



**Australian Government**

**Australian Institute of  
Health and Welfare**

*Better information and statistics  
for better health and wellbeing*

DIABETES SERIES

Number 17

# **Diabetes prevalence in Australia**

**Detailed estimates for 2007–08**

**July 2011**

Australian Institute of Health and Welfare  
Canberra

Cat. no. CVD 56

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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 978-1-74249-180-6

### **Suggested citation**

Australian Institute of Health and Welfare 2011. Diabetes prevalence in Australia: detailed estimates for 2007–08. Diabetes series no. 17. Cat. no. CVD 56. Canberra: AIHW.

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Published by the Australian Institute of Health and Welfare

**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](http://www.aihw.gov.au)> for any amendments.**

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# Acknowledgments

This report was prepared by Justin Harvey of the National Centre for Monitoring Diabetes at the Australian Institute of Health and Welfare (AIHW).

Valuable input on the report was gratefully received from Susana Senes, Vanessa Prescott, Anne-Marie Waters and Claire Lee-Koo.

This report was prepared under the guidance of the National Diabetes Data Working Group, chaired by Associate Professor Jeff Flack. Members of the working group at the time of publication were Ms Janelle Babare, Professor Stephen Colagiuri, Associate Professor Maria Craig, Associate Professor Wendy Davis, Ms Susan Davidson, Mr Robert Guthrie, Professor Mark Harris, Ms Monique Machutta, Dr Glynis Ross, Ms Susana Senes and Associate Professor Jonathan Shaw.

The Australian Government Department of Health and Ageing funded this report.

# Abbreviations and acronyms

|      |                                            |
|------|--------------------------------------------|
| ABS  | Australian Bureau of Statistics            |
| ACT  | Australian Capital Territory               |
| AIHW | Australian Institute of Health and Welfare |
| CI   | Confidence Interval                        |
| CURF | Confidentialised Unit Record File          |
| NHS  | National Health Survey                     |
| NSW  | New South Wales                            |
| NT   | Northern Territory                         |
| Qld  | Queensland                                 |
| RSE  | Relative Standard Error                    |
| SA   | South Australia                            |
| SE   | Standard Error                             |
| Tas  | Tasmania                                   |
| Vic  | Victoria                                   |
| WA   | Western Australia                          |

# Symbols

|   |          |
|---|----------|
| % | per cent |
|---|----------|

# Summary

This report presents the most up-to-date estimates of the number of people with diagnosed diabetes in Australia based on self-reports to the Australian Bureau of Statistics' 2007–08 National Health Survey.

Key findings:

- In 2007–08, an estimated 898,800 Australians had been diagnosed with diabetes (excluding gestational diabetes) at some time in their lives.
- 87,100 had been diagnosed with Type 1 diabetes.
- 787,500 had been diagnosed with Type 2 diabetes.
- 56% of those diagnosed with diabetes were male and 44% were female.
- About 96% of people with diabetes were 35 years old or more, and 43% were aged 65 years or more.
- The proportion of people with diabetes was similar in all states and territories, after accounting for differences in age.
- After accounting for differences in age, the proportion of people with diabetes was similar in major cities, regional areas and remote areas.

# 1 Introduction

## Purpose of this report

This report presents information on the prevalence of diabetes in Australia, that is people living with diabetes, by diabetes type, age, sex, state of usual residence and remoteness.

## About the estimates in this report

The estimates presented in this report were produced using data from the ABS 2007–08 National Health Survey (2007–08 NHS). The two measures ‘whether ever diagnosed with diabetes’ and ‘type of diabetes ever diagnosed with’ were used to produce the diabetes estimates (see Box 1.1 for a description of the survey questions). These measures do not include people who actually have diabetes but are not aware of it. It is not known how many Australians currently have undiagnosed diabetes.

The diabetes estimates presented in this report differ from those in previous AIHW reports and in ABS publications because they are based on different survey measures. The new estimation method adopted in this report is considered more reliable as it eliminates the restriction of the diabetes being reported as ‘current’. People may report their diabetes as ‘not current’ if it is treated and controlled, when in fact the diabetes is present. See Box 1.2 below for a description of the additional survey questions used previously.

### **Box 1.1: Survey questions used to determine diabetes status for this report**

The following two questions in the ABS National Health Survey were used to determine survey participants’ diabetes status, which is the basis for the estimates in this report:

1. Have you ever been told by a doctor or nurse that you have diabetes?
2. What type(s) of diabetes were you told you have? (more than one response was allowed)
  - Type 1 (insulin dependent diabetes mellitus/juvenile onset diabetes/Type A)
  - Type 2 (non-insulin dependent diabetes mellitus/adult onset diabetes/Type B)
  - gestational (pregnancy)
  - diabetes insipidus
  - other
  - unknown.

Responses of ‘Type 1’, ‘Type 2’ or ‘unknown diabetes type’ to question 2 were included in producing estimates for this report. Responses of ‘gestational diabetes’ and ‘diabetes insipidus’ were not included.

This measure produces an estimate of people who report having *ever been diagnosed* with Type 1 diabetes, Type 2 diabetes or an unknown diabetes type.

**Box 1.2: Additional survey questions used to determine diabetes status in previous AIHW publications and ABS publications**

In addition to the questions in Box 1.1, the following questions were used in determining survey participants' diabetes status in previous AIHW reports and ABS publications:

1. Do you *currently* have diabetes?
2. Which types of diabetes do you *currently* have? (more than one response was allowed)
  - Type 1 (insulin dependent diabetes mellitus/juvenile onset diabetes/Type A)
  - Type 2 (non-insulin dependent diabetes mellitus/adult onset diabetes/Type B)
  - gestational (pregnancy)
  - diabetes insipidus
  - other – specify
  - unknown.

Responses of 'Type 1', 'Type 2' or 'unknown diabetes type' were used in previous AIHW reports and ABS publications to produce estimates of people who report they *currently* have Type 1 diabetes, Type 2 diabetes or unknown diabetes type. This measure was then used to produce an estimate of people who report that they *currently* have diabetes. Gestational diabetes and diabetes insipidus were not included.



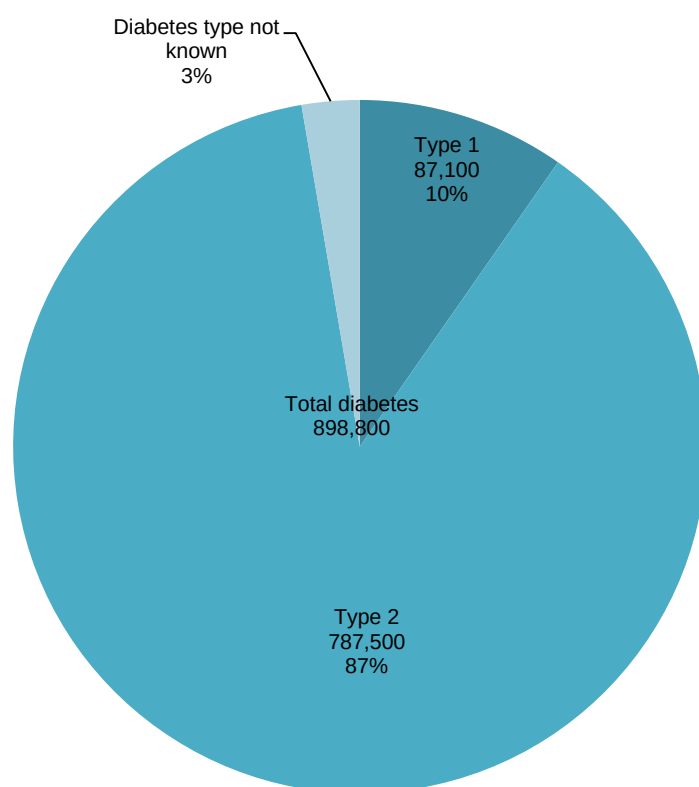
## 2 Prevalence of diabetes

### Total diabetes

#### Number of people with diagnosed diabetes

An estimated 898,800 Australians had been diagnosed with diabetes (excluding gestational diabetes) at some time in their lives according to self-reports in the 2007–08 NHS.

Approximately 87,100 people had Type 1 diabetes and 787,500 people had Type 2 diabetes based on the type of diabetes reported (Figure 1, Table A1). For the remainder, the type of diabetes was not known.



*Note:* Gestational diabetes is not included in 'Total diabetes'.

