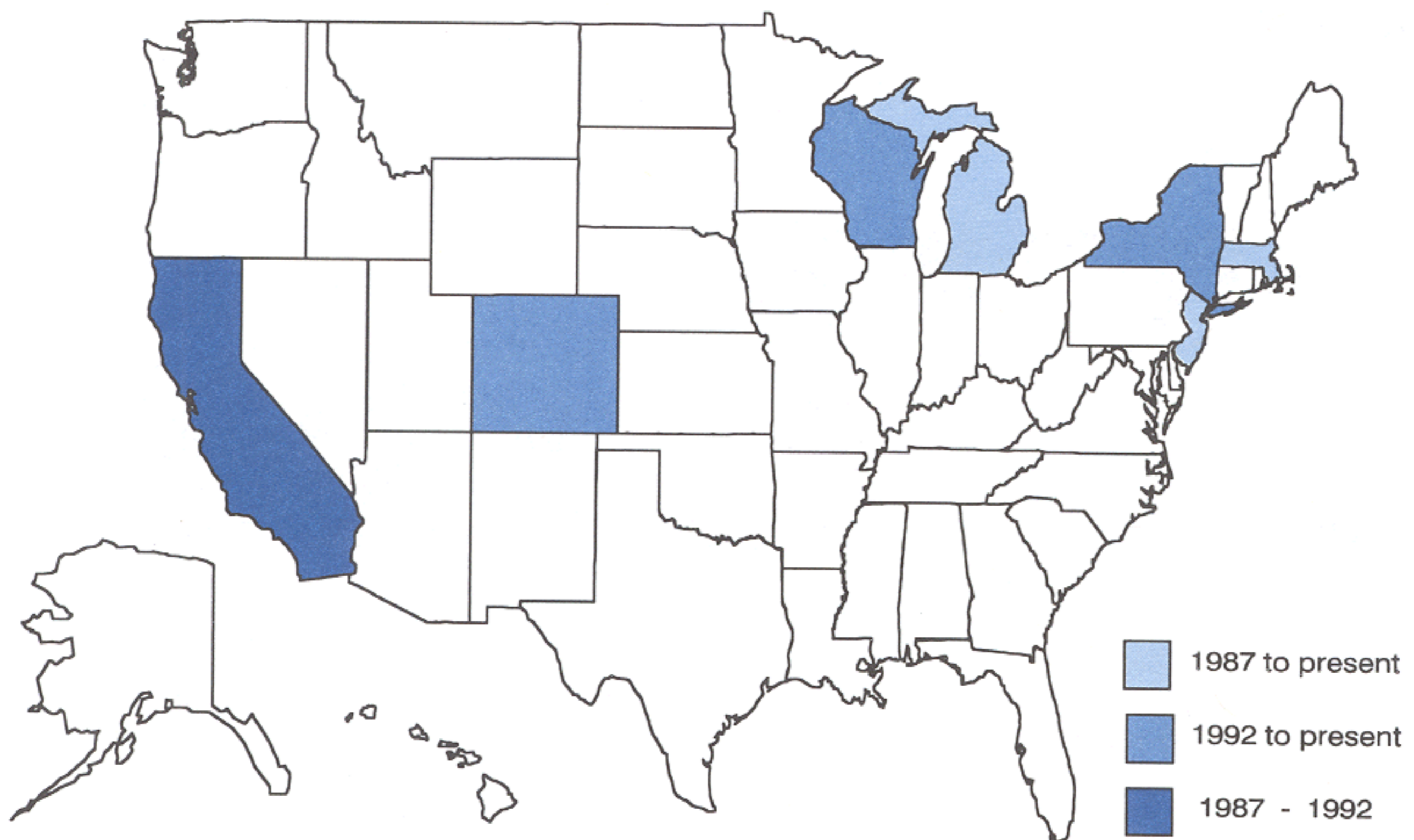


Figure 9-1 depicts the states currently and formerly involved in occupational asthma surveillance and intervention activities funded under the NIOSH Sentinel Event Notification System for Occupational Risks (SENSOR) program. Since 1987, SENSOR occupational asthma programs have been under development in Massachusetts, Michigan, and New Jersey. California began development of an occupational asthma program in October 1992.

