

## 2.23 Dietary behaviour

**The dietary behaviour of Aboriginal and Torres Strait Islander people including fruit and vegetable consumption, type of milk consumed and salt intake**

### 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 6-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).

The questions on dietary behaviour in the NATSIHS are complex because respondents needed to understand and apply the inclusions/exclusions, understand the concept of a serve and assess their consumption levels accordingly, and think about their total consumption in what would constitute an average day. Data for all those aged 12–14 years, and 68% of those aged 15–17 years, were provided by a proxy, usually a parent. As a result, the data reflect the parent's knowledge of the child's consumption; this is likely to be less accurate for usual consumption of fruit items than for the type of milk and usual consumption of vegetable items collected in non-remote areas.

In remote areas the questions on vegetable and fruit intake were amended to whether usually ate fruit and/or vegetables each day. Therefore it is not possible to produce indicators based on usual serves for remote areas from the 2004–05 NATSIHS, or for certain states and territories that have output restrictions for non-remote data items from the NATSIHS (South Australia, Tasmania, the Australian Capital Territory and the Northern Territory).

### Data analyses

#### Dietary habits

- In 2004–05, the majority of Indigenous people aged 12 years and over reported eating vegetables (95%) and/or fruit (86%) daily.
- After adjusting for differences in age structure between the Indigenous and non-Indigenous populations, Indigenous persons aged 12 years and over were twice as likely to report no usual daily fruit consumption and 7 times as likely to report no usual daily vegetable consumption as non-Indigenous persons of the same age (Table 2.23.1).
- The National Health and Medical Research Council guidelines recommend a minimum of five serves of vegetables per day and two serves of fruit per day. In 2004–05, in non-remote areas, 41% of Indigenous Australians were eating the recommended daily intake

of fruit and 10% the recommended daily intake of vegetables. Information on the daily intake of fruit and vegetables is not available for remote areas.

- Around 25% of Indigenous people aged 12 years and over reported they sometimes added salt after cooking and a further 46% reported they usually added salt after cooking.
- Approximately 79% of Indigenous people aged 12 years and over reported they usually drank whole (full-cream) milk and 16% reported drinking reduced fat or skim milk.
- After adjusting for differences in age structure, Indigenous Australians aged 15 years and over were twice as likely to report no usual daily fruit intake, no usual daily vegetable intake and whole milk as the usual type of milk consumed as non-Indigenous Australians (Table 2.23.2b).

### Dietary habits by age group

- In non-remote areas, Indigenous Australians aged 35–44 years were most likely to report a daily intake of five or more serves of vegetables (13%) and Indigenous Australians aged 55 years and over were most likely to report a daily fruit intake of two serves or more (Table 2.23.2a).
- In non-remote areas, the intake of vegetables was similar for Indigenous and non-Indigenous people across most age groups. The intake of fruit was less for Indigenous Australians than non-Indigenous Australians across most age groups (Tables 2.23.2a, 2.23.2b).
- Indigenous and non-Indigenous people aged 12–14 years were more likely to report drinking whole milk (88% and 69% respectively) than those in the older age groups (Table 2.23.2a).
- The proportion of Indigenous people who reported usually adding salt after cooking increased with age (Table 2.23.2b).
- In non-remote areas, Indigenous people were much more likely to drink full-cream milk than non-Indigenous people across all age groups.

**Table 2.23.1: Age standardised proportion<sup>(a)</sup> of persons aged 12 years and over reporting no usual daily vegetable consumption and no usual daily fruit consumption, Australia 2004–05**

	Indigenous	Non-Indigenous	Ratio
	%	%	
Does not eat vegetables daily	5.3	0.8	6.8
Does not eat fruit daily	13.2	6.6	2.0

(a) Proportions are directly age standardised to the 2001 Australian standard population.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS

Table 2.23.2a: Selected dietary habits, by Indigenous status and age, persons aged 12 years and over in non-remote areas, 2004–05

	12–14		15–24		25–34		35–44		45–54		55 and over		Total non-age-standardised		Total age-standardised		Ratio
	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																	
<b>Usual daily intake of vegetables</b>																	
Does not eat vegetables	2 <sup>(a)</sup>	1 <sup>(a)</sup>	2 <sup>(a)</sup>	1	1 <sup>(a)</sup>	1	1 <sup>(a)</sup>	1	2 <sup>(a)</sup>	— <sup>(a)</sup>	2 <sup>(a)</sup>	—	2	1	2	1	2.1
1 serve or less	20	23	24	27	27	24	21	20	21	18	16	13	23	20	21	20	1.1
<i>Sub-total low usual daily vegetable intake</i>	22	24	27	29	28	25	22	21	23	18	18	14	24	21	23	21	1.1
2–4 serves	66	67	65	63	63	65	65	66	66	65	71	67	65	66	66	66	1.0
5 serves or more (recommended daily intake)	12	9	8	9	9	11	13	13	11	16	11	19	10	14	11	14	0.8
<b>Total</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>Usual daily intake of fruit</b>																	
Does not eat fruit	5 <sup>(a)</sup>	5	14	10	13	8	12	8	12	6	7 <sup>(a)</sup>	3	12	7	11	7	1.6
1 serve or less	41	39	46	44	48	45	53	42	43	38	37	32	46	39	45	40	1.1
<i>Sub-total low usual daily fruit intake</i>	46	44	61	53	61	53	65	50	55	44	43	36	58	46	55	46	1.2
2–4 serves	51	51	37	43	37	43	32	46	41	52	53	58	40	50	42	50	0.8
5 serves or more	2 <sup>(a)</sup>	5	3*	4	2 <sup>(a)</sup>	3	2 <sup>(a)</sup>	4	4 <sup>(a)</sup>	4	4 <sup>(a)</sup>	6	3	4	3	4	0.7
<i>Sub-total recommended daily intake (2 serves or more)</i>	54	56	39	47	39	47	35	50	45	56	57	64	42	54	45	54	0.8
<b>Total</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>	

