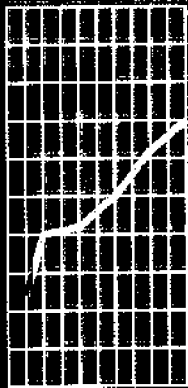




October 1995

# Falls Risk Factors For Persons Aged 65 Years And Over New South Wales





**EMBARGOED UNTIL 11.30 A.M. 8 MARCH 1996**

**FALLS RISK FACTORS  
FOR PERSONS AGED 65 YEARS AND OVER  
NEW SOUTH WALES  
OCTOBER 1995**

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INQUIRIES

- *for further information about statistics in this publication, and the availability of related unpublished statistics, contact Michael Clarke on (02) 268 4498.*
  - *for information about other ABS statistics and services, please refer to the last page of this publication.*
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## SUMMARY OF FINDINGS

### WHO ARE THOSE WHO FELL?

In October 1995, there were an estimated 693 300 usual residents of private dwellings in New South Wales aged 65 years and over. Of these approximately 139 500 (20.1%) had fallen at least once during the twelve months to October 1995. A 'fall' was defined as having 'accidentally lost your balance, tripped or slipped and found yourself on the floor or ground'.

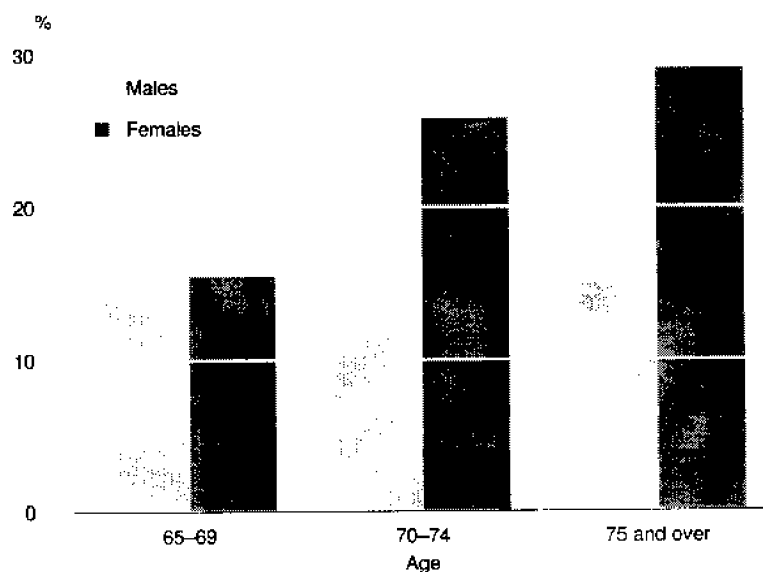
Of all persons aged 65 years and over who fell in the 'last' or previous, twelve months 91 700 were females and 47 800 were males. This represented 23.9% of all females and 15.5% of all males aged 65 years and over.

The proportion of females who fell in the 70-74 years age group was significantly higher than for males in the same age group (25.8% vs 13.4%). Similarly, the proportion of females who fell in the 75 years and over age group was significantly higher than for males in the same age group (29.1% vs 17.7%).

For males there was no significant difference across the three age groups with respect to the proportion that fell. For females, only those aged 65-69 years and those aged 70-74 years showed a significant difference in the proportion who fell (15.5% vs 25.8%).

Of those persons aged 65 years and over who lived alone 25.2% had fallen compared with 17.1% of persons who were a member of a 'couple only' household.

### OLDER PERSONS WHO HAVE FALLEN IN THE LAST TWELVE MONTHS BY AGE



### LOCATION OF THE LAST FALL

The location of the last fall varied for males and females. Females were likely to fall inside the home (29.3%), outside the home (but within the property) (28.3%), on a public footpath, road or parking area (20.9%), or in a shop, bank, cinema, club or office (10.2%). Males were likely to fall outside the home (but within the property) (36.8%), inside the home (25.3%), or on a public footpath, road or parking area (16.7%).

**ACTIVITY WHEN FELL**

The proportion of females who reported a fall while 'just walking' was 29.7%, compared to that of females who fell while undertaking domestic activities (16.0%). The proportion who fell while shopping was 11.9%.

