Australian Government
Australian Institute of Health and Welfare

NATIONAL BREAST AND OVARIAN CANCER CENTRE

CANCER SERIES
Number 52

Ovarian cancer in Australia

An overview, 2010

Australian Institute of Health and Welfare and
National Breast and Ovarian Cancer Centre

February 2010

Australian Institute of Health and Welfare
Canberra
Cat. no. CAN 48

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National Breast and Ovarian Cancer Centre (NBOCC) is Australia's authority and source of evidence-based information on breast and ovarian cancer. Funded by the Australian Government, NBOCC works in partnership with health professionals, cancer organisations, researchers, governments and those diagnosed to improve outcomes in breast and ovarian cancer. NBOCC plays a vital role in the translation of worldwide cancer research into meaningful and evidence-based information to guide the work of Australian health professionals, improve health service delivery, inform people with breast or ovarian cancer about all aspects of their diagnosis and treatment, inform policy and raise community awareness about these diseases. For more information, visit <www.nbocc.org.au>.

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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 Institute's website <www.aihw.gov.au>.

ISSN 1039-3307
ISBN 978 1 74024 996 6

Suggested citation

Australian Institute of Health and Welfare & National Breast and Ovarian Cancer Centre 2010. Ovarian cancer in Australia: an overview, 2010. Cancer series no. 52. Cat. no. CAN 48. Canberra: AIHW.

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Published by the Australian Institute of Health and Welfare
Printed by Blue Star Print Group

Foreword

Ovarian cancer in Australia: an overview, 2010 brings together in one volume the most up-to-date statistical information available on the epidemiology, public health and health services impact of ovarian cancer in Australia. These data, collected through population-based cancer registries and other sources, are central to advancing our efforts to understand and ultimately control this disease. This report not only builds on previous monitoring reports but additionally provides data about the burden of disease due to ovarian cancer, as well as survival from ovarian cancer by Indigenous status and by histology types.

Ovarian cancer in Australia: an overview, 2010 also represents the significant contributions and the continuing partnership of National Breast and Ovarian Cancer Centre (NBOCC), the Australian Institute of Health and Welfare (AIHW) and the Australasian Association of Cancer Registries (AACR) and it highlights the importance of registries as a national resource. The report provides a nationwide snapshot of a major condition affecting a substantial number of Australian women.

The value of data and monitoring is its relevance to outcomes and its capacity to impact on change. This report identifies areas of significant gain over time and provides some predictions for the future. Our ability to plan for services and patient needs are predicated on this understanding of the impact of the disease as it affects our population.

We would like to thank the staff of the various cancer registries and data repositories. It is through their effort and diligence that these data are available to the Australian public. We anticipate that the information contained in *Ovarian cancer in Australia: an overview, 2010* will be used extensively to further reduce mortality from ovarian cancer and improve the wellbeing of women with the disease.

Dr Helen Zorbas
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Acknowledgments

This report was commissioned by National Breast and Ovarian Cancer Centre (NBOCC). Advice on content was provided by Professor Tom Dodd and Professor Peter Russell, with additional input from Ms Margot Osinski. Special thanks are due to Dr Penny Webb and Clinical Associate Professor Peter Grant, who reviewed the report. The following NBOCC staff are acknowledged for their contribution to the development of this report: Professor David Roder; Dr Helen Zorbas; Ms Rosemary Wade; Ms Jane Francis; and Associate Professor Christine Giles. The work of NBOCC is funded by the Australian Government Department of Health and Ageing.

This report was prepared by staff in the Cancer and Screening Unit of the Australian Institute of Health and Welfare (AIHW). The main authors were Dr Adriana Vanden Heuvel and Ms Anne Ganner Bech. The main data analyst was Ms Candice Rabusa. Other AIHW staff who made a substantial contribution are, in alphabetical order, Ms Chun Chen, Dr Brett Davis, Ms Melissa Goodwin, Mr David Meere, Ms Galina Prosselkova, Dr Mark Short, Ms Christine Sturrock and Ms Kun Zhao. The authors would like to thank those AIHW staff who commented on earlier drafts of this report.

The support of the Australasian Association of Cancer Registries in both providing data and reviewing the draft report is gratefully acknowledged.

