and Ageing. The assistance of the Cancer Screening Section in the Department is gratefully acknowledged.

The authors of this report are Dr Indrani Pieris-Caldwell, Dr Chris Stevenson and Ms Cathy Hotstone from the Australian Institute of Health and Welfare. The authors wish to extend their gratitude to those persons working in the National Cervical Screening Programs and members of the National Screening Information Advisory Group who provided data and comments for this report. The authors also acknowledge the input to this report of the members of the National Advisory Committee to the National Cervical Screening Program, and the Australasian Association of Cancer Registries. Thanks are also extended to the New South Wales Cancer Council, and state and territory health departments for their assistance in the production of this report. The support received from the staff of the Health Registers and Cancer Monitoring Unit, Australian Institute of Health and Welfare, during the production of this report is gratefully acknowledged.

National Cervical Screening Program

New South Wales

Ms Jayne Ross
Mr Hassan Mamoon
Ms Jennifer Mitchell

Victoria

Dr Heather Mitchell
Ms Vicky Higgins
Ms Cathy Burrows
Mr Rory Wilby
Ms Helen Farrugia

Queensland

Ms Jennifer Muller
Mr Stephen Heim

Western Australia

Ms Gloria Sutherland
Ms Nerida Steel

South Australia

Ms Sue Gilchrist
Ms Penny Iosifidis

Tasmania

Ms Valerie Gardner
Mr Paul Chandler

Australian Capital Territory

Ms Alice Jones
Mr Peter Couvee
Ms Coral Swan

Northern Territory

Ms Karen Finch
Ms Sarah Steele

Commonwealth

Ms Sarah Major
Ms Andriana Koukari
Ms Vicki Shaw

Summary

- The total number of women who participated in cervical screening in 1999–2000 was 3,314,787 of whom 3,244,329 (98%) were in the screening program target age group of 20–69 years.
- Between the periods 1998–1999 and 1999–2000 the proportion of women in the target population (women aged 20 to 69 years) participating in cervical screening declined from 64.8% to 62.6%. Queensland data were included in 1999–2000 but not in 1998–1999. If they are excluded from both periods then the corresponding decline was from 64.8% in 1998–1999 to 63.3% in 1999–2000
- Participation in screening declined in all 5-year age groups within the target population between 1998–1999 and 1999–2000. The largest decline was in younger age groups—decreasing from 66.0% to 62.4% for women aged 25–29 years and from 52.0% to 49.5% for women aged 20–24 years.
- The recommended screening interval is 2 years following a negative smear. Of a cohort of women screened in February 1999 who had a negative Pap smear result, 32% screened again within 21 months. It is not known what proportion of this early re-screening is justified on clinical grounds.
- A low-grade abnormality includes atypia, warty atypia, possible CIN, equivocal CIN, and CIN 1, while 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 1.4 for Australia in 2000, the same as for 1999. The 1999 ratio does not include data for Queensland.
- In 2000, the National Cervical Screening Program detected 13,851 women in the target age group 20–69 years with high-grade abnormalities. The number of high-grade abnormalities was highest in the younger age groups. In the age groups 35–39 years or less the rate of high-grade abnormalities was over 10 per 1,000 women screened whereas it was less than 2 per 1,000 in women in the age groups 50–54 years and over.
- The number of new cases of cervical cancer declined in Australia in recent years. There were 787 new cases in Australia in 1999 compared with 1,066 new cases detected in 1988.
- Cervical cancer is the 15th most common cause of cancer mortality in women, accounting for 267 deaths in 2000. The age-standardised mortality rate from cervical cancer in the target age group, although fluctuating, declined over time from 5.0 per 100,000 women to 2.5 per 100,000 women between the years 1981 and 2000. During the same period the age-standardised cervical cancer mortality rate for all ages also declined from 6.2 per 100,000 women to 3.5 per 100,000 women.
- Women in the target age group from remote locations experienced a relatively high mortality rate from cervical cancer—3.7 deaths per 100,000 women compared with 2.4 deaths per 100,000 women in metropolitan and rural locations. However, between the periods 1993–1996 and 1997–2000, the age-standardised cervical cancer mortality rate declined in all regions (metropolitan, rural 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 1997–2000 there were 22 deaths (an age-standardised mortality rate of 11.3 per 100,000 women) from cervical cancer among Indigenous women in the target age group. This is over five times the corresponding rate in non-Indigenous women (2.1 per 100,000 women). Compared with the 1995–1998 mortality rate for Indigenous women in the target age group, which was 17.5 per 100,000 women, there was a decline in mortality in the 1997–2000 period. However, these rates are based on relatively small numbers of cases and may be subject to large variability. Despite the relatively large size of the apparent decline in the rate, it is still within the range of variation that would be expected due to chance.