SENSOR Occupational Lung Disease Bulletin

A project of the Massachusetts Department of Public Health's Occupational Health Surveillance Program,
the Massachusetts Thoracic Society, and the Massachusetts Allergy Society

Massachusetts Department of Public Health, Occupational Health Surveillance Program, 6th floor, 250 Washington Street, Boston, MA 02108, Tel: (617) 624-5632, Fax: (617) 624-5696
www.state.ma.us/dph/bhsre/ohsp/ohsp.htm

July 2002

Dear Health Care Professional,

An important element of public health surveillance is to provide feedback to reporters. As promised, we are devoting one Bulletin of the year to the presentation of summary data on cases of work-related asthma reported to Massachusetts SENSOR. Since 1993, after mandatory reporting requirements went into effect, 825 cases have been reported to Massachusetts SENSOR. Although this number is believed to be only a small fraction of the total number of work-related asthma cases in the Commonwealth, the data provide a picture of the industries and occupations where workers are at risk for work-related asthma in Massachusetts.

The information presented in this issue is an overview of data collected through interviews with 430 cases between 1993 and 2001. A more extensive analysis is underway.

Sincerely,
Letita Davis, ScD, Director
Occupational Lung Disease Surveillance Project

Work-Related Asthma Cases Massachusetts SENSOR 1993 - 2001

Between January 1993 and December 2001 SENSOR received 825 case reports of work-related asthma (WRA). These reports include cases of new-onset occupational asthma, including Reactive Airways Dysfunction Syndrome (RADS) and cases of work-aggravated asthma. Interviews were completed with 458 cases (58%). During the interview, 28 cases were determined not to be work-related asthma according to the SENSOR WRA surveillance case definition. Summary data pertaining to the remaining 430 interviewed cases are described below.

The most commonly reported asthma-causing agent was "indoor air pollutants", which were cited most frequently by nurses, teachers and office workers with WRA. Of the 65 cases reporting that their asthma was associated with exposure to cleaning materials, the second most frequently reported agent, 26 (40%) were employed as health care workers; the remainder worked in a wide variety of industries. Latex fell from the third most frequently reported asthma causing agent in the last SENSOR data summary (1993-1998) to the fifth, possibly reflecting a shift among glove users toward non-powdered or non-latex gloves.

Table I: Ten most frequently reported asthma causing agents for cases of WRA, Massachusetts SENSOR, 1993-2001, n=430*

AGENT	No.	%
Indoor Air Pollutants **	88	20.5%
Cleaning Materials	73	17.0%
Mold	46	10.7%
Dust	43	10.0%
Latex	42	9.8%
Chemicals, NOS	32	7.4%
Smoke, NOS	23	5.3%
Formaldehyde	20	4.7%
Isocyanates	17	4.0%
Solvents, NOS	17	4.0%

NOS = Not otherwise specified
* Up to 3 agents were reported for each case.
** Includes cases who report "bad air", "indoor air pollutants", "poor ventilation", or "sick building syndrome". More specific agents associated with indoor air pollution, including dust and mold, are coded separately.

Over half of all the cases reported during the surveillance period were employed in the service sector. Hospitals stood out as having more cases than any other single industry, followed by educational services. The top three asthma causing agents cited by hospital workers were latex (39), cleaning materials (37), and indoor air pollutants (29). Among cases working in educational services, the top three exposures cited were indoor air pollutants (29), mold (12), and cleaning materials (11).

REPORT JUNE-JULY CASES NOW

By August 31st, report all occupational lung disease cases seen for the first time between June and July 2002. If you have NOT seen any cases, it is not necessary to return the report form.

continued on other side

SENSOR: *Sentinel Event Notification System for Occupational Risk. Massachusetts SENSOR is funded by the National Institute for Occupational Safety and Health.*

Table II: Distribution of WRA cases by industry, Massachusetts SENSOR, 1993-2001, n=414

INDUSTRY	No.	%
Services	**215**	**51.9%**
*Health Care**	125	30.2%
Hospital**	97	23.4%
Educational services	53	12.8%
Elementary and Secondary **	40	9.7%
All other	37	8.9%
Manufacturing	**108**	**26.1%**
*Chemicals**	18	4.3%
Industrial machinery	13	3.1%
Measuring devices	10	2.4%
Electronics	10	2.4%
All other	57	13.8%
Public Administration	**41**	**9.9%**
*Regulation of transportation**	16	3.9%
Admin of economic programs	13	3.1%
All other	12	2.9%
Trade (wholesale/retail)	**20**	**4.8%**
Construction	**16**	**3.9%**
Transportation	**9**	**2.2%**
Other	**5**	**1.2%**

* Table includes industries at the 2-digit level with 9 or more caes.
** Table includes industries at the 4-digit level with 35 or more cases.

More cases were employed in managerial and professional occupations than any other occupational group. Registered nurses, office workers, and teachers were the most frequently reported occupations.

The majority of individuals with WRA were female (63%) and they ranged in age from 17 to 79 years with a mean age of 45 years. Cases were somewhat older and more likely female than the working population of Massachusetts. Cases were predominately white (86%); seven percent (28) were of Hispanic origin.

Work-related asthma can have a serious impact on those affected. Among those interviewed, 90% still had breathing problems at the time of the interview, over one quarter reported that their symptoms were "more severe" and 50% had been to emergency rooms because of their breathing problems caused by work. In addition to the health consequences, WRA takes a financial toll on workers' families. A total of 155 (36%) reported they were no longer working at the job that caused their breathing problems (4% fired, 14% on workers' compensation, and 18% quit employment due to their breathing problems). Notably, three-quarters of WRA cases reported that their co-workers had similar symptoms.

Table III: Distribution of WRA cases by occupation, Massachusetts SENSOR, 1993-2001, n=402

OCCUPATION	No.	%
Managerial and Professional	**140**	**34.8%**
Nurses	66	16.5%
Teachers	37	9.2%
Engineers/scientists	9	2.2%
Managers	9	2.2%
All other	19	4.7%
Technical, Sales, Administrative	**88**	**21.9%**
Administration/office workers	55	13.7%
Health technicians	24	6.0%
Sales	6	1.5%
All other	3	0.7%
Operators/Laborers	**72**	**17.9%**
Welders	8	2.0%
Painters	8	2.0%
Assemblers	8	2.0%
Mixing and blending machine	7	1.7%
All other	41	10.2%
Service	**51**	**12.7%**
Cleaning occupations	10	2.5%
Health aides	10	2.5%
Hairdressers	6	1.5%
Fire fighting	5	1.2%
All other	20	5.0%
Precision Production Craft and Repair	**46**	**11.4%**
Construction workers	14	3.5%
Bakers	5	1.2%
All other	27	6.7
Farming, Forestry, Fishing	**5**	**1.2%**

This analysis was based on the 58% of the 825 reported cases who completed interviews. White collar workers were more likely to respond than blue collar workers, and women were more likely to respond than men. Thus white collar workers and women groups are over-represented in the findings. Overall, the cases reported to OHSP constitute only a fraction of adult asthma caused or exacerbated by work. While the findings are not necessary representative of the underlying incidence of WRA in the population, they identify problems that need to be addressed. Ultimately OHSP's capacity to provide information and carry out prevention efforts depends on health care providers' awareness, diagnosis and reporting of WRA.

Number of WRA Cases Reported to Massachusetts SENSOR, March 1992- May 2002

March 2002	April 2002	May 2002	Total to Date (3/92-5/02)
6	6	4	873