



NATIONAL INSTITUTE OF OCCUPATIONAL HEALTH AND SAFETY

**THE INCIDENCE OF
MESOTHELIOMA IN AUSTRALIA 1992 to 1994**

AUSTRALIAN MESOTHELIOMA REGISTER REPORT, 1996

J. Leigh

B. Hull

P. Davidson

Australian Mesothelioma Register

Location:

Epidemiology and Surveillance Unit
National Institute of Occupational Health and Safety
92 Parramatta Road, Camperdown NSW 2050

Postal Address:

GPO Box 58, Sydney 2001

© Commonwealth of Australia 1996

ISBN 0 642 24857 5

This work is copyright. Apart from any use as permitted under the *Copyright Act 1986* (Cwlth), no part may be produced by any process without written permission from the Australian Government Publishing Service. Requests and inquiries concerning reproduction and rights should be addressed to the Manager, Commonwealth Information Services, Australian Government Publishing Service, GPO Box 84, Canberra ACT 2601.

CONTENTS

Introduction		1
Statistics		1
List of Publications		2
Figure 1	Incident cases of malignant mesothelioma in Australia 1945 - 1995.	5
Table 1	Male cases of mesothelioma in Australia, 1992, by age and State	6
Table 2	Female cases of mesothelioma in Australia, 1992, by age and State	6
Table 3	Age specific incidence rates for mesothelioma per million males in Australia, 1992, by age and State	7
Table 4	Age specific incidence rates for mesothelioma per million females in Australia, 1992, by age and State	7
Figure 2	Incidence of mesothelioma in Australia, 1992, by age and sex	8
Table 5	Male cases of mesothelioma in Australia, 1993, by age and State	9
Table 6	Female cases of mesothelioma in Australia, 1993, by age and State	9
Table 7	Age specific incidence rates for mesothelioma per million males in Australia, 1993, by age and State	10
Table 8	Age specific incidence rates for mesothelioma per million females in Australia, 1993, by age and State	10
Figure 3	Incidence of mesothelioma in Australia, 1993, by age and sex	11
Table 9	Male cases of mesothelioma in Australia, 1994, by age and State	12
Table 10	Female cases of mesothelioma in Australia, 1994, by age and State	12

Table 11	Age specific incidence rates for mesothelioma per million males in Australia, 1994, by age and State	13
Table 12	Age specific incidence rates for mesothelioma per million females in Australia, 1994, by age and State	13
Figure 4	Incidence of mesothelioma in Australia, 1994, by age and sex	14
Figure 5	Cases of mesothelioma in Australia, 1992-94, by site of primary lesion	15
Figure 6	Trends in Australian incidence of mesothelioma per million persons, by State, 1982-94, Standardized to World Population >20 yrs	16
Figure 7	Trends in Australian incidence of mesothelioma per million persons, by sex, 1982-94, Standardized to World Population >20 yrs	17
Table 13	Asbestos exposures as documented in the Australian Mesothelioma Register from 1 January 1986 to 31 March 1995.	18
Appendix A	Australian Mesothelioma Register Notification Form	22

INTRODUCTION

This document is the eighth report of the Australian Mesothelioma Register, produced by the Epidemiology and Surveillance Unit of The National Institute of Occupational Health and Safety.

The report includes data on cases notified to the register and diagnosed in 1992, 1993 and 1994. We are grateful for the continued cooperation of the notification network of State cancer registries, pathologists, clinicians, occupational physicians, hospitals and government divisions of occupational health in ensuring as complete an ascertainment of cases as possible.

STATISTICS

Incidence in a calendar year is defined as the number of new cases of mesothelioma first occurring* in an Australian State or Territory in that year. Age specific incidence rates are computed from population tables published by the Australian Bureau of Statistics for the estimated resident mid year populations for 1992, 1993 and 1994 (estimates based on Census 30 June, 1991). Standardized incidence rates (SI) were calculated using the "World Standard Population" 20 years of age or greater¹.

The cumulative incidence rate (CR) is obtained by summing the annual incidence rates (assumed constant in each 5 year group). It can be shown, for rare diseases like mesothelioma, that the cumulative incidence rate approximates the cumulative risk, or probability, of developing the disease in a lifetime². This can be expressed as a percentage. Thus the figure 0.28 in table 3 for NSW (males) under CR indicates a 0.28% or 0.0028 lifetime (20-75) risk of developing mesothelioma. Therefore, the chance of developing mesothelioma between the ages 20-75 is approximately 1 in 351.

* "First occurrence" is the earliest known date of diagnosis (presumptive or confirmed). Cases where a presumptive diagnosis had been rejected before the date of this report (March 30, 1996) have been excluded.

1. Waterhouse, J. Muir, C., Shanmugaratnam, K., & Powell, J., eds, *Cancer Incidence in Five Continents Volume IV*, Lyon (IARC Scientific Publications No 42, 1982) pp.671- 674.
2. Breslow, N. & Day, N., *Statistical Methods in Cancer Research Volume I*, Lyon (IARC Scientific Publications No 32, 1980) pp.51-52.

LIST OF PUBLICATIONS FROM THE MESOTHELIOMA PROGRAM AND REGISTER

Armstrong B.K., Musk A.W., Baker J.E., Hunt J.M., Newall C.C., Henzell H.R., Blunsdon B.S., Clarke-Hundley M.D. (1984). *Epidemiology of malignant mesothelioma in Western Australia*. Med. J. Aust. 141:86-88.

Baker G., Driscoll T., Daniel S., Thompson R., Lee J., Constance T., Ferguson D., Leigh J. (1991). *Clinical features of mesothelioma associated with tumor cell histology*. Proceedings of the Thoracic Society of Australia and New Zealand, p.33.

Berry G., Ferguson D.A., Fung C., Grimwood A., Major G. (1987) *Mesothelioma as a result of occupational exposure to asbestos in Australia*. XXII International Congress on Occupational Health, Sydney, Australia, 1987, p.57.

Berry G. (1991). *Prediction of mesothelioma, lung cancer, and asbestosis in former Wittenoom asbestos workers*. Br. J. Ind. Med. 48:793-802.

de Klerk N.H., Armstrong B.K., Musk A.W., Hobbs M.S.T. (1989). *Predictions of future cases of asbestos-related disease among former miners and millers of crocidolite in Western Australia*. Med. J. Aust. 151:616-620.

Driscoll T., Leigh J., Thompson R. (1993). *Asbestos and non-asbestos factors in the aetiology of malignant mesothelioma: a case-referent study*. Proceedings of the 8th International Conference on Occupational Lung Diseases (Prague), 1:319-323.

Driscoll T., Baker G., Daniel S., Thompson R., Lee J., Ferguson D.A., Leigh J. (1993). *Clinical features of malignant mesothelioma in Australia*. Aust. NZ J. Med. 23:19-25.

Ferguson D.A. (1990). *Low-level asbestos - the priorities are wrong (Letter)*. Med. J. Aust. 152:617-618.

Ferguson D.A. (1989). *Malignant mesothelioma - the rising epidemic (Letter)*. Med. J. Aust. 150:233-235.

Ferguson D.A., Berry G., Grimwood A. (1987). *The incidence of mesothelioma in Australia*. XXII International Congress on Occupational Health, Sydney, Australia, 1987, p.56.

Ferguson D.A., Berry G., Jelihovsky T., Andreas S.B., Rogers A.J., Fung S.C., Grimwood A., Thompson R. (1987). *The Australian Mesothelioma Surveillance Program 1979-1985*. Med. J. Aust. 147:166-172.

Henderson D.W., Shilkin K.B., Langlois S. Le P., Whitaker D. (eds.) (1992). *Malignant mesothelioma*. Hemisphere, New York.

Leigh J., Rogers A.J., Berry G., Ferguson D.A., Mulder H.B., Ackad M. (1990). *Relationship between lung asbestos fibre type and concentration and relative risk of mesothelioma*. XXIII International Congress on Occupational Health, Montreal, Canada, p.160.

