

Annual Report, July 2013- June 2014
Occupational Health Surveillance Program (OHSP)
Massachusetts Department of Public Health (MDPH)
Expanded Occupational Health Surveillance in Massachusetts
Fundamental Project

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

- Generating and disseminating state occupational health indicators (OHIs)
- 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 OUTPUTS/PRODUCTS

- **A new data source.** After completion of a successful six month pilot, OHSP is now receiving reports of work-related poisoning from the Massachusetts – Rhode Island Regional Poison Control Center (PCC) on an ongoing, bi-weekly basis; and the PCC is collecting and providing additional information on employment.
- **An enhanced data source.** We have implemented a new system for weekly secure electronic transmission of workers' compensation data on reportable conditions to MDPH.
- **Referrals for worksite follow-up.** OHSP continued timely identification of serious burns and amputations through the Massachusetts Burn Injury Reporting System (M-BIRS) and workers' compensation records. We referred 17 burns and 48 amputations cases to OSHA and other agencies for worksite follow-up this period.
- **Integration – using industry and occupation (I/O) in the BRFSS.** For the first time, data on five health status indicators by 13 occupational groups has been included in the annual Massachusetts Behavioral Risk Factor Survey report (2102). This period, OHSP also received national news coverage of our findings pertaining to environmental tobacco smoke at work in the 2010 BRFSS data. (See work-related asthma progress report.) We have completed an analysis of racial/ethnic differences in occupational physical activity and obesity in the Massachusetts' working population. A three state study using 2011 BRFSS data to examine health insurance coverage among employed persons by I/O is underway.
- **Integration – State Health Improvement Plan.** Dr. Davis has participated in the MDPH team working to develop this Plan, which is required for public health department accreditation. In this role, she helped enlist input from occupational health stakeholders in identifying occupational health objectives and strategies to be included in the plan.
- **Occupational Health Indicators:** OHI's for 2011 have been submitted to NIOSH.

Collaborations

- OHSP continues to play an active role co-chairing the MA Occupational Health and Safety Team (MOHST) that includes representatives from state and federal agencies that share responsibility for protecting workers in the Commonwealth. MOHST meets quarterly and has served as a remarkably efficient and effective mechanism for coordinating agency efforts to improve worker health and safety. Activities this period included collaborative efforts: 1) on the state campaign to reduce falls in construction; 2) updating the Employment Permits forms required under state Child Labor Laws; 3) the Wellness Program Tax Credit (see below); and 4) ongoing work to document and address the occupational health and safety needs of municipal workers.
- OHSP has continued to serve on the Governor's Advisory Committee on state agency employee health and safety. We provided extensive input to the Human Resource Division on the analysis of data on workers' compensation claims filed by state employees that was included in the Advisory Committee's report submitted this period to the Governor.
- OHSP has embarked on a new collaboration with the Office of Refugee and Immigrants (ORI), that is responsible for assisting refugees and asylum seekers settle in the state. Based on input from ORI employment specialists, who help their clients find and maintain jobs, we have linked ORI staff with worker centers as potential resources. We are also pursuing translation and dissemination of key health and safety materials.
- OHSP worked with the MDPH Bureau of Infectious Disease to update the list of occupations used in the infectious disease surveillance systems to improve the utility of the data for both groups. This new information will help OHSP track infectious diseases outbreaks which may have an occupational health component.
- OHSP took the lead in planning and coordinating the 23rd annual NE Regional Occupational Health Surveillance meeting May 13-14th in Chester, Connecticut. Twenty-two representatives from CT, MA, NJ, NH, NY State and VT attended as well as 18 from the New England Center for Agricultural Medicine and Health (NEC), NIOSH, the New Jersey ERC, Connecticut OSHA and the University of Connecticut.

Policy Recommendations

- With input from OHSP, MDPH has expanded mandatory public health reporting requirements to include a general category of other occupational lung diseases (active reporting) and access to medical records for all occupational injuries (passive reporting).

Presentations

Davis L, Azaroff L, Naparstek R, Hashimoto D, Laing J, Wegman D. Barriers to use of workers' compensation for patient care at Massachusetts community health centers. 2013 Annual APHA Conference, Boston, MA.

Chen D, Chu M, Pechter E, Davis L. Occupational poisoning by cleaning agents: A collaboration between the Massachusetts Department of Public Health and the MA-RI Regional Poison Control Center. Poster presentation at the 2014 Annual ACOEM Conference, San Antonio, TX.

