
Section 9

Asthma

Table 9-1. Asthma: Proportionate mortality ratio (PMR) adjusted for age, sex, and race by usual industry, U.S. residents age 15 and over, selected states and years, 1990-1999

CIC	Industry	Number of Deaths	PMR	95% Confidence Interval	
				LCL	UCL
011	Agricultural production, livestock	272	1.51	1.34	1.71
311	Farm machinery and equipment	28	1.51	1.01	2.18
862	Child day care services	68	1.40	1.09	1.78
642	Drug stores	83	1.32	1.06	1.64
840	Health services, n.e.c.	228	1.29	1.13	1.47
850	Colleges and universities	268	1.25	1.11	1.41
812	Offices and clinics of physicians	119	1.21	1.01	1.45
771	Laundry, cleaning, and garment services	177	1.17	1.01	1.36
831	Hospitals	1,102	1.14	1.07	1.21
901	General government, n.e.c.	498	1.13	1.03	1.23
010	Agricultural production, crops	684	1.10	1.02	1.18
961	Non-paid worker or non-worker or own home/at home	9,047	1.06	1.04	1.08

CIC - Census Industry Code n.e.c. - not elsewhere classified LCL - lower confidence limit UCL - upper confidence limit

NOTE: See appendices for source description, methods, and ICD codes, industry and occupation codes, and list of selected states and years.

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

Asthma: Mortality

Table 9-2. Asthma: Proportionate mortality ratio (PMR) adjusted for age, sex, and race by usual occupation, U.S. residents age 15 and over, selected states and years, 1990-1999

COC	Occupation	Number of Deaths	PMR	95% Confidence Interval	
				LCL	UCL
098	Respiratory therapists	13	3.11	1.65	5.31
169	Social scientists, n.e.c.	8	2.88	1.24	5.67
758	Compressing and compacting machine operators	9	2.78	1.28	5.28
028	Purchasing agents and buyers, farm products	10	2.21	1.06	4.06
089	Health diagnosing practitioners, n.e.c.	11	2.20	1.10	3.94
197	Public relations specialists	17	2.09	1.21	3.34
317	Hotel clerks	13	2.02	1.07	3.45
085	Dentists	25	1.84	1.19	2.72
154	Postsecondary teachers, subject not specified	61	1.59	1.23	2.06
203	Clinical laboratory technologists and technicians	47	1.43	1.05	1.90
186	Musicians and composers	47	1.43	1.05	1.90
446	Health aides, except nursing	52	1.39	1.05	1.85
015	Managers, medicine and health	46	1.37	1.00	1.83
686	Butchers and meat cutters	64	1.33	1.04	1.72
915	Student	313	1.29	1.15	1.44
055	Electrical and electronic engineers	69	1.28	1.00	1.63
157	Teachers, secondary school	86	1.26	1.01	1.56
473	Farmers, except horticulture	791	1.21	1.13	1.30
917	Unemployed, never worked, disabled	599	1.19	1.10	1.29
207	Licensed practical nurses	152	1.18	1.01	1.39
095	Registered nurses	455	1.17	1.07	1.29
447	Nursing aides, orderlies, and attendants	461	1.15	1.05	1.26
914	Housewife/Homemaker	8,145	1.04	1.02	1.06

COC - Census Occupation Code n.e.c. - not elsewhere classified LCL - lower confidence limit UCL - upper confidence limit

NOTE: See appendices for source description, methods, and ICD codes, industry and occupation codes, and list of selected states and years.

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

Table 9-3. Work-related asthma: Number of cases by classification and state, 1993-1999

Classification	California		Massachusetts		Michigan		New Jersey		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Work-aggravated asthma*	328	35.7	34	9.2	124	11.7	22	12.2	508	20.1
New-onset asthma†	590	64.2	334	90.7	936	88.3	158	87.7	2,018	79.9
<i>Reactive airways dysfunction syndrome (RADS)</i>	<i>60</i>	<i>6.5</i>	<i>34</i>	<i>9.2</i>	<i>97</i>	<i>9.2</i>	<i>47</i>	<i>26.1</i>	<i>238</i>	<i>9.4</i>
Occupational asthma (OA)	530	57.7	300	81.5	839	79.1	111	61.6	1,780	70.5
Known asthma inducer‡ with objective evidence	-	-	-	-	19	1.8	2	1.1	21	0.8
Known asthma inducer with no objective evidence	91	9.9	104	28.3	382	36.0	47	26.1	624	24.7
Other	439	47.8	196	53.2	438	41.3	62	34.4	1,135	44.9
TOTAL	918	100.0	368	100.0	1,060	100.0	180	100.0	2,526	100.0

- indicates no cases reported.

* Pre-existing asthma aggravated by exposure or condition at work.

† Includes cases of RADS and OA.

‡ Known asthma inducers, defined by medical literature review, are designated in the Association of Occupational and Environmental Clinics (AOEC) exposure coding scheme (www.aoec.org/aoeccode.htm).

.NOTE: Percentages may not sum to 100% due to rounding. See appendices for source description.

SOURCE: Provisional SENSOR surveillance data as of September 2002, aggregated by reporting source years, and reported by R Harrison and J Flattery (California); L Davis, E Pechter, and B Pazos (Massachusetts); K Rosenman, MJ Reilly, and D Kalinowski (Michigan); and D Valiante and D Schill (New Jersey).

Work-Related Asthma: SENSOR

Table 9-4. Work-related asthma: Number of cases by ascertainment source and state, 1993-1999

Source	California		Massachusetts		Michigan		New Jersey		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Physician Report*	918	100.0	363	98.6	806	76.0	145	80.6	2,232	88.4
Hospital discharge	-	-	5	1.4	231	21.8	34	18.9	270	10.7
Other†	-	-	-	-	23	2.2	1	0.6	24	1.0
Total	918	100.0	368	100.0	1,060	100.0	180	100.0	2,526	100.0

- indicates no cases reported.

* Massachusetts, Michigan, and New Jersey actively solicit reports from physicians; California uses an existing administrative data source to passively identify physician reports of work-related asthma.

† Some cases have been identified through workers' compensation data, screening co-workers, reports from OSHA or MSHA, etc.

NOTE: Percentages may not sum to 100% due to rounding. See appendices for source description.

SOURCE: Provisional SENSOR surveillance data as of September 2002, aggregated by reporting source years, and reported by R Harrison and J Flattery (California); L Davis, E Pechter, and B Pazos (Massachusetts); K Rosenman, MJ Reilly, and D Kalinowski (Michigan); and D Valiante and D Schill (New Jersey).

Table 9-5 (page 1 of 2). Work-related asthma: Most frequently reported putative agents associated with work-related asthma cases by state, 1993-1999

