

PAR-04-106
Expanded Occupational Health Surveillance in MA
Occupational Health Surveillance Program
Massachusetts Department of Public Health (MDPH)
Fundamental Surveillance
Annual Performance Report - July 2009 through June 2010

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Key program personnel: Maile Ray, MS, Epidemiologist; Kathleen Grattan, MPH, Epidemiologist; Elise Pechter, MPH, CIH, Intervention Coordinator

Overview of Project and Key Accomplishments

Established in 1986, the Occupational Health Surveillance Program (OHSP) conducts surveillance of select work-related injuries and illnesses in Massachusetts. OHSP works with multiple government and community partners to address identified health and safety problems. This project has enabled OHSP to carry out surveillance and prevention activities fundamental to an established program. Aims of the project are to: conduct population-based surveillance using existing state data sources; continue case-based surveillance of serious work-related conditions that require immediate public health response; foster integration of occupational health into ongoing public health activities; and promote collaboration in the Northeast region to improve state occupational health surveillance capacity. An integration highlight this period was inclusion of a **full chapter on occupational health in the first ever “The Health of Massachusetts”** report, a department-wide initiative to educate the public and policy makers about the role of public health. This year, the Fundamental Project has: (*specific outputs are noted in **bold italics**; state reports, publications are available on the OHSP website*)

Population-based surveillance

- Generated **19 OHIs for 2007** and submitted for CSTE; contributed these and other data on to the annual “Dying for Work in Massachusetts” report commemorating Workers’ Memorial Day 2010, prepared by the MA Coalition for Occupational Safety and Health.
- Produced a **multi-year OHI report** based on the most currently available data for each indicator and including indicators by industry, race and ethnicity where feasible. This report is currently under review.
- Took a leading role, with Michigan, in coordinating the multi-state OHI process and providing quality assurance review for the 2005 and 06 **multi-state indicator reports** (www.CSTE.org)
- Published the first ever **surveillance report** of work-related injuries and illnesses among workers in Massachusetts state agencies based on WC indemnity claims. This report has been used to inform implementation of the new Executive Order directing state agencies to develop health and safety programs.
- Published report **Injuries due to fires, flames and hot substances at work in MA.**
- Published report **Use of workers’ compensation for medical care for work-related injuries** based on analysis of 2007 data from MA Behavioral Risk Factor Surveillance System (BRFSS). We also collaborated with Washington and eight other states to finalize a multi-state report **Proportion of Workers who were work-Injured and Payment by Workers’ Compensation Systems-10 States, 2007** (MMWR 59/No 29)
- Initiated analysis of 2002-2009 data from the Occupational Lead Poisoning Registry and development of new methods for using the American Community Survey data as the denominator in calculating illness/injury rates.

- Completed a report ***Use of an Industry Sector Pick List to Collect Industry of Employment in the Massachusetts Behavioral Risk Factor Surveillance System.***
- Developed ***semi-automated coding tool*** to validate coded fields using injury information extracted from narrative text captured in the state's WC eServices system (which OHSP worked to develop as a source of surveillance data in previous period). Findings were presented at the Bureau of Labor Statistics Autocoding Workshop on development of automated tools for coding occupational injury and illness data.

Case-based Surveillance of Burns and Poisonings

- Continued collaboration with the Massachusetts Burn Injury Reporting System (M-BIRS) in conducting surveillance of work-related burn injuries; received and triaged 33 reports of burns affecting 5% or more of body surface area; 14 referred to OSHA and 2 to the Division of Occupational Safety ; completed summary ***analysis of work-related burns for inclusion in the annual M-BIRS report.***
- Piloting referral to OSHA of select work-related amputations identified through workers' compensation records received weekly.

Integrating Occupational Health into Mainstream Public Health

- In collaboration with the MDPH "working on wellness initiative", presented results from the 2008 Worksite Health Improvement Survey of 900 Massachusetts workplaces at the Connecticut Public Health Association meeting (11/09) Annual CSTE meeting (6/10) and the Harvard School of Public Health (2/10). OHSP had worked previously to include questions about OSH in addition to health promotion We are now working with the Center for Promotion of Health in New England Worksites (CPH-NEW) on a more in depth analysis of the survey data to examine coordination between health promotion and OSH activities in Massachusetts worksites. A manuscript is in progress.
- Included questions on industry and occupation (narrative text) in the 2010 MA BRFSS and trained interviews to ask these questions.
- Included questions about workplace safety and health in the employees survey conducted by the MDPH Worksite Wellness Committee.
- Continued to serve as a public health practice rotation site for residents in the Harvard Occupational Environmental Medicine Residency Program. three Harvard residents and one from U Mass Medical Public Health Residency program completed rotations.