Chu M, Pechter E, Davis, L. New surveillance data source for work-related poisonings and employment data collection: poison control center. Presentation at the 2014 Annual CSTE Conference, Nashville, TN.

Chu M, Cifuentes M, Davis L. Racial /ethnic differences in occupational physical activity and obesity in the Massachusetts' working population. Poster presentation at the 2014 Annual CSTE Conference, Nashville, TN.

Brightman L, Davis L, Souza K, Nowlin S, Azaroff L., Goldman R: Collection and recording of patient occupation information in the EHR: a pilot project in a primary care setting. Presentation at the 2013 APHA Conference, Boston, MA.

Davis L: Integrating Occupational Health in to Mainstream Public Health in an Era of Healthcare Reform and Accreditation, Presentation at the plenary Session, CSTE Occupational Health Subcommittee meeting, CSTE 2014 Annual Conference, Nashville, TN.

MAJOR OUTCOMES

Intermediate outcomes

- The ongoing work of the Governor's Advisory Committee addressing the state agency worker health and safety (*see above*) has culminated this year in state legislation, passed in June 2014, extending OSHA protections to employees of State Executive Branch agencies. OHSP's work to provide data on injury and illnesses among state employees contributed to this effort.
- Of 31 burn injuries reported by the Department of Fire Services in Calendar Year 2013, OSHA investigated 12 based solely on referral by OHSP, ten of which resulted in citations and fines and one resulted in an OSHA Hazard Alert letters. Of the 61 amputation injuries and 3 other serious injuries identified workers' compensation records referred, OSHA investigated 61. Of these, 31 resulted in citations, 2 resulted in a letter of significant finding, and 4 resulted in a letter of correction being issued to the employer. OSHA Region I reports that these referrals are a useful means of targeting fruitful investigations. While we have not assessed the impact of these specific investigations, prior research indicates that OSHA enforcement investigations contribute to the improvement of working conditions.
- The MA Department of Labor Standards (DLS) is now conducting "labor assurance reviews" of employer applications for tax credits for implementing worksite wellness programs recently made available under the MA Health Care Reform law. DLS reviews applications to assure applicant employers carry workers' compensation insurance and have no repeat or willful violations of OSHA standards or wage and hour rules within the last several years.
- The Massachusetts Coalition for Occupational Safety and Health cited data on OHIs and other recent OHSP surveillance findings in their annual report, "Dying for Work in Massachusetts," released on Workers' Memorial Day.

Multiple agencies (the Department of Labor Standards, and the Attorney General's office) have are in the process of translating key health and safety materials into additional languages to meet the needs of the Office of Refugees and Immigrants.

Potential and end outcomes

The MA Fundamental project has not tracked specific end outcomes in relation to its activities. The interagency collaborations and substantial efforts to integrate occupational health into other ongoing public health activities, including the BRFSS and the SHIP, have the long range potential to promote increased consideration of the influence of work on health by the broader public health community and, in turn, improve the health and safety of working people in Massachusetts and throughout the nation. The new state legislation extending OSHA level protections to state agency workers has the potential to reduce the incidence of work-related injuries and illnesses among public agency employees. The increased effort to provide health and safety information to some of our most vulnerable workers and the people who serve them has the potential to reduce occupational health disparities over time.

Annual Report, July 2013- June 2014
Massachusetts Department of Public Health
Expanded Occupational Health Surveillance in Massachusetts
Teens at Work Project

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The Teens at Work: Injury Surveillance and Prevention Project (TAW) within the Massachusetts Department of Public Health (MDPH) aims to prevent 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
- Developing and conducting intervention and prevention activities
- Collaborating with government and community partners to promote use of surveillance findings for prevention

Since 1993, TAW has conducted a range of surveillance and outreach activities that aim to make jobs safer for workers under age 18. This project period we expanded our efforts to include young adult workers ages 18-24. Listed below are highlights from Fiscal Year 2014.

