

# **National indicators for monitoring diabetes**

**Report of the Diabetes Indicators Review  
Subcommittee of the National Diabetes Data  
Working Group**

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*.

Please note that as with all statistical reports there is the potential for minor revisions of data in this report over its life. Please refer to the online version at <[www.aihw.gov.au](http://www.aihw.gov.au)>. Other statistics and information on diabetes and the National Diabetes Register can be found at <[www.aihw.gov.au/diabetes/index.cfm](http://www.aihw.gov.au/diabetes/index.cfm)>.

DIABETES SERIES

Number 6

# **National indicators for monitoring diabetes**

**Report of the Diabetes Indicators Review  
Subcommittee of the National Diabetes Data  
Working Group**

**2007**

Australian Institute of Health and Welfare

Canberra

AIHW cat. no. CVD 38

© Australian Institute of Health and Welfare 2007

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, Business Promotion and Media 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 Diabetes series. A complete list of the Institute's publications is available from the Institute's website <[www.aihw.gov.au](http://www.aihw.gov.au)>.

ISSN: 1444 8033

ISBN 978 1 74024 713 9

### **Suggested citation**

AIHW (Australian Institute of Health and Welfare) 2007. National indicators for monitoring diabetes: report of the Diabetes Indicators Review Subcommittee of the National Diabetes Data Working Group. Diabetes series no. 6. Cat. no. CVD 38. 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:

National Centre for Monitoring Diabetes  
Australian Institute of Health and Welfare

GPO Box 570

Canberra ACT 2601

Phone: (02) 6244 1000

Email: [diabetes@aihw.gov.au](mailto:diabetes@aihw.gov.au)

Published by the Australian Institute of Health and Welfare

Printed by National Capital Printing

# Contents

<b>Acknowledgments</b> .....	vii
<b>Abbreviations</b> .....	ix
<b>Executive summary</b> .....	x
<b>Introduction</b> .....	1
Purpose of report .....	1
Indicators .....	1
Policy context for diabetes indicator development.....	2
Existing diabetes indicator sets.....	4
Why was a new set of diabetes indicators developed? .....	5
The recommended priority diabetes indicators .....	8
How do the recommended indicators complement Australian Government initiatives for chronic disease and diabetes?.....	9
<b>Operational definitions for the recommended 11 indicators</b> .....	11
1. Prevalence of Type 2 modifiable diabetes risk factors over time .....	11
2. The proportion of people at risk of Type 2 diabetes who correctly identify that they are at risk and who are taking steps/actions to reduce their risk.....	18
3. The proportion of people at risk of Type 2 diabetes who are being opportunistically screened, and the proportion of these undergoing appropriate opportunistic screening (as defined by current evidence-based guidelines).....	21
4. The number and characteristics of diabetes and at-risk programs, initiatives and services .....	25
5. Ability for people to access services that are culturally suitable.....	27
6. The number and characteristics of Type 1, Type 2 and gestational diabetes guidelines identified .....	29
7. The proportion of people with diabetes mellitus who have had an annual cycle of care.....	31
8. The proportion of people with diabetes who meet guideline targets for: HbA1c; blood pressure; cholesterol; and weight/BMI.....	33
9. Diabetes-related death rate over time .....	45
10. Quality of life of people with diabetes (measured by standardised questionnaire) ..	50
11. Prevalence and incidence of diabetes, its complications and comorbidities over time.....	52

**Recommendations .....81**  
**Appendix A: Complete indicator matrix.....82**  
**Appendix B: National Health Priority Areas – diabetes indicators .....93**  
**Appendix C: List of jurisdictions and consumers consulted .....95**  
**References .....96**  
**List of tables .....99**  
**List of boxes.....99**

# Acknowledgments

This report was prepared by Anne-Marie Waters of the National Centre for Monitoring Diabetes on behalf of the Diabetes Indicators Review Subcommittee of the National Diabetes Data Working Group. Significant contributions to the preparation of this report were made by Louise Catanzariti, Jeff Flack, Mark Harris, Lynelle Moon and Jonathon Shaw. Their input is gratefully acknowledged.