(continued)

Table 2.23.2a (continued): Selected dietary habits, by Indigenous status and age, persons aged 12 years and over in non-remote areas, 2004–05

	12–14		15–24		25–34		35–44		45–54		55 and over		Total non-age-standardised		Total age-standardised		Ratio
	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																
<b>Usual type of milk</b>																	
Whole	88	69	81	55	76	49	73	48	68	37	58	35	76	45	71	45	1.6
Low/reduced fat	8	22	11	25	12	28	17	29	16	38	24	35	14	31	17	31	0.5
Skim	1 <sup>(b)</sup>	4	4	11	6	13	7	13	6	13	11	17	5	13	7	13	0.5
Soy	np	np	— <sup>(b)</sup>	3	2 <sup>(a)</sup>	4	n.p.	4	2 <sup>(b)</sup>	5	2 <sup>(a)</sup>	5	1	4	1	4	0.3
None of the above <sup>(c)</sup>	np	np	— <sup>(b)</sup>	1 <sup>(a)</sup>	— <sup>(a)</sup>	1	n.p.	1	3 <sup>(b)</sup>	1	1 <sup>(b)</sup>	1	1	1	1	1	0.7
<i>Total drinks milk</i>	98	98	97	95	96	96	98	95	96	94	95	94	97	95	96	95	1.0
Does not drink milk	2*	2*	3	5	3	4	2 <sup>(a)</sup>	5	4	6	5 <sup>(a)</sup>	6	3	5	4	5	0.7
<b>Total<sup>(d)</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>	

- (a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.  
(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.  
(c) Includes evaporated or sweetened condensed milk.  
(d) Includes usual type of milk not known.

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

Table 2.23.2b: Selected dietary habits, by Indigenous status and age, persons aged 15 years and over in non-remote areas, 2004-05

	15-24		25-34		35-44		45-54		55 and over		Total non-age-standardised		Total age-standardised		Ratio
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	
<b>Per cent</b>															
<b>Usual daily intake of vegetables</b>															
Does not eat vegetables	2	1	1	1	1	1	2	0	2	0	2	1	2	1	2.1
1 serve or less	24	27	27	24	21	20	21	18	16	13	23	20	22	20	1.1
2-4 serves	65	63	63	65	65	66	66	65	71	67	65	66	66	65	1.0
5 serves or more	8	9	9	11	13	13	11	16	11	19	10	14	11	14	0.8
<b>Total</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>1.0</b>
<b>Usual daily intake of fruit</b>															
Does not eat fruit	14	10	13	8	12	8	12	6	7	3	12	7	11	7	1.6
1 serve or less	46	44	48	45	53	42	43	38	37	32	47	39	46	40	1.1
2-4 serves	37	43	37	43	32	46	41	52	53	58	38	50	40	49	0.8
5 serves or more	3	4	2	3	2	4	4	4	4	6	3	4	3	4	0.7
<b>Total</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>1.0</b>

(continued)

Table 2.23.2b (continued): Selected dietary habits, by Indigenous status and age, persons aged 15 years and over in non-remote areas, 2004–05

	15–24		25–34		35–44		45–54		55 and over		Total non-age-standardised		Total age-standardised		Ratio
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	
Per cent															
<b>Usual type of milk</b>															
Whole	81	55	76	49	73	48	68	37	58	35	74	44	71	45	1.6
Low/reduced fat	11	25	12	28	17	29	16	38	24	35	15	32	16	31	0.5
Skim	4	11	6	13	7	13	6	13	11	17	6	14	7	13	0.5
Soy	0	3	2	4	1	4	2	5	2	5	1	5	2	4	0.3
None of the above <sup>(a)</sup>	0	1	0	1	0	1	3	1	1	1	1	1	1	1	0.7
<i>Total drinks milk</i>	<i>97</i>	<i>95</i>	<i>96</i>	<i>96</i>	<i>98</i>	<i>95</i>	<i>96</i>	<i>94</i>	<i>95</i>	<i>94</i>	<i>97</i>	<i>95</i>	<i>96</i>	<i>95</i>	<i>1.0</i>
Does not drink milk	3	5	3	4	2	5	4	6	5	6	3	5	4	5	0.7
<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>1.0</b>
<b>Salt added after cooking</b>															
Never/rarely	38	n.a.	35	n.a.	32	n.a.	25	n.a.	27	n.a.	33	n.a.	..	n.a.	n.a.
Sometimes	24	n.a.	23	n.a.	18	n.a.	24	n.a.	21	n.a.	22	n.a.	..	n.a.	n.a.
Usually	38	n.a.	42	n.a.	50	n.a.	51	n.a.	52	n.a.	44	n.a.	..	n.a.	n.a.
<b>Total<sup>(c)</sup></b>	<b>100</b>	<b>n.a.</b>	<b>100</b>	<b>n.a.</b>	<b>100</b>	<b>n.a.</b>	<b>100</b>	<b>n.a.</b>	<b>100</b>	<b>n.a.</b>	<b>100</b>	<b>n.a.</b>	<b>100</b>	<b>n.a.</b>	<b>n.a.</b>

(a) Includes evaporated or sweetened condensed milk.

