

Asbestosis includes ICD-8 code 515.2 (asbestosis) for 1968-1978 and ICD-9 code 501 (asbestosis) for 1979-1990.

- The total number of deaths with mention of asbestosis between 1968 and 1990 was 8,215. No deaths occurred before age 25. The annual number of deaths increased from 77 in 1968 to 948 in 1990. Racial distribution was 93% whites, 6% blacks, and less than 1% for other races. Over 95% of deaths with asbestosis occurred in males.

- See Tables 1-3, 1-4, and 1-5 for data.

- See Appendix A for information about multiple cause of death data.

- The geographic distribution of deaths with asbestosis is generally coastal. The state with the largest number of deaths with asbestosis occurring over this period was California (n = 954).

- See Table 1-5 for data.

Figure 1-1. Asbestosis: number of deaths, U.S. residents age 15 and over, 1968-1990

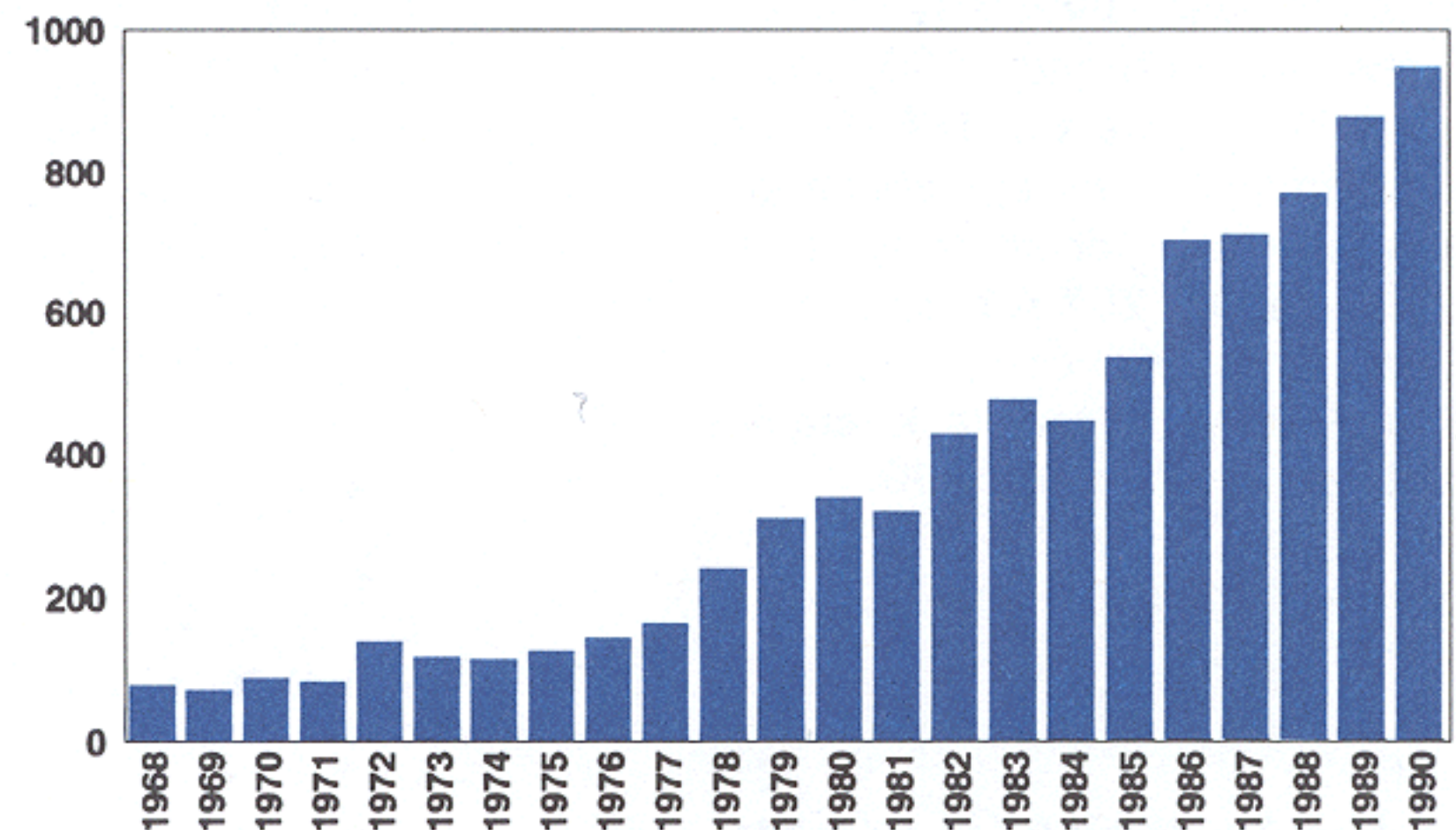
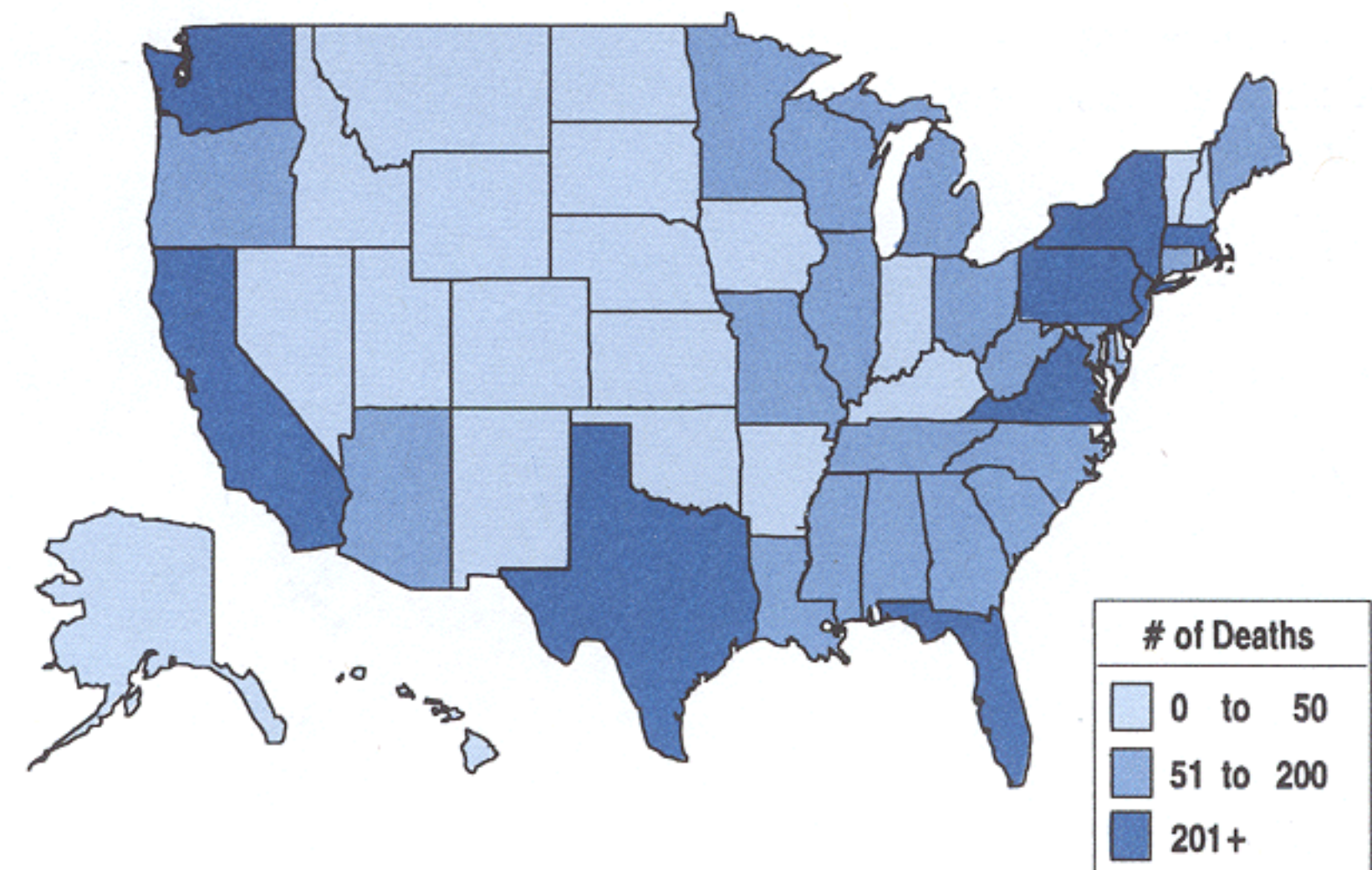