Funding from the Australian Government Department of Health and Ageing contributed to the production of this report.

## Membership of the Diabetes Indicators Review Subcommittee of the National Diabetes Data Working Group

<b>Member</b>	<b>Representing</b>
Associate Professor Jeff Flack (Chair)	Australian Diabetes Society
Ms Janine Bevan	Diabetes Australia (June 2004–November 2004)
Mr Trevor Corbell	Diabetes Australia (November 2004–February 2006)
Professor Michael Frommer	National Health Priority Performance Advisory Group (August 2003–November 2003)
Professor Mark Harris	National Divisions Diabetes Program and Royal Australian College of General Practitioners
Ms Lynelle Moon (and representatives)	Australian Institute of Health and Welfare
Ms Emma Rooney (and representatives)	Australian Government Department of Health and Ageing (August 2003–February 2006)
Associate Professor Jonathon Shaw	National Diabetes Strategies Group
Mr Peter White	Diabetes Australia (August 2003–June 2004)

The following people also participated in Committee meetings as co-opted members and/or undertook secretariat duties for the Committee at various times:

Mr Philip Adey (Australian Government Department of Health and Ageing) (DoHA)

Dr Anna-Maria Arabia (DoHA)

Ms Joanna Bezette (DoHA)

Ms Louise Catanzariti (Australian Institute of Health and Welfare) (AIHW)

Ms Anne Croft (DoHA)

Mr David Cummins (DoHA)

Ms Tracy Dixon (AIHW)

Ms Zoe Holdenson (AIHW)

Ms Kate Laffan (DoHA)

Ms Sharon Leigh (DoHA; AIHW)

Ms Jonette McDonnell (DoHA)

Ms Alison McPherson (DoHA)  
Mr Colin Nelson (DoHA)  
Mr George Phillips (AIHW)  
Ms Anne-Marie Waters (AIHW)  
Ms Kathryn Webbie (AIHW)

# Abbreviations

ABS	Australian Bureau of Statistics
AHMC	Australian Health Minister's Conference
AIHW	Australian Institute of Health and Welfare
ANDIAB	Australian National Diabetes Information Audit and Benchmarking
APDS	Australian Prospective Diabetes Study
APEG	Australasian Paediatric Endocrine Group
AusDiab	Australian Diabetes, Obesity and Lifestyle Study
Aust-HEI	Australian Healthy Eating Index
BMI	body mass index
CATI	computer-assisted telephone interview
DoHA	Department of Health and Ageing
ESKD	end-stage kidney disease
GP	general practitioner
HbA1c	Glycosylated haemoglobin
ICD-10	International Classification of Diseases and Health-related Problems, 10 <sup>th</sup> Revision (used in Australia for mortality data)
ICD-10-AM	International Classification of Diseases and Health-related Problems, 10 <sup>th</sup> Revision, Australian Modification (used in Australia for hospital morbidity data)
IDDM	insulin dependent diabetes mellitus
NADC	National Association of Diabetes Centres
NDDWG	National Diabetes Data Working Group
NDR	National Diabetes Register
NDSG	National Diabetes Strategies Group
NHF	National Heart Foundation
NHMRC	National Health and Medical Research Council
NHPA	National Health Priority Area
NHPC	National Health Performance Committee
NHS	National Health Survey
PIP	Practice Incentives Program
RACGP	Royal Australian College of General Practitioners
RFPS	Risk Factor Prevalence Survey
SF-36	36 item short form questionnaire
SLA	Statistical local area
WHO	World Health Organization

# Executive summary

The National Diabetes Data Working Group's Diabetes Indicators Review Subcommittee, under the direction of the National Diabetes Strategies Group (NDSG), has developed a national set of 33 diabetes indicators that address the NDSG's six priorities for diabetes information:

1. Are we preventing or delaying the development of Type 2 diabetes?
2. Is case detection occurring optimally?
3. Is access equitable?
4. Is care (prevention, early detection and management) provided according to guidelines?
5. Are we improving the quality of clinical management for people with diabetes?
6. Are we reducing the death rate and serious health effects of diabetes?