(b) Includes usual type of milk not known.

(c) Includes frequency salt is added after cooking not known.

Source: AIHW analysis 2004–05 NATSIHS and 2004–05 NHS.

## Dietary habits by sex

- A higher proportion of Indigenous males aged 12 years and over reported not eating fruit daily than Indigenous females (16% compared with 12%) (Table 2.23.3).
- Indigenous females were twice as likely as Indigenous males to report drinking skim milk as the usual type of milk consumed (6% compared with 3%).
- There was little difference in the proportion of Indigenous males and females reporting eating vegetables daily or adding salt after cooking.

Table 2.23.3: Selected dietary habits, by sex, Indigenous persons aged 12 years and over, 2004–05

Dietary behaviours	Males	Females	Persons
	Per cent		
<b>Vegetable intake</b>			
Eats vegetables daily	93	95	95
Does not eat vegetables daily	6	5	5
<b>Total<sup>(a)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Fruit intake</b>			
Eats fruit daily	84	88	86
Does not eat fruit daily	16	12	14
<b>Total<sup>(a)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Usual type of milk consumed</b>			
Whole	81	76	79
Low/reduced fat	10	12	11
Skim	3	6	5
Soy	1	1	1
None of the above <sup>(b)</sup>	1	1	1
<i>Total drinks milk</i>	96	96	96
Does not drink milk	4	4	4
<b>Total<sup>(c)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Salt added after cooking</b>			
Never/rarely	27	32	30
Sometimes	25	24	25
Usually	47	44	46
<b>Total<sup>(d)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>

(a) Includes whether eats fruit/vegetables not known.

(b) Includes evaporated or sweetened condensed milk.

(c) Includes usual type of milk not known.

(d) Includes frequency salt is added after cooking not known.

Source: AIHW analysis of 2004–05 NATSIHS.

Table 2.23.4: Selected dietary habits, by Indigenous status and sex, persons aged 15 years and over in non-remote areas, 2004–05

	Males					Females					Persons				
	Non-age-standardised		Age-standardised		Ratio	Non-age-standardised		Age-standardised		Ratio	Non-age-standardised		Age-standardised		Ratio
	Indig.	Non-Indig.	Indig.	Non-Indig.		Indig.	Non-Indig.	Indig.	Non-Indig.		Indig.	Non-Indig.	Indig.	Non-Indig.	
	%	%	%	%	%	%	%	%	%	%	%	%	%		
<b>Usual daily intake of vegetables</b>															
Does not eat vegetables	2	1	2	1	2.2	1	1	1	1	1.9	2	1	2	1	2.1
1 serve or less	25	23	25	24	1.0	21	16	19	17	1.1	23	20	22	20	1.1
2–4 serves	64	64	65	64	1.0	67	67	67	67	1.0	65	66	66	65	1.0
5 serves or more	9	12	9	12	0.7	11	16	12	15	0.8	10	14	11	14	0.8
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>1.0</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>1.0</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>1.0</b>
<b>Usual daily intake of fruit</b>															
Does not eat fruit	14	9	14	9	1.5	11	5	9	5	1.9	12	7	11	7	1.6
1 serve or less	47	44	47	44	1.1	46	35	44	36	1.2	47	39	46	40	1.1
2–4 serves	36	44	36	43	0.9	41	55	43	54	0.8	38	50	40	49	0.8
5 serves or more	3	4	3	4	0.8	3	5	3	5	0.7	3	4	3	4	0.7
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>1.0</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>1.0</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>1.0</b>

(continued)

Table 2.23.4 (continued): Selected dietary habits, by Indigenous status and sex, persons aged 15 years and over in non-remote areas, 2004–05

	Males					Females					Persons				
	Non age-standardised		Age-standardised		Ratio	Non age-standardised		Age-standardised		Ratio	Non age-standardised		Age-standardised		Ratio
	Indig.	Non-Indig.	Indig.	Non-Indig.		Indig.	Non-Indig.	Indig.	Non-Indig.		Indig.	Non-Indig.	Indig.	Non-Indig.	
	%	%	%	%	%	%	%	%	%	%	%	%	%		
<b>Usual type of milk</b>															
Whole	77	51	74	52	1.4	71	37	68	37	1.8	74	44	71	45	1.6
Low/reduced fat	13	29	15	28	0.5	16	34	18	34	0.5	15	32	16	31	0.5
Skim	4	10	6	10	0.6	7	17	8	17	0.5	6	14	7	13	0.5
Soy	1	4	1	4	0.4	1	5	2	5	0.3	1	5	2	4	0.3
None of the above <sup>(a)</sup>	1	1	1	1	1.4	0	1	0	1	0.3	1	1	1	1	0.7
<i>Total drinks milk</i>	<i>97</i>	<i>94</i>	<i>97</i>	<i>95</i>	<i>1.0</i>	<i>96</i>	<i>95</i>	<i>96</i>	<i>95</i>	<i>1.0</i>	<i>97</i>	<i>95</i>	<i>96</i>	<i>95</i>	<i>1.0</i>
Does not drink milk	3	6	3	5	0.6	4	5	4	5	0.8	3	5	4	5	0.7
<b>Total<sup>(b)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>1.0</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>1.0</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>1.0</b>
<b>Salt added after cooking</b>															
Never/rarely	31	n.a.	..	n.a.	n.a.	36	n.a.	..	n.a.	n.a.	33	n.a.	..	n.a.	n.a.
Sometimes	22	n.a.	..	n.a.	n.a.	22	n.a.	..	n.a.	n.a.	22	n.a.	..	n.a.	n.a.
Usually	47	n.a.	..	n.a.	n.a.	42	n.a.	..	n.a.	n.a.	44	n.a.	..	n.a.	n.a.
<b>Total<sup>(c)</sup></b>	<b>100</b>	<b>n.a.</b>	<b>..</b>	<b>n.a.</b>	<b>n.a.</b>	<b>100</b>	<b>n.a.</b>	<b>..</b>	<b>n.a.</b>	<b>n.a.</b>	<b>100</b>	<b>n.a.</b>	<b>100</b>	<b>n.a.</b>	<b>n.a.</b>

