

BYSSINOSIS

Mortality

Byssinosis is included in ICD-9 code 504 (pneumonopathy due to inhalation of other dust) for 1979-1990. Other specific ICD-9 code 504 diseases are flax-dressers' disease and cannabinosis.

- The total number of deaths with mention of byssinosis from 1979 to 1990 was 156. The annual number of deaths with byssinosis has not exceeded 20 during this time period and there is no clear trend of increasing or decreasing annual deaths.

- See Tables 7-3 and 7-4 for data.

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

- North Carolina had the highest number of deaths with byssinosis during this time period (n = 66).

- See Table 7-4 for data.

Figure 7-1. Byssinosis: number of deaths, U.S. residents age 15 and over, 1979-1990

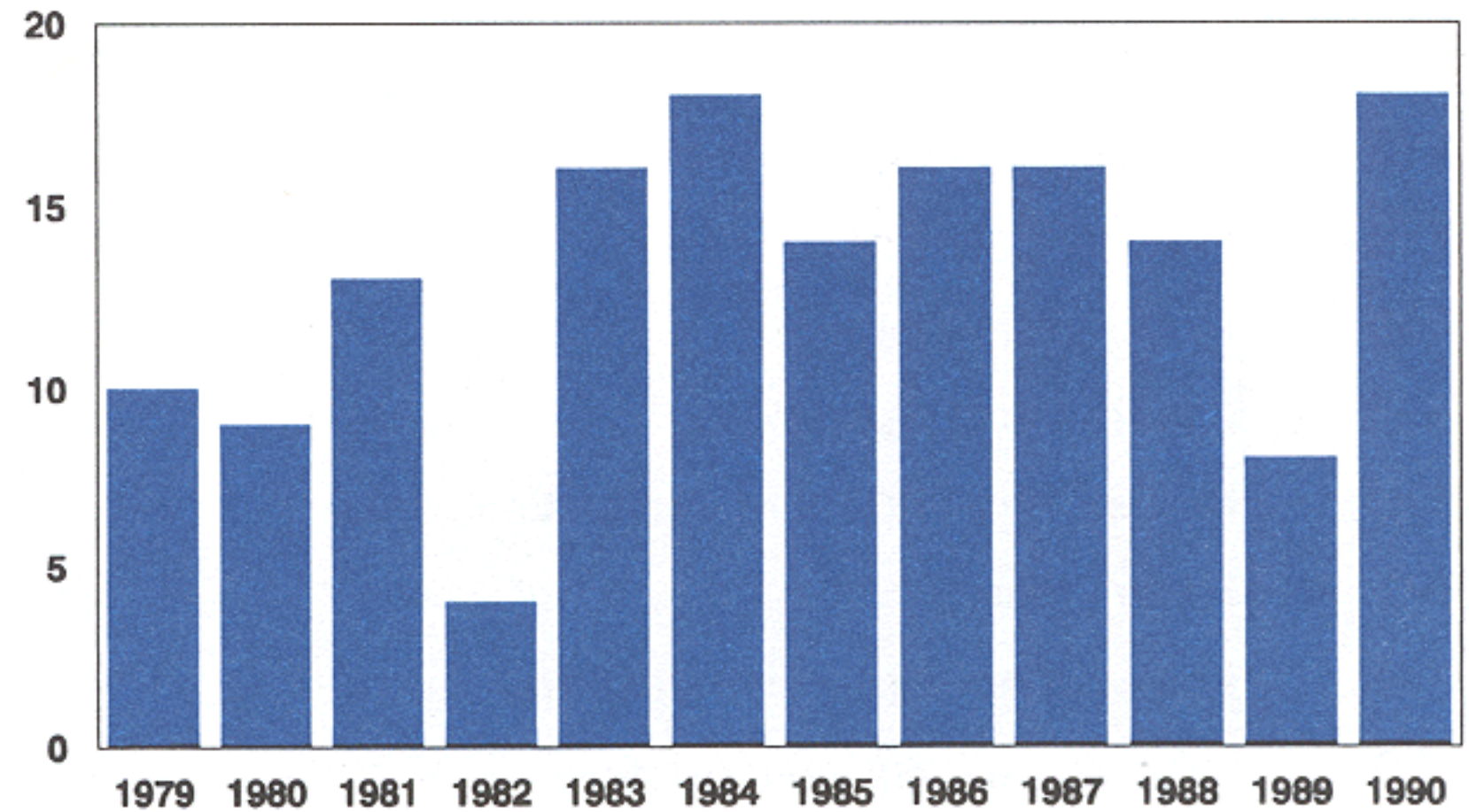
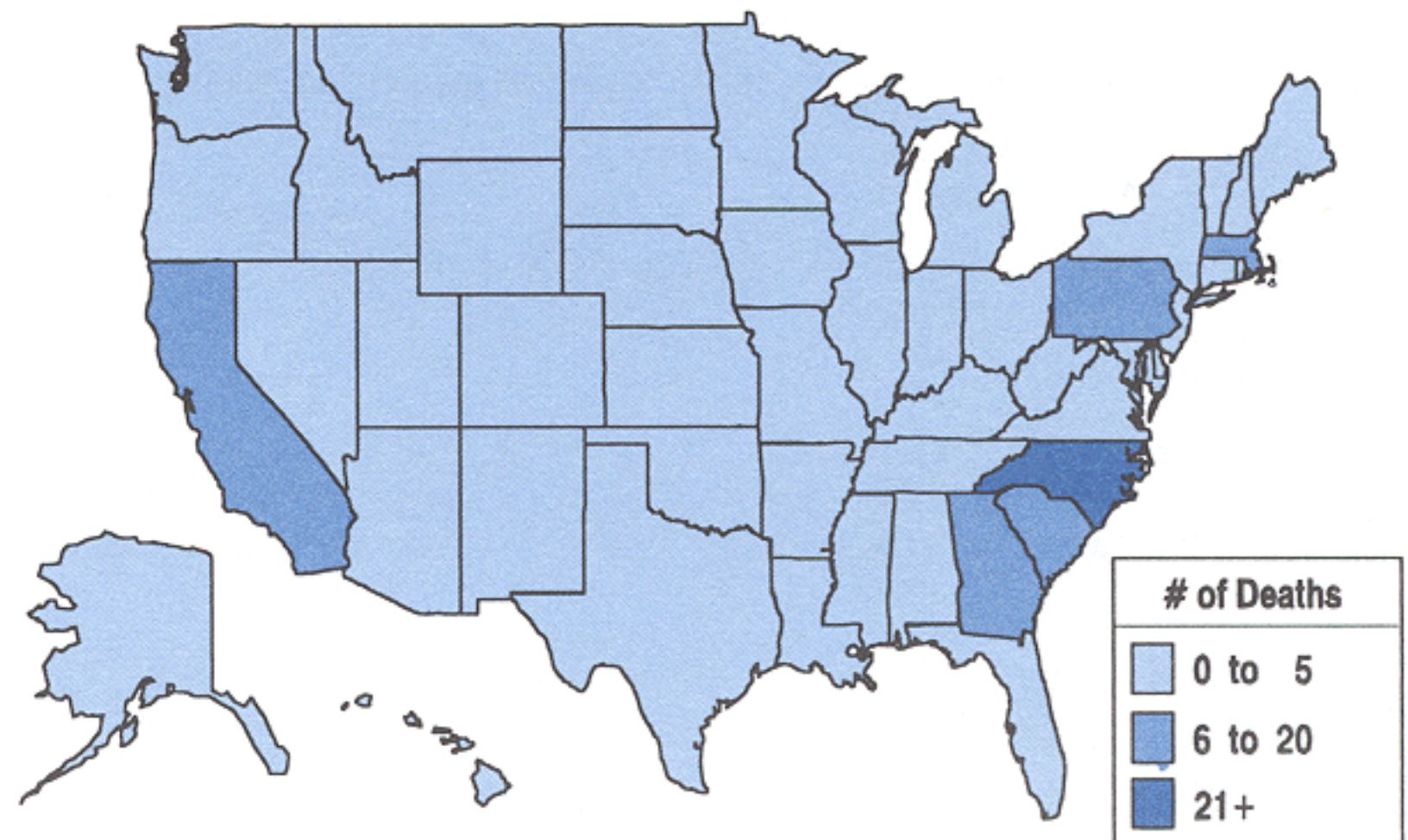


Figure 7-2. Byssinosis: number of deaths, U.S. residents age 15 and over, by state, 1979-1990

