
APPENDICES

Multiple Cause of Death Data, NCHS

The National Center for Health Statistics (NCHS) makes available multiple cause of death data files for the years 1968 to 1992. The files contain records of all deaths in the United States (approximately two million annually) that are reported to state vital statistics offices. All conditions listed on the death certificate, both underlying and contributing, are coded for each decedent. Additional data include age, race, sex, and state and county of residence at time of death. The usual occupation and industry of each decedent are available for some states since 1985 (see Appendix C).

Since 1989, the NCHS public use data files have not included data for counties reporting less than 3 deaths, for any given year. Files containing data not available for public use have been obtained directly from NCHS for use in generating mortality maps by county.

Potential limitations of multiple cause of death data include: under- or over-reporting of conditions on the death certificate by certifying physicians; incomplete or unclassified reporting of usual occupation and industry; and non-specificity of codes.

For more information refer to: *Vital Statistics of the United States, 1992*, Vol. 1, DHHS Pub. No. (PHS) 96-1100 and Vol. II, Part A, DHHS Pub. No. (PHS) 97-1101, Public Health Service, National Center for Health Statistics. U.S. Government Printing Office, Washington, D.C. 20402.

Population Estimates, Bureau of the Census

National population estimates used in this report are based on data from the United States Bureau of the Census for national, state, and county levels. A census of the United States population has been taken every 10 years since 1790. After the decennial population censuses are completed, intercensal population estimates are prepared for the preceding decade to replace postcensal estimates. Intercensal estimates take into account the census of the population at the beginning and end of each decade. In the current report, intercensal estimates have been

used for all years preceding 1990. United States postcensal (Demo-Detail) files were used to compute rates for 1990 to 1992. As of June 1996, the census data may be found on the Wide-Ranging Online Data for Epidemiological Research (WONDER) computerized information system, maintained by the Centers for Disease Control and Prevention.

For information on the 1990 census, refer to: U.S. Bureau of the Census, *1990 Census of the Population, General Population Characteristics*, Series 1900, CP-1.

Respirable Coal Mine Dust Data, MSHA

These data were obtained from MSHA and represent respirable coal mine dust levels measured by MSHA inspectors at surface and underground coal mines beginning in 1970. The data include the sample collection date, dust concentration, occupation associated with the sample, an MSHA designator as to the validity of the sample, and the mine at which the sample was obtained.

The MSHA respirable coal mine dust samples are obtained by drawing mine air through a filter at the rate of two liters per minute, with a cyclone used to extract non-respirable particles prior to the filter. The dust weight collected on the filter is multiplied by 1.38 to complete the conversion to Mines Research Establishment (MRE) units. The "MRE" designation indicates that measurements obtained by MSHA were converted so that they would be equivalent to those obtained with an instrument on which the British standards have been based (Isleworth Type 113A Gravimetric Dust Sampler).

For more information, contact: Mine Safety and Health Administration, Information Resource Center, P.O. Box 25367, Denver, CO 80225-0367.

Respirable Coal Mine Quartz Dust Data, MSHA

These data were obtained from MSHA and represent respirable quartz levels derived from respirable coal mine dust samples collected by MSHA inspectors at

surface and underground coal mines beginning in 1982. The data include the sampling date, sampling time, initial and final weights, percent quartz, production level during sampling, the occupation associated with the sample, and the mine at which the sample was obtained.

For more information, contact: Mine Safety and Health Administration, Safety and Health Technology Center, Dust Division, PO Box 18233, Pittsburgh, PA 15236.

Mine Inspection Data Analysis System, BoM

The Mine Inspection Data Analysis System (MIDAS) was developed by the Bureau of Mines (BoM) to analyze the records of industrial hygiene samples collected by Mine Safety and Health Administration (MSHA) inspectors in non-coal (metal/non-metal) surface and underground mines beginning in 1974. Data in MIDAS, for both personal exposure samples and area samples, include the sampling date, contaminant code, airborne concentration, occupation, PEL, percent silica and silica concentration (where applicable), standard industrial classification, and the mine at which the sample was obtained. The MIDAS data were previously edited by the Bureau of Mines staff. This report uses all the MIDAS data reported for the agents listed in Appendix D.

For more information contact: W. F. Watts, Jr. at the University of Minnesota, Center for Diesel Research, Department of Mechanical Engineering, 125 ME, 111 Church St. SE, Minneapolis, MN 55455 or E-mail Watts@012.tc.umn.edu .

Note: The quartz reference standard used for MIDAS samples changed in 1988. For information regarding the quartz reference standard used for the MIDAS samples, contact: Laboratory Division, Denver Technical Support Center, Mine Safety and Health Administration, PO Box 25367, Denver, CO 80225-0367.

Integrated Management Information System, OSHA

The Integrated Management Information System (IMIS) includes most of the industrial hygiene sampling data from Occupational Safety and Health Administration (OSHA) compliance inspections beginning in May 1979. The data are reported by OSHA field compliance officers. OSHA provides IMIS data to NIOSH on an annual basis. The IMIS data include the sampling date, substance code, airborne concentration, sample and exposure type (see Methods, Appendix B), occupation, PEL, and standard industrial classification.

For more information contact: OSHA, Office of Management Data Systems, 200 Constitution Avenue, NW, Washington, D.C. 20210.

International Classification of Disease (ICD) Codes

Condition (as defined for this report)	ICD-8 (1968-1978)		ICD-9 (1979-1992)	
	Rubrics	Codes	Rubrics	Codes
Asbestosis	Asbestosis	515.2	Asbestosis	501
Coal Workers' Pneumoconiosis	Anthracosilicosis Anthracosis Coal miners' lung	515.1	Coal Workers' Pneumoconiosis Anthracosilicosis Anthracosis Black lung disease Coal workers' lung Miners' asthma	500
Silicosis	Silicosis Calcicosis Chalicosis	515.0	Pneumoconiosis due to other silica or silicates Pneumoconiosis due to talc Silicotic fibrosis (massive) Silicosis (simple)/(complicated)	502
	Silicotuberculosis Colliers' phthisis Grinders' phthisis Miners' phthisis Stonemasons' phthisis	010	<i>No equivalent ICD-9 code</i>	
Byssinosis	<i>No specific ICD-8 code for byssinosis</i>		Pneumonopathy due to inhalation of other dust Byssinosis Cannabinosis Flax-dressers' disease	504
Unspecified/ Other Pneumoconioses	Pneumoconiosis due to inhalation of other inorganic dust Aluminosis (of lung) Bauxite fibrosis (of lung) Berylliosis Graphite fibrosis (of lung)	516.0	Pneumoconiosis due to other inorganic dust Aluminosis (of lung) Bauxite fibrosis (of lung) Berylliosis Graphite fibrosis (of lung) Siderosis Stannosis	503
	Other pneumoconiosis, including unspecified Pneumoconiosis: NOS; due to: silicates NEC talc	515.9	Pneumoconiosis, unspecified	505

