

Rural, regional and remote health

Information framework and indicators

Version 1

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.

Rural, regional and remote health

Information framework and indicators

Version 1

15 April 2003

Australian Institute of Health and Welfare
Canberra

AIHW cat. no. PHE 44

© 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, 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 Rural Health 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>).

ISBN 1 74024 284 X

Suggested citation

Australian Institute of Health and Welfare (AIHW) 2003. Rural, regional and remote health: information framework and indicators. Version 1. AIHW cat. no. PHE 44. Canberra: AIHW.

Australian Institute of Health and Welfare

Board Chair
Dr Sandra Hacker

Director
Dr Richard Madden

Enquiries about or comments on this publication are encouraged, and should be directed to:

Andrew Phillips
Australian Institute of Health and Welfare
GPO Box 570
Canberra ACT 2601
Phone: (02) 6244 1027
E-mail: andrew.phillips@aihw.gov.au

Published by Australian Institute of Health and Welfare

Printed by Pirion

Contents

Acknowledgments	xi
Abbreviations	xiii
Introduction	1
The Rural Health Information Framework	2
Notes to the Rural Health Information Framework	3
Tiers and dimensions of the Rural Health Information Framework	6
<i>Health status (Tier 1)</i>	8
1.1 Health conditions.....	8
Chronic diseases.....	8
Injury.....	9
Mental health.....	10
Oral health	10
Communicable diseases.....	11
Birth outcomes.....	11
1.2 Human function.....	12
Prevalence of disability	12
Days away from usual activity as a result of illness	12
1.3 Life expectancy and wellbeing.....	13
Disability-adjusted life expectancy (DALE).....	13
Disability-adjusted life years (DALY).....	13
Self-assessed health status	14
Self-assessed happiness.....	14
1.4 Deaths	15
Death rates	15
Perinatal mortality	15
Age-specific mortality	16
Premature mortality	16
Leading causes of death and excess deaths.....	16
<i>Determinants of health (Tier 2)</i>	17
2.1 Environmental factors	17
Water.....	18
Sewerage	18
Food availability.....	18

Housing.....	19
Recreational and cultural facilities or spaces.....	19
The workplace.....	19
Pollutants.....	19
2.2 Socioeconomic factors.....	20
Education.....	20
Employment.....	21
Income.....	22
A combined measure of education, income and employment.....	23
2.3 Community capacity.....	24
Demographic characteristics.....	24
Social issues and social capital.....	25
Services.....	25
Health literacy.....	26
Individuals' perception of risk.....	26
Housing.....	27
Transport.....	28
Cost of living.....	28
Health of businesses.....	29
2.4 Health behaviours.....	30
Smoking.....	30
Hazardous and harmful alcohol consumption.....	30
Illicit drug use.....	31
Physical activity/inactivity.....	31
Nutrition.....	31
Sexual practices.....	32
Driving practices.....	32
2.5 Person-related factors.....	33
Genetically determined diseases.....	33
Specific birth defects caused by environmental factors.....	34
Blood pressure.....	34
Cholesterol.....	34
Overweight and obesity.....	35
<i>Health system performance (Tier 3)</i>	36
3.1 Effective.....	36
Retrieval for victims of trauma.....	37
STI education in promoting the practice of safe sex.....	38
Immunisation in reducing the incidence of childhood infectious diseases.....	39

Breast cancer and cervical screening in reducing mortality due to cancer.....	39
Medical and surgical treatment in producing good health outcomes	39
3.2 Appropriate	40
Female GPs.....	41
Surgical procedure.....	41
Specialist consultations	42
Care after surgery	42
Aged care	42
Hospital accreditation	42
Waiting times for elective surgery.....	42
Morbidity managed in general practice.....	43
3.3 Efficient.....	44
3.4 Responsive	46
Acceptance of health services by Indigenous people	47
Confidentiality.....	47
Waiting times by public patients for elective surgery	48
Response time in emergency departments.....	48
Bulk billing.....	48
Waiting times for allied health workers	49
Waiting time for results of diagnostic tests.....	49
Closed books.....	49
Satisfaction	49
3.5 Accessible	50
Distance	51
Discrimination.....	51
Financial constraints.....	51
Health facilities and health professionals.....	52
Disability services	56
Continuity	56
3.6 Safe.....	57
Medical/surgical misadventure	58
Survival rates in intensive care units	58
3.7 Continuous	59
Care planning and case conferencing	59
3.8 Capable.....	60
3.9 Sustainable.....	61
Training of the rural health workforce	61
Recruitment and retention of the rural health workforce	62

