

Annual Report of Accomplishments and Outcomes, July 2011- June 2012
Massachusetts Department of Public Health, Expanded Occupational
Health Surveillance in MA, Fundamental Project

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The aim of the project is to reduce the incidence of work-related injuries and illness in Massachusetts by:

- **Generating and disseminating state occupational health indicators**
- **Conducting more extensive analysis of available population-based data sets and disseminating findings**
- **Conducting sentinel case surveillance and follow-up of serious occupational health events**
- **Maintaining working relationships with stakeholders to promote use of surveillance findings for prevention**
- **Integrating occupational health with other ongoing public health activities, and**
- **Promoting collaboration among Northeastern states to improve state occupational health surveillance capacity in the region**

MAJOR ACCOMPLISHMENTS AND OUTCOMES

A key intermediate outcome this period was successful referral to OSHA of all (59) work-related amputations identified through workers' compensation records resulting in 34 inspections, with citations issued in 20. Another important outcome was a new collaboration with the Massachusetts Department of Industrial Accidents (DIA) and the League of Community Health Centers to increase use of workers' compensation by CHCs that serve low income populations. In July 2012, MDIA provided training about workers' compensation to CHC fiscal directors at four regional training meetings throughout the state. MDIA, with OHSP input, has also developed new educational materials on workers' compensation for workers in multiple languages, to be disseminated through CHCs. Additional highlights from the past year are described below.

Occupational health indicators (OHIs)

The Occupational Health Surveillance Program (OHSP) generated twenty Massachusetts OHIs for 2009 and submitted these to NIOSH/CSTS for inclusion in the CSTE multi-state OHI report. We completed an annual state OHI report based on most currently available data for the 14 CSTE recommended health outcome indicators as well as two state specific indicators: sharps injuries to hospital workers and work-related injuries to teens treated in ED departments. This report will be made available on the OHSP website with a more interactive feature (i.e., visual presentation of charts and graphs). OHI and other recent findings were provided to the Massachusetts Coalition for Occupational Safety and Health for inclusion in their annual report "Dying for the Job" released on Workers' Memorial Day.

Population-based surveillance

OHSP successfully demonstrated the significance of including industry and occupation (I/O) information in the MA BRFSS. Using I/O data collected during 2010 and coded with the assistance of NIOSH, we completed an analysis of asthma prevalence comparing service workers with other workers and presented the results at CSTE Annual Conference (6/12). On

invitation, this work, carried out in conjunction with the OHSP WRA project, was also presented to the MA Asthma Prevention Group and BRFSS data user group where it was received with enthusiasm. A factsheet on the use of workers' compensation based on analysis of 2007 and 2010 MA BRFSS data is in preparation. Findings were also presented to staff of the Massachusetts Department of Industrial Accidents (MDIA).

OHSP is continuing to work with the Human Resources Division to develop approaches to using the Workers' compensation eServices data base for targeting prevention efforts in state agencies. We are working to develop standard reports for use by agency health and safety committees and continuing strategies to measure and improve data quality. We also continue to participate in the Governor's Advisory Board for this effort.

Fundamental project staff have also collaborated with staff of other projects on several population-based surveillance initiatives, including:

- A preliminary analysis of workers' compensation data examining musculoskeletal disorders among hospital workers, presented to the newly formed Hospital Ergonomics Task Force; a more extensive analysis is underway.
- Analysis of Emergency Department data for work related injuries among young adult workers (18 to 24 yrs) from 2005 to 2010. Injury rates by geographical area were estimated. The results will be included in an upcoming report.

We also analyzed hospital data and included findings in comments submitted to OSHA regarding proposed changes in their record-keeping policy expanding employer requirements to actively report serious injuries and illnesses to the OSHA.

In follow-up to our previously funded Community Health Center Project, we are collaborating with Cambridge Health Alliance and NIOSH on a study to code and analyze 75,000 patient occupation titles collected at registration in 2010. Initial findings were included in NIOSH comments presented to the Health IT Standards Committee of the Office of the National Coordinator for Health IT (May, 2012).

Case-based surveillance of selected serious occupational health conditions

OHSP continued collaboration with Massachusetts Burn Injury Reporting System (M-BIRS) to conduct surveillance of work-related burns. We received and triaged 49 reports of burns affecting 5% or more of body surface area, of which 13 were referred to OSHA for follow-up, 5 to other agencies. We also completed a summary analysis of work-related burns for inclusion in the annual M-BIRS Report, posted online.

As noted above, we implemented successful referral to OSHA of all work-related amputations identified through workers' compensation records. We also contributed substantially to "Guidance: Public Health Referrals to OSHA," a product of the Occupational Health Subcommittee of CSTE, and presented the recommended guidance to OSHA Regional Administrators in Washington DC (12/6/11).