Regional Collaboration

- With Connecticut, organized the ***annual Northeast Regional Occupational Health Surveillance conference***, held May 3-4, 2010. Staff from the Northeast states (CN, NY, NJ, NH, MA, VT, ME) and academic partners were joined by representatives from the NE Center for Agricultural and Occupational Health and the Harvard ERC.

Plans for the Future

OHSP has received funding from NIOSH to continue Fundamental Surveillance activities for the next five years. Plans for population-based surveillance include expansion of our collaboration with the Human Resources Division to analyze and evaluate the data from the new system for tracking injuries and illnesses among employees of state agencies. Integration activities will continue to focus on collaboration with the MDPH worksite wellness program and inclusion of occupational information in electronic health records.

**Occupational Health Surveillance Program
Massachusetts Department of Public Health (MDPH)
Teens at Work: Injury Surveillance and Prevention Project (Expanded Surveillance)
Annual Performance Report - July 2009 through June 2010**

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Key program personnel: Beatriz Vautin, MPH, Project Coordinator; Sara Rattigan, MS, Outreach Coordinator

Overview of Project and Key Accomplishments

The Occupational Health Surveillance Program (OHSP) tracks work-related injuries to youths under age 18 using multiple data sources. Follow-up interviews with injured teens are conducted to learn more about factors leading to incidents, health and safety training and injury impact. The surveillance system is designed both to identify sentinel cases for worksite follow-up and to generate summary data to inform broad-based prevention efforts. Prevention activities range from outreach and education activities targeting teens, employers, and schools to the development of public policies to protect working youths. Teens at Work (TAW) Project staff work with a wide range of partners - in other public health programs, other state and federal government agencies, and the community - to address problems identified by the surveillance system. Highlights this period include a well-received *TAW Surveillance Update*, continued collaboration with the MA Cooperative Placement Coordinators Association, and a statewide conference -- *Health and safety: An Employability Skill for Young Workers Today and Tomorrow* -- co-sponsored by the MA Youth Employment and Safety (YES) Team. This year, the TAW Project has: (specific outputs are noted in ***bold italics***)

Case Ascertainment and Case Follow-up

- Identified 167 teens injured at work using workers' compensation records and data from a sample of hospital emergency departments.
- Completed 34 interviews (by mail or phone) with injured teens and referred select cases for worksite follow-up.

Data Analysis and Dissemination

- Completed analysis of 2003-2007 workers' compensation and statewide emergency department data. Findings were summarized in the ***2010 TAW Surveillance Update*** and broadly disseminated (1,400 paper copies and 3,000 electronic copies). This *Update* focused on injuries to teens in nursing homes and sexual harassment in the workplace.
- Mailed out nearly 15,000 TAW ***educational materials*** on request, including requests for over 11,000 materials resulting from mailing the *2010 TAW Surveillance Update*.

Prevention Activities and Collaboration

- Continued to coordinate the MA Youth Employment and Safety (YES) Team which brings together (quarterly) representatives of multiple state and federal government agencies and community partners to coordinate efforts to protect young workers. This year the YES Team held a landmark ***day-long conference*** with over 200 participants from the vocational education, school-to-career and workforce development communities to focus on promoting health and safety as an employability skill for young workers. Approximately half of the participants received training on how to use NIOSH's *Talking Safety* curriculum; the other half participated in workshops on topics ranging from health and safety in the state's work-based learning plan to child labor laws and ergonomics for young workers.

- Continued our collaboration with the MA Association of Cooperative Coordinators to develop, ***Safe Jobs for Youth***, materials to help coordinators evaluate basic worksite health and safety as part of the student placement process. A pilot of the materials is scheduled for Fall 2010.
- Presented the keynote address at YES Team health and safety conference (described above). Also presented at the annual meeting of the Society for Research on Adolescents and the annual conference of the MA Association of Vocational Administrators.
- Continued to participate in a Child Labor Community Task Force, organized by the the Massachusetts Coalition for Occupational Safety and Health (MassCOSH) Teens Lead @ Work project; participated in annual 3-day April leadership conference for teens on workplace health and safety.
- Served on the state's new Vocational Technical Education Advisory Council to the Board of Elementary and Secondary Education and Commissioner of Education.