Most males fell while undertaking maintenance or gardening work (26.2%), 'just walking' (23.0%) or while going up or down steps or stairs (13.8%).

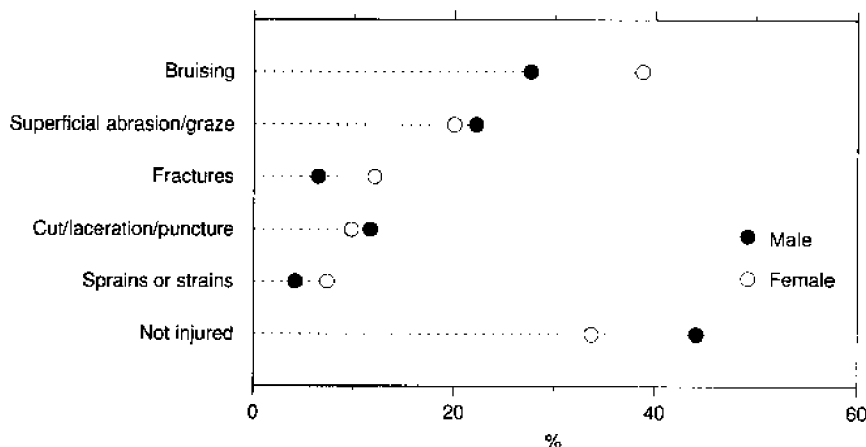
**WHAT CONTRIBUTED TO THE FALL?**

Of the 139 500 persons who fell, 48 800 (34.9%) persons stated that a surface contributed to their fall. As to the type of surface, 11.8% stated 'uneven or cracked man-made surfaces' as the cause while 10.3% stated 'slippery surfaces.' For the 47 100 (33.8%) who said an object contributed to their fall, 11.5% cited 'steps or stairs' as the object while 8.9% stated an object 'on the ground, etc (ie outside)'. For the 79 500 (57.0%) who answered that another factor contributed to their fall, 20.3% said that they 'overbalanced or their legs gave way'.

**INJURIES RECEIVED**

The type of injuries received as a result of a person's most recent fall varied between males and females. For males, 27.6% reported bruising and 22.2% reported superficial abrasion or grazing. For females, 38.6% reported bruising, 20.0% reported superficial abrasion or grazing and 12.1% reported fractures.

**INJURIES RECEIVED**



**HOUSEHOLD RISK FACTORS**

A number of risk factors around the home were identified for households, with at least one usual resident aged 65 years and over in particular dwelling types. It was found that:-

- 74.0% of separate houses and 67.0% of semi-detached, row or terrace houses, town houses or villas did not have handrails fitted in the bathroom or toilet.
- 66.4% of semi-detached, row or terrace houses, town houses or villas and 60.3% of separate houses with stairs outside the home did not have continuous handrails.
- 82.4% of households who owned or were buying their own home had not made any changes to their home in the previous twelve months to prevent a fall. This compared with 87.8% of those households who were renting their home.



## 1

## PERSONS 65 YEARS AND OVER: AGE BY WHETHER FALLEN IN THE LAST TWELVE MONTHS BY SEX

Age	Fallen	Not fallen	Total	Proportion who have fallen
	'000s	'000s	'000s	%
<b>MALES</b>				
65-69	17.6	96.4	114.0	15.4
70-74	13.1	85.1	98.3	13.4
75 and over	17.1	79.7	96.8	17.7
<b>Total males</b>	<b>47.8</b>	<b>261.2</b>	<b>309.0</b>	<b>15.5</b>
<b>FEMALES</b>				
65-69	18.6	101.5	120.2	15.5
70-74	29.8	85.7	115.4	25.8
75 and over	43.3	105.4	148.7	29.1
<b>Total females</b>	<b>91.7</b>	<b>292.6</b>	<b>384.3</b>	<b>23.9</b>
<b>PERSONS</b>				
65-69	36.2	198.0	234.2	15.5
70-74	42.9	170.8	213.7	20.1
75 and over	60.4	185.1	245.5	24.6
<b>Total persons</b>	<b>139.5</b>	<b>553.8</b>	<b>693.3</b>	<b>20.1</b>