Hours worked and age of health workers.....	62
On-call work	62
Indicator documentation	63
<i>Health status (Tier 1)</i>	63
1.1 Health conditions dimension	63
1.1.1 Prevalence of chronic diseases	63
1.1.2 Prevalence of injuries.....	65
1.1.3 Prevalence of depressive, anxiety and substance abuse disorders.....	66
1.1.4 Decayed, missing and filled teeth.....	67
1.1.5 Communicable diseases	69
1.1.6 Birth outcomes.....	70
1.2 Human function dimension	71
1.2.1 Prevalence of disability	71
1.2.2 Reduced activity because of illness	73
1.3 Life expectancy and wellbeing dimension	75
1.3.1 Life expectancy	75
1.3.2 Self-assessed health status	76
1.3.3 Happiness.....	77
1.4 Deaths dimension	78
1.4.1 Overall mortality	78
1.4.2 Perinatal mortality	80
1.4.3 Age-specific mortality	81
1.4.4 Premature mortality	82
1.4.5 Leading causes of death and excess deaths.....	84
<i>Determinants of health (Tier 2)</i>	86
2.1 Environmental factors dimension	86
2.1.1 Fluoridated water.....	86
2.2 Socioeconomic factors dimension	87
2.2.1 Educational status of the adult population	87
2.2.2 High school retention rates.....	88
2.2.3 Progression from school to university	89
2.2.4 Workforce and employment.....	90
2.2.5 Household income	91
2.2.6 Gap between rich and poor	93
2.2.7 Sources of income	95
2.2.8 SEIFA	97

2.3 Community capacity dimension	98
2.3.1 Demography	98
2.3.2 Dependency ratio	100
2.3.3 Internal migration.....	101
2.3.4 Fertility	103
2.3.5 Community safety.....	104
2.3.6 Perception of risk	106
2.3.7 Housing tenure.....	107
2.3.8 Overcrowding in households.....	108
2.3.9 Transport.....	109
2.3.10 Cost of living.....	110
2.3.11 Business activity	112
2.4 Health behaviours dimension.....	113
2.4.1 Tobacco.....	113
2.4.2 Alcohol.....	115
2.4.3 Illicit drugs	117
2.4.4 Physical activity and inactivity	118
2.4.5 Nutrition.....	120
2.4.6 Sexual practices	122
2.5 Person-related factors dimension.....	123
2.5.1 Genetically determined diseases.....	123
2.5.2 Specific birth defects.....	124
2.5.3 Overweight/obesity	125
<i>Health system performance (Tier 3)</i>	126
3.1 Effective dimension	126
3.1.1 Immunisation rates	126
3.1.2 Breast cancer and cervical screening participation rate	127
3.2 Appropriate dimension	128
3.2.1 Female GPs.....	128
3.2.2 Specialist hospital procedures.....	130
3.2.3 Specialist consultations	132
3.2.4 Aged care	133
3.2.5 Morbidity managed in general practice.....	135
3.3 Efficient dimension.....	138
3.4 Responsive dimension	139
3.4.1 Waiting times for elective surgery.....	139
3.4.2 GP Bulk billing	140

3.5 Accessible dimension.....	141
3.5.1 Distance to medical services.....	141
3.5.2 Numbers of health workers.....	144
3.5.3 Hospital separations and bed days	146
3.5.4 Primary care medical consultations	148
3.5.5 Dental consultations	150
3.5.6 Prescription.....	152
3.5.7 Access to disability services.....	154
3.6 Safe dimension.....	155
3.6.1 Surgical and medical misadventure.....	155
3.7 Continuous dimension.....	156
3.7.1 Care planning and case conferencing	156
3.8 Capable dimension.....	157
3.8.1 Hospital accreditation	157
3.9 Sustainable dimension	158
3.9.1 Workforce in training	158
3.9.2 GP retention.....	160
3.9.3 Hours worked and age of health workers.....	161
Data gaps	163
Generic issues.....	163
Indigenous identification.....	163
Surveys	164
Geographic classification.....	165
Other issues	166
Issues for which it is not possible to report and why (by each dimension of the framework)	168
Data sources used in reporting against the indicators and their constraints.....	170
Strategies to overcome data constraints.....	174
References.....	177
Appendix 1	178
Appendix 2	179

Acknowledgments

This report has been commissioned by the Office of Rural Health (ORH) in the Department of Health and Ageing.

This work has been guided by the members of the Rural Health Information Advisory Committee (RHIAC):

Richard Eccles, Chair RHIAC and National Manager, ORH, DoHA.

Joanna Davidson, previous Chair RHIAC and National Manager ORH, DoHA.

Andrew Benson, Director Research and Data Section OATSIH, DoHA.

Kim Boyer, National Health and Medical Research Council.

Norma Briscoe, Health Section, Australian Bureau of Statistics.

Alan Browne, previous Assistant Director Information and Communication Section, ORH, DoHA.

Gemma Duffy, previous Director, Information and Communication Section, ORH, DoHA.

Dr Joy Eshpeter, Director, Public Health Information Development Section, National Population Health Planning Branch, Population Health Division, DoHA.

Associate Professor Lyn Fragar, Director, Australian Centre for Agricultural Health and Safety, University of Sydney.

Associate Professor Bob Gibberd, Health Services Research Group, The University of Newcastle.

Gordon Gregory, Executive Director, National Rural Health Alliance.

Professor John Humphreys, Monash University.

Jill Kurr, Director, Information and Communication Section, Rural Health and Palliative Care Branch, DoHA.

Rochelle Lenane, Health Capacity Development Branch, Workforce, Education and Training Section, Health Industry and Investment Division, DoHA.

Joanne Llewellyn, Assistant Director, Information and Communications Section, Rural Health and Palliative Care Branch, DoHA.

Marelle Rawson, Director, Health Section, Australian Bureau of Statistics.

Dr Janis Shaw, Director, National Centre for Aboriginal and Torres Strait Islander Statistics, Australian Bureau of Statistics.

Dr Ross Spark, Manager, Tropical Public Health Unit Network, Queensland Health.

Dr Laga Van Beek, previous Assistant Director, Information and Communication Section, ORH, DoHA.

Professor David Wilkinson, Director, South Australian Centre for Rural and Remote Health, University of South Australia (Whyalla Campus).

Jonathan Wraith, Director, Workforce Development Section, General Practice Branch, Health Services Division, DoHA.

Other people who contributed to the work include:

Barbara Gray (NACATSI, ABS),

Kirrily Harrison (OATSIH, DoHA),

Phil Trickett (AIHW),

Terry Neeman (Covance),

Richard Franklin, Australian Centre for Agricultural Health and Safety (Moree),

Professor David Lyle, Department of Rural Health, Sydney University,

Michael Roden and John Paice, Demography Section, ABS,

Frank Blanchfield, Geography Section, ABS,

National Injury Surveillance Unit (NISU)

Andrew Philips is the author of this document. In developing this first in a series of AIHW rural health reports, he was assisted by Brendan Brady and Toni O'Brien . The work was conducted under the editorial guidance of Glenice Taylor and stewardship of Dr Anny Stuer.

Abbreviations

A&E	Accident and Emergency (Department)
ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
ACIR	Australian Childhood Immunisation Register (HIC)
AIHW	Australian Institute of Health and Welfare
AMS	Aboriginal Medical Service
ARIA	Accessibility/Remoteness Index of Australia
ASGC	Australian Standard Geographic Classification
ATO	Australian Taxation Office
ATSI	Aboriginal and Torres Strait Islander
ATSIHWIU	ATSI Health and Welfare Information Unit (ABS & AIHW)
BEACH	Bettering the Evaluation And Care of Health
BMI	Body Mass Index
CACP	Community Aged Care Package
CATI	Computer Assisted Telephone Interview (survey)
CD	Census Collectors District
CDEP	Community Development Employment Program
CDNA	Communicable Diseases Network, Australia
COPD	Chronic Obstructive Pulmonary Disease
CPI	Consumer Price Index
CSDA	Commonwealth/State Disability Agreement
DALE	Disability-adjusted Life Expectancy
DALY	Disability-adjusted Life Years
DEST	Department of Education, Science and Technology
DoHA	Department of Health and Ageing
DRG	Diagnostic Related Group
DSRU	Dental Statistics Research Unit (AIHW)
DVA	Department of Veterans' Affairs
EACH	Extended Aged Care at Home
FTE	Full Time Equivalent
GIS	Geographic Information System
GISCA	National Key Centre for the Social Applications of GIS
GP	General Practitioner
HACC	Home and Community Care
HIC	Health Insurance Commission

ICD9	International Classification of Diseases (9th Revision)
ICD10	International Classification of Diseases (10th Revision)
ICU	Intensive Care Unit
MBS	Medical Benefits Schedule/Scheme
NCATSIS	National Centre for Aboriginal and Torres Strait Islander Statistics (ABS)
NDSHS	National Drug Strategy Household Survey
NHMRC	National Health and Medical Research Council
NHPF	National Health Performance Framework
NHS	National Health Survey
NHTP	Nursing home type patient
NNDSS	National Notifiable Diseases Surveillance System
NOHSC	National Occupational Health and Safety Commission
NPSU	National Perinatal Statistics Unit (AIHW)
OATSIH	Office of Aboriginal and Torres Strait Islander Health (DoHA)
OECD	Organisation for Economic Co-operation and Development
ORH	Office of Rural Health (DoHA)
OT	Occupational therapist
PBS	Pharmaceutical Benefits Scheme
PIP	Practice Incentive Payment
RACGP	Royal Australian College of General Practitioners
RFDS	Royal Flying Doctor Service
RHIAC	Rural Health Information Advisory Committee
RRMA	Rural, Remote and Metropolitan Areas classification
RRSNC	Rural and Regional Statistics National Centre (ABS)
SEIFA	Socioeconomic Indexes for Areas
SIHC	Survey of Income and Housing Costs
SLA	Statistical Local Area
STI	Sexually transmitted infection
SWPE	Standardised Whole Patient Equivalent
WHO	World Health Organization
YLL	Years of life lost