See Appendix A for more information about SENSOR.

Figure 9-1. States with SENSOR occupational asthma programs



**OCCUPATIONAL ASTHMA
SENSOR**

Table 9-1. Occupational asthma: number of cases reported, by state, race/ethnicity and sex, 1988-1992*

State	Race/ethnicity	Sex	Confirmed	Possible	Total
Colorado^{1,2}	Total		102	29	131
	White	male	39	11	50
		female	33	12	45
	Black	male	2	1	3
		female	6	-	6
	Hispanic	male	9	2	11
		female	3	1	4
	Asian	male	1	-	1
		females	1	-	1
	Unknown	male	7	2	9
female		1	-	1	
Massachusetts^{2,3}	Total		46	32	78
	White	male	23	17	40
		female	17	10	27
	Black	male	2	1	3
		female	1	-	1
	Hispanic	male	1	2	3
		female	1	-	1
	Asian	male	-	-	-
		female	-	-	-
	Other	male	1	1	2
female		-	1	1	
Michigan³	Total		268	108	376
	White	male	134	46	180
		female	84	42	126
	Black	male	9	9	18
		female	28	9	37
	Hispanic	male	1	1	2
		female	1	-	1
	Asian	male	-	-	-
		female	1	-	1
	Other	male	1	-	1
		female	3	-	3
	Unknown	male	4	-	4
female		2	1	3	

OCCUPATIONAL ASTHMA

SENSOR

Table 9-1(continued). Occupational asthma: number of cases reported, by state, race/ethnicity and sex, 1988-1992*

State	Race/ethnicity	Sex	Confirmed	Possible	Total
New Jersey³	Total		140	18	158
	White	male	55	9	64
		female	48	4	52
	Black	male	10	1	11
		female	7	-	7
	Hispanic	male	14	2	16
		female	3	2	5
	Asian	male	1	-	1
		female	1	-	1
	Other	male	1	-	1
female		-	-	-	
New York¹	Total		71	-	71
	White	male	40	-	40
		female	18	-	18
	Black	male	6	-	6
		female	2	-	2
	Hispanic	male	4	-	4
		female	-	-	-
	Asian	male	-	-	-
female		-	-	-	
Other	male	1	-	1	
	female	-	-	-	
Wisconsin^{1,2}	Total		38	-	38
	White	male	19	-	19
		female	17	-	17
	Black	male	1	-	1
		female	-	-	-
	Hispanic	male	-	-	-
		female	-	-	-
Asian	male	1	-	1	
	female	-	-	-	
TOTAL			665	187	852

* Provisional data as of April 1993.

¹Confirmed and possible categories are mutually exclusive. Confirmed cases meet the published NIOSH/SENSOR occupational asthma case definition; possible cases meet the published NIOSH/SENSOR reporting guidelines.

²Physician reported cases only.

³Confirmed cases meet the published NIOSH/SENSOR occupational asthma case definition or also include RADS and work-aggravated asthma supplemental case classification scheme; possible cases meet the published NIOSH/SENSOR reporting guidelines.

SOURCE: RE Hoffman, JB McCammon, Colorado SENSOR; LK Davis, Massachusetts SENSOR; MJ Reilly, KD Rosenman, Michigan SENSOR; MJ Stanbury, New Jersey SENSOR; JM Mellus, New York SENSOR; HA Anderson, Wisconsin SENSOR.

- indicates no cases in category.