## 2

## PERSONS 65 YEARS AND OVER: SELECTED CHARACTERISTICS BY WHETHER FALLEN IN THE LAST TWELVE MONTHS

Selected characteristics	Fallen	Not fallen	Total	Proportion who have fallen
	'000s	'000s	'000s	%
<b>Region</b>				
Sydney	77.6	312.8	390.4	19.9
Balance of NSW	61.8	241.0	302.8	20.4
<b>Household type</b>				
Persons living alone	44.3	131.9	176.2	25.2
Couple only	60.2	292.6	352.8	17.1
Other household	34.9	129.3	164.2	21.3
<b>Dwelling structure</b>				
Separate house	113.2	442.4	555.6	20.4
Semi-detached/row or terrace house/town house/villa	8.1	31.7	39.8	20.4
Flat/unit/apartment	15.2	72.6	87.9	17.3
Other <sup>1</sup>	*2.9	*7.0	9.9	*29.5
<b>Total persons</b>	<b>139.5</b>	<b>553.8</b>	<b>693.3</b>	<b>20.1</b>

<sup>1</sup> Includes a flat attached to a house and a house or flat attached to a shop.

### 3

#### PERSONS 65 YEARS AND OVER WHO HAVE FALLEN IN THE LAST TWELVE MONTHS : LOCATION OF THE LAST FALL BY SEX

Location	Males		Females		Persons	
	'000s	%	'000s	%	'000s	%
Inside your home	12.1	25.3	26.9	29.3	38.9	27.9
Outside your home	17.6	36.8	26.0	28.3	43.6	31.2
At another person's home	*2.2	*4.6	*3.1	*3.4	*5.3	*3.8
Public footpath, road, parking area	8.0	16.7	19.2	20.9	27.2	19.5
Shop, bank, cinema, club, office	*2.0	*4.1	9.4	10.2	11.3	8.1
Bushland, park, beach, camping area	*1.7	*3.5	*3.3	*3.6	*5.0	*3.6
Other (including not known)	*4.3	*9.1	*3.9	*4.3	8.2	5.9
<b>Total persons who have fallen</b>	<b>47.8</b>	<b>100.0</b>	<b>91.7</b>	<b>100.0</b>	<b>139.5</b>	<b>100.0</b>

### 4

#### PERSONS 65 YEARS AND OVER WHO HAVE FALLEN IN THE LAST TWELVE MONTHS : ACTIVITY BEING UNDERTAKEN WHEN THE LAST FALL OCCURRED BY SEX

Activity being undertaken	Males		Females		Persons	
	'000s	%	'000s	%	'000s	%
Going up or down step/stairs	*6.6	*13.8	10.9	11.9	17.5	12.5
Gardening, farming, maintenance work	12.5	26.2	8.8	9.6	21.3	15.3
Housework, domestic activities	*1.9	*4.0	14.7	16.0	16.6	11.9
Recreation, sport	*2.8	*5.8	*2.1	*2.3	*4.8	*3.5
Shopping	*1.5	*3.2	10.9	11.9	12.5	9.0
Showering, bathing, dressing, etc.	*3.7	7.7	*3.0	*3.3	*6.7	*4.8
Sitting to standing	*2.1	*4.4	*3.0	*3.3	*5.2	*3.7
Just walking	11.0	23.0	27.2	29.7	38.2	27.4
Other	*5.7	*11.8	11.0	12.0	16.6	11.9
<b>Total persons who have fallen</b>	<b>47.8</b>	<b>100.0</b>	<b>91.7</b>	<b>100.0</b>	<b>139.5</b>	<b>100.0</b>

