Table 35. Medicare hospitalizations with any mention of hypersensitivity pneumonitis, by state, from 1984 to 1989

State	Number of hospitalizations					
	1984	1985	1986	1987	1988	1989
Alabama	16	3	13	21	5	8
Alaska	-	-	1	-	1	1
Arizona	8	3	16	16	15	8
Arkansas	21	10	6	4	10	8
California	65	59	50	60	53	46
Colorado	9	16	8	12	10	10
Connecticut	27	16	27	4	14	12
Delaware	-	1	-	-	1	4
District of Columbia	3	3	-	3	-	4
Florida	39	43	30	26	41	30
Georgia	22	20	17	38	21	9
Hawaii	1	3	1	7	3	3
Idaho	8	4	5	8	4	3
Illinois	40	29	29	32	36	24
Indiana	26	28	22	18	20	25
Iowa	26	15	34	21	10	15
Kansas	19	19	17	6	25	12
Kentucky	17	19	15	20	10	19
Louisiana	14	15	8	12	12	7
Maine	13	13	13	12	4	8
Maryland	8	22	12	10	9	13
Massachusetts	26	35	18	12	18	15
Michigan	50	38	26	21	11	28
Minnesota	16	20	12	16	37	44
Mississippi	5	5	3	4	9	15
Missouri	48	24	23	15	26	18
Montana	9	2	6	4	7	8
Nebraska	15	7	6	7	9	7
Nevada	1	3	-	3	1	-
New Hampshire	3	1	4	6	5	6
New Jersey	20	22	20	23	14	34
New Mexico	2	6	10	3	4	-
New York	28	70	62	52	67	45
North Carolina	20	14	8	17	14	16
North Dakota	3	12	9	17	13	15
Ohio	30	10	36	24	38	44
Oklahoma	25	10	10	9	4	3
Oregon	6	6	4	11	8	7
Pennsylvania	29	44	39	47	29	40
Rhode Island	4	1	6	-	3	3
South Carolina	13	12	7	1	1	2
South Dakota	6	11	3	18	5	12
Tennessee	33	21	10	16	16	15
Texas	79	45	64	38	49	36
Utah	8	7	8	3	10	-
Vermont	1	-	5	-	15	-
Virginia	10	14	11	13	16	18
Washington	12	9	21	6	26	5
West Virginia	4	9	14	10	12	8
Wisconsin	80	53	24	54	43	61
Wyoming	1	2	-	1	2	-
TOTAL	973	856	795	786	819	781

NOTE: Hypersensitivity pneumonitis = ICD-9CM code 495 (extrinsic allergic alveolitis).

SOURCE: Medicare Provider Analysis and Review (MEDPAR), Office of Statistics and Data Management, Bureau of Data Management and Strategy, Health Care Financing Administration.

- indicates quantity zero.

Table 36. Medicare hospitalizations with any mention of farmers' lung, by state, from 1984 to 1989

State	Number of hospitalizations					
	1984	1985	1986	1987	1988	1989
Alabama	1	-	3	6	-	-
Alaska	-	-	-	-	-	-
Arizona	-	-	6	1	1	-
Arkansas	3	-	-	1	1	-
California	2	-	1	-	2	4
Colorado	-	2	1	3	1	-
Connecticut	-	1	-	-	1	-
Delaware	-	-	-	-	-	-
District of Columbia	-	-	-	-	-	-
Florida	4	4	3	1	6	1
Georgia	-	2	1	2	-	1
Hawaii	-	-	-	-	-	-
Idaho	-	-	-	5	-	1
Illinois	7	2	7	2	14	3
Indiana	2	1	12	10	10	4
Iowa	15	4	16	14	3	8
Kansas	4	6	3	3	13	1
Kentucky	1	1	1	3	-	4
Louisiana	-	3	-	1	1	-
Maine	-	3	3	-	-	-
Maryland	1	3	1	-	-	-
Massachusetts	4	5	1	1	1	-
Michigan	8	6	3	3	-	1
Minnesota	6	9	4	8	22	25
Mississippi	1	-	-	-	-	-
Missouri	6	3	3	1	4	2
Montana	4	-	-	-	3	1
Nebraska	1	-	2	2	2	1
Nevada	-	-	-	-	-	-
New Hampshire	-	-	-	2	2	3
New Jersey	1	5	1	8	1	9
New Mexico	-	1	-	-	2	-
New York	4	13	12	11	30	13
North Carolina	3	-	-	6	-	1
North Dakota	-	7	6	4	7	3
Ohio	10	2	7	7	9	8
Oklahoma	6	5	5	3	-	-
Oregon	-	-	1	-	-	-
Pennsylvania	4	10	6	14	5	15
Rhode Island	-	-	-	-	-	-
South Carolina	3	-	3	-	-	-
South Dakota	4	9	2	13	4	8
Tennessee	1	1	-	1	-	1
Texas	6	3	6	6	10	3
Utah	1	-	1	-	2	-
Vermont	-	-	3	-	9	-
Virginia	-	1	1	1	3	3
Washington	-	2	9	-	4	1
West Virginia	1	4	5	7	4	4
Wisconsin	52	23	13	35	23	37
Wyoming	-	1	-	-	-	-
TOTAL	166	142	152	186	200	166

NOTE: Farmers' lung = ICD-9CM code 495.0.

SOURCE: Medicare Provider Analysis and Review (MEDPAR), Office of Statistics and Data Management, Bureau of Data Management and Strategy, Health Care Financing Administration.

- indicates quantity zero.

Table 37. Multiple cause of death listings with any mention of hypersensitivity pneumonitis in United States residents age 15 and over, from 1979 to 1987

Year	Number of cases
1979	15
1980	15
1981	12
1982	15
1983	20
1984	36
1985	35
1986	24
1987	26

NOTE: Hypersensitivity pneumonitis = ICD-9 code 495 (extrinsic allergic alveolitis).

SOURCE: Tabulations are based on National Center for Health Statistics multiple cause of death data tapes, 1979-87.

Table 38. Multiple cause of death listings with any mention of hypersensitivity pneumonitis in United States residents age 15 and over, by state, from 1980 to 1987