Figure 1-2. Asbestosis: number of deaths, U.S. residents age 15 and over, by state, 1979-1990



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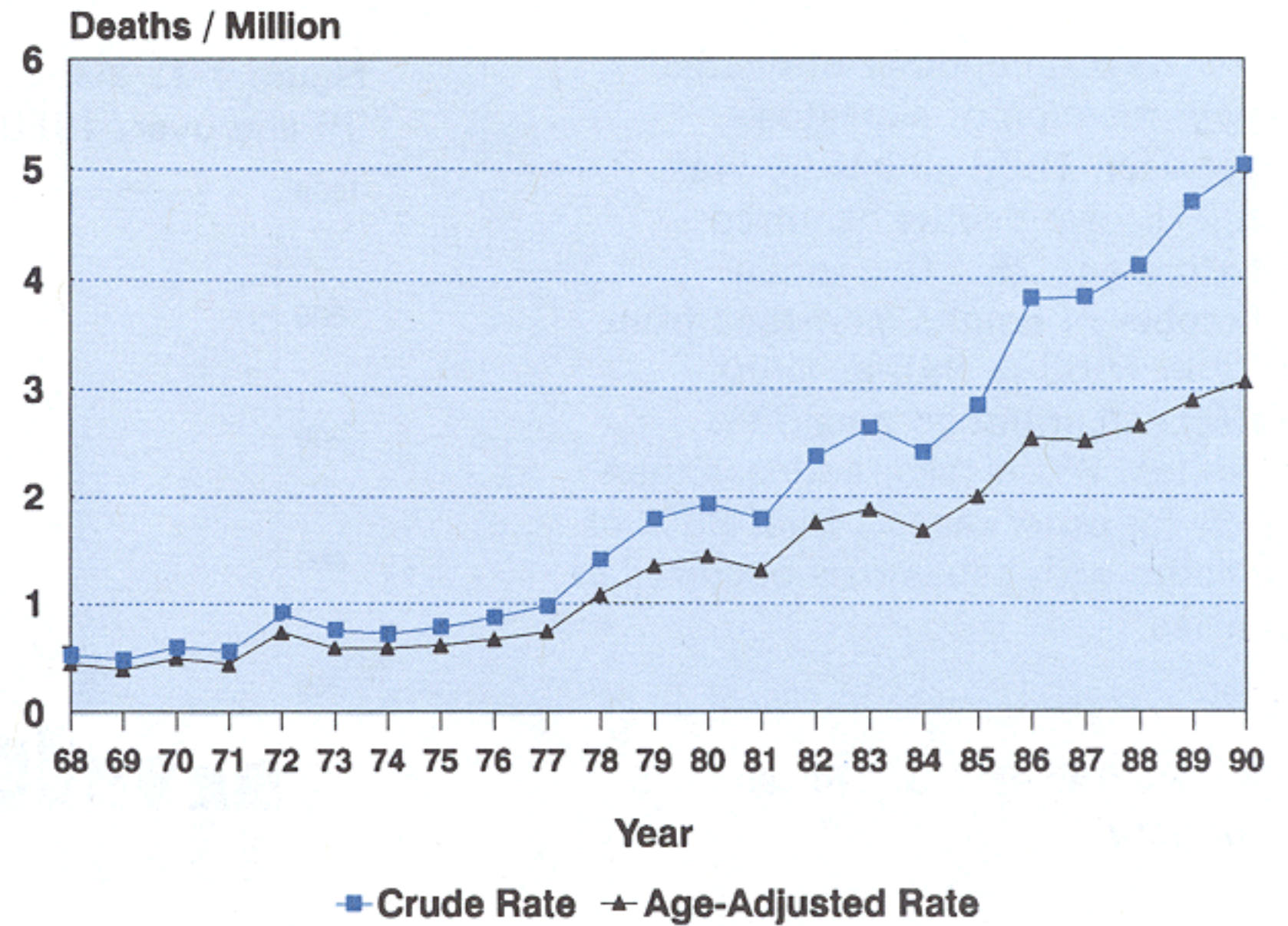
Mortality

- The crude mortality rate increased by 850% between 1968 and 1990; 846% for white males and 1,774% for black males. The age-adjusted mortality rate increased by nearly 600% between 1968 and 1990; 642% for white males and 1664% for black males. The age-adjusted mortality rate for white females increased by 257% between 1968 and 1990 compared to 150% increase for black females between 1978 and 1990.

- See Tables 1-6 and 1-7 for data.

- See Appendix B for methods.