NOS - not otherwise specified

NEC - not elsewhere classified

MORTALITY

Number of Deaths

The number of deaths for each occupational respiratory condition is the number of deaths in which the condition was coded as either underlying or contributing cause of death. These numbers were tabulated from the record axis of the NCHS multiple cause of death data files. Cause of death codes were defined as shown in the previous table [International Classification of Disease (ICD) Codes]. In the current report, the number of deaths by condition are reported both annually and for selected time periods. Where numbers of deaths are presented in this report, the total for the specific period is reported. Reported deaths are restricted to United States residents, 15 years or older, based on state of residence at death. For this report, race was classified as white, black, and all others.

Crude Mortality Rates

Cause-specific crude mortality rates for occupational respiratory conditions were computed for all United States decedents 15 years and older, from 1968 to 1992. To compute the annual rates, the total number of deaths with a specific condition mentioned as either underlying or contributing cause was divided by the comparable United States population, in the same year. Additional restrictions were placed on the data to compute race- and sex-specific rates.

State-specific crude mortality rates for 1991-1992 were computed by dividing the average number of reported deaths in each state by the average state population, 15 years and older, in that time period. State-specific crude mortality rates for other multi-year periods were computed by dividing the average annual number of deaths for the period by the mid-year population for that period.

Age-adjusted Mortality Rates

Age-adjusted mortality rates presented in this report were based on deaths with the condition of interest mentioned as either underlying or contributing cause

of death. Age-adjusted rates were computed by the direct method. Rates were calculated annually for each specified condition from 1968 through 1992, as well as for selected periods. The age-adjusted rates, for a given year, represent the rates that would have been observed if the age-specific rates for specified age groups had occurred in a population with the same age distribution as that of the standard population. For this report, the 1940 United States population was used as the standard. The specific age intervals used were 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, and 85 years and older. Rates for the entire U.S. population, and for each sex-race group were adjusted separately, each using the same standard population.

The method of calculation first computed the annual age-specific rates for the population of interest. The product of the age-specific rates and the number in the comparable age-specific group in the standard population equals the expected number of deaths per million population for each age group. The total expected numbers of deaths were then summed over all age groups. The sum of the expected number of deaths was divided by the sum of the standard population and the resulting quotient was multiplied by 1,000,000 to produce the age-adjusted rate.

Age-adjusted mortality rates were computed at the national, state, and county level for multi-year periods. The method of calculation first computed age-specific rates by dividing the average annual number of deaths for each age group by the corresponding age-grouped mid-year population for the comparable geographic unit. Age-adjusted rates were then computed as described above.

Age-adjusted rates computed for multi-year periods, by county, were based upon wider age intervals in order to aggregate a larger number of cause-specific deaths within each age group. Specific intervals used were 15-34, 35-54, 55-74, and 75 years and older.

Years of Potential Life Lost

Years of potential life lost (YPLL) were based on deaths with the condition of interest mentioned as

either underlying or contributing cause of death. They were calculated using the method described by the Centers for Disease Control (CDC) (MMWR, Vol 34/2S: December 19,1986). YPLL were calculated both to age 65 and to life expectancy. YPLL to age 65 may be considered as a loss of years from a normal working life, while YPLL until life expectancy may be considered as a loss of years from the overall life span. For YPLL to age 65, the number of deaths with a mention of a specific condition of interest were classified into the ten-year age groups mentioned in the section on age-adjusted mortality rates. The number of deaths in each age group was then multiplied by the difference between 65 years and the mid-point of the age group. Thus for the 15-24 year age group, the number of deaths would be multiplied by 45 (i.e., 65 minus 20 years). The age-specific YPLL were summed over all age groups for the total value.

For YPLL to life expectancy, the single difference was that the calculation was based on the number of deaths in the age-specific group multiplied by the difference between the mid-point of the age group and the life expectancy at that age in the year of death. Life tables published annually by NCHS were used to determine life expectancy. State-specific YPLL (to life expectancy) per death were calculated for only one period, 1988-1992. To calculate this index, YPLL (to life expectancy) were divided by the total number of deaths in the time period.

Proportionate Mortality Ratio (PMR)

The data for PMR analyses were a subset of the NCHS multiple cause of death files for which usual occupation and industry are available (see Appendix C for a list of states and years reporting).

The PMR is defined as the observed number of deaths with the condition of interest (mentioned as either underlying or contributing cause) in a specified occupation or industry divided by the expected number of deaths with that condition. The expected number of deaths is the total number of deaths in the occupation or industry of interest multiplied by the

proportion, defined as the number of cause-specific deaths for the condition of interest, divided by the total number of deaths in the population. The PMRs in the report have been internally age-adjusted (i.e., 15-34, 35-54, 55-74, and 75 years and over). Confidence intervals were calculated assuming Poisson distribution of the data.

A PMR over 1.00 indicates that there were more deaths with the condition in a specified occupation or industry than expected. PMRs with the lower 95% confidence limit exceeding 1.0 have been listed for occupations or industries with at least 5 deaths from the condition of interest.

Rank Order

For each state, a rank order is presented for each of several mortality measures. Depending on the specific mortality measures, a rank order of "1" indicates the greatest number of deaths, highest mortality rate, or highest YPLL among all states in the U.S.

EXPOSURE

Data Selection

MSHA respirable coal mine dust samples selected for analysis were restricted to those samples which met *all three* of the following criteria:

- 1) samples obtained in the 50 U.S. states or Washington, D.C. (i.e., the Virgin Islands and Puerto Rico were excluded); and
- 2) samples designated by MSHA as valid; and
- 3) samples coded as "designated occupation," "non-designated occupation," "designated work position," "non-designated work position" with valid occupation codes, or "designated area" other than "intake air."