Impact Evaluation

During this budget period, TAW continued to place an emphasis on evaluating our materials. TAW included feedback questions on forms to request additional materials that were mailed with the *Teens at Work Surveillance Update*. For the 2010 *Update*, every respondent who requested materials completed the evaluation portion of the form (n=73) and indicated they thought the *Update* was good or excellent. Since July 2009 there have been 9,617 hits to the TAW website, averaging around 875 hits per month. These hits increase in the months following outreach activities by TAW.

TAW also tracks intermediate impacts (policy and practice initiatives undertaken by community and government partners that can in part be attributed to TAW activities) to improve young worker safety and health. This year, the workforce development agency has played a very active role in the YES Team and has required organizations that receive funds for youth job programs to take steps to provide health and safety training using the NIOSH *Talking Safety* curriculum. The MDPH Youth Violence Program, also a member of the YES Team, has enlisted MassCOSH to provide training about workplace health and safety and sexual harassment at work to community organizations receiving public health funds for programs to prevent youth violence.

TAW also uses surveillance data to track declines in teen occupational injury rates over time. Since the inception of the TAW project in 1993, there has been a 61% decrease in the rate of work-related injuries to teens less than 18 years of age for which workers' compensation lost time claims have been filed. This decline is statistically significant and far exceeds a 37% decline in claims filed by adults 18 years and older during the same time period.

Plans for the future

The TAW project has successfully competed for NIOSH funding to continue and expand the TAW project over the next five years. We will expand the scope of our population-based surveillance to include young adult workers (18 - 24 years of age) and pilot case based surveillance of young adults with burn and amputation injuries. In the coming year, we will work with the Department of Elementary and Secondary Education to implement reporting of injuries to vocational school students. TAW will also finalize the cooperative placement coordinator materials and adapt these materials for other job placement professionals. The YES Team will also continue to pursue building the state infrastructure for incorporating health and safety training in workforce development programs.

**Occupational Health Surveillance Program
Massachusetts Department of Public Health
Surveillance and Prevention of Sharps Injuries to Hospital Workers (Expanded Surveillance)
Annual Performance Report – July 2009 through June 2010**

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Key Program Personnel: Angela Laramie, MPH, Project Coordinator; Vivian Pun, MPH, Research Assistant

Overview of Project and Key Accomplishments

State law in Massachusetts requires hospitals licensed by the Massachusetts Department of Public Health (MDPH) to record sharps injuries among employees and to report these injuries to MDPH on an annual basis. The Massachusetts Sharps Injury Surveillance System (MSISS) collects, analyzes and disseminates data on sharps injuries reported by hospitals. Project staff provides technical assistance to individual hospitals regarding sharps injury surveillance and prevention and work with stakeholders within MDPH and the health care industry to promote prevention activities.

MSISS provides both statewide and hospital specific data essential to guide prevention efforts. A highlight this year was completion of a manuscript documenting a decline in injury rates over time using FTEs as rate denominators. Decreased rates were observed for injuries with hypodermic needles/syringes and vacuum tube blood collection sets, devices for which sharps injury prevention features are widely available. This pattern was not observed for injuries involving suture needles. Findings, while important evidence of public health impact, also underscore the need to address the continued use of conventional hypodermic needles, in spite of the availability of alternative devices with sharps injury prevention features, as well as problems with alternative devices. This year, MSISS has: (specific project outputs are highlighted in ***bold italics***).

Data Collection

- Collected data on over 3,000 sharps injuries from all 99 MDPH licensed hospitals maintaining reporting by 100% of hospitals for the 9th consecutive year; 100% of the data for 2009 was reported electronically using a simple MSEXcel tool developed by MSISS.
- ***Added a new data element*** for mechanism of the sharps injury prevention feature on device involved in the incident on the Annual Summary of Sharps injury form. This ***revised Annual Form*** was distributed to all hospitals and posted on the OHSP web site.
- ***Updated pick lists*** to be used by hospitals in maintaining their Sharps Logs and provided these electronically to hospitals to facilitate standard data collection.
- Developed new follow-up protocols and ***automated methods for coding***, allowing for more than 85% of the data to be coded electronically, which significantly shortens the lag between initial data submission and preparation of data for analysis.
- Completed a ***manual documenting the surveillance system and coding protocols*** which will be updated as necessary to reflect any future changes in the surveillance system.