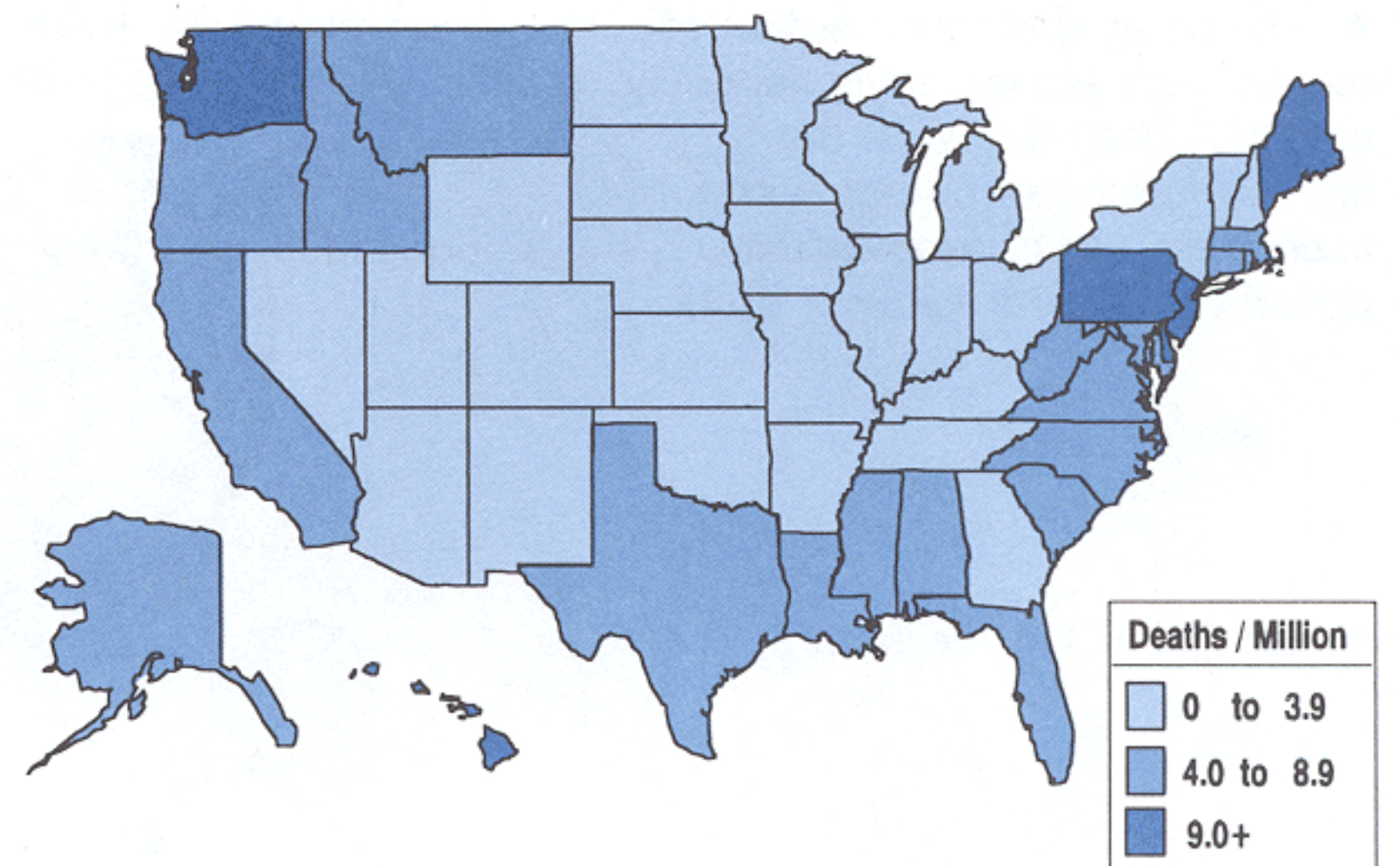
Figure 1-3. Asbestosis: crude and age-adjusted mortality rates, U.S. residents age 15 and over, 1968-1990



- The state with the highest crude mortality rate for this time period was Delaware. Other states which ranked in the top 20 were all coastal, except for Montana, Idaho, and West Virginia.

- See Table 1-10 for data.

Figure 1-4. Asbestosis: crude mortality rates, U.S. residents age 15 and over, by state, 1989-1990



ASBESTOSIS**Mortality****Table 1-1. Asbestosis: most frequently recorded occupations on death certificate, U.S. residents age 15 and over, selected states and years, 1985-1990**

COC	Occupation	Number	Percent
585	Plumbers, pipefitters and steamfitters	107	9.8
593	Insulation workers	81	7.4
019	Managers and administrators, n.e.c.	44	4.0
575	Electricians	43	3.9
637	Machinists	34	3.1
889	Laborers, except construction	32	2.9
643	Boilermakers	30	2.7
633	Supervisors in production operations	29	2.6
453	Janitors and cleaners	28	2.6
567	Carpenters	26	2.4
	All other occupations	598	54.6
	Occupation not reported	44	4.0
	TOTAL	1,096	100.0

COC - 1980 Census Occupation Code

n.e.c. - not elsewhere classified

NOTE: See Appendix C for list of 25 states reporting usual occupation and years reporting.

SOURCE: National Center for Health Statistics multiple cause of death data tapes.

Table 1-2. Asbestosis: most frequently recorded industries on death certificate, U.S. residents age 15 and over, selected states and years, 1985-1990

CIC	Industry	Number	Percent
060	Construction	286	26.1
360	Ship and boat building and repairing	114	10.4
392	Not specified manufacturing industries	34	3.1
019	Industrial and miscellaneous chemicals	31	2.8
262	Miscellaneous nonmetallic mineral and stone products	31	2.8
400	Railroads	29	2.6
961	Homemaker, student, unemployed, volunteer	27	2.5
282	Fabricated structural metal products	24	2.2
460	Utility services - electric light and power	18	1.6
901	General government, n.e.c.	17	1.6
942	Military	15	1.4
	All other industries	419	38.2
	Industry not reported	51	4.7
	TOTAL	1,096	100.0

CIC - 1980 Census Industry Code

n.e.c. - not elsewhere classified

NOTE: See Appendix C for list of 25 states reporting usual industry and years reporting.

SOURCE: National Center for Health Statistics multiple cause of death data tapes.