MSHA coal mine quartz samples selected for analysis are those samples which met *all five* of the following criteria:

- 1) samples obtained in the 50 U.S. states or Washington, D.C. (i.e., the Virgin Islands and Puerto Rico were excluded); and
- 2) samples designated by MSHA as valid; and
- 3) samples with sampling time greater than zero; and
- 4) samples with quartz concentration greater than zero; and
- 5) samples coded as “designated occupation,” “non-designated occupation,” “designated work position,” “non-designated work position” with valid occupation codes, or “designated area” other than “intake air.”

MIDAS data selected for analysis are all sample records for agents listed in Appendix D that were collected in the 50 U.S. states or Washington, D.C. (i.e., the Virgin Islands and Puerto Rico were excluded).

IMIS data selected for analysis were a subset of all sample records for agents listed in Appendix D. The subset for analysis resulted from selecting records which met *all four* of the following criteria:

- 1) records with the state code of one of the 50 U.S. states or Washington, D.C. (i.e., the Virgin Islands and Puerto Rico were excluded); and
- 2) records with sample type “area” or “personal” (i.e., “bulk,” “wipe,” “screen,” “blood,” and “urine samples were excluded); and
- 3) records with exposure type “time-weighted average,” “ceiling,” “peak,” or “not detected” (i.e., “dose,” “sound reading,” “not analyzed,” and “not valid” were excluded); and
- 4) records for which the indicated PEL and units were applicable to the contaminant indicated by the substance code for the recorded date of sampling.

Data Analysis

The number of samples within an exposure category of interest was the total number of samples selected by the above criteria for the agents in that exposure

category (see Appendix D for agents and exposure categories).

The severity level for any sample was calculated as the measured exposure level divided by either the enforced PEL or a surrogate for the enforced PEL (see the last two paragraphs of Data Analysis).

The percent of samples exceeding the PEL (or its surrogate) for an exposure category was calculated as the number of samples in that category with measured exposure exceeding the corresponding PEL (or its surrogate), divided by the total number of samples, and finally multiplying by 100.

The average severity level for an exposure category was calculated by determining the severity level for each sample in that category, then summing the severity levels, and finally dividing the sum by the number of samples. The average severity level for samples exceeding the PEL (or its surrogate) was calculated in the same manner, after restricting the data to samples for which measured exposure exceeded the PEL (or its surrogate).

With two exceptions (see below), the average severity levels for categories of pneumoconiotic agents were calculated using the enforced PEL as the denominator. Due to complexities of determining the PEL for respirable coal mine dust samples and for respirable coal mine quartz samples, the denominators used for calculating average severity levels for this report were always 2 mg/m³ MRE for respirable coal mine dust and 0.1 mg/m³ MRE for respirable coal mine quartz. By using these surrogate PELs in the denominators, the severity levels have consistent comparison points which are distinct for respirable coal mine dust and respirable coal mine quartz. The following paragraph explains the method of determining PELs for coal mine dust and provides a rationale for selecting the denominator used for determining severity levels of quartz samples from coal mines.

Since December 1972, the maximum PEL for respirable coal mine dust has been 2 mg/m³ MRE

unless the quartz concentration at the particular mine has been found in excess of 5%. MSHA has no specific PEL for quartz in coal mines. MSHA's respirable coal mine quartz data are based on their analysis of respirable coal mine dust samples. However, for the period covered by this report (through 1994 for exposure data), inspector samples with less than 0.45 mg net weight gain were not analyzed for quartz. When the quartz content has been found to be in excess of 5% in dust from a particular mine, the 2 mg/m³ MRE PEL is reduced based on the following formula:

$$\text{PEL} = \frac{10 \text{ mg/m}^3 \text{ MRE}}{\% \text{ quartz}}$$

Using this formula, one sees that at 100% quartz, the PEL would be 0.1 mg/m³ MRE.

Permissible Exposure Limits

OSHA and MSHA each enforce regulations which establish the legal limits on workplace exposures to pneumoconiotic agents. These legal limits are described in this report as permissible exposure limits

(PELs), although the regulations sometimes use the term "standard" or "exposure limit." The current legal limits may be found in the U.S. Code of Federal Regulations (CFR), as follows:

- OSHA
- general industry: 29 CFR 1910.1000
29 CFR 1910.1001
29 CFR 1910.1043
 - construction industry: 29 CFR 1926.55
29 CFR 1926.1001
 - maritime industry: 29 CFR 1915.1000
29 CFR 1915.1101

- MSHA
- coal mine industry: 30 CFR 70.100-.101
30 CFR 71.100-.101
30 CFR 71.700
30 CFR 75.321
 - non-coal industry: 30 CFR 56.5001
30 CFR 57.5001

This report uses the PELs which were enforced at the time of the sample, unless a surrogate PEL was being used (see preceding section, Data Analysis).

States reporting industry and occupation codes from death certificates to NCHS, 1985-1992

State	1985	1986	1987	1988	1989	1990	1991	1992
Alaska			X	X				
Colorado	X	X	X	X	X	X	X	X
Georgia	X	X	X	X	X	X	X	X
Idaho				X	X	X	X	X
Indiana		X	X	X	X	X	X	X
Kansas	X	X	X	X	X	X	X	X
Kentucky	X	X	X	X				
Maine	X	X	X	X	X	X	X	X
Missouri	X	X						
Nebraska	X							
Nevada	X	X	X	X	X	X	X	X
New Hampshire	X	X	X	X	X	X	X	X
New Jersey				X	X	X	X	X
New Mexico		X	X	X	X	X	X	X
North Carolina			X	X	X	X	X	X
Ohio	X	X	X	X	X	X	X	X
Oklahoma	X	X	X	X	X	X	X	X
Rhode Island	X	X	X	X	X	X	X	X
South Carolina	X	X	X	X	X	X	X	X
Tennessee	X	X	X	X				
Utah	X	X	X	X	X	X	X	X
Vermont		X	X	X	X	X	X	X
Washington					X	X	X	X
West Virginia				X	X	X	X	X
Wisconsin	X	X	X	X	X	X	X	X