OHSP is also facilitating collaboration between the adult and childhood poisoning lead registries in the Department of Labor Standards (DLS) and MDPH, respectively, to develop a centralized web-based system to obtain data electronically from laboratories.

Collaboration with stakeholders

We continued taking the lead on the Massachusetts Occupational Health and Safety Team (MOHST), established last year, bringing together representatives of state and federal agencies

quarterly to coordinate efforts to improve worker health and safety in MA. This year, MOHST collaborated in developing and disseminating new FACE materials on health and safety responsibilities of temporary agencies and state efforts to promote the national *Campaign to Prevent Falls in Construction*.

OHSP has continued to serve as public health practice rotation site for residents in the Harvard Occupational Environmental Medicine Residency Program.

Integration of occupational health into ongoing public health activities

We have placed significant emphasis this year on promoting inclusion of I/O information in the BRFSS. In collaboration with the work-related asthma project, we included I/O questions in the 2012 MA BRFSS, reversing order of the questions; modified the interviewer training manual; coordinated with MA BRFSS and vendor to train interviewers on I/O questions, monitored interviews in real time and provided feedback. I/O questions have been also selected by the MA BRFSS program for inclusion in cell phone version of the 2012 survey. Additionally, we have provided the MA BRFSS program with a written introduction to the I/O variables in BRFSS, to be included in MA BRFSS documentation made available for public use.

OHSP is also working to promote incorporation of I/O in the BRFSS nationally. We have provided input to NIOSH on our experience in preparing for implementation of NIOSH's national BRFSS initiative in 2013. OHSP staff is also participating in the newly established CSTE BRFSS I/O Working Group.

This year we have worked with academic and community partners to promote consideration of working conditions in the public health obesity agenda. We presented our partners' findings from focus groups with low income workers on the impact of work on diet and exercise at the CSTE annual conference, and a state forum on the topic is planned for next fall. OHSP staff continues to serve on Advisory Boards to two NIOSH funded centers on "total worker health."

OHSP is working with CSTE and others to promote inclusion of occupational information in and other data sources. OHSP comments supporting inclusion of occupational information in EHRs were included in the MPDH response to CMS proposed rules on Meaningful Use Stage 2.

With other Expanded Program projects, this year has increased use of social media to disseminate occupational health information including the MDPH twitter site, and blog. We were singled out among MDPH programs for our successful efforts in this arena.

Regional collaboration

With Connecticut, we held the 21st annual Northeast Regional Occupational Health Surveillance conference, in Connecticut, May 7-8, 2012, attended by 45 representatives from the NE states and NIOSH research centers in the region.

Plans for next year

OHSP will continue with case-based and population-based surveillance activities, and collaborations with internal and external partners to promote efforts to address identified occupational health problems. We have successfully competed for a CSTE fellow, who will join the staff and assist in carrying out our work. More specifically, we will pursue use of poison control data for case-based surveillance, finalize reports on occupational health disparities and on adult lead poisoning, complete a new analysis of 2 years of MA BRFSS data to document worker health status by I/O and continue efforts to document work-related injuries to public employees using workers' compensation and HRD data.

Annual Report of Accomplishments and Outcomes, July 2011- June 2012
Massachusetts Department of Public Health, Expanded Occupational Health Surveillance
in MA, Teens at Work Project

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The overall aim of the Teens at Work: Injury Surveillance Project (TAW) is to reduce the incidence of work-related injuries to young workers by:

- **Continuing case ascertainment using multiple data sources**
- **Conducting case follow-up with injured youths**
- **Analyzing surveillance data and disseminating findings**
- **Conducting and fostering intervention and prevention activities, and**
- **Collaborating with government and community partners to promote use of surveillance findings for prevention.**

Since 1993, TAW had conducted a range of surveillance and outreach activities that aim to make work safer for workers under age 18. This project period, we are expanding our surveillance efforts to include young adult workers (18-24 years of age).

MAJOR ACCOMPLISHMENTS AND OUTCOMES

A key intermediate outcome this period was the community response to the second annual “Safe Jobs for Youth Poster Contest,” sponsored in collaboration with the MA YES Team and the Massachusetts Coalition for Occupational Safety and Health. This year’s contest surpassed the first in the number of contest entries (increased 50%), the number of youth judging groups (doubled), and media publicity, which expanded to include 300 copies of the winning poster, in both English and Spanish, on subways and buses throughout the Greater Boston and Springfield areas. Additional highlights from the past year are described below.

Case ascertainment and follow-up

TAW identified 188 non-fatal injuries to workers under age 18 using statewide workers’ compensation data together with emergency department data from a sample of hospitals. Educational materials were mailed to all employers of injured teens. Interviews were completed with 39 of the injured workers from which 11 cases were referred for worksite follow-up. Two young adult workers were fatality injured at work: one was a motor vehicle related death and the other involved a youth working with his father. . TAW and FACE continued to collaborate in addressing injuries to vocational students and completed and disseminated a report describing the investigation of two separate non-fatal electric shocks to students attending the same vocational school.