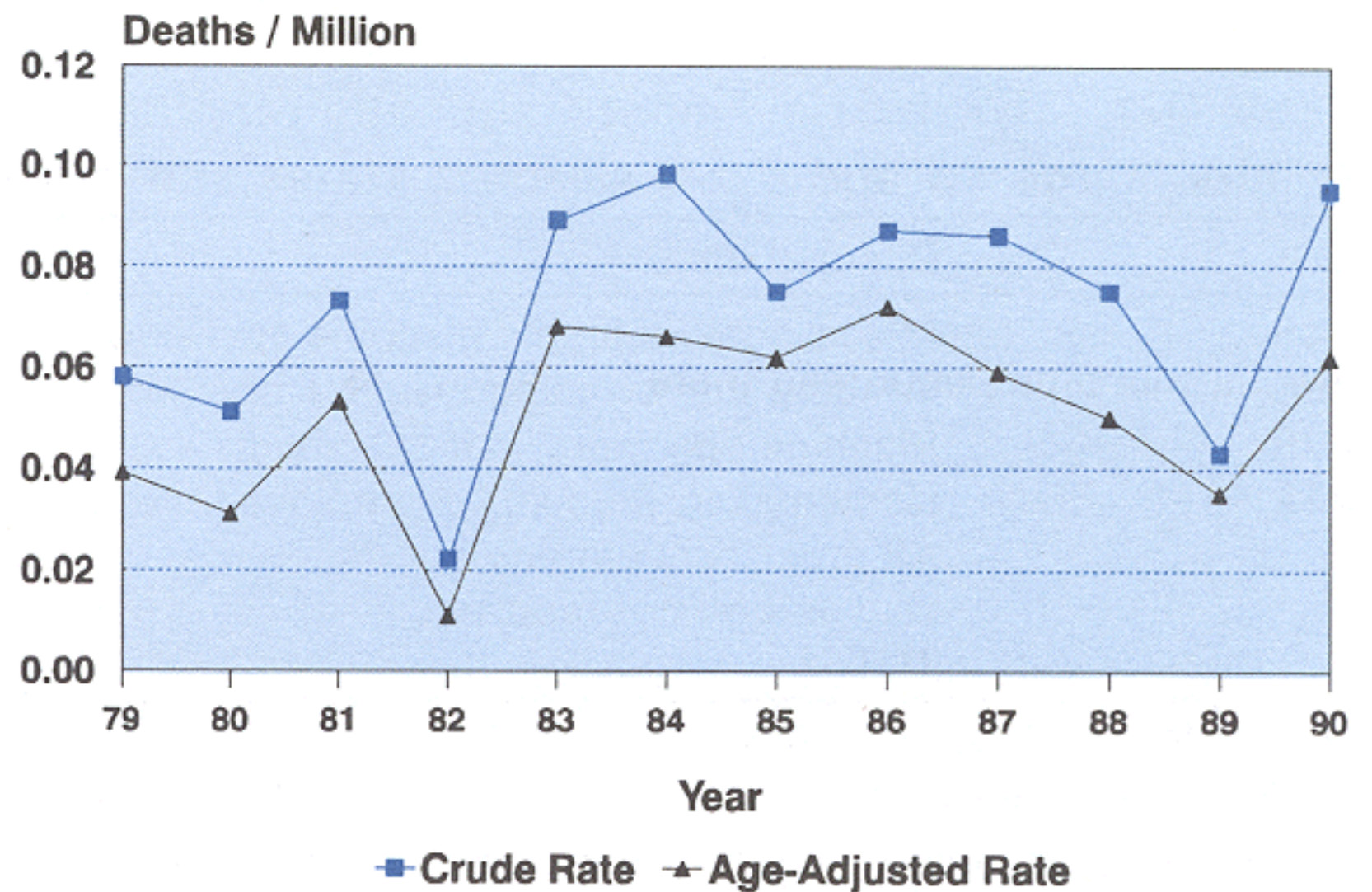


- Due to the small number of deaths with byssinosis, crude and age-adjusted mortality rates fluctuate substantially, but have not exceeded 0.1 deaths per million during this time period.

- See Tables 7-5 and 7-6 for data.

- See Appendix B for methods.