State	Number of cases							
	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	-	-	-	-	-	-	1	-
Alaska	-	-	-	-	-	-	-	-
Arizona	-	-	-	-	-	2	-	1
Arkansas	-	-	-	-	1	-	-	-
California	-	-	-	1	7	1	2	4
Colorado	-	-	-	1	-	-	-	1
Connecticut	1	-	1	1	-	2	1	-
Delaware	-	-	-	-	-	-	-	-
District of Columbia	-	-	-	-	-	-	-	-
Florida	1	2	-	1	1	-	3	-
Georgia	-	-	-	-	-	-	1	-
Hawaii	-	-	-	-	-	-	-	-
Idaho	-	-	-	1	-	-	-	-
Illinois	-	-	-	3	-	1	1	-
Indiana	-	2	-	-	-	1	-	1
Iowa	-	-	-	-	2	2	-	1
Kansas	-	-	1	-	1	-	-	-
Kentucky	-	-	-	-	-	-	-	-
Louisiana	-	-	-	-	-	1	-	-
Maine	-	-	-	-	1	-	-	-
Maryland	-	-	-	-	-	2	-	1
Massachusetts	-	-	-	-	1	-	-	1
Michigan	1	1	2	-	3	2	-	-
Minnesota	-	2	-	1	4	2	-	1
Mississippi	-	-	-	-	-	-	-	-
Missouri	1	-	-	-	-	1	-	-
Montana	-	-	-	-	-	-	1	-
Nebraska	-	-	-	-	-	-	-	-
Nevada	-	-	-	-	-	-	-	-
New Hampshire	-	-	-	-	-	-	-	-
New Jersey	1	-	-	-	-	-	-	1
New Mexico	-	-	-	-	-	-	-	-
New York	2	1	-	-	-	2	-	3
North Carolina	-	1	-	-	-	-	-	-
North Dakota	-	-	-	-	-	-	-	-
Ohio	1	-	-	-	1	-	-	-
Oklahoma	-	-	-	-	-	-	-	-
Oregon	-	-	-	-	-	-	-	1
Pennsylvania	-	1	2	2	4	2	-	-
Rhode Island	-	-	-	-	1	-	-	1
South Carolina	-	-	-	-	-	-	-	1
South Dakota	-	-	-	1	2	-	1	1
Tennessee	1	-	-	1	-	1	1	-
Texas	1	-	2	2	1	2	1	-
Utah	-	-	-	-	-	-	-	-
Vermont	-	-	2	-	-	-	-	-
Virginia	1	-	1	-	1	2	3	1
Washington	-	-	2	-	-	2	1	-
West Virginia	-	-	-	1	-	-	-	2
Wisconsin	4	2	2	3	4	7	7	4
Wyoming	-	-	-	1	1	-	-	-
TOTAL	15	12	15	20	36	35	24	26

NOTE: Hypersensitivity pneumonitis = ICD-9 code 495 (extrinsic allergic alveolitis).

SOURCE: Tabulations are based on National Center for Health Statistics multiple cause of death data tapes, 1980-87.

- indicates quantity zero.

Table 39. Number of reported occupational respiratory conditions due to toxic agents by industry division for the United States, private sector, from 1973 to 1988

Year	Total	Agri-culture	Mining	Construction	Manufac-turing	Trans-portation & Public Utilities	Wholesale & Retail Trade	Finance	Services
1973....	11,500	100	-	1,000	7,300	700	1,100	100	1,100
1974....	12,700	200	100	900	8,500	700	1,200	100	1,000
1975....	11,900	200	100	900	7,100	900	1,400	300	1,100
1976....	13,100	200	100	1,100	7,700	1,100	1,000	200	1,600
1977....	13,100	100	-	1,100	7,500	1,100	1,400	100	1,700
1978....	13,600	100	100	1,100	7,900	1,100	1,600	200	1,600
1979....	13,100	100	100	1,100	7,800	900	1,300	200	1,700
1980....	11,400	100	100	700	6,700	1,000	1,300	100	1,300
1981....	10,800	100	100	1,000	5,900	800	1,100	100	1,600
1982....	8,800	100	100	600	4,700	700	700	100	1,600
1983....	7,900	100	100	700	4,000	600	700	100	1,700
1984....	10,600	100	100	700	5,500	700	1,200	200	2,100
1985....	11,600	200	100	800	6,000	900	1,400	400	1,800
1986....	12,300	100	-	600	6,400	700	1,600	400	2,400
1987....	14,300	700	-	700	7,500	900	1,700	400	2,400
1988....	16,100	200	100	900	9,200	1,000	1,300	500	3,000

SOURCE: Bureau of Labor Statistics annual reports of occupational injuries and illnesses.

- indicates quantity zero.

Table 40. Rate per 10,000 full-time workers of reported occupational respiratory conditions due to toxic agents by industry division for the United States, private sector, from 1973 to 1988

Year	Overview	Agri-culture	Mining	Construction	Manufac-turing	Trans-portation & Public Utilities	Wholesale & Retail Trade	Finance	Services
1973.....	2.1	1.8	1.7	3.2	3.8	1.7	0.8	0.2	1.2
1974.....	2.2	2.4	0.9	3.0	4.4	1.6	0.8	0.2	0.9
1975.....	2.2	1.7	0.8	3.1	4.1	2.1	1.0	0.7	1.1
1976.....	2.3	3.1	1.6	3.7	4.3	2.6	0.7	0.5	1.5
1977.....	2.2	2.0	0.5	3.3	4.0	2.5	0.9	0.2	1.4
1978.....	2.2	2.2	0.8	2.9	4.0	2.4	1.0	0.6	1.3
1979.....	2.0	1.1	0.8	2.8	3.9	1.9	0.8	0.5	1.3
1980.....	1.8	2.0	0.8	2.0	3.5	2.0	0.8	0.2	1.0
1981.....	1.7	1.1	1.0	2.9	3.1	1.7	0.7	0.2	1.1
1982.....	1.4	1.7	0.5	1.9	2.7	1.5	0.5	0.3	1.1
1983.....	1.2	1.4	0.8	2.0	2.3	1.4	0.4	0.2	1.1
1984.....	1.6	1.5	0.9	1.8	2.9	1.4	0.7	0.5	1.3
1985.....	1.7	2.4	1.0	1.9	3.2	1.8	0.8	0.8	1.1
1986.....	1.7	1.3	-	1.5	3.5	1.5	0.9	0.6	1.4
1987.....	2.0	7.9	0.6	1.6	4.0	1.7	0.9	0.7	1.3
1988.....	2.2	2.1	0.7	2.0	4.9	1.9	0.6	0.9	1.6

SOURCE: Bureau of Labor Statistics annual reports of occupational injury and illnesses.

Table 41. Cases of toxic lower respiratory conditions reported to state workers' compensation agencies, by state, from 1980 to 1987

State	Number of cases							
	1980	1981	1982	1983	1984	1985	1986	1987
Alabama.....								
Alaska.....	7	26	14	14	21	33	32	20
Arizona.....	14	8	4	11	14	13	13	3
Arkansas.....	10	2	2	8	6	24	17	13
California.....	1,112	1,396	1,156	1,404	1,436	1,311	1,469	1,358
Colorado.....	54	43	32	48	60	91	80	68
Connecticut....								
Delaware.....	1	2	1	1	1	-	2	-
District of Columbia.....								
Florida.....								
Georgia.....								
Hawaii.....	12	19	10	19	18	34	19	30
Idaho.....	-	-						
Illinois.....								
Indiana.....	28	26	47	37	58	90	69	98
Iowa.....	16	39	68	62	12	20	25	26
Kansas.....								
Kentucky.....	71	55	50	62	33	20	33	38
Louisiana.....						-	2	5
Maine.....	42	43	30	35				32
Maryland.....	9	5	7	2	8	-	2	1
Massachusetts..	4							
Michigan.....	31	46	34	51	66	42	20	27
Minnesota.....	18	54	48	22	24			
Mississippi....	15	5	9	11	12	15	16	19
Missouri.....	32	16	8	2	13	15	21	43
Montana.....	-	-	2	-	-			
Nebraska.....	8	18	16	9	30	10	14	41
Nevada.....								
New Hampshire..								
New Jersey.....	33							
New Mexico.....	-	-	-	-	-	-	-	-
New York.....	120	87	73	66	61	93	89	90
North Carolina.	51	2	4	3	-	3	2	3
North Dakota...								
Ohio.....	148	118	120	149	156	183	187	150
Oklahoma.....								7
Oregon.....	42	20	36	21	30	50	45	54
Pennsylvania...								
Rhode Island...								
South Carolina.								
South Dakota...								
Tennessee.....	15	17	7	14	8	20	19	27
Texas.....								
Utah.....	2	7	5	5	7	7		
Vermont.....		4	1	-	-			
Virginia.....	3		15	12	9	-	2	-
Washington.....	361	341	262	160	168	136	48	44
West Virginia..								
Wisconsin.....	25	16	36	39	45	31	43	38
Wyoming.....	-	2	5	2	-	-	-	6

NOTE: Toxic lower respiratory conditions = SDS code 274. Statistics for Arkansas, Delaware, New York, and North Carolina are for closed cases. Statistics for other states are for cases that occurred or were received during the year.