Data analysis and dissemination

A [TAW Surveillance Update](#) including surveillance findings for 2005-2009 was finalized and disseminated to schools, employers, unions and other stakeholders, and is currently featured in the “Spotlights” section of NIOSH’s Young Worker Safety and Health [webpage](#). This year’s *Update* focused on the role parents play in keeping teens safe at work, and included findings on trends of injuries to working teens in MA. Findings from our *Surveillance Update* were cited in the National Consumer League’s “Five Most Dangerous Jobs for Teens 2012” [report](#), and a

recent NIOSH Science Blog [post](#), mentioned the TAW parent educational materials highlighted in our *Update*.

TAW included a Massachusetts specific occupational health indicator for teen injuries based on statewide emergency department data (2009) in the report, *Occupational Health Indicators for Massachusetts*, to be released in 2012.

Prevention activities and collaborations

Safe Jobs for Youth Guide

Verbal feedback and web hits have been positive for TAW's [Safe Jobs for Youth](#) guide, released last June, to help MA vocational school job placement coordinators assess the safety of student worksites. In addition, a Wisconsin Cooperative Educational Service [agency](#) serving 42 public school districts is using the guide as a model in developing their own. We have also received word through our workforce investment board partners that the guide is being used in youth summer job placements.

MA YES Team & Poster Contest

TAW continued to lead the MA Youth Employment and Safety [\(YES\) Team](#) which brings together representatives of multiple government agencies quarterly to coordinate government efforts to protect youth at work. This year, the YES Team together with the Massachusetts Coalition for Occupational Safety and Health sponsored the second Massachusetts *Safe Jobs for Youth Poster Contest* for teens. Nearly 120 teen poster entries were received—a 50% increase over last year—and over 70 youth ages 10 to 18 were engaged in educational sessions to judge the finalist posters; teen judges represented six youth groups and school classes across the state. Winners were announced at an [awards ceremony](#) in April. Copies of the 1st place winning poster were disseminated to Massachusetts schools and youth organizations, and displayed (English and Spanish versions) on [public transportation](#) in the greater Boston and Springfield areas from May-July. Social media (Twitter, Facebook, blogs) was used throughout by MDPH and our partners to announce the contest and promote the winning posters. The winning poster and runners up may be viewed on the OHSP-TAW poster contest webpage.

Summer OHIP Interns

Two Occupational Health Internship Program (OHIP) Interns were hosted at TAW last summer. In addition to participating in regular surveillance/outreach activities, the interns conducted and analyzed in-person interviews with young workers in a Boston summer jobs program and developed three highly tailored safety brochures based on interview results for teens employed in 1) *Child Care Settings*; 2) *Day Camp Settings*; and 3) *Grounds Maintenance*. These brochures were disseminated this summer by the state's workforce development agency to summer jobs programs. The interns also developed a draft workplace sexual harassment curriculum to serve as a supplement to *Talking Safety*, which is currently being finalized.

TAW Website

All our materials were posted on the TAW website. TAW routinely tracks use of our data and materials. From July 2011 through June 2012, an average of 1,100 materials were downloaded from the TAW website per month, and on average there were 72 hits per month to the *Talking Safety* curriculum page, 55 hits per month to the *Safe Jobs for Youth Guide* page, and 346 hits per month to the *Poster Contest* page.

Survey of MA Vocational Schools

TAW developed an electronic survey to assess to what degree student learner and vocational school relationships with employer worksites are being impacted by the 2010 federal Child Labor Law revisions that restrict a minor's ability to participate in the use of power-driven patient hoists. The survey was distributed to all Massachusetts Co-op Coordinators in May and survey responses were discussed with vocational school health care instructors in June. Final results will be shared with Massachusetts vocational schools in Fall 2012.

Plans for the future

The TAW Project will continue to conduct surveillance and to serve as a critical vehicle for enhancing collaboration across many agencies and organizations, institutionalizing capacity to protect young workers in MA. Specifically we will:

- Publish the *Annual TAW Surveillance Update*, and industry-specific fact sheets;
- Analyze medical records received from EDs for all injured teens <18 to obtain additional information about occupation and industry;
- Release summary findings on injuries to young adult workers and begin mail follow-up surveys of burns and amputations in this age group;
- Increase outreach to young Hispanic workers;
- Develop and disseminate a survey through the state's workforce development agency to learn more about how *Safe Jobs for Youth* is being used for non-vocational student placements;
- Continue to coordinate the Massachusetts YES team and outreach through social media including the 'Safe Jobs for Youth' Poster Contest.