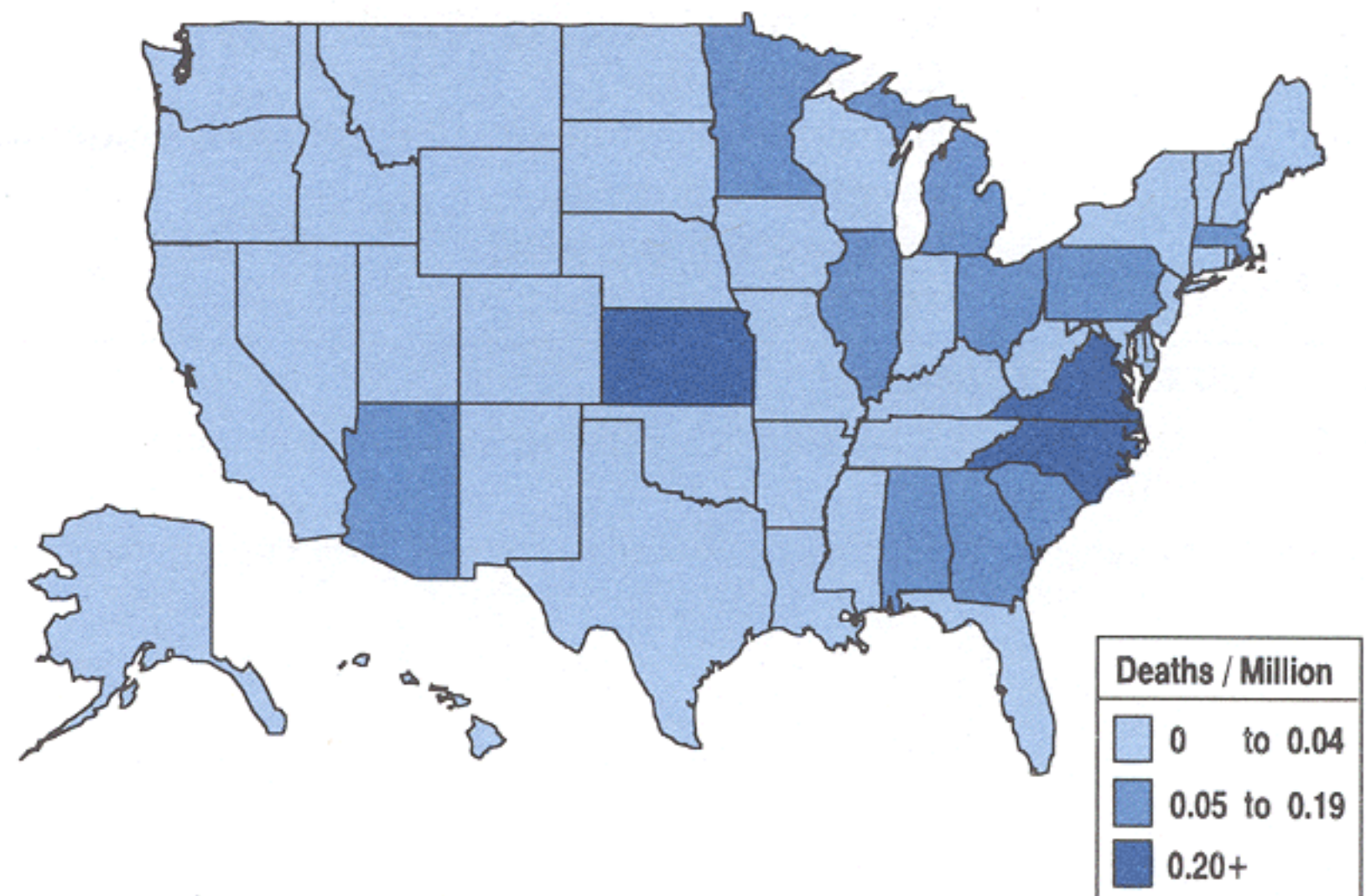
Figure 7-3. Byssinosis: crude and age-adjusted mortality rates, U.S. residents age 15 and over, 1979-1990



- The state with the highest crude mortality rate was North Carolina (0.88 deaths per million). Virginia ranked second and Kansas third, but these two states had only 2 deaths and 1 death with byssinosis, respectively, over this time period.

- See Table 7-9 for data.

Figure 7-4. Byssinosis: crude mortality rates, U.S. residents age 15 and over, by state, 1989-1990



BYSSINOSIS**Mortality****Table 7-1. Byssinosis: most frequently recorded occupations on death certificate, U.S. residents age 15 and over, selected states and years, 1985-1990**

COC	Occupation	Number	Percent
749	Miscellaneous textile machine operators	13	28.3
738	Winding and twisting machine operators	7	15.2
779	Machine operators, not specified	2	4.3
914	Homemaker, student, unemployed, volunteer	2	4.3
	All other occupations	21	45.7
	Occupation not reported	1	2.2
	TOTAL	46	100.0

COC - 1980 Census Occupation Code

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 7-2. Byssinosis: most frequently recorded industries on death certificate, U.S. residents age 15 and over, selected states and years, 1985-1990