Data Analysis and Dissemination

- Completed and distributed ***annual reports of findings for 2006, 2007 and 2008*** to all hospitals; reports were also posted on the web. The report of findings from 2009 data is currently in process. Reports have been posted on NIOSH and OSHA web sites and have been circulated by WHO.

- Presented findings and at local state, national and international meetings including the annual CSTE conference, the Healthcare Employee Health Nurses Association of New England, the annual meeting of the American Public Health Association, and a WHO conference. Used sharps data as teaching tool in course on occupational epidemiology and policy at the Harvard School of Public Health.
- Completed the **manuscript examining trends in sharps injury rates by hospital and device characteristics**. This manuscript has been submitted for publication.

Intervention and Prevention

- Provided technical assistance to hospitals via phone and email on request.
- Provided guidance to all hospitals on compliance with the regulatory provision for exemption from the use of sharps injury prevention technology as well as a process and template for developing an inventory of sharps devices.
- Provided hospital specific data to the MDPH Division of Health Care Quality that were used in conducting hospital licensure surveys. These data are now routinely provided to survey staff to inform their hospital site visits.

Collaborations

- Convened the Sharps Injury Advisory Committee three times (11/09, 1/10, & 07/10).
- Participated in the inter-departmental working group to address community disposal of sharps injuries.
- Collaborated with the University of Massachusetts at Lowell on a research project examining exposure to sharps and other hazards in the home care setting. As part of this project, contributed to the following publication:

Kim H, Kriebel D, Quinn MM, Davis L. The Snowman: A Model of Injuries and Near-Misses for the Prevention of Sharps Injuries. *Am J Ind Med* 2010 Jun 21. PMID: 20568269.

Plans for the future

OHSP has successfully competed for NIOSH funding to continue and expand the MSISS. Sharps injury surveillance will be expanded to include injuries to workers in public hospitals, and we will explore use of social media tools to enhance information sharing among all Massachusetts hospitals. Examination of surveillance data by brand and device type will be used to target outreach to device manufacturers. While OHSP will continue to place primary emphasis on reducing sharps injuries, we will also build on our successful partnerships with hospitals and hospital workers to explore approaches for surveillance and prevention of musculoskeletal disorders (MSD) in hospital workers. We will use available administrative data sets and input from hospitals to characterize MSDs and safety patient handling programs in acute care hospitals and establish a hospital ergonomic task force to develop MSD surveillance and prevention recommendations.

**Occupational Health Surveillance Program
Massachusetts Department of Public Health
Occupational Health Surveillance through Community Health Centers (Expanded Surveillance)
Annual Performance Report – July 2009 through June 2010**

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Brief Overview of Project and Key Accomplishments

OHSP is committed to developing innovative approaches for gathering data on occupational injuries and illnesses among immigrant and minority workers that are not well documented in conventional occupational health data sources. The Community Health Center (CHC) project builds on results from OHSP's previous CHC study, which surveyed over 1400 patients at five Massachusetts CHCs, identifying substantial health and safety needs and lack of awareness of health and safety resources on the part of patients. Providers also lacked health and safety resources. The current project has partnered OHSP with four CHCs to build their capacity to identify and address the occupational health needs of their patients. Project staff is working with CHCs to modify their health records systems to capture patient occupation and potential work-relatedness of diagnosed conditions, improve compliance with state reporting requirements for work-related conditions, promote community-based surveillance of occupational health, and increase access to occupational health resources for clinicians and patients. OHSP has worked with the four CHCs sequentially over the project period. This period, OHSP has completed the project in the final two clinics. Both new CHCs have modified their electronic health record systems (EHRs) to collect occupation information and suspected work-relatedness. They use two different EHR programs that are common in CHCs in this region.

One CHC identified 40 cases of suspected work-related conditions. The majority were sprains and strains, but other acute injuries were identified, and several illnesses were also found, including dermatitis, allergic rhinitis, and nasal vestibulitis. The most common occupations represented in this list were nursing assistant, food preparer, and cleaning worker. The languages spoken by the greatest numbers of the patients were English, Spanish, Portuguese, and Haitian Creole, which reflect the most common languages of patients seen at this site overall. All diagnoses were made by the physician who led the partnership at this CHC; her colleagues referred possible work-related issues to her. The partnership with this CHC has led to the routine collection of patient occupation, not just at the CHC, but at Central Registration for the entire hospital system with which the CHC is affiliated, including two hospitals and at least 10 health centers. An occupation field had existed in the system's registration software but was rarely used. Project staff trained the Director of Central Registration in the collection of this information, and the Director, who is strongly committed to improving occupational health due to family experiences, in turn trained her staff.