(a) Includes evaporated or sweetened condensed milk.

(b) Includes usual type of milk not known.

(c) Includes frequency salt added after cooking not known.

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

## **Dietary habits by state/territory**

Dietary habits of Indigenous and non-Indigenous Australians are presented in Tables 2.23.5a and 2.23.5b below. Note that data on the number of daily serves of vegetables and fruit are presented for New South Wales, Victoria, Queensland and Western Australia only because of output restrictions for these data items.

- In 2004–05, the proportion of Indigenous Australians aged 15 years and over who reported eating five serves or more of vegetables daily was 8% in New South Wales, 9% in Queensland, 12% in Victoria and 14% in Western Australia (Table 2.23.5a).
- The proportion of Indigenous Australians aged 15 years and over reporting eating two or more serves of fruit a day was 41% in New South Wales and Queensland, 43% in Victoria and 45% in Western Australia.
- The proportion of Indigenous persons reporting drinking whole milk as the usual type of milk consumed was highest in Queensland (80%) and lowest in Victoria (62%).
- The proportion of Indigenous persons reporting usually adding salt after cooking was highest in Western Australia (57%) and lowest in Victoria (35%) and Tasmania/the Australian Capital Territory (37%).
- Non-Indigenous Australians were more likely to report eating five serves or more of vegetables than Indigenous Australians in New South Wales, Queensland and Western Australia. Rates were similar for Indigenous and non-Indigenous Australians in Victoria (Table 2.23.5b).
- Non-Indigenous Australians were more likely to report eating five serves of fruit or more than Indigenous Australians in three of the four jurisdictions for which data are presented (New South Wales, Victoria and Queensland) (Table 2.23.5b).
- Indigenous Australians were more likely to report whole milk as the usual type of milk consumed in the four jurisdictions for which data are presented.

**Table 2.23.5a: Selected dietary habits, by state/territory, Indigenous persons aged 15 years and over, non-remote areas, 2004–05**

Dietary behaviours	NSW	Vic	Qld	WA	SA	Tas/ACT	NT	Aust.
	Per cent							
<b>Vegetable intake</b>								
Does not eat vegetables	1	3	2	2	n.p.	n.p.	n.p.	2
1 serve or less	24	22	19	29	n.p.	n.p.	n.p.	23
2–4 serves	67	62	70	55	n.p.	n.p.	n.p.	66
5 serves or more	8	12	9	14	n.p.	n.p.	n.p.	10
<b>Total<sup>(a)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>	<b>100</b>
<b>Fruit intake</b>								
Does not eat fruit	13	11	13	9	n.p.	n.p.	n.p.	12
1 serve or less	46	45	46	46	n.p.	n.p.	n.p.	47
2–4 serves	39	40	38	39	n.p.	n.p.	n.p.	38
5 serves or more	2	3	3	6	n.p.	n.p.	n.p.	3
<b>Total<sup>(a)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>	<b>100</b>
<b>Usual type of milk consumed</b>								
Whole	75	62	80	68	69	64	75	74
Low/reduced fat	13	22	10	22	15	21	14	15
Skim	6	6	6	3	9	9	6	6
Other <sup>(b)</sup>	1	6	2	1	2	2	2	2
<i>Total drinks milk</i>	<i>95</i>	<i>89</i>	<i>96</i>	<i>94</i>	<i>92</i>	<i>94</i>	<i>95</i>	<i>94</i>
Does not drink milk	4	4	2	5	5	4	4	4
<b>Total<sup>(c)</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>Salt added after cooking</b>								
Never/rarely	34	33	31	23	36	45	29	33
Sometimes	20	31	22	19	23	18	27	22
Usually	45	35	47	57	41	37	44	45
<b>Total<sup>(d)</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>

n.p. Not published because of output restrictions for non-remote data items for these states and territories.

(a) Includes whether eats fruit/vegetables not known.

(b) Includes soy milk and evaporated or sweetened condensed milk.

(c) Includes usual type of milk not known.

(d) Includes frequency salt is added after cooking not known.

Source: AIHW analysis of 2004–05 NATSIHS.