### 5

#### PERSONS 65 YEARS AND OVER WHO HAVE FALLEN IN THE LAST TWELVE MONTHS : FACTORS CONTRIBUTING TO THE LAST FALL

	Persons	
	'000s	%
<b>Surface</b>		
Loose floor coverings	*2.3	*1.6
Slippery surfaces	14.4	10.3
Uneven/cracked natural surfaces	10.4	7.5
Uneven/cracked man-made surfaces	16.5	11.8
Other	*5.2	*3.7
<i>Total where a surface contributed to the last fall</i>	<i>48.8</i>	<i>34.9</i>
<b>Objects</b>		
Steps/stairs	16.1	11.5
Object on floor, etc	*6.0	*4.3
Object on ground	12.4	8.9
Furniture	*3.1	*2.2
Other	9.4	6.8
<i>Total where an object contributed to the last fall</i>	<i>47.1</i>	<i>33.8</i>
<b>Other factor</b>		
Footwear being worn	*5.0	*3.6
Felt faint/dizzy	11.1	7.9
Over balanced/legs gave way	28.3	20.3
Knocked over	*3.1	*2.2
Not sure-suddenly on ground	10.7	7.7
Other	21.1	15.1
<i>Total where another factor contributed to the last fall</i>	<i>79.5</i>	<i>57.0</i>
<b>Total persons who have fallen</b>	<b>139.5</b>	<b>100.0</b>

<sup>1</sup> A person could state more than one of the categories 'surface', 'object' or 'other factor' contributed to their fall, but could only choose one response within each category.

## 6

**PERSONS 65 YEARS AND OVER WHO HAVE FALLEN IN THE LAST TWELVE MONTHS :  
AGE BY WHETHER INJURED IN THE LAST FALL BY SEX**

Age	<i>Injured when fell</i>	<i>Not injured when fell</i>	<i>Total</i>	<i>Proportion injured</i>
	'000s	'000s	'000s	%
<b>MALES</b>				
65-74	17.4	13.3	30.7	56.8
75 and over	9.3	7.8	17.1	54.3
<b>Total males who have fallen</b>	<b>26.7</b>	<b>21.1</b>	<b>47.8</b>	<b>55.9</b>
<b>FEMALES</b>				
65-74	32.9	15.5	48.4	68.0
75 and over	27.8	15.4	43.3	64.4
<b>Total females who have fallen</b>	<b>60.8</b>	<b>30.9</b>	<b>91.7</b>	<b>66.3</b>
<b>PERSONS</b>				
65-74	50.4	28.8	79.1	63.7
75 and over	37.1	23.2	60.4	61.5
<b>Total persons who have fallen</b>	<b>87.5</b>	<b>52.0</b>	<b>139.5</b>	<b>62.7</b>

## 7

**PERSONS 65 YEARS AND OVER WHO HAVE FALLEN IN THE LAST TWELVE MONTHS :  
TYPE OF INJURY RECEIVED IN THE LAST FALL BY SEX**

<i>Type of injury received<sup>1</sup></i>	<i>Males</i>		<i>Females</i>		<i>Persons</i>	
	'000s	%	'000s	%	'000s	%
Superficial abrasion/graze	10.6	22.2	18.3	20.0	28.9	20.7
Bruising	13.2	27.6	35.4	38.6	48.7	34.9
Cut/laceration/puncture	*5.6	*11.7	9.0	9.8	14.7	10.5
Sprains or strains	*2.0	*4.2	*6.8	*7.4	8.8	6.3
Fractures	*3.1	*6.5	11.1	12.1	14.2	10.2
Other bone, tendon or joint	*1.1	*2.3	*2.6	*2.8	*3.8	*2.7
Other	*3.4	*7.1	*6.8	*7.5	10.2	7.3
<b>Total persons injured</b>	<b>26.7</b>	<b>55.9</b>	<b>60.8</b>	<b>66.3</b>	<b>87.5</b>	<b>62.7</b>
<b>Total persons not injured</b>	<b>21.1</b>	<b>44.1</b>	<b>30.9</b>	<b>33.7</b>	<b>52.0</b>	<b>37.3</b>
<b>Total persons who have fallen</b>	<b>47.8</b>	<b>..</b>	<b>91.7</b>	<b>..</b>	<b>139.5</b>	<b>..</b>

<sup>1</sup> As a person could receive more than one injury from their most recent fall, the figures for the individual injuries will not sum to the totals shown.