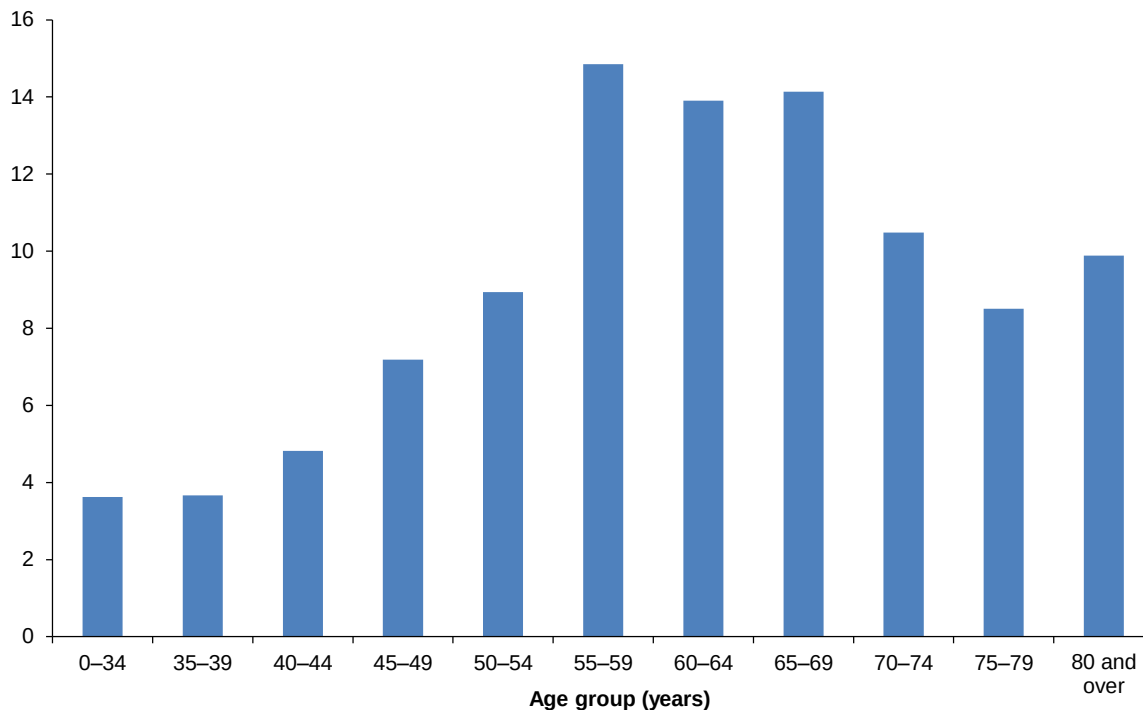
*Source:* AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Figure 1: Number of people with diagnosed diabetes by type of diabetes, Australia 2007–08**

## Distribution of people with diabetes by sex and age

Of the 898,800 people with diabetes, 56% were males (501,300) and 44% were females (397,500). Approximately 96% of people with diabetes were 35 years old or more, and 43% were aged 65 years or more (Figure 2, Table A2).

Per cent



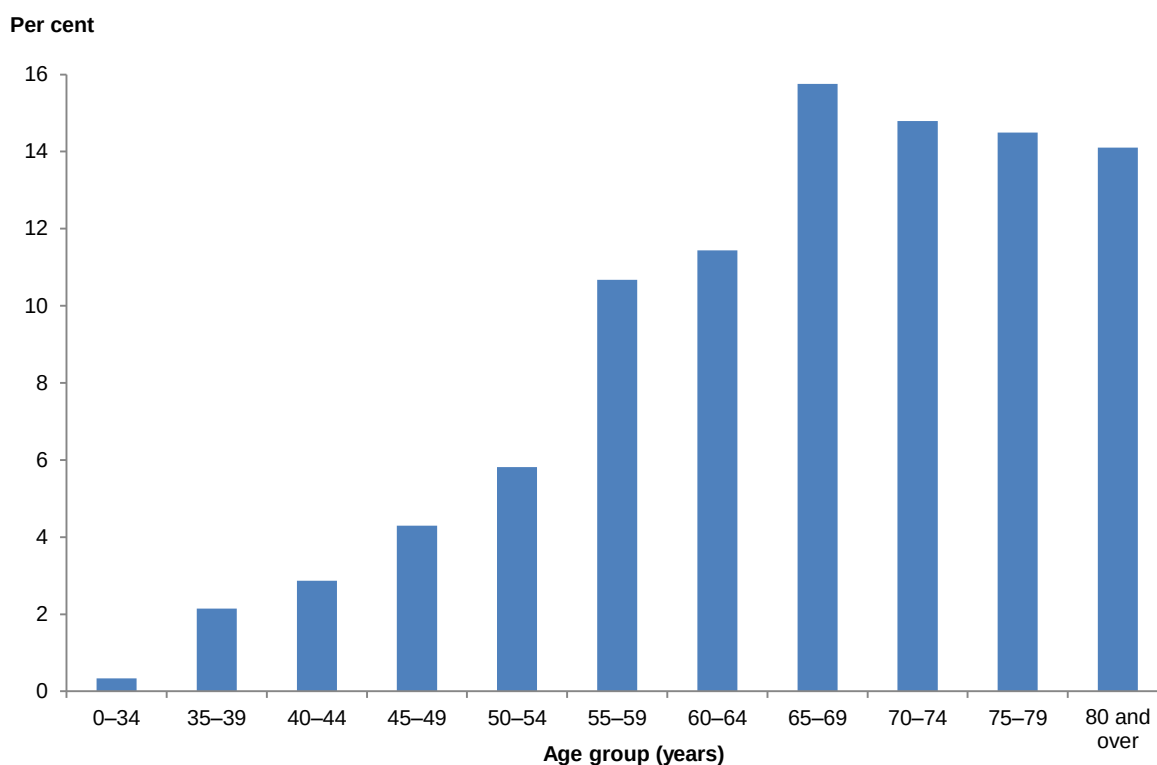
Note: Excludes gestational diabetes.

Source: AIHW analysis of the ABS 2007-08 NHS Confidentialised Unit Record File.

**Figure 2: Age distribution of people with diabetes, Australia, 2007-08**

## Proportion of people diagnosed with diabetes by sex and age

In 2007–08, approximately 4.4% of Australians had been diagnosed with diabetes at some time in their lives. The proportion of males with diabetes (4.9%) was higher than that of females (3.8%). The proportion of people with diabetes increased with increasing age from 0.3% among those aged 0–34 years to 15.8% of 65–69 year olds. The proportion of people with diabetes then decreased gradually with increasing age to around 14% of those aged 80 years or more (Figure 3, Table A2).



*Note:* Excludes gestational diabetes

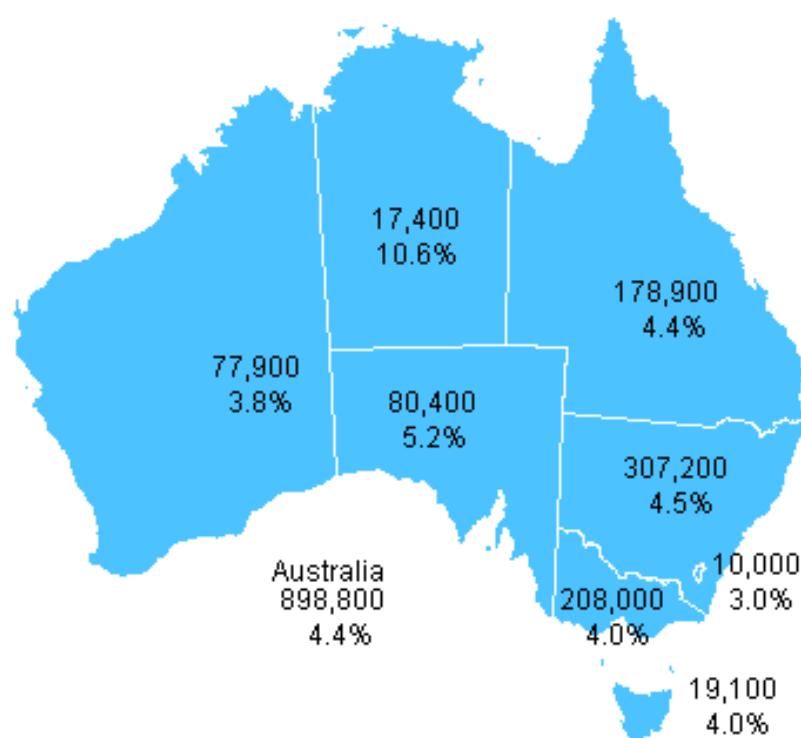
*Source:* AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Figure 3: Proportion diagnosed with diabetes by age, Australia, 2007–08**

## Number of people diagnosed with diabetes by state and territory

In 2007–08, an estimated 307,200 people with diabetes lived in New South Wales, 208,000 in Victoria and 178,900 in Queensland. Approximately 80,400 lived in South Australia, 77,900 in Western Australia, 19,100 in Tasmania, 17,400 in the Northern Territory and 10,000 in the Australian Capital Territory (Figure 4, Table A4).