CIC	Industry	Number	Percent
142	Yarn, thread and fabric mills	33	71.7
060	Construction	3	6.5
961	Homemaker, student, unemployed, volunteer	2	4.3
	All other industries	7	15.2
	Industry not reported	1	2.2
	TOTAL	46	100.0

CIC - 1980 Census Industry Code

NOTE: See Appendix C for list of 25 states reporting usual industry and years reporting. 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 7-3. Byssinosis: number of deaths, U.S. residents age 15 and over, by age, race, and sex, 1979-1990

Years		1979-1990		1989-1990	
Total Deaths		156	%	26	%
Sex	Male	112	71.8	20	76.9
	Female	44	28.2	6	23.1
Race	White	146	93.6	23	88.5
	Black	10	6.4	3	11.5
	Other	0	0.0	0.0	0.0
Race/Sex	White Male	102	65.4	17	65.4
	White Female	44	28.2	6	23.1
	Black Male	10	6.4	3	11.5
	Black Female	0	0.0	0	0.0
	Other Male	0	0.0	0	0.0
	Other Female	0	0.0	0	0.0
Age	Years				
	15-24	2	1.3	1	3.8
	25-34	1	0.6	1	3.8
	35-44	3	1.9	1	3.8
	45-54	6	3.8	0	0.0
	55-64	37	23.7	6	23.1
	65-74	61	39.1	10	38.5
	75-84	36	23.1	5	19.2
	85 and Over	10	6.4	2	7.7
	Mean	68.7		66.5	
Range	22-92		22-89		

NOTE: Data not available prior to 1979. 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 7-4. Byssinosis: 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	1	-	-	-	-	-	1	-	-	-	1	5
Alaska	-	-	-	-	-	-	-	-	-	-	-	-	-
Arizona	1	-	-	-	-	1	-	-	-	-	-	1	3
Arkansas	-	-	-	-	-	-	-	-	-	-	-	-	-
California	-	-	-	2	-	-	1	-	-	1	2	-	6
Colorado	-	-	-	-	-	-	-	-	-	-	-	-	-
Connecticut	-	-	-	-	-	1	-	-	-	-	-	-	1
Delaware	-	-	-	-	-	-	-	-	-	-	-	-	-
District of Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-
Florida	-	-	-	-	-	-	-	-	-	-	-	1	1
Georgia	-	-	2	-	3	5	1	2	4	-	1	-	18
Hawaii	-	-	-	-	-	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	-	-	-	-	-	-	-
Illinois	-	1	-	-	-	-	-	1	-	-	-	1	3
Indiana	-	-	-	-	-	-	-	-	-	-	-	-	-
Iowa	-	-	-	-	-	-	-	-	-	-	-	-	-
Kansas	-	-	-	-	-	-	-	-	-	-	-	1	1
Kentucky	-	-	-	-	-	-	-	-	-	-	-	-	-
Louisiana	-	-	1	-	-	-	-	-	-	-	-	-	1
Maine	-	-	-	-	-	-	-	-	-	-	-	-	-
Maryland	1	-	-	-	-	-	-	1	-	-	-	-	2
Massachusetts	-	1	-	1	2	-	1	-	-	-	-	1	6
Michigan	-	-	-	-	-	-	-	-	-	-	-	1	1
Minnesota	-	-	-	-	-	-	-	-	-	-	-	1	1
Mississippi	-	-	-	-	-	-	-	-	-	-	-	-	-
Missouri	-	-	-	-	-	-	-	-	-	-	-	-	-
Montana	-	-	-	-	-	-	-	-	-	-	-	-	-
Nebraska	-	-	-	-	-	-	-	-	-	-	-	-	-
Nevada	-	-	-	-	-	-	-	-	-	-	-	-	-
New Hampshire	-	-	-	-	-	1	-	-	-	-	-	-	1
New Jersey	-	-	-	1	-	-	1	-	-	-	-	-	2
New Mexico	-	-	-	-	-	-	-	-	-	-	-	-	-
New York	-	-	-	-	-	-	-	1	-	-	-	-	1
North Carolina	3	3	7	-	7	4	7	7	9	10	4	5	66
North Dakota	-	-	-	-	-	-	-	-	-	-	-	-	-
Ohio	1	-	-	-	-	-	-	-	-	2	-	1	4
Oklahoma	-	-	-	-	-	-	-	-	-	-	-	-	-
Oregon	-	-	-	-	-	-	-	-	-	-	-	-	-
Pennsylvania	1	1	3	-	1	-	1	-	-	-	-	1	8
Rhode Island	-	-	-	-	1	1	-	-	-	-	-	-	2
South Carolina	-	1	-	-	2	4	-	1	1	-	-	1	10
South Dakota	-	-	-	-	-	-	-	-	-	-	-	-	-
Tennessee	-	-	-	-	-	-	-	1	-	-	-	-	1
Texas	-	-	-	-	-	1	-	1	-	-	1	-	3
Utah	-	-	-	-	-	-	-	-	-	-	-	-	-
Vermont	-	-	-	-	-	-	1	-	1	-	-	-	2
Virginia	-	-	-	-	-	-	1	-	1	-	-	2	4
Washington	1	-	-	-	-	-	-	-	-	-	-	-	1
West Virginia	-	1	-	-	-	-	-	-	-	-	-	-	1
Wisconsin	-	-	-	-	-	-	-	-	-	1	-	-	1
Wyoming	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	10	9	13	4	16	18	14	16	16	14	8	18	156