Leigh J., Corvalan C.F., Grimwood A., Berry G., Ferguson D.A., Thompson R (1991). *The incidence of malignant mesothelioma in Australia 1982-1988*. Am. J. Ind. Med. 20:643-655.

Leigh J., Driscoll T., Baker G., Corvalan C. (1991). *The Australian Mesothelioma Program - Recent research results*. J Occup Health Safety-Aust NZ, 7:365-371.

Leigh J., Rogers A.J., Ferguson D.A., Mulder H.B., Ackad M., Thompson R. (1991). *Lung asbestos fiber content and mesothelioma cell type, site, and survival*. Cancer 68:135-141.

Leigh J. (1991). *The Australian Mesothelioma Program and Register*. Proc. Worksafe Australia Asbestos Symposium, pp.9-17.

Leigh J. (1992). *Review of "Malignant mesothelioma"*. Henderson et al. (eds). Hemisphere, New York. Cancer Forum 16:176-177.

Leigh J., Corvalan C.F., Copland P.I. (1993). *The incidence of malignant mesothelioma in Australia 1982-92*. Proceedings of the 8th International Conference on Occupational Lung Diseases (Prague), 1: 314-318.

Leigh J., Corvalan C., Copland P. (1993). *Malignant mesothelioma incidence in Australia 1982-1992*. Proceedings of the 5th International Congress on Applied Mineralogy (Perth), pp28-30.

Leigh J., Hull B., Ruck L., Mandryk J., Rogers A.J. (1993). *Lung asbestos fibre content by type and length and mesothelioma site and cell type*. Proceedings of the 8th International Conference on Occupational Lung Diseases (Prague), 1:351-356.

Leigh J. (1994). *The Australian Mesothelioma Program 1979-1994*. In: Peters G.A., and Peters, B.J. (eds), *The Current Status of the Asbestos Public Health Problem* (Vol. 9, Sourcebook on Asbestos Diseases). N.H. Butterworth, pp1-74.

Leigh J. (1995). *Mesothelioma: is asbestos the only cause?* (letter). Med. J. Aust. 163: 105-106.

Leigh J. and Davidson P (1995). *Malignant Mesothelioma in Australia 1982-1995*. Proceedings of the 5th International Symposium of the ISSA Research Section (Bonn), (in press).

Leigh J. (1995). *Malignant Mesothelioma in Australia 1982-1995*. Epidemiology 6: S73.

Leigh J. (1995). *Malignant Mesothelioma in Australia 1982-1995*. European Respiratory Journal 8 (Supp.19): 437.

Leigh J, Davidson P, Hull B.P. (1996). *Malignant mesothelioma in Australia 1945-1995*. Epidemiology (in press).

Musk A.W., Dolin P.J., Armstrong B.K., Ford J.M., de Klerk N.H., Hobbs M.S. (1989). *The incidence of malignant mesothelioma in Australia 1947-1980*. Med. J. Aust. 150:242-246.

Musk A.W., de Klerk N.H., Eccles J.L., et al. (1992). *Wittenoom, Western Australia: A modern industrial disaster*. Am. J. Ind. Med. 21:735-747.

National Institute of Occupational Health and Safety - Epidemiology and Surveillance Unit. *Mesothelioma Reports 1989, 1990, 1991, 1992, 1993, 1994, 1995* (Annual series). Canberra, AGPS.

Rogers A.J., Leigh J., Berry G., Ferguson D.A., Mulder H.B., Ackad M., Morgan G.G. (1994). *Dose-response relationship between airborne and lung asbestos fibre type, length and concentration and the relative risk of mesothelioma*. Inhaled particles VII. Ann. Occup. Hyg., 38 (Supp 1): 631-638.

Rogers A.J. (1984). *Determination of mineral fibre in human tissue by light microscopy and transmission electron microscopy*. Ann. Occup. Hyg. 28:1-12.

Rogers A.J., Leigh J., Berry G., Ferguson D.A., Mulder H.B., Ackad M. (1991). *Relationship between lung asbestos fiber type and concentration and relative risk of mesothelioma - A case-control study*. Cancer 67:1912-1920.

Rogers A.J. (1992). *Predictions of mesothelioma in former Wittenoom asbestos workers (Letter)*. Br. J. Ind. Med. 49:451-452.

Rossiter C.E. (1987). *Asbestos blues (Letter)*. Med. J. Aust. 147:162.