Table 2.23.5b: Selected dietary habits, by Indigenous status, persons aged 15 years and over, non-remote areas, NSW, Vic, Qld and WA, 2004–05

Dietary behaviours	NSW			Vic			Qld			WA		
	Indig.	Non-Indig.	Ratio	Indig.	Non-Indig.	Ratio	Indig.	Non-Indig.	Ratio	Indig.	Non-Indig.	Ratio
	%	%		%	%		%	%		%	%	
<b>Vegetable intake</b>												
Does not eat veg	1	1	1.2	2	1	4.5	2	1	3.2	1	1	2.2
1 serve or less	22	22	1.0	22	21	1.0	18	19	1.0	28	16	1.8
2–4 serves	68	65	1.0	62	63	1.0	71	66	1.1	56	66	0.8
5 serves or more	9	11	0.8	14	15	0.9	9	14	0.7	15	18	0.8
<b>Total<sup>(a)</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>Fruit intake</b>												
Does not eat fruit	12	7	1.6	10	7	1.5	13	8	1.6	9	6	1.5
1 serve or less	44	40	1.1	45	39	1.2	45	41	1.1	46	39	1.2
2–4 serves	42	49	0.9	42	50	0.8	39	47	0.8	38	50	0.8
5 serves or more	2	4	0.6	3	5	0.7	3	4	0.7	6	5	1.3
<b>Total<sup>(a)</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>
Whole	74	47	1.6	59	41	1.4	76	48	1.6	64	41	1.6
Low/reduced fat	14	27	0.5	23	35	0.7	12	30	0.4	26	39	0.7
Skim	7	14	0.5	6	13	0.5	7	12	0.6	3	10	0.3
Other <sup>(b)</sup>	2	6	0.2	8	6	1.3	2	5	0.4	1	4	0.3
<i>Total drinks milk</i>	<i>95</i>	<i>88</i>	<i>3.0</i>	<i>88</i>	<i>89</i>	<i>3.0</i>	<i>95</i>	<i>90</i>	<i>3.0</i>	<i>94</i>	<i>90</i>	<i>3.0</i>
Does not drink milk	4	5	0.7	4	5	0.8	3	5	0.5	5	5	0.9
<b>Total<sup>(c)</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>

(a) Includes whether eats fruit/vegetables not known.

(b) Includes soy milk and evaporated or sweetened condensed milk.

(c) Includes usual type of milk not known.

Note: Data for South Australia, Tasmania, the Australian Capital Territory and the Northern Territory are not presented because of output restrictions for non-remote data items for these states and territories.

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

## Dietary habits by remoteness

- Fruit and vegetables may be less accessible to Indigenous people in remote areas. In remote areas 20% of Indigenous Australians aged 12 years and over reported no usual daily fruit intake compared with 12% in non-remote areas. The disparity was even greater for vegetables, where 15% of Indigenous people in remote areas reported no usual daily intake compared with 2% in non-remote areas (Table 2.23.6).
- Indigenous people in remote areas were more likely to report drinking whole milk (87%) than those in non-remote areas (76%).
- Indigenous people in remote areas were more likely than those in non-remote areas to report sometimes or usually adding salt after cooking (83% compared with 66%) (Table 2.23.6).

**Table 2.23.6: Selected dietary habits, by remoteness, Indigenous persons aged 12 years and over, 2004–05**

Dietary behaviours	Remote	Non-remote	Total
	Per cent		
<b>Vegetable intake</b>			
Eats vegetables daily	84	98	95
Does not eat vegetables daily	15	2	5
<b>Total<sup>(a)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Fruit intake</b>			
Eats fruit daily	80	88	86
Does not eat fruit daily	20	12	14
<b>Total<sup>(a)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Usual type of milk consumed</b>			
Whole	87	76	79
Low/reduced fat	4	14	11
Skim	2	5	5
Soy	— <sup>(b)</sup>	1	1
None of the above <sup>(c)</sup>	1 <sup>(b)</sup>	1 <sup>(b)</sup>	1 <sup>(b)</sup>
<i>Total drinks milk</i>	95	97	96
Does not drink milk	5	3	4
<b>Total<sup>(d)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Salt added after cooking</b>			
Never/rarely	16	35	30
Sometimes	30	23	25
Usually	53	43	46
<b>Total<sup>(e)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>

(a) Includes whether eats fruit/vegetables not known.

(b) Estimate is subject to sampling variability too high for most practical purposes.

(c) Includes evaporated or sweetened condensed milk.