MAJOR OUTPUTS/PRODUCTS

- **Annual Teens at Work Surveillance Update.** TAW disseminated its annual [Surveillance Update](#) to over 2,000 schools, employers, unions and other stakeholders. This year's *Update* includes findings on teen work injuries and highlights newly available information about injuries among workers ages 18-24 (see below). It also includes information about the work permit process in Massachusetts.
- **Local area injury data.** Workers' compensation data from 2008-2012 were used to identify local geographic areas with high rates of teen work injuries. This information was provided on request to the MA Office of the Attorney General, who plans to use the data to target areas for Child Labor Law enforcement purposes.
- **New Survey Instruments.** Instruments for conducting mail surveys of 18-24 year olds who have experienced amputations or serious burns at work were finalized and received IRB approval in April. To date, 34 mail surveys have been sent to young adult workers, and 5 surveys have been returned completed.
- **New information on injuries to young adult workers.** TAW completed its first ever analysis of workers' compensation lost time claim records for workers ages 18-24 this spring. The findings, based on 2010 data, were presented at CSTE in June. We found high rates of injuries among young workers placed in jobs through temporary agencies, as well as those working in public administration, and nursing homes. The findings also suggest that the ages of 18-19 are a key transition period between the teenage years and adulthood in terms of types of jobs held and therefore types of injuries. TAW also completed an updated analysis of injuries among young adult workers based statewide hospital discharge and emergency department data for 2007-11 (under final MDPH review).

- **Ongoing case based surveillance:** TAW identified 128 injuries to teen workers this year, through lost time workers' compensation claims and reports from a sample of emergency department. Twenty-one interviews were completed resulting in 7 referrals to enforcement agencies. Educational materials on health and safety and child labor laws were mailed to all employers of injured teens.
- TAW continues to post all output materials [online](#) within the MDPH website, and use MDPH frontline media aggressively to promote TAW messages, through Tweets, blog posts, and MDPH [homepage stories](#).

Presentations

"Protecting Young Workers in Massachusetts: Surveillance to Action." Tufts University, Department of Public Health & Professional Degree Programs, Sept. 24, 2013

"Employment of middle school students: Findings from the Massachusetts Youth Health Survey, 2009." *American Public Health Association Annual Meeting*. Boston, MA. Nov. 4, 2013.

"Identifying geographic areas and area-based characteristics associated with high work-related injuries among teens in Massachusetts." Poster presentation. *American Public Health Association Annual Meeting*. Boston, MA. Nov. 4, 2013.

"Using data to guide occupational injury prevention strategies for young adult Hispanic workers in Massachusetts." Poster presentation. *American Public Health Association Annual Meeting*. Boston, MA. Nov. 4, 2013.

"Child Labor Law Updates + Q&A." *Cooperative Education Coordinator Meeting*, Assabet Valley Regional High School, Dec. 12, 2013.

"Protecting Young Workers in Massachusetts: Surveillance to Action." Harvard School of Public Health. Feb. 7, 2014

"An Analysis of Injuries among Young Adult Workers in Massachusetts, Using Workers' Compensation Data." *Annual CSTE Conference*, Nashville, TN. June 24, 2014.

"Teen Work-Related Injuries and Area-Based Poverty in Massachusetts, 2000-2012." *Annual CSTE Conference*, Nashville, TN. June 24, 2014.

MAJOR OUTCOMES

Intermediate Outcomes

MA YES Team & Poster Contest community engagement

TAW continues to lead the MA Youth Employment and Safety Team ([YES Team](#)), which brings together representatives from eight government agencies quarterly to coordinate efforts to protect youth at work. This past period, the YES Team, in partnership with the Massachusetts Coalition for Occupational Safety and Health, continued its success in extensive interagency/community engagement through the fourth [Safe Jobs for Youth Poster Contest](#). A growing number of Massachusetts secondary school teachers each year assign the contest as homework, exposing more students to our educational materials and other information on

injury prevention to working teens. An awards event was held at the State House and attended by finalists and their families, state agencies and community partners, and state legislators. TAW blogged about the event in [English](#) and in [Spanish](#); agency partners live-tweeted the winners; and Boston's *Teens in Print*, a citywide newspaper written by and for high school students, published an [article](#) highlighting the contest as a way to promote on-the-job safety for teens. This May through August, English and Spanish versions of the winning poster are on public transit throughout Greater Boston, and on buses in the winning teen's home city of Worcester, the second largest city in New England, after Boston. The MA Department of Transportation displayed all finalist posters in a safety art exhibit celebrating National Safety Month during the month of June.



2014 winning contest poster appears in Spanish on public transit in teen's home city, Worcester

In production – engineering solution to reduce coffee burns

As a result of TAW's case ascertainment, follow-up and outreach, a new coffee brewer model designed to engineer out a common hazard that can lead to burn injuries is in production by the manufacturer for a national coffee shop chain. After alpha testing was successfully completed earlier this year by corporate headquarters, the product was determined ready for rollout.