Incident cases of malignant mesothelioma in Australia 1945 - 1995

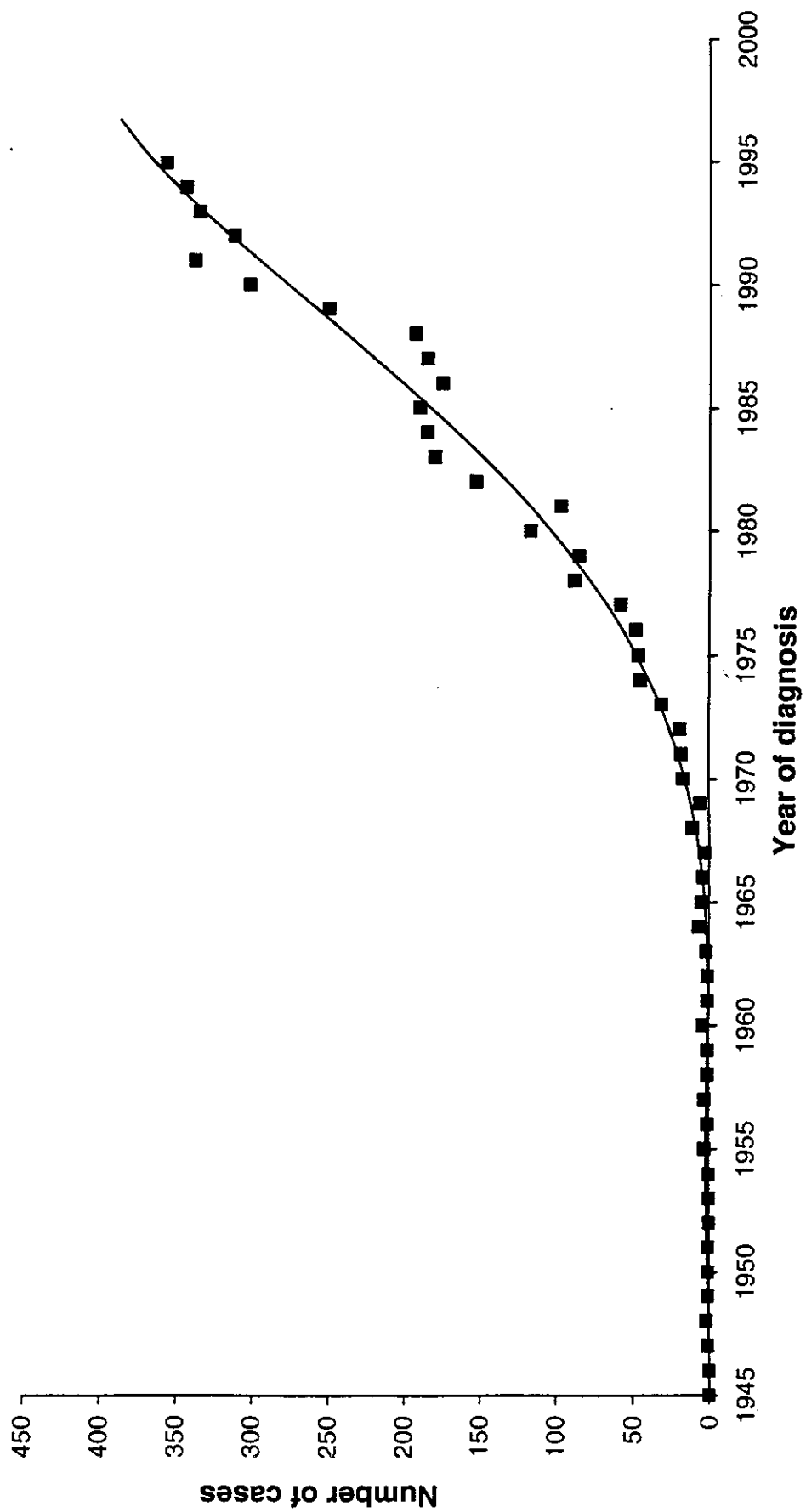


Table 1 TABULATION OF MALE CASES OF MESOTHELIOMA IN AUSTRALIA, 1992 BY AGE AND STATE									
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
20-24	0	0	1	0	0	0	0	0	1
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	1	0	0	0	1
35-39	0	0	0	1	0	0	0	0	1
40-44	4	2	0	0	4	0	0	0	10
45-49	3	3	1	1	2	0	0	0	10
50-54	6	3	4	2	1	0	0	0	16
55-59	7	4	3	4	8	0	0	0	26
60-64	15	11	6	7	6	0	0	0	45
65-69	23	10	5	7	9	0	0	0	54
70-74	11	12	6	4	3	2	0	0	38
75-79	11	15	0	11	4	1	0	0	42
80-84	4	3	3	6	3	0	0	0	19
85+	2	1	1	1	2	0	0	0	7
ALL AGES	86	64	30	44	43	3	0	0	270

Table 2 TABULATION OF FEMALE CASES OF MESOTHELIOMA IN AUSTRALIA 1992 BY AGE AND STATE									
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
20-24	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	1	1	0	0	2
35-39	0	0	1	0	0	0	0	0	1
40-44	0	1	1	0	0	0	0	0	2
45-49	0	0	0	1	1	0	0	0	2
50-54	0	0	1	0	1	0	0	0	2
55-59	1	1	0	0	0	0	0	0	2
60-64	1	0	1	1	1	0	0	0	4
65-69	3	2	2	0	0	0	0	0	7
70-74	1	3	2	0	0	0	0	0	6
75-79	1	0	1	1	0	0	0	0	3
80-84	0	1	2	2	1	0	0	0	6
85+	0	1	0	0	1	0	0	0	2
ALL AGES	7	9	11	5	6	1	0	0	39

Table 3 TABULATION OF AGE SPECIFIC INCIDENCE RATES FOR MESOTHELIOMA PER MILLION MALES IN AUSTRALIA, 1992 BY AGE AND STATE									
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
20-24	0.0	0.0	7.9	0.0	0.0	0.0	0.0	0.0	1.4
25-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-34	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0	1.4
35-39	0.0	0.0	0.0	17.9	0.0	0.0	0.0	0.0	1.5
40-44	18.1	12.3	0.0	0.0	60.8	0.0	0.0	0.0	15.3
45-49	15.6	21.5	10.1	21.7	36.9	0.0	0.0	0.0	17.8
50-54	39.0	26.4	51.5	55.0	23.7	0.0	0.0	0.0	35.8
55-59	53.6	41.5	47.5	125.2	236.4	0.0	0.0	0.0	69.6
60-64	116.9	117.6	99.4	216.0	190.7	0.0	0.0	0.0	124.4
65-69	198.5	120.0	91.6	229.0	331.4	0.0	0.0	0.0	166.1
70-74	128.0	199.5	144.8	174.8	156.2	303.1	0.0	0.0	158.9
75-79	190.0	362.2	0.0	700.8	299.1	208.4	0.0	0.0	258.7
80-84	131.1	128.0	200.1	710.5	393.3	0.0	0.0	0.0	214.9
85+	124.3	77.3	122.6	224.0	454.8	0.0	0.0	0.0	146.4
ALL AGES	41.3	41.3	28.8	85.4	75.2	18.8	0.0	0.0	44.4
SI	37.5	36.6	28.2	68.0	75.5	13.6	0.0	0.0	40.6
CR	0.28	0.27	0.23	0.42	0.53	0.15	0.00	0.00	0.30
LIFETIME RISK, 1 in:	351	371	442	238	190	660	-	-	338

Table 4 TABULATION OF AGE SPECIFIC INCIDENCE RATES FOR MESOTHELIOMA PER MILLION FEMALES IN AUSTRALIA, 1992 BY AGE AND STATE									
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
20-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-34	0.0	0.0	0.0	0.0	14.3	51.3	0.0	0.0	2.8
35-39	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	1.5
40-44	0.0	6.1	9.0	0.0	0.0	0.0	0.0	0.0	3.1
45-49	0.0	0.0	0.0	22.1	20.0	0.0	0.0	0.0	3.7
50-54	0.0	0.0	13.8	0.0	25.4	0.0	0.0	0.0	4.7
55-59	7.8	10.5	0.0	0.0	0.0	0.0	0.0	0.0	5.5
60-64	7.6	0.0	16.6	30.5	32.4	0.0	0.0	0.0	11.0
65-69	23.6	21.6	35.2	0.0	0.0	0.0	0.0	0.0	19.8
70-74	9.4	39.9	41.4	0.0	0.0	0.0	0.0	0.0	20.5
75-79	12.1	0.0	26.9	45.3	0.0	0.0	0.0	0.0	13.1
80-84	0.0	24.9	83.2	136.4	79.0	0.0	0.0	0.0	39.6
85+	0.0	31.3	0.0	0.0	104.4	0.0	0.0	0.0	17.2
ALL AGES	3.2	5.6	10.3	9.3	10.4	6.0	0.0	0.0	6.2
SI	2.7	4.2	8.3	6.1	9.2	5.1	0.0	0.0	5.0
CR	0.02	0.04	0.06	0.03	0.05	0.03	0.00	0.00	0.04
LIFETIME RISK, 1 in:	4130	2557	1605	3809	2169	3900	-	-	2757

Crude incidence of mesothelioma per million persons, Australia 1992 by age and sex