Presentations

In April, TAW staff presented a workshop at the annual Leadership Education Acton to Promote Safety for Young Workers (LEAPS) Academy, hosted by the Massachusetts Coalition for Occupational Safety and Health and sponsored, in part, by the MDPH workplace violence program.

In June, TAW staff presented at the Massachusetts Association for Vocational Administrator's (MAVA) annual "Connecting for Success" conference (See Survey of Vocational Schools above.)

Annual Report of Accomplishments and Outcomes, July 2011- June 2012
Massachusetts Department of Public Health (MDPH), Expanded Occupational Health
Surveillance in MA, FACE Project

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The overarching aim of the Massachusetts FACE project is to reduce the incidence of fatal occupational injuries by:

- **Using multiple data sources to rapidly identify all fatal occupational injuries**
- **Conducting fatality investigations to identify risk factors and prevention strategies**
- **Disseminating prevention recommendations to stakeholders who can intervene**
- **Planning and conducting targeted prevention activities**

MAJOR ACCOMPLISHMENTS AND OUTCOMES

A key intermediate outcome this period was the collaborative development and secondary dissemination of educational materials on temporary worker health and safety. The rights of temporary workers are currently a priority issue in the state. FACE with input from with the Department of Labor Standards (DLS) and other members of the Massachusetts Occupational Health and Safety Team (see below) and community partners developed a fact sheet (in English, Spanish and Portuguese) outlining the health and safety responsibilities of temporary agencies. DLS, which licenses temporary agencies, disseminated the fact sheet electronically to all agencies in the state. It was disseminated nationally by the American Staffing Association via their newsletter and website. The information was also provided to community partners conducting a successful legislative campaign to promote increased protections for temporary workers. Additional highlights this period are described below.

Surveillance and investigations

MA FACE identified and documented 40 fatal injuries through our 24-hour Occupational Fatality Hotline, newspaper clipping service and other sources used to ensure timely notification of fatalities. This year, we have also piloted new protocols to collect union status and ambiguous work-relationship for all fatal occupational injuries identified. We are collaborating with OSHA Region I, the state Attorney General's Office, the state Federation of Labor and the Massachusetts Coalition for Occupational Safety and Health in this effort.

Incidents targeted for FACE investigation included deaths: of workers under 25 years of age; of foreign-born workers; due falls in residential construction; involving machines; in energy production industries (with a focus on green energy); and of public sector employees. Seven of twelve investigations initiated were completed. These included:

Three involving machine or motor vehicles:

- a refuse collection worker who was backed over by a refuse collection truck;
- a truck driver who was rotating tires and was struck by a ring when the multi-piece rim wheel separated; and
- a temporary worker who was pulled into a chick pea grinding machine while cleaning it. MA FACE collaborated with the DPH Food Protection Program to conduct a timely joint investigation of this incident.

Two public sector worker deaths:

- a crossing guard struck by a vehicle while crossing children; and
- a city employee working from a raised truck mounted aerial lift struck by a tractor trailer.

One fatal fall:

- an arborist fell from a tree after being lifted into the tree by a crane.

This year we revised our protocols for notifying next of kin when an investigation is successfully initiated. In all cases, a letter was sent to next of kin, usually family members, immediately after a site visit was performed. This letter expresses condolences, describes the FACE project, informs them that an investigation has been initiated, and provides contact information for questions or concerns.

Development and dissemination of prevention recommendations

Six [MA FACE reports](#) were finalized and disseminated to individuals involved in the incidents as well as victims' families. The reports were also disseminated broadly to the community using mailing databases specifically developed for each incident (between 130-250 companies per incident) as well as a core list of health and safety stakeholders.

We also developed and disseminated two shorter *FACE Facts*:

1. [Temporary Agencies and Worksite Employers Share Responsibilities for Keeping Temporary Workers Safe](#) (see above.)
2. [Bathtub Refinisher Dies from Exposure to Methylene Chloride](#). This *FACE Facts* was based on the Michigan fact sheet and the MMWR article on this same hazard.

MA FACE also collaborated with others in developing some additional outputs. We worked with our state CFOI program to produce two data reports:

1. [Fatal Injuries at Work - Massachusetts Fatality Update, 2010](#); disseminated to over 2,700 individuals, including police, fire, health, and public works departments, town clerks, health/safety professionals, employers, medical examiners, and unions.
2. [Fatal Falls Among Massachusetts Construction Workers, 2007-2011](#).

As part of the national *Campaign to Prevention Falls in Construction*, we also worked with our state CFOI to develop a shorter fact sheet: [Fatal falls among Massachusetts construction workers](#). This fact sheet was provided to other states as a template into which they could input their own data and use to help promote the national *Campaign to Prevention Falls in Construction*. The fact sheet was highlighted in the May 15, 2012, Volume 11, Issue 11 of *OSHA QuickTakes*.