Partner agency citations

In response to TAW referrals, two serious teen injury cases were investigated by agency partners in the US Department of Labor. OSHA issued an \$18,000 citation to an employer for serious violations related to hazardous equipment, and the Wage and Hour Division is issuing substantial fines to another employer (amount to be determined) for three counts of Child Labor violations, including helping with a forklift.

TAW website and social media expanded reach

In addition to TAW's use of social media, partner agencies continue to help to disseminate TAW messages through their own media outlets, including Twitter, Facebook and blogs; this past June we partnered with [Future Ready Massachusetts](#), a campaign to advance the career-readiness of students, to blog about the benefits of the *Talking Safety* curriculum (to be posted in July). As a result, this period set a new record over last year for TAW web traffic, nearing 27,000 combined hits and downloads to our pages and materials. Highlights from July 2013-June 2014, include nearly 9,500 downloads of our *Guide for Working Teens*, over 2,300 downloads of our Industry-specific Facts Sheets on injuries to working teens, and nearly 4,500 hits to our Poster Contest webpage.

Potential and End Outcomes

The surveillance findings and educational materials that TAW disseminates have the potential to reduce injuries to young workers both in MA and throughout the nation. They not only serve to provide stakeholders (teachers, employers, parents as well as teens themselves) with specific tools and resources to address risks faced by youth at work but also have the long term potential to contribute to a change in community norms that result in improved young worker safety. Analysis of injury data collected by TAW since 1993 indicates the work-related injury rate for teens declined faster than that for adults through 2008, and continues to decline. It appears the efforts by TAW and its partners across the state are making a difference.

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Occupational Health Surveillance Program (OHSP)
Massachusetts Department of Public Health
Expanded Occupational Health Surveillance in Massachusetts
Massachusetts 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 OUTPUTS

Surveillance and Investigations

- MA FACE identified and documented 50 fatal injuries; information about these deaths was included in the MA Workers' Memorial Day report published by MA AFL-CIO and MassCOSH.
- MA FACE initiated sixteen fatality investigations of which we were able to complete eight. We finalized six MA FACE reports and several others are in various stages of completion.

Development and dissemination of prevention recommendations

Reports and FACE Facts Dissemination

- MA FACE, in collaboration with the state CFOI program, released the report [Fatal Injuries at Work - Massachusetts Fatality Update, 2012](#), and disseminated it to over 3,200 individuals, including police, fire, health, and public works departments, town clerks, health/safety professionals, employers, medical examiners, and unions.
- Finalized MA FACE reports were disseminated to individuals involved in the incidents as well as victims' families; to the broader community using mailing databases developed for each incident (between 130-250 companies per incident); and to a core list of health and safety stakeholders.
- Two similar fatalities in recent years led MA FACE to develop the MA FACE Facts – [Employees Must Wear Fall Protection when Working from Aerial Lifts](#), a fact sheet that addresses wearing fall protection when working from aerial lifts. In both incidents municipal workers were working without fall protection from aerial lifts to access cantilevered traffic signals when the raised buckets they were working from were struck by passing tractor-trailers causing the workers to be thrown out of the buckets to the roadway below. This FACE Facts was disseminated to all municipal DPWs and police departments. MA Department of Labor Standard (DLS) is also disseminating this FACE Facts in the course of their investigations of non-fatal incidents involving municipal workers.
- Prompted by recognition of the need to reach self-employed house painters, we have developed a new Safety Alert – [Ladder Safety for Painters: Prep Before You Step](#), on ladder safety specifically for painters and has been translated into Portuguese. This has been

disseminated to painting supply and hardware/home improvement stores. DLS, which certifies lead abatement companies, is disseminating it through their lead program.

- The MA *FACE Facts* – [Temporary Agencies and Worksite Employers Share Responsibility for Keeping Temporary Workers Safe](#), first published in spring 2012, has continued to be widely disseminated this period at multiple national and local events. DLS, which licenses temporary agencies, added a link to the *FACE Facts* on their website once the *MA Temporary Workers Right to Know Law* was signed.

Fall Prevention in Residential Construction

MA FACE continued to coordinate the MA Preventing Falls in Residential Construction (PFC) workgroup that brings together public and private partners to address preventing falls in construction. This period, with input from PFC and in collaboration with other partners, we again supported the national *Safety Pays. Falls Cost.* campaign and the National Safety Stand-Down for Fall Prevention in Construction.

