

## 2.21 Level of physical activity

*The proportion of the Aboriginal and Torres Strait Islander adult population classified as having sedentary, low, moderate or high physical activity levels*

### Data sources

Data for this measure come from the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS).

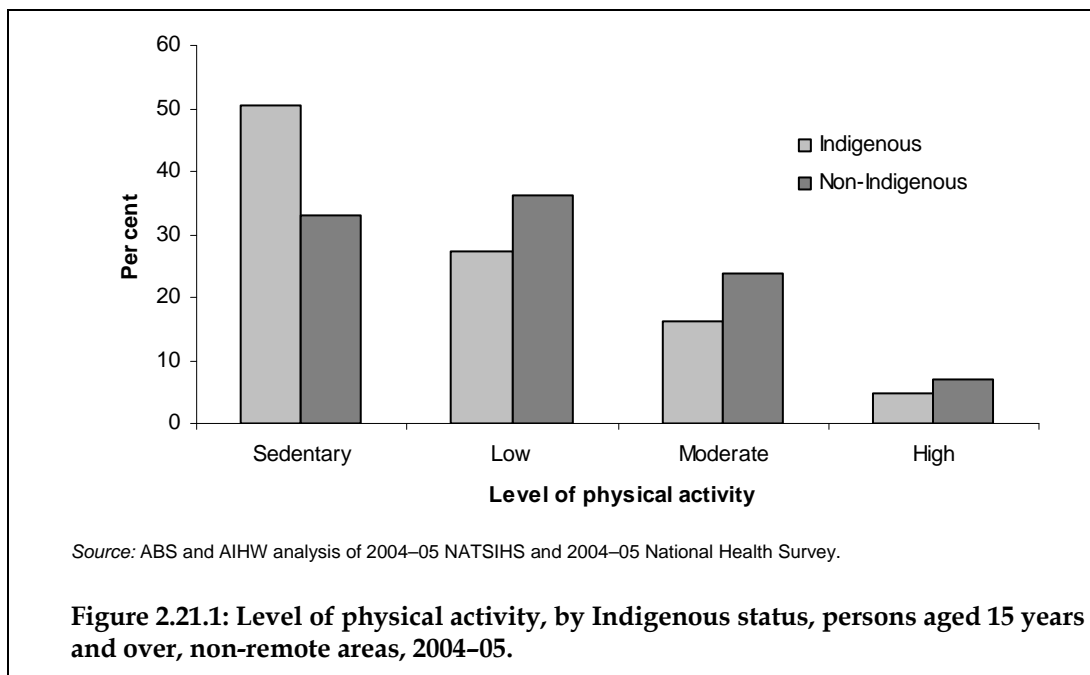
The 2004–05 NATSIHS collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians about health-related issues including health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. It is planned to repeat the NATSIHS at six-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

### Data analyses

#### Physical activity

Information on the level of physical activity of Indigenous and non-Indigenous Australians aged 15 years and over in the two weeks prior to survey was collected in non-remote areas only and is presented below.

- In 2004–05, approximately 47% of Indigenous persons aged 15 years and over in non-remote areas of Australia reported their exercise level as sedentary in the two weeks prior to survey, 28% as low, 18% as moderate and 7% as high.
- In 2004–05 in non-remote areas, after adjusting for differences in age structure, approximately 51% of Indigenous persons aged 15 years and over reported their exercise level as sedentary (very low or no exercise), 27% as low and 21% as moderate or high. This compared to 33%, 36% and 31% of non-Indigenous Australians respectively (Figure 2.23.1).



### Physical activity by age and sex

- Sedentary or low levels of physical activity were highest among Indigenous people aged 45–54 years and 55 years and over (83% and 85% respectively), while moderate or high levels of physical activity were highest among those aged 15–24 and 25–34 years (32% and 27% respectively) (Table 2.21.1).
- A higher proportion of Indigenous females than Indigenous males reported that their level of exercise was sedentary (51% compared to 42%).
- A higher proportion of males exercised at moderate or high levels than females across all age groups in both the Indigenous and non-Indigenous populations.