SOURCE: Bureau of Labor Statistics Supplementary Data System.

- indicates quantity zero. Empty space indicates information not available.

Table 42. Industries with the highest incidence rates of reported occupational respiratory conditions due to toxic agents, private sector, 1988

Industry	SIC code	Rates per 10,000 full time workers
Miscellaneous petroleum and coal products	299	130.8
Primary nonferrous metals	333	29.8
Ship and boat building and repair	373	22.1
Flat glass	321	17.7
Metal services not elsewhere classified	347	16.4
Pens, pencils, office and art supplies	395	15.2
Engineering and scientific instruments	381	15.1
Paperboard mills	263	11.2
Boot and shoe cut stocks and findings	313	10.1
Preserved fruits and vegetables	203	10.1

SOURCE: Bureau of Labor Statistics annual reports of occupational injuries and illnesses.

Table 43. Multiple cause of death listings with any mention of respiratory conditions due to chemical fumes and vapors in United States residents age 15 and over, by state, from 1980 to 1987

State	Number of cases							
	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	-	-	-	-	-	-	-	1
Alaska	2	-	5	-	-	-	-	-
Arizona	2	2	-	1	-	-	-	-
Arkansas	-	-	-	-	-	1	1	2
California	6	6	4	8	4	4	3	1
Colorado	-	1	1	-	-	-	-	1
Connecticut	-	-	-	-	-	-	-	-
Delaware	-	-	-	-	-	-	-	-
District of Columbia	-	-	-	-	-	-	-	-
Florida	-	2	2	7	1	1	-	4
Georgia	1	4	-	2	1	1	3	2
Hawaii	-	-	1	-	-	-	-	-
Idaho	-	-	-	-	-	1	-	-
Illinois	3	6	-	2	3	1	2	1
Indiana	1	-	-	2	-	2	2	-
Iowa	1	2	2	-	1	-	-	-
Kansas	1	-	1	-	-	-	2	-
Kentucky	-	4	2	-	-	-	-	1
Louisiana	-	-	2	-	-	-	1	1
Maine	-	-	-	-	1	-	-	-
Maryland	1	-	-	-	-	-	-	-
Massachusetts	2	2	-	-	-	-	1	-
Michigan	7	-	2	3	-	2	2	1
Minnesota	-	-	3	2	1	4	-	-
Mississippi	1	-	-	1	1	2	3	-
Missouri	-	4	-	2	2	-	2	-
Montana	1	2	-	-	-	-	-	-
Nebraska	-	-	-	-	-	-	1	-
Nevada	-	-	-	-	-	-	1	-
New Hampshire	-	-	-	-	-	1	-	-
New Jersey	1	2	2	-	1	1	1	-
New Mexico	-	-	-	-	-	-	-	-
New York	2	8	4	2	3	8	3	1
North Carolina	1	1	1	1	1	1	1	-
North Dakota	-	-	-	-	-	-	-	-
Ohio	3	2	4	3	2	3	4	3
Oklahoma	1	-	2	1	-	-	-	-
Oregon	-	1	-	-	1	-	1	1
Pennsylvania	4	9	5	1	-	1	1	-
Rhode Island	-	2	2	-	-	-	-	-
South Carolina	1	1	1	1	-	-	2	-
South Dakota	1	-	-	-	-	-	-	-
Tennessee	1	-	-	-	-	1	-	1
Texas	4	2	2	2	3	3	4	-
Utah	-	-	-	-	-	-	-	-
Vermont	-	-	1	1	-	-	-	-
Virginia	3	2	1	2	-	-	1	1
Washington	2	-	2	1	1	1	-	2
West Virginia	-	2	-	-	-	-	-	-
Wisconsin	-	-	1	-	-	-	3	1
Wyoming	-	-	-	-	-	-	-	-
TOTAL	53	67	53	45	27	39	45	25

NOTE: Respiratory conditions due to chemical fumes and vapors = ICD-9 code 506.

SOURCE: Tabulations are based on National Center for Health Statistics multiple cause of death data tapes, 1980-87.

- indicates quantity zero.

Table 44. Number of reported occupational illnesses by type of illness for the United States, private sector, from 1973 to 1988

Year	Total	Skin diseases or disorders	Dust diseases of the lungs	Respiratory conditions due to toxic agents	Poisoning	Disorders due to physical agents	Associated with repeated trauma	All other occupational illness
1973.....	200,500	89,200	1,500	11,500	6,800	27,500	23,600	40,400
1974.....	200,400	89,400	1,700	12,700	7,400	27,100	24,600	37,400
1975.....	163,300	74,400	1,000	11,900	6,200	21,200	23,700	24,900
1976.....	167,900	71,600	1,200	13,100	6,100	24,200	23,000	28,800
1977.....	161,900	73,000	2,000	13,100	5,700	23,600	23,400	21,100
1978.....	143,500	65,900	1,600	13,600	5,600	16,700	20,200	19,600
1979.....	148,900	67,900	1,700	13,100	5,800	15,100	21,900	23,200
1980.....	130,200	56,100	2,300	11,400	4,700	13,200	23,100	19,200
1981.....	126,100	51,200	2,100	10,800	5,600	11,900	22,900	21,500
1982.....	105,600	41,900	2,000	8,800	3,400	8,300	22,600	18,600
1983.....	106,100	39,500	1,700	7,900	3,000	8,800	26,700	18,400
1984.....	124,800	42,500	1,800	10,600	4,500	9,000	34,700	21,400
1985.....	125,400	41,800	1,700	11,600	4,200	9,000	37,000	20,100
1986.....	136,800	41,900	3,200	12,300	4,300	9,200	46,000	20,400
1987.....	190,200	54,200	3,400	14,300	4,800	13,800	72,900	26,800
1988.....	240,700	57,900	2,900	16,100	5,500	17,300	115,400	25,600

SOURCE: Bureau of Labor Statistics annual reports of occupational injuries and illnesses.