We completed updating three previously published brochures for residential contractors: [Ladder Safety](#); [Scaffolding Safety](#); and [Falls: The Leading Killer on Construction Sites](#). These were field tested, finalized and translated into Spanish and Portuguese. Based on input from the *MA Preventing Falls in Construction* workgroup and contractors (see below), we are in the process of developing an additional brochure on personal fall arrest system (PFAS). Plans to disseminate these materials through building permits offices, worker centers and other outlets are underway.

Region I OSHA requested from MA FACE a total of 1,500 copies of our Portuguese health and safety materials which they distributed at their table during the Second Brazilian Expo – USA, held in Massachusetts this past September. MA FACE has some of the only Portuguese health and safety materials, which is reflected in the continual high number of website hits specific to these materials.

We also used FACE materials in teaching in several courses at the Harvard School of Public Health and the University of Massachusetts, Lowell. All Massachusetts FACE materials were posted on the [OHSP website](#).

Prevention activities and collaborations

MA FACE continued to coordinate the *MA Preventing Falls in Construction* workgroup that brings together public and private partners to learn from each other about approaches to preventing construction falls and identify opportunities for collaboration. Members provided input on FACE's PFAS brochure, as they had previously provided input on the ladder and scaffolding brochures. Versions of these brochures and the fact sheet *Fatal falls among Massachusetts construction workers* have been co-branded with the MA FACE logo and the national *Campaign to Prevent Falls in Construction* logo and posted to the campaign's website. The *MA Preventing Falls in Construction* workgroup is also coordinating efforts throughout the state to promote the national *Campaign to Prevent Falls in Construction*, including outreach to municipal transportation systems for donated ad space on buses to display the campaign poster.

A special highlight this year was the annual FACE meeting held in Boston during October 2011. MA FACE planned, coordinated and chaired the two and one half day successful national meeting. Among other topics, the interpretation of drug testing and inclusion of toxicology information in FACE reports was intensively discussed. Subsequently, an occupational medicine resident, performing his rotation at OHSP has followed up and developed two summaries for MA FACE and the MDPH Injury Control Program: 1) Substance use and occupational injury; and 2) Driving risk and substance use.

MA FACE was the preceptor for two graduate student projects this year. A nursing student researched and wrote a white paper reviewing health and safety hazards associated with wind turbines and the current state and future needs for health and safety training. A health communication student researched and prepared a "press ready" Hispanic worker fact sheet and developed plans for a communication campaign to promote occupational safety and injury prevention targeting the Massachusetts Hispanic community. Community partners were overwhelmingly responsive and supportive of this student project and assisted the student with setting up interviews with Hispanic men and providing translation.

Plans for the Future

Next year, MA FACE will:

- Continue surveillance and the collection of information on union status and ambiguous work-relationships for all deaths;
- Conduct investigations of targeted fatalities and develop and disseminate FACE reports and FACE Facts, including one addressing proper positioning of truck-mounted aerial lifts in roadways;
- Disseminate fall prevention materials through various networks and, with the *Preventing Falls in Construction* workgroup, explore the feasibility of implementing more intensive outreach to small contractors;
- Collaborate with MA DLS in developing a state strategy to more effectively provide health and safety information to municipalities and
- Expand our ongoing collaborations with community partners serving Hispanic communities using the communication plan developed by the communication graduate student.

Annual Report of Accomplishments and Outcomes, July 2011- June 2012
Massachusetts Department of Public Health, Expanded Occupational Health Surveillance
in MA, Surveillance and Prevention of Sharps Injuries and Musculoskeletal Disorders
(Hospital Workers Project)

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The overarching aim of this project is to reduce the incidence of sharps injuries and musculoskeletal disorders among hospital workers in Massachusetts. Specific aims are to:

- **Collect data on sharps injuries among hospital workers annually**
- **Analyze data and disseminate surveillance findings to promote prevention efforts**
- **Conduct intervention and prevention activities to reduce sharps injuries**
- **Characterize musculoskeletal disorders (MSDs) among hospital workers using administrative data set**
- **Continue collaborations with stakeholders to address sharps injuries and extend these efforts to address MSDs**

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 annually. Since 2002, MDPH has collected, analyzed and disseminated data on sharps injuries reported by hospitals and worked with hospitals and hospital workers to promote prevention activities. This year, we have continued the Massachusetts Sharps Injury Surveillance System (MA SISS) and related prevention activities and have convened the Hospital Ergonomics Task Force to address MSDs among hospital workers.