Abbreviations

AACR	Australasian Association of Cancer Registries
ABS	Australian Bureau of Statistics
ACD	Australian Cancer Database
ACHI	Australian Classification of Health Interventions
ACT	Australian Capital Territory
ASGC	Australian Standard Geographical Classification
AIHW	Australian Institute of Health and Welfare
AS	age-standardised
ASR	age-standardised rate
BCC	basal cell carcinoma
CI	confidence interval
CS	crude survival
DALY	disability-adjusted life year
DoHA	Australian Government Department of Health and Ageing
FIGO	International Federation of Gynecology and Obstetrics
IARC	International Agency for Research on Cancer
ICD-7	International Statistical Classification of Diseases and Related Health Problems, seventh revision
ICD-10	International Statistical Classification of Diseases and Related Health Problems, tenth revision
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, tenth revision, Australian modification
ICD-O-2	International Classification of Diseases for Oncology, second edition
ICD-O-3	International Classification of Diseases for Oncology, third edition
IRSD	Index of Relative Socio-economic Disadvantage
MIR	mortality-to-incidence ratio
NBOCC	National Breast and Ovarian Cancer Centre
NHMD	National Hospital Morbidity Database
NMD	National Mortality Database
NMSC	non-melanoma skin cancer
No.	number
NOS	not otherwise specified
NSW	New South Wales
NT	Northern Territory
NZ	New Zealand
Qld	Queensland
RS	relative survival
SA	South Australia

SACC	Standard Australian Classification of Countries
SCC	squamous cell carcinoma
SEER	Surveillance Epidemiology End Results
Tas	Tasmania
TNM	a staging system based on size/extent of the tumour (T), lymph node involvement (N) and presence of distant metastases (M)
UICC	International Union Against Cancer
UK	United Kingdom
USA	United States of America
Vic	Victoria
WA	Western Australia
WHO	World Health Organization
YLL	years of life lost
YLD	years lost due to disability

Symbols

. .	not applicable
%	per cent
<	less than
>	greater than
+	and over
n.a.	not available
n.p.	not published (data cannot be released due to quality issues)

Executive summary

Although a relatively uncommon cancer, ovarian cancer is often diagnosed at a stage where the cancer has spread beyond the ovary. Such cases often have a poor prognosis.

Ovarian cancer in Australia: an overview, 2010 provides a comprehensive picture of national statistics on ovarian cancer using a range of data sources, with the latest available data and trends over time presented. Throughout this report, the term 'ovarian cancer' refers to invasive ovarian cancers; borderline tumours are not included.

The number of ovarian cancer cases is increasing

In 2006, ovarian cancer was the ninth most commonly diagnosed cancer among Australian women (excluding non-reportable skin cancers) and the second most commonly diagnosed gynaecological cancer, with a total of 1,226 ovarian cancer cases diagnosed. Ovarian cancer is mainly a disease of postmenopausal women, with six in ten (60%) cases diagnosed in women aged 60 years and over.

The number of ovarian cancer cases increased by 47% between 1982 and 2006 (from 833 cases to 1,226 cases) due to an ageing and growing population. It is anticipated that the number of new cases will continue to increase, with an estimated 1,434 women expected to be diagnosed with ovarian cancer in 2015.

Nonetheless, the age-standardised incidence rate of ovarian cancer decreased significantly by 14% between 1982 and 2006 (from 12.4 to 10.7 new cases per 100,000 females).

The rate of death from ovarian cancer has fallen

A total of 795 women died from ovarian cancer in 2006, making it the sixth most common cause of cancer-related death for Australian women, and the most common cause of gynaecological cancer death, representing over half (55%) of such deaths.

The age-standardised mortality rates for ovarian cancer decreased significantly by 26% between 1968 and 2006 (from 9.1 to 6.7 deaths per 100,000 females). In addition, the 2006 mortality rate was the lowest rate observed for any year to date. Possible reasons for the decrease in the mortality rate over time include the observed decline in the incidence rate, improvements in access to and quality of treatments, and change over time in the types of ovarian cancers occurring among women. However, the data also indicate that the decline in the mortality rate was not observed for all age groups, with the ovarian cancer mortality rate for older women (those aged 70 years and over at death) increasing rather than decreasing over the period considered.

The prognosis of women with ovarian cancer has improved

The prognosis for women with ovarian cancer is relatively poor. Women who were diagnosed with ovarian cancer between 2000 and 2006 were 40% as likely to live five years after diagnosis as their counterparts in the general population. Significantly poorer survival was seen for older women, with 5-year relative survival estimates ranging from a high of 86% for those aged less than 30 years when diagnosed with ovarian cancer to a low of 15% for those aged 80 years or older at diagnosis. Possible reasons for poorer survival of older women include a greater likelihood that these women were diagnosed with advanced stage cancer and/or with more-aggressive types of cancers, as well as a greater likelihood of

co-morbidities. Differences by age in the treatment provided to those with ovarian cancer are also believed to be a factor.

Improvement in the prognosis of those diagnosed with ovarian cancer has occurred over time, with the 5-year relative survival rate increasing significantly from 33% in 1982–1987 to 40% in 2000–2006. Nonetheless, the improvements in survival were focused on women in the middle age groups, with no significant change in the survival estimates over time for those aged less than 40 years and those aged 80 years and over.