

Cervical screening
in Australia
1997–1998

The Australian Institute of Health and Welfare is an independent health and welfare statistics and information agency. The Institute's mission is to inform community discussion and decision making through national leadership in the development and provision of authoritative and timely information on the health and welfare of Australians.

Cancer Series
Number 14

Cervical screening in Australia 1997–1998

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

Australian Institute of Health and Welfare
Canberra
AIHW cat. no. CAN 9

© Australian Institute of Health and Welfare 2000

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 Publications 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 1309-3307

ISBN 1 74024 046 4

Suggested citation

Australian Institute of Health and Welfare (AIHW) 2000. Cervical Screening in Australia 1997–1998. AIHW Cat. No. CAN 9. Canberra: Australian Institute of Health and Welfare (Cancer Series number 14).

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 Kathleen Strong
Australian Institute of Health and Welfare
GPO Box 570
Canberra ACT 2601

Phone: (02) 6244 1050

Published by Australian Institute of Health and Welfare.

Printed by National Capital Printing

Contents

- List of tablesvi
- List of figures viii
- Preface..... ix
- Acknowledgments x
- Summary xii
- National Cervical Screening Program.....xiii
- Cervical screening..... 1**
- National cervical screening monitoring indicators 3**
- Participation 7**
 - Indicator 1: Participation rate for cervical screening 8
- Early rescreening 10**
 - Indicator 2: Early rescreening..... 11
- Low-grade abnormalities 13**
 - Indicator 3: Low-grade abnormality detection 14
- High-grade abnormalities..... 15**
 - Indicator 4: High-grade abnormality detection..... 16
- Incidence 18**
 - Indicator 5: Incidence of micro-invasive cervical cancer..... 19
 - Indicator 6: Incidence of squamous, adenocarcinoma, adeno-squamous and other cervical cancer..... 21
 - Indicator 8: Incidence by location..... 25
- Mortality 26**
 - Indicator 7: Mortality 27
 - Indicator 9: Mortality by location 30
 - Indicator 10: Indigenous mortality 31
- Tables 32**
- Appendixes..... 65**
 - Appendix A: Cervical cancer: symptoms, detection and treatment 66
 - Appendix B: Data sources and limitations 67
 - Appendix C: Methods 69
 - Appendix D: Population data 70
 - Appendix E: National Health and Medical Research Council (NHMRC) Guidelines for the management of women with screen detected abnormalities..... 74
- Glossary..... 76**
- References..... 78**
- Related publications..... 80**

List of tables

Table 1: State and Territory registry commencement dates	2
Table 2: Structure of the Rural, Remote and Metropolitan Areas classification.....	5
Table A1a: Number of women participating in the National Cervical Screening Program by age, State or Territory, 1996–1997.....	32
Table A1b: Number of women participating in the National Cervical Screening Program by age, State or Territory, 1997–1998.....	33
Table A2a: Participation rates in the National Cervical Screening Program by age, State or Territory, 1996–1997.....	34
Table A2b: Participation rates in the National Cervical Screening Program by age, State or Territory, 1997–1998.....	35
Table A3: Number of women with repeat screenings in the 24 months following a negative Pap smear in February 1997 by State and Territory, and Australia, 1996 and 1997.....	36
Table A4: Percentage of women with repeat screenings in the 24 months following a negative Pap smear in February 1997 by State and Territory, and Australia, 1996 and 1997.....	36
Table A5a: Number of low- and high-grade abnormalities on histology for aged 20–69 years, by State and Territory, 1997	37
Table A5b: Number of low- and high-grade abnormalities on histology for aged 20–69 years, by State and Territory, 1998	37
Table A6a: Number of histologically confirmed high-grade abnormalities by age, by State and Territory, 1997	38
Table A6b: Number of histologically confirmed high-grade abnormalities by age, by State and Territory, 1998	39
Table A7a: Number of women screened by age, by State and Territory, 1997.....	40
Table A7b: Number of women screened by age, by State and Territory, 1998	41
Table A8a: Rate of histologically confirmed high-grade abnormalities per 1,000 women screened, by State and Territory, 1997	42
Table A8b: Rate of histologically confirmed high-grade abnormalities per 1,000 women screened, by State and Territory, 1998	43
Table A9a: Age-standardised high-grade abnormality rate on histology, by State and Territory, 1997	44
Table A9b: Age-standardised high-grade abnormality rate on histology, by State and Territory, 1998	44
Table A10: New cases of micro-invasive cervical cancer by age, Australia, 1985–1996	45
Table A11: Age-specific and age-standardised rates of micro-invasive cervical cancer by age, Australia, 1985–1996	46
Table A12: New cases of cervical cancer by age, Australia, 1985–1996	47