- Utilize social media, including the DPH Blog and Twitter account, for broadening outreach about preventing falls in construction. Wrote a posting – [Improving Construction Worker Safety by Preventing Falls](#), for the DPH blog that discussed fall prevention, the ongoing campaign and the national stand-down day. The posting was translated into Spanish and Portuguese. DPH re-tweeted a CDC tweet about the campaign.
- Our working relationship with the MA Department of Public Safety (DPS), which licenses small construction contractors of one and two family dwellings, masonry, roofing, siding, demolition and insulation contractors throughout the state, led to DPS e-blasting to over 20,000 licensed contractors information on fall prevention, the ongoing campaign and the national stand-down day.
- Worked with DLS and MA Department of Transportation (MassDOT) to get the [campaign poster displayed on seven digital billboards](#) along major highways throughout the state. Billboard display began in April and will continue through September, 2014.
- Emailed information about the campaign and stand-down day to Career/Vocational Technical Education Directors, vocational Co-op Coordinators, the MA Worker Centers, and to the MA Prevent Injuries Now Network.

Publications

- Fatal Injuries at Work: Massachusetts Fatality Update, 2012
- FACE Facts: Employees Must Wear Fall Protection when Working from Aerial Lifts
- Safety Alert Fact Sheet: Ladder Safety for Painters: Prep Before You Step
- Brochure: Having work done on your roof? Ask your contractor to play it safe
- MA FACE report 11MA031 - Arborist Dies in Fall from a Tree after being Hoisted by a Crane to the Tree - Massachusetts
- MA FACE report 11MA050 - Temporary Worker Died while Cleaning a Double Auger Screw Conveyor Machine – Massachusetts
- MA FACE report 12MA007 - Electrician Electrocuted while Troubleshooting Envelope Manufacturing Machine – Massachusetts
- MA FACE report 12MA013 - Municipal Electrician Dies after Falling Out of an Aerial Lift Truck's Raised Bucket After it was Struck by a Semi-tractor Trailer – Massachusetts

- MA FACE report 12MA016 - Municipal Police Officer Fatally Injured When Struck by a Backing Dump Truck – Massachusetts
- MA FACE report 12MA024 - Municipal Mechanic Fatally Injured When Crushed Between Skid-steer Loader's Frame and Bucket – Massachusetts

MAJOR OUTCOMES

Intermediate Outcomes

FACE Reports and FACE Facts

- In response to our dissemination of our *FACE Facts* - [Employees Must Wear Fall Protection when Working from Aerial Lifts](#), the MA Highway Association invited MA FACE to present at their annual meeting to discuss what is occurring in the state with regards to municipal employee work-related injuries and fatalities. In addition at least two municipalities have independently posted pdfs of this *FACE Facts* to their websites.
- Collaborated with CPWR, which contacted MA FACE and took the lead in developing a short training video – [Look Up and Live](#), aimed at preventing electrocutions associated with the use of ladders near power lines based on a MA FACE report.
- MA FACE reports were used as a teaching tool in several courses at the Harvard School of Public Health, University of Massachusetts at Lowell and Northeastern University. At Harvard School of Public Health, the MA FACE reports were being used to teach Fault Tree Analysis.
- The National Safety Council (NSC) highlighted MA FACE report *Immigrant Roofer Struck by a Bag of Gravel that Fell from a Roof – Massachusetts* (10MA032) in their [August 2013, safety and health magazine](#).
- The Tree Care Industry Association (TCIA) alerted members and posted a link to the MA FACE report *Arborist Dies in Fall from a Tree after being Hoisted by a Crane to the Tree – Massachusetts* (11MA031) on the [TCIA web site](#).

Potential and end outcomes

All FACE reports and educational materials include recommendations that if used have the potential to reduce workplace hazards.

The annual number and rate of fatal occupational injuries in MA since 2000 has fluctuated over the years with no consistent upward or downward trend. Since 2012 through the first half of 2014, the numbers of deaths have been low when compared to the 10 year average. Given the relatively small number of deaths in any single year, however, it is challenging to differentiate the effect of the project from normal yearly fluctuations in the fatality rate or the effects of external factors such as changes in employment patterns due the recession and enforcement activities.