The other CHC identified over 90 cases as work-related. However, the EHR as programmed for this project linked the work-relatedness variable to the primary complaint for each patient visit, which was not necessarily the condition thought to be associated with work. The information technology specialist for this CHC has since designed a feasible approach for linking work-relatedness to the associated diagnosis. This approach can be applied by other CHCs that use the same EHR.

The project also involves training and the provision of clinical and patient education resources for the participating CHCs. This period, a training session for providers at one CHC was held on injuries affecting nursing assistants, who comprise a large proportion of that center's patient population. The baseline survey conducted as a needs assessment at the second CHC indicated a broad need for information about workers' compensation benefits. In response, the project organized a training for all ambulatory care social workers at the CHC's health system on improving access to these benefits for their clients. The training was led by a leader of a local occupational health advocacy organization that serves as a resource for vulnerable workers, and by a workers' compensation attorney. Participating social workers stated that they frequently see clients with disabling work-related conditions and that these are some of the cases that they feel least qualified to handle well.

Key Lessons Learned

This period, OHSP has learned about

- Specific mechanisms for adapting two major EHRs to collect data on patient occupation and suspected work-relatedness of diagnosed conditions
- The feasibility of providers at a CHC to refer their patients with potential occupational conditions to one physician with a particular interest in occupational medicine, and to rely on that physician for documenting such diagnoses
- The role of social workers in helping patients suffering from disabling work-related conditions and the importance of education these professionals about available resources and benefits
- The importance of a leader in Registration to understand and value the importance of collecting patient occupation in order to motivate staff to collect this information

Related Initiatives

Work on this project has led to several related initiatives undertaken by project staff:

- Interactions with CHC staff have revealed a broad range of obstacles to use of workers' compensation insurance. To learn more about the prevalence of these issues, OHSP distributed a questionnaire on this topic for medical directors and chief financial officers of CHCs across the state. We have received 63 completed questionnaires and tabulated the data. These are being supplemented by in-depth key informant interviews. A report on the survey results has been completed with input by leaders of the Massachusetts League of Community Health Center and is being finalized. An article synthesizing the results from the survey and interviews is being prepared.
- CHCs, like many other health facilities and providers, are in the process of transitioning to EHRs. Our experience in working with CHCs to amend these systems to include new variables on occupation and work-relatedness has underscored the importance of working to influence this process at a more central level. The principal investigator is participating in a MDPH working group addressing the public health functionality of EHRs. OHSP has hosted a presentation by a health informatics specialist on occupational health data capabilities of currently available EHRs and has arranged for a seminar by the leader of the CHC user group which achieved improvements via the vendor of their EHR.

Plans for the Future

OHSP is exploring continued collaboration with one of the participating CHCs. This initiative would focus on the identification and management of work-related asthma.

**Occupational Health Surveillance Program
Massachusetts Department of Public Health
Fatality Assessment Control and Evaluation (FACE) Project (Expanded Surveillance)
Annual Performance Report - July 2009 through June 2010**

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Key project personnel: Michael Fiore, MS, Project Coordinator; Elise Pechter, MPH, CIH, Investigator; Kathleen Grattan, MPH, Epidemiologist

Overview of Project and Key Accomplishments

Since 1991, the Occupational Health Surveillance Program (OHSP) has tracked fatal occupational injuries and conducted research oriented investigations of targeted deaths using the NIOSH FACE model. Targeted incidents include deaths of young workers, Hispanics, immigrants, and public sector employees and deaths involving machines and work zones. Each fatality investigation results in a FACE report that includes recommendations to prevent similar incidents. FACE reports as well as shorter *FACE Facts* and summary data reports are disseminated widely to stakeholders throughout the Commonwealth. FACE staff work with a wide range of partners to promote prevention efforts. This year, the Massachusetts FACE Project has: (specific outputs are noted in **bold italics**).