## 8

**PERSONS 65 YEARS AND OVER WHO HAVE FALLEN IN THE LAST TWELVE MONTHS AND INJURED THEMSELVES:  
AGE BY WHETHER OR NOT SOUGHT MEDICAL CARE BY SEX**

Age	Sought medical care	Did not seek medical care	Total	Proportion who sought medical care
	'000s	'000s		'000s
<b>MALES</b>				
65-74	8.2	9.2	17.4	46.9
75 and over	*5.3	*4.0	9.3	*57.2
<b>Total males</b>	<b>13.5</b>	<b>13.2</b>	<b>26.7</b>	<b>50.5</b>
<b>FEMALES</b>				
65-74	17.1	15.8	32.9	52.0
75 and over	16.1	11.8	27.8	57.8
<b>Total females</b>	<b>33.2</b>	<b>27.6</b>	<b>60.8</b>	<b>54.7</b>
<b>PERSONS</b>				
65-74	25.3	25.0	50.3	50.2
75 and over	21.4	15.7	37.1	57.7
<b>Total persons injured</b>	<b>46.7</b>	<b>40.8</b>	<b>87.5</b>	<b>53.4</b>

## 9

**PERSONS 65 YEARS AND OVER WHO HAVE FALLEN IN THE LAST TWELVE MONTHS:  
TYPE OF MEDICAL CONDITION STATED BY SEX**

Type of medical condition <sup>1</sup>	Males		Females		Persons	
	'000s	%	'000s	%	'000s	%
Arthritis	28.3	59.2	60.6	66.1	88.9	63.7
Cataracts	*6.0	*12.6	22.9	25.0	28.9	20.7
Other vision problems	10.5	22.0	14.7	16.1	25.3	18.1
Diabetes	*4.1	*8.7	8.4	9.2	12.6	9.0
Diagnosed depression	*2.8	*5.8	*5.8	*6.3	8.5	6.1
Foot problems	10.4	21.7	22.1	24.2	32.5	23.3
Heart problems	16.8	35.1	38.2	41.6	54.9	39.4
Hearing problems	16.9	35.3	25.4	27.7	42.3	30.3
Low blood pressure	*4.0	*8.4	*4.0	*4.4	8.0	5.8
Osteoporosis	n.p.	n.p.	15.2	16.6	16.1	11.5
Stroke	*2.8	*5.9	*4.6	*5.0	*7.4	*5.3
Other <sup>2</sup>	9.6	20.1	*3.4	*3.7	13.0	9.3
No condition stated	*4.7	*9.8	*6.8	*7.5	11.5	8.3
<b>Total persons who have fallen</b>	<b>47.8</b>	<b>..</b>	<b>91.7</b>	<b>..</b>	<b>139.5</b>	<b>..</b>

<sup>1</sup> As a person could state more than one medical condition, the figures for individual medical conditions will not sum to the totals shown.

<sup>2</sup> Includes emphysema, epilepsy, limb amputations and Parkinson's disease.

## 10

HOUSEHOLDS<sup>1</sup>: RISK FACTORS INSIDE THE HOME BY TYPE OF DWELLING STRUCTURE

Risk factors inside the home	Dwelling structure						Total <sup>2</sup> '000
	Separate house		Semi-detached, row or terrace house, town house or villa		Flat, unit or apartment		
	'000s	%	'000s	%	'000	%	
Internal steps or staircases which do not have continuous handrails	52.1	51.0	*3.0	*42.4	*1.4	*38.6	57.1
<b>Total households with steps or staircases</b>	<b>102.1</b>	<b>..</b>	<b>*7.0</b>	<b>..</b>	<b>*3.6</b>	<b>..</b>	<b>114.5</b>
Handrails not fitted in the bathroom or toilet	290.7	74.0	21.1	67.0	38.2	52.5	355.3
Inadequate lighting between the bed and the bathroom or toilet at night	31.4	8.0	*1.9	*5.9	*4.3	*5.9	38.4
<b>Total households</b>	<b>392.7</b>	<b>..</b>	<b>31.5</b>	<b>..</b>	<b>72.7</b>	<b>..</b>	<b>504.7</b>

<sup>1</sup> Which have one or more usual residents aged 65 years and over.