MAJOR ACCOMPLISHMENTS AND OUTCOMES

A key intermediate outcome this period was the enthusiastic engagement of community stakeholders in the newly formed Hospital Ergonomic Task Force. Representative of hospitals, hospital workers, the insurance industry and ergonomic researchers and experts have actively joined with MDPH to develop recommendations to reduce the incidence of injuries associated with patient handling in MA hospitals. With input from the Task Force, OHSP completed a survey of patient handling activities among all MDPH licensed hospitals, with a response rate of 88%. A number of survey respondents reported that the survey itself was an intervention, prompting new attention to safe patient handling by hospital administration and staff. Additional highlights from the past year are described below.

Collection of sharps injury data

The Occupational Health Surveillance Program (OHSP) collected data on nearly 3,000 sharps injuries during 2011 from all MDPH licensed hospitals, maintaining reporting by 100% of hospitals for the 11th consecutive year. All data for 2011 was reported electronically using a simple [MSExcel tool](#) developed by MA SISS. Pick lists used by hospitals in maintaining their sharps logs were updated and shared with hospitals via email to facilitate standard data collection. For the first time in 2012, we reported information regarding the mechanism of the sharps injury prevention feature. This critical information, to be collected on an ongoing basis, will enable us to better describe the devices involved in sharps injuries and inform the development of improved sharps injury prevention technologies.

The project coordinator met with occupational health staff at three of the four MDPH run hospitals to review sharps injury surveillance and prevention. All three agreed to submit data. The anticipated numbers, however, are small. The meeting with the fourth hospital is planned. All MDPH hospitals will be included in further outreach and education efforts going forward.

Analysis and dissemination of sharps injury data

The annual report "[Sharps Injuries among Hospital Workers in Massachusetts, 2010](#)" was distributed to all hospitals. Analysis of 2011 data is in progress. A brief [fact sheet](#) summarizing findings from 2002-2009 was developed and posted with all other reports on the OHSP website. Several MA SISS reports have been also been posted by NIOSH (e-News, April 2012) OSHA, and WHO as well as several organizations related to sharps injury prevention.

Sharps data were presented at the MDPH Public Health Council in addition to being used in teaching classes at several local universities.

Intervention and prevention of sharps injuries

OHSP continued to provide technical assistance to hospitals via phone, email in addition to five on-site consultations. We continued to provide the MDPH Division of Health Care Quality (DHCQ) staff with hospital specific sharps data prior to DHCQ site visits to assess compliance with MDPH licensure regulations. OHSP participated in five joint site visits with DHCQ this year.

As in 2010, regional meetings with hospitals were conducted to share sharps injury data and prevention strategies. In response to requests from hospital contacts, a fourth session in Western Massachusetts was added, and meetings were held in the spring rather than the fall as not to interfere with influenza vaccination programs. Nearly 100 employee health and infection control practitioners from two-thirds of the hospitals registered for the sessions. Holding regional meetings has meant that more people have been able to attend than in years prior to 2010 in which we held one annual meeting for all hospitals.

Analysis of MSDs among hospital workers

Staff changes in 2011 delayed the proposed analysis of the Massachusetts Division of Industrial Accidents – Workers' Compensation data regarding MSDs among hospital workers in Massachusetts. This analysis is currently underway. Preliminary findings were presented to the new Hospital Ergonomic Task Force (See below). More extensive analysis is in progress. Coding being refined in this work will be used to update our prior analysis of the Human Resources Division Workers' Comp eServices data on MSDs among employees of state-run hospitals in the coming budget period.

Based on extensive review of the literature, a survey instrument was developed to collect information about safe patient handling programs/activities in acute care and rehabilitation hospitals. The survey was administered by mail to all 98 MDPH licensed hospitals in March, 2012, with 88 responding. A report of the survey findings is in progress; preliminary results have been presented to hospitals at the regional meetings and the Hospital Ergonomics Task Force. Project staff mentored a student from Tufts University, who worked on the survey of safe patient handling activities as her applied learning experience, a requirement for the MPH degree.

Collaborations

The Sharps Injury Advisory Committee, which includes representatives from hospitals, labor, and healthcare professional organizations, met twice this year, providing guidance to OHSP on the sharps injury surveillance and intervention. We are continuing collaboration with UML on a

research project examining exposure to sharps and other hazards in the home care setting. OHSP is actively participating in survey development as well as interviews with key stakeholders in the home care industry.

With enthusiastic support from the MPDH Commissioner, the Hospital Ergonomics Task force was established. This 26 member task force includes representatives of hospitals, the hospital association, unions, academic researchers, insurers, and ergonomic experts and other government agencies. The goal of the 18 month task force is to develop recommendations for reducing the high rate of musculoskeletal disorders (MSDs) and disability among Massachusetts hospital workers. Three working groups have formed to carry out this work: Data & Surveillance, Interventions & Programs Assessment, and Policy Needs & Options.