Pneumoconiotic Agent Categories for MSHA and OSHA Inspector Data

Pneumoconiotic Agent Category (as defined for this report)	OSHA Agents in Category	MSHA Agents in Category
Asbestos	Asbestos (all forms) Asbestos (state of Oregon) Talc, fibrous tremolite (see asbestos) Tremolite*	Asbestos, fibers >5 µm in length (3MgO·2SiO ₂ ·2H ₂ O)
Cotton Dust	Cotton dust (raw) Flax dust*	
Coal and Coal Mine Dust	Coal dust Coal dust (<5% SiO ₂)(respirable quartz fraction)	Coal dust, respirable fraction, <5% quartz Coal mine respirable dust
Silica	Silica (quartz, non-respirable) Silica crystalline quartz (as quartz), respirable dust Silica, amorphous, diatomaceous earth (>1% crystalline silica) Silica, crystalline cristobalite respirable dust Silica, crystalline tridymite respirable dust Silica, crystalline tripoli (as quartz)(respirable dust)	Coal mine quartz Cristobalite, respirable fraction Nuisance dust, respirable fraction, < 1 % quartz** Quartz, respirable fraction, >1% quartz Respirable dust (not analyzed or below detection limit)** Tridymite, respirable fraction Unlisted particulate, respirable fraction, < 1 % quartz**
Other	Alpha-alumina (total dust)* Aluminum (as Al), metal (respirable fraction) Aluminum(as Al), metal (total dust) Aluminum (as Al), welding fumes Aluminum oxide Aluminum silicate Antimony and compounds (as Sb) Barium (insoluble compounds) Barium sulfate (total dust) Beryllium and compounds Cadmium dust (as Cd) Cadmium fume (as Cd) Carbon black Cobalt, metal, fume and dust (as Co) Emery Emery (respirable fraction) Graphite (natural) Iron oxide fume Kaolin Kaolin (respirable fraction) Magnesite* Magnesite (respirable fraction) Mica (less than 1% crystalline silica) Portland cement (less than 1% quartz) Portland cement (respirable fraction) Rouge Rouge (respirable fraction) Talc (containing no asbestos) Talc, fibrous non-tremolite Tin oxide Titanium dioxide Tungsten and compounds (insoluble) (as W) Welding fumes (total particulate) Wollastonite*	Aluminum oxide dust, as Al ₂ O ₃ Aluminum oxide fume, as Al ₂ O ₃ Antimony dusts, as Sb Beryllium dusts, as Be Beryllium fumes, as Be Cadmium oxide fume, as Cd Cadmium, metal dusts and soluble salts, as Cd Carbon black Cobalt dusts, as Co Cobalt fumes, as Co Graphite (natural) Iron oxide fume, as Fe ₂ O ₃ Mica* Talc, fibers >5 µm in length (Mg ₃ Si ₄ O ₁₀ (OH) ₂) Talc, nonfibrous, <1% quartz Tin oxide dust, as SnO ₂ Tin oxide fume, as SnO ₂ Titanium dioxide dust, as TiO ₂ Titanium dioxide fume, as TiO ₂ Tungsten fumes, as W* Tungsten, insoluble dusts, as W* Welding fumes, total particulate

* No data reported for these agents.

** See Selected Limitations, page 6.

**Summary Description of Previous
*Work-Related Lung Disease (WoRLD) Surveillance Reports***

See page ii of this report for information on how to order copies of the previous Work-Related Lung Disease Surveillance Reports described below.

Work-Related Lung Disease Surveillance Report (original report issued in 1991)

The 1991 *Work-Related Lung Disease Surveillance Report* was the first in a series of occupational respiratory disease surveillance reports produced by the Division of Respiratory Disease Studies (DRDS), National Institute for Occupational Safety and Health (NIOSH). The report represents a summary of surveillance data for various occupational respiratory diseases. The majority of data presented in the report is for the time period 1968-1987, however, the time period varies for different data sources.

Data presented in the report originated from programs administered by NIOSH (e.g., the Coal Workers' X-ray Surveillance Program, the National Coal Workers' Autopsy Study), the National Center for Health Statistics, the Bureau of Labor Statistics, the Mine Safety and Health Administration, the Occupational Safety and Health Administration, the Health Care Financing Administration, and the Social Security Administration.

The 1991 report is organized into two major sections: Figures and Tables. Section I contains 21 figures and Section II contains 59 tables. Within the figures and tables sections, data are provided under the following sub-headings: asbestosis, coal workers' pneumoconiosis, silicosis, exposure to cotton dust, pneumonopathy due to inhalation of other dust, hypersensitivity pneumonitis, toxic agents, dust diseases of the lung, and compensation.

Work-Related Lung Disease Surveillance Report Supplement, 1992

The 1992 *Work-Related Lung Disease Surveillance Report, Supplement*, presents updated data for many of the figures and tables presented in the 1991 report. Data from the 1991 report are updated to include 1988 mortality data.

In addition to updated data, this supplement includes data not previously presented. These data include: (1) sex, race, geographic distribution, industry and occupation from the multiple cause of death data for deaths with mention of asbestosis, malignant neoplasms of the pleura, malignant neoplasms of the peritoneum, coal workers' pneumoconiosis, silicosis, byssinosis, or hypersensitivity pneumonitis; (2) number of discharges with silicosis or asbestosis from the National Hospital Discharge Survey; and (3) reports of

occupational asthma and silicosis from the Sentinel Event Notification Systems for Occupational Risks (SENSOR) program.

Work-Related Lung Disease Surveillance Report, 1994

The majority of data presented in the 1994 *Work-Related Lung Disease Surveillance Report* is for the time period 1968-1990. However, the time period covered varies for some of the data sources.

A portion of the data contained in the 1994 *WoRLD Surveillance Report* originates from programs and activities administered by NIOSH (e.g., the Coal Workers' X-ray Surveillance Program, the National Occupational Health Survey of Mining, and the SENSOR program). Other data were obtained from the National Center for Health Statistics, the Department of Labor, the Social Security Administration, the Mine Safety and Health Administration, the Occupational Safety and Health Administration, the Bureau of Mines, and the Association of Occupational and Environmental Clinics.

The organization of the 1994 *WoRLD Surveillance Report* differs from earlier editions. It is divided into 11 major sections. The first ten sections are specific to selected occupational lung diseases or conditions, summarizing mortality and morbidity data, and other available information, such as occupational exposures or numbers of workers at risk. These sections include: asbestosis, malignant neoplasms of the pleura, coal workers' pneumoconiosis, silicosis, pneumoconiosis due to other inorganic dust, unspecified pneumoconiosis, byssinosis, hypersensitivity pneumonitis, occupational asthma, and other lung conditions. The remaining section provides data from the Association of Occupational and Environmental Clinics database. Most sections contain an initial group of figures, followed by data tables.