Table 45. Percent of reported occupational illnesses by type of illness for the United States, private sector, from 1973 to 1988

Year	Private sector	Skin diseases or disorders	Dust diseases of the lungs	Respiratory conditions due to toxic agents	Poisoning	Disorders due to physical agents	Associated with repeated trauma	All other occupational illness
1973.....	100.0	44.5	0.7	5.7	3.4	13.7	11.8	20.1
1974.....	100.0	44.6	0.8	6.3	3.7	13.5	12.3	18.7
1975.....	100.0	45.6	0.6	7.3	3.8	13.0	14.5	15.2
1976.....	100.0	42.6	0.7	7.8	3.6	14.4	13.7	17.2
1977.....	100.0	45.1	1.2	8.1	3.5	14.6	14.5	13.0
1978.....	100.0	45.9	1.1	9.5	3.9	11.6	14.1	13.7
1979.....	100.0	45.6	1.1	8.8	3.9	10.1	14.7	15.6
1980.....	100.0	43.1	1.8	8.8	3.6	10.1	17.7	14.7
1981.....	100.0	40.6	1.7	8.6	4.4	9.4	18.2	17.0
1982.....	100.0	39.7	1.9	8.3	3.2	7.9	21.4	17.6
1983.....	100.0	37.2	1.6	7.4	2.8	8.3	25.2	17.3
1984.....	100.0	34.1	1.4	8.5	3.6	7.2	27.8	17.1
1985.....	100.0	33.3	1.4	9.3	3.3	7.2	29.5	16.0
1986.....	100.0	30.6	2.3	9.0	3.1	6.7	33.6	14.9
1987.....	100.0	28.5	1.8	7.5	2.5	7.3	38.3	14.1
1988.....	100.0	24.1	1.2	6.7	2.3	7.2	47.9	10.6

SOURCE: Bureau of Labor Statistics annual reports of occupational injuries and illnesses.

Table 46. Industries with the largest incidence rates of reported occupational illnesses, private sector, 1988

Industry	SIC code	Rate per 10,000 full-time workers
Meat products	201	570.4
Motor vehicles and equipment	371	374.1
Plumbing & heating products (except electrical)	343	302.3
Ship and boating building and repairs	373	291.7
Household appliances	363	268.4
Primary nonferrous metals	333	263.5
Leather tanning and finishing	311	242.6
Misc. electrical equipment and supplies	369	224.6
Rubber and plastic footwear	302	196.3
Flat glass	321	192.2

SOURCE: Bureau of Labor Statistics annual reports of occupational injuries and illnesses.

Table 47. Rate per 10,000 full-time workers of reported occupational illnesses by industry division for the United States, private sector, from 1973 to 1988

Year	Overall	Agri-culture	Mining	Construction	Manufac-turing	Trans-portation & Public Utilities	Wholesale & Retail Trade	Finance	Services
1973....	36.4	75.6	16.5	42.3	61.0	27.9	16.4	8.2	26.0
1974....	35.2	70.8	12.6	39.5	62.3	24.1	15.4	7.5	23.9
1975....	29.8	56.2	12.5	34.7	54.9	20.9	12.1	4.6	22.4
1976....	29.9	80.4	9.6	39.8	53.5	19.9	11.1	6.8	23.8
1977....	27.6	74.1	13.2	30.6	51.3	20.4	10.3	5.7	19.4
1978....	23.3	58.6	18.5	21.7	44.4	17.2	9.5	4.6	15.6
1979....	23.1	56.9	16.4	22.6	43.3	17.3	9.6	4.6	16.7
1980....	20.3	59.3	14.1	20.9	39.4	16.7	7.5	3.2	13.9
1981....	19.4	54.7	15.9	22.1	36.2	14.7	7.6	3.3	15.0
1982....	16.8	49.6	13.1	16.5	33.5	12.2	6.3	3.2	12.8
1983....	16.7	46.9	10.0	16.2	33.8	10.8	5.7	3.4	13.7
1984....	18.4	44.0	13.0	16.3	38.6	11.9	6.5	3.7	14.1
1985....	18.1	41.6	17.2	16.4	38.7	11.8	6.3	5.1	13.3
1986....	19.2	48.1	21.0	13.7	45.6	11.1	6.3	4.7	12.5
1987....	26.1	51.7	30.1	16.2	67.6	13.2	7.5	5.3	14.7
1988....	32.2	48.8	26.2	15.3	93.6	17.3	7.8	5.3	12.2

SOURCE: Bureau of Labor Statistics annual reports of occupational injuries and illnesses.

Table 48. Number of reported occupational injuries and illnesses by industry division for the United States, private sector, from 1980 to 1987 (in thousands)

Year	Total	Agri-culture	Mining	Construction	Manufac-turing	Trans-portation & Public Utilities	Wholesale & Retail Trade	Finance	Services
1980....	5,606	84	115	588	2,354	453	1,211	90	712
1981....	5,404	90	134	538	2,209	439	1,191	90	714
1982....	4,856	87	111	479	1,814	404	1,156	95	711
1983....	4,854	88	79	495	1,773	379	1,186	95	759
1984....	5,420	94	94	582	1,989	428	1,315	99	821
1985....	5,507	92	78	613	1,938	423	1,357	104	904
1986....	5,629	90	57	647	1,949	406	1,437	115	932
1987....	6,036	100	62	638	2,213	429	1,471	115	1,009

NOTE: Because of rounding, components may not add to totals.

SOURCE: Bureau of Labor Statistics annual reports of occupational injuries and illnesses.

Table 49. Number of reported occupational illnesses by industry division for the United States, private sector, from 1973 to 1988

Year	Total	Agri-culture	Mining	Construction	Manufac-turing	Trans-portation & Public Utilities	Wholesale & Retail Trade	Finance	Services
1973.....	200,500	5,900	500	13,400	117,800	12,200	22,600	3,000	25,100
1974.....	200,400	6,900	800	12,100	119,900	10,900	22,100	2,800	25,000
1975.....	163,300	5,400	900	10,100	95,300	8,800	17,100	1,700	24,000
1976.....	167,900	5,000	700	12,100	96,600	8,500	16,200	2,500	26,400
1977.....	161,900	4,800	1,100	10,000	96,300	9,100	15,700	2,300	22,700
1978.....	143,500	3,400	1,600	7,800	86,700	7,900	15,000	1,900	19,200
1979.....	148,900	3,200	1,600	8,700	87,400	8,400	15,800	2,000	21,900
1980.....	130,200	4,200	1,500	7,800	76,100	8,000	12,200	1,500	19,000
1981.....	126,100	4,000	1,800	7,800	69,600	7,100	12,500	1,600	21,500
1982.....	105,600	3,700	1,400	5,400	59,300	5,800	10,200	1,500	18,400
1983.....	106,100	3,500	1,000	5,400	59,800	5,000	9,300	1,600	20,500
1984.....	124,800	3,400	1,300	6,100	72,400	5,800	11,600	1,900	22,400
1985.....	125,400	3,400	1,000	6,600	72,200	5,800	11,400	2,700	22,300
1986.....	136,800	3,900	1,600	5,800	83,600	5,400	11,800	2,600	22,000
1987.....	190,200	4,600	2,200	7,000	125,200	6,700	14,300	3,100	27,100
1988.....	240,700	4,600	1,900	6,900	178,600	9,000	15,300	3,100	23,300

NOTE: Because of rounding, components may not add to totals.

SOURCE: Bureau of Labor Statistics annual reports of occupational injuries and illnesses.