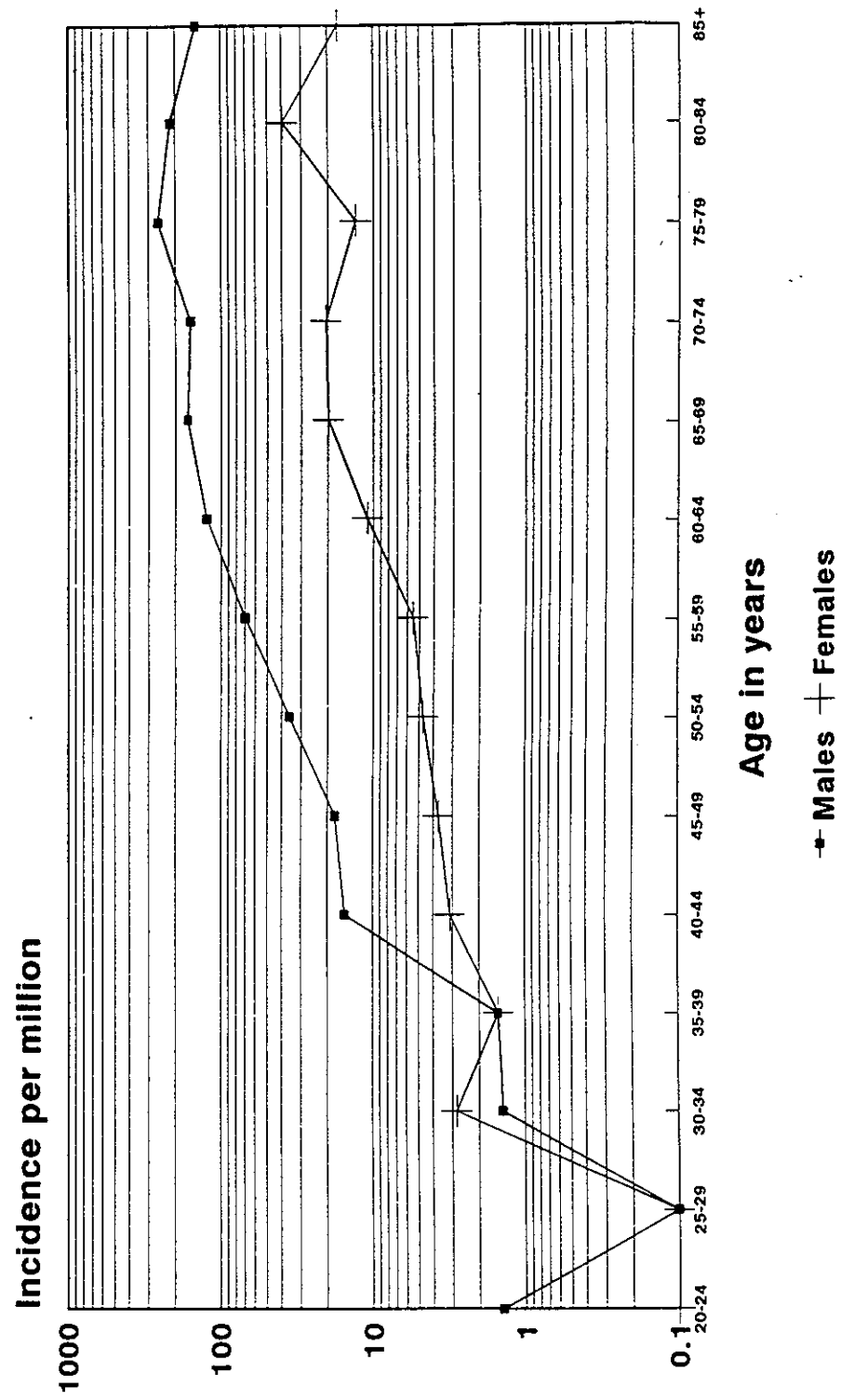


Table 5 TABULATION OF MALE CASES OF MESOTHELIOMA IN AUSTRALIA, 1993 BY AGE AND STATE									
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
20-24	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	1	0	0	0	0	0	1
35-39	1	0	0	0	0	0	0	0	1
40-44	1	3	2	0	0	0	0	0	6
45-49	6	1	2	0	7	0	0	0	16
50-54	7	4	3	2	3	1	0	0	20
55-59	9	5	3	3	5	0	0	0	25
60-64	18	10	8	5	9	1	0	0	51
65-69	14	8	7	2	4	1	0	0	36
70-74	13	19	9	5	14	2	0	1	63
75-79	16	11	5	2	1	2	0	0	37
80-84	3	9	0	1	9	0	0	0	22
85+	2	3	1	1	3	1	0	0	11
ALL AGES	90	73	41	21	55	8	0	1	289

Table 6 TABULATION OF FEMALE CASES OF MESOTHELIOMA IN AUSTRALIA 1993 BY AGE AND STATE									
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
20-24	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	0	0	1	0	1	0	0	0	2
40-44	1	0	1	0	0	0	0	0	2
45-49	1	0	0	3	2	0	0	0	6
50-54	0	0	0	0	2	0	0	0	2
55-59	1	1	1	0	1	0	0	0	4
60-64	0	0	2	0	1	0	0	0	3
65-69	1	2	0	1	2	0	0	0	6
70-74	3	2	0	2	1	0	0	0	8
75-79	0	3	0	1	1	0	0	0	5
80-84	1	0	1	1	1	0	0	0	4
85+	0	0	1	0	1	0	0	0	2
ALL AGES	8	8	7	8	13	0	0	0	44

Table 7 TABULATION OF AGE SPECIFIC INCIDENCE RATES FOR MESOTHELIOMA PER MILLION MALES IN AUSTRALIA, 1993 BY AGE AND STATE									
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
20-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-34	0.0	0.0	7.9	0.0	0.0	0.0	0.0	0.0	1.4
35-39	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
40-44	4.6	18.5	17.2	0.0	0.0	0.0	0.0	0.0	9.2
45-49	29.6	6.8	18.7	0.0	120.2	0.0	0.0	0.0	26.9
50-54	44.7	34.8	37.0	53.7	69.3	82.2	0.0	0.0	43.8
55-59	67.3	50.9	45.4	92.7	141.5	0.0	0.0	0.0	65.1
60-64	143.6	109.0	132.2	158.4	286.0	104.0	0.0	0.0	143.1
65-69	119.4	94.1	124.8	64.9	143.6	109.2	0.0	0.0	108.8
70-74	145.4	301.8	207.1	210.1	685.5	287.4	0.0	402.9	251.8
75-79	273.6	266.4	175.2	126.2	75.3	417.2	0.0	0.0	225.6
80-84	93.5	369.0	0.0	113.4	1132.4	0.0	0.0	0.0	237.5
85+	119.7	223.8	112.9	213.9	642.0	707.7	0.0	0.0	219.1
ALL AGES	42.8	46.8	38.0	40.4	94.6	49.6	0.0	9.8	46.9
SI	38.8	40.2	36.3	36.3	92.4	41.7	0.0	13.4	42.8
CR	0.28	0.31	0.30	0.29	0.72	0.29	0.00	0.20	0.33
LIFETIME RISK. 1 in:	358	325	339	345	138	343	-	496	307

Table 8 TABULATION OF AGE SPECIFIC INCIDENCE RATES FOR MESOTHELIOMA PER MILLION FEMALES IN AUSTRALIA, 1993 BY AGE AND STATE									
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
20-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35-39	0.0	0.0	8.4	0.0	14.7	0.0	0.0	0.0	2.9
40-44	4.6	0.0	8.7	0.0	0.0	0.0	0.0	0.0	3.1
45-49	5.1	0.0	0.0	62.3	37.3	0.0	0.0	0.0	10.5
50-54	0.0	0.0	0.0	0.0	49.8	0.0	0.0	0.0	4.6
55-59	7.6	10.3	15.9	0.0	29.4	0.0	0.0	0.0	10.7
60-64	0.0	0.0	33.3	0.0	32.6	0.0	0.0	0.0	8.4
65-69	7.8	21.5	0.0	30.1	68.7	0.0	0.0	0.0	16.8
70-74	27.4	25.6	0.0	68.8	41.2	0.0	0.0	0.0	26.4
75-79	0.0	50.4	0.0	45.1	53.9	0.0	0.0	0.0	21.6
80-84	17.8	0.0	39.5	65.6	76.2	0.0	0.0	0.0	25.5
85+	0.0	0.0	51.5	0.0	99.2	0.0	0.0	0.0	16.5
ALL AGES	3.7	4.9	6.4	14.8	22.1	0.0	0.0	0.0	6.9
SI	2.9	3.5	5.8	11.3	20.7	0.0	0.0	0.0	5.7
CR	0.03	0.03	0.03	0.08	0.14	0.00	0.00	0.00	0.04
LIFETIME RISK. 1 in:	3801	3486	3016	1241	731	-	-	-	2400

Crude incidence of mesothelioma per million persons, Australia 1993 by age and sex