The 1994 *WoRLD Surveillance Report* contains major additions, both in the addition of previously unreported data such as that from the National Health Interview Survey and the Association of Occupational and Environmental Clinics, and in supplementing the data with selected statistical measures, such as proportionate mortality ratios, both crude and age-adjusted rates at national and state levels, and years of potential life lost to age 65 and to life expectancy.

The following is a revision to Table 1-6 of the 1994 Work-Related Lung Disease(WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

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	0.44	-
1969	0.49	1.03	0.07	0.15	-
1970	0.60	1.30	0.03	0.59	-
1971	0.56	1.15	0.07	0.72	-
1972	0.91	2.04	0.03	0.56	-
1973	0.75	1.67	0.06	0.41	-
1974	0.72	1.51	0.11	0.66	-
1975	0.78	1.62	0.15	0.65	-
1976	0.87	1.89	0.04	1.13	-
1977	0.98	2.15	0.05	0.98	-
1978	1.41	3.01	0.13	1.68	0.10
1979	1.79	3.90	0.11	1.76	-
1980	1.93	4.09	0.19	2.62	-
1981	1.78	3.67	0.31	2.12	-
1982	2.37	5.03	0.25	2.96	-
1983	2.61	5.49	0.33	3.23	-
1984	2.41	5.20	0.18	3.18	0.09
1985	2.86	6.11	0.27	3.97	-
1986	3.72	7.96	0.32	4.92	0.09
1987	3.73	8.27	0.31	3.03	0.09
1988	4.00	8.76	0.28	4.49	0.26
1989	4.54	9.83	0.29	5.72	0.34
1990	4.85	10.23	0.51	7.40	0.17

- indicates no deaths listed.

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

The following is a revision to Table 1-7 of the 1994 Work-Related Lung Disease (WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

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	0.43	-
1969	0.39	0.85	0.05	0.14	-
1970	0.49	1.09	0.02	0.65	-
1971	0.44	0.94	0.06	0.69	-
1972	0.73	1.69	0.03	0.56	-
1973	0.58	1.37	0.03	0.42	-
1974	0.58	1.26	0.09	0.70	-
1975	0.61	1.33	0.10	0.62	-
1976	0.66	1.53	0.02	1.18	-
1977	0.74	1.73	0.03	0.99	-
1978	1.08	2.42	0.08	1.87	0.07
1979	1.34	3.09	0.08	1.92	-
1980	1.43	3.24	0.12	2.71	-
1981	1.30	2.88	0.20	2.10	-
1982	1.75	3.94	0.15	3.18	-
1983	1.86	4.20	0.18	3.28	-
1984	1.67	3.86	0.12	3.31	0.08
1985	2.00	4.58	0.14	4.02	-
1986	2.51	5.78	0.18	5.05	0.08
1987	2.49	5.95	0.17	3.13	0.05
1988	2.62	6.21	0.14	4.56	0.24
1989	2.84	6.70	0.14	5.75	0.21
1990	3.01	6.90	0.25	7.41	0.15

- indicated no deaths listed.

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

The following is a revision to Table 2-6 of the 1994 Work-Related Lung Disease(WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

Table 2-6. Malignant neoplasm of the pleura: 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	2.67	3.51	2.00	3.39	1.65
1969	2.51	3.37	1.99	2.06	1.01
1970	2.90	4.25	1.88	3.24	1.39
1971	2.89	4.43	1.75	2.72	1.23
1972	2.80	4.05	1.57	5.00	2.15
1973	2.54	3.42	1.91	2.71	1.17
1974	2.60	3.78	1.77	2.12	1.47
1975	2.66	3.79	1.85	2.71	1.33
1976	2.72	3.90	1.91	3.14	0.75
1977	2.60	4.09	1.54	1.72	1.15
1978	2.77	4.31	1.79	1.32	1.33
1979	2.59	4.21	1.45	1.88	0.90
1980	2.60	4.20	1.44	2.05	1.46
1981	2.54	4.30	1.23	2.68	0.76
1982	2.79	4.21	1.99	2.08	0.47
1983	2.69	4.76	1.31	1.29	0.92
1984	2.89	4.68	1.57	2.65	1.18
1985	2.51	4.33	1.24	1.57	0.98
1986	2.62	4.33	1.43	2.26	0.88
1987	2.65	4.71	1.22	1.82	0.86
1988	2.56	4.34	1.39	2.10	0.43
1989	2.80	4.75	1.43	2.17	1.26
1990	2.83	5.13	1.31	1.95	0.58

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

The following is a revision to Table 2-7 of the 1994 Work-Related Lung Disease (WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

Table 2-7. Malignant neoplasm of the pleura: 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	2.10	2.90	1.44	3.42	1.34
1969	2.02	2.80	1.52	2.01	0.95
1970	2.29	3.49	1.34	3.27	1.34
1971	2.17	3.57	1.14	2.62	1.09
1972	2.18	3.32	1.04	5.11	2.10
1973	1.94	2.73	1.37	2.87	1.03
1974	2.02	3.10	1.21	2.25	1.39
1975	2.05	3.11	1.26	2.87	1.15
1976	2.05	3.17	1.24	3.22	0.73
1977	2.00	3.35	1.03	1.85	1.22
1978	2.08	3.50	1.14	1.55	1.10
1979	1.96	3.45	0.94	1.97	0.74
1980	1.91	3.37	0.84	2.27	1.20
1981	1.83	3.36	0.70	2.96	0.55
1982	2.06	3.36	1.20	2.35	0.44
1983	1.90	3.63	0.82	1.36	0.82
1984	2.09	3.61	0.97	2.96	1.03
1985	1.77	3.30	0.75	1.67	0.88
1986	1.83	3.25	0.84	2.46	0.70
1987	1.89	3.61	0.70	1.93	0.73
1988	1.78	3.24	0.82	2.26	0.47
1989	1.92	3.47	0.87	2.28	1.01
1990	1.91	3.72	0.73	2.02	0.40

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

U.S. Bureau of the Census: 1970-1990 population estimates of the U.S.