Table A13: Age-specific and age-standardised incidence rates of cervical cancer by age, Australia, 1985–1996	48
Table A14: Number of new cases of cervical cancer by age, by State and Territory, 1993–1996.....	49
Table A15: Age-specific and age-standardised incidence rates for cervical cancer, by State and Territory, 1993–1996	50
Table A16: Number of new cases of cervical cancer by histological type for women aged 20–69 years, Australia, 1985–1996	51
Table A17: Age-standardised incidence rates for cervical cancer by histological type for women aged 20–69 years, Australia, 1985–1996	51
Table A18: Number of new cases of cervical cancer by age and location, 1993–1996	52
Table A19: Age-specific and age-standardised incidence rates for cervical cancer by age and location, 1993–1996.....	53
Table A20: Number of deaths from cervical cancer by age, Australia, 1986–1998.....	54
Table A21: Age-specific and age-standardised death rates for cervical cancer by age, Australia, 1986–1998	55
Table A22: Number of deaths from cervical cancer by age, State and Territory, 1989–1992	56
Table A23: Age-specific and age-standardised death rates for cervical cancer by age, by State and Territory, 1989–1992.....	57
Table A24: Number of deaths from cervical cancer by age, State and Territory, 1995–1998	58
Table A25: Age-specific and age-standardised death rates for cervical cancer by age, by State and Territory, 1995–1998.....	59
Table A26: Number of deaths from cervical cancer by age and location, 1993–1997	60
Table A27: Age-specific and age-standardised death rates for cervical cancer by age and location, 1993–1997	61
Table A28: Number of deaths from cervical cancer by age, by Indigenous and non-Indigenous status, SA, WA, NT, 1993–1997.....	62
Table A29: Age-specific and age-standardised death rates for cervical cancer by age, by Indigenous and non-Indigenous status, SA, WA, NT, 1993–1997.....	63
Table B1: Cervical cancer screening indicators data sources	67
Table D1: Australian Standard Population and World Standard Population	70
Table D2: Hysterectomy fractions for women aged 15–80+ years, Australia, 1995.....	71
Table D3: Estimated resident female populations, by State and Territory, June 1997	72
Table D4: Estimated resident female populations, by State and Territory, June 1998	73

List of figures

Figure 1: Participation rates in National Cervical Screening Program by age group, Australia, 1997–1998 8

Figure 2: Participation in the National Cervical Screening Program by women aged 20–69 years, by State and Territory, 1996–1997, and 1997–1998 9

Figure 3: Proportion of women rescreened by number of rescreens during the 24-month period following a negative smear in February 1996 and 1997, Australia 11

Figure 4: Proportion of women screened by number of rescreens during the 24-month period following a negative smear in February 1997, by State and Territory 12

Figure 5: Ratio of low- to high-grade abnormalities by women aged 20–69 years, by State and Territory, 1997 and 1998 14

Figure 6: High-grade abnormalities per 1,000 women by age group, Australia, 1997 and 1998 16

Figure 7: Age-standardised rate of high-grade abnormalities per 1,000 women screened aged 20–69 years, by State and Territory, 1997 and 1998 17

Figure 8: Age-standardised incidence rates for micro-invasive squamous cell cancer by women aged 20–69 years, Australia 1985–1996 19

Figure 9: Age-specific incidence rates of micro-invasive squamous cell cancer by women aged 29–69 years, Australia, 1995 and 1996 20

Figure 10: Age-standardised incidence rates of cervical cancer, Australia, 1985–1996 21

Figure 11: Age-specific incidence rates for cervical cancer, Australia, 1995 and 1996 22

Figure 12: Age-standardised cervical cancer incidence rate by women aged 20–69 years, by State and Territory, 1992–1995 and 1993–1996 23

Figure 13: Age-standardised incidence rates for cervical cancer by histological type by women aged 29–69 years, Australia, 1985–1996 24

Figure 14: Age-standardised incidence rates for cervical cancer by location by women aged 20–69 years, Australia, 1993–1996 25

Figure 15: Age-standardised death rates from cervical cancer, Australia, 1986–1998 27

Figure 16: Age-specific cervical cancer death rates by age group, Australia, 1989 and 1998... 28

Figure 17: Age-standardised cervical cancer death rates by women aged 20–69 years, by State and Territory, 1989–1992 and 1995–1998 29

Figure 18: Age-standardised cervical cancer death rates by women aged 20–69 years, by location, 1993–1997 30

Figure 19: Age-standardised cervical cancer mortality rates by women aged 20–69 years, by Indigenous status, 1993–1997 31

Preface

Cervical Screening in Australia 1997–1998 is the second national report for the National Cervical Program. The report is a joint project between the Australian Institute of Health and Welfare, the National Cervical Screening Program and the Commonwealth Department of Health and Aged Care.