Note that the 2007–08 ABS National Health Survey did not include very remote areas. The exclusion of these persons has only a minor impact on the estimates produced for individual states and territories, with the exception of the Northern Territory (NT), where more than 1 in 5 people live in very remote areas. Estimates presented here for the Northern Territory also have a relative standard error (RSE) of more than 25%, so they should be used with caution. For further information on relative standard errors see the Glossary.



### Notes

1. Numbers and percentages presented are not age-standardised.
2. Percentages presented are as a proportion of the population in each state and territory.
3. Total diabetes excludes gestational diabetes.
4. Northern Territory estimates have a relative standard error greater than 25% so should be used with caution.
5. Northern Territory estimates are representative for only non-very-remote areas.

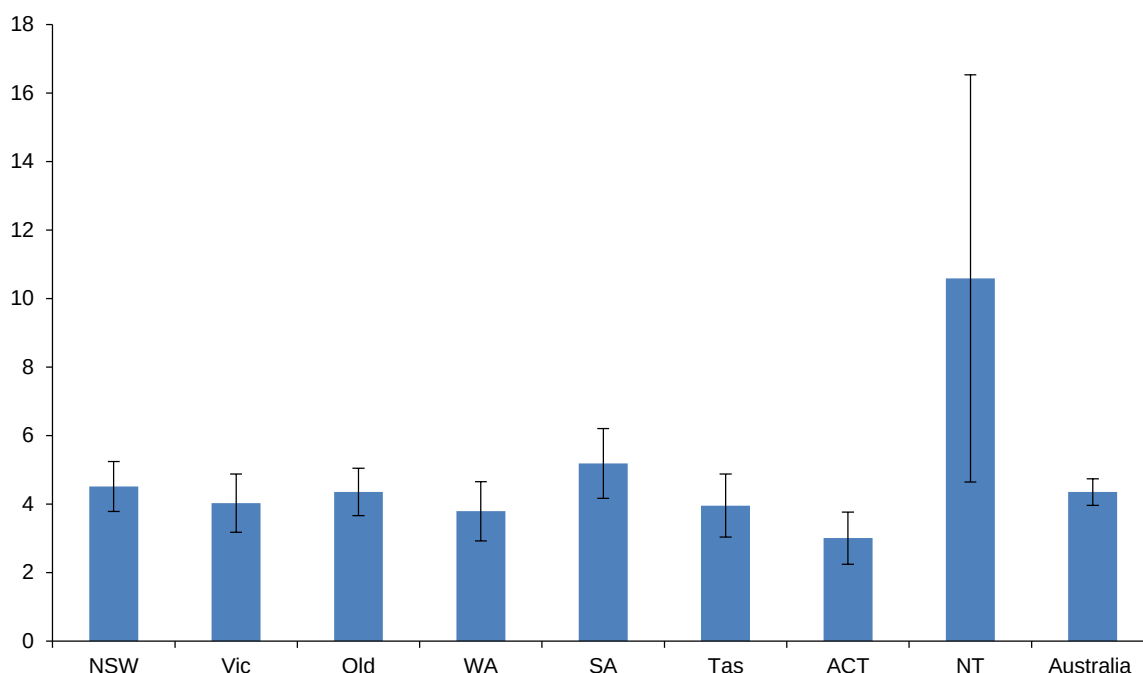
Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Figure 4: Number and proportion of people with diabetes by state and territory, 2007–08**

## Proportion of people with diabetes by state and territory

The proportion of people with diabetes ranged from 3.0% in the ACT to 10.6% in the NT. Compared with the national average, the crude proportion of people with diabetes was significantly lower in the ACT, whereas there were no significant differences for the states or the NT (Figure 5, Table A4). After adjusting for differences in age structure, the difference between the ACT and Australia was not statistically significant. This indicates that the difference between the ACT and Australia is due, at least in part, to the fact that people living in the ACT are slightly younger on average.

Per cent



### Notes

1. Proportions shown are not age-standardised.
2. Excludes gestational diabetes.

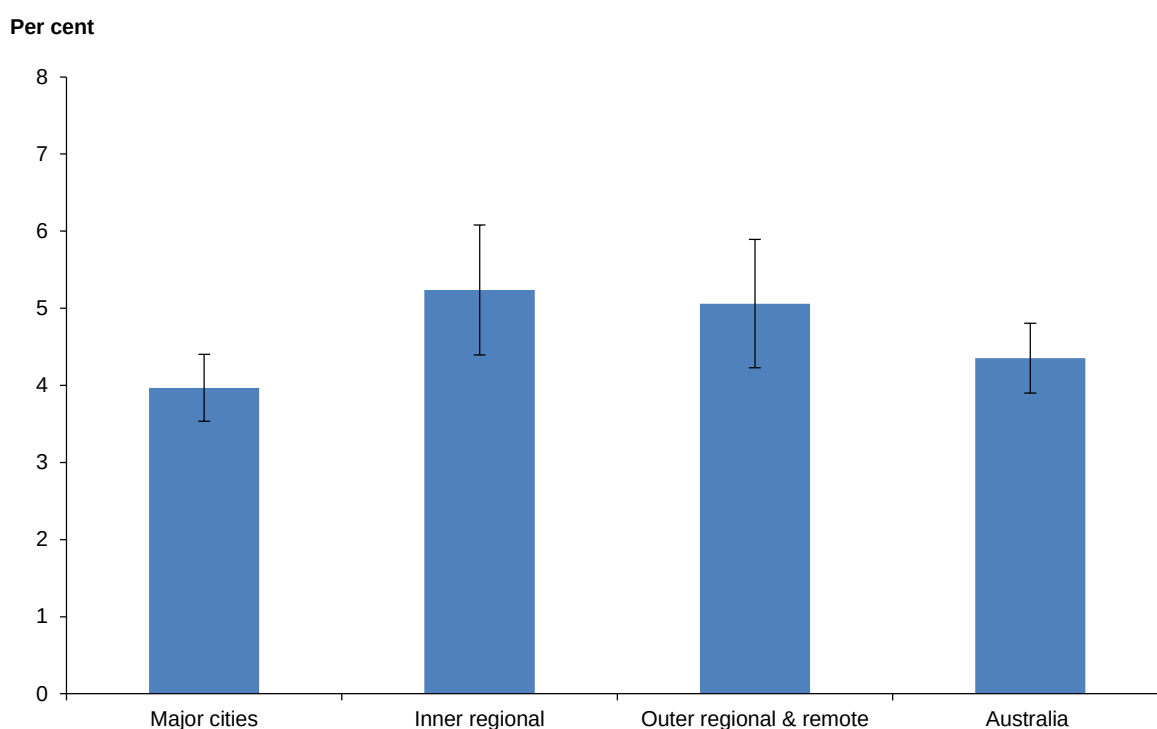
Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Figure 5: Proportion diagnosed with diabetes by state and territory, 2007–08**

## People diagnosed with diabetes by remoteness

Of the 898,800 Australians with diabetes, around 557,700 (62%) lived in Australia's major cities, 230,700 (26%) in inner regional areas and 110,400 (12%) in outer regional or remote areas (Table A5). Note that the 2007–08 ABS National Health Survey did not include very remote areas. See 'Australian Standard Geographical Classification (ASGC) Remoteness Areas' in the Glossary for an explanation of the remoteness area categories.

The proportion with diabetes was similar in inner regional areas (5.2% of the population) and outer regional or remote areas (5.1%) but was lower in major cities (4.0%) (Figure 6, Table A5). After accounting for age differences between areas, the difference between major cities and inner regional/outer regional/remote areas was not statistically significant. This indicates that the difference between major cities and these other areas is due, at least in part, to the fact that people living in regional/remote areas tend to be older on average.