The following is a revision to Table 3-6 of the 1994 Work-Related Lung Disease (WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

Table 3-6. Coal workers' pneumoconiosis: 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	12.15	27.87	0.19	4.42	0.13
1969	10.50	24.13	0.06	4.57	-
1970	14.99	34.29	0.15	7.07	0.13
1971	17.06	38.96	0.31	7.30	0.12
1972	18.85	43.01	0.26	9.73	-
1973	17.20	39.00	0.27	10.98	0.23
1974	17.27	39.23	0.32	10.58	0.11
1975	16.81	38.34	0.34	9.29	-
1976	15.11	34.32	0.28	10.44	0.11
1977	14.00	31.89	0.25	9.22	0.21
1978	13.40	30.80	0.21	7.46	-
1979	13.96	32.16	0.17	7.76	0.10
1980	14.65	33.84	0.14	8.43	0.10
1981	14.33	33.06	0.17	8.59	0.38
1982	15.27	35.04	0.26	11.07	-
1983	14.81	33.93	0.16	12.08	0.37
1984	14.55	33.86	0.16	7.85	0.36
1985	14.03	32.61	0.14	8.25	0.27
1986	12.95	29.79	0.25	9.75	0.26
1987	11.85	27.46	0.13	8.49	0.26
1988	11.55	26.94	0.17	6.98	0.26
1989	11.03	25.79	0.09	7.20	0.08
1990	10.19	23.71	0.14	6.82	0.17

- indicates no deaths listed.

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

The following is a revision to Table 3-7 of the 1994 Work-Related Lung Disease(WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

Table 3-7. Coal workers' pneumoconiosis: 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	8.53	21.03	0.12	4.17	0.12
1969	7.31	18.10	0.05	4.34	-
1970	10.47	25.80	0.09	6.60	0.11
1971	11.92	29.41	0.17	6.95	0.14
1972	13.32	32.92	0.11	9.24	-
1973	12.10	29.89	0.15	10.19	0.19
1974	12.11	30.08	0.17	9.71	0.13
1975	11.58	29.07	0.22	8.71	-
1976	10.38	26.02	0.12	9.75	0.09
1977	9.44	23.81	0.17	8.62	0.17
1978	8.89	22.71	0.10	7.24	-
1979	9.23	23.61	0.09	7.24	0.08
1980	9.61	24.64	0.10	7.85	0.06
1981	9.05	23.43	0.11	7.99	0.37
1982	9.45	24.48	0.12	10.05	-
1983	9.16	23.55	0.09	11.24	0.31
1984	8.94	23.35	0.07	7.23	0.31
1985	8.32	21.95	0.07	6.98	0.18
1986	7.61	19.82	0.09	8.69	0.24
1987	6.86	17.97	0.05	7.52	0.22
1988	6.48	17.15	0.08	6.35	0.19
1989	6.11	16.16	0.04	6.50	0.02
1990	5.44	14.43	0.05	5.91	0.14

- indicates no deaths listed.

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

The following is a revision to Table 4-6 of the 1994 Work-Related Lung Disease (WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

Table 4-6. Silicosis: 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	7.92	16.52	0.19	16.94	0.38
1969	7.83	16.26	0.18	17.38	0.13
1970	7.44	15.70	0.19	13.70	0.13
1971	6.20	13.30	0.15	10.02	0.12
1972	6.45	13.33	0.17	14.45	-
1973	5.47	11.41	0.15	11.25	0.23
1974	4.99	10.56	0.11	9.39	0.23
1975	4.52	9.43	0.16	9.29	0.11
1976	4.09	8.54	0.12	8.80	-
1977	3.36	7.02	0.07	7.50	-
1978	3.16	6.41	0.19	7.58	0.10
1979	2.61	5.25	0.06	7.52	0.10
1980	2.55	4.99	0.18	7.52	-
1981	2.12	4.37	0.22	3.46	0.10
1982	2.16	4.36	0.04	6.14	-
1983	1.97	4.04	0.06	4.85	-
1984	2.07	4.09	0.11	6.15	0.09
1985	1.79	3.52	0.10	5.43	0.09
1986	1.69	3.32	0.10	4.82	-
1987	1.80	3.50	0.18	4.95	0.09
1988	1.57	3.00	0.11	5.29	0.17
1989	1.56	3.03	0.14	4.34	0.25
1990	1.58	3.14	0.11	4.38	0.08

- indicates no deaths listed.

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

The following is a revision to Table 4-7 of the 1994 Work-Related Lung Disease(WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

Table 4-7. Silicosis: 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	5.64	12.52	0.13	16.26	0.39
1969	5.51	12.22	0.12	16.75	0.12
1970	5.21	11.75	0.14	13.03	0.14
1971	4.39	10.06	0.10	9.87	0.05
1972	4.58	10.10	0.13	14.36	-
1973	3.78	8.59	0.10	10.73	0.23
1974	3.48	7.99	0.07	9.25	0.22
1975	3.09	7.05	0.11	9.27	0.10
1976	2.86	6.49	0.08	8.79	-
1977	2.29	5.22	0.04	7.56	-
1978	2.19	4.80	0.14	7.66	0.07
1979	1.79	3.88	0.04	7.71	0.04
1980	1.70	3.60	0.12	7.72	-
1981	1.40	3.17	0.11	3.44	0.08
1982	1.42	3.10	0.02	6.36	-
1983	1.28	2.85	0.05	4.85	-
1984	1.31	2.80	0.06	6.50	0.12
1985	1.15	2.44	0.05	5.60	0.10
1986	1.03	2.26	0.05	4.63	-
1987	1.12	2.38	0.08	5.19	0.03
1988	0.94	1.96	0.05	5.27	0.14
1989	0.94	1.98	0.07	4.31	0.26
1990	0.96	2.06	0.04	4.54	0.08

- indicates no deaths listed.

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

The following is a revision to Table 5-6 of the 1994 Work-Related Lung Disease (WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

Table 5-6. Pneumoconiosis due to other inorganic dust: 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	0.09	0.18	0.01	-	0.13
1969	0.10	0.10	0.10	0.15	-
1970	0.12	0.18	0.09	-	-
1971	0.08	0.11	0.04	0.14	0.12
1972	0.11	0.12	0.09	0.28	-
1973	0.06	0.11	0.03	-	-
1974	0.09	0.15	0.03	0.13	-
1975	0.06	0.09	0.04	0.13	-
1976	0.08	0.10	0.07	0.13	-
1977	0.08	0.13	0.05	-	-
1978	0.08	0.06	0.08	0.36	-
1979	0.09	0.08	0.06	0.59	-
1980	0.06	0.08	0.05	0.11	-
1981	0.08	0.11	0.07	-	-
1982	0.07	0.15	-	0.22	-
1983	0.08	0.12	0.06	0.11	-
1984	0.11	0.13	0.10	0.32	-
1985	0.09	0.14	0.05	0.10	-
1986	0.05	0.09	0.04	-	-
1987	0.04	0.05	0.04	-	-
1988	0.07	0.06	0.07	0.30	-
1989	0.09	0.14	0.06	0.10	-
1990	0.07	0.15	0.02	-	-

- indicates no deaths listed.