Table 2.21.1: Level of physical activity, by Indigenous status, sex and age group, non-remote areas, 2004–05

Physical activity level	15–24		25–34		35–44		45–54		55+		Total		Total age standardised <sup>(a)</sup>	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
	(per cent)													
	Males													
Sedentary	31*	23*	39*	26*	45*	34*	57*	36*	60*	39*	42*	32*	48*	32*
Low	25	30	24*	35*	30	35	20*	34*	24	30	25*	33*	24*	33*
Moderate	24	26	27	25	19	23	19 <sup>(c)</sup>	24	14*	27*	22	25	20*	25*
High	19	20	9*	13*	6 <sup>(c)</sup>	8	3 <sup>(c)</sup>	5	n.p.	3	10	9	7*	9*
<b>Total number<sup>(b)</sup></b>	<b>35,604</b>	<b>1,330,358</b>	<b>23,150</b>	<b>1,352,832</b>	<b>18,468</b>	<b>1,418,963</b>	<b>13,654</b>	<b>1,323,380</b>	<b>10,995</b>	<b>2,147,296</b>	<b>101,870</b>	<b>7,572,828</b>	<b>101,870</b>	<b>7,572,828</b>
	Females													
Sedentary	46*	31*	50*	29*	51*	32*	55*	32*	60*	41*	51*	34*	53*	34*
Low	33	39	30*	42*	33*	42*	32*	42*	26	34	31*	39*	30*	39*
Moderate	15*	22*	16*	23*	14*	22*	10*	22*	12*	22*	14*	22*	13*	22*
High	5 <sup>(c)</sup>	8	3 <sup>(c)</sup>	6*	2 <sup>(d)</sup>	4	n.p.	3	n.p.	2	3*	4*	2*	4*
<b>Total number<sup>(b)</sup></b>	<b>34,789</b>	<b>1,275,738</b>	<b>26,616</b>	<b>1,372,860</b>	<b>22,114</b>	<b>1,440,884</b>	<b>15,246</b>	<b>1,347,588</b>	<b>12,787</b>	<b>2,334,857</b>	<b>111,552</b>	<b>7,771,928</b>	<b>111,552</b>	<b>7,771,928</b>
	Persons													
Sedentary	39*	27*	45*	28*	48*	33*	56*	34*	60*	40*	47*	33*	51*	33*
Low	29*	34*	27*	39*	31*	39*	27*	38*	25*	32*	28*	36*	27*	36*
Moderate	20*	24*	21	24	16*	22*	14*	23*	13*	25*	18*	24*	16*	24*
High	12	14	6*	10*	4 <sup>(c)</sup>	6*	3 <sup>(c)</sup>	4	1 <sup>(d)</sup>	3	7	7	5*	7*
<b>Total number<sup>(b)</sup></b>	<b>70,393</b>	<b>2,606,096</b>	<b>49,766</b>	<b>2,725,692</b>	<b>40,582</b>	<b>2,859,847</b>	<b>28,900</b>	<b>2,670,968</b>	<b>23,781</b>	<b>4,482,153</b>	<b>213,422</b>	<b>15,344,756</b>	<b>213,422</b>	<b>15,344,756</b>

\* Represents statistically significant differences in the Indigenous and non-Indigenous comparisons.

(a) Directly age-standardised proportions.

(b) Includes physical activity level 'not stated'.

(c) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(d) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.

### **Physical activity by state/territory**

- Sedentary or low levels of physical activity among Indigenous Australians aged 15 years and over ranged from 70% in Tasmania to 78% in New South Wales (Table 2.21.2a).
- A higher proportion of Indigenous Australians than non-Indigenous Australians reported their exercise level as sedentary in all states and territories except Tasmania. Data were not available for non-Indigenous Australians in the Northern Territory (Table 2.21.2b).