Surveillance and Investigations

- Maintained our 24-hour Occupational Fatality Hotline, newspaper clipping service and other avenues for timely notification of fatalities.
- Identified and documented 43 fatal injuries and initiated nine investigations.
- Completed five FACE investigations: two public sector, two machine-related, and one immigrant fatality.

Material Development

- Finalized 11 **FACE reports**.
- Completed one **FACE Facts: City Laborer Dies after Falling Off a Moving Refuse Collection Truck** (English, Spanish, Portuguese); one other **FACE Facts is in review: City Laborer Struck and Killed by a Motor Vehicle while Closing a Water Gate Valve**; and two previously completed **FACE Facts** were translated into Spanish and Portuguese and disseminated.
- Collaborated with the MA Census of Fatal Occupational Injuries to issue the **Massachusetts Fatality Update 2007-2008**.
- MA FACE had a FACE report highlighted in the **National Safety Council's Health and Safety Magazine: Window Washer Killed in Roof Fall**.

Materials Dissemination

- Provided final MA FACE reports to individuals involved in the incidents as well as victims' families and disseminated reports broadly to the community using **mailing databases** specifically developed for each incident (to between 130-250 companies per incident) as well as a core list of health and safety stakeholders.
- Disseminated the *Massachusetts Fatality Update 2007 -2008* to over 2,000 individuals, e.g. police, fire and health departments, town clerks, health/safety professionals, employers, medical examiners, and unions.
- Disseminated *FACE Facts on the hazard of fall from the back of a refuse collection truck* to 498 municipalities, refuse collection companies, waste management associations, and health

and safety professionals with requests for than 499 copies. Developed mailing databases for the dissemination of the *FACE Facts* on hazards of being stuck by passing vehicles during short-term in roadway work.

Prevention Activities and Collaborations

- Collaborated with the Office of Public Health Strategy and Communications (OPHSC) to contribute information used in a ***Spanish occupational health and safety episode*** for the Health Spot series aired on the local Telemundo TV station and the video is also posted on the MDPH Web site.
- Held two meetings of the MA Working Group on Fall Prevention in construction that is currently focusing on updating fall prevention materials for residential contractors.
- Presented at the Massachusetts Association of General Contractors, the Greater Boston Field Federal Safety and Health Council, and Workers' Memorial Day event.
- Lectured, using FACE material, at two Harvard School of Public Health Courses: Principles of Injury Control; and Occupational Safety and Injury Prevention.
- Provided technical assistance to Protección en Construcción: Lawrence Latino Safety Partnership project, a community-initiated project studying area Latino construction workers with a focus on construction falls and silica exposure.
- Continued participation in the Floor Finishing Task Force with local industry, union, and community stakeholders promoting changes to reduce hazards of floor finishing. State legislation to ban use of highly flammable floor finishing products was passed in July 2010.

Plans for the future

The Occupational Health Surveillance Program has successfully competed for NIOSH funding to continue the Massachusetts FACE Project over the next five years. We will continue to investigate deaths of workers under age 18, Hispanic and other immigrant workers and public employees, as well as machine related deaths. As new targets for investigation we will expand the young worker target to include young adults (ages 18-24) and add fatal falls in residential construction and deaths associated with green/renewable energy production. We will expand our work with newcomer communities in developing and implementing recommendations to prevent immigrant worker deaths and continue collaboration with community and government stakeholders to prevent falls in the residential construction industry.

**Occupational Health Surveillance Program
Massachusetts Department of Public Health (MDPH)
Surveillance and Prevention of Work-related Asthma in MA (Expanded Surveillance)
Annual Performance Report - July 2009 through June 2010**

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Overview of Project and Key Accomplishments

The Occupational Health Surveillance Program (OHSP) has implemented statewide surveillance of work-related asthma (WRA) following the SENSOR model since 1993. The WRA surveillance project uses multiple data sources to identify sentinel cases of WRA, conducts interviews to confirm and characterize cases, and analyzes data from both the sentinel system and the Behavioral Risk Factor Surveillance System (BRFSS) and disseminates findings. Project staff conduct intervention activities and collaborate with government and community stakeholders to promote prevention. A highlight this year is our continued success in incorporating consideration of adult and work-related asthma into the Department's broader asthma prevention and control efforts. This year, the Massachusetts WRA surveillance project has (specific outputs are noted in **bold italics**):

Case Ascertainment and Follow-up

- Identified 93 possible cases of WRA from healthcare provider reports, statewide emergency department and inpatient hospitalization data, and workers' compensation claims data; follow-up interviews are in progress.