Code* Agent	California		Massachusetts		Michigan		New Jersey		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
320.06 Chemicals, n.o.s.	108	11.8	32	8.7	87	8.2	20	11.1	247	9.8
320.01 Air pollutants, indoor	66	7.2	76	20.7	64	6.0	22	12.2	228	9.0
010.00 Dust, n.o.s.	116	12.6	37	10.1	21	2.0	9	5.0	183	7.2
322.00 Cleaning materials, n.o.s.	63	6.9	33	9.0	64	6.0	6	3.3	166	6.6
170.01 Cutting oils	-	-	6	1.6	126	11.9	2	1.1	134	5.3
330.03 Smoke, n.o.s. [†]	47	5.1	19	5.2	47	4.3	5	2.8	118	4.7
171.01 Paint	48	5.2	14	3.8	45	4.2	3	1.7	110	4.4
270.02 Latex, natural rubber	16	1.7	38	10.3	40	3.8	6	3.3	100	4.0
221.00 Diisocyanates, n.o.s.	9	1.0	14	3.8	69	6.5	2	1.1	94	3.7
390.01 Mold, n.o.s.	54	5.9	36	9.8	-	-	4	2.2	94	3.7
171.00 Solvents, n.o.s.	11	1.2	17	4.6	36	3.4	10	5.6	74	2.9
023.01 Welding fume, stainless steel	1	0.1	-	-	72	6.8	-	-	73	2.9
120.03 Formaldehyde	17	1.9	19	5.2	26	2.5	5	2.8	67	2.7
221.01 Toluene diisocyanate	9	1.0	4	1.1	50	4.7	2	1.1	65	2.6
320.16 Pesticides, n.o.s.	42	4.6	7	1.9	5	0.5	1	0.6	55	2.2
320.11 Glues, n.o.s.	24	2.6	10	2.7	14	1.3	5	2.8	53	2.1
322.10 Bleach	15	1.6	7	1.7	23	2.2	3	1.7	48	1.9
221.02 Methylene diisocyanate	2	0.2	-	-	41	3.9	2	1.1	45	1.8
030.02 Chlorine	17	1.9	1	0.3	18	1.7	5	2.8	41	1.6
010.09 Man-made mineral fibers	19	2.1	14	3.8	7	0.7	-	-	40	1.6
330.01 Cigarette smoke	22	2.4	6	1.6	8	0.8	1	0.6	37	1.5
331.01 Diesel exhaust	13	1.4	4	1.1	10	0.9	9	5.0	36	1.4
120.05 Glutaraldehyde	9	1.0	11	3.0	4	0.4	7	3.9	31	1.2
320.23 Perfume, n.o.s.	28	3.1	2	0.5	-	-	-	-	30	1.2
373.00 Wood dust, n.o.s.	9	1.0	3	0.8	15	1.4	3	1.7	30	1.2
050.00 Acids, bases, oxidizers, n.o.s.	1	0.1	5	1.4	21	2.0	2	1.1	29	1.1
023.00 Welding, n.o.s.	9	1.0	10	2.7	2	0.2	8	4.4	28	1.1
330.02 Plastic smoke	9	1.0	1	0.3	16	1.5	2	1.1	28	1.1
010.02 Asbestos	13	1.4	9	2.4	4	0.4	-	-	26	1.0
110.02 Epoxy resins	2	0.2	5	1.4	18	1.7	1	0.6	26	1.0
320.33 Air pollutants, indoor-building renovation	25	2.7	-	-	-	-	-	-	25	1.0
322.19 Cleaners, disinfectant, n.o.s.	17	1.9	6	1.6	2	0.2	-	-	25	1.0
060.11 4-Phenylcyclohexene (4-PC)	20	2.2	4	1.1	-	-	-	-	24	1.0
142.00 Acrylates, n.o.s.	-	-	-	-	21	2.0	-	-	21	0.8

See footnotes at end of table.

Work-Related Asthma: SENSOR

Table 9-5 (page 2 of 2). Work-related asthma: Most frequently reported putative agents associated with work-related asthma cases by state, 1993-1999

Code* Agent	California		Massachusetts		Michigan		New Jersey		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
370.01 Paper dust	9	1.0	2	0.5	2	0.2	7	3.9	20	0.8
010.03 Cement dust	11	1.2	3	0.8	5	0.5	-	-	19	0.8
322.16 Cleaners, carpet	12	1.3	-	-	6	0.6	1	0.6	19	0.8
322.21 Cleaners, floor stripping	5	0.5	2	0.5	9	0.8	2	1.1	18	0.7
370.00 Plant material, n.o.s.	15	1.6	2	0.5	1	0.1	-	-	18	0.7
380.00 Animal material, n.o.s.	8	0.9	3	0.8	6	0.6	1	0.6	18	0.7
331.00 Exhaust, n.o.s.	11	1.2	4	1.1	-	-	2	1.1	17	0.7
161.00 Polycyclic aromatic hydrocarbons, n.o.s.	14	1.5	-	-	2	0.2	-	-	16	0.6
331.02 Engine exhaust	4	0.4	1	0.3	5	0.5	6	3.3	16	0.6
050.24 Sulfuric acid	8	0.9	-	-	4	0.4	2	1.1	14	0.6
160.02 Toluene	1	0.1	4	1.1	3	0.3	6	3.3	14	0.6
322.07 Ammonia solution, n.o.s.	9	1.0	3	0.8	1	0.1	1	0.6	14	0.6
350.03 Heat	11	1.2	-	-	3	0.3	-	-	14	0.6
370.10 Pollen	14	1.5	-	-	-	-	-	-	14	0.6
050.18 Sodium hydroxide	1	0.1	3	0.8	6	0.6	2	1.1	12	0.5
052.01 Ammonia gas	-	-	-	-	10	0.9	2	1.1	12	0.5
231.00 Ethanolamines, n.o.s.	9	1.0	-	-	3	0.3	-	-	12	0.5
320.29 Printing chemicals, n.o.s.	-	-	4	1.1	8	0.8	-	-	12	0.5
371.00 Flour, n.o.s.	2	0.2	4	1.1	4	0.4	2	1.1	12	0.5
380.04 Dander, animal	11	1.2	1	0.3	-	-	-	-	12	0.5
040.20 Sulfur oxides	4	0.4	2	0.5	3	0.3	2	1.1	11	0.4
050.10 Hydrochloric acid	4	0.4	2	0.5	1	0.1	4	2.2	11	0.4
171.06 Paint, oil-based	9	1.0	2	0.5	-	-	-	-	11	0.4
221.04 Hexamethylene diisocyanate	-	-	-	-	11	1.0	-	-	11	0.4
320.17 Photo developing chemicals, n.o.s.	6	0.7	2	0.5	2	0.2	1	0.6	11	0.4
360.04 Stress	10	1.1	-	-	1	0.1	-	-	11	0.4
010.13 Silica, crystalline	7	0.8	1	0.3	1	0.1	1	0.6	10	0.4
021.00 Metal dust, n.o.s.	8	0.9	1	0.3	-	-	1	0.6	10	0.4
061.00 Petroleum fractions, n.o.s.	3	0.3	-	-	5	0.5	2	1.1	10	0.4
320.14 Lubricants, n.o.s.	2	0.2	1	0.3	5	0.5	2	1.1	10	0.4
All others	324	35.3	139	37.8	137	12.9	107	59.4	707	28.0

- indicates no cases reported. n.o.s. - not otherwise specified

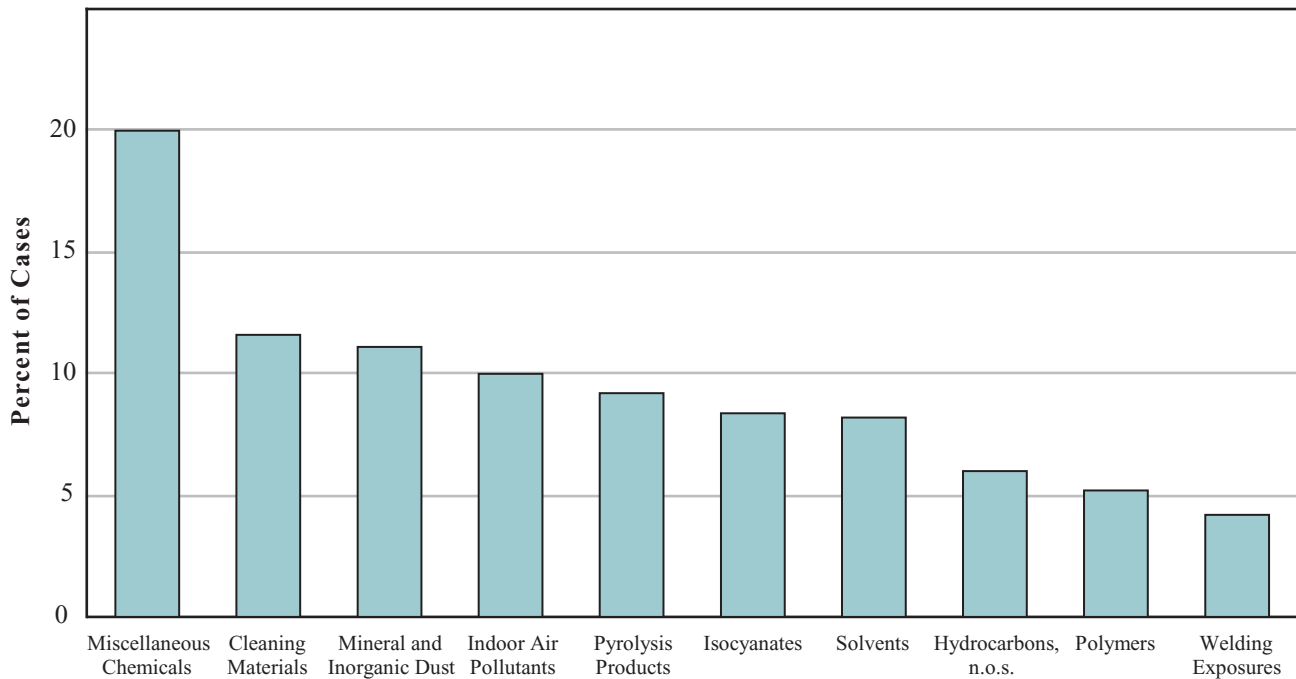
* Association of Occupational and Environmental Clinics (AOEC) exposure codes, 12/2000

† Smoke includes pyrolysis products other than incinerator fume or cigarette, plastic, marijuana, or lead-containing smoke.