Table 50. Number of cases of reported occupational dust diseases of the lungs by industry division for the United States, private sector, from 1973 to 1988

Year	Total	Agri-culture	Mining	Construction	Manufac-turing	Trans-portation & Public Utilities	Wholesale & Retail Trade	Finance	Services
1973....	1,500	100	-	100	700	200	200	-	100
1974....	1,700	100	300	100	900	-	300	-	100
1975....	1,000	-	-	200	600	-	100	-	-
1976....	1,200	-	-	200	800	100	-	-	-
1977....	2,000	100	200	800	700	100	100	100	100
1978....	1,600	-	300	200	800	100	200	-	100
1979....	1,700	-	300	200	900	100	100	-	100
1980....	2,300	-	300	200	1,300	100	100	-	200
1981....	2,100	-	300	200	1,500	-	-	-	100
1982....	2,000	-	300	100	1,200	100	100	-	100
1983....	1,700	-	200	100	900	-	200	-	200
1984....	1,800	-	200	200	1,000	100	100	-	100
1985....	1,700	-	200	100	800	100	200	-	200
1986....	3,200	100	600	100	-	-	-	100	300
1987....	3,400	-	900	500	1,200	200	-	-	400
1988....	2,900	-	700	200	1,200	300	-	-	300

NOTE: Because of rounding, components may not add to totals.

SOURCE: Bureau of Labor Statistics annual reports of occupational injuries and illnesses.

- indicates quantity zero.

Table 51. Rate per 10,000 full-time workers of reported occupational dust diseases of the lungs by industry division for the United States, private sector, from 1973 to 1988

Year	Total	Agri-culture	Mining	Construction	Manufac-turing	Trans-portation & Public Utilities	Wholesale & Retail Trade	Finance	Services
1973.....	0.3	1.3	0.5	0.4	0.4	0.3	0.2	0.1	0.1
1974.....	0.3	0.8	4.8	0.3	0.4	-	0.2	0.0	0.1
1975.....	0.2	0.4	0.2	0.6	0.4	0.1	-	-	-
1976.....	0.2	0.2	0.1	0.5	0.4	0.2	-	-	-
1977.....	0.3	1.3	2.0	2.5	0.4	0.1	-	0.1	0.1
1978.....	0.3	0.3	4.0	0.6	0.4	0.1	0.1	-	-
1979.....	0.3	0.1	3.4	0.5	0.4	0.1	0.1	-	0.1
1980.....	0.4	0.4	3.3	0.6	0.7	0.1	0.1	-	0.1
1981.....	0.3	0.3	2.5	0.5	0.8	0.1	-	-	0.1
1982.....	0.3	0.4	3.2	0.3	0.7	0.2	0.1	-	0.1
1983.....	0.3	0.3	1.9	0.4	0.5	0.1	0.1	-	0.1
1984.....	0.3	0.4	1.7	0.5	0.5	0.2	0.1	-	0.1
1985.....	0.2	0.5	2.7	0.3	0.4	0.2	0.1	-	0.1
1986.....	0.5	1.0	8.4	0.3	0.9	-	-	-	0.1
1987.....	0.5	0.5	12.9	1.2	0.6	0.3	-	-	0.2
1988.....	0.4	-	10.2	0.5	0.6	0.6	-	-	0.1

NOTE: Because of rounding, components may not add to totals.

SOURCE: Bureau of Labor Statistics annual reports of occupational injuries and illnesses.

- indicates quantity zero.

Table 52. Industries with the highest incidence rates of reported occupational dust diseases of the lungs, private sector, 1988

Industry	SIC code	Rates per 10,000 full time workers
Bituminous mining	12	49.4
Anthracite mining	11	33.6
Ship and boat building and repair	373	8.1
Plastic materials and synthetics	282	5.1
Boot and shoe cut stock and findings	313	3.4
Miscellaneous wood products	249	3.2
Ordnance and accessories, not elsewhere classified	348	2.6
Miscellaneous special trade contractors	179	2.6
Textile mill products	22	2.5
Industrial organic chemical	286	2.4

SOURCE: Bureau of Labor Statistics annual reports of occupational injuries and illnesses.

Table 53. Number of occupational respiratory illnesses reported by mine operators, from 1980 to 1988

Year	Bituminous coal and lignite	Anthracite coal	Metallic minerals	Stone	Sand and gravel	Nonmetallic minerals
1980.....	313	-	8	11	-	6
1981.....	272	-	8	5	-	2
1982.....	330	-	19	2	-	3
1983.....	164	-	11	2	-	1
1984.....	157	2	5	2	-	9
1985.....	272	41	6	1	-	4
1986.....	634	17	10	5	-	1
1987.....	968	24	29	13	1	4
1988.....	726	6	7	11	-	3
Estimated number of workers in 1987	148,515	2,841	42,210	68,645	35,229	27,846

NOTE: Non-metallic minerals excludes coal, stone, and sand and gravel. Estimated number of workers excludes office workers.

SOURCE: Mine Safety and Health Administration annual reports on injury experience.

- indicates no cases reported or data do not meet publication guidelines.

Table 54. Number of dust samples collected by the Mine Safety and Health Administration (MSHA) or Occupational Safety and Health Administration (OSHA) inspectors for selected occupational respiratory hazards and the percents of these samples that exceed various levels, from 1984 to 1988

Type of Sample	Agency	Total # samples N	Samples < level N (%)	Samples 1-2x level N (%)	Samples > 2x level N (%)	Samples collected on complaint inspections N (%)
Coal mine dust						
Surface mines.....	MSHA	37,504	35,647(95)	1,421(4)	436(1)	
Underground mines....	MSHA	78,804	68,426(87)	8,415(11)	1,963(2)	
Quartz dust						
Coal mining.....	MSHA	18,051	12,977(72)	2,891(16)	2,183(12)	
Metal/Non-metal mining.....	MSHA	17,150	13,571(79)	2,179(13)	1,400(8)	
General industry.....	OSHA	2,957	1,811(61)	541(18)	605(21)	783(26)
Asbestos Fiber						
Metal/Non-metal mining.....	MSHA	214	211(99)	2(1)	1(0)	
General industry.....	OSHA					
Level= 2 f/cc		1,596	1,380(87)	114(7)	102(6)	621(39)
Level=.2 f/cc		1,596	1,053(66)	171(11)	372(23)	621(39)
Cotton dust						
General industry.....	OSHA					
Level=200 ug/m^3		173	87(50)	58(34)	28(16)	23(13)
Level=500 ug/m^3		14	9(64)	5(36)	0(0)	5(36)
Level=750 ug/m^3		18	16(89)	2(11)	0(0)	0(0)
• Level=1 mg/m^3		13	8(62)	0(0)	5(38)	3(23)

NOTE: OSHA = Occupational Safety and Health Administration.
MSHA = Mine Safety and Health Administration.

Levels are defined as follows:

- Coal Mine Dust Level = 2 mg/m^3 MRE for MSHA coal mine dust sample (level not reduced by quartz content).
- Quartz Dust Level = 0.10 mg/m^3 MRE for MSHA coal mine quartz dust sample (2 lpm flourate).
  = 10 mg/m^3 divided by (% quartz + 2) for MSHA metal/non-metal mine quartz dust sample and OSHA quartz dust sample (1.7 lpm flourate).
- Asbestos Fiber Level = 2 fiber/cc (8 hours) and 10 fiber/cc (1 hour) for MSHA metal/non-metal mine asbestos sample.
  = 2 fiber/cc for OSHA asbestos sample (1984-June 20, 1986).
  = .2 fiber/cc for OSHA asbestos sample (June 20, 1986-1988).
- Cotton Dust Level = 200 ug/m^3, lint-free respirable cotton dust in yarn manufacturing and cotton washing operations; 500 ug/m^3, 8 hour TWA, lint-free respirable cotton dust in textile mill waste house operations or lower grade washed cotton in yarn manufacturing; 750 ug/m^3, lint-free respirable cotton dust in slashing and weaving processes; and 1 mg/m^3, in cotton waste processing operations of waste, recycling (sorting, blending, cleaning, and willowing) and garnetting.