**Table 2.21.2a: Level of physical activity, by state/territory, Indigenous persons aged 15 years and over, non-remote areas, 2004–05**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust.
	(per cent)								
Sedentary	51	38	46	46	48	37	37	40	47
Low	27	33	27	25	25	33	34	34	28
Moderate	16	22	15	24	18	22	19	20	18
High	5	6 <sup>(c)</sup>	9	5	6 <sup>(c)</sup>	8	10	7 <sup>(c)</sup>	7
<b>Total<sup>(a)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Total number <sup>(b)</sup>	81,264	18,399	57,337	21,965	12,473	10,929	2,596	6,264	211,226

(a) Includes physical activity level 'not stated'.

(b) The National Health Survey sample does not support a non-Indigenous Northern Territory estimate.

(c) Estimate has a relative standard error of 25% to 50% and should be used with caution.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Table 2.21.2b: Level of physical activity, by state/territory and Indigenous status, persons aged 15 years and over, non-remote areas, 2004–05

	New South Wales		Victoria		Queensland		Western Australia		South Australia		Tasmania		Australian Capital Territory		Northern Territory <sup>(a)</sup>		Australia	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
	(per cent)																	
Sedentary	54*	35*	42*	31*	51*	35*	52*	30*	52*	34*	38	33	37*	24*	51	n.a.	51*	33*
Low	27*	36*	32	37	27*	34*	23*	37*	25*	38*	35	36	34	40	29	n.a.	27*	36*
Moderate	15*	23*	22	24	14*	23*	22	26	17	22	21	25	23	27	16	n.a.	16*	24*
High	4*	7*	4 <sup>(c)</sup>	7	6	7	3*	8*	4 <sup>(c)</sup>	6	6	7	7	9	5 <sup>(c)</sup>	n.a.	5*	7*
<b>Total<sup>(b)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Total number <sup>(b)</sup>	81,264	5,208,965	18,399	3,944,895	57,337	2,899,135	21,965	1,448,876	12,473	1,164,894	10,929	352,957	2,596	252,744	6,264	n.a.	211,226	15,344,756

\* Represents statistically significant differences in the Indigenous and non-Indigenous comparisons.

(a) The National Health Survey sample does not support a non-Indigenous Northern Territory estimate.

(b) Includes physical activity level 'not stated'.

(c) Estimate has a relative standard error of 25% to 50% and should be used with caution.

Note: Data are age standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.

### **Physical activity by selected health characteristics**

- Approximately 58% of Indigenous Australians in non-remote areas with fair/poor health status reported exercising at sedentary levels compared to 48% of Indigenous Australians with excellent/very good/good health status (Table 2.21.3). Over three-quarters (78%) of Indigenous people aged 15 years and over who were overweight or obese reported exercising at low or sedentary levels. Approximately 79% of Indigenous Australians with a long-term health condition reported sedentary or low levels of physical activity.

**Table 2.21.3: Level of physical activity, summary health characteristics, by Indigenous status, persons aged 15 years and over, non-remote areas, 2004–05**

	Self-assessed health status						Long-term conditions									Overweight/obesity					
	Excellent/very good			Fair/poor			Diabetes/high sugar levels			Heart & circulatory problems			High blood pressure			Total with long-term health condition			Overweight/obese		
	Indig.	Non-Indig.	Rate ratio <sup>(a)</sup>	Indig.	Non-Indig.	Rate ratio <sup>(a)</sup>	Indig.	Non-Indig.	Rate ratio <sup>(a)</sup>	Indig.	Non-Indig.	Rate ratio <sup>(a)</sup>	Indig.	Non-Indig.	Rate ratio <sup>(a)</sup>	Indig.	Non-Indig.	Rate ratio <sup>(a)</sup>	Indig.	Non-Indig.	Rate ratio <sup>(a)</sup>
	%	%		%	%		%	%		%	%		%	%		%	%		%	%	
Sedentary	48	30	1.6*	58	48	1.2*	50	35	1.4*	54	35	1.5*	59	34	1.7*	51	33	1.5*	50	32	1.5*
Low	28	37	0.8*	25	34	0.8*	26	35	0.7	29	37	0.8*	30	39	0.8	28	37	0.8*	28	37	0.8*
Moderate	18	25	0.7*	14	16	0.9	17 <sup>(c)</sup>	23	0.7	14	23	0.6*	9 <sup>(c)</sup>	23	0.4*	16	24	0.7*	15	24	0.6*
High	5	7	0.7*	2 <sup>(c)</sup>	3	0.6	5 <sup>(d)</sup>	6 <sup>(c)</sup>	0.8	2 <sup>(d)</sup>	5	0.4*	— <sup>(d)</sup>	4 <sup>(c)</sup>	0.1*	4	7	0.7*	6	7	0.9
<b>Total<sup>(b)</sup></b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>	<b>100</b>	<b>..</b>

\* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Indigenous rate divided by non-Indigenous rate.

(b) Includes physical activity level 'not stated'.

(c) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

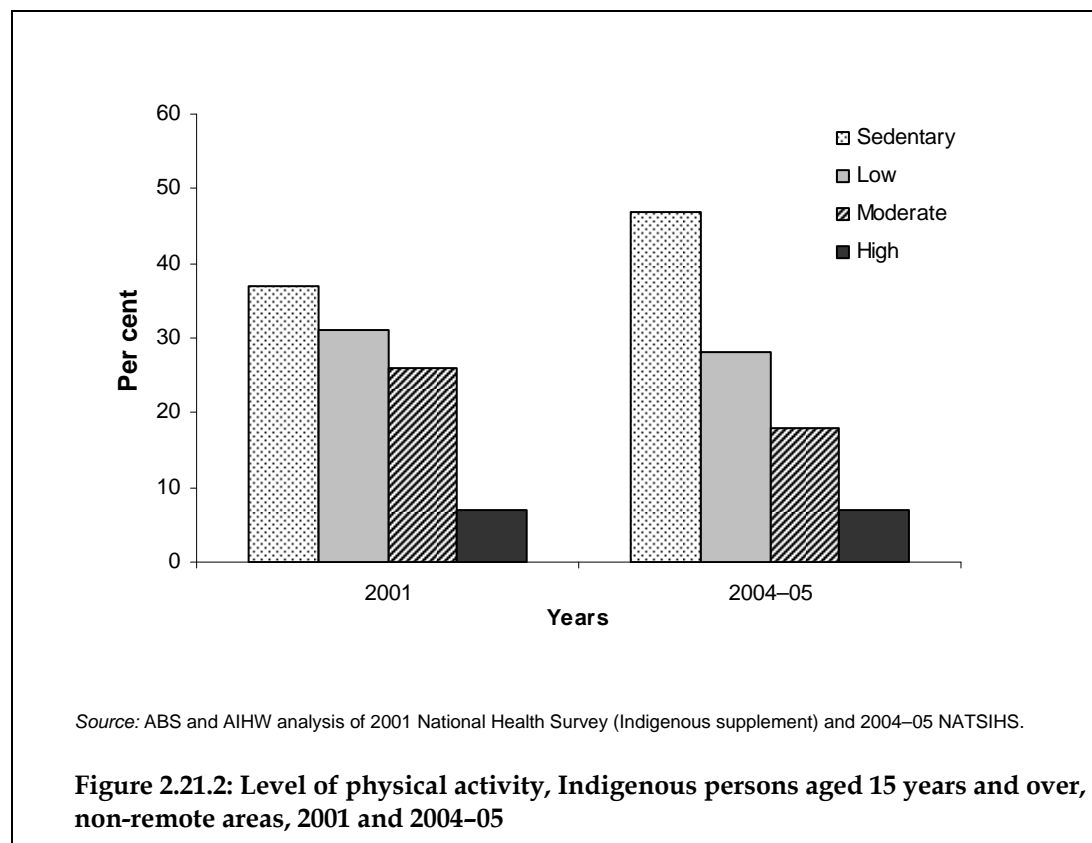
(d) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

Note: Data are age standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.

## Time series analysis

The level of sedentary physical activity for Indigenous Australians aged 15 years and over increased between 2001 and 2004–05 from 37% to 47%. The level of low and moderate physical activity declined over the period (from 57% in 2001 to 46% in 2004–05), while the level of high physical activity remained the same (7%) (Table 2.21.4; Figure 2.21.2).