NOTE: Number column sums exceed the corresponding number of cases because each case was associated with up to three putative agents. Percentages are based on the actual number of cases; refer to Table 9-3 for actual number of cases. See appendices for source description and methods.

SOURCE: Provisional SENSOR surveillance data as of September 2002, aggregated by reporting source years, and reported by R Harrison and J Flattery (California); L Davis, E Pechter, and B Pazos (Massachusetts); K Rosenman, MJ Reilly, and D Kalinowski (Michigan); and D Valiante and D Schill (New Jersey).

Figure 9-1. Work-related asthma: Most frequently reported agent categories associated with cases of work-related asthma, 1993-1999



n.o.s. - not otherwise specified

NOTE: Total number of WRA cases was 2,526. The category 'Miscellaneous Chemicals' accounts for a large range of exposures including pesticides, perfume, enzymes, and odors; 'Mineral and Inorganic Dust' includes exposures such as plaster, fiberglass, and cement; 'Indoor Air Pollutants' includes pollutants from building renovation; 'Pyrolysis Products' includes smoke and diesel exhaust; 'Solvents' includes paint and paint thinners; 'Hydrocarbons' includes cutting oils; and 'Polymers' includes natural rubber latex.

SOURCE: Provisional SENSOR surveillance data as of September 2002, aggregated by reporting source years, and reported by R Harrison and J Flattery (California); L Davis, E Pechter, and B Pazos (Massachusetts); K Rosenman, MJ Reilly, and D Kalinowski (Michigan); and D Valiante and D Schill (New Jersey).

Work-Related Asthma: SENSOR

Table 9-6 (page 1 of 2). Work-related asthma: Primary industries associated with work-related asthma cases by state, 1993-1999

Industry (SIC)	California		Massachusetts		Michigan		New Jersey		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Agriculture, forestry, fishing	44	4.8	3	0.8	4	0.4	1	0.6	52	2.1
Agricultural production, crops (01)	20	2.2	-	-	-	-	-	-	20	0.8
Agricultural services (07)	10	1.1	1	0.3	2	0.2	1	0.6	14	0.6
Forestry (08)	10	1.1	-	-	-	-	-	-	10	0.4
All others (02, 09)	4	0.4	2	0.5	2	0.2	-	-	8	0.3
Mining (10,13,14)	2	0.2	-	-	2	0.2	-	-	4	0.2
Construction	23	2.5	15	4.1	24	2.3	13	7.2	75	3.0
Construction, special trade contractors (17)	11	1.2	12	3.3	19	1.8	12	6.7	54	2.1
Heavy construction other than building construction, contractors (16)	9	1.0	1	0.3	1	0.1	-	-	11	0.4
Building construction, general contractors and operative builders (15)	3	0.3	2	0.5	4	0.4	1	0.6	10	0.4
Manufacturing	144	15.7	98	26.6	728	68.9	76	42.2	1,046	41.5
Transportation equipment (37)	26	2.8	3	0.8	450	42.5	3	1.7	482	19.1
Chemicals and allied products (28)	12	1.3	18	4.9	37	3.5	19	10.6	86	3.4
Fabricated metal products except machinery and transportation equipment (34)	12	1.3	9	2.4	50	4.7	1	0.6	72	2.9
Rubber and miscellaneous plastics products (30)	3	0.3	6	1.6	44	4.2	5	2.8	58	2.3
Industrial and commercial machinery and computer equipment (35)	5	0.5	13	3.5	37	3.5	-	-	55	2.2
Food and kindred products (20)	21	2.3	5	1.4	12	1.1	14	7.8	52	2.1
Primary metal industries (33)	5	0.5	-	-	33	3.1	7	3.9	45	1.8
Electronic and other electrical equipment and components except computer equipment (36)	16	1.7	11	3.0	9	0.8	6	3.3	42	1.7
Lumber and wood products, except furniture (24)	18	2.0	1	0.3	11	1.0	-	-	30	1.2
Miscellaneous manufacturing industries (39)	5	0.5	7	1.9	10	0.9	2	1.1	24	1.0
Measuring, analyzing, and controlling instruments (38)	4	0.4	8	2.2	6	0.6	2	1.1	20	0.8
Paper and allied products (26)	1	0.1	5	1.4	6	0.6	7	3.9	19	0.8
Stone, clay, glass, and concrete products (32)	7	0.8	2	0.5	6	0.6	2	1.1	17	0.7
Printing, publishing, and allied industries (27)	2	0.2	3	0.8	9	0.8	2	1.1	16	0.6
All others (22,23,25,29,31)	7	0.8	7	1.9	8	0.8	6	3.3	28	1.1
Transportation	62	6.8	7	1.9	18	1.7	9	5.0	96	3.8
Electric, gas, and sanitary services (49)	15	1.6	4	1.1	5	0.5	1	0.6	25	1.0
Local and suburban transit and interurban highway passenger transportation (41)	13	1.4	1	0.3	2	0.2	4	2.2	20	0.8
Motor freight transportation and warehousing (42)	10	1.1	-	-	3	0.3	2	1.1	15	0.6
Communications (48)	13	1.4	-	-	1	0.1	-	-	14	0.6
All others (40,43,44,45,47)	11	1.2	2	0.5	7	0.7	2	1.1	22	0.9
Wholesale trade	13	1.4	4	1.1	14	1.3	4	2.2	35	1.4
Wholesale trade, nondurable goods (51)	8	0.9	3	0.8	5	0.5	2	1.1	18	0.7
Wholesale trade, durable goods (50)	5	0.5	1	0.3	9	0.8	2	1.1	17	0.7

See footnotes at end of table.

Table 9-6 (page 2 of 2). Work-related asthma: Primary industries associated with work-related asthma cases by state, 1993-1999

Industry (SIC)	California		Massachusetts		Michigan		New Jersey		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Retail trade	41	4.5	12	3.3	27	2.6	4	2.2	84	3.3
Food stores (54)	10	1.1	3	0.8	7	0.7	1	0.6	21	0.8
Eating and drinking places (58)	8	0.9	4	1.1	4	0.4	-	-	16	0.6
Miscellaneous retail (59)	9	1.0	2	0.5	4	0.4	1	0.6	16	0.6
Automotive dealers and gasoline service stations (55)	4	0.4	1	0.3	6	0.6	1	0.6	12	0.5
General merchandise stores (53)	6	0.7	-	-	4	0.4	1	0.6	11	0.4
All others (52,56,57)	4	0.4	2	0.5	2	0.2	-	-	8	0.3
Finance, Insurance, and Real Estate	32	3.5	1	0.3	5	0.5	1	0.6	39	1.5
Insurance carriers (63)	10	1.1	1	0.3	-	-	1	0.6	12	0.5
Real estate (65)	10	1.1	-	-	2	0.2	-	-	12	0.5
All others (60,61,64)	12	1.3	-	-	3	0.3	-	-	15	0.6
Services	412	44.9	190	51.6	202	19.1	59	32.8	863	34.2
Health services (80)	156	17.0	108	29.3	112	10.6	29	16.1	405	16.0
Educational services (82)	128	13.9	49	13.3	38	3.6	14	7.8	229	9.1
Social services (83)	37	4.0	2	0.5	6	0.6	3	1.7	48	1.9
Business services (73)	27	2.9	3	0.8	9	0.8	1	0.6	40	1.6
Amusement and recreation services (79)	19	2.1	3	0.8	4	0.4	-	-	26	1.0
Engineering, accounting, research, management, and related services (87)	11	1.2	6	1.6	4	0.4	4	2.2	25	1.0
Hotels, rooming houses, camps and other lodging places (70)	8	0.9	3	0.8	10	0.9	2	1.1	23	0.9
Personal services (72)	5	0.5	7	1.9	6	0.6	3	1.7	21	0.8
Automotive repair, services and parking (75)	7	0.8	6	1.6	7	0.7	1	0.6	21	0.8
All others (76,78,81,84,86,88,89)	14	1.5	3	0.8	6	0.6	2	1.1	25	1.0
Public Administration	142	15.5	38	10.3	33	3.1	13	7.2	226	9.0
Justice, public order, and safety (92)	69	7.5	15	4.1	14	1.3	3	1.7	101	4.0
Executive, legislative, general government, except finance (91)	27	2.9	3	0.8	1	0.1	3	1.7	34	1.3
Administration of economic programs (96)	10	1.1	13	3.5	6	0.6	1	0.6	30	1.2
Administration of human resource programs (94)	17	1.9	2	0.5	5	0.5	3	1.7	27	1.1
National security and international affairs (97)	5	0.5	3	0.8	2	0.2	2	1.1	12	0.5
Public finance, taxation, and monetary policy (93)	9	1.0	1	0.3	-	-	1	0.6	11	0.4
Administration of environmental quality and housing programs (95)	5	0.5	1	0.3	5	0.5	-	-	11	0.4
Nonclassifiable	3	0.3	-	-	3	0.3	-	-	6	0.2
TOTAL	918	100.0	368	100.0	1,060	100.0	180	100.0	2,526	100.0