SOURCE: Tabulations by Environmental Investigations Branch, DRDS, NIOSH from data tapes provided by OSHA and MSHA.

Empty Space indicates data not available.

Table 55. Number of dust samples collected by the Mine Safety and Health Administration (MSHA) or Occupational Safety and Health Administration (OSHA) inspectors for selected occupational respiratory hazards and the percents of these samples that exceed various levels, 1988

Type of Sample	Agency	Total # samples N	Samples < level N (%)	Samples 1-2x level N (%)	Samples > 2x level N (%)	Samples collected on complaint inspections N (%)
Coal mine dust						
Surface mines.....	MSHA	6,988	6,599(95)	293(4)	96(1)	
Underground mines...	MSHA	14,857	12,985(88)	1,545(10)	327(2)	
Quartz dust						
Coal mining.....	MSHA	3,554	2,597(73)	534(15)	423(12)	
Metal/Non-metal mining.....	MSHA	3,855	2,657(69)	708(18)	490(13)	
General industry....	OSHA	442	263(59)	88(20)	91(21)	176(40)
Asbestos Fiber						
Metal/non-metal mining.....	MSHA	46	46(100)	0(0)	0(0)	
General industry....	OSHA	225	184(82)	16(7)	25(11)	96(43)
Cotton dust						
General industry....	OSHA					
Level=200 ug/m^3		35	25(71)	4(12)	6(17)	20(57)
Level=750 ug/m^3		2	2(100)	0(0)	0(0)	0(0)

NOTE: OSHA = Occupational Safety and Health Administration.
MSHA = Mine Safety and Health Administration.

Levels are defined as follows:

- Coal Mine Dust Level = 2 mg/m^3 MRE for MSHA coal mine dust sample (level not reduced by quartz content).
- Quartz Dust Level = 0.10 mg/m^3 MRE for MSHA coal mine quartz dust sample (2 lpm flowrate).
  = 10 mg/m^3 divided by (% quartz + 2) for MSHA metal/non-metal mine quartz dust sample and OSHA quartz dust sample (1.7 lpm flowrate).
- Asbestos Fiber Level = 2 fiber/cc (8 hours) and 10 fiber/cc (1 hour) for MSHA metal/non-metal mine asbestos sample (fibers > 5 μm long).
  = .2 fiber/cc for OSHA asbestos sample (June 20, 1986-1988).
- Cotton Dust Level = 200 ug/m^3, lint-free respirable cotton dust in yarn manufacturing and cotton washing operations; 500 ug/m^3, 8 hour TWA, lint-free respirable cotton dust in textile mill waste house operations or lower grade washed cotton in yarn manufacturing; 750 ug/m^3, lint-free respirable cotton dust in slashing and weaving processes; and 1 mg/m^3, in cotton waste processing operations of waste, recycling (sorting, blending, cleaning, and willowing) and garnetting.

SURCE: Tabulations by Environmental Investigations Branch, DRDS, NIOSH from data tapes provided by OSHA and MSHA.

Empty Space indicates data not available.

Table 56. Old Age, Survivors, Disability Insurance (OASDI) Awards for disabled workers with a respiratory diagnosis, by major industry group, from 1981 to 1987

Year	Total	Agri-culture	Mining	Construction	Manufac-turing	Trans portation & Public Utilities	Wholesale & Retail Trade	Finance	Services
1981....	21,520	889	794	2,015	5,098	1,316	2,252	385	3,325
1982....	19,766	615	586	2,160	4,692	1,351	1,966	350	3,077
1983....	17,978	668	510	1,749	3,799	1,127	1,470	257	2,837
1985....	20,213	553	327	1,150	2,595	712	1,281	236	2,187
1986....	23,449	909	617	1,573	5,661	1,874	2,933	680	4,965
1987....	22,978	2,844	578	1,205	4,949	1,800	2,555	450	5,045

NOTE: Data for 1984 is not available. Because of rounding components may not add to total.

SOURCE: Social Security Bulletin, Annual Statistical Supplements.

Table 57. Number of Black Lung beneficiaries and payments by the Social Security Administration and Department of Labor, from 1980 to 1987

Year	Social Security Administration		Department of Labor	
	Total beneficiaries	Annual amount (dollars)	Total beneficiaries	Total amount (dollars)
1980	399,477	1,032,000,000	139,073	813,205,000
1981	376,505	1,081,300,000	163,401	805,627,000
1982	354,569	1,026,000,000	173,972	784,085,000
1983	333,358	1,055,800,000	166,043	859,855,000
1984	313,822	1,038,000,000	163,166	873,923,000
1985	294,846	1,025,000,000	160,437	905,516,000
1986	275,783	971,000,000	156,550	629,075,000
1987	258,988	940,000,000	153,289	655,290,000

NOTE: The Social Security Administration (SSA) was assigned initial responsibility for administering the Black Lung benefits program. The Department of Labor (DOL) assumed responsibility for processing and paying claims on July 1, 1973. Most claims filed prior to July 1, 1973 remain within the jurisdiction of SSA, which also continues to be responsible for processing and paying claims filed by the survivors of these miners.

SOURCE: Social Security Bulletin Annual Statistical Supplement 1989 and Black Lung Benefits Act Annual Report on Administration of the Act.

Table 58. Indemnity compensation for selected occupational respiratory conditions, reported by eight state workers' compensation agencies, 1986

SDS Code	Condition	Number of Cases	Indemnity Compensation	
			Total Compensation (dollars)	Average Compensation (dollars)
274	Toxic lower respiratory conditions	278	5,609,400	20,178
283	Asbestosis	71	5,084,250	71,609
284	Byssinosis	111	2,368,422	21,337
286	Silicosis	50	3,078,283	61,566
572	Non-toxic lower respiratory conditions	136	1,872,028	13,765

NOTE: The eight states providing indemnity compensation information were: Arkansas, Delaware, Iowa, New York, North Carolina, Oregon, Washington, and Wisconsin.

SOURCE: Bureau of Labor Statistics Supplementary Data System.