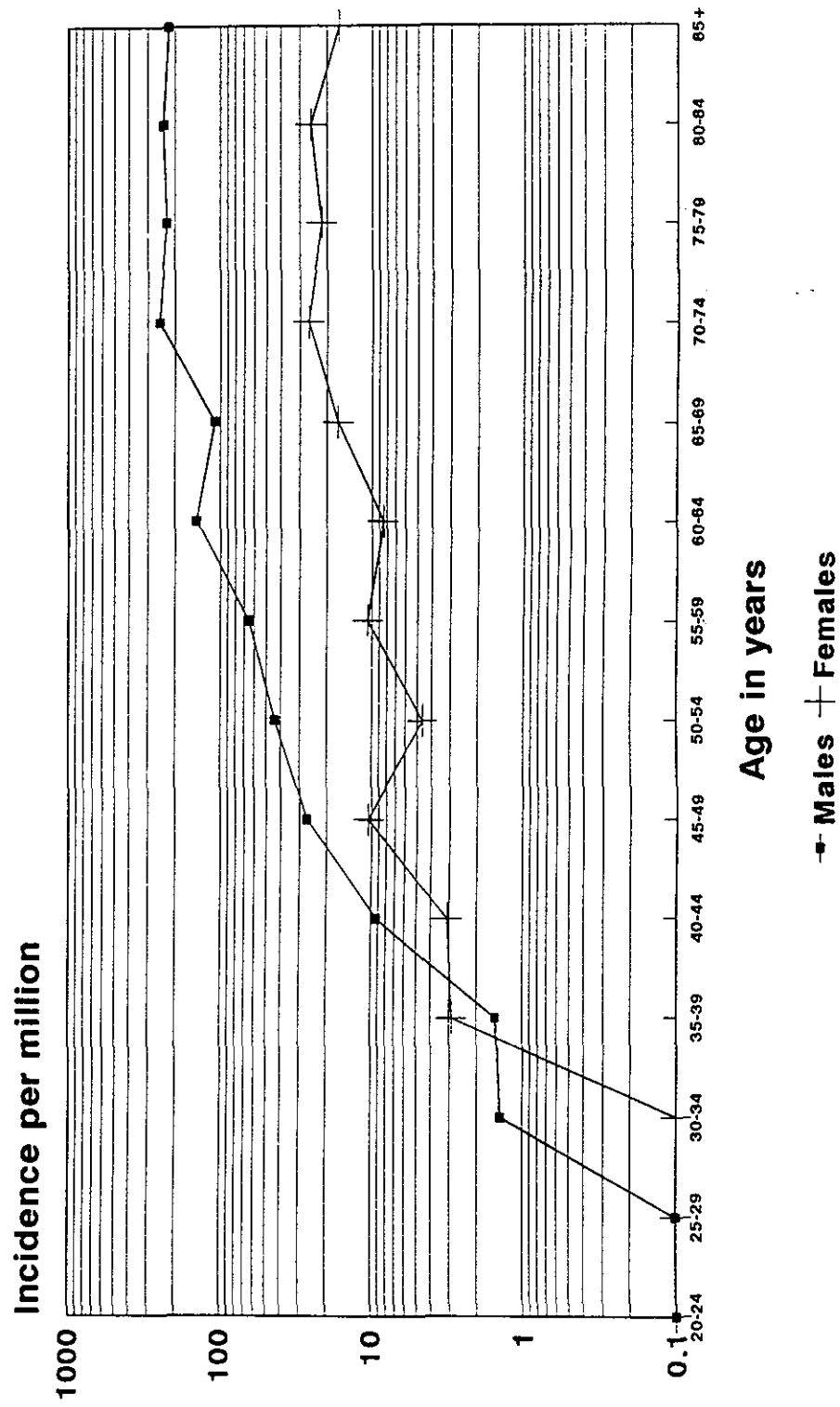


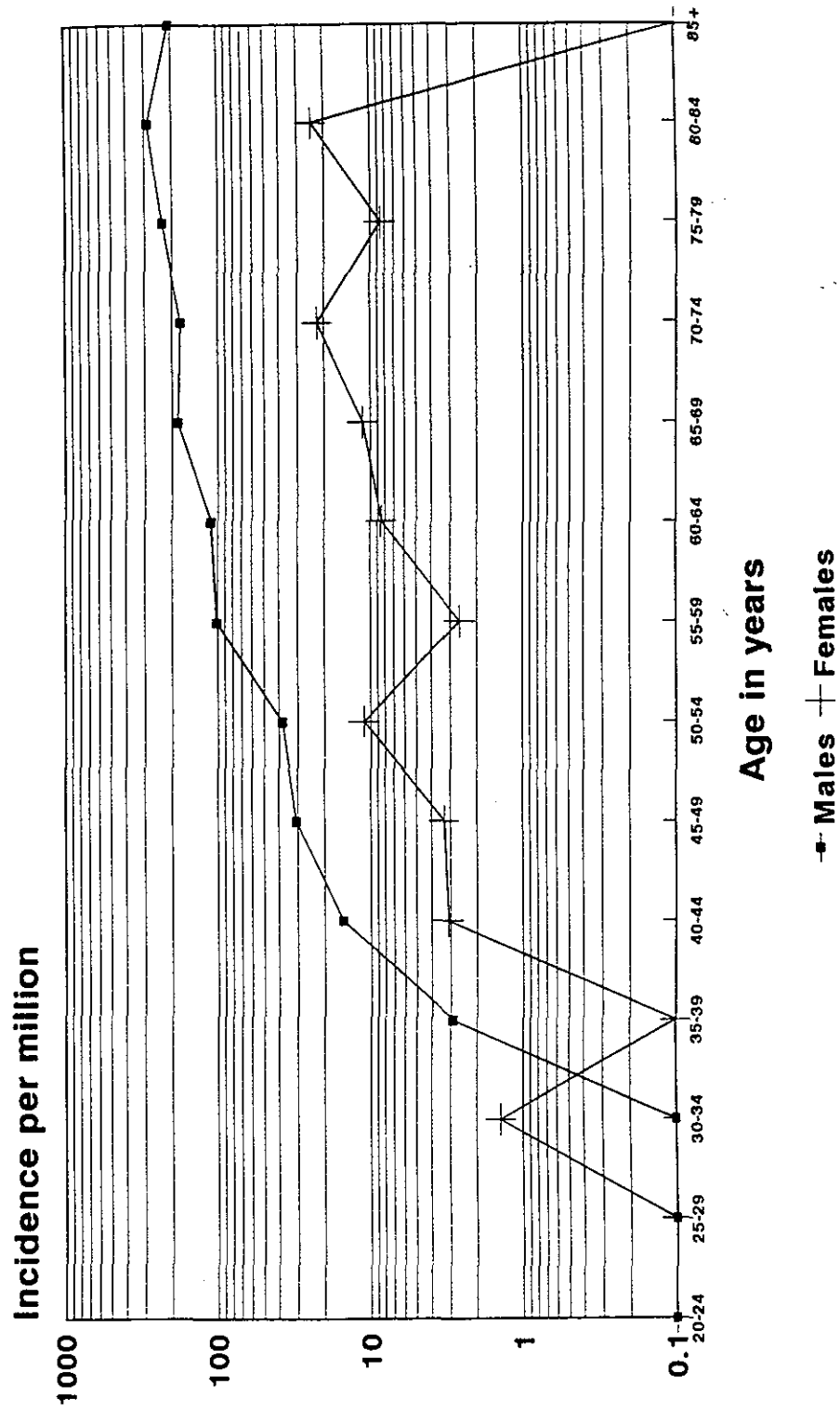
Table 9 TABULATION OF MALE CASES OF MESOTHELIOMA IN AUSTRALIA, 1994 BY AGE AND STATE									
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
20-24	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	0	0	1	0	1	0	0	0	2
40-44	0	2	6	0	2	0	0	0	10
45-49	5	3	4	3	3	0	0	1	19
50-54	3	4	6	1	4	0	0	0	18
55-59	13	6	9	2	9	1	0	0	40
60-64	8	8	8	4	8	2	0	1	39
65-69	29	8	10	7	6	1	0	0	61
70-74	22	9	4	5	5	1	0	0	46
75-79	15	5	5	4	7	2	0	0	38
80-84	16	2	3	3	4	0	0	0	28
85+	4	3	2	1	1	0	0	0	11
ALL AGES	115	50	58	30	50	7	0	2	312

Table 10 TABULATION OF FEMALE CASES OF MESOTHELIOMA IN AUSTRALIA 1994 BY AGE AND STATE									
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
20-24	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	1	0	0	0	0	0	0	0	1
35-39	0	0	0	0	0	0	0	0	0
40-44	0	0	0	2	0	0	0	0	2
45-49	0	1	0	0	1	0	0	0	2
50-54	2	2	0	0	1	0	0	0	5
55-59	1	0	0	0	0	0	0	0	1
60-64	0	1	2	0	0	0	0	0	3
65-69	0	3	0	0	1	0	0	0	4
70-74	1	2	1	3	0	0	0	0	7
75-79	2	0	0	0	0	0	0	0	2
80-84	1	2	0	0	1	0	0	0	4
85+	0	0	0	0	0	0	0	0	0
ALL AGES	8	11	3	5	4	0	0	0	31