**Table 2.21.4: Level of physical activity, by Indigenous status, non-remote areas, 2001 and 2004–05<sup>(a)</sup>**

	2001		2004–05	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	(per cent)			
Sedentary	42	31	51	33
Low	29	38	27	36
Moderate	24	24	16	24
High	5	7	5	7
<b>Total number</b>	<b>197,086</b>	<b>14,744,464</b>	<b>213,422</b>	<b>15,344,756</b>

(a) Persons aged 15 years and over.

Note: Data are age standardised.

Source: ABS and AIHW analysis of 2001 National Health Survey (Indigenous supplement), 2004–05 NATSIHS and 2004–05 National Health Survey.

## **Data quality issues**

### **National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)**

*The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians and thus overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.*

*Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.*

*Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in major cities, regional and remote areas, but very remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 National Health Survey.*

*In remote communities there were some modifications to the NATSIHS content in order to address language and cultural appropriateness in traditional communities, as well as to assist respondents in understanding the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built in edit checks and sequencing.*

*Further information on NATSIHS data quality issues can be found in the national publication (ABS 2006).*

### **Physical activity data**

*The information is 'as reported' by respondents and reflects the respondent's perception of the activity undertaken, the intensity of their participation, their level of fitness, etc. Information about physical activity undertaken by persons aged 15 to 17 years was reported by an adult within the household, usually a parent. The child may or may not have been consulted. As a result, data for this age group should be interpreted with particular care.*

*In general, the use of a two-week reference period was not considered to pose significant recall problems for respondents. For many people, participation in exercise is regular and/or for a set period each session. However, to the extent that persons undertook exercise in less formal circumstances or that the reference period was atypical of usual exercise patterns, the accuracy of the information provided may have been affected.*

*Recent developments in the area of statistics on exercise or physical activity have tended to move away from the use of Metabolic Equivalent level (MET) values in deriving exercise level, and have placed more emphasis on measures of time spent exercising. Retention of the exercise level approach as described above was primarily for the purpose of consistency and comparability with data from the 1995 and 2001 National Health Surveys. However, measures of time exercising are also available as outputs from this survey (ABS 2005).*

*Survey respondents are required to recall recent activity in minutes without being primed and without independent checks. Diary recording (as used in the ABS Time Use Survey) or independent observation would probably produce higher quality data; however, these are more resource intensive.*

*(continued)*

### **Data quality issues (continued)**

*Respondents are required to provide an estimate of time spent on certain types of activity. Many come up with a broad rounded estimate or guess. Others attempt to add together in their heads the time spent in each exercise session, possibly for several different activities.*

*The differences of intensity between different activities is not always clear for respondents, although explanatory instructions are included, mutual exclusivity of concepts remains a problem.*

*A well-recognised reporting issue for self-report surveys is the tendency of respondents to report in a socially desirable way. For example, the less active may want to over-report activity to appear healthier.*

*Survey questions about duration of exercise differ slightly in the questionnaire for remote areas and may affect the comparability of results.*

*Despite the limitations of the survey data, users have generally considered the data produced to be of sufficient quality for the very broad measures of physical activity required (ABS 2005).*

*A reliable tool for measuring Aboriginal and Torres Strait Islander physical activity levels has not yet been developed. A study to determine the reliability of the Active Australian Survey in measuring Aboriginal and Torres Strait Islander populations revealed that it was not a reliable tool (not culturally appropriate)( Marshall & Miller 2004). The Active Australian Survey employs very similar questions to the National Health Survey to determine physical activity levels. For this reason the data should be interpreted cautiously.*

## **References**

ABS (Australian Bureau of Statistics) 2005. Physical activity: review of strategic statistical issues for future National Health Surveys. Discussion paper. Canberra: ABS.

ABS 2006. National Aboriginal and Torres Strait Islander Health Survey 2004–05. ABS cat. no. 4715.0. Canberra: ABS.

Marshall A & Miller R 2004. Measuring physical activity in urban Indigenous Australians. Final report. Brisbane: University of Queensland.