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Table 1-3. Asbestosis: number of deaths, U.S. residents age 15 and over, by age, race, and sex, 1968-1990

Years		1968-1978		1979-1990		1989-1990	
Total Deaths		1,359	%	6,856	%	1,826	%
Sex	Male	1,298	95.5	6,564	95.7	1,750	95.8
	Female	61	4.5	292	4.3	76	4.2
Race	White	1,295	95.3	6,366	92.9	1,671	91.5
	Black	62	4.6	451	6.6	140	7.7
	Other	2	0.1	39	0.6	15	0.8
Race/Sex	White Male	1,235	90.9	6,087	88.8	1,602	87.7
	White Female	60	4.4	279	4.1	69	3.8
	Black Male	61	4.5	439	6.4	134	7.3
	Black Female	1	0.1	12	0.2	6	0.3
	Other Male	2	0.1	38	0.5	14	0.8
	Other Female	0	0.0	1	0.0	1	0.1
Age	Years						
	15-24	0	0.0	0	0.0	0	0.0
	25-34	1	0.1	2	0.0	0	0.0
	35-44	10	0.7	33	0.5	8	0.4
	45-54	154	11.3	248	3.6	36	2.0
	55-64	501	36.9	1,375	20.1	258	14.1
	65-74	464	34.1	2,773	40.4	723	39.6
	75-84	202	14.9	1,999	29.2	643	35.2
	85 and Over	27	2.0	426	6.2	158	8.7
	Mean	65.1		70.8		72.9	
Range	27-92		31-99		35-96		

NOTE: See Appendix B for methods. Percentages may not total to 100% due to rounding.

SOURCE: National Center for Health Statistics multiple cause of death data tapes.

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Table 1-4. Asbestosis: number of deaths, U.S. residents age 15 and over, by state, 1968-1978

State	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	TOTAL
Alabama	-	-	-	-	-	-	1	1	-	2	2	6
Alaska	1	-	-	-	-	-	-	1	1	-	-	3
Arizona	-	-	1	-	6	1	1	3	3	2	3	20
Arkansas	-	-	-	-	-	-	-	-	-	-	1	1
California	6	10	5	11	8	17	9	11	23	24	33	157
Colorado	1	-	-	-	-	-	-	-	-	2	2	5
Connecticut	-	1	1	2	4	2	2	4	-	2	4	22
Delaware	-	-	-	-	-	-	-	2	1	-	1	4
District of Columbia	-	1	-	-	-	1	-	-	-	-	-	2
Florida	2	2	2	-	2	3	3	2	4	2	15	37
Georgia	3	-	1	-	2	3	3	1	1	-	2	16
Hawaii	-	-	-	-	-	-	-	-	-	-	1	1
Idaho	-	-	-	-	-	1	1	-	1	-	-	3
Illinois	3	1	5	3	6	1	5	2	3	6	5	40
Indiana	1	-	1	1	-	-	1	1	-	-	4	9
Iowa	1	-	-	-	-	-	1	1	1	1	-	5
Kansas	-	-	-	-	-	-	-	1	-	-	-	1
Kentucky	-	-	1	-	-	-	-	-	-	-	1	2
Louisiana	1	1	-	1	2	2	-	-	3	1	2	13
Maine	-	1	1	1	-	1	1	1	2	-	1	9
Maryland	-	1	-	2	-	4	1	-	5	4	2	19
Massachusetts	4	6	4	3	16	11	8	14	10	13	15	104
Michigan	1	-	2	1	-	2	-	2	3	4	4	19
Minnesota	1	-	2	1	-	1	2	-	1	1	2	11
Mississippi	-	-	-	-	-	-	-	-	1	-	1	2
Missouri	-	1	-	1	2	-	3	4	5	2	5	23
Montana	-	-	-	-	-	-	2	1	-	-	-	3
Nebraska	-	-	-	-	2	-	-	-	-	-	-	2
Nevada	-	1	-	1	-	-	-	-	-	1	-	3
New Hampshire	-	-	-	1	-	-	-	-	1	2	1	5
New Jersey	18	18	17	15	28	14	24	18	21	26	33	232
New Mexico	-	-	-	-	-	1	-	-	-	-	3	4
New York	8	4	7	14	4	8	6	9	11	6	14	91
North Carolina	2	4	5	1	-	3	3	1	2	1	2	24
North Dakota	-	-	-	-	-	-	-	-	-	-	-	-
Ohio	2	-	5	3	6	1	1	3	1	4	6	32
Oklahoma	-	-	-	-	-	-	-	1	-	-	2	3
Oregon	1	-	2	1	2	2	1	2	3	4	7	25
Pennsylvania	6	9	11	11	22	20	17	18	11	15	25	165
Rhode Island	-	-	-	1	-	-	1	-	-	2	1	5
South Carolina	3	5	3	1	2	2	3	3	2	5	8	37
South Dakota	-	-	-	-	-	-	-	-	-	-	1	1
Tennessee	1	-	-	-	4	-	-	1	-	5	1	12
Texas	2	2	2	-	6	1	4	3	6	4	4	34
Utah	-	-	-	-	-	-	-	-	-	-	1	1
Vermont	-	2	-	-	-	-	-	-	-	-	-	2
Virginia	2	1	4	1	2	2	2	5	3	9	8	39
Washington	6	-	4	6	8	10	7	8	12	10	10	81
West Virginia	-	-	1	-	-	-	1	1	-	1	2	6
Wisconsin	1	-	-	-	2	3	-	1	2	2	5	16
Wyoming	-	-	-	-	2	-	-	-	-	-	-	2
TOTAL	77	71	87	83	138	117	114	126	143	163	240	1,359

NOTE: See Appendix B for methods.

SOURCE: National Center for Health Statistics multiple cause of death data tapes.

- indicates quantity zero.

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Table 1-5. Asbestosis: number of deaths, U.S. residents age 15 and over, by state, 1979-1990