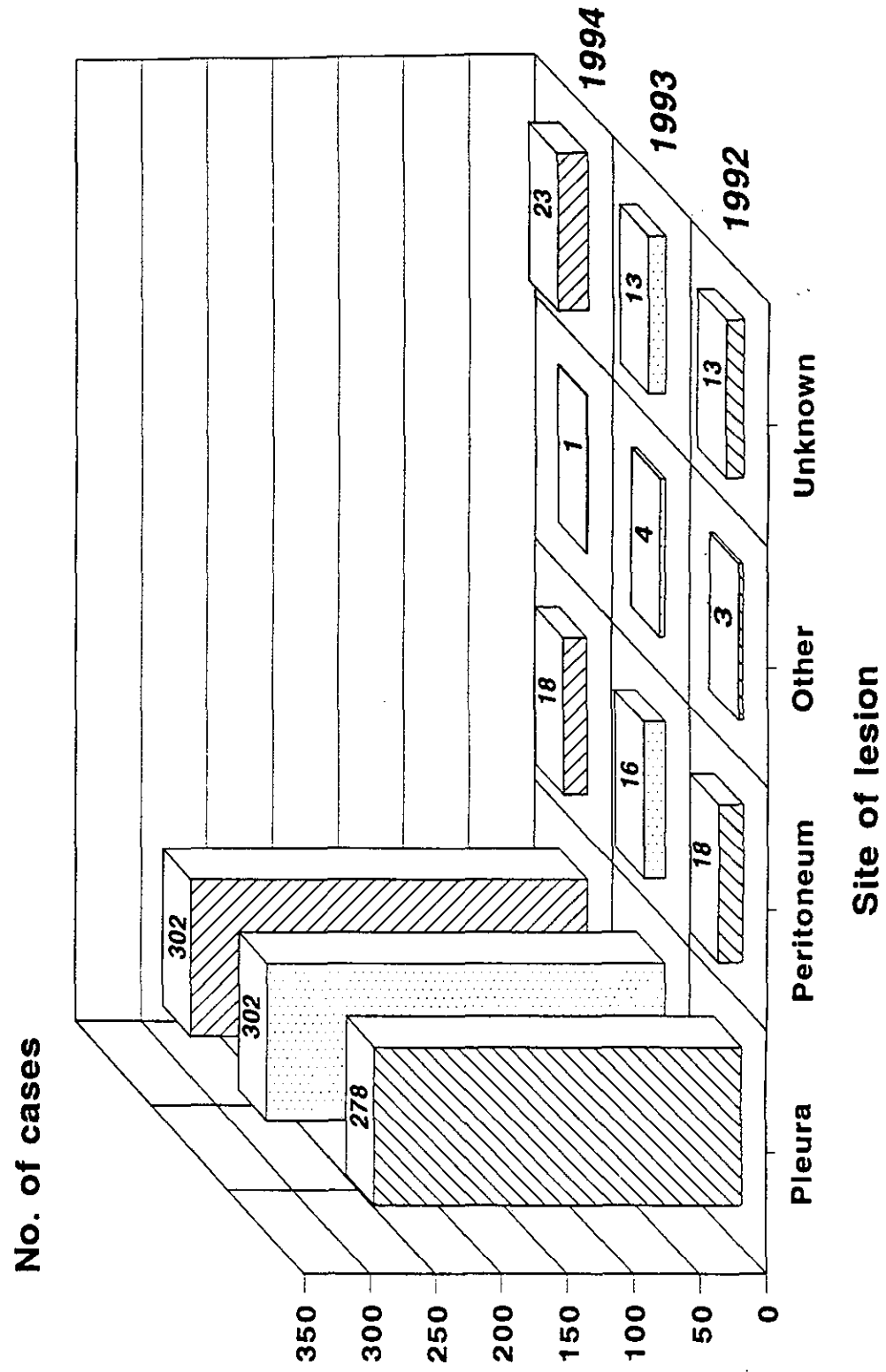
Table 11 TABULATION OF AGE SPECIFIC INCIDENCE RATES FOR MESOTHELIOMA PER MILLION MALES IN AUSTRALIA, 1994 BY AGE AND STATE									
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
20-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35-39	0.0	0.0	8.2	0.0	14.6	0.0	0.0	0.0	2.9
40-44	0.0	12.4	50.9	0.0	30.2	0.0	0.0	0.0	15.2
45-49	23.9	19.7	35.6	59.3	49.1	0.0	0.0	87.0	30.7
50-54	18.4	33.9	70.1	26.0	88.5	0.0	0.0	0.0	37.9
55-59	94.8	59.8	129.4	60.7	243.9	95.3	0.0	0.0	101.0
60-64	65.0	88.3	132.2	129.4	254.3	210.5	0.0	235.7	110.8
65-69	245.7	93.7	174.4	227.3	211.4	109.2	0.0	0.0	182.7
70-74	235.6	135.7	87.3	200.8	229.7	137.3	0.0	0.0	175.0
75-79	254.2	121.2	171.3	253.5	530.5	423.2	0.0	0.0	230.3
80-84	472.5	78.3	178.1	321.7	481.6	0.0	0.0	0.0	286.8
85+	226.0	213.6	212.0	200.4	202.4	0.0	0.0	0.0	207.1
ALL AGES	54.0	31.8	52.1	57.3	84.4	43.2	0.0	19.1	49.9
SI	44.8	29.6	50.5	47.4	82.8	37.5	0.0	24.4	45.1
CR	0.34	0.22	0.34	0.35	0.56	0.28	0.00	0.16	0.33
LIFETIME RISK. 1 in:	293	451	291	284	178	362		620	305

Table 12 TABULATION OF AGE SPECIFIC INCIDENCE RATES FOR MESOTHELIOMA PER MILLION FEMALES IN AUSTRALIA, 1994 BY AGE AND STATE									
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
20-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-34	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
35-39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-44	0.0	0.0	0.0	36.9	0.0	0.0	0.0	0.0	3.1
45-49	0.0	6.7	0.0	0.0	17.6	0.0	0.0	0.0	3.3
50-54	12.9	17.5	0.0	0.0	23.9	0.0	0.0	0.0	11.1
55-59	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6
60-64	0.0	10.9	33.4	0.0	0.0	0.0	0.0	0.0	8.5
65-69	0.0	32.4	0.0	0.0	34.0	0.0	0.0	0.0	11.2
70-74	8.8	24.5	19.2	99.7	0.0	0.0	0.0	0.0	22.2
75-79	23.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6
80-84	17.0	46.5	0.0	0.0	73.0	0.0	0.0	0.0	24.3
85+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ALL AGES	3.6	6.7	2.6	9.2	6.7	0.0	0.0	0.0	4.8
SI	2.8	5.7	2.9	7.0	6.1	0.0	0.0	0.0	4.1
CR	0.02	0.05	0.03	0.07	0.04	0.00	0.00	0.00	0.03
LIFETIME RISK. 1 in:	6033	2172	3809	1464	2648				3159