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

The following is a revision to Table 5-7 of the 1994 Work-Related Lung Disease (WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

Table 5-7. Pneumoconiosis due to other inorganic dust: 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	0.07	0.15	0.01	-	0.12
1969	0.09	0.09	0.10	0.17	-
1970	0.10	0.16	0.07	-	-
1971	0.06	0.08	0.04	0.11	0.14
1972	0.10	0.12	0.08	0.31	-
1973	0.05	0.10	0.02	-	-
1974	0.07	0.13	0.02	0.12	-
1975	0.05	0.08	0.03	0.15	-
1976	0.07	0.09	0.06	0.11	-
1977	0.06	0.11	0.04	-	-
1978	0.06	0.05	0.06	0.37	-
1979	0.08	0.07	0.04	0.64	-
1980	0.05	0.08	0.04	0.12	-
1981	0.06	0.08	0.04	-	-
1982	0.05	0.11	-	0.23	-
1983	0.07	0.10	0.05	0.09	-
1984	0.09	0.10	0.08	0.36	-
1985	0.07	0.11	0.04	0.12	-
1986	0.04	0.06	0.03	-	-
1987	0.02	0.04	0.02	-	-
1988	0.06	0.05	0.05	0.33	-
1989	0.06	0.11	0.03	0.10	-
1990	0.06	0.13	0.01	-	-

- indicates no deaths listed.

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

The following is a revision to Table 6-6 of the 1994 Work-Related Lung Disease (WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

Table 6-6. Unspecified pneumoconiosis: 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	3.74	7.79	0.22	6.78	0.13
1969	3.90	7.99	0.19	8.54	0.38
1970	5.67	11.90	0.27	9.87	0.51
1971	8.54	18.21	0.36	13.31	-
1972	9.90	21.02	0.49	15.84	-
1973	9.52	20.53	0.58	10.85	0.58
1974	8.66	18.28	0.88	9.79	0.79
1975	8.63	17.80	1.06	11.74	0.88
1976	7.30	15.02	0.90	10.69	0.54
1977	6.16	12.63	0.74	9.59	0.52
1978	5.80	12.10	0.83	5.77	0.72
1979	5.04	11.19	0.05	6.23	0.20
1980	4.52	9.99	0.06	6.15	-
1981	3.34	7.42	0.02	4.46	-
1982	2.02	4.33	0.11	3.29	-
1983	1.80	3.87	0.15	2.48	-
1984	1.69	3.66	0.04	2.87	0.09
1985	1.56	3.46	0.04	1.98	-
1986	1.24	2.68	0.06	1.74	-
1987	1.50	3.26	0.07	2.22	0.09
1988	1.52	3.35	0.04	2.29	-
1989	1.48	3.12	0.14	2.47	-
1990	1.95	4.32	0.08	2.43	0.08

- indicates no deaths listed.

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

The following is a revision to Table 6-7 of the 1994 Work-Related Lung Disease(WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

Table 6-7. Unspecified pneumoconiosis: 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	2.57	5.75	0.14	6.45	0.14
1969	2.72	5.96	0.14	8.11	0.36
1970	3.96	8.86	0.21	9.38	0.49
1971	5.91	13.62	0.26	12.39	-
1972	6.85	15.80	0.34	15.03	-
1973	6.60	15.52	0.42	10.17	0.61
1974	6.02	13.84	0.57	9.40	0.74
1975	5.94	13.38	0.73	11.27	0.90
1976	5.03	11.36	0.59	10.05	0.49
1977	4.18	9.42	0.49	8.96	0.59
1978	3.86	8.86	0.55	5.41	0.75
1979	3.28	8.16	0.03	5.62	0.13
1980	2.91	7.21	0.04	5.85	-
1981	2.08	5.22	0.01	4.15	-
1982	1.28	3.07	0.05	3.15	-
1983	1.12	2.67	0.06	2.57	-
1984	0.99	2.45	0.02	2.67	0.06
1985	0.92	2.31	0.02	1.92	-
1986	0.73	1.80	0.02	1.57	-
1987	0.86	2.12	0.04	2.11	0.05
1988	0.89	2.19	0.02	2.17	-
1989	0.86	1.99	0.07	2.55	-
1990	1.09	2.70	0.03	2.28	0.07

- indicates no deaths listed.

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

U.S. Bureau of the Census: 1970-1990 population estimates of the U.S.

The following is a revision to Table 7-5 of the 1994 Work-Related Lung Disease (WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

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	0.03	-	-
1981	0.07	0.15	0.01	0.11	-
1982	0.02	0.04	0.01	-	-
1983	0.09	0.08	0.11	0.11	-
1984	0.10	0.13	0.09	0.11	-
1985	0.08	0.10	0.06	0.10	-
1986	0.08	0.12	0.07	0.10	-
1987	0.08	0.17	0.01	0.20	-
1988	0.07	0.15	0.02	-	-
1989	0.04	0.06	0.01	0.20	-
1990	0.09	0.15	0.06	0.10	-

- indicates no deaths listed.

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

The following is a revision to Table 7-6 of the 1994 Work-Related Lung Disease(WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

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	0.05	0.04	-	-
1980	0.03	0.07	0.01	-	-
1981	0.05	0.11	0.01	0.12	-
1982	0.01	0.03	0.00	-	-
1983	0.07	0.06	0.07	0.13	-
1984	0.07	0.09	0.06	0.12	-
1985	0.06	0.09	0.04	0.12	-
1986	0.07	0.09	0.06	0.11	-
1987	0.06	0.12	0.01	0.21	-
1988	0.05	0.11	0.02	-	-
1989	0.03	0.06	0.01	0.18	-
1990	0.06	0.12	0.02	0.10	-

- indicates no deaths listed.

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

The following is a revision to Table 8-5 of the 1994 Work-Related Lung Disease (WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

Table 8-5. Hypersensitivity pneumonitis: 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	0.09	0.14	0.05	0.12	-
1980	0.09	0.12	0.06	-	0.10
1981	0.07	0.12	0.04	-	-
1982	0.08	0.17	0.02	-	-
1983	0.11	0.20	0.06	-	-
1984	0.20	0.39	0.06	-	0.09
1985	0.19	0.28	0.13	0.10	0.09
1986	0.13	0.23	0.05	-	0.18
1987	0.14	0.23	0.08	-	0.09
1988	0.13	0.20	0.08	-	0.09
1989	0.14	0.20	0.13	0.10	-
1990	0.21	0.36	0.11	0.10	-

- indicates no deaths listed.