State	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
Alabama	2	2	-	5	4	4	7	9	6	10	22	21	92
Alaska	-	-	-	-	-	-	-	1	-	-	2	1	4
Arizona	5	2	2	6	3	7	10	5	8	7	3	6	64
Arkansas	-	1	2	2	1	3	-	7	10	4	1	4	35
California	63	59	57	86	67	77	83	112	80	81	87	102	954
Colorado	-	-	-	-	6	7	3	6	3	6	3	4	38
Connecticut	3	3	4	2	11	7	8	12	9	10	14	11	94
Delaware	-	-	-	-	3	-	1	3	3	8	13	6	37
District of Columbia	1	-	1	-	1	-	-	2	1	-	-	-	6
Florida	17	10	9	12	20	19	27	35	41	59	56	43	348
Georgia	3	4	2	8	5	2	4	11	12	8	6	13	78
Hawaii	2	-	1	3	1	2	5	2	3	3	6	3	31
Idaho	2	-	-	4	1	2	2	3	6	4	5	4	33
Illinois	6	8	13	4	11	11	14	15	10	11	26	18	147
Indiana	3	4	2	6	3	4	3	3	3	5	5	8	49
Iowa	1	-	1	-	1	1	3	4	6	2	2	4	25
Kansas	1	-	-	1	1	-	2	3	5	3	5	2	23
Kentucky	1	-	6	2	-	2	4	4	3	4	4	1	31
Louisiana	2	3	5	9	9	4	11	11	7	12	20	20	113
Maine	3	6	11	3	8	3	7	11	9	12	8	17	98
Maryland	8	2	7	11	12	9	13	16	18	16	24	36	172
Massachusetts	21	33	14	26	29	16	24	37	31	30	43	36	340
Michigan	3	4	4	5	8	3	6	6	11	7	11	17	85
Minnesota	5	6	2	4	9	8	1	5	4	11	5	8	68
Mississippi	2	2	5	10	4	1	5	8	12	15	17	16	97
Missouri	5	2	5	8	6	3	9	12	7	11	7	9	84
Montana	-	-	2	2	2	2	3	2	1	2	8	6	30
Nebraska	3	-	-	-	-	1	-	4	5	2	2	3	20
Nevada	-	1	2	1	1	1	3	4	3	1	-	2	19
New Hampshire	1	5	5	3	5	1	1	9	6	8	2	2	48
New Jersey	34	46	43	52	51	49	63	82	80	83	102	115	800
New Mexico	-	1	1	1	1	-	1	1	4	2	5	2	19
New York	12	13	12	16	25	24	10	25	30	29	32	44	272
North Carolina	4	8	4	6	9	10	15	13	17	12	17	25	140
North Dakota	-	2	-	2	1	-	-	-	-	-	1	-	6
Ohio	7	9	8	10	9	10	17	14	21	12	23	27	167
Oklahoma	1	-	-	4	6	-	2	2	5	5	8	6	39
Oregon	5	6	9	8	13	13	10	12	18	21	17	12	144
Pennsylvania	24	35	32	33	36	60	54	54	65	79	101	67	640
Rhode Island	2	1	6	4	4	3	2	3	-	11	5	7	48
South Carolina	7	4	2	4	8	6	9	9	8	14	18	11	100
South Dakota	-	-	-	-	1	-	1	-	-	-	-	-	2
Tennessee	5	3	-	10	5	5	8	10	4	12	5	6	73
Texas	12	8	6	12	19	12	26	25	48	46	49	91	354
Utah	-	1	2	1	1	1	-	2	2	1	2	3	16
Vermont	2	-	-	1	1	1	1	1	2	1	-	1	11
Virginia	13	14	11	11	18	14	27	24	22	35	35	47	271
Washington	16	23	18	20	24	28	21	47	40	34	37	34	342
West Virginia	2	4	-	4	6	3	5	11	15	15	6	17	88
Wisconsin	-	4	2	6	6	6	3	5	4	4	7	9	56
Wyoming	-	-	-	-	-	-	-	-	2	1	1	1	5
TOTAL	309	339	318	428	476	445	534	702	710	769	878	948	6,856

NOTE: See Appendix B for methods.

SOURCE: National Center for Health Statistics multiple cause of death data tapes.

- indicates quantity zero.

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Table 1-6. Asbestosis: crude mortality rates (per 1,000,000 population), U.S. residents age 15 and over, by race and sex, 1968-1990

Year	Overall rate	White		Black	
		Males	Females	Males	Females
1968	0.53	1.08	0.09	0.39	-
1969	0.49	1.03	0.07	0.13	-
1970	0.60	1.30	0.03	0.52	-
1971	0.56	1.15	0.07	0.63	-
1972	0.91	2.04	0.03	0.49	-
1973	0.75	1.67	0.06	0.35	-
1974	0.72	1.51	0.11	0.57	-
1975	0.78	1.62	0.15	0.55	-
1976	0.87	1.89	0.04	0.96	-
1977	0.98	2.15	0.05	0.83	-
1978	1.41	3.01	0.13	1.41	0.09
1979	1.78	3.90	0.12	1.47	-
1980	1.93	4.09	0.19	2.17	-
1981	1.79	3.67	0.31	1.74	-
1982	2.37	5.03	0.25	2.41	-
1983	2.64	5.54	0.33	2.63	-
1984	2.41	5.20	0.18	2.53	0.07
1985	2.84	6.05	0.26	3.18	-
1986	3.82	7.94	0.32	4.88	0.09
1987	3.83	8.24	0.31	3.00	0.09
1988	4.12	8.72	0.28	4.43	0.25
1989	4.70	9.83	0.29	5.67	0.34
1990	5.02	10.22	0.51	7.31	0.16

NOTE: See Appendix B for methods.

SOURCE: National Center for Health Statistics multiple cause of death data tapes.
U.S. Bureau of the Census: 1970-1990 population estimates of the U.S.

- indicates no deaths listed.

ASBESTOSIS**Mortality****Table 1-7. Asbestosis: age-adjusted mortality rates (per 1,000,000 population), U.S. residents age 15 and over, by race and sex, 1968-1990**

Year	Overall rate	White		Black	
		Males	Females	Males	Females
1968	0.44	0.92	0.07	0.39	-
1969	0.39	0.85	0.05	0.13	-
1970	0.49	1.09	0.02	0.58	-
1971	0.44	0.94	0.06	0.62	-
1972	0.73	1.69	0.03	0.49	-
1973	0.58	1.37	0.03	0.37	-
1974	0.58	1.26	0.09	0.61	-
1975	0.61	1.33	0.10	0.54	-
1976	0.66	1.53	0.02	1.02	-
1977	0.74	1.73	0.03	0.86	-
1978	1.08	2.42	0.08	1.60	0.06
1979	1.34	3.09	0.08	1.63	-
1980	1.43	3.24	0.12	2.31	-
1981	1.30	2.88	0.20	1.78	-
1982	1.75	3.94	0.15	2.67	-
1983	1.88	4.26	0.19	2.57	-
1984	1.67	3.86	0.12	2.71	0.07
1985	1.99	4.61	0.14	3.23	-
1986	2.54	5.72	0.18	4.82	0.08
1987	2.52	5.88	0.17	2.96	0.05
1988	2.65	6.13	0.14	4.30	0.24
1989	2.89	6.63	0.14	5.35	0.20
1990	3.06	6.83	0.25	6.88	0.15

NOTE: See Appendix B for methods.

SOURCE: National Center for Health Statistics multiple cause of death data tapes.
U.S. Bureau of the Census: 1970-1990 population estimates of the U.S.

- indicates no deaths listed.

ASBESTOSIS**Mortality****Table 1-8. Asbestosis: years of potential life lost to age 65, U.S. residents age 15 and over, by race and sex, 1968-1990**

Year	Total	White		Black	
		Males	Females	Males	Females
1968	510	450	30	15	-
1969	245	225	10	5	-
1970	475	395	0	80	-
1971	305	260	30	15	-
1972	570	520	30	20	-
1973	380	355	5	20	-
1974	515	445	35	35	-
1975	450	410	30	10	-
1976	430	380	5	45	-
1977	485	460	5	20	-
1978	735	615	20	100	0
1979	860	705	20	130	-
1980	875	790	30	55	-
1981	760	670	55	35	-
1982	1,035	905	25	95	-
1983	1,050	890	50	95	-
1984	740	650	30	60	0
1985	880	795	10	60	-
1986	1,140	990	35	95	0
1987	1,090	980	30	80	0
1988	1,030	935	30	60	5
1989	950	840	5	80	15
1990	1,080	930	25	90	25

NOTE: See Appendix B for methods.