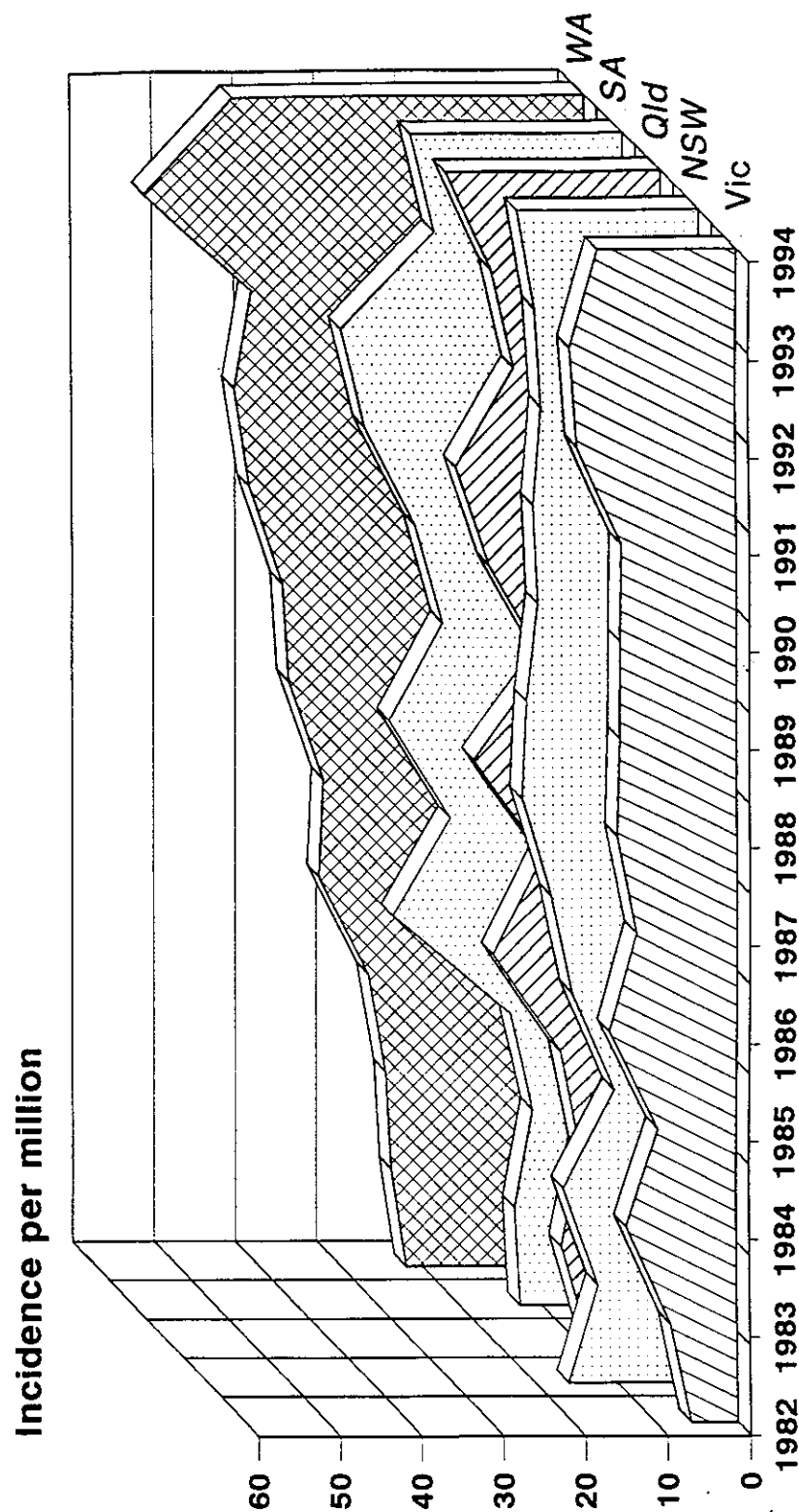
Crude incidence of mesothelioma per million persons, Australia 1994 by age and sex



Cases of mesothelioma in Australia, 1992-94, by site of primary lesion



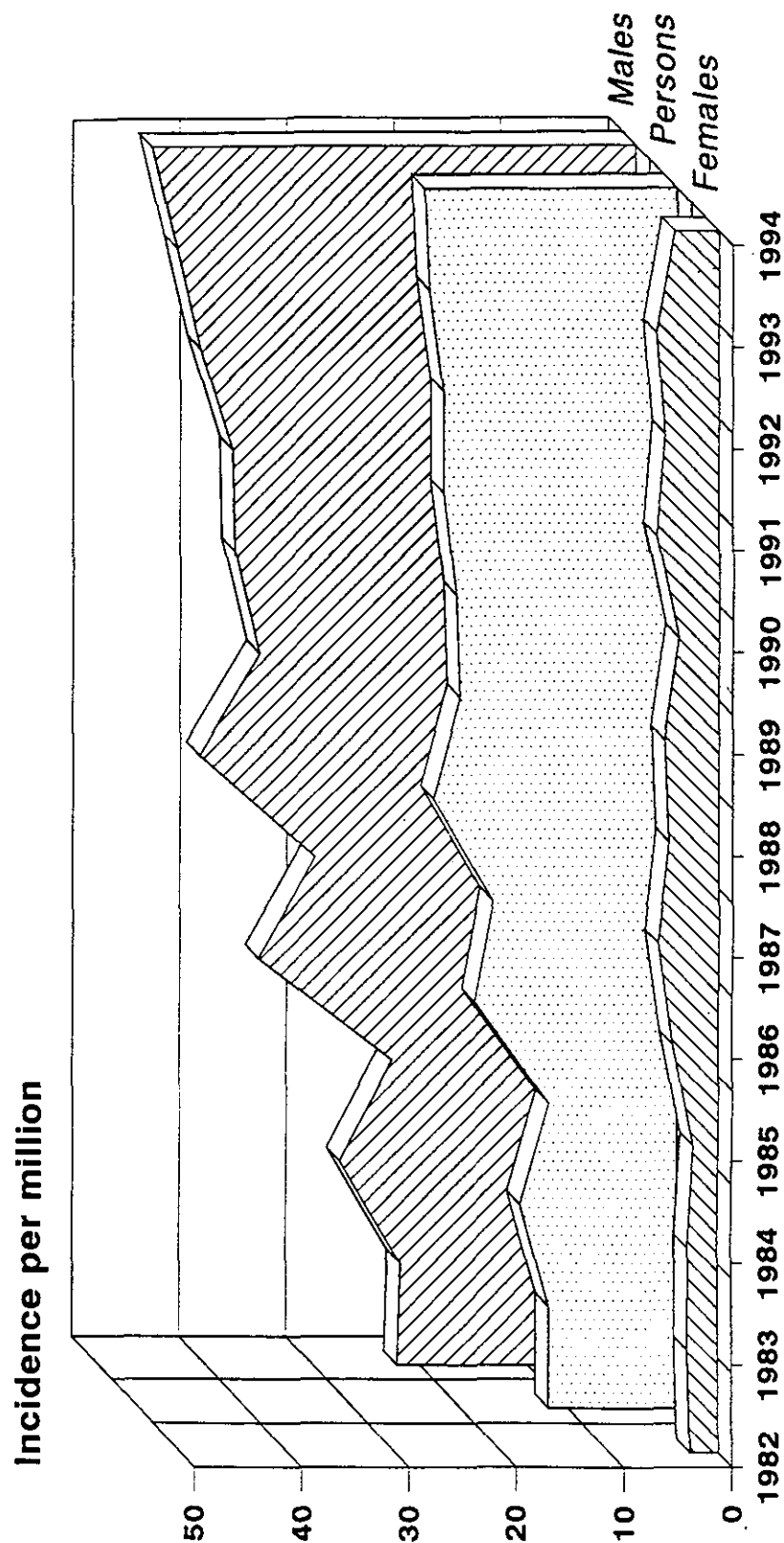
Trends in Australian incidence of mesothelioma per million persons by state, 1982-94.



Year of Diagnosis

Standardised to World Popn > 20 years

Trends in Australian incidence of mesothelioma per million persons by sex, 1982-94.