The Data & Surveillance working group, the first to be formed, has provided guidance to staff on analysis of the available state data sets and is currently working to develop a recommended patient handling incident reporting form, modeled after the successful MA sharps injury reporting form. We are also working with assistance from Region I BLS to examine MSD rates among hospital workers in MA compared to those in the US based on data from the Survey of Occupational injuries and Illnesses. The Intervention working group is reviewing the literature on basic components of safe patient handling programs and recommended practice guidelines. The Policy working group is reviewing policy initiatives that have been implemented in other states. A doctoral student from the ERC at Harvard School of Public health has been recruited to assist in this effort. She will focus on review of existing and proposed legislation, recommended practice guidelines, and results of the survey of safe patient handling programs.

Plans for the future

Next year OHSP will:

- Continue collection, analysis of sharps injury data
- Disseminate a report looking at the first decade of sharps injury surveillance
- Finalize a report on injuries involving devices without sharps injury prevention features that includes information about device manufacturers. This Information will be use to target outreach to device manufacturers
- Finalize reports on MSDs among hospital workers based on analysis of workers' compensation data
- The Hospital Ergonomics Task Force will develop a draft report with recommendations addressing surveillance and prevention of MSDs among healthcare workers due to patient handling
- The final report of the findings of the "Survey of Hospital Based Safe Patient Handling Activities" will be shared with hospitals and the Ergonomics Task Force.

**Annual Report of Accomplishments and Outcomes, July 2011- June 2012
Massachusetts Department of Public Health (MDPH), Expanded Occupational Health
Surveillance in Massachusetts, Work-Related Asthma Project**

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The aim of this project is to reduce the incidence and severity of work-related asthma (WRA) in Massachusetts by:

- ◆ **Ascertaining cases from multiple sources**
- ◆ **Conducting timely follow-up interviews to confirm and fully characterize the cases**
- ◆ **Conducting intervention and prevention activities, independently and with partners**
- ◆ **Analyzing sentinel and population data, and disseminating findings to raise awareness and activity**
- ◆ **Collaborating with governmental and community stakeholders to use data for prevention**

MAJOR ACCOMPLISHMENTS AND OUTCOMES

A key accomplishment this period was the use of industry and occupation data on the Behavioral Risk Factor Survey to examine asthma prevalence by occupation. This work, carried out in collaboration with the Department's Asthma Prevention and Control Program, has been very well received and has successfully underscored the value of collecting occupation and industry information in health surveys to inform both health promotion and health protection efforts. Additional highlights this period are described below.

Case ascertainment and follow-up activities

The MDPH Occupational Health Surveillance Program (OHSP) identified 284 potential cases of WRA from four sources—healthcare provider reports, inpatient hospital discharge data, emergency department (ED) visit data, and workers' compensation claims. Of these, 99 have been deemed probable and followed-up to date. We continued attention to reaching underserved populations, with interviews conducted in Spanish by our bilingual interviewer. More timely access to interim inpatient hospital and ED files through an exclusive agreement with the Massachusetts Division of Health Care Finance and Policy has improved outreach to potential WRA cases. OHSP obtained the interim fiscal year 2011 files five months ahead of release of the final files, and 96% of medical records for potential cases were received from hospitals within four weeks of request, allowing for more timely outreach. This effort should reduce the number of cases lost to follow-up, and also increase our ability to reach younger and non-white workers who are more often identified in these data sources.

OHSP continued to publish the Occupational Lung Disease Bulletin (OLDB) throughout the year. This newsletter is intended to promote awareness of WRA and other occupational respiratory diseases and serves as a regular reminder to healthcare providers to report cases. We included copies of the brochure "[Is My Asthma Work-Related?](#)" developed by OHSP in collaboration with the American Lung Association, New England, with the [July 2011](#) OLDB on mold, to nearly 1800 recipients. We continued electronic dissemination, and improved secondary distribution, with the most recent issue of the OLDB on hair straightening products

([Winter 2011-2012](#)) included in the summer 2012 edition of the New England College of Occupational and Environmental Medicine Reporter and distributed to the Safe Cosmetics and Collaborative for Health and Environment list serves.

Intervention and prevention activities

OHSP continued to play a leading role in promoting safer cleaning products, supporting third party certification of green products without sensitizing asthmagens and discouraging the overuse of disinfectants (respiratory sensitizers and irritants). On the national level, OHSP reviewed and provided guidance for a poster and factsheet developed by OSHA and NIOSH on protecting workers from cleaning hazards, soon to be translated into Spanish, Chinese, and Tagalog. OHSP provided feedback to CSTE, which is monitoring CDC's response to the 2011 position statement (11-OH-01), calling for collaboration between infectious disease, toxicology and occupational health experts on proper use of disinfectant pesticides. OHSP is collaborating with state partners in evaluating ambulance cleaning practices, including disinfectant fogging, and has been invited to participate on NIOSH's National Occupational Research Agenda Work Group on disinfectants/cleaning.