- indicates no cases reported.

SIC - 1987 Standard Industrial Classification

NOTE: Percentages may not sum to 100% due to rounding. See appendices for source description and methods.

SOURCE: Provisional SENSOR surveillance data as of September 2002, aggregated by reporting source years, and reported by R Harrison and J Flattery (California); L Davis, E Pechter, and B Pazos (Massachusetts); K Rosenman, MJ Reilly, and D Kalinowski (Michigan); and D Valiante and D Schill (New Jersey).

Work-Related Asthma: SENSOR

Table 9-7 (page 1 of 2). Work-related asthma: Primary occupations associated with work-related asthma cases by state, 1993-1999

Occupation (COC)	California		Massachusetts		Michigan		New Jersey		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Managerial and professional specialty	235	25.6	125	34.0	108	10.2	41	22.8	509	20.2
Registered nurses (095)	53	5.8	59	16.0	27	2.5	10	5.6	149	5.9
Teachers, secondary school (157)	12	1.3	14	3.8	5	0.5	3	1.7	34	1.3
Teachers, n.e.c. (159)	8	0.9	12	3.3	10	0.9	3	1.7	33	1.3
Teachers, elementary school (156)	22	2.4	1	0.3	2	0.2	2	1.1	27	1.1
Managers and administrators, n.e.c. (022)	17	1.9	5	1.4	4	0.4	-	-	26	1.0
Social workers (174)	11	1.2	3	0.8	5	0.5	2	1.1	21	0.8
Management related occupations, n.e.c. (37)	16	1.7	-	-	3	0.3	-	-	19	0.8
Teachers, special education (158)	9	1.0	1	0.3	1	0.1	1	0.6	12	0.5
Chemists, except biochemists (73)	2	0.2	3	0.8	2	0.2	4	2.2	11	0.4
All others	85	9.3	27	7.3	49	4.6	16	8.9	177	7.0
Technical, sales, and administrative support	289	31.5	75	20.4	86	8.1	35	19.4	485	19.2
General office clerks (379)	30	3.3	15	4.1	5	0.5	2	1.1	52	2.1
Secretaries (313)	26	2.8	13	3.5	7	0.7	3	1.7	49	1.9
Health technologists and technicians, n.e.c. (208)	13	1.4	2	0.5	6	0.6	4	2.2	25	1.0
Licensed practical nurses (207)	14	1.5	4	1.1	5	0.5	1	0.6	24	1.0
Investigators and adjusters, except insurance (376)	12	1.3	2	0.5	1	0.1	3	1.7	18	0.7
Administrative support, n.e.c. (389)	13	1.4	2	0.5	2	0.2	-	-	17	0.7
Typists (315)	9	1.0	4	1.1	1	0.1	1	0.6	15	0.6
Bookkeepers, accounting, and auditing clerks (337)	12	1.3	1	0.3	-	-	-	-	13	0.5
Clinical laboratory technologists and technicians (203)	3	0.3	6	1.6	2	0.2	1	0.6	12	0.5
Receptionists (319)	10	1.1	-	-	1	0.1	1	0.6	12	0.5
Science technicians, n.e.c. (225)	1	0.1	-	-	6	0.6	4	2.2	11	0.4
Cashiers (276)	9	1.0	1	0.3	1	0.1	-	-	11	0.4
Supervisors, general office (303)	6	0.7	2	0.5	2	0.2	-	-	10	0.4
Teachers' aides (387)	7	0.8	-	-	2	0.2	1	0.6	10	0.4
All others	124	13.5	23	6.2	45	4.2	14	7.8	206	8.2
Service	136	14.8	43	11.7	98	9.2	20	11.1	297	11.8
Janitors and cleaners (453)	27	2.9	6	1.6	32	3.0	4	2.2	69	2.7
Nursing aides, orderlies, and attendants (447)	13	1.4	8	2.2	5	0.5	2	1.1	28	1.1
Firefighting (417)	20	2.2	4	1.1	2	0.2	1	0.6	27	1.1
Health aides, except nursing (446)	3	0.3	1	0.3	12	1.1	3	1.7	19	0.8
Supervisors, cleaning and building service workers (448)	3	0.3	1	0.3	15	1.4	-	-	19	0.8
Maids and housemen (449)	4	0.4	3	0.8	5	0.5	3	1.7	15	0.6
Cooks (436)	4	0.4	2	0.5	4	0.4	2	1.1	12	0.5
Miscellaneous food preparation (444)	5	0.5	2	0.5	5	0.5	-	-	12	0.5
Hairdressers and cosmetologists (458)	4	0.4	5	1.4	2	0.2	-	-	11	0.4
All others	53	5.8	11	3.0	16	1.5	5	2.8	85	3.4
Farming, forestry, and fishing	42	4.6	4	1.1	6	0.6	-	-	52	2.1
Farm workers (479)	17	1.9	-	-	-	-	-	-	17	0.7
Groundskeepers and gardeners, except farm (486)	14	1.5	1	0.3	-	-	-	-	15	0.6
All others	11	1.2	3	0.8	6	0.6	-	-	20	0.8

See footnotes at end of table.

Table 9-7 (page 2 of 2). Work-related asthma: Primary occupations associated with work-related asthma cases by state, 1993-1999