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 7-5. Byssinosis: crude mortality rates (per 1,000,000 population), U.S. residents age 15 and over, by race and sex, 1979-1990

Year	Overall rate	White		Black	
		Males	Females	Males	Females
1979	0.06	0.08	0.05	-	-
1980	0.05	0.10	0.02	-	-
1981	0.07	0.15	0.01	0.09	-
1982	0.02	0.04	0.01	-	-
1983	0.09	0.08	0.11	0.09	-
1984	0.10	0.13	0.08	0.08	-
1985	0.08	0.10	0.06	0.08	-
1986	0.09	0.12	0.07	0.10	-
1987	0.09	0.16	0.01	0.20	-
1988	0.08	0.15	0.02	-	-
1989	0.04	0.06	0.01	0.20	-
1990	0.10	0.15	0.06	0.10	-

NOTE: See Appendix B for methods.

SOURCE: National Center for Health Statistics multiple cause of death data tapes.
U.S. Bureau of the Census: 1979-1990 population estimates of the U.S.

- indicates no deaths listed.

BYSSINOSIS**Mortality****Table 7-6. Byssinosis: age-adjusted mortality rates (per 1,000,000 population), U.S. residents age 15 and over, by race and sex, 1979-1990**

Year	Overall rate	White		Black	
		Males	Females	Males	Females
1979	0.04	0.06	0.04	-	-
1980	0.03	0.07	0.01	-	-
1981	0.05	0.11	0.01	0.10	-
1982	0.01	0.03	0.00	-	-
1983	0.07	0.06	0.07	0.11	-
1984	0.07	0.09	0.06	0.10	-
1985	0.06	0.09	0.04	0.10	-
1986	0.07	0.09	0.06	0.10	-
1987	0.06	0.12	0.01	0.20	-
1988	0.05	0.10	0.02	-	-
1989	0.04	0.06	0.01	0.19	-
1990	0.06	0.11	0.02	0.09	-

NOTE: See Appendix B for methods.

SOURCE: National Center for Health Statistics multiple cause of death data tapes.
U.S. Bureau of the Census: 1979-1990 population estimates of the U.S.

- indicates no deaths listed.

Table 7-7. Byssinosis: years of potential life lost to age 65, U.S. residents age 15 and over, by race and sex, 1979-1990

Year	Total	White		Black	
		Males	Females	Males	Females
1979	20	5	15	-	-
1980	0	0	0	-	-
1981	30	20	5	5	-
1982	0	0	0	-	-
1983	60	10	25	25	-
1984	20	5	10	5	-
1985	75	35	15	25	-
1986	100	60	40	0	-
1987	15	10	0	5	-
1988	20	15	5	-	-
1989	80	55	0	25	-
1990	55	55	0	0	-

NOTE: See Appendix B for methods.

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

- indicates no deaths listed.

BYSSINOSIS**Mortality****Table 7-8. Byssinosis: years of potential life lost to life expectancy, U.S. residents age 15 and over, by race and sex, 1979-1990**

Year	Total	White		Black	
		Males	Females	Males	Females
1979	142	58	83	-	-
1980	90	61	21	-	-
1981	198	136	23	16	-
1982	40	28	7	-	-
1983	267	82	150	30	-
1984	238	99	114	16	-
1985	243	113	85	30	-
1986	302	152	132	11	-
1987	217	152	15	23	-
1988	185	131	38	-	-
1989	186	116	15	37	-
1990	273	187	55	11	-