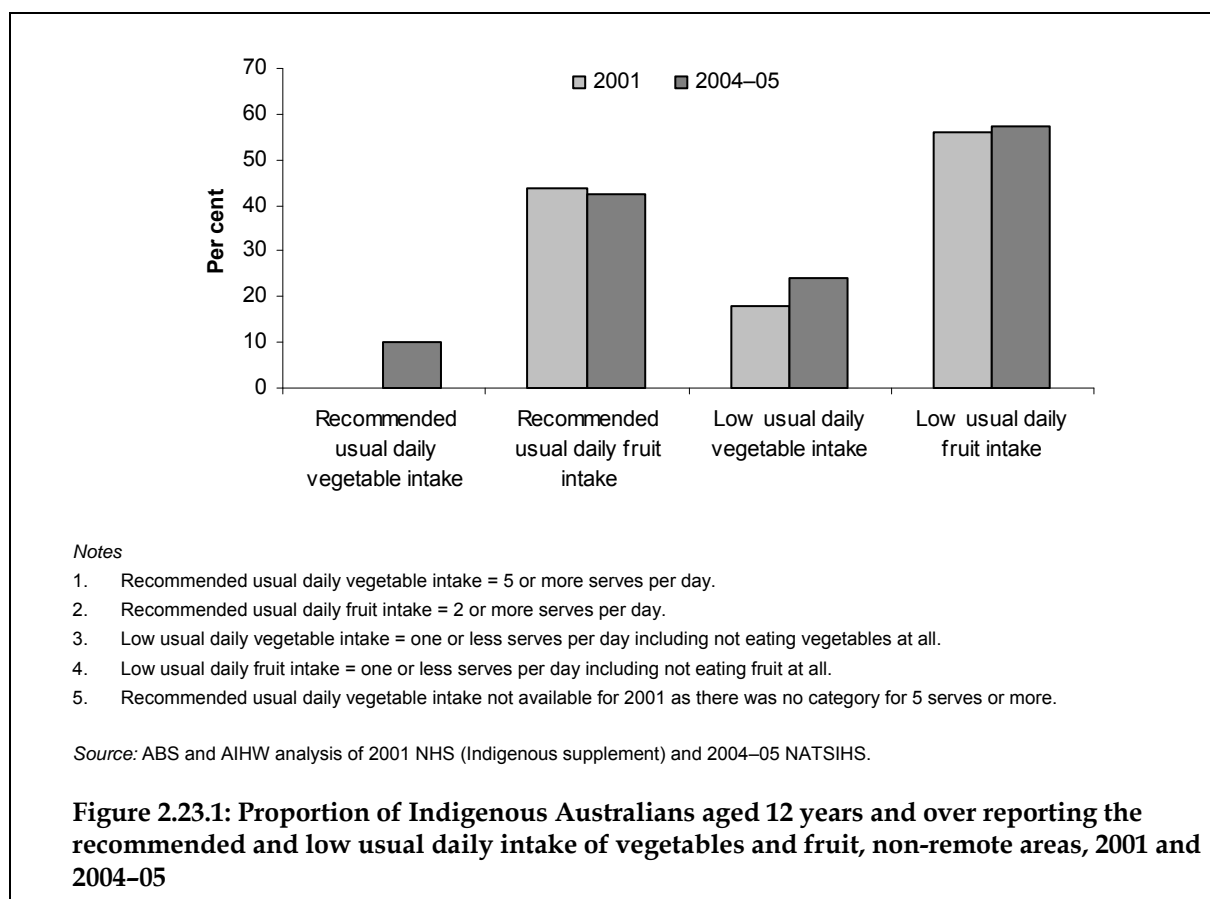
(d) Includes usual type of milk not known.

(e) Includes frequency salt is added after cooking not known.

Source: ABS 2006a.

## Time series analyses

- In 2004–05, approximately 24% of Indigenous Australians aged 12 years and over reported a low usual daily vegetable intake (one or less serves per day) compared to 17% in 2001 (ABS 2002). The proportion reporting a low usual daily fruit intake (one or less serves per day) was similar in 2001 and 2004–05 (57% and 58% respectively) (Figure 2.23.1).



## Fruit and vegetable intake by selected health and population characteristics

- In 2004–05, a higher proportion of Indigenous Australians with fair/poor health reported no usual daily vegetable intake and/or no usual daily fruit intake than those with excellent/very good health status (Table 2.23.7).
- Indigenous Australians aged 15 years and over in the lowest (1st) quintile of household income were much more likely than those in the highest quintile to report no usual daily fruit and/or vegetable intake.
- Indigenous Australians who reported Year 9 or below as their highest year of school completed and did not have a non-school qualification were much more likely to report no usual daily fruit and/or vegetable intake than those whose highest year of school completed was Year 12 and who had a non-school qualification.
- A higher proportion of Indigenous people who were renting reported no usual daily vegetable intake (7%) and no usual daily fruit intake (16%) than those who were home owners (1% and 11% respectively).

**Table 2.23.7: Dietary risk behaviours, by selected health and population characteristics, Indigenous persons aged 15 years and over, 2004–05**

	No usual daily vegetable intake	No usual daily fruit intake
	Per cent	
<b>Self-assessed health status</b>		
Excellent/very good	4.7	12.9
Good	6.3	16.6
Fair/poor	6.5	16.2
<b>Household income</b>		
1st quintile (lowest)	7.8	16.8
5th quintile (highest)	0.2	5.8
<b>Financial stress—unable to raise \$2,000 within a week for something important</b>	2.6	10.4
<b>Highest year of school completed</b>		
Year 12	3.8	9.4
Year 9 or below	7.7	16.9
<b>Whether has non-school qualification</b>		
Has a non-school qualification	3.3	13.3
Does not have a non-school qualification	7.2	16.1
<b>Employment</b>		
Employed	5.0	14.3
Unemployed	4.0	14.4
Not in the labour force	6.8	15.6
<b>Housing</b>		
Owner	0.5	11.1
Renter	7.4	16.4
<b>Stressors in last 12 months<sup>(a)</sup></b>		
Serious illness or disability	6.2	14.6
Other stressors	5.7	14.7
<i>Total experienced stressors</i>	5.8	14.7
No stressors	4.6	15.3
<b>All persons aged 15 years and over</b>		
<b>5.7</b>	<b>14.9</b>	
Total number persons aged 15 years and over	16,681	43,610

(a) Persons aged 18 years and over.