### Notes

1. Proportions shown are not age-standardised.
2. Excludes very remote areas.
3. Excludes gestational diabetes.

Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Figure 6: Proportion diagnosed with diabetes by remoteness, Australia, 2007-08**

## Type 1 diabetes

Approximately 87,100 Australians (0.4% of the Australian population) had been diagnosed with Type 1 diabetes based on self-reports in the 2007–08 NHS (Table A6). Around 53% of them were 45 years old or more. Just over half (53%) were males and 47% were females.

Of all people aged 45 years or more, 0.6% had been diagnosed with Type 1 diabetes, compared with 0.3% among those aged less than 45 years. However, some of this difference may be due to some people with Type 2 diabetes who use insulin reporting in the survey that they have Type 1 diabetes.

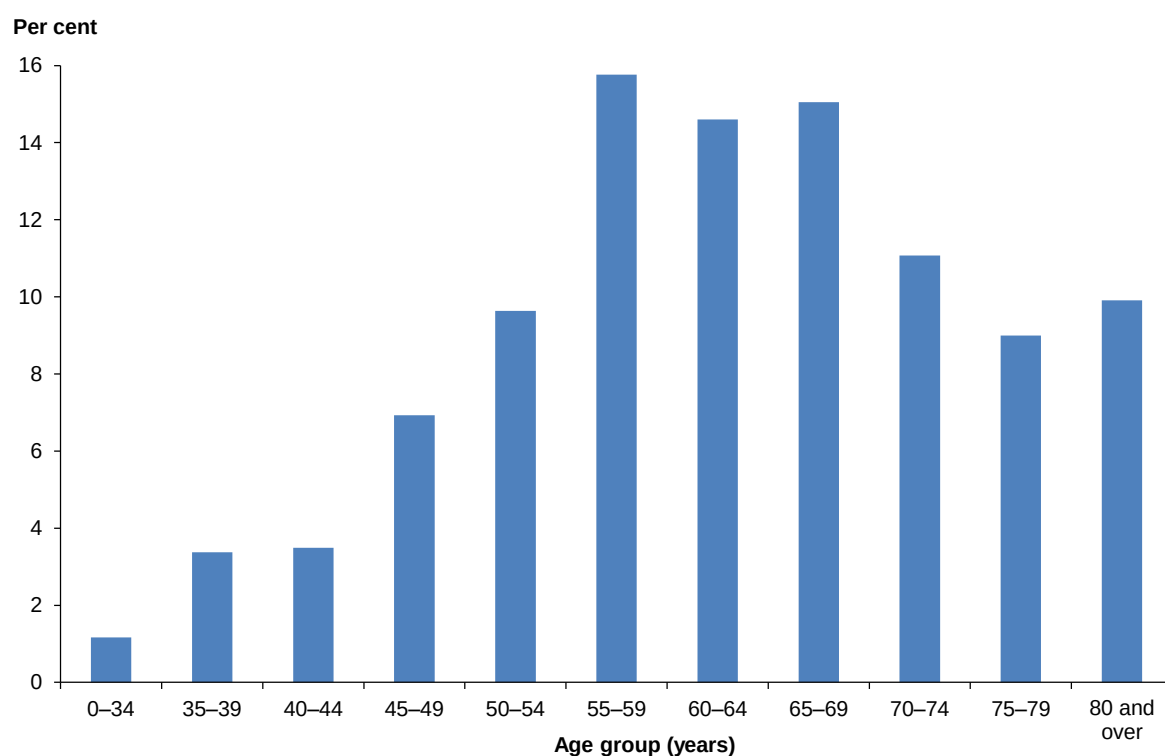
The proportion of people diagnosed with Type 1 diabetes living in regional or remote areas (0.5%) was similar to that living in major cities (0.4%) (Table A7).

The level of detail on prevalence of Type 1 diabetes that we can obtain from the National Health Survey is limited. Due to the fact that the proportion of the population with Type 1 diabetes is very small, the survey sample can only reliably support population estimates for the broad age groups presented above, and reliable estimates cannot be produced for all states and territories.

# Type 2 diabetes

## Number of people with Type 2 diabetes

Approximately 787,500 Australians had been diagnosed with Type 2 diabetes based on self-reports in the 2007–08 NHS. About 444,300 were males (56%) and 343,200 were females (44%). Around 92% of people with Type 2 diabetes were 45 years old or more and 45% were 65 years or older (Figure 7, Table A8).



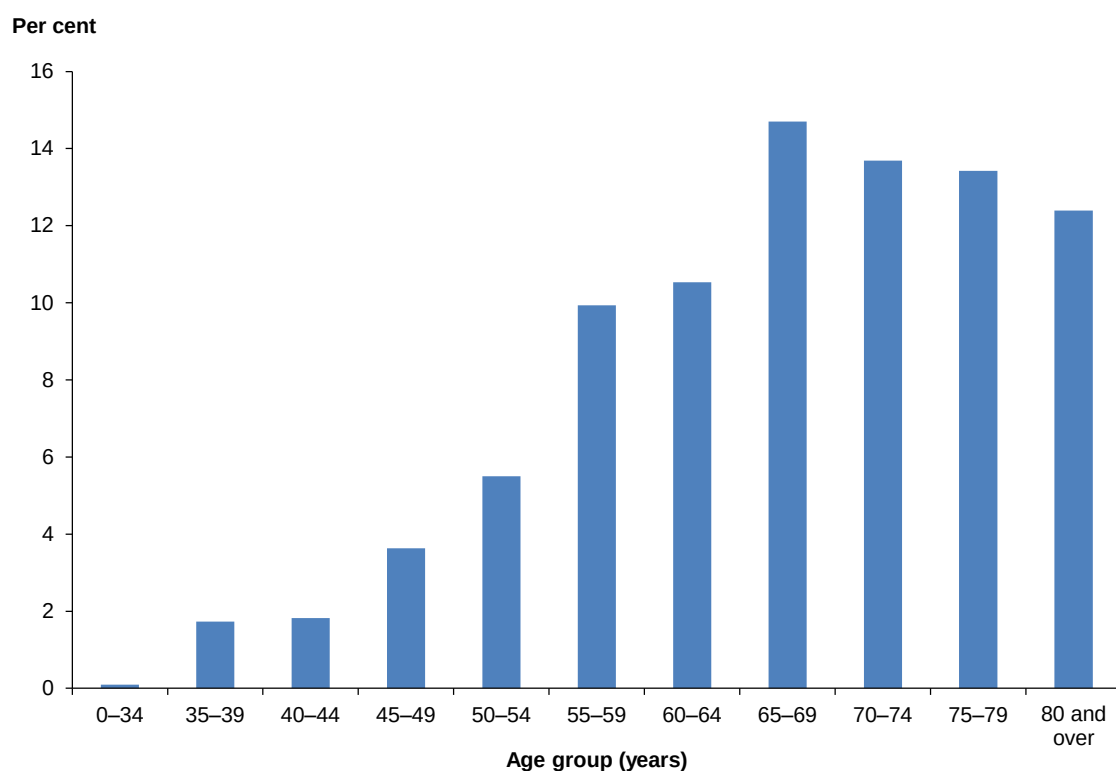
Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Figure 7: Age distribution of people with Type 2 diabetes, Australia, 2007–08**



## Proportion of people with Type 2 diabetes by sex and age

In 2007–08, approximately 3.8% of Australians had been diagnosed with Type 2 diabetes. The proportion of males with Type 2 diabetes (4.3%) was higher than for females (3.3%). The proportion of people who had Type 2 diabetes increased with increasing age from around 0.1% of those aged 0–34 years to 14.7% of 65–69 year olds. The proportion with Type 2 diabetes then decreased with increasing age to 12.4% of people aged 80 years or more (Figure 8, Table A8).