SOURCE: National Center for Health Statistics multiple cause of death data tapes.

- indicates no deaths listed.

ASBESTOSIS**Mortality****Table 1-9. Asbestosis: years of potential life lost to life expectancy, U.S. residents age 15 and over, by race and sex, 1968-1990**

Year	Total	White		Black	
		Males	Females	Males	Females
1968	1,382	1,072	115	44	-
1969	1,107	886	80	15	-
1970	1,511	1,201	27	101	-
1971	1,296	991	94	66	-
1972	2,245	1,849	59	62	-
1973	1,743	1,436	43	45	-
1974	1,905	1,465	150	82	-
1975	2,001	1,536	179	61	-
1976	2,171	1,699	43	140	-
1977	2,471	1,975	61	109	-
1978	3,727	2,840	164	240	12
1979	4,774	3,680	147	266	-
1980	5,025	3,878	234	288	-
1981	4,677	3,528	392	198	-
1982	6,496	4,932	299	371	-
1983	6,833	5,196	384	372	-
1984	6,051	4,667	240	359	14
1985	7,366	5,681	288	424	-
1986	9,430	7,269	376	539	14
1987	9,455	7,545	355	358	9
1988	9,992	7,900	303	471	48
1989	11,120	8,658	316	626	50
1990	11,956	9,045	555	795	51

NOTE: See Appendix B for methods.

SOURCE: National Center for Health Statistics multiple cause of death data tapes.

- indicates no deaths listed.

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Table 1-10. Asbestosis: number of deaths, crude and age-adjusted mortality rates (per 1,000,000 population), total years of potential life lost (YPLL), U.S. residents age 15 and over, by state, 1989-1990

State	Deaths		Crude mortality		Age-adjusted mortality		YPLL to age 65		YPLL to life expectancy	
	Rate	Rank	Rate	Rank	Rate	Rank	Years	Rank	Years	Rank
Alabama	43	13	6.97	14	4.46	13	45	14	574	12
Alaska	3	45	4.51	22	9.05	5	5	37	49	45
Arizona	9	33	1.69	40	1.00	40	10	29	111	36
Arkansas	5	40	1.39	44	0.72	46	5	37	60	42
California	189	2	4.47	23	2.94	21	195	2	2,292	2
Colorado	7	36	1.39	44	1.17	37	40	17	123	33
Connecticut	25	20	4.82	20	2.32	24	5	37	260	24
Delaware	19	23	18.28	1	12.95	2	40	17	272	22
District of Columbia	-	50	-	50	-	50	-	50	-	50
Florida	99	5	4.78	21	2.10	25	90	6	1,197	5
Georgia	19	23	1.93	38	1.53	33	45	14	286	21
Hawaii	9	33	15.86	3	14.19	1	10	29	114	34
Idaho	9	33	6.21	17	3.90	17	5	37	113	35
Illinois	44	12	2.53	30	1.54	32	50	13	545	14
Indiana	13	29	1.53	41	0.90	43	10	29	157	30
Iowa	6	39	1.40	43	0.80	44	0	45	78	39
Kansas	7	36	1.86	39	1.14	38	25	19	100	37
Kentucky	5	40	0.88	49	0.70	47	20	22	86	38
Louisiana	40	15	6.40	16	4.12	16	25	19	486	15
Maine	25	20	13.10	4	6.31	7	10	29	263	23
Maryland	60	10	8.14	12	5.86	8	65	10	796	9
Massachusetts	79	7	8.30	10	4.22	14	65	10	884	8
Michigan	28	19	1.98	36	1.53	33	90	6	470	16
Minnesota	13	29	1.97	37	1.27	36	15	26	169	28
Mississippi	33	16	8.67	8	5.00	10	20	22	389	17
Missouri	16	25	2.02	35	1.00	40	10	29	176	27
Montana	14	27	12.06	5	9.36	4	45	14	228	25
Nebraska	5	40	2.08	34	1.01	39	0	45	53	43
Nevada	2	46	1.08	47	0.74	45	0	45	28	47
New Hampshire	4	44	2.32	31	1.59	31	5	37	51	44
New Jersey	217	1	18.14	2	10.49	3	230	1	2,740	1
New Mexico	7	36	3.50	25	2.03	27	5	37	78	39
New York	76	8	2.74	29	1.66	30	140	5	1,006	7
North Carolina	42	14	4.08	24	2.70	23	55	12	563	13
North Dakota	1	48	1.06	48	0.69	48	0	45	14	48
Ohio	50	11	2.98	28	2.05	26	80	8	730	11
Oklahoma	14	27	3.10	26	1.70	29	10	29	162	29
Oregon	29	17	6.74	15	3.28	20	15	26	307	19
Pennsylvania	168	3	8.93	7	4.95	11	195	2	2,242	3
Rhode Island	12	31	7.58	13	3.75	18	20	22	143	32
South Carolina	29	17	5.43	19	3.53	19	10	29	340	18
South Dakota	-	50	-	50	-	50	-	50	-	50
Tennessee	11	32	1.45	42	0.97	42	10	29	150	31
Texas	140	4	5.57	18	4.19	15	160	4	1,808	4
Utah	5	40	2.20	32	1.81	28	5	37	65	41
Vermont	1	48	1.14	46	0.50	49	0	45	8	49
Virginia	82	6	8.66	9	6.42	6	80	8	1,029	6
Washington	71	9	9.91	6	5.51	9	25	19	758	10
West Virginia	23	22	8.24	11	4.56	12	15	26	288	20
Wisconsin	16	25	2.14	33	1.33	35	20	22	209	26
Wyoming	2	46	3.02	27	2.88	22	5	37	29	46

NOTE: See Appendix B for methods.

SOURCE: National Center for Health Statistics multiple cause of death data tapes.
U.S. Bureau of the Census: 1989-1990 population estimates of the U.S.

- indicates no deaths listed.