Occupation (COC)	California		Massachusetts		Michigan		New Jersey		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Precision production, craft, and repair	75	8.2	50	13.6	156	14.7	30	16.7	311	12.3
Supervisors, production (628)	7	0.8	5	1.4	31	2.9	3	1.7	46	1.8
Millwrights (544)	1	0.1	1	0.3	20	1.9	-	-	22	0.9
Machinists (637)	3	0.3	4	1.1	10	0.9	2	1.1	19	0.8
Specified mechanics and repairers, n.e.c. (547)	3	0.3	-	-	11	1.0	2	1.1	16	0.6
Electricians (575)	6	0.7	-	-	5	0.5	5	2.8	16	0.6
Optical goods workers (677)	1	0.1	-	-	15	1.4	-	-	16	0.6
Plumbers, pipefitters, and steamfitters (585)	3	0.3	2	0.5	9	0.8	-	-	14	0.6
Carpenters (567)	5	0.5	5	1.4	-	-	2	1.1	12	0.5
Industrial machinery repairers (518)	2	0.2	2	0.5	4	0.4	2	1.1	10	0.4
All others	44	4.8	31	8.4	51	4.8	14	7.8	140	5.5
Operators, fabricators, and laborers	137	14.9	71	19.3	568	53.6	54	30.0	830	32.9
Assemblers (785)	9	1.0	7	1.9	139	13.1	1	0.6	156	6.2
Welders and cutters (783)	8	0.9	6	1.6	51	4.8	1	0.6	66	2.6
Laborers, except construction (889)	5	0.5	2	0.5	48	4.5	1	0.6	56	2.2
Miscellaneous machine operators, n.e.c. (777)	8	0.9	5	1.4	30	2.8	5	2.8	48	1.9
Miscellaneous metal, plastic, stone, and glass working (715)	-	-	-	-	35	3.3	-	-	35	1.4
Production inspectors, checkers and examiners (796)	2	0.2	2	0.5	29	2.7	1	0.6	34	1.3
Painting and paint spray machine operators (759)	5	0.5	8	2.2	13	1.2	2	1.1	28	1.1
Mixing and blending machine operators (756)	6	0.7	6	1.6	9	0.8	1	0.6	22	0.9
Hand painting, coating, and decorating (789)	-	-	-	-	20	1.9	1	0.6	21	0.8
Separating, filtering, and clarifying machine operators (757)	4	0.4	3	0.8	5	0.5	8	4.4	20	0.8
Truck drivers (804)	8	0.9	-	-	5	0.5	4	2.2	17	0.7
Molding and casting machine operators (719)	3	0.3	-	-	13	1.2	-	-	16	0.6
Pressing machine operators (747)	-	-	-	-	16	1.5	-	-	16	0.6
Packaging and filling machine operators (754)	2	0.2	2	0.5	4	0.4	8	4.4	16	0.6
Machine operators, not specified (779)	5	0.5	6	1.6	0	0.0	5	2.8	16	0.6
Freight, stock, and material handlers, n.e.c. (883)	6	0.7	1	0.3	8	0.8	-	-	15	0.6
Grinding, abrading, buffing, and polishing machine operators (709)	-	-	3	0.8	10	0.9	1	0.6	14	0.6
Machine feeders and offbearers (878)	1	0.1	-	-	13	1.2	-	-	14	0.6
Bus drivers (808)	11	1.2	-	-	2	0.2	-	-	13	0.5
Hand packers and packagers (888)	3	0.3	1	0.3	7	0.7	1	0.6	12	0.5
Textile sewing machine operators (744)	2	0.2	1	0.3	7	0.7	-	-	10	0.4
Miscellaneous hand working occupations (795)	2	0.2	-	-	8	0.8	-	-	10	0.4
All others	47	5.1	18	4.9	96	9.1	14	7.8	175	6.9
Military occupations	2	0.2	-	-	-	-	-	-	2	0.1
Unclassifiable and miscellaneous unemployed	2	0.2	-	-	38	3.6	-	-	40	1.6
TOTAL	918	100.0	368	100.0	1,060	100.0	180	100.0	2,526	100.0

- indicates no cases reported. n.e.c. - not elsewhere classified COC - 1990 Census Occupation Code

NOTE: Percentages may not sum to 100% due to rounding. See appendices for source description and methods.

SOURCE: Provisional SENSOR surveillance data as of September 2002, aggregated by reporting source years, and reported by R Harrison and J Flattery (California); L Davis, E Pechter, and B Pazos (Massachusetts); K Rosenman, MJ Reilly, and D Kalinowski (Michigan); and D Valiante and D Schill (New Jersey).

Asthma: Morbidity

Table 9-8. Asthma: Estimated prevalence by current industry and smoking status, U.S. residents age 18 and over, 2000

Industry	Nonsmokers			Current Smokers		
	Number of Respondents	Prevalence (%)	95% Confidence Interval	Number of Respondents	Prevalence (%)	95% Confidence Interval
General merchandise stores	208	13.0	7.3 - 18.7	106	14.7	6.9 - 22.5
Food, bakery and dairy stores	215	12.8	7.5 - 18.1	154	11.7	5.8 - 17.6
Furniture, lumber and wood	115	12.5	4.7 - 20.3	61	5.7	0.4 - 11.0
Banking and credit agencies	266	11.3	6.6 - 16.0	89	11.2	3.4 - 19.0
Elementary and secondary schools and colleges	1,160	10.8	8.6 - 13.0	211	6.1	2.8 - 9.4
Trucking service and warehousing	181	10.7	5.2 - 16.2	126	10.1	4.4 - 15.8
Health services, except hospitals	654	10.2	7.5 - 12.9	252	12.1	7.6 - 16.6
Primary metal industries	46	10.1	0.9 - 19.3	40	10.5	0.5 - 20.5
Utilities and sanitary	107	10.1	4.0 - 16.2	38	3.4	0.0 - 9.9
Transportation equipment	166	10.0	4.7 - 15.3	83	9.9	2.8 - 17.0
Other and not specified durable goods	139	9.8	3.7 - 15.9	60	1.7	0.0 - 5.0
Fabricated metal industries, including ordnance	82	9.7	1.9 - 17.5	67	11.1	1.9 - 20.3
Insurance, real estate, and other finance	479	9.7	5.0 - 14.4	194	11.2	6.3 - 16.1
Social services, religious and membership orgs.	491	9.7	6.2 - 13.2	148	6.5	2.6 - 10.4
Legal, engineering and other professional services	422	9.6	6.5 - 12.7	145	11.8	5.7 - 17.9
Communications	195	9.5	4.8 - 14.2	79	6.1	0.0 - 12.2
Private households	121	9.5	2.4 - 16.6	27	5.4	0.0 - 15.6
Other transportation	227	9.3	4.6 - 14.0	110	7.4	1.1 - 13.7
Hospitals	510	8.8	5.7 - 11.9	164	9.1	4.4 - 13.8
Other and not specified retail trade	510	8.1	5.6 - 10.6	229	10.6	5.7 - 15.5
Other nondurable goods	113	8.0	1.1 - 14.9	61	1.9	0.0 - 5.6
Eating and drinking places	426	8.0	5.1 - 10.9	353	12.4	8.7 - 16.1
Public administrations	534	7.9	5.0 - 10.8	194	8.3	4.0 - 12.6
Other personal services	296	7.7	4.0 - 11.4	151	12.1	6.2 - 18.0
Railroads	22	7.6	0.0 - 19.9	12	0.0	- -
Wholesale trade	367	7.4	4.3 - 10.5	172	8.9	4.0 - 13.8
Entertainment and recreation services	200	7.4	2.7 - 12.1	89	10.5	3.2 - 17.8
Printing, publishing and allied industries	132	7.2	1.5 - 12.9	47	5.9	0.0 - 12.4
Business services	678	7.1	4.9 - 9.3	350	13.1	9.0 - 17.2
Electrical machinery, equipment and supplies	161	6.3	2.8 - 9.8	75	11.9	3.7 - 20.1
Textile mill and finished textile products	114	6.2	0.0 - 12.9	45	3.5	0.0 - 8.0
Construction	547	5.7	3.3 - 8.1	450	4.7	2.9 - 6.5
Other educational services	53	5.3	0.0 - 10.6	10	14.7	0.0 - 36.5
Repair services	112	5.0	0.9 - 9.1	113	10.9	4.0 - 17.8
Agriculture	277	4.4	2.0 - 6.8	109	5.0	0.3 - 9.7
Machinery, except electrical	148	4.4	1.1 - 7.7	93	11.3	4.1 - 18.6
Automotive dealers and gasoline stations	142	4.4	0.1 - 8.7	119	5.9	1.4 - 10.4
Mining	28	4.0	0.0 - 11.6	25	18.3	1.4 - 35.2
Chemicals and allied products	93	3.7	0.0 - 8.0	36	2.8	0.0 - 8.3
Food and kindred products	121	1.5	0.0 - 3.1	83	5.9	0.0 - 13.0
Forestry and fisheries	17	0.0	- -	7	6.3	0.0 - 18.8
Armed forces	2	0.0	- -	0	-	- -
TOTAL	11,230	8.4	7.8 - 9.0	5,082	9.1	8.3 - 9.9

- No estimates due to no asthma cases or no respondents.

Nonsmokers - Those respondents who indicated that they never smoked or smoked less than 100 cigarettes in their lifetime.

NOTE: Industries were classified according to 1995 Standard Industrial Classification System and then regrouped by NCHS. See appendices for source description, methods, and ICD codes.

SOURCE: National Center for Health Statistics 2000 National Health Interview Survey.