The report provides information on key areas of the Program performance including participation in cervical screening programs, early rescreening, pre-cancerous abnormalities detected, incidence and mortality. In addition to updating information presented in the previous report, this report includes three new periodic indicators that broaden the scope of the report. These are incidence and mortality by location (rural, remote and metropolitan) and mortality by Indigenous status.

In the spirit of cooperation between agencies, State and Territory cervical screening programs have been involved in all steps of the report production. Individual members of the National Advisory Committee and others have commented on the draft of this report. The content of the report, however, remains the responsibility of the Australian Institute of Health and Welfare.

This publication will add substantially to the information available on cervical screening in Australia.

Richard Madden

Director

Australian Institute of Health and Welfare

Acknowledgments

The authors of this report were Ms Norma Briscoe and Dr Paul Jelfs 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 (see below) who provided data and comments for this report. The authors also acknowledge the input of the members of the National Cervical Screening Program, National Advisory Committee, the Australasian Association of Cancer Registries, and other Institute staff listed below. Thanks are also extended to the New South Wales State Cancer Council, and State and Territory health departments for their assistance in the production of this report.

National Cervical Screening Program and Australian Institute of Health and Welfare

New South Wales

Ms Jayne Ross
Ms Nora Bodkin
Ms Sacha Macansh

Victoria

Dr Heather Mitchell
Ms Cathy Krishnan

Queensland

Ms Jennifer Muller
Mr Stephen Heim

Western Australia

Ms Trish Barrett
Ms Cynthia Langtang

Commonwealth

Ms Sarah Major
Ms Krissa O'Neil

South Australia

Ms Sue Gilchrist
Ms Penny Iosifidis

Tasmania

Ms Valerie Gardner
Mr Paul Chandler

Australian Capital Territory

Ms Jenny Brogan
Ms Della Thomas
Mr Johnathon Learmonth

Northern Territory

Ms Cynthia Croft
Ms Lynn Bartlett

Australian Institute of Health and Welfare

Dr Kathleen Strong
Ms Mieke van Doeland
Dr Indrani Pieris-Caldwell
Ms Janet Markey
Ms Amanda Nobbs
Mr Andrew Smith

National Screening Information Advisory Group

Dr Paul Jelfs (Chair)	The Australian Institute of Health and Welfare
Dr Heather Mitchell	Chair, National Advisory Committee to the National Cervical Screening Program
Dr Julienne Grace	Royal College of Pathologists of Australia
Ms Jennifer Muller	Cervical Screening Program Manager representative
Ms Valerie Gardner	BreastScreen Program Manager representative
Ms Bethne Hart	Consumers' representative
Ms Sarah Major	Department of Health and Aged Care
Prof Bruce Armstrong	New South Wales Cancer Council
Assoc Prof David Roder	South Australian Health Department
Prof Sally Redman	Chair, BreastScreen Australia National Advisory Committee

Summary

- Increasing participation in cervical screening is important in reducing the number of women who present with cervical cancer and the number that ultimately die from the disease. Participation rates of the target population (women aged 20 to 69 years) increased from 62% in 1996–1997 to 64% in 1997–1998.
- Overall, 2,721,650 women were screened for cervical abnormalities in the 1997–1998 period.
- When a woman has had an abnormal result from their Pap smear or when a woman has had one or more abnormal smears followed by a negative smear, repeat testing is recommended within a 2-year interval. The programs run efficiently if they comply with the recommended screening interval. In 1997–1998, 47% of women had one or more additional smear test following a negative smear.
- In 1997–1998, the cervical screening programs detected 10,704 women with high-grade abnormalities (CIN1/2, CIN 2, CIN 3 or adenocarcinoma in situ). This was much higher in the younger age groups: in the 20–29 age group the rate of CIN was over 14 per 1,000 women screened whereas it was less than 2 per 1,000 in women aged 50–69 years.
- There were 923 new cases of cervical cancer in Australia in 1996. Cervical cancer is one of the few cancers where screening can detect pre-cancerous lesions, thereby preventing a large proportion of these pre-cancerous lesions progressing to cancer.
- Cervical cancer is the 14th most common cause of cancer death in women, accounting for 269 deaths in 1998. The death rate from cervical cancer declined in all age groups between the years 1989 and 1998.
- In the period between 1995–1997 there were 19 deaths (an age-standardised death rate of 27.6 per 100,000 women) from cervical cancer among Indigenous women. This is over nine times more deaths than in the non-Indigenous women (3.0 per 100,000 women).
- Performance standards for laboratories that report Pap smears became mandatory from 1 July 1999 and now form part of the laboratory accreditation scheme.
- Recruitment campaigns using television advertising and print media were implemented between June and November 1998 and again in 1999. These campaigns are aimed at increasing the awareness of cervical screening among women, and the importance of screening at the recommended 2-yearly intervals.