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 7-9. Byssinosis: 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	
	Deaths	Rank	Rate	Rank	Rate	Rank	Years	Rank	Years	Rank
Alabama	1	4	0.16	6	0.07	8	0	9	8	12
Alaska	-	17	-	17	-	17	-	17	-	17
Arizona	1	4	0.19	4	0.18	3	5	4	21	6
Arkansas	-	17	-	17	-	17	-	17	-	17
California	2	2	0.05	13	0.05	12	50	1	77	2
Colorado	-	17	-	17	-	17	-	17	-	17
Connecticut	-	17	-	17	-	17	-	17	-	17
Delaware	-	17	-	17	-	17	-	17	-	17
District of Columbia	-	17	-	17	-	17	-	17	-	17
Florida	1	4	0.05	13	0.02	13	0	9	14	10
Georgia	1	4	0.10	8	0.10	6	25	3	38	4
Hawaii	-	17	-	17	-	17	-	17	-	17
Idaho	-	17	-	17	-	17	-	17	-	17
Illinois	1	4	0.06	11	0.06	10	35	2	47	3
Indiana	-	17	-	17	-	17	-	17	-	17
Iowa	-	17	-	17	-	17	-	17	-	17
Kansas	1	4	0.26	2	0.10	6	0	9	8	12
Kentucky	-	17	-	17	-	17	-	17	-	17
Louisiana	-	17	-	17	-	17	-	17	-	17
Maine	-	17	-	17	-	17	-	17	-	17
Maryland	-	17	-	17	-	17	-	17	-	17
Massachusetts	1	4	0.10	8	0.07	8	0	9	14	10
Michigan	1	4	0.07	10	0.02	13	0	9	6	16
Minnesota	1	4	0.15	7	0.16	4	5	4	21	6
Mississippi	-	17	-	17	-	17	-	17	-	17
Missouri	-	17	-	17	-	17	-	17	-	17
Montana	-	17	-	17	-	17	-	17	-	17
Nebraska	-	17	-	17	-	17	-	17	-	17
Nevada	-	17	-	17	-	17	-	17	-	17
New Hampshire	-	17	-	17	-	17	-	17	-	17
New Jersey	-	17	-	17	-	17	-	17	-	17
New Mexico	-	17	-	17	-	17	-	17	-	17
New York	-	17	-	17	-	17	-	17	-	17
North Carolina	9	1	0.88	1	0.59	1	5	4	124	1
North Dakota	-	17	-	17	-	17	-	17	-	17
Ohio	1	4	0.06	11	0.06	10	5	4	21	6
Oklahoma	-	17	-	17	-	17	-	17	-	17
Oregon	-	17	-	17	-	17	-	17	-	17
Pennsylvania	1	4	0.05	13	0.02	13	0	9	8	12
Rhode Island	-	17	-	17	-	17	-	17	-	17
South Carolina	1	4	0.19	4	0.19	2	5	4	21	6
South Dakota	-	17	-	17	-	17	-	17	-	17
Tennessee	-	17	-	17	-	17	-	17	-	17
Texas	1	4	0.04	16	0.02	13	0	9	8	12
Utah	-	17	-	17	-	17	-	17	-	17
Vermont	-	17	-	17	-	17	-	17	-	17
Virginia	2	2	0.21	3	0.15	5	0	9	22	5
Washington	-	17	-	17	-	17	-	17	-	17
West Virginia	-	17	-	17	-	17	-	17	-	17
Wisconsin	-	17	-	17	-	17	-	17	-	17
Wyoming	-	17	-	17	-	17	-	17	-	17

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.

BYSSINOSIS**Mortality****Table 7-10. Byssinosis: 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
749	Miscellaneous textile machine operators	5	61.80	20.00	144.39
738	Winding, twisting machine operators	4	49.61	13.52	126.89

COC - 1980 Census Occupation Code

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.

• Fewer than 100 cotton dust samples were collected by OSHA inspectors in each year from 1984 to 1991. The percentage of samples above the permissible exposure limit (PEL) fluctuated between 17 and 74%.

• See Table 7-11 for data.