Table 9-9. Asthma: Estimated prevalence by current industry and smoking status, U.S. male residents age 18 and over, 2000

Industry	Nonsmokers			Current Smokers		
	Number of Respondents	Prevalence (%)	95% Confidence Interval	Number of Respondents	Prevalence (%)	95% Confidence Interval
Private households	6	17.0	0.0 - 47.6	2	0.0	- -
Food, bakery and dairy stores	100	14.4	5.8 - 23.0	57	12.6	1.2 - 24.0
General merchandise stores	49	11.4	0.0 - 23.4	40	10.6	1.2 - 20.0
Communications	105	11.2	4.5 - 17.9	42	4.0	0.0 - 9.5
Primary metal industries	31	10.7	0.0 - 22.1	30	9.5	0.0 - 19.9
Trucking service and warehousing	136	10.7	4.4 - 17.0	96	7.6	1.5 - 13.7
Other nondurable goods	75	10.5	1.3 - 19.7	46	0.0	- -
Elementary and secondary schools and colleges	313	10.1	6.8 - 13.4	56	1.3	0.0 - 3.8
Fabricated metal industries, including ordnance	57	9.8	0.2 - 19.4	54	11.0	0.8 - 21.2
Printing, publishing and allied industries	65	9.5	0.0 - 19.3	32	6.0	0.0 - 13.8
Health services, except hospitals	103	8.9	2.0 - 15.8	32	0.0	- -
Furniture, lumber and wood	81	8.8	1.9 - 15.7	41	8.6	0.6 - 16.6
Insurance, real estate, and other finance	181	8.7	4.0 - 13.4	80	8.5	2.0 - 15.0
Other and not specified durable goods	78	8.5	1.1 - 15.9	47	2.1	0.0 - 6.0
Banking and credit agencies	55	8.5	0.3 - 16.7	23	5.7	0.0 - 14.3
Transportation equipment	114	8.4	2.9 - 13.9	58	10.7	2.5 - 18.9
Legal, engineering and other professional services	211	8.2	4.1 - 12.3	59	11.8	2.6 - 21.0
Railroads	19	8.0	0.0 - 20.9	12	0.0	- -
Entertainment and recreation services	116	8.0	1.5 - 14.5	48	4.8	0.0 - 12.4
Wholesale trade	218	7.4	3.3 - 11.5	115	6.6	1.7 - 11.5
Public administrations	258	7.4	3.5 - 11.3	91	12.2	4.6 - 19.8
Utilities and sanitary	83	7.1	1.4 - 12.8	29	4.1	0.0 - 12.1
Other and not specified retail trade	214	7.0	3.5 - 10.5	103	10.0	2.6 - 17.4
Eating and drinking places	195	6.8	2.5 - 11.1	161	12.3	6.2 - 18.4
Business services	350	6.6	3.7 - 9.5	186	13.6	7.9 - 19.3
Social services, religious and membership orgs.	98	6.5	1.4 - 11.6	21	3.2	0.0 - 9.3
Construction	490	5.8	3.3 - 8.3	423	5.0	3.0 - 7.0
Machinery, except electrical	105	5.8	1.5 - 10.1	72	12.2	3.8 - 20.6
Hospitals	112	5.8	0.9 - 10.7	26	2.4	0.0 - 7.1
Chemicals and allied products	54	5.6	0.0 - 12.1	21	0.0	- -
Electrical machinery, equipment and supplies	87	5.3	1.2 - 9.4	43	17.6	3.9 - 31.3
Automotive dealers and gasoline stations	98	4.8	0.0 - 10.3	82	6.6	0.7 - 12.5
Mining	24	4.4	0.0 - 12.6	21	14.8	0.0 - 31.1
Textile mill and finished textile products	33	3.5	0.0 - 10.8	23	0.0	- -
Agriculture	203	3.4	0.9 - 5.9	87	2.8	0.0 - 6.9
Repair services	99	3.0	0.1 - 5.9	96	11.4	3.8 - 19.0
Other transportation	125	2.7	0.0 - 5.4	69	6.4	0.0 - 14.0
Other personal services	75	2.1	0.0 - 4.6	60	15.4	5.2 - 25.6
Food and kindred products	62	1.3	0.0 - 3.1	56	7.6	0.0 - 17.0
Forestry and fisheries	12	0.0	- -	6	7.9	0.0 - 23.6
Other educational services	7	0.0	- -	3	0.0	- -
Armed forces	1	0.0	- -	0	-	- -
TOTAL	5,056	7.2	6.4 - 8.0	2,714	8.0	6.8 - 9.2

-- No estimates due to no asthma cases or no respondents.

Nonsmokers - Those respondents who indicated that they never smoked or smoked less than 100 cigarettes in their lifetime.

NOTE: Industries were classified according to 1995 Standard Industrial Classification System and then regrouped by NCHS. See appendices for source description, methods, and ICD codes.

SOURCE: National Center for Health Statistics 2000 National Health Interview Survey.

Asthma: Morbidity

Table 9-10. Asthma: Estimated prevalence by current industry and smoking status, U.S. female residents age 18 and over, 2000

Industry	Nonsmokers			Current Smokers		
	Number of Respondents	Prevalence (%)	95% Confidence Interval	Number of Respondents	Prevalence (%)	95% Confidence Interval
Utilities and sanitary	24	28.0	5.1 - 50.9	9	0.0	- -
Repair services	13	22.9	0.0 - 50.5	17	7.0	0.0 - 20.3
Furniture, lumber and wood	34	20.7	0.5 - 40.9	20	0.0	- -
Other transportation	102	19.1	8.9 - 29.3	41	9.9	0.0 - 20.9
Transportation equipment	52	14.5	2.2 - 26.8	25	7.3	0.0 - 19.3
General merchandise stores	159	13.4	6.9 - 19.9	66	17.4	6.6 - 28.2
Banking and credit agencies	211	12.2	6.7 - 17.7	66	13.5	3.7 - 23.3
Other and not specified durable goods	61	11.7	1.3 - 22.1	13	0.0	- -
Food, bakery and dairy stores	115	11.4	5.5 - 17.3	97	11.2	4.9 - 17.5
Legal, engineering and other professional services	211	11.3	6.6 - 16.0	86	11.7	3.3 - 20.1
Elementary and secondary schools and colleges	847	11.1	8.6 - 13.6	155	8.0	3.7 - 12.3
Trucking service and warehousing	45	10.7	0.0 - 22.7	30	19.6	4.7 - 34.5
Social services, religious and membership orgs.	393	10.7	6.6 - 14.8	127	7.2	2.7 - 11.7
Insurance, real estate, and other finance	298	10.5	3.1 - 17.9	114	13.1	6.2 - 20.0
Health services, except hospitals	551	10.5	7.6 - 13.4	220	13.9	8.6 - 19.2
Other personal services	221	10.1	5.0 - 15.2	91	9.7	2.6 - 16.8
Hospitals	398	9.7	6.0 - 13.4	138	10.4	4.9 - 15.9
Eating and drinking places	231	9.3	5.0 - 13.6	192	12.5	7.4 - 17.6
Fabricated metal industries, including ordnance	25	9.2	0.0 - 21.7	13	11.8	0.0 - 33.2
Private households	115	9.2	1.9 - 16.5	25	5.8	0.0 - 16.8
Other and not specified retail trade	296	9.0	5.3 - 12.7	126	11.1	5.0 - 17.2
Public administrations	276	8.4	4.3 - 12.5	103	4.3	0.4 - 8.2
Primary metal industries	15	8.0	0.0 - 23.1	10	14.6	0.0 - 40.7
Agriculture	74	7.7	1.4 - 14.0	22	14.0	0.0 - 29.7
Business services	328	7.7	4.6 - 10.8	164	12.4	6.3 - 18.5
Textile mill and finished textile products	81	7.6	0.0 - 16.8	22	6.1	0.0 - 13.7
Electrical machinery, equipment and supplies	74	7.6	1.5 - 13.7	32	4.3	0.0 - 10.4
Wholesale trade	149	7.5	3.4 - 11.6	57	15.0	3.2 - 26.8
Communications	90	6.6	0.9 - 12.3	37	9.1	0.0 - 21.8
Entertainment and recreation services	84	6.4	0.0 - 13.1	41	18.7	4.6 - 32.8
Other educational services	46	6.0	0.0 - 12.1	7	18.4	0.0 - 46.0
Printing, publishing and allied industries	67	4.9	0.0 - 10.4	15	5.5	0.0 - 15.9
Construction	57	3.8	0.0 - 8.5	27	0.0	- -
Automotive dealers and gasoline stations	44	3.2	0.0 - 7.1	37	4.3	0.0 - 10.2
Food and kindred products	59	1.9	0.0 - 4.4	27	1.7	0.0 - 5.0
Other nondurable goods	38	1.3	0.0 - 3.8	15	8.8	0.0 - 25.1
Forestry and fisheries	5	0.0	- -	1	0.0	- -
Mining	4	0.0	- -	4	31.8	0.0 - 81.0
Chemicals and allied products	39	0.0	- -	15	6.8	0.0 - 19.7
Machinery, except electrical	43	0.0	- -	21	8.0	0.0 - 19.4
Railroads	3	0.0	- -	0	-	- -
Armed forces	1	0.0	- -	0	-	- -
TOTAL	6,174	9.7	8.7 - 10.7	2,368	10.5	9.1 - 11.9

- No estimates due to no asthma cases or no respondents.