Of the 33 indicators, 11 have been selected as the highest priority and endorsed by the NDSG (Table 1). It is proposed that this recommended set of indicators be considered along with other indicators when an agreed set of national indicators for chronic diseases and associated determinants are developed to guide policy.

The main purpose of this report is to describe the process undertaken by the Subcommittee in developing and setting priorities for the full set of indicators (that is, the 33 indicators), and to provide operational definitions for the recommended set of 11 indicators. Some of the recommended 11 indicators are able to be monitored using currently available data, while others require data development. However, decisions and details about the development and implementation of a data development plan, and the reporting of the indicators, are yet to be determined and are outside of the scope of this report.

**Table 1: The recommended priority diabetes indicators**

Indicator	Data sources available	Development required
1. Prevalence of Type 2 modifiable diabetes risk factors over time		
1.1 Prevalence of overweight and obesity over time 1.1.1 Prevalence of overweight, but not obese 1.1.2 Prevalence of overweight 1.1.3 Prevalence of obesity	Yes	Development of national health measurement surveys to regularly collect data on measured height, weight and waist circumference.
1.2 Proportion of people not following guidelines for physical activity over time	Yes	Development of national health measurement surveys to regularly collect physical activity data that can be measured against the National Physical Activity Guidelines.
1.3 Proportion of people not following Australian dietary recommendations over time	Yes	Development of a standard definition based on the Australian Healthy Eating Index (Aust-HEI) to measure whether a person is 'not following the Australian Dietary Guidelines'.  Development of national surveys that include the regular collection of a food frequency questionnaire and short dietary questions on which to base the Aust-HEI.
2. The proportion of people at risk of Type 2 diabetes who correctly identify that they are at risk and who are taking steps/actions to reduce their risk	No	Evaluation of the quality of this indicator.  Development and testing of appropriate questions to measure this indicator.  Identification of data sources to collect data for this indicator.
3. The proportion of people at risk of Type 2 diabetes who are being opportunistically screened, and the proportion of those undergoing appropriate opportunistic screening (as defined by current evidence-based guidelines):		Evaluation of the quality of these indicators.  Development and testing of appropriate questions to measure these indicators.  Identification of data sources to collect data for these indicators.
3.1 The proportion of people at risk of Type 2 diabetes who are being opportunistically screened	No	Evaluation of the quality of these indicators.
3.2 The proportion of people at risk of Type 2 diabetes who are undergoing appropriate opportunistic screening (as defined by current evidence-based guidelines).		Development and testing of appropriate questions to measure these indicators.  Identification of data sources to collect data for these indicators.