ASBESTOSIS

Mortality

Table 1-11. Asbestosis: proportionate mortality ratios (PMR), based on underlying cause of death, by usual occupation for selected states, 1985-1990

COC	Occupation	Number of deaths	PMR	95% confidence interval	
				LCL	UCL
593	Insulation workers	29	339.83	228.07	488.26
646	Lay-out workers	4	61.10	16.65	156.27
643	Boilermakers	9	43.51	19.96	82.56
585	Plumbers, pipefitters, steamfitters	31	17.61	11.90	25.16
653	Sheet metal workers	8	13.45	5.80	26.49
756	Mixing, blending machine operators	3	10.43	2.15	30.50
595	Roofers	3	10.02	2.07	29.31
575	Electricians	18	9.10	5.39	14.38
516	Heavy equipment mechanics	3	6.50	1.34	18.99
547	Specified mechanics/repairers, n.e.c.	3	5.86	1.21	17.15
057	Mechanical engineer	3	5.22	1.08	15.27
783	Welders and cutters	8	4.55	1.96	8.96
696	Stationary engineers	4	4.07	1.11	10.41
637	Machinists	13	3.40	1.81	5.81
633	Supervisors, production occupations	14	3.17	1.73	5.33
563	Brickmasons and stonemasons	3	3.15	0.65	9.22
779	Machine operators, not specified	11	3.13	1.56	5.60
558	Supervisors; construction, n.e.c.	4	2.43	0.66	6.23
777	Miscellaneous machine operators, n.e.c.	5	2.30	0.74	5.38
869	Construction laborers	9	2.27	1.04	4.31
844	Operating engineers	3	2.14	0.44	6.27
579	Painters, construction and maintenance	3	1.71	0.35	4.99
796	Production inspectors, checkers, examiners	3	1.55	0.32	4.53
567	Carpenters	7	1.40	0.56	2.89
913	Retired; with no other occupation listed	5	1.16	0.37	2.71
505	Automobile mechanics	3	1.14	0.24	3.34
019	Managers, administrators, n.e.c.	16	1.12	0.64	1.82
453	Janitors and cleaners	7	1.08	0.43	2.23

COC - 1980 Census Occupation Code n.e.c. - not elsewhere classified

LCL - lower confidence limit UCL - upper confidence limit

NOTE: See Appendix B for methods and Appendix C for list of selected states.

SOURCE: National Center for Health Statistics multiple cause of death data tapes.

Table 1-12. Asbestosis: estimated number of discharges from short-stay nonfederal hospitals, 1970-1991

Year	Number of cases
1970	300
1971	400
1972	100
1973	2,000
1974	1,000
1975	1,000
1976	1,000
1977	1,000
1978	3,000
1979	3,000
1980	4,000
1981	—
1982	2,000
1983	4,000
1984	6,000
1985	6,000
1986	6,000
1987	11,000
1988	8,000
1989	8,000
1990	—
1991	7,000

NOTE: Estimates have been rounded. No estimates are available for 1981 and 1990. NCHS recommends that in statistical comparison, estimates of less than 5,000 not be used and that estimates of 5,000 to 10,000 be used with caution.

SOURCE: National Center for Health Statistics National Hospital Discharge Survey.

ASBESTOSIS

Exposure

- The total number of asbestos samples reported by MSHA inspectors for non-coal mines has not exceeded 75 in any single year. The percentage of samples greater than the permissible exposure limit (PEL) fluctuated between 0 and 8%.

- See Table 1-13 for data.

Figure 1-5. Asbestos: total number of samples reported by MSHA inspectors and percent above PEL, U.S. non-coal mines, 1982-1991

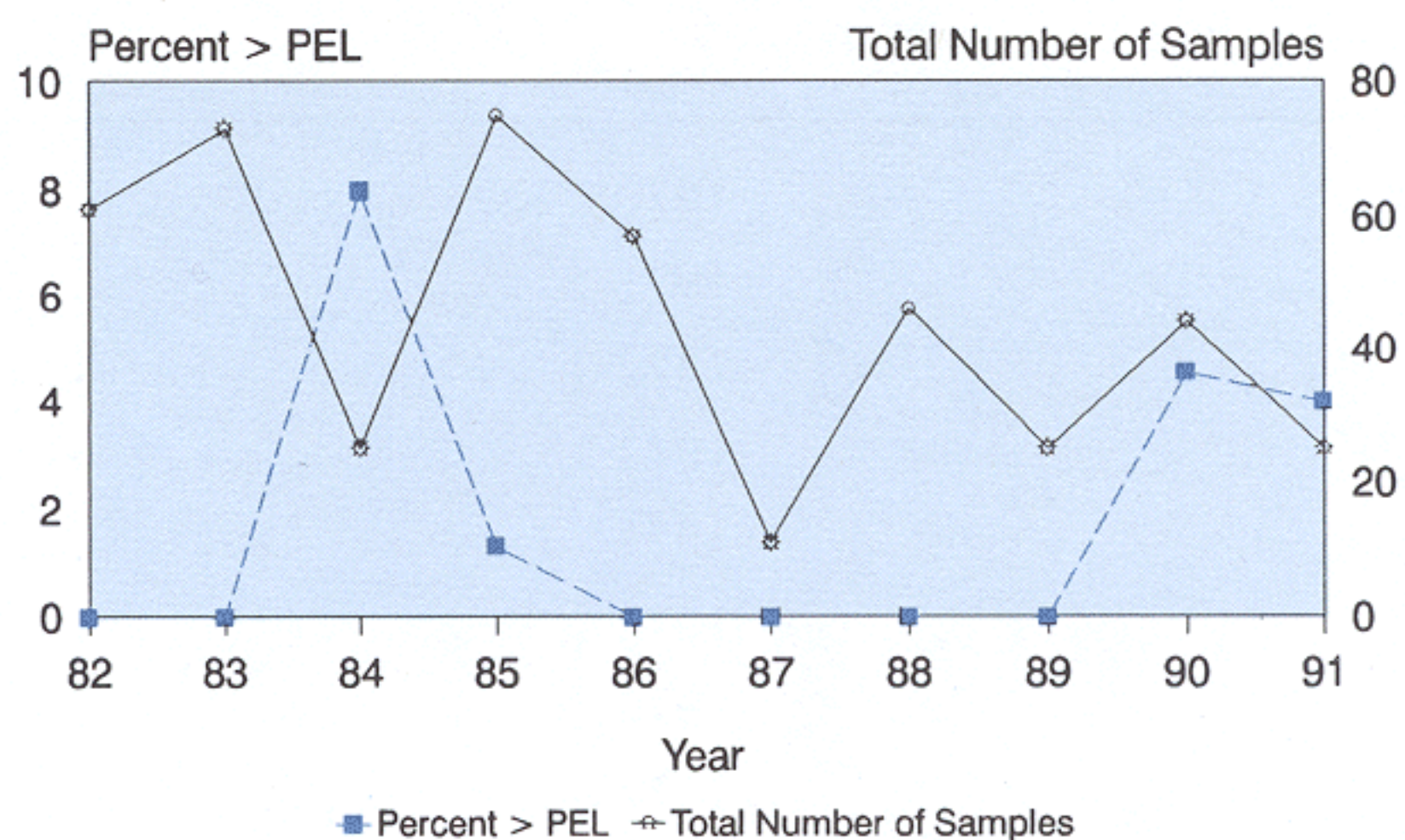


Table 1-13. Asbestos: number of samples reported by MSHA inspectors and percent exceeding various levels, U.S. non-coal mines, 1982-1991