National Cervical Screening Program

Screening to detect abnormalities of the cervix early has been available for Australian women since the 1960s. Until the early 1990s screening was largely opportunistic but, as in many other countries, it has become progressively more structured since that time. In 1995 the program became known as the National Cervical Screening Program.

Key elements of the more structured approach of the 1990s have included:

- the adoption of a national policy of a 2-year screening interval;
- recruitment programs to encourage high levels of participation by Australian women;
- special initiatives to promote high participation levels among underscreened groups including older women, women from culturally and linguistically diverse backgrounds, women from Aboriginal and Torres Strait Islander backgrounds, women of low socioeconomic status and women who live in rural and remote areas;
- the establishment of cervical cytology registries in all States and Territories. These registries promote the regular participation of women and the follow-up of women with abnormal Pap smears, assist with the accurate reporting of Pap smears by pathology laboratories and facilitate the evaluation and monitoring of the program; and
- the heightened awareness of the importance of the quality assurance cycle in a screening program, including the development of performance measures for laboratories that report Pap smears.

The National Cervical Screening Program has both national and State and Territory components. While policy is predominantly decided at a national level, coordination mainly occurs at a State and Territory level. A National Advisory Committee which includes representatives from the Commonwealth, the States and Territories and persons having expertise in areas of relevance to the Program (for example pathology, gynaecology, general practice, health economics and epidemiology) is supported by a secretariat based in Canberra. The National Advisory Committee meets twice each year, with much of the work of the Committee performed by the Policy and Cost Effectiveness, Quality Assurance, Recruitment, Education and Communication Working Groups and New Technologies.

In implementing the Program each State and Territory has established State coordination units with statewide responsibility for the Program. For example, in New South Wales a group located at Westmead Hospital has statewide responsibility for coordinating cervical screening on a contractual basis. Most States and Territories have program responsibilities held within their respective health departments.

During the current triennium, 1998 to 2000, the National Cervical Screening Program has determined that its main work areas will include the following:

- Review of policy

Given that the National Cervical Screening Program is now mature, a substantial review of policy is planned during 1999–2000. Particular interest is centred on the appropriateness of the age range and the screening interval. To facilitate an evidence-based approach to the policy review, two areas have been identified for research in 1999: cost-effectiveness modelling of a variety of age ranges and screening intervals, and research into the factors that promote early re-screening.

- Improved quality assurance measures

Performance standards for laboratories that report Pap smears were developed and pilot tested during the mid-1990s. The standards became mandatory from 1 July 1999 and form part of laboratory accreditation. The standards cover the profile of reports issued by the laboratory's, the positive predictive value of a cytology report of a high-grade intraepithelial lesion, the laboratory false negative rate among women with histologically confirmed carcinoma in situ, and the laboratory's turnaround time in processing smears.

A project to assess and, if necessary, improve the standards of reporting of cervical histopathology has commenced. Given the large number of women who have cervical biopsies, it is considered important to maximise the quality of the reporting in this area.

- Further recruitment initiatives

Between June and November 1998, the Commonwealth and States and Territories implemented a major recruitment campaign using television advertising, print media and initiatives aimed at raising the awareness of service providers about their role in encouraging women to be screened in conformity with the 2-yearly interval. A further campaign was implemented during mid-1999.

- Monitoring the role of new technologies

The Australian Health Ministers' Advisory Council evaluation of new technologies was released in late 1998. Careful scrutiny by the New Technologies Working Group of the international research on emerging technologies is in progress. These technologies include fluid-based sampling, computer-assisted screening, human papilloma virus testing and other physical or chemical testing systems designed to detect pre-malignant lesions of the cervix.

This second annual report of key performance indicators for the National Cervical Screening Program is particularly welcomed. It provides an important resource for policy formation and review, to assist in comparison with programs in other countries, and as a means of promoting due accountability to the community, to health professionals and to Government.

Dr Heather Mitchell
Chair
National Advisory Committee to the
National Cervical Screening Program