OCCUPATIONAL ASTHMA**SENSOR****Table 9-2. Occupational asthma: most frequently reported primary putative exposures, Michigan and New Jersey, 1988-1992**

Agent	Michigan		New Jersey		TOTAL	
	Number	%	Number	%	Number	%
Isocyanates	88	23.4	16	10.1	104	19.5
Coolant/oil mists generated from machining operations	47	12.5	6	3.8	53	9.9
Aldehydes ¹	14	3.7	14	8.9	28	5.2
Epoxy resins	11	2.9	5	3.2	16	3.0
Tungsten carbide/cobalt	14	3.7	1	0.6	15	2.8
Acrylates	9	2.4	4	2.5	13	2.4
Chlorine	6	1.6	6	3.8	12	2.2
Acids	7	1.9	4	2.5	11	2.1
Diesel exhaust	2	0.5	8	5.1	10	1.9
Smoke/fumes, unspecified	10	2.7	0	0.0	10	1.9
Welding fumes	7	1.9	3	1.9	10	1.9
Pesticides/herbicides	1	0.3	8	5.1	9	1.7
Styrene	8	2.1	1	0.6	9	1.7
Unidentified agents	99	26.3	9	5.7	108	20.2
All other agents	53	14.1	73	46.2	126	23.6
TOTAL	376	100	158	100	534	100

¹Includes formaldehyde and glutaraldehyde.

NOTE: See Table 9-1 footnotes.

SOURCE: MJ Reilly, KD Rosenman, Michigan SENSOR; MJ Stanbury, New Jersey SENSOR.

OCCUPATIONAL ASTHMA

SENSOR

Table 9-3. Occupational asthma: primary industries where exposure to agents causing occupational asthma and related conditions occurred, by state, 1988-1992

Industry	SIC	CO	MA	MI	NJ	NY	WI	TOTAL
Agriculture, Forestry, and Fisheries								3
Mining	10-14	2	-	4	4	-	-	10
Construction	15-17	6	8	12	-	7	-	33
Manufacturing	20-39	48	42	288	76	27	32	513
Food and kindred products	20	6	2	13	4	-	1	26
Tobacco products	21	-	-	-	-	-	-	-
Textile mill products	22	-	6	2	2	-	-	10
Apparel	23	1	2	1	1	-	-	5
Lumber and wood, except furniture	24	19	-	3	2	-	2	26
Furniture and fixtures	25	-	1	1	-	1	-	3
Paper and allied products	26	-	-	5	-	1	-	6
Printing, publishing, allied products	27	2	2	5	4	1	1	15
Chemicals and allied products	28	3	1	23	25	1	2	55
Petroleum refining	29	-	-	1	3	-	-	4
Rubber and misc. plastic products	30	3	4	19	5	3	10	44
Leather and leather products	31	-	1	-	1	-	-	2
Stone, clay, glass, concrete	32	4	-	2	6	1	1	14
Primary metals industries	33	-	1	14	4	1	-	20
Fabricated metal products except machinery and computer equipment	34	-	3	16	-	1	1	21
Industrial and commercial machinery and computer equipment	35	3	4	18	4	11	1	41
Electrical Equipment, except computers	36	2	5	1	6	2	5	21
Transportation equipment	37	1	4	156	7	2	8	178
Measuring, analyzing, and controlling equipment	38	3	3	6	1	1	-	14
Miscellaneous industries	39	1	3	2	1	1	-	8
Transportation, Communications, Electric, Gas, and Sanitary Services	40-49	5	5	5	7	2	-	24
Wholesale Trade	50-51	-	-	9	3	1	-	13
Retail Trade	52-59	5	-	6	11	3	1	26
Finance, Insurance and Real Estate	60-67	5	-	2	3	-	-	10
Services	70-89	41	22	41	37	25	4	170
Public Administration	91-97	17	-	8	16	5	-	46
Unknown		2	1	1	-	-	-	4
TOTAL		131	78	376	158	71	38	852

SIC - 1987 Standard Industrial Classification

CO (Colorado); MA (Massachusetts); MI (Michigan); NJ (New Jersey); NY (New York); WI (Wisconsin)

NOTE: See Table 9-1 footnotes.