Table 59. Cases of non-toxic lower respiratory conditions, reported to state workers' compensation agencies, by state, from 1980 to 1987

State	Number of cases							
	1980	1981	1982	1983	1984	1985	1986	1987
Alabama.....								
Alaska.....	35	20	19	15	11	21	19	18
Arizona.....	8	8	3	4	-	-	3	3
Arkansas.....	6	9	5	4	6	7	5	2
California.....	327	440	670	910	720	754	908	804
Colorado.....	27	18	30	35	35	35	28	18
Connecticut....								
Delaware.....	1	2	1	1	-	2	1	-
District of Columbia.....								
Florida.....								
Georgia.....								
Hawaii.....	6	3	9	11	9	16	15	12
Idaho.....	-	-						
Illinois.....								
Indiana.....	14	9	10	21	31	37	42	28
Iowa.....	10	8	3	1	11	14	10	15
Kansas.....								
Kentucky.....	3	5	2	7	2	14	15	12
Louisiana.....						10	11	11
Maine.....	4	1	9	3				45
Maryland.....	8	8	13	7	15	9	8	9
Massachusetts..	1							
Michigan.....	36	34	20	24	24	22	25	18
Minnesota.....	42	49	47	41	49			
Mississippi....	2	3	2	11	3	13	12	12
Missouri.....	4	7	5	8	13	12	19	7
Montana.....	1	-	1	-	-			
Nebraska.....	4	6	7	8	3	14	12	12
Nevada.....								
New Hampshire..								
New Jersey.....	28							
New Mexico.....	-	2	-	1	-	2	3	1
New York.....	66	72	67	61	60	86	90	87
North Carolina.	2	3	4	11	3	2	1	3
North Dakota...								
Ohio.....	23	28	13	16	29	23	22	11
Oklahoma.....								9
Oregon.....	8	5	6	11	27	17	12	9
Pennsylvania...								
Rhode Island...								
South Caroline.								
South Dakota...								
Tennessee.....	3	6	6	9	2	4	13	18
Texas.....								
Utah.....	5	5	3	6	5	6		
Vermont.....		-	1	2	-			
Virginia.....	1		6	42	18	15	10	6
Washington.....	12	6	13	14	50	42	16	27
West Virginia..								
Wisconsin.....	93	91	6	3	7	13	11	30
Wyoming.....	5	14	3	12	6	14	15	-

NOTE: Non-toxic lower respiratory conditions = SDS code 572. Statistics for Arkansas, Delaware, New York, and North Carolina are for closed cases. Statistics for other states are for cases that occurred or were received during the year.

SOURCE: Bureau of Labor Statistics Supplementary Data Systems.

- indicates quantity zero. Empty space indicates information not available.

Sources and Limitations of Data

National Coal Workers' Autopsy Study

The National Coal Workers' Autopsy Study (NCWAS) is administered by the National Institute for Occupational Safety and Health (NIOSH), Division of Respiratory Disease Studies. This program was authorized by the Federal *Coal Mine Health and Safety Act of 1969*, and is currently carried out under the Federal *Mine Safety and Health Act of 1977*, an amendment to the 1969 Act.

The program is a service benefit to survivors of coal miners. The autopsy results: 1) provide medical evidence in support of black lung benefit claims; 2) assist in conducting research into the epidemiology and pathogenesis of coal workers' pneumoconiosis and silicosis; and 3) provide forensic assistance in the investigation of coal mine fatalities.

Each case submitted to the study includes lung tissue, information on the miner's cause of death, manner of death (natural, accidental, suicide, or homicide), primary job, mine location, work tenure, and smoking history. The program is voluntary; an autopsy is performed only at the request of the miner's next-of-kin. Eligibility is restricted to those miners who have worked at underground coal mines.

Approximately 5500 autopsies from 27 states were submitted to the program, from 1971 to 1989. It has been estimated that the cases in the NCWAS represent approximately 10% of all coal miners who die.

The NCWAS is unique as an autopsy program relating to a single occupational group, and stands in contrast to hospital based autopsy programs, which are often biased toward the medical specialty of the hospital staff.

Several considerations should be noted in generalizing from the NCWAS data to the entire population of coal miners. A small proportion of all miners who die are included in the NCWAS population. It is likely that miners in the NCWAS have less occupational disease than miners who are not included, as more severely affected miners may already be receiving compensation at death, and thus their families would be less likely to request an autopsy. NCWAS data probably underestimates CWP and silicosis in the overall population of coal miners at death.

For more information contact: Examination Processing Branch, Division of Respiratory Disease Studies, NIOSH, 944 Chestnut Ridge Road, Morgantown, WV 26505-2888. (304) 291-4301.

Coal Workers' X-ray Surveillance Program

The Coal Workers' X-ray Surveillance Program (CWXSP) was mandated by the *Coal Mine Health and Safety Act of 1969*. Currently, the Division of Respiratory Disease Studies, National Institute for Occupational Safety and Health (NIOSH), administers the Program.

The primary objective of the CWXSP is to screen miners for coal workers' pneumoconiosis (CWP). Miners who show signs of CWP on their chest radiographs are offered the option to transfer to an area of the mine with a respirable coal mine dust level of 1 mg/m^3 or less.

The population eligible for participation in the screening program includes all working underground coal miners estimated at approximately 80,000 in 1988. Information collected includes a posterior-anterior chest x-ray and ancillary information: miner age, tenure, and specific job in the mine. Data has been collected since 1970.

Miners employed since 1970 must have a chest radiograph at the time of hire and again 3 years later. Subsequently, working coal miners may volunteer for radiographs at approximately 5-year intervals. The chest x-rays are taken at no cost to the miners.

The chest films are interpreted by physicians or radiologists who are certified by NIOSH as proficient in use of the International Labour Office (ILO) system for classifying radiographs of pneumoconioses. Each film is seen by at least two readers, and a consensus rule is used to reach a final determination for each film. The CWXSP defines CWP as small opacity profusion category of at least 1/0 or large opacities (i.e., larger than one centimeter) consistent with pneumoconiosis.

The CWXSP is unique as a federally mandated occupational health screening program. The large number of chest x-rays (over 250,000) collected since 1970 provide a means of monitoring the incidence and prevalence of CWP since the respirable coal mine dust standard has been in effect.

Coal miner participation rates have decreased since 1970 to less than 50% of coal miners. This may introduce a selection bias. Also, crude prevalence estimates may reflect overrepresentation of newly employed miners. Thus, CWXSP data should be used with caution in relating to the entire coal mine work force.

For more information contact: Examination Processing Branch, Division of Respiratory Disease Studies, NIOSH, 944 Chestnut Ridge Road, Morgantown, WV 26505-2888. (304) 291-4301.

National Hospital Discharge Survey

The National Hospital Discharge Survey (NHDS) is conducted yearly by the National Center for Health Statistics (NCHS) and collects data on the use of short stay non-Federal hospitals in the United States. Data collected from the survey includes information on patient's age, race, sex, ethnicity (since 1985), marital status, disposition, length of stay, source of payment (since 1977), diagnoses and surgical procedures, hospital size, ownership, and region of the United States.

Since 1964 several sampling methods have been used. In 1989, data were abstracted from approximately 180,000 records from 400 hospitals. Only hospitals with six or more beds for patient use and those in which the average length of stay for all patients is less than 30 days are included in the survey.

One of the limitations of National Hospital Discharge Survey data is that it represents number of discharges, not number of cases. In addition, information is available by region and not by state. Also, information is based on physician diagnostic practices and depends on the completeness of medical records.

For more information see:
National Center for Health Statistics, E.J. Graves: Utilization of short-stay hospitals, United States, 1987, annual summary. Vital and Health Statistics. Series 13, No. 99. DHHS Pub. No. (PHS) 89-1760. Public Health Service. Washington, D.C. U.S. Government Printing Office, April 1989.

Multiple Cause of Death Data

Since 1968, the National Center for Health Statistics (NCHS) has coded all conditions listed on death certificates. The data is released annually on public use computer tapes. This has allowed researchers to evaluate interaction of diseases in causing death and also is useful in determining the number of deaths in which specific diseases play a contributing role.