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

The following is a revision to Table 8-6 of the 1994 Work-Related Lung Disease (WoRLD) Surveillance Report. The overall rate reported in the 1994 WoRLD Surveillance Report included only whites and blacks. The revised overall rates presented below are based on all races. U.S. population data files have also been revised and updated for the tables presented below.

Table 8-6. Hypersensitivity pneumonitis: age-adjusted mortality rates (per 1,000,000 population), U.S. residents age 15 and over, by race and sex, 1979-1990

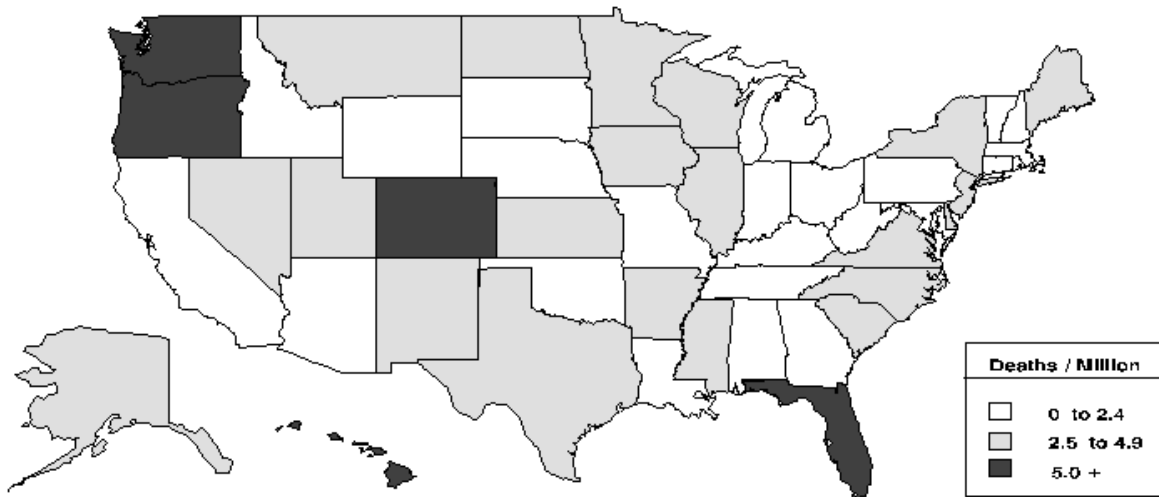
Year	Overall rate	White		Black	
		Males	Females	Males	Females
1979	0.06	0.11	0.03	0.11	-
1980	0.07	0.10	0.05	-	0.10
1981	0.04	0.08	0.03	-	-
1982	0.06	0.13	0.02	-	-
1983	0.07	0.14	0.04	-	-
1984	0.15	0.32	0.03	-	0.12
1985	0.12	0.21	0.05	0.15	0.12
1986	0.09	0.18	0.03	-	0.15
1987	0.08	0.16	0.03	-	0.12
1988	0.08	0.14	0.05	-	0.08
1989	0.10	0.15	0.06	0.12	-
1990	0.15	0.27	0.05	0.08	-

- indicates no deaths listed.

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

The following is a correction to Figure 2-4, in the 1994 Work-Related Lung Disease Surveillance Report. The state of Pennsylvania was shaded incorrectly. Pennsylvania should have been shaded to be included in the 0 to 2.4 range.

Figure 2-4. Malignant neoplasm of the pleura: crude mortality rates, U.S. residents age 15 and over, by state, 1989-1990



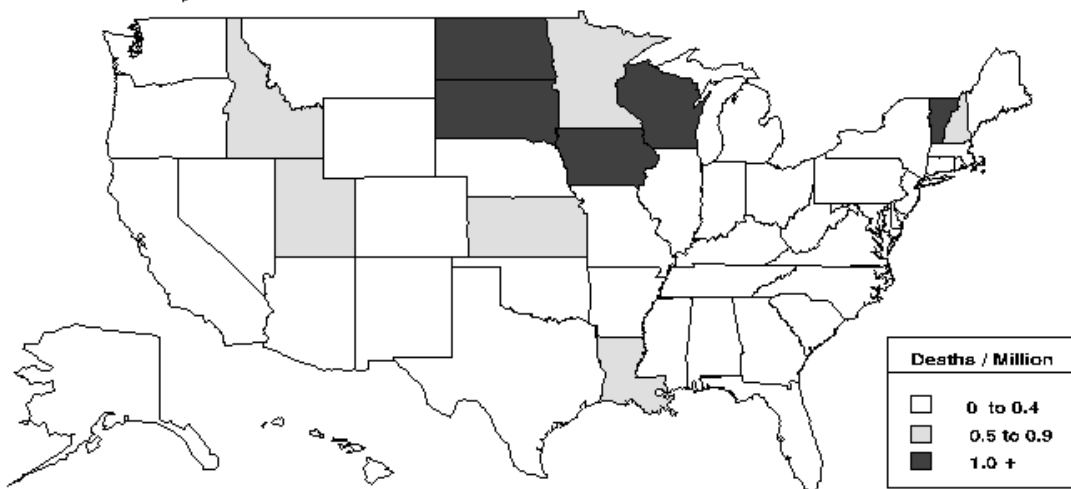
The following is a correction to Figure 5-2 in the 1994 Work-Related Lung Disease Surveillance Report. The state of Wisconsin was shaded incorrectly. Wisconsin should have been shaded to be included in the 0 to 5 range.

Figure 5-2 Pneumoconiosis due to other inorganic dust: number of deaths, U.S. residents age 15 and over, 1968-1990



The following is a correction to Figure 8-4 in the 1994 Work-Related Lung Disease Surveillance Report. The state of Mississippi was shaded incorrectly. Mississippi should have been shaded to be included in the 0 to 0.4 range.

Figure 8-4. Hypersensitivity Pneumonitis: crude mortality rates, U.S. residents age 15 and over, by state, 1989-1990



The following is a correction to Figure 9-1 in the 1994 Work-Related Lung Disease Surveillance Report. The legend printed in the 1994 was incorrect. The correct graph and legend is presented below.

Figure 9-1. States with SENSOR occupational asthma programs