Source: AIHW analysis of 2004–05 NATSIHS.

### **Fruit and vegetable intake by selected chronic diseases and health risk factors**

- In 2004–05 Indigenous Australians with cancer were more likely to eat vegetables and fruit on a daily basis than those without, and those with diabetes were less likely to eat vegetables daily (Table 2.23.8).
- Indigenous Australians who reported low/sedentary levels of physical activity were slightly less likely to eat vegetables (2%) and fruit (13%) on a daily basis than those with high levels of physical activity (0.5% and 10% respectively)(non-remote data only).
- Indigenous Australians in the overweight/obese weight ranges were more likely to have a daily intake of vegetables and fruit than not.
- Indigenous Australians aged 18 years and over with reported short-term risky/high-risk alcohol consumption were less likely than those not reporting risky behaviour to eat fruit (22% compared with 13%) and vegetables (8% compared to 4%) on a daily basis.
- Indigenous Australians aged 18 years and over who reported being current smokers were more likely than Indigenous persons who were ex-smokers or who had never smoked to report no usual daily fruit intake (19% compared with 10%) and no usual daily vegetable intake (6% compared with 5%).

**Table 2.23.8: Dietary risk behaviours, by selected chronic diseases and other risk factors, Indigenous persons aged 15 years and over, 2004–05**

	No usual daily vegetable intake	No usual daily fruit intake
	Per cent	
<b>Circulatory problems</b>		
Yes	4.7	13.3
No	5.9	15.2
<b>Has Diabetes</b>		
Yes	8.5	13.1
No	5.4	15.0
<b>Has Cancer</b>		
Yes	1.7	10.3
No	5.7	14.9
<b>Physical activity<sup>(a)</sup></b>		
Low/sedentary	1.7	13.4
Moderate	1.8	7.3
High	0.5	10.1
<b>Overweight/obesity</b>		
Yes	4.8	14.8
No	7.2	15.1
<b>Long-term risky/high-risk alcohol consumption<sup>(b)</sup></b>		
Yes	5.9	19.6
No	5.5	13.9
<b>Short-term risky/high-risk alcohol consumption<sup>(b)</sup></b>		
Yes	7.8	21.5
No	3.6	13.1
<b>Smoking status<sup>(b)</sup></b>		
Current	6.4	19.3
Ex-smoker	4.9	10.0
Never smoked	4.6	9.9
<b>All persons aged 15 years and over</b>	<b>5.7</b>	<b>14.9</b>
Total number persons aged 15 years and over	16,681	43,610

(a) Non-remote areas only.

(b) Persons aged 18 years and over.

Source: AIHW analysis of 2004–05 NATSIHS.

## **Whether ran out of food in the 12 months before the survey**

- In 2004–05, approximately 24% of Indigenous Australians aged 15 years and over reported they ran out of food in the 12 months before the survey compared with 5% of non-Indigenous Australians (Table 2.23.9).
- Approximately 8% of Indigenous people reported they went without food when they couldn't afford to buy more compared with 2% of non-Indigenous people.
- Indigenous Australians aged 15–24, 25–34 and 35–44 years were most likely to report they went without food when they couldn't afford to buy more.
- The proportion of Indigenous Australians who reported they ran out of food in the previous 12 months was much higher in the Northern Territory (45%) than the other states and territories (between 18% and 29%).
- Indigenous Australians aged 15 years and over living in remote areas were more likely to report having run out of food in the last 12 months (36%) than those in non-remote areas (20%).

**Table 2.23.9: Proportion of persons aged 15 years and over who ran out of food and couldn't afford to buy more at some time over the previous 12 months,<sup>(a)</sup> by Indigenous status 2004–05**

	Ran out of food											
	Went without food when couldn't afford to buy any more			Did not go without food			Total ran out of food			Did not run out of food		
	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio
	%	%		%	%		%	%		%	%	
<b>Sex</b>												
Males	7	2	3.7	14	3	5.7	21	4	4.9	79	96	0.8
Females	8	2	4.1	18	3	5.7	27	5	5.1	73	95	0.8
<i>Persons</i>	8	2	4.0	17	3	5.7	24	5	5.0	76	95	0.8
<b>Age</b>												
15–24	8	4	2.1	17	5	3.2	24	9	2.7	76	91	0.8
25–34	8	3	3.0	19	4	4.5	27	7	4.0	73	93	0.8
35–44	9	2	4.4	17	4	4.6	26	6	4.5	74	94	0.8
45–54	7	2	3.3	14	2	6.3	21	4	4.9	79	96	0.8
55+	5	1	8.7	12	1	13.2	17	2	11.4	83	98	0.8
<b>State/territory</b>												
NSW	7	2	3.9	11	2	4.8	18	4	4.4	82	96	0.9
Victoria	10	2	5.1	12	3	3.9	21	5	4.4	79	95	0.8
Qld	7	2	3.3	13	4	3.8	21	6	3.6	79	94	0.8
WA	8	2	4.3	18	3	5.7	26	5	5.2	74	95	0.8
SA	9	2	4.4	20	3	6.7	29	5	5.7	71	95	0.8
Tas/ACT	9	2	4.1	10	4	2.7	19	6	3.2	81	94	0.9
NT	7	—	—	38	3	14.7	45	3	17.4	55	97	0.6
<i>Australia</i>	8	2	4.0	17	3	5.7	24	5	5.0	76	95	0.8
<b>Remoteness area</b>												
Remote	7	1	5.1	28	4	8.1	36	5	7.2	64	95	0.7
Non remote	8	2	4.0	12	3	4.1	20	5	4.1	80	95	0.8
<b>Total no.</b>	<b>19,676</b>	<b>283,628</b>	<b>..</b>	<b>42,674</b>	<b>425,252</b>	<b>..</b>	<b>62,350</b>	<b>708,880</b>	<b>..</b>	<b>195,913</b>	<b>1.4 mill</b>	<b>..</b>