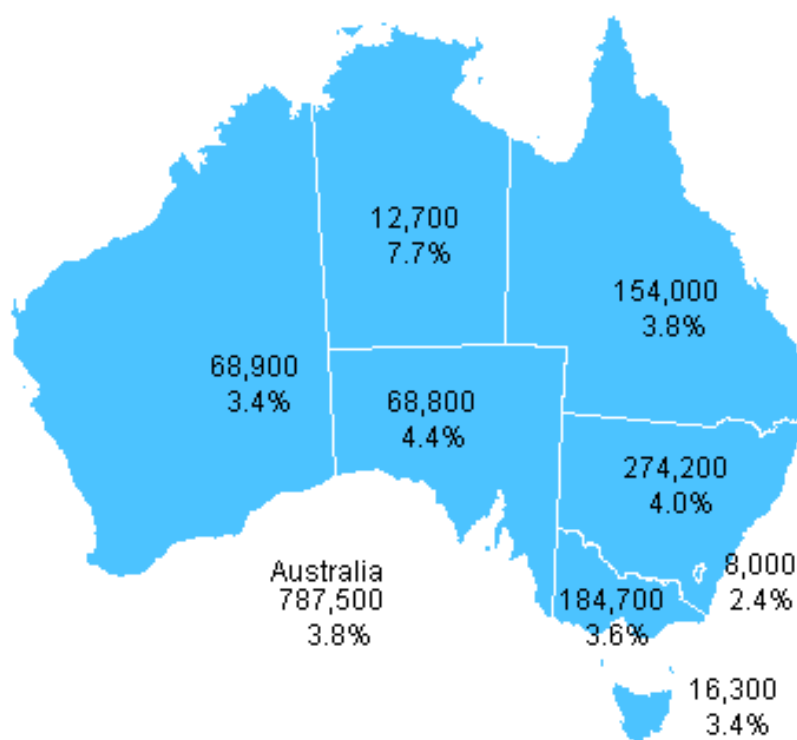
Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Figure 8: Proportion diagnosed with Type 2 diabetes, by age, Australia, 2007–08**

## Number of people with Type 2 diabetes by state and territory

Of the 787,500 Australians with Type 2 diabetes, approximately 274,200 lived in New South Wales, 184,700 in Victoria and 154,000 in Queensland. About 68,900 lived in Western Australia and 68,800 in South Australia, 16,300 in Tasmania, 12,700 in the Northern Territory and 8,000 in the Australian Capital Territory (Figure 9, Table A10).

Note that the 2007–08 ABS National Health Survey did not include very remote areas. The exclusion of these persons has only a minor impact on the estimates produced for individual states and territories, with the exception of the Northern Territory, where more than 1 in 5 people live in very remote areas. Estimates presented here for the Northern Territory also have a relative standard error of more than 25%, so they should be used with caution. For further information on relative standard errors see the Glossary.



### Notes

1. Numbers and percentages presented are not age-standardised.
2. Percentages presented are as a proportion of the population in each state and territory.
3. Northern Territory estimates have a relative standard error greater than 25% so should be used with caution.
4. Northern Territory estimates are representative for only non-very-remote parts of the Northern Territory.

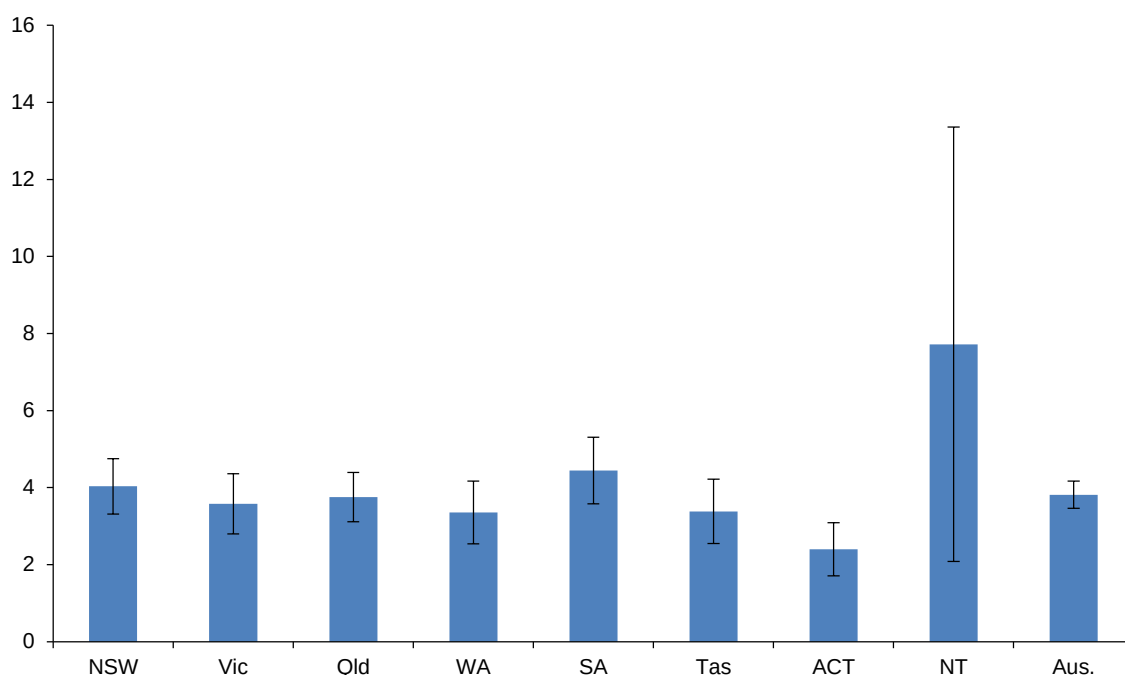
Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Figure 9: Number and proportion of people with Type 2 diabetes by state and territory, 2007–08**

## Proportion of people with Type 2 diabetes by state and territory

The proportion of people with Type 2 diabetes ranged from 2.4% in the ACT to 7.7% in the NT (Table A10). The proportion of people with Type 2 diabetes did not differ significantly from the national average for any state or territory, except for the ACT which was lower (Figure 10). However, after adjusting for differences in age, the difference between the ACT and Australia was also not statistically significant. This indicates that the difference between the ACT and Australia is due, at least in part, to the fact that people living in the ACT are slightly younger on average.

Per cent



Note: Proportions shown are not age-standardised.

Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

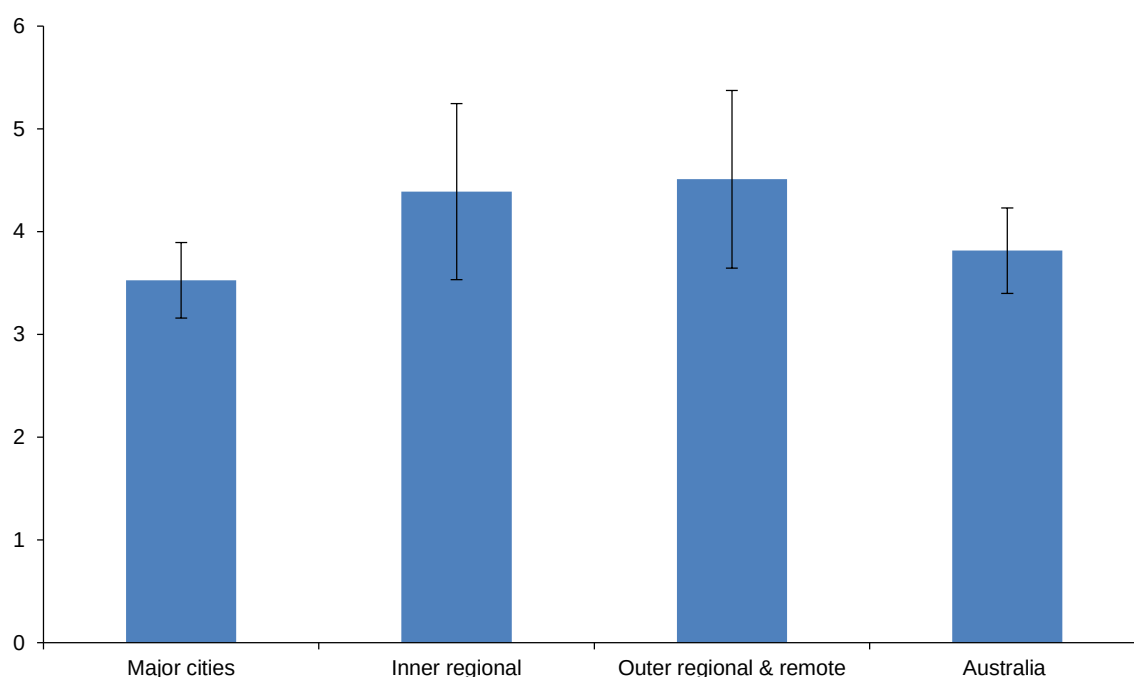
**Figure 10: Proportion diagnosed with Type 2 diabetes by state and territory, Australia, 2007–08**

## People diagnosed with Type 2 diabetes by remoteness

Of the 787,500 Australians with Type 2 diabetes, approximately 63% lived in Australia's major cities (495,800), 25% in inner regional areas (193,400) and 12% in outer regional or remote areas (98,400) (Table A11). Note that the 2007–08 ABS National Health Survey did not include very remote areas. See 'Australian Standard Geographical Classification (ASGC) Remoteness Areas' in the Glossary for an explanation of the remoteness area categories.