Annual Report, July 2012 - June 2013
Occupational Health Surveillance Program (OHSP)
Massachusetts Department of Public Health (MDPH)
Expanded Occupational Health Surveillance in Massachusetts
Surveillance and Prevention of Sharps Injuries and
Musculoskeletal Disorders among Massachusetts Hospital Workers

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The overarching aim of this project is to reduce the incidence of sharps injuries and musculoskeletal disorders (MSDs) among hospital workers in Massachusetts by:

- Collecting data on sharps injuries among hospital workers annually,
- Analyzing data and disseminate surveillance findings to promote prevention efforts,
- Conducting intervention and prevention activities to reduce sharps injuries,
- Characterizing MSDs among hospital workers using administrative data sets, and
- Continuing collaborations with stakeholders to address sharps injuries and extend these efforts to address MSDs.

In the last month of this budget period, an epidemiologist, Devan Hawkins, was hired for this project bringing the project back to full staff after a gap of six months.

MAJOR OUTPUTS/PRODUCTS

Sharps Injury Surveillance

Data Collection

For the thirteenth consecutive year, OHSP has collected data on sharps injuries among Massachusetts hospital workers from all (N=97) MDPH licensed hospitals. For the calendar year 2013, more than 2,800 sharps injuries were reported.

NIOSH's National Industry and Occupation Computerized Coding System (NIOCCS) was successfully applied to the 2012 Sharps Injury Surveillance data. 71.0% (2146/3021) of records were auto-coded to the Census 2000 I/O classification scheme. Records were coded at high (at least 90%) confidence in terms of accuracy of auto-coding.

Data reports

A new short format for annual statewide sharps injury surveillance reports has been developed with input from hospital employee health staff. These reports provide annual data by hospital, worker and incident and device characteristics. They also include data on sharps injury rates over time generated using two denominators - number of licensed beds and FTEs. Reports for 2011 and 2012 are under final review.

Recommendations

OHSP staff has worked closely with NIOSH in the development of a module for collecting information on exposures to blood and body fluids to be included in the Occupational Safety and Health Network (OHSN). Based on the Massachusetts experience, we have provided recommendations regarding data elements to be collected by NIOSH as well as the pick lists for each of the data elements.

Staff have also participated in working groups with the *WHO Safe Injection Global Network* to develop policies regarding the use of devices with sharps injury prevention features and reuse prevention features across the globe, particularly in low and middle income countries.

Staff has worked with the Organization for Safety, Asepsis and Prevention (OSAP) providing technical expertise in the development of a NIOSH funded survey of dental offices regarding

exposure control plans. The survey was disseminated to more than 40,000 practitioners; OHSP staff will be involved in the coming budget period with interpretation of survey results.

Safe Patient Handling

OHSP finalized its report [*Survey of Safe Patient Handling Activities in Massachusetts Hospitals*](#). This was broadly disseminated to hospitals and other stakeholders throughout the state (November, 2013).

The Massachusetts Hospital Ergonomic Tasks Force, initiated in 2012 by OHSP, has finalized and submitted to the MDPH Commissioner its report entitled “Moving into the Future: Promoting safe patient handling for worker and patient safety in Massachusetts hospitals.” The report begins with a summary of surveillance findings on the nature and extent of patient handling injuries among hospital workers using data from multiple sources, prepared by OHSP. It includes a review of intervention effectiveness literature on safe patient handling (SPH) and SPH policy initiatives in other states as well as a section in which Task Force members have identified essential components of a comprehensive SPH program. The report concludes with a set of consensus recommendations that serve as a blueprint for moving forward to reduce patient handling injuries in Massachusetts hospitals. These recommendations are directed to MDPH, hospitals and other stakeholders. MDPH plans for following up these recommendations, which include ongoing surveillance and a continuing stakeholder group, are in progress.

Other

Findings from OHSP’s *Survey of Influenza Vaccination and Prevention Programs for Workers in Massachusetts Hospitals* administered last year have been shared with other programs within MDPH as the agency works to help hospitals improve vaccination rates and collection of vaccination status for all healthcare personnel in the hospital.

Presentations

Miner CE, Laramie AK, Tran D, Davis L, Tak S, Wegman D. (2013) Safe patient handling activities in Massachusetts hospitals. APHA Annual Meeting Boston, MA.

Sours K, Laramie AK, Miner SE, Davis L. (2013) Influenza vaccination of healthcare personnel in Massachusetts hospitals. APHA Annual Meeting Boston, MA

Davis L, Sparer E, Laramie AK. (2013) Analysis of existing legislative approaches to Safe Patient Handling. National Academies of Science Safe Patient Handling and Mobility Planning meeting, Washington D.C.