*(continued)*

**Table 1 (continued): The recommended priority diabetes indicators**

Indicator	Data sources available	Development required
<p>4. The number and characteristics of diabetes (Type 1, Type 2 and gestational) and at-risk programs, initiatives and services for:</p> <ul style="list-style-type: none"> <li>• Aboriginal and Torres Strait Islander people</li> <li>• People of culturally and linguistically diverse backgrounds</li> <li>• People of different socioeconomic status</li> <li>• People from different geographic areas</li> </ul>	No	<p>Evaluation of the quality of this indicator.</p> <p>Development and testing of appropriate questions to measure this indicator, including development of standard definitions.</p> <p>Identification of data sources to collect data for this indicator.</p>
<p>5. Ability of people to access services (Type 1, Type 2 and gestational diabetes) that are culturally suitable</p>	No	<p>Evaluation of the quality of this indicator.</p> <p>Development and testing of appropriate questions to measure this indicator, including development of standard definitions.</p> <p>Identification of data sources to collect data for this indicator.</p>
<p>6. The number and characteristics of diabetes (Type 1, Type 2 and gestational) guidelines identified</p>	No	<p>Evaluation of the quality of this indicator.</p> <p>Development and testing of appropriate questions to measure this indicator.</p> <p>Identification of data sources to collect data for this indicator.</p>
<p>7. The proportion of people with diabetes mellitus (Type 1, Type 2 and gestational) who have had an annual cycle of care</p>	Yes	<p>Identification of a national data source to collect data for this indicator.</p>
<p>8. The proportion of people with diabetes (Type 1, Type 2 and gestational) who meet guideline targets for:</p> <p>8.1 HbA1c</p> <p>8.2 blood pressure</p> <p>8.3 cholesterol</p> <p>8.4 weight/body mass index</p>	<p>Yes but not representative of people with diabetes in the general community.</p>	<p>Identification of a national data source to collect data for these indicators.</p>
<p>9. The diabetes-related death rate (includes Type 1, Type 2 and gestational diabetes) over time among:</p> <ul style="list-style-type: none"> <li>• the general population</li> <li>• Aboriginal and Torres Strait Islander people</li> <li>• people of culturally and linguistically diverse backgrounds</li> <li>• people of different socioeconomic status</li> <li>• people from different geographic areas</li> </ul>	Yes	<p>Validation studies to determine the extent to which diabetes is recorded on death certificates for people with diabetes; and to determine the accuracy of classification of type of diabetes on death certificates for people with diabetes.</p> <p>Improvement in Indigenous identification and the identification of people of culturally and linguistically diverse backgrounds on death certificates.</p>

*(continued)*

**Table 1 (continued): The recommended priority diabetes indicators**

<b>Indicator</b>	<b>Data sources available</b>	<b>Development required</b>
10. Quality of life of people with diabetes (Type 1, Type 2 and gestational) (measured by standardised questionnaire)	Yes using SF-36.	The use of appropriate and comprehensive quality of life measures in national or large surveys to measure quality of life in people with diabetes.
11. Prevalence and incidence of diabetes (Type 1, Type 2 and gestational), its complications and comorbidities among: <ul style="list-style-type: none"> <li>• The general population</li> <li>• Aboriginal and Torres Strait Islander people</li> <li>• People of culturally and linguistically diverse backgrounds</li> <li>• People of different socioeconomic status</li> <li>• People from different geographic areas</li> </ul>		
11.1 Prevalence of diabetes (Type 1, Type 2 and gestational) over time	Yes	Development of national health measurement surveys to collect data on the prevalence of measured diabetes status and type for the target populations.
11.2 Incidence of diabetes (Type 1, Type 2 and gestational) over time	Yes - limited	Expansion of the National Diabetes Register (NDR) to include non-insulin treated diabetes.
11.3 Prevalence of cardiovascular disease among people with diabetes over time	Limited	Development of a national data source to collect data for this indicator.
11.4 Incidence of cardiovascular disease among people with diabetes over time	Limited	Development of a national data source to collect data for this indicator.
11.5 Prevalence of visual loss among people with diabetes over time	Limited	Development of a national data source to collect data for this indicator.
11.6 Incidence of visual loss among people with diabetes over time	Limited	Development of a national data source to collect data for this indicator.
11.7 Prevalence of end-stage renal disease among people with diabetes over time	Limited	Development of a national data source to collect data for this indicator.
11.8 Incidence of end-stage renal disease among people with diabetes over time	Limited	Development of a national data source to collect data for this indicator.
11.9 Prevalence of non-traumatic amputation among people with diabetes over time	Limited	Development of a national data source to collect data for this indicator.
11.10 Incidence of non-traumatic amputation among people with diabetes over time	Limited	Development of a national data source to collect data for this indicator.