Previous to the availability of multiple cause of death data, cause of death studies focused on underlying cause of death. Underlying cause of death is defined as the disease or injury that initiated events leading to death. Statistics based on underlying cause of death do not fully consider the influence of diseases which contribute to cause of death.

NCHS codes all deaths in the United States (approximately two million annually) that are reported to vital registration offices. Data coded for each decedent includes residence, age, race, sex, and ethnicity (since 1984). The usual occupation and industry of each decedent are available for some states from 1984 through 1989.

Limitations of multiple cause of death data include: under or over reporting of conditions on the death certificate by certifying physicians.

For more information see:
National Center for Health Statistics, Vital Statistics of the United States, 1987, Vol. I, DHHS Pub. No. (PHS) 89-1100 and Vol. II, Part A, DHHS Pub. No. (PHS) 90-1101, Public Health Service. Washington. U.S. Government Printing Office, 1989.

Annual Reports of Occupational Injuries and Illnesses

The Bureau of Labor Statistics (BLS) program of Occupational Safety and Health Statistics is mandated by the *Occupational Safety and Health Act of 1970*. The BLS Office of Occupational Safety and Health Statistics maintains a nationwide employer record keeping system on job related injuries and illnesses, annually compiles data from these records, analyzes the results, and reports supplementary statistics from other sources. The annual survey, done in cooperation with participating State agencies, eliminates duplicate reporting by employers and ensures maximum comparability of data.

Data are collected by mail from a sample of approximately 280,000 establishments each calendar year. Nearly all industries in the private sector (employers covered by the *Occupational Safety and Health Act of 1970*) are included. National estimates of incidence rates for injuries and illnesses, by industry, are developed from the collected data.

A limitation of the summary statistics is the under-count of chronic diseases. Diseases with a long latency are often not detected by the survey system. Also the annual survey excludes: the self-employed; farmers with fewer than 11 employees; private households; and employees in Federal, state, and local agencies.

For more information contact:
Bureau of Labor Statistics, Patrick Henry Building, 601 D Street, NW, Washington, DC 20212.

Work Injuries and Illnesses-Supplementary Data System (SDS)

This system provides details on the characteristics of occupational injuries and illnesses from records of workers' compensation systems of selected states.

SDS data, available since 1976, describe: nature of injury or illness, part of body affected, source of the injury or illness, and event or exposure which produced the injury or illness. Major SDS classifications include industry and occupation of

injured or ill workers. Additional information available for some or all participating states includes extent of disability, length of service of injured or ill workers, age, and sex.

A limitation of the data is that participation is voluntary and not all states participate on a regular basis or have the same criteria for a case. Also information for less serious cases is not coded by all states.

For more information contact: Bureau of Labor Statistics, Patrick Henry Building, 601 D Street, NW, Washington, DC 20212.

Medicare Provider Analysis and Review (MEDPAR) File

The Medicare Provider Analysis and Review File is an annual file of information for all hospital stays of Medicare enrollees. The source of data are bills for inpatient hospital services submitted to the Health Care Financing Administration. Records list a principal diagnosis and up to four additional diagnoses. The five-digit diagnostic code is assigned from the ICD-9-CM codes.

After clearing the administrative process, records are entered into the statistical system. In addition to diagnostic information, records include patient characteristics, such as age, sex, race, and state and county of residence.

Limitations of these data for occupational respiratory disease surveillance are that they represent only patients receiving Medicare benefits, and they represent hospital stays, not patients. One postitive aspect is that the data represent a complete count of all inpatient Medicare records.

For more information see: Health Care Financing Administration, Medicare Data System, by Irving Goldstein, HCFA Pub. No. 03111, Baltimore, MD., July 1981.

National Occupational Exposure Survey

From 1981 to 1983, NIOSH conducted the National Occupational Exposure Survey (NOES). The NOES collected information from 4,490 facilities in geographic locations located throughout the United States. Facilities surveyed included a representative sample of all non-agricultural, non-mining and non-governmental businesses covered under the *Occupational Safety and Health Act of 1970.*

The purpose of NOES was to determine potential exposures to hazardous chemical, physical, and biological agents in workplaces and to obtain data regarding health and safety programs by the businesses surveyed.

In tables in this report, numbers of workers exposed were estimated by multiplying proportions exposed in specific industries by the number employed in those industries based on data from the County Business Patterns for 1986. Since NOES data were collected in 1981-1983, worker exposure estimates may not reflect exposure control measures implemented after the NOES data collection period.

For more information see: National Institute for Occupational Safety and Health, National Occupational Exposure Survey, Field Guidelines, DHHS Pub. No. (NIOSH) 86-116.

County Business Patterns

County Business Patterns is an annual census report of the number of business establishments, total wage and salary employment, and payroll on an establishment basis. An employee who works for more than one employer may be counted more than once. The report series has been published annually since 1964. Survey estimates are for a mid-March period. Data is available by four-digit SIC, by state, and by county. The 1972 edition, with the 1977 supplement, of the Standard Industrial Classification is used.

County Business Patterns reports represent all employment covered by the *Federal Insurance Contributions Act* (FICA). Totally exempt from FICA, and therefore not covered in County Business Patterns, are: government employment; railroad employment jointly covered by Social Security and railroad retirement programs; self-employed persons; agricultural production; domestic service; foreign employment; and ships at sea.

For more information contact: Bureau of the Census, Washington, D.C. 20233.

MSHA Informational Reports on Mining

The Mine Safety and Health Administration (MSHA) informational reports review occupational injury and illness experience of United States miners for each year. Data are available from 1970 onward. Tables in this report are derived primarily from reports for coal mining. Data reported by mine operators include work location, occupation, and type of coal mined. Related information on employment, worktime and operating activity is also presented. Estimates of the average workforce are tabulated by state and mining activity. Data reported by contractors performing certain work at mining locations are reported separately.

Data reporting by operators of coal mines and coal preparation plants is mandated by the *Federal Mine Safety and Health Act of 1977.* Operators subject to the Act are required to submit reports of all injuries, occupational illnesses, and related data.

Incidence rates and severity measures are not calculated for reported occupational illnesses, but reported illnesses are enumerated for each work location, type of coal being mined, and State.

For more information see: Injury Experience in Coal Mining, 1988, U.S. Department of Labor, Mine Safety and Health Administration, Information Report, IR 1189, 1989. U.S. Government Printing Office, Washington, D.C. 20402. See analagous reports for other sectors of the mining industry.

Social Security Administration Disability Awards

The Social Security Administration (SSA) maintains a data base with information on each processed claim for disability benefits. Each year approximately one-third to one-half million persons are allowed benefits under the SSA program. The benefits program has been in place since 1967.

Applicants for disability benefits must be under age 65 and unable to gain employment due to physical or mental impairment. The impairment must be expected to last for 12 months and the applicant must have worked a specified number of quarters in the 10 years preceding disability.

The data base includes information on education, usual occupation, industry, diagnosis of primary disabling condition, and mobility.

For more information see: Social Security Bulletin, Annual Statistical Supplement, 1989. SSA Pub. No. 13-11700. U.S. Government Printing Office, Washington, D.C. 20402.

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