Laramie A, Miner C, Davis L. (2013) Sharps Injuries among Massachusetts Hospital Workers: Findings from the Massachusetts Sharps Injury Surveillance System. APIC New England fall conference. Springfield, MA.

Laramie A, Miner C, Davis L. (2013) Sharps Injuries among Massachusetts Hospital Workers: Findings from the Massachusetts Sharps Injury Surveillance System. Massachusetts Eye and Ear Infirmary.

Laramie A, Miner C, Davis L. (2014) Sharps Injuries among Massachusetts Hospital Workers: Findings from the Massachusetts Sharps Injury Surveillance System, 2002-2009. Harvard School of Public Health

Davis L, Miner C, Laramie AK. (2014) Patient handling injuries and safe patient handling practices in Massachusetts Hospitals. Health Care Services Board of the Massachusetts Department of Industrial Accidents

Laramie A and Davis L. (2014) Sharps Injury Surveillance and Prevention: Considerations for the Laboratory Setting. Boston Biosafety Users Group

Laramie A and Davis L. (2014) Sharps Injury Surveillance and Prevention: Considerations for the Laboratory Setting. Harvard Institutes of Medicine

Davis L, Miner C, Laramie AK. (2014) Using Multiple Data Sources to Characterize Patient Handling Related Musculoskeletal Disorders Among Massachusetts Hospital Workers. CSTE Annual Conference, Nashville, TN.

Laramie A, Hawkins D, Davis L. (2014) Safe Patient Handling among Hospital Workers. Metro-West Hospital, Framingham, MA.

Other project generated outputs

The instrument used to conduct the “Survey of Safe Patient Handling Activities in Massachusetts Hospitals” is available upon request.

MAJOR OUTCOMES

Intermediate Outcomes

Findings from the Massachusetts Sharps Injury Surveillance System have been posted on web sites of other organizations including: [Hospitals and Health Networks](#), [Healthcare Business & Technology](#), [Workers' Compensation Watch](#), and [Infection Control Today](#). Findings have also been cited in several journal articles, including “[Consequences of occupational exposure to biological material among workers from a university hospital.](#)”

Surveillance findings on sharps injuries as well as technical assistance provided to hospitals on request have contributed to sharps injury prevention activities undertaken in a number of hospitals.

Findings from the *Survey of Influenza Vaccination and Prevention Programs for Workers in Massachusetts Hospitals* have informed MDPH decisions regarding steps to take to improve vaccination rates and collection of vaccination status for all healthcare personnel in Massachusetts hospitals. These measures include issuing deficiencies to hospitals not in compliance with vaccination and reporting requirements, collaborating with partners to increase training opportunities among hospitals, and working with hospitals to improve surveillance.

Findings from the *Survey of Safe Patient Handling Activities in Massachusetts Hospitals* have been referenced in publications or websites for organizations such as [NECOEM](#) and [MassCOSH](#).

The findings and recommendations of the Hospital Ergonomic Tasks Force, not yet released publically, have potential to mobilize new collaborations in the state to reduce the incidence of patient handling injuries, which accounted for a conservatively estimated 21,000 lost workdays among Massachusetts hospital workers in 2010.

End Outcomes

There has been an overall decline in the sharps injury rate since the inception of the Massachusetts Sharps Injury Surveillance System and it is reasonable to assume that our activities have contributed to this decline. Findings for the last several years, however, indicate that this decline is leveling off. Whether this represents improved injury reporting (a success), a plateau following prevention activities directed at solving the more straight forward, less complex problems or a shift in attention given the many issues facing hospitals in the era of healthcare reform is not clear. Regardless of the explanation it underscores the need for continued surveillance and new approaches to maintaining a focus on preventing sharps injuries in Massachusetts hospitals. Several new initiatives are planned.

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Occupational Health Surveillance Program (OHSP)
Massachusetts Department of Public Health (MDPH)
Expanded Occupational Health Surveillance in Massachusetts
Work-related Asthma Surveillance and Prevention

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The overarching aim of the project is to reduce the incidence of work-related asthma (WRA) in Massachusetts. Specific aims are to:

- Ascertain work-related asthma cases using multiple data sources
- Follow-up to confirm, using telephone interview and/or medical records
- Conduct intervention and prevention activities
- Analyze and disseminate sentinel and population-based surveillance data
- Collaborate with government and community partners to promote prevention

MAJOR OUTPUTS / PRODUCTS

Case ascertainment. Through June 2014, OHSP identified 79 probable cases of WRA from multiple sources—healthcare provider reports, hospital data, and workers' compensation claims. We confirmed 44 cases through interviews and medical record review.