Year	Number of active mines	Total number of samples	Samples > PEL	Percent of samples > PEL	Samples > 2x PEL	Percent of samples > 2x PEL
1982	11,298	61	0	0.00	0	0.00
1983	11,290	73	0	0.00	0	0.00
1984	11,294	25	2	8.00	1	4.00
1985	11,832	75	1	1.33	0	0.00
1986	11,741	57	0	0.00	0	0.00
1987	11,614	11	0	0.00	0	0.00
1988	11,808	46	0	0.00	0	0.00
1989	11,765	25	0	0.00	0	0.00
1990	11,838	44	2	4.55	1	2.27
1991	11,596	25	1	4.00	0	0.00

NOTE: The PEL is 2 fibers/cc (8 hours) and 10 fibers/cc (1 hour) for MSHA non-coal mine asbestos samples. MSHA does not routinely report data to MIDAS for samples with less than 2 fibers/cc.

SOURCE: Bureau of Mines (BOM), Mine Inspection Data Analysis System (MIDAS).

- The total number of asbestos samples collected by OSHA inspectors has ranged from a maximum of 490 in 1984 to 88 in 1991. The percentage of samples greater than the PEL has ranged between 6 and 26%.

- See Table 1-14 for data.

Figure 1-6. Asbestos: total number of samples collected by OSHA inspectors and percent above PEL, U.S. general industry, 1984-1991

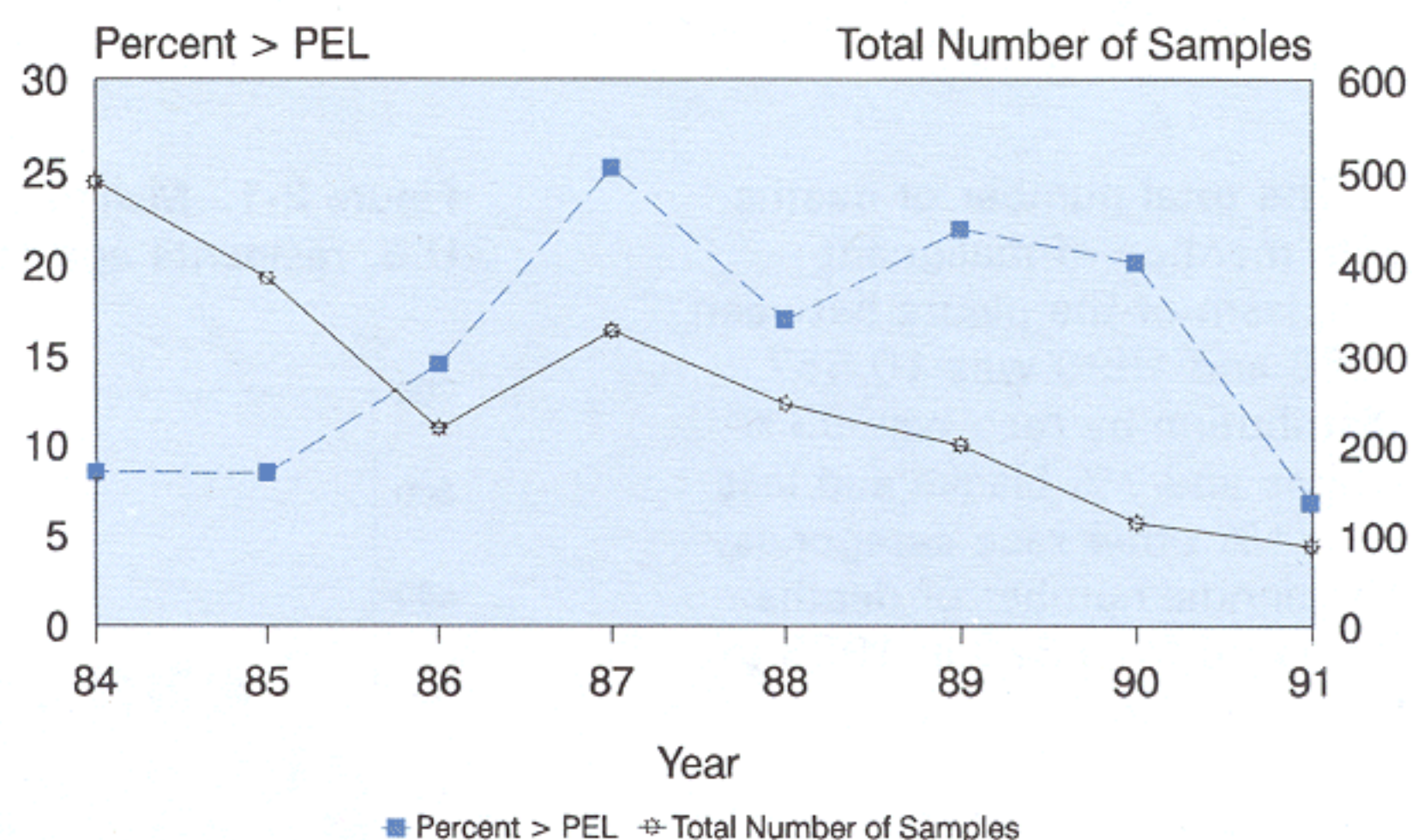


Table 1-14. Asbestos: number of samples collected by OSHA inspectors and percent exceeding various levels, U.S. general industry, 1984-1991

Year	Total number of samples	Samples > PEL	Percent of samples > PEL	Samples > 2x PEL	Percent of samples > 2x PEL	Complaint inspection samples	
						Number	% of total
1984	490	42	8.57	8	1.63	132	26.94
1985	386	33	8.55	8	2.07	111	28.76
1986	219	32	14.61	22	10.05	108	49.32
1987	328	83	25.30	51	15.55	196	59.76
1988	246	42	17.07	26	10.57	107	43.50
1989	200	44	22.00	30	15.00	102	51.00
1990	114	23	20.18	17	14.91	59	51.75
1991	88	6	6.82	4	4.55	52	59.09

NOTE: The PEL is 2 fibers/cc before June 20, 1986 and 0.2 fibers/cc after June 20, 1986. These data include corrections to previously published tabulations.

SOURCE: Occupational Safety and Health Administration (OSHA) Integrated Management Information System (IMIS) data files.