Standardised to World Popn > 20 years

Year of diagnosis

**ASBESTOS EXPOSURES AS DOCUMENTED IN THE AUSTRALIAN
MESOTHELIOMA REGISTER
FROM 1 JANUARY 1986 TO 31 MARCH 1995**

CIRCUMSTANCES OF EXPOSURE	NUMBER EXPOSED (WITH NO OTHER EXPOSURES) (Single)	NUMBER EXPOSED (WITH OTHER EXPOSURES) (Multiple)	TOTAL EXPOSURES
ACOUSTIC ENGINEER	1	-	1
AIRCONDITIONING	7	8	15
AIRCRAFT	7	-	7
ARMED FORCES /WARTIME	14	6	20
ASBESTOS BAGGING (NOT WITTENOOM)	2	-	2
ASBESTOS BAGS - HANDLED WHICH HAD CONTAINED	3	-	3
ASBESTOS CLOTHING WORN	4	1	5
ASBESTOS COVERS FOR COOKING	1	-	1
ASBESTOS DWELLING/FENCE - BUILT/RENOVATED	42	6	48
ASBESTOS DWELLING - LIVED IN	9	6	15
ASBESTOS PRODUCTS FACTORY - LIVED NEAR	6	2	8
ASBESTOS PRODUCTS FACTORY - WORKED NEAR	1	-	1
ASBESTOS MINE - WORKED/LIVED NEAR (NOT WITTENOOM)	7	1	8
ASBESTOS PRODUCT HANDLED IN THE WORKPLACE	31	6	37
ASBESTOS PRODUCT MANUFACTURER - WORKED	87	33	120
ASBESTOS PRODUCT PART OF WORKPLACE OR SURROUNDS	8	6	14
ASBESTOS TAILINGS - PLAYED ON AS A CHILD	1	-	1
ASBESTOS /OR PRODUCTS WORKER - LIVED WITH/ WASHED CLOTHES	28	3	31
BAKERY (OVENS)	2	-	2
BOILERMAKER/CLEANER/ATTENDANT/INSTALLER/ WELDER	59	35	94
BRAKE LININGS - MADE/ REPAIRED	37	9	46
BRICKLAYER	7	1	8
BRICKWORKS	8	3	11
BUILDER/ BUILDER'S LABOURER	105	22	127
CARPENTER/JOINER	131	28	159

CIRCUMSTANCES OF EXPOSURE	NO. EXPOSED (WITH NO OTHER EXPOSURES) (Single)	NO. EXPOSED (WITH OTHER EXPOSURES) (Multiple)	TOTAL EXPOSURES
CIVIL ENGINEER	1	-	1
CEMENT FACTORY WORKER	4	-	4
CHEMICAL ENGINEER (CSR)	1	-	1
CONCRETING	2	-	2
CONSTRUCTION WORKER	5	1	6
DEMOLITION	3	2	5
DESIGN ENGINEER	-	1	1
DIESEL ENGINEER	-	1	1
DOCKYARD WORKER	16	15	31
ELECTRICAL ENGINEER	3	1	4
ELECTRICAL FITTER	10	3	13
ELECTRICAL MECHANIC	2	-	2
ELECTRICIAN	30	6	36
ELECTROPLATER	-	1	1
ENGINEER	8	-	8
FIREPROOFING	3	-	3
FIREDOORS	3	-	3
FIREFIGHTER	2	2	4
FITTER/TURNER	27	11	38
FOUNDRY	2	1	3
FURNACE	4	-	4
GLASSWORKS/GLAZIERS	2	-	2
INDUSTRIAL CHEMIST	4	-	4
INDUSTRIAL ENGINEER	1	-	1
INSTRUMENT TECHNICIAN	1	-	1
INSULATION	6	1	7
JEWELLER	1	-	1
LABORATORY TECHNICIAN	1	-	1
LABOURER	15	3	18
LAGGER	21	12	33
LAGGING IN WORKPLACE	11	1	12
LAUNDRY/DRYCLEANERS	9	2	11
LINESMAN	4	-	4
LOCKSMITH	1	-	1
MACHINE FITTER	1	1	2

CIRCUMSTANCES OF EXPOSURE	NO. EXPOSED (WITH NO OTHER EXPOSURES) (Single)	NO. EXPOSED (WITH OTHER EXPOSURES) (Multiple)	TOTAL EXPOSURES
MAINTENANCE ELECTRICIAN	2	-	2
MACHINE INSPECTOR	2	-	2
MACHINE OPERATOR	1	-	1
MACHINIST	2	-	2
MAINTENANCE CARPENTER	1	-	1
MAINTENANCE ENGINEER	2	-	2
MAINTENANCE FITTER	10	3	13
MAINTENANCE MECHANIC	1	-	1
MAINTENANCE WORKER	7	2	9
MARINE ENGINEER	5	6	11
MECHANICAL ENGINEER	1	-	1
MECHANICAL FITTER	2	2	4
METAL FABRICATION	1	-	1
METALLURGY	1	-	1
NAVY	60	39	99
PAINTER/DECORATOR	30	5	35
PANELBEATER	3	-	3
PAPERMILL	2	1	3
PATTERNMAKER	2	1	3
PIPES - HANDLED/CUT/STORED/DRILLED	12	2	14
PLASTERER	9	5	14
PLUMBING	44	13	57
POWER STATION WORKER	59	39	98
PRESSURE PAK MANUFACTURER	1	-	1
PRINTING	7	-	7
RAILWAYS	63	31	94
RENOVATIONS/MAINTENANCE/LAGGING IN WORKPLACE	13	2	15
ROOFING	2	2	4
SHEETMETAL	5	9	14
SHIPS - BUILDING/REPAIRING/ON	60	47	107
SHOP FITTER	1	-	1
SITE VISITS/INSPECTIONS	4	2	6
SMELTING	1	-	1
STEELWORKS	7	2	9

CIRCUMSTANCES OF EXPOSURE	NO. EXPOSED (WITH NO OTHER EXPOSURES) (Single)	NO. EXPOSED (WITH OTHER EXPOSURES) (Multiple)	TOTAL EXPOSURES
TELEPHONE TECHNICIAN	5	2	7
STOREMAN	10	-	10
STOVES	2	-	2
SUGAR MILL	6	4	10
TANNERY	1	-	1
TILER	3	-	3
TOOLMAKER	3	1	4
TRADES ASSISTANT	8	-	8
TRANSPORTING ASBESTOS	7	3	10
TRANSPORTING ASBESTOS PRODUCT	6	1	7
TYRE FACTORY	7	4	11
WATERSIDE WORKER	54	7	61
WEIGHING TRUCKS	1	-	1
WELDER	13	5	18
WHITEWASH -GREECE/CYPRUS	2	1	3
WITTENOOM	114	18	132
WOOD MACHINIST	1	-	1

Asbestos exposure

single

1,478

multiple

280

No apparent asbestos exposure

361

No response to questionnaire

254

Total cases from 1/1/86 - 31/3/95

2,373

**Proportion of respondents with
asbestos exposure**

1,758
2,119

=83%



NATIONAL INSTITUTE OF OCCUPATIONAL HEALTHY AND SAFETY
(WORKSAFE AUSTRALIA)

AUSTRALIAN MESOTHELIOMA REGISTER NOTIFICATION

Please direct all correspondence to:

The Registrar
Australian Mesothelioma Register
Worksafe Australia
GPO Box 58 Sydney NSW 2001
Telephone: (02) 577 9304

Patient details - please supply **ALL** available information

SURNAME: FIRST NAMES:

ADDRESS:

STATE: POSTCODE: GENDER: M / F DATE OF BIRTH: / /

IF DECEASED, DATE OF DEATH: / / PLACE OF DEATH:

DATE OF INITIAL DIAGNOSIS: Month Year: HISTOLOGICAL: YES / NO

HOSPITAL DIAGNOSED: PRIMARY SITE:

CLINICIAN'S NAME: NAME OF LOCAL GP:

ADDRESS: ADDRESS:

Please describe briefly main occupation(s) of patient's worklife.

OCCUPATION	INDUSTRY	YEAR
1.	1.	19 - 19
2.	2.	19 - 19
3.	3.	19 - 19

KNOWN ASBESTOS EXPOSURE: YES / NO

If "YES" please indicate circumstances and duration:

Details of person completing this form.

NAME: SIGNATURE:

ADDRESS: DATE:

Please circle the appropriate category: CLINICIAN PATHOLOGIST CANCER REGISTRY MEDICAL RECORDS ADMIN
DUST DISEASES BOARD OTHER:

Office Use Only