Figure 7-5. Cotton dust: total number of samples collected by OSHA inspectors and percent above PEL, U.S. general industry, 1984-1991

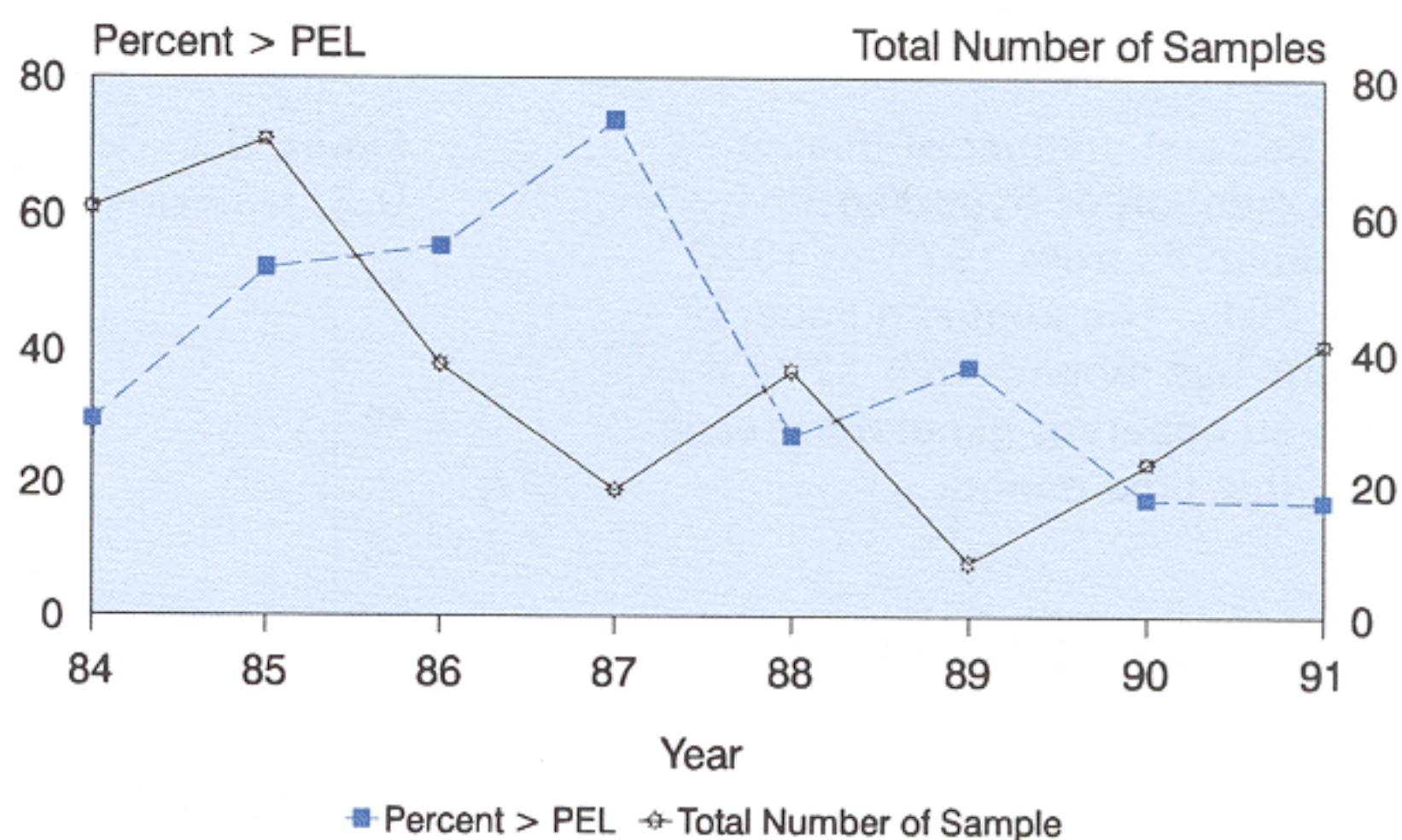


Table 7-11. Cotton dust: number of samples collected by OSHA inspectors and percent exceeding various levels, U.S. general industry, 1984-1991

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	61	18	29.51	3	4.92	0	0.00
1985	71	37	52.11	9	12.68	3	4.23
1986	38	21	55.26	12	31.58	2	5.26
1987	19	14	73.68	3	15.79	6	31.58
1988	37	10	27.03	6	16.22	20	54.05
1989	8	3	37.50	0	0.00	3	37.50
1990	23	4	17.39	0	0.00	20	86.96
1991	41	7	17.07	4	9.76	26	63.41

NOTE: PEL is 200 ug/m³ lint-free respirable cotton dust in yarn manufacturing and cotton washing operations; 500 ug/m³, lint-free respirable cotton dust in textile mill waste house operations or lower grade washed cotton in yarn manufacturing; 750 ug/m³, lint-free respirable cotton dust in slashing and weaving processes; and 1 mg/m³, in cotton waste processing operations of waste, recycling and garnetting.

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