New data source. Working with the Fundamental project, we gained access to a new data source. OHSP now receives reports of work-related poisonings collected by MA-RI Regional Poison Control Center on a bi-weekly basis. These are reviewed by WRA staff to identify potential cases of WRA and triaged for referral. To date, one case of chemical pneumonitis has been referred to OSHA.

Investigations. Three on-site investigations resulted in recommendations that may abate hazards: a silver extrusion company, hospital microbiology laboratory, and a company that manufactures specialty materials for aerospace and telecommunications using isocyanates.

Reports and partnerships.

- **Burden and distribution of work-related asthma.** Upon request from the MDPH Asthma Prevention and Control Program (APCP), OHSP analyzed WRA case-based and population-based surveillance data and summarized findings for the *Burden of Asthma in Massachusetts* report, and reviewed and edited the entire report (anticipated publication 9/14). This is the first *Burden* report to include prevalence of current asthma by industry and occupation from the Behavioral Risk Factor Surveillance System (BRFSS).
- **Asthma by occupation featured section in 2012 MA BRFSS Annual Report.** The MDPH Health Survey (HSP) program selected current asthma by occupation group as one of five adverse health indicators for inclusion in special occupation section in the 2012 MA BRFSS annual [report](#) (Spring 2014). OHSP worked closely with HSP to prepare this section and

shared related SAS code and methods with NIOSH and other states via the CSTE BRFSS Industry/Occupation (I/O) Working Group. The MDPH Commissioner's Office chose this section to be featured as the first section of the report. HSP continues to champion including the I/O questions in the 2014 BRFSS landline and cell phone surveys, continuing in 2015.

- **Focus on primary prevention of asthma.** OHSP collaborated with APCP and statewide partners to follow the success of the April 2013 conference on *Primary Prevention of Asthma*. We integrated work-related goals and objectives in the *Strategic Plan for Asthma in Massachusetts, 2015-2020*. We are the only state with a Roadmap for Prevention, which was presented at the CSTE Annual Meeting (6/14) and has been accepted for presentation at American Public Health Association (APHA) annual meeting (11/14).
- **Isocyanates—reducing exposure.** OHSP, with environmental agencies and OSHA, helped plan two [meetings](#) for contractors on the correct use of spray polyurethane foam insulation (12/13 Stowe and 4/14 Fall River).

Publications and presentations.

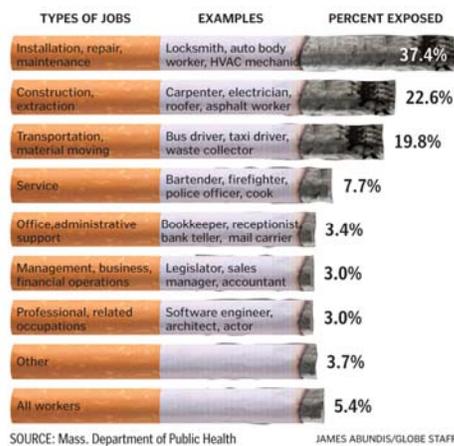
- Environmental Tobacco Smoke (ETS) in the workplace
 - “On-the-job exposure to environmental tobacco smoke in Massachusetts”. Occupational Lung Disease [Bulletin](#). Fall 2013
 - “On-the-job exposure to environmental tobacco smoke among Massachusetts workers”. Oral presentation. APHA Annual Meeting. Boston, MA. 11/4/13.
 - “Exposure to secondhand smoke at work on the decline, but gaps remain”. [Press Release](#). APHA. 11/4/13.
 - “Gaps seen in exposure to smoke on the job”. [News Article](#). *The Boston Globe*. 11/4/13.
 - “Reducing Worker Exposure to ETS”. [NIOSH Science Blog](#). 11/21/13.
 - “On-the-job Exposure to Environmental Tobacco Smoke”. [NIOSH eNews](#). Dec. 2013.
 - “State Spotlight: Massachusetts”. [BRFSS Facts & News](#). Spring 2014.
- “Disinfecting Surfaces and Asthma”. Occupational Lung Disease [Bulletin](#). Summer 2013.
- White GE, et al. Gender differences in work-related asthma: surveillance data from California, Massachusetts, Michigan, and New Jersey, 1993-2008. *J Asthma* 2014; epublication ahead of print:