Nonsmokers - Those respondents who indicated that they never smoked or smoked less than 100 cigarettes in their lifetime.

NOTE: Industries were classified according to 1995 Standard Industrial Classification System and then regrouped by NCHS. See appendices for source description, methods, and ICD codes.

SOURCE: National Center for Health Statistics 2000 National Health Interview Survey.

Table 9-11. Asthma: Estimated prevalence by current occupation and smoking status, U.S. residents age 18 and over, 2000

Occupation	Nonsmokers			Current Smokers		
	Number of Respondents	Prevalence (%)	95% Confidence Interval	Number of Respondents	Prevalence (%)	95% Confidence Interval
Computer equipment operators	29	17.3	0.2 - 34.4	6	0.0	- -
Financial records processing occupations	202	16.5	6.7 - 26.3	79	10.2	3.3 - 17.1
Mail and message distributing	75	12.5	0.5 - 24.5	28	15.7	0.4 - 31.0
Teachers, librarians and counselors	779	12.1	9.4 - 14.8	117	11.2	5.3 - 17.1
Other protective service occupations	78	12.1	1.3 - 22.9	49	15.6	4.1 - 27.2
Other sales	511	11.4	8.1 - 14.7	239	12.4	7.3 - 17.5
Writers, artists, entertainers and athletes	200	10.9	6.0 - 15.8	64	8.5	0.5 - 16.5
Other professional specialty occupations	266	10.9	6.4 - 15.4	72	10.5	2.9 - 18.1
Health technologists and technicians	165	10.8	4.9 - 16.7	71	15.2	6.2 - 24.2
Forestry and fishing occupations	12	10.8	0.0 - 30.0	7	7.6	0.0 - 22.5
Secretaries, stenographers and typists	239	10.7	5.6 - 15.8	91	6.1	1.6 - 10.6
Supervisors and proprietors	312	10.2	6.5 - 13.9	151	5.7	2.0 - 9.4
Private household occupations	109	10.1	2.3 - 17.9	18	7.5	0.0 - 21.6
Personal service	290	10.1	4.8 - 15.4	96	8.0	1.3 - 14.7
Other administrative support	1,118	10.0	7.8 - 12.2	473	10.3	7.0 - 13.6
Health diagnosing occupations	122	9.9	2.6 - 17.2	5	0.0	- -
Technologists, technicians except health	220	9.8	5.5 - 14.1	75	10.2	2.6 - 17.8
Natural mathematical and computer scientists	235	9.5	5.2 - 13.8	65	10.2	3.5 - 16.9
Food service	399	9.0	5.5 - 12.5	324	9.4	5.9 - 12.9
Freight, stock and material handlers	310	8.9	4.8 - 13.0	194	11.0	5.3 - 16.7
Managers and administrators, except public admin.	984	8.5	6.3 - 10.7	463	7.0	4.5 - 9.5
Health service	257	8.3	4.6 - 12.0	154	18.1	11.0 - 25.2
Construction and extractive trades	332	8.3	4.6 - 12.0	325	4.6	2.4 - 6.8
Fabricators, assemblers, inspectors and samplers	217	8.1	4.4 - 11.8	117	11.6	4.9 - 18.3
Health assessment and treating occupations	324	7.5	4.6 - 10.4	76	5.3	0.2 - 10.4
Management related occupations	476	6.1	3.9 - 8.3	161	5.4	2.3 - 8.5
Engineers	199	5.9	2.4 - 9.4	41	13.3	1.3 - 25.3
Machine operators and tenderers, except precision	370	5.9	3.0 - 8.8	239	5.7	2.4 - 9.0
Sales representatives, commodities and finance	346	5.5	2.8 - 8.2	131	14.0	6.9 - 21.1
Police and firefighters	120	5.5	0.0 - 11.0	33	14.3	0.0 - 29.0
Cleaning and building service	289	4.8	1.7 - 7.9	166	9.5	5.0 - 14.0
Motor vehicle operators	268	4.6	2.4 - 6.8	207	6.4	2.9 - 9.9
Precision production occupations	240	4.3	1.8 - 6.8	185	13.2	7.1 - 19.3
Construction laborers	80	3.9	0.0 - 8.8	52	4.3	0.0 - 9.4
Farm workers and other agricultural workers	195	3.7	1.2 - 6.2	97	10.4	2.6 - 18.2
Architects and surveyors	17	3.5	0.0 - 10.4	6	14.5	0.0 - 42.5
Material moving equipment operators	64	3.2	0.0 - 8.1	56	7.3	0.0 - 15.3
Mechanics and repairers	283	3.1	1.1 - 5.1	200	9.3	4.8 - 13.8
Farm operators and managers	69	2.5	0.0 - 5.8	19	0.0	- -
Officials and administrators, public administration	56	1.3	0.0 - 3.8	25	2.9	0.0 - 7.6
Other transportation, except motor vehicles	15	0.0	- -	11	22.1	0.0 - 59.1
Military	3	0.0	- -	0	-	- -
TOTAL	11,230	8.4	7.8 - 9.0	5,082	9.1	8.3 - 9.9

- No estimates due to no asthma cases or no respondents.

Nonsmokers - Those respondents who indicated that they never smoked or smoked less than 100 cigarettes in their lifetime.

NOTE: Industries were classified according to 1995 Standard Industrial Classification System and then regrouped by NCHS. See appendices for source description, methods, and ICD codes.

SOURCE: National Center for Health Statistics 2000 National Health Interview Survey.

Asthma: Morbidity

Table 9-12. Asthma: Estimated prevalence by current occupation and smoking status, U.S. male residents age 18 and over, 2000