(a) Information for some persons aged 15–17 years was provided by a parent or guardian.

Source: AIHW analysis of 2004–05 NATSIHS.

## **Additional information**

### **Research on traditional and non-traditional diets of Aboriginal and Torres Strait Islander peoples**

Available research suggests that traditional Aboriginal hunter-gatherers consumed a varied diet in which animal foods were a major component. Their diet was not high in fat because the wild animal meat consumed was extremely lean. A wide variety of uncultivated plant foods were eaten which were generally high in fibre and contained carbohydrates which were slowly digested. Traditional foods generally had a low energy density and high level of nutrients. The low-energy intake of the diet and the labour intensity of procuring food would have protected Aboriginal people against obesity and associated health conditions such as diabetes (O'Dea 1991).

Today, many Aboriginal people consume a diet high in fat, sugar and energy-dense foods. Poverty and food insecurity have been recognised as important factors in the poor-quality diet of many Indigenous people, especially those living in remote communities. Food prices are generally higher in remote areas for many types of food. The price of basic healthy foods is at least 50% higher in remote locations than in major cities (NHMRC 2003). Foods of better nutritional choice, including fresh fruits and vegetables, are often expensive because of transport and overhead costs, or only minimally available (Shannon 2002). Remote stores on the whole sell half the fruit and one-quarter of the vegetable intake per capita of that of the overall Australian community (Lee et al. 1994). In comparison, takeaway and convenience food items, often energy-dense and high in fat or sugar, are less affected by issues of cost and availability.

There is evidence to suggest that people living in poverty tend to maximise calories per dollar spent on food. Energy-dense foods rich in fats, refined starches and sugars represent the lowest cost options, whereas healthy diets based on lean meats, whole grains and fresh vegetables and fruits are more costly (Drewnowski & Spencer 2004). A study which analysed the store turnover of food supplies at six remote Aboriginal communities in the Northern Territory found a very high consumption of energy, fat and sugar, with fatty meats making the largest contribution to fat intake. In comparison to national consumption data, intake of sweetened carbonated beverages and sugar was much higher in these communities. The proportion of energy derived from refined sugars was approximately four times the recommended intake. The diets of people living in these communities had high levels of animal fat (mainly from poor-quality meat) and very low levels of fruit and vegetables (Lee et al. 1994).

A study which looked at the therapeutic potential of a traditional lifestyle and diet involved a trial of a group of 10 middle-aged Indigenous people with diabetes who were overweight or obese in the West Kimberly region of Western Australia. The group reverted to a traditional hunter-gatherer diet for 7 weeks. After this short time living off their traditional lands the Aboriginal people involved in the study lost an average of 7 kg and the metabolic abnormalities of diabetes and risk factors for heart disease (blood pressure, blood cholesterol, triglycerides) all improved markedly (O'Dea 1984).

## **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 establish 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, Inner and Outer Regional areas and Remote areas, but Very Remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 National Health Surveys.*

*In remote communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand 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 2004–05 NATSIHS publication (ABS 2006a).*

### **Dietary behaviour data**

*The questions on dietary behaviour are complex as respondents needed to understand and apply the inclusions/exclusions, understand the concept of a serve and assess their consumption levels accordingly, and think about their total consumption in what would constitute an average day. Overall, it is considered that the indicators of vegetable and fruit intake in the non-remote component of the 2004–05 NATSIHS are of a lower quality than most other items from the survey, but are considered sufficiently reliable for the purposes of assessing broad intake levels for population groups, and for comparisons between population groups. Using the data for other purposes should be done with care. Data for all those aged 12–14 years, and 68% of those aged 15–17 years, were provided by a proxy, usually a parent. As a result, the data reflect the parent's knowledge of the child's consumption; this is likely to be less accurate for usual consumption of fruit items than for the type of milk and usual consumption of vegetables items collected in non-remote areas (ABS 2006b).*

*Picture prompt cards were used to help non-remote respondents understand the concept of a serve; one prompt card showed six examples of single serves of different vegetables and another card showed six single serves of fruit. If respondents had difficulty in reporting, interviewers were encouraged to prompt in terms of asking respondents about their usual consumption of vegetables and fruit at breakfast, lunch and dinner and for snacks. Remote respondents were asked whether they usually ate fruit and/or vegetables each day. In addition to products excluded in non-remote areas, fruit or vegetables considered to be bush tucker were also excluded.*

*In remote areas the questions on vegetable and fruit intake were amended to whether the respondents usually ate fruit and/or vegetables each day. Therefore it is not possible to produce indicators based on usual serves for remote areas from the 2004–05 NATSIHS.*

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