Within Massachusetts, OHSP continues to serve on the Toxics Reduction Taskforce, established by the Operational Services Division (OSD), the state government procurement agency. The Taskforce oversees the use of environmentally preferable products (EPP) by state agencies, as mandated by Executive Order (EO 515), promotes green cleaners without asthmagens and regional services by approved vendors. This year the Taskforce conducted a walkthrough at Norfolk prison which is mixing and marketing "green cleaners," met with the Massachusetts Department of Conservation and Resources, southeast region, regarding their cleaning practices in public parks and bathrooms, and continued to monitor state agencies and approved vendors. OHSP has also been working with partners on developing guidance for cleaning and sanitizing practices in early education and childcare, especially with reference to bleach and EPA-approved alternatives.

A cluster of WRA cases in a manufacturing plant in Avon, MA had resulted in two site visits and reports in 2010. After an eighth WRA case was identified through a lawyer in February 2012, OHSP facilitated a request for a health hazard evaluation (HHE) by NIOSH DRDS. That investigation just began in July 2012. This HHE addresses hazardous exposures, including multiple asthmagens (e.g. amines and epoxies), among a primarily Cape Verdean workforce.

Data analysis and dissemination

As highlighted above, data analysis during this year focused on innovative analysis of the MA Behavioral Risk Factor Surveillance System's questions about both asthma and industry and occupation. Results show that Massachusetts workers in Service occupations suffer disproportionately from current asthma. Service workers include those in healthcare support, protective service, food service, cleaning and maintenance, as well as personal care and service occupations. These workers are potentially exposed to a variety of substances previously associated with respiratory problems, including asthma. Current asthma prevalence was 60% higher among Massachusetts Service workers (15.6%) compared to all other workers (8.8%). Even more striking, nearly 1 in 4 (22.9%) workers in personal care and service occupations reported current asthma. To our knowledge, this is the first study presenting population-based estimates of asthma among these workers in MA. Findings were shared at the NIOSH/WRA states meeting (4/12) and at CSTE (6/12), as well as at MDPH meetings of the Internal Asthma Working Group (6/12) and BRFSS Working Group (7/12). A manuscript for peer-review publication is in process and additional findings will be summarized in Occupational Lung Disease Bulletin (planned for November 2012). Such analyses are

important for guiding state-based interventions to reduce the asthma burden and to address health disparities, a priority for MDPH.

OHSP prepared the 1993-2008 WRA sentinel surveillance data transfer file and submitted it to NIOSH, as requested, for use in peer-review publications and the WoRLD Report. The file contained 787 WRA cases: 82% ascertained from provider reports, 17% from hospital data, and 1% from workers' compensation claims data. We also contributed to discussions on improving the clarity and usefulness of the exposure data presented in the WoRLD report. We continued work, with state partners and NIOSH, on a paper on diisocyanate induced WRA. While NJ is taking the lead on developing the paper, focusing on confirmed WRA cases from the four states (1993-2008), OHSP has developed an approach for using the OSHA IMIS air sampling data for diisocyanates, and comparing findings to the WRA cases. It will be submitted for peer review by the end of this year.

OHSP collaborates closely with the CDC National Center for Environmental Health-funded MDPH Asthma Prevention and Control Program, with whom we share an epidemiologist; we actively participate in the MDPH Internal Asthma Working Group and with the Department's advocacy partner, the Massachusetts Asthma Action Partnership.

Plans for the future

Next year, OHSP will:

- ◆ Continue ongoing surveillance of WRA using multiple data sources, including an emphasis on hospital treated cases.
- ◆ Continue to work with funded states to standardize methods and finalize criteria for WRA case confirmation by review of medical records when a telephone interview was not successful.
- ◆ Continue work on promoting safer cleaning and disinfecting products.
 - Participate in developing guidance for cleaning and sanitizing ambulances, along with MDPH's Office for Emergency Medical Services as well as fire departments and unions.
 - Work with partners to guide cleaning and sanitizing practices in early education and childcare.
- ◆ Share the findings from the industry/occupation analysis of the 2010 BRFSS data, including a written report and Occupational lung Disease Bulletin, and propose further areas for study.
- ◆ Disseminate the results from the NIOSH HHE to partners
- ◆ Complete the diisocyanate paper.

Presentations

- ◆ NIOSH/States WRA Surveillance Annual Meeting (4/17-18/12), "Using Industry and Occupation Information from the Behavioral Risk Factor Surveillance System"
- ◆ CSTE Annual Meeting (6/6/12), "Current asthma prevalence among service workers: Using occupation information from the 2010 Massachusetts Behavioral Risk Factor Surveillance System"
- ◆ Massachusetts Asthma Action Partnership (6/11/12), Moderator for panel: Addressing an unmet need: the problem of asthma in older adults. Contribution of work to asthma among older adults