Occupation	Nonsmokers			Current Smokers		
	Number of Respondents	Prevalence (%)	95% Confidence Interval	Number of Respondents	Prevalence (%)	95% Confidence Interval
Private household occupations	4	28.8	0.0 - 77.0	1	0.0	- -
Computer equipment operators	15	17.3	0.0 - 42.2	3	0.0	- -
Other protective service occupations	49	15.7	1.0 - 30.4	31	17.0	1.7 - 32.3
Writers, artists, entertainers and athletes	107	12.9	5.6 - 20.2	34	4.2	0.0 - 12.2
Teachers, librarians and counselors	193	11.6	6.9 - 16.3	30	3.7	0.0 - 10.8
Forestry and fishing occupations	11	11.3	0.0 - 32.3	6	8.6	0.0 - 25.6
Other professional specialty occupations	110	11.1	4.6 - 17.6	22	9.1	0.0 - 22.8
Mail and message distributing	34	10.0	0.0 - 28.0	16	10.9	0.0 - 30.7
Freight, stock and material handlers	200	10.0	4.9 - 15.1	137	11.2	4.5 - 17.9
Food service	161	9.6	3.5 - 15.7	133	8.5	3.0 - 14.0
Natural mathematical and computer scientists	147	9.2	4.1 - 14.3	50	11.9	3.9 - 19.9
Technologists, technicians except health	139	9.1	3.8 - 14.3	43	13.8	2.2 - 25.4
Other sales	174	9.1	3.8 - 14.4	87	14.7	5.1 - 24.3
Health technologists and technicians	34	8.9	0.0 - 21.1	7	0.0	- -
Other administrative support	241	8.7	4.6 - 12.8	120	7.2	2.1 - 12.3
Construction and extractive trades	322	8.5	4.6 - 12.4	319	4.7	2.5 - 6.9
Machine operators and tenderers, except precision	193	8.4	3.7 - 13.1	167	6.4	2.3 - 10.5
Supervisors and proprietors	169	8.0	4.1 - 11.9	79	4.5	0.0 - 9.0
Managers and administrators, except public admin.	507	7.4	4.7 - 10.1	264	5.7	2.8 - 8.6
Fabricators, assemblers, inspectors and samplers	103	7.4	2.7 - 12.1	77	10.8	2.8 - 18.8
Management related occupations	166	6.7	3.0 - 10.4	57	3.0	0.0 - 7.3
Sales representatives, commodities and finance	186	6.4	2.5 - 10.3	73	15.7	5.1 - 26.3
Personal service	38	6.2	0.0 - 13.5	14	0.0	- -
Financial records processing occupations	20	6.1	0.0 - 14.9	4	0.0	- -
Cleaning and building service	129	5.7	0.6 - 10.8	70	5.3	0.6 - 10.0
Police and firefighters	98	5.5	0.0 - 11.6	26	18.4	0.2 - 36.6
Engineers	172	4.7	1.4 - 8.0	34	15.5	1.4 - 29.6
Health diagnosing occupations	77	4.6	0.0 - 9.9	1	0.0	- -
Motor vehicle operators	226	4.3	1.6 - 7.0	174	6.5	2.8 - 10.2
Precision production occupations	168	4.2	1.1 - 7.3	131	12.7	5.4 - 20.0
Construction laborers	77	4.0	0.0 - 8.9	52	4.3	0.0 - 9.4
Material moving equipment operators	56	3.5	0.0 - 8.8	53	7.8	0.0 - 16.6
Health service	16	3.3	0.0 - 10.2	19	3.9	0.0 - 11.5
Mechanics and repairers	252	3.0	1.0 - 5.0	188	9.3	4.6 - 14.0
Health assessment and treating occupations	38	2.8	0.0 - 6.7	9	0.0	- -
Farm workers and other agricultural workers	152	2.4	0.2 - 4.6	81	11.5	2.5 - 20.5
Farm operators and managers	54	1.4	0.0 - 4.1	15	0.0	- -
Officials and administrators, public administration	23	0.0	- -	12	0.0	- -
Architects and surveyors	13	0.0	- -	6	14.5	0.0 - 42.5
Secretaries, stenographers and typists	4	0.0	- -	3	0.0	- -
Other transportation, except motor vehicles	15	0.0	- -	11	22.1	0.0 - 59.1
Military	1	0.0	- -	0	-	- -
TOTAL	5,056	7.2	6.4 - 8.0	2,714	8.0	6.8 - 9.2

- No estimates due to no asthma cases or no respondents.

Nonsmokers - Those respondents who indicated that they never smoked or smoked less than 100 cigarettes in their lifetime.

NOTE: Industries were classified according to 1995 Standard Industrial Classification System and then regrouped by NCHS. See appendices for source description, methods, and ICD codes.

SOURCE: National Center for Health Statistics 2000 National Health Interview Survey.

Table 9-13. Asthma: Estimated prevalence by current occupation and smoking status, U.S. female residents age 18 and over, 2000

Occupation	Nonsmokers			Current Smokers		
	Number of Respondents	Prevalence (%)	95% Confidence Interval	Number of Respondents	Prevalence (%)	95% Confidence Interval
Health diagnosing occupations	45	20.1	3.0 - 37.2	4	0.0	- -
Architects and surveyors	4	18.9	0.0 - 52.8	0	-	- -
Financial records processing occupations	182	17.6	7.0 - 28.2	75	10.7	3.4 - 18.0
Computer equipment operators	14	17.3	0.0 - 37.9	3	0.0	- -
Engineers	27	16.3	1.8 - 30.8	7	0.0	- -
Mail and message distributing	41	15.6	0.9 - 30.3	12	23.4	0.0 - 47.5
Supervisors and proprietors	143	13.3	5.9 - 20.7	72	7.4	1.1 - 13.7
Other sales	337	12.8	8.7 - 16.9	152	11.0	5.5 - 16.5
Teachers, librarians and counselors	586	12.3	9.0 - 15.6	87	13.6	6.0 - 21.2
Health technologists and technicians	131	11.5	4.8 - 18.2	64	18.4	7.8 - 29.0
Technologists, technicians except health	81	11.3	4.2 - 18.4	32	4.8	0.0 - 11.7
Secretaries, stenographers and typists	235	10.9	5.8 - 16.0	88	6.3	1.8 - 10.8
Other professional specialty occupations	156	10.7	4.4 - 17.0	50	11.2	2.0 - 20.4
Personal service	252	10.7	4.8 - 16.6	82	10.0	2.0 - 18.0
Other administrative support	877	10.5	8.0 - 13.0	353	11.5	7.6 - 15.4
Natural mathematical and computer scientists	88	10.2	3.3 - 17.1	15	4.0	0.0 - 12.6
Farm workers and other agricultural workers	43	10.1	0.0 - 20.3	16	4.5	0.0 - 13.3
Managers and administrators, except public admin.	477	10.0	6.9 - 13.1	199	8.9	4.8 - 13.0
Private household occupations	105	9.5	1.5 - 17.5	17	8.0	0.0 - 22.9
Fabricators, assemblers, inspectors and samplers	114	9.1	2.8 - 15.4	40	13.2	1.8 - 24.6
Health service	241	8.7	4.6 - 12.8	135	20.1	12.1 - 28.1
Writers, artists, entertainers and athletes	93	8.5	2.2 - 14.8	30	13.7	0.0 - 27.8
Food service	238	8.5	4.6 - 12.4	191	10.3	6.0 - 14.6
Health assessment and treating occupations	286	8.2	4.9 - 11.5	67	6.2	0.5 - 11.9
Farm operators and managers	15	7.1	0.0 - 20.4	4	0.0	- -
Motor vehicle operators	42	6.4	0.0 - 14.2	33	6.2	0.0 - 15.8
Freight, stock and material handlers	110	6.3	0.2 - 12.4	57	10.7	0.9 - 20.5
Management related occupations	310	5.6	2.9 - 8.3	104	6.8	2.7 - 10.9
Police and firefighters	22	5.3	0.0 - 12.2	7	0.0	- -
Precision production occupations	72	4.5	0.0 - 9.2	54	14.8	3.6 - 26.0
Sales representatives, commodities and finance	160	4.1	0.8 - 7.4	58	11.6	3.2 - 20.0
Other protective service occupations	29	4.0	0.0 - 9.7	18	12.5	0.0 - 28.6
Mechanics and repairers	31	3.9	0.0 - 11.3	12	9.0	0.0 - 26.1
Cleaning and building service	160	3.8	0.3 - 7.3	96	13.4	6.0 - 20.8
Officials and administrators, public administration	33	2.6	0.0 - 7.7	13	7.2	0.0 - 18.8
Machine operators and tenderers, except precision	177	2.6	0.1 - 5.1	72	3.9	0.0 - 8.4
Forestry and fishing occupations	1	0.0	- -	1	0.0	- -
Construction and extractive trades	10	0.0	- -	6	0.0	- -
Other transportation, except motor vehicles	0	-	- -	0	-	- -
Material moving equipment operators	8	0.0	- -	3	0.0	- -
Construction laborers	3	0.0	- -	0	-	- -
Military	1	0.0	- -	0	-	- -
TOTAL	6,174	9.7	8.7 - 10.7	2,368	10.5	9.1 - 11.9

- No estimates due to no asthma cases or no respondents.

Nonsmokers - Those respondents who indicated that they never smoked or smoked less than 100 cigarettes in their lifetime.

NOTE: Industries were classified according to 1995 Standard Industrial Classification System and then regrouped by NCHS. See appendices for source description, methods, and ICD codes.

SOURCE: National Center for Health Statistics 2000 National Health Interview Survey.