<sup>2</sup> Includes 'other' dwelling structures not reported separately.

## 11

HOUSEHOLDS<sup>1</sup>: RISK FACTORS OUTSIDE THE HOME BY TYPE OF DWELLING STRUCTURE

Risk factors outside the home	Dwelling structure						Total <sup>2</sup> '000s
	Separate house		Semi-detached, row or terrace house, town house or villa		Flat, unit or apartment		
	'000	%	'000	%	'000	%	
Outside steps or stairs which do not have continuous handrails	209.8	60.3	14.7	66.4	15.0	22.9	243.1
Places where steps or stairs are slippery or in need of repair	24.3	7.0	n.p.	n.p.	*5.7	*8.4	31.9
Staircases inside the building have insufficient light to see each step as you go down the stairs	n.a.	..	n.a.	..	*3.5	*5.2	*3.5
<b>Total households with steps or stairs</b>	<b>347.8</b>	<b>..</b>	<b>22.1</b>	<b>..</b>	<b>68.3</b>	<b>..</b>	<b>444.5</b>
Any paths that are broken, uneven or slippery	49.7	12.7	*1.4	*4.6	10.1	13.9	63.8
Any entrances to the home which do not have outdoor lights	41.1	10.7	*3.9	*12.5	*3.6	*5.0	49.8
Any dark areas such as hallways or corridors which have to be walked through at night before turning on a light	n.a.	..	n.a.	..	*5.2	*7.2	*5.2
<b>Total households</b>	<b>392.7</b>	<b>..</b>	<b>31.5</b>	<b>..</b>	<b>72.7</b>	<b>..</b>	<b>504.7</b>

<sup>1</sup> Which have one or more usual residents aged 65 years and over.

<sup>2</sup> Includes 'other' dwelling structures not reported separately.

Selected changes made <sup>2</sup>	Nature of occupancy						Total households	
	Owned or being bought		Being rented		Other			
	'000s	%	'000s	%	'000s	%	'000s	%
Removed loose rugs or mats	10.8	2.7	*1.5	*2.2	*1.5	*3.8	13.8	2.7
Obtained slip proof mats or tacked down edges on rugs or mats	14.5	3.7	*2.2	*3.1	*1.8	*4.7	18.5	3.7
Rearranged contents of cupboards to allow easier access	24.3	6.1	*2.9	*4.2	*1.8	*4.7	29.0	5.7
Treated floor or stair surfaces to reduce slips	*6.0	*1.5	n.p.	n.p.	*1.5	*3.9	8.2	1.6
Installed handrails on stairs or grabrails in toilets or bathrooms	27.1	6.8	*1.2	*1.6	*2.5	*6.5	30.8	6.1
Installed lights in corridors or a light next to the bed	12.3	3.1	*1.7	*2.4	*2.3	*6.1	16.3	3.2
No changes made	326.6	82.4	61.6	87.8	30.5	79.8	418.7	83.0
<b>Total</b>	<b>396.3</b>	<b>..</b>	<b>70.2</b>	<b>..</b>	<b>38.2</b>	<b>..</b>	<b>504.7</b>	<b>..</b>

<sup>1</sup> Which have one or more usual residents aged 65 years and over.

<sup>2</sup> As a household could nominate more than one change made to their home in the last twelve months, the figures for individual changes made will not sum to the totals shown.

## EXPLANATORY NOTES

### INTRODUCTION

**1** This publication contains results from the October 1995 Falls Risk Factors survey of usual residents (of private dwellings) aged 65 years and over. This survey was conducted throughout New South Wales in October 1995 as a supplement to the ABS Monthly Population Survey (MPS). The survey was conducted at the request of the NSW Department of Health.

**2** Information was collected from individuals and households about falls in older persons. This included the presence of factors which could have contributed to a fall both inside and outside the home, changes made to the home to prevent a fall in the previous twelve months, the number of falls people had in the previous twelve months and any injuries received as a result, the location of and factors contributing to the fall, any medical conditions and medications taken by respondents and any advice received on how to prevent falls.

