



Australian Government

**Australian Institute of
Health and Welfare**

P R E V E N T I O N O F

cardiovascular disease,
diabetes and chronic kidney disease

T A R G E T I N G R I S K F A C T O R S

December 2009

Australian Institute of Health And Welfare

Canberra

The Australian Institute of Health and Welfare is Australia's national health and welfare statistics and information agency. The Institute's mission is *better information and statistics for better health and wellbeing.*

© Australian Institute of Health and Welfare 2009

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 Communications Unit, Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601.

A complete list of the Institute's publications is available from the Institute's website <www.aihw.gov.au>.

ISBN 978 1 74024 984 3

Suggested citation

Australian Institute of Health and Welfare 2009. Prevention of cardiovascular disease, diabetes and chronic kidney disease: targeting risk factors. Cat. no. PHE 118. Canberra: AIHW.

Australian Institute of Health and Welfare

Board Chair
Hon. Peter Collins, AM, QC

Director
Penny Allbon

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

Lynelle Moon
Australian Institute of Health and Welfare
GPO Box 570
Canberra ACT 2601
Phone: (02) 6244 1235
Email: lynelle.moon@aihw.gov.au

Published by the Australian Institute of Health and Welfare

Printed by

Please note that there is the potential for minor revisions of data in this report.
Please check the online version at <www.aihw.gov.au> for any amendments.

C O N T E N T S

Acknowledgments	vi
Summary	vii
1 Introduction	1
Background.....	1
Increased focus on prevention	1
Importance of monitoring prevention.....	2
Cardiovascular disease, diabetes and chronic kidney disease.....	2
Framework for monitoring prevention.....	3
What is prevention?	3
The framework.....	4
Application to cardiovascular disease, diabetes and chronic kidney disease.....	6
This report.....	9
Main questions.....	9
Structure.....	10
2 Risk factors	11
Background.....	11
Absolute risk.....	12
Multiple risk factors.....	12
Burden of disease.....	12
Overweight and obesity.....	12
How do we measure overweight and obesity?.....	13
How many Australians are overweight or obese?.....	14
Physical inactivity.....	18
What is physical activity?	18
How many Australians are physically inactive?	19
Poor diet.....	21
Dietary fat intake.....	21
Dietary fibre intake.....	21
Tobacco smoking.....	24
What is tobacco smoking?.....	24
How many Australians smoke?.....	24
Excessive alcohol consumption.....	26
What is excessive alcohol consumption?	27
How many Australians drink alcohol?	27

High blood pressure.....	29
How do we measure blood pressure?.....	29
How many Australians have high blood pressure?.....	30
High blood cholesterol.....	35
What is cholesterol?.....	35
How many Australians have high total blood cholesterol?.....	36
Impaired glucose regulation.....	38
How is impaired glucose regulation defined?.....	39
How many Australians have impaired glucose regulation?.....	39
Depression.....	41
What is depression?.....	41
How many Australians have depression?.....	42
Low birthweight.....	44
What is low birthweight?.....	44
How many babies are born with a low birthweight in Australia?.....	44
Absolute risk.....	46
3 Population-level prevention initiatives and interventions.....	49
Background.....	49
Monitoring population-level initiatives.....	49
Scope and purpose of this chapter.....	50
Types of population-level initiatives.....	50
Laws and regulations.....	50
Tax and price interventions.....	50
Improving the built environment.....	52
Public awareness campaigns.....	52
Community-based interventions.....	53
Population-level interventions currently in place.....	53
Overweight and obesity, physical inactivity and poor nutrition.....	54
Tobacco.....	61
Alcohol.....	68
Depression.....	75
4 Individual-level prevention services.....	79
Background.....	79
Health checks in primary care.....	80
Medicare Benefits Schedule health checks.....	81
Health advice and referrals.....	91
Health advice.....	91
Referrals by general practitioners.....	91

Medications in the community.....	91
Supply of prescription medicines in the community.....	91
Medicines prescribed by general practitioners.....	99
Surgery for obesity.....	100
5 Discussion.....	103
Answering the questions.....	103
Information gaps.....	104
Issues raised by the framework and analysis.....	105
Conclusions.....	106
Appendix.....	107
Data sources.....	107
Risk factors.....	107
Individual-level services aimed at prevention.....	108
Abbreviations.....	111
States and territories.....	112
Symbols.....	112
References.....	113
List of tables.....	129
List of figures.....	131

ACKNOWLEDGMENTS

The authors of this report are Lynelle Moon, Katherine Faulks, Simone Littlewood, Naomi McIntosh, Claire Ryan and Anne-Marie Waters of the Cardiovascular, Diabetes and Kidney Unit at the Australian Institute of Health and Welfare (AIHW).

This report was prepared under the guidance of the Cardiovascular Disease Monitoring Advisory Committee, the National Diabetes Data Working Group and the Chronic Kidney Disease Monitoring Advisory Committee.

Valuable input was gratefully received from:

Cardiovascular Disease Monitoring Advisory Committee members: Andrew Tonkin (Chair), Andrew Boyden, Annette Dobson, Jane Griffin-Warwicke, Noel Hayman, Michael Hobbs, Ian Ring, Mandy Thrift, Gavin Turrell, Derek Chew and Michelle Marquardt.