Data Analysis and Dissemination

- Published two issues of the **Occupational Lung Disease Bulletin (OLDB)** and disseminated these to more than 1,600 healthcare providers. Hundreds more were disseminated electronically by state, regional, and national partners.
- Conducted an in-depth analysis of WRA surveillance data from 1995-2008 examining factors associated with exposure and employment status after diagnosis with WRA. Preliminary findings were presented at the 2010 Annual Council of State and Territorial Epidemiologists Conference and will be included in an upcoming edition of the OLDB. Prompted by this analysis, changes to the questionnaire used to interview cases are being considered.
- Collaborated with the OHSP Fundamental project to develop and include questions on industry and occupation (narrative text) in the 2010 MA BRFSS Survey and trained interviewers to ask these questions. These data will be used to examine prevalence of WRA and non-WRA and other information obtained from the Adult Asthma Call-back Survey by industry and occupation.

Intervention and Prevention Activities

- Conducted 4 worksite investigations, and provided reports with findings and recommendations to employers, workers and reporting health care providers. These included an investigation of a cluster of cases in a synthetic foam manufacturing facility focusing on diamines and anhydrides added to foam to speed curing. These site visits served as training experiences for medical residents from Harvard School of Public Health and UMass Medical School.

- Continued activities to reduce the use of hazardous cleaning products that contain asthmagens, in a variety of settings.
 - Coauthored ***an article about a successful local campaign to reduce the use of hazardous cleaning chemicals by unionized, Spanish-speaking employees at a large transportation center.*** Public Health Reports 2009, Suppl 1, Vol 124:45-52.
 - Participated in a disinfectant working group that was funded by the Toxics Use Reduction Institute (TURI) to develop training materials about how to safely clean schools.
 - Participated with the state procurement agency in developing guidelines and reviewing applications from companies seeking state contracts for cleaning services to assure safe work practices and green purchasing.
 - Finalized and printed ***Spanish and Portuguese language versions of a brochure about the hazards of cleaning and prevention of asthma.***
 - OHSP had successfully worked with partners in altering Green Seal's criteria for industrial and institutional cleaning products (GS-37) to prohibit use of chemical ingredients that cause asthma by sensitization; this new 3rd party certification standard went into effect this year.

Collaboration with Government and Community Stakeholders

- Continued collaboration and integration within MDPH on asthma through participation in the MDPH Internal Asthma Working Group, collaboration with programs on school health, tobacco control, environmental health and leadership on several goals in the Massachusetts *Strategic Plan for Asthma*.
- Organized the most recent ***summit of the Massachusetts Asthma Action Partnership (MAAP), May 25, 2010, focusing on work-related asthma.***
- Participated in state and regional asthma activities including the New England Asthma Regional Council (ARC) meeting (4/8/10). BRFSS findings about the prevalence of WRA were presented.
- Collaborated with ARC and UMass Lowell Center for Sustainable Production, reviewing and contributing to ***Asthma: A Business Case for Employers and Health Care Purchasers***, which provides insight to employers about the importance of paying attention to asthma among their employees (www.sustainableproduction.org)
- Collaborated with the TURI in disseminating and promoting a report on the use and release of asthmagens in Massachusetts. Also presented ***a workshop at the Toxic Use Reduction Planners Continuing Education Conference (4/14/10)***
- Participated in the WRA surveillance states meeting in Farmington CT, along with NIOSH and representatives from CA, MI, NY, and NJ.
- Participated in national Asthma Call-back Workgroup and the WRA section sub-workgroup. Co-led the group's effort to revise the WRA section of the 2011 survey: piloted changes and solicited feedback at the WRA surveillance states meeting and the NCEH National Asthma Partners Meeting. This effort is ongoing.

Plans for the Future

The WRA project has successfully competed for NIOSH funding to continue and expand the WRA project over the next five years. We will continue with case-based and population-based surveillance activities, publication of the OLDB and collaborations with internal and external partners to promote efforts to address WRA. Multiple years of data from the MA BRFSS including the Adult Asthma Call-back Survey will be analyzed to produce more robust population-based estimates of WRA and to explore industries and occupations that may pose risks. We will continue to focus intervention efforts on reducing the risk of asthma associated with cleaning products and practices in healthcare and schools.