**3** The survey was conducted using all private dwellings included in the MPS, with the exception of private dwellings containing only visitors. The MPS was conducted during the two weeks commencing Monday 9 October 1995.

**4** Information was sought from some 2 025 persons 65 years and over, of whom about 1 790 (88.4 per cent) responded. Data pertaining to households were sought from some 1 520 households and about 1 340 (88.2 per cent) replied.

### SCOPE

**5** The survey was conducted for all usual residents of private dwellings aged 65 years and over, except:

- (a) members of the permanent defence forces;
- (b) certain diplomatic personnel of overseas governments, customarily excluded from censuses and surveys;
- (c) overseas residents in Australia; and
- (d) members of non-Australian defence forces (and their dependants)

stationed in Australia.

**6** Residents of other non-private dwellings such as hospitals, motels and jails (included in the MPS) were excluded from this survey.

### COVERAGE

**7** In the survey, coverage rules were applied which aimed to ensure that each person was associated with only one dwelling, and hence had only one chance of selection in the survey.

### DEFINITIONS

**8 Household** A group of residents of a dwelling who share common facilities and meals or who consider themselves to be a household. It is possible for a dwelling to contain more than one household, for example, where regular provision is made for groups to take meals separately and where persons consider their households to be separate. In this survey, 'the number of households' refers to the number of households with one or more usual residents aged 65 years and over.

**9 Fall** Defined as having 'accidentally lost your balance, tripped or slipped and found yourself on the floor or ground'.

**10 Adequate light** Defined as that sufficient to light the way from the bedroom to the bathroom or toilet, even including the light from a microwave electric timer. If there was a light beside the bed which was turned on when the respondent got out of bed, then that was regarded as adequate light. If on the other hand the respondent had to walk in the dark to reach a light, then that became a risk.

**11 Steps, stairs or staircases** Any set of steps between two levels. The interviewer was instructed to prompt for a single step as a single step may be potentially hazardous.

EFFECTS OF ROUNDING

**12** Estimates have been rounded and discrepancies may occur between sums of the component items and totals.

RELATED PUBLICATIONS

**13** Other ABS publications which may be of interest include:

- *Disability, Ageing and Carers, Australia : Summary of Findings, 1993* (4403.0)
- *Household Safety, Sydney, November 1992* (4387.1)
- *Safety in the Home, Melbourne, November 1992* (4387.2)

SYMBOLS AND OTHER USAGES

n.a. not available

n.p. not available for publication but included in totals where applicable

\* estimate is subject to a relative standard error greater than 25%

.. not applicable

— nil occurrences or rounded to zero



## TECHNICAL NOTE ON DATA RELIABILITY

### ESTIMATION PROCEDURE

**1** Estimates from this survey were derived using a complex ratio estimation procedure, which ensured that they conform to an independently estimated distribution of the population by age, sex and state, rather than to the age, sex and state distribution among respondents.

### RELIABILITY OF ESTIMATES

**2** Estimates in this publication are subject to non-sampling and sampling errors.

#### Non-sampling errors

**3** Non-sampling errors may arise as a result of errors in the reporting, recording or processing of the data and can occur even if there is a complete enumeration of the population. Non-sampling errors can be introduced through: inadequacies in the questionnaire; non-response; inaccurate reporting by respondents; errors in the application of survey procedures; incorrect recording of answers; and errors in data entry and processing.

**4** It is difficult to measure the size of the non-sampling errors and the extent of these errors could vary considerably in significance from survey to survey and from question to question. However, every effort is made in the design of the survey and development of survey procedures to minimise the effect of these errors.

#### Sampling errors

**5** Sampling error is the error which occurs by chance because the data were only obtained from a sample, not the entire population.

### ESTIMATES OF SAMPLING ERROR

**6** One measure of the variability of estimates which occurs as a result of surveying only a sample of the population is the *standard error* (See table below).

**7** There are about two chances in three (67%) that a survey estimate is within one standard error of the figure that would have been obtained if all persons had been included in the survey. There are about nineteen chances in twenty (95%) that the difference will be less than two standard errors.