National Diabetes Data Working Group members: Jeff Flack (Chair), Stephen Colagjuri, Maria Craig, Rhonda Griffiths, Robert Guthrie, Mark Harris, Glynis Ross, Jonathan Shaw

Chronic Kidney Disease Monitoring Advisory Committee members: Tim Mathew (Chair), Alan Cass, Steve Chadban, Jeremy Chapman, Bettina Douglas, Stephen McDonald, David Parker, Wendy Hoy, Tim Usherwood

State and territory health departments: Pardip Chauhan (New South Wales), Sue Fredin (Tasmania), Linda Halliday (Australian Capital Territory), Catherine Harper (Queensland), Genevieve Nolan (Victoria), Peter Somerford (Western Australia), Christine Connors (Northern Territory) and Penny Thyer (South Australia)

National Heart Foundation of Australia: Susan Anderson

External Reviewers: Angela Beaton and Stephen Leeder (Menziess Centre for Health Policy, University of Sydney)

Australian Institute of Health and Welfare: Fadwa Al-Yaman, Lyle Baker, George Bodilsen, Helena Britt, Anne Broadbent, Ilona Brockway, Peta Craig, Mark Cooper-Stanbury, Tracy Dixon, Amber Jefferson, Susan Killion, Paula Laws, Paul Magnus, Indrani Pieris-Caldwell, Cid Riley, Susana Senes, Elizabeth Sullivan

The authors would like to thank the staff of the Information Services and Publishing Unit, and the Media and Communications Unit of the AIHW for their assistance with publishing and releasing this report, in particular Peter Nolan, for his help with the diagrams in Chapter 1.

This report was funded by the Australian Government Department of Health and Ageing. Valuable comments from individual staff members of this department are also acknowledged.

S U M M A R Y

This is the first report to present a systematic approach to monitor prevention in Australia. Using a new conceptual framework, this report focuses on prevention of the modifiable risk factors for the three closely related conditions of cardiovascular disease, diabetes and chronic kidney disease. These diseases account for around a quarter of the burden of disease in Australia, and just under two-thirds of all deaths. The risk factors discussed include smoking, high blood pressure, high blood cholesterol, obesity and physical inactivity. Drawing on data from a wide range of sources, the report covers three aspects of prevention: the prevalence of the risk factors, initiatives aimed at the whole population and services provided to individuals.

Main findings

Risk factors (Chapter 2)

Most of the risk factors are common:

- physical inactivity, overweight and obesity, and high cholesterol affect over 50% of adults
- smoking and high blood pressure affect 20–35% of adults.

The prevalence of some risk factors is increasing, notably obesity, which rose from 11% of adults in 1995 to 24% in 2007–08. Indigenous Australians and people from lower socioeconomic groups are particularly affected more than others.

Population-level interventions (Chapter 3)

There are many population-level interventions aimed at these risk factors. The most commonly used are public awareness campaigns and community interventions such as school-based programs. Interventions are delivered by many groups, including the Australian, state and local governments, as well as by non-government organisations. However, there is currently a lack of systematic data available on these interventions.

Individual-level services (Chapter 4)

Almost half a million health checks, which can be used to identify these risk factors, were done through Medicare in 2007–08 and the rate is increasing. Medications also play an important role in managing the risk factors. Around a fifth of all medicines supplied in the community in 2007 were for lowering blood pressure, and another 8% were for lowering cholesterol.

Next steps

There is clearly a need for ongoing monitoring in the area of prevention. However, better data are needed, in particular those based on measurement rather than self-reported data, as well as systematic data on population-level initiatives.

1 INTRODUCTION

Background

Prevention of disease or ill health is a major aim of the health care system. Despite this, monitoring prevention has not previously occurred in a structured way in Australia. Some information relevant to prevention is contained in various documents (for example AIHW 2004, 2008c,d; Britt & Miller 2009; Queensland Health 2008) but a detailed assessment of prevention services and the related outcomes has not previously been undertaken. Internationally, the World Health Organization has focused on the importance of prevention (WHO 2005). Despite this, very few countries appear to be systematically tracking their progress in the area, particularly in the services aimed at prevention.

Expenditure on prevention is low compared with other health care activities. Some information on expenditure by the health system on 'public health' is available (AIHW 2008j), where public health covers communicable disease control, selected health promotion, organised immunisation, environmental health, food standards and hygiene, screening programs, prevention of hazardous and harmful drug use, and public health research. While this definition of public health does not include all aspects of prevention, such as preventive care in general practice, it does give an indication of the relative expenditure on prevention-type activities. The analysis shows that expenditure on public health accounted for 1.9% of total health expenditure in 2006–07, having increased by 5.6% per year between 1999–00 and 2006–07.

Increased focus on prevention

Prevention has been receiving increased attention in Australia in recent years. This attention has been in a number of areas, including policy discussions and health service planning. However, there has not been a great deal of attention on how Australia monitors its efforts in prevention. There have been calls for the development of performance indicators for prevention services and evaluation of programs (Oldenburg & Harper 2008; Russell et al. 2008), but less about monitoring more broadly, including analysis of prevention services.

The National Preventative Health Taskforce was established in 2008 to provide advice to governments and health providers on prevention, with a particular focus on tobacco, alcohol and obesity. The major discussion paper compiled by the taskforce (NPHT 2008) stressed the importance of monitoring and surveillance but did not include details about how this should be done. An options paper (Moodie et al. 2008) prepared for the National Health and Hospitals Reform Commission proposed a national prevention agency, whose role would include the 'development of national capacity in surveillance of chronic diseases', along with other functions. The commission's final report (NHHRC 2009) also proposed a national prevention agency. The recently released final report of the National Preventative Health Taskforce (NPHT 2009) outlines the National Preventative Health Strategy. The report reiterates the importance of ongoing data, surveillance and monitoring to support the proposed increased focus on prevention.