SOURCE: RE Hoffman, JB McCammon, Colorado SENSOR; LK Davis, Massachusetts SENSOR; MJ Reilly, KD Rosenman, Michigan SENSOR; MJ Stanbury, New Jersey SENSOR; JM Melius, New York SENSOR; HA Anderson, Wisconsin SENSOR.

- indicates no cases in category.

OCCUPATIONAL ASTHMA

SENSOR

Table 9-4. Occupational asthma: primary occupations where exposure to agents causing occupational asthma and related conditions occurred, by state, 1988-1992

Occupation	COC	CO	MA	MI	NJ	NY	WI	TOTAL
Managerial and Professional Specialty								
Managers and administrators, n.e.c.	019	1	1	3	11	-	-	16
Registered nurses	095	1	-	1	5	1	-	8
All others*	003-199	14	5	17	13	9	1	59
Technical, Sales, and Administrative Support								
Secretaries	313	2	1	6	1	-	-	10
Insurance adjusters, examiners, and investigators	375	5	-	-	-	-	-	5
All others*	203-389	26	12	29	33	6	1	107
Service								
Janitors and cleaners	453	1	1	8	6	3	2	21
Hairdressers and cosmetologists	458	7	-	2	1	-	-	8
All others*	403-469	6	2	13	11	6	2	42
Farming, Forestry, and Fishing								
	473-499	-	-	1	-	1	2	4
Precision Production, Craft, and Repair								
Automobile body and related repairers	514	7	2	1	-	2	-	12
Industrial machinery repairers	518	2	-	11	2	-	-	15
Millwrights	544	3	-	5	-	2	-	10
Specified mechanics and repairers, n.e.c.	547	3	-	10	-	-	-	13
Supervisors, production occupations	633	-	-	15	9	-	-	24
Precision assemblers, metal	636	-	-	-	-	-	5	5
Machinists	637	-	3	5	1	1	-	10
All others*	503-699	15	11	27	11	19	2	85
Operators, Fabricators, and Laborers								
Grinding, abrading, buffing, and polishing machine operators	709	1	1	3	-	6	-	11
Miscellaneous metal, plastic, stone, and glass working machine operators	715	1	-	14	-	-	-	15
Molding and casting machine operators	719	-	3	6	-	2	-	11
Miscellaneous metal and plastic processing machine operators	725	-	-	6	-	-	8	14
Extruding and forming machine operators	755	-	-	8	-	-	-	8
Mixing and blending machine operators	756	4	2	6	1	-	-	13
Separating, filtering, and clarifying machine operators	757	-	-	5	4	-	-	9
Painting and paint spraying machine operators	759	-	8	2	2	-	8	20
Miscellaneous machine operators, n.e.c.	777	1	-	17	6	1	-	25
Welders and cutters	783	3	3	8	1	-	1	16
Assemblers	785	2	-	41	2	1	-	46
Production inspectors, checkers, and examiners	796	1	1	19	-	1	-	22
Machine feeders and offbearers	878	1	-	7	-	-	-	8
Hand packers and packagers	888	2	-	5	1	2	-	10
Laborers, except construction	889	-	3	20	3	-	-	26
All others*	703-889	19	17	49	29	8	6	128
Unknown	999	3	2	6	5	-	-	16
TOTAL		131	78	376	158	71	38	852

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

NOTE: See Table 9-1 footnotes.

SOURCE: RE Hoffman, JB McCammon, Colorado SENSOR; LK Davis, Massachusetts SENSOR; MJ Reilly, KD Rosenman, Michigan SENSOR; MJ Stanbury, New Jersey SENSOR; JM Melius, New York SENSOR; HA Anderson, Wisconsin SENSOR.

- indicates no cases in category.

* excludes categories shown separately.