**8** Linear interpolation should be used to calculate the standard error of estimates falling between the sizes of estimates listed in the table.

**9** The standard error can also be expressed as a percentage of the estimate and this is known as the *relative standard error* (RSE). The RSE is determined by dividing the standard error of an estimate  $SE(x)$  by the estimate and expressing it as a percentage. That is:

$$RSE(x) = \frac{100SE(x)}{x}$$

(where  $x$  is the estimate).

**10** The relative standard error is a useful measure in that it provides an immediate indication of the percentage errors likely to have occurred due to sampling.

**11** Proportions and percentages formed from the ratio of two estimates are also subject to sampling error. The size of the error depends on the accuracy of both the numerator and the denominator. The formula for the relative standard error of a proportion or percentage is:

$$RSE(x/y) = \sqrt{[RSE(x)]^2 - [RSE(y)]^2}$$

**12** For all tables in this publication, only estimates with relative standard errors of 25% or less, and percentages based on such estimates, are considered sufficiently reliable for most purposes. However, estimates and percentages with relative standard errors greater than 25% have been included, preceded by the symbol \* to indicate that they are subject to high standard errors and should be used with caution.

## **A** STANDARD ERRORS OF ESTIMATES OF PERSONS

<i>Size of estimate (households or persons)</i>	<i>Standard error</i>	<i>Relative standard error</i>
Number	Number	%
1 000	740	74.1
1 500	910	60.4
2 000	1 040	52.2
2 500	1 150	46.5
3 000	1 250	42.3
3 500	1 350	39.0
4 000	1 450	36.3
5 000	1 600	32.3
7 000	1 900	26.9
10 000	2 200	22.2
15 000	2 650	17.7
20 000	3 000	15.1
30 000	3 600	12.0
50 000	4 450	8.9
100 000	5 900	5.9
200 000	7 750	3.9
300 000	9 100	3.0
500 000	11 000	2.2
1 000 000	14 100	1.4

## FALLS RISK FACTORS SURVEY, AUSTRALIA, OCTOBER 1995

DO YOU NEED ADDITIONAL DATA?

The Survey of Falls Risk Factors provides information on the incidence of falls and the presence of risk factors for persons aged 65 years and over for the twelve months to October 1995.

*A customised data service is available to meet special data requirements.*

**Information collected in the survey includes:**

Risk factors both inside and outside the home

Changes made to the home to prevent a fall in the previous twelve months

The amount of exercise - walking, moderate and vigorous carried out in the previous 2 weeks

Whether respondents fell in the previous twelve months and the number of falls. For their most recent fall; the location; the specific activity being undertaken at the time of the fall, and whether a surface, object and/or other factors contributed to the fall

Injuries incurred as a result of a respondent's most recent fall; body parts affected

If medical advice was sought for injuries; and from whom

If respondents received any advice in the previous twelve months on how to prevent falls; from where; and the type of advice given

If respondents had certain medical conditions

If medication was regularly taken; and types of medication

**Data can be classified by other variables including:**

Age

Sex

Marital status

Relationship in household

Birthplace

Dwelling structure

Dwelling ownership

Labour force status

Main language spoken at home

Educational attainment

**To discuss your data requirements or for further information regarding this survey please contact Michael Clarke on (02) 268 4498.**







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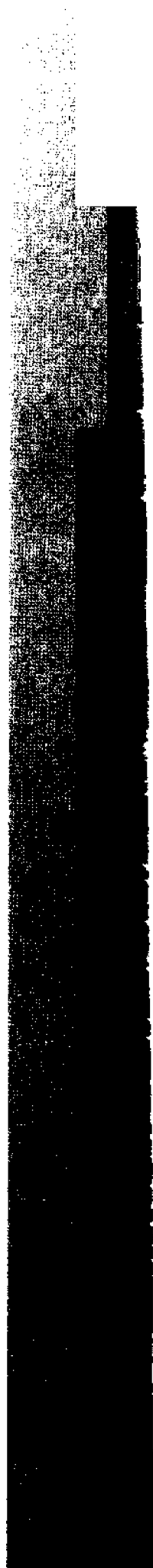
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