The proportion of people with Type 2 diabetes was similar across regions – 3.5% in major cities, 4.4% in inner regional areas and 4.5% in outer regional or remote areas (Figure 11).

Per cent



Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Figure 11: Proportion diagnosed with Type 2 diabetes by remoteness, Australia, 2007–08**

# Appendix: Detailed statistical tables

Note that columns and rows in tables may not add to the totals presented due to rounding.

**Table A1: People ever diagnosed<sup>(a)</sup> with diabetes, by sex and type of diabetes, Australia, 2007–08**

| Type of diabetes                    | Males          |              |                                                | Females        |              |                                                | Persons        |              |                                                |
|-------------------------------------|----------------|--------------|------------------------------------------------|----------------|--------------|------------------------------------------------|----------------|--------------|------------------------------------------------|
|                                     | Number         | Per cent     | Proportion with diabetes in the population (%) | Number         | Per cent     | Proportion with diabetes in the population (%) | Number         | Per cent     | Proportion with diabetes in the population (%) |
| Type 1 diabetes                     | 45,800         | 9.1          | 0.4                                            | 41,300         | 10.4         | 0.4                                            | 87,100         | 9.7          | 0.4                                            |
| Type 2 diabetes                     | 444,300        | 88.6         | 4.3                                            | 343,200        | 86.3         | 3.3                                            | 787,500        | 87.6         | 3.8                                            |
| <b>Total diabetes<sup>(b)</sup></b> | <b>501,300</b> | <b>100.0</b> | <b>4.9</b>                                     | <b>397,500</b> | <b>100.0</b> | <b>3.8</b>                                     | <b>898,800</b> | <b>100.0</b> | <b>4.4</b>                                     |

(a) Based on survey participants' self-reported information.

(b) Total includes people who did not know which type of diabetes they have but excludes gestational diabetes.

Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Table A2: People ever diagnosed<sup>(a)</sup> with diabetes, by age, Australia, 2007–08**

| Age group (years)             | Number         | Per cent     | Proportion with diabetes in the population (%) |
|-------------------------------|----------------|--------------|------------------------------------------------|
| 0–34                          | 32,600         | 3.6          | 0.3                                            |
| 35–39                         | 32,900         | 3.7          | 2.1                                            |
| 40–44                         | 43,400         | 4.8          | 2.9                                            |
| 45–49                         | 64,600         | 7.2          | 4.3                                            |
| 50–54                         | 80,300         | 8.9          | 5.8                                            |
| 55–59                         | 133,400        | 14.8         | 10.7                                           |
| 60–64                         | 125,000        | 13.9         | 11.4                                           |
| 65–69                         | 127,100        | 14.1         | 15.8                                           |
| 70–74                         | 94,300         | 10.5         | 14.8                                           |
| 75–79                         | 76,500         | 8.5          | 14.5                                           |
| 80 and over                   | 88,800         | 9.9          | 14.1                                           |
| <b>All ages<sup>(b)</sup></b> | <b>898,800</b> | <b>100.0</b> | <b>4.4</b>                                     |

(a) Based on survey participants' self-reported information.

(b) Total includes people who did not know which type of diabetes they have but excludes gestational diabetes.

Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Table A3: People ever diagnosed<sup>(a)</sup> with diabetes, by sex and age, Australia, 2007–08**

| Age group (years)             | Males          |              |                                                | Females        |              |                                                |
|-------------------------------|----------------|--------------|------------------------------------------------|----------------|--------------|------------------------------------------------|
|                               | Number         | Per cent     | Proportion with diabetes in the population (%) | Number         | Per cent     | Proportion with diabetes in the population (%) |
| 0–44                          | 50,400         | 10.1         | 0.8                                            | 58,400         | 14.7         | 0.9                                            |
| 45–49                         | 27,600         | 5.5          | 3.7                                            | 37,000         | 9.3          | 4.8                                            |
| 50–54                         | 51,900         | 10.4         | 7.6                                            | 28,400         | 7.1          | 4.1                                            |
| 55–59                         | 71,000         | 14.2         | 11.5                                           | 62,500         | 15.7         | 9.9                                            |
| 60–64                         | 84,500         | 16.9         | 15.2                                           | 40,500         | 10.2         | 7.5                                            |
| 65–69                         | 84,600         | 16.9         | 21.2                                           | 42,500         | 10.7         | 10.4                                           |
| 70–74                         | 60,200         | 12.0         | 19.6                                           | 34,100         | 8.6          | 10.3                                           |
| 75–79                         | 40,100         | 8.0          | 16.3                                           | 36,400         | 9.2          | 12.9                                           |
| 80 and over                   | 31,000         | 6.2          | 12.0                                           | 57,900         | 14.6         | 15.5                                           |
| <b>All ages<sup>(b)</sup></b> | <b>501,300</b> | <b>100.0</b> | <b>4.9</b>                                     | <b>397,500</b> | <b>100.0</b> | <b>3.8</b>                                     |

(a) Based on survey participants' self-reported information.

(b) Total includes people who did not know which type of diabetes they have but excludes gestational diabetes.

Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Table A4: People ever diagnosed<sup>(a)</sup> with diabetes, by state and territory, Australia, 2007–08**

| State of usual residence          | Males          |              |                                                | Females        |              |                                                | Persons        |              |                                                |                |
|-----------------------------------|----------------|--------------|------------------------------------------------|----------------|--------------|------------------------------------------------|----------------|--------------|------------------------------------------------|----------------|
|                                   | Number         | Per cent     | Proportion with diabetes in the population (%) | Number         | Per cent     | Proportion with diabetes in the population (%) | Number         | Per cent     | Proportion with diabetes in the population (%) | 95% CI         |
| New South Wales                   | 165,500        | 33.0         | 4.9                                            | 141,700        | 35.6         | 4.1                                            | 307,200        | 34.2         | 4.5                                            | 3.8–5.2        |
| Victoria                          | 112,700        | 22.5         | 4.4                                            | 95,300         | 24.0         | 3.7                                            | 208,000        | 23.1         | 4.0                                            | 3.2–4.9        |
| Queensland                        | 105,000        | 20.9         | 5.1                                            | 73,900         | 18.6         | 3.6                                            | 178,900        | 19.9         | 4.4                                            | 3.7–5.0        |
| Western Australia                 | 54,200         | 10.8         | 5.2                                            | 23,700         | 6.0          | 2.3                                            | 77,900         | 8.7          | 3.8                                            | 2.9–4.7        |
| South Australia                   | 37,500         | 7.5          | 4.9                                            | 42,900         | 10.8         | 5.5                                            | 80,400         | 8.9          | 5.2                                            | 4.2–6.2        |
| Tasmania                          | 11,200         | 2.2          | 4.7                                            | 7,900          | 2.0          | 3.2                                            | 19,100         | 2.1          | 4.0                                            | 3.0–4.9        |
| Australian Capital Territory      | 5,200          | 1.0          | 3.2                                            | 4,800          | 1.2          | 2.9                                            | 10,000         | 1.1          | 3.0                                            | 2.2–3.8        |
| Northern Territory <sup>(b)</sup> | *10,000        | *2.0         | *11.7                                          | *7,400         | *1.9         | *9.4                                           | *17,400        | *1.9         | *10.6                                          | 4.6–16.5       |
| <b>Australia<sup>(c)</sup></b>    | <b>501,300</b> | <b>100.0</b> | <b>4.9</b>                                     | <b>397,500</b> | <b>100.0</b> | <b>3.8</b>                                     | <b>898,800</b> | <b>100.0</b> | <b>4.4</b>                                     | <b>4.0–4.7</b> |

\* The RSE for this estimate is between 25 and 50% and should be treated with caution.

(a) Based on survey participants' self-reported information.

(b) Northern Territory estimates are only representative of non-very-remote parts of the Northern Territory because the 2007–08 National Health Survey sample excluded persons living in very remote areas. Such people account for over one-fifth of the population in the Northern Territory.

(c) Total diabetes includes people who did not know which type of diabetes they have but excludes gestational diabetes.

Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Table A5: People ever diagnosed<sup>(a)</sup> with diabetes, by remoteness<sup>(b)</sup>, 2007–08**

| Remoteness area                          | Males          |              |                                                | Females        |              |                                                | Persons        |              |                                                |                |
|------------------------------------------|----------------|--------------|------------------------------------------------|----------------|--------------|------------------------------------------------|----------------|--------------|------------------------------------------------|----------------|
|                                          | Number         | Per cent     | Proportion with diabetes in the population (%) | Number         | Per cent     | Proportion with diabetes in the population (%) | Number         | Per cent     | Proportion with diabetes in the population (%) | 95% CI         |
| Major cities                             | 302,100        | 60.3         | 4.3                                            | 255,600        | 64.3         | 3.6                                            | 557,700        | 62.1         | 4.0                                            | 3.5–4.4        |
| Inner regional                           | 130,400        | 26.0         | 6.0                                            | 100,300        | 25.2         | 4.5                                            | 230,700        | 25.7         | 5.2                                            | 4.4–6.1        |
| Outer regional and remote <sup>(b)</sup> | 68,800         | 13.7         | 6.2                                            | 41,600         | 10.5         | 3.9                                            | 110,400        | 12.3         | 5.1                                            | 4.2–5.9        |
| <b>Australia</b>                         | <b>501,300</b> | <b>100.0</b> | <b>4.9</b>                                     | <b>397,500</b> | <b>100.0</b> | <b>3.8</b>                                     | <b>898,800</b> | <b>100.0</b> | <b>4.4</b>                                     | <b>4.6–5.5</b> |

(a) Based on survey participants' self-reported information.

(b) The ABS National Health Survey excluded persons living in very remote areas of Australia.

Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Table A6: People ever diagnosed<sup>(a)</sup> with Type 1 diabetes, by age, Australia, 2007–08**

| Age group (years) | Number        | Per cent     | Proportion with Type 1 diabetes in the population (%) |
|-------------------|---------------|--------------|-------------------------------------------------------|
| 0–44              | 40,600        | 46.7         | 0.3                                                   |
| 45 and over       | 46,500        | 53.3         | 0.6                                                   |
| <b>Total</b>      | <b>87,100</b> | <b>100.0</b> | <b>0.4</b>                                            |

(a) Based on survey participants' self-reported information.

Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.



**Table A7: People ever diagnosed<sup>(a)</sup> with Type 1 diabetes, by remoteness<sup>(b)</sup>, 2007–08**

| Remoteness area                                       | Number        | Per cent     | Proportion with Type 1 diabetes in the population (%) |
|-------------------------------------------------------|---------------|--------------|-------------------------------------------------------|
| Major cities                                          | 54,200        | 62.2         | 0.4                                                   |
| Inner regional, outer regional, remote <sup>(b)</sup> | 32,900        | 37.8         | 0.5                                                   |
| <b>Australia</b>                                      | <b>87,100</b> | <b>100.0</b> | <b>0.4</b>                                            |

(a) Based on survey participants' self-reported information.

(b) The 2007–08 ABS National Health Survey excluded persons living in very remote areas of Australia.

Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Table A8: People ever diagnosed<sup>(a)</sup> with Type 2 diabetes, by age, Australia, 2007–08**

| Age group (years) | Number         | Per cent     | Proportion with Type 2 diabetes in the population (%) |
|-------------------|----------------|--------------|-------------------------------------------------------|
| 0–34              | *9,200         | *1.2         | *0.1                                                  |
| 35–39             | 26,600         | 3.4          | 1.7                                                   |
| 40–44             | 27,500         | 3.5          | 1.8                                                   |
| 45–49             | 54,600         | 6.9          | 3.6                                                   |
| 50–54             | 75,900         | 9.6          | 5.5                                                   |
| 55–59             | 124,200        | 15.8         | 9.9                                                   |
| 60–64             | 115,000        | 14.6         | 10.5                                                  |
| 65–69             | 118,500        | 15.1         | 14.7                                                  |
| 70–74             | 87,200         | 11.1         | 13.7                                                  |
| 75–79             | 70,800         | 9.0          | 13.4                                                  |
| 80 and over       | 78,100         | 9.9          | 12.4                                                  |
| <b>Total</b>      | <b>787,500</b> | <b>100.0</b> | <b>3.8</b>                                            |

\* The RSE for this estimate is between 25 and 50% and should be treated with caution.

(a) Based on survey participants' self-reported information.

Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Table A9: People ever diagnosed<sup>(a)</sup> with Type 2 diabetes, by sex and age, Australia, 2007–08**

| Age group (years) | Males          |              |                                                       | Females        |              |                                                       |
|-------------------|----------------|--------------|-------------------------------------------------------|----------------|--------------|-------------------------------------------------------|
|                   | Number         | Per cent     | Proportion with Type 2 diabetes in the population (%) | Number         | Per cent     | Proportion with Type 2 diabetes in the population (%) |
| 0–49              | 53,200         | 12.0         | 0.7                                                   | 64,600         | 18.8         | 0.9                                                   |
| 50–54             | 47,900         | 10.8         | 7.0                                                   | 28,000         | 8.2          | 4.0                                                   |
| 55–59             | 64,000         | 14.4         | 10.4                                                  | 60,200         | 17.5         | 9.5                                                   |
| 60–64             | 79,500         | 17.9         | 14.4                                                  | 35,500         | 10.3         | 6.6                                                   |
| 65–69             | 81,200         | 18.3         | 20.4                                                  | 37,300         | 10.9         | 9.2                                                   |
| 70–74             | 55,900         | 12.6         | 18.2                                                  | 31,300         | 9.1          | 9.5                                                   |
| 75 and over       | 62,700         | 14.1         | 12.4                                                  | 86,200         | 25.1         | 13.2                                                  |
| <b>Total</b>      | <b>444,300</b> | <b>100.0</b> | <b>4.3</b>                                            | <b>343,200</b> | <b>100.0</b> | <b>3.3</b>                                            |

(a) Based on survey participants' self-reported information.

Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Table A10: People ever diagnosed<sup>(a)</sup> with Type 2 diabetes, by state and territory, Australia, 2007–08**

| State of usual residence          | Number         | Per cent     | Proportion with Type 2 diabetes in the population (%) | 95% CI         |
|-----------------------------------|----------------|--------------|-------------------------------------------------------|----------------|
| New South Wales                   | 274,200        | 34.8         | 4.0                                                   | 3.3–4.7        |
| Victoria                          | 184,700        | 23.5         | 3.6                                                   | 2.8–4.4        |
| Queensland                        | 154,000        | 19.6         | 3.8                                                   | 3.1–4.4        |
| Western Australia                 | 68,900         | 8.8          | 3.4                                                   | 2.5–4.2        |
| South Australia                   | 68,800         | 8.7          | 4.4                                                   | 3.6–5.3        |
| Tasmania                          | 16,300         | 2.1          | 3.4                                                   | 2.5–4.2        |
| Australian Capital Territory      | 8,000          | 1.0          | 2.4                                                   | 1.7–3.1        |
| Northern Territory <sup>(b)</sup> | *12,700        | *1.6         | *7.7                                                  | 2.1–13.4       |
| <b>Australia</b>                  | <b>787,500</b> | <b>100.0</b> | <b>3.8</b>                                            | <b>3.5–4.2</b> |

\* The RSE for this estimate is between 25 and 50% and should be treated with caution.

(a) Based on survey participants' self-reported information.

(b) Northern Territory estimates are only representative of non-very-remote parts of the Northern Territory because the 2007–08 National Health Survey sample excluded persons living in very remote areas. Such people account for over one-fifth of the population in the Northern Territory.

Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

**Table A11: People ever diagnosed<sup>(a)</sup> with Type 2 diabetes, by remoteness<sup>(b)</sup>, 2007–08**

| Remoteness area                          | Males          |              |                                                       | Females        |              |                                                       | Persons        |              |                                                       |                |
|------------------------------------------|----------------|--------------|-------------------------------------------------------|----------------|--------------|-------------------------------------------------------|----------------|--------------|-------------------------------------------------------|----------------|
|                                          | Number         | Per cent     | Proportion with Type 2 diabetes in the population (%) | Number         | Per cent     | Proportion with Type 2 diabetes in the population (%) | Number         | Per cent     | Proportion with Type 2 diabetes in the population (%) | 95% CI         |
| Major cities                             | 273,900        | 61.7         | 3.9                                                   | 221,800        | 64.6         | 3.1                                                   | 495,800        | 63.0         | 3.5                                                   | 3.2–3.9        |
| Inner regional                           | 106,400        | 23.9         | 4.9                                                   | 87,000         | 25.3         | 3.9                                                   | 193,400        | 24.6         | 4.4                                                   | 3.5–5.2        |
| Outer regional and remote <sup>(b)</sup> | 64,000         | 14.4         | 5.7                                                   | 34,400         | 10.0         | 3.2                                                   | 98,400         | 12.5         | 4.5                                                   | 3.6–5.4        |
| <b>Australia</b>                         | <b>444,300</b> | <b>100.0</b> | <b>4.3</b>                                            | <b>343,200</b> | <b>100.0</b> | <b>3.3</b>                                            | <b>787,500</b> | <b>100.0</b> | <b>3.8</b>                                            | <b>4.1–4.9</b> |

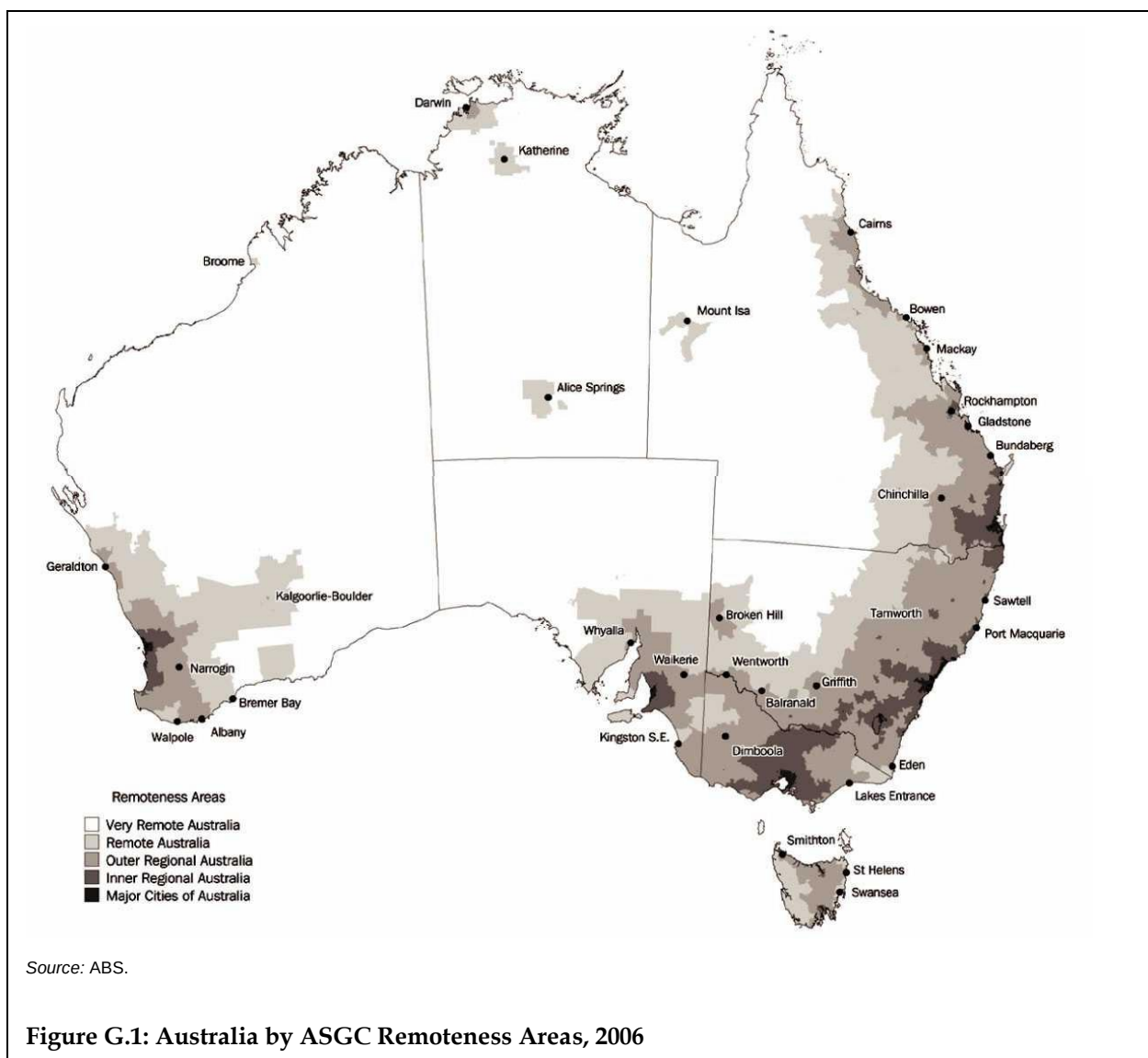
(a) Based on survey participants' self-reported information.

(b) The ABS 2007–08 National Health Survey excluded persons living in very remote areas of Australia.

Source: AIHW analysis of the ABS 2007–08 NHS Confidentialised Unit Record File.

# Glossary

**Australian Standard Geographical Classification (ASGC) Remoteness Areas:** The ASGC RA classification is based on the Accessibility/Remoteness Index of Australia (ARIA). ARIA is derived from the distance a place is by road from urban centres of different sizes, so it provides a relative indication of how difficult it might be for residents to access certain services such as health care and education. Three categories are used in this publication: 'Major cities of Australia', 'Inner regional Australia' and 'Outer regional or Remote Australia' (which is a combination of Outer regional and Remote Australia). Very remote Australia was not included in the scope of the ABS 2007–08 National Health Survey. A map showing the five regions is provided below in Figure G.1. Examples of a Major city are Sydney and Canberra; Inner regional: Hobart, Mackay, Gundagai; Outer regional: Darwin, Broken Hill, Kalgoorlie; Remote: Alice Springs, Blinman; Very remote: Wilcannia, Thursday Island.



**Confidence interval for estimates (number and ratio):** The 95% confidence interval around the number estimates (X) or proportion estimates (P) was calculated as follows:

$$UCL = X + 1.96 \times SE(X)$$

$$LCL = X - 1.96 \times SE(X)$$

$$UCL = P + 1.96 \times SE(X/Y)$$

$$LCL = P - 1.96 \times SE(X/Y)$$

Where UCL = upper confidence limit

LCL = lower confidence limit

SE = standard error

X = sub-population with the characteristic of interest (e.g. diabetes)

Y = total population of interest

**Diabetes:** A chronic condition in which the body cannot properly use its main energy source, the sugar glucose. This is due to either the pancreas not producing enough of the hormone insulin or the body being unable to effectively use the insulin produced. Insulin helps glucose enter the body's cells from the bloodstream and then to be processed by them. Diabetes is marked by an abnormal build-up of glucose in the blood and it can have serious short-term and long-term effects on many of the body's systems, especially the blood vessels and nerves.

**Type 1 diabetes:** A form of diabetes marked by a complete lack of insulin and needing insulin replacement for survival. This form of diabetes mostly arises in childhood or in young adults, but it can occur at any age.

**Type 2 diabetes:** The most common form of diabetes, which is marked by reduced or less effective insulin. Some cases may be managed with changes to diet along with increased exercise and weight loss. Many require drugs as well – namely oral glucose-lowering drugs that work on the pancreas. Many others require insulin in addition to other treatments.

**Prevalence:** The number or proportion (of cases, instances, and so on) present in a population at a given time. The prevalence rate in this report is calculated by dividing the number of people with the disease by the average population in the same reference period.

**Standard error (SE):** One measure of the sampling error for a survey is given by the standard error, which indicates the degree to which an estimate varies from the value that would have been obtained from a full enumeration (the 'true' value). There are about nineteen chances in twenty (95%) that a sample estimate differs from the true value by less than two standard errors for samples with normal distribution and a sufficiently large sample.

**Relative standard error (RSE):** The relative standard error is obtained by expressing the SE as a percentage of the estimate. The RSE provides an indication of the percentage errors likely to have occurred due to sampling. Only estimates with RSEs less than 25% are considered sufficiently reliable for most purposes. Estimates with RSEs between 25% and less than 50% should be used with caution. Estimates with RSEs of 50% or more are considered too unreliable for most purposes.

**Statistical significance:** Variation or difference in observed values or rates may only reflect a random variation or difference. To assess whether differences in values of rates are statistically significant—that is, that they are not due to chance alone—95% confidence intervals around the rates have been used in this analysis. A difference between rates or values was considered as statistically significant when the confidence intervals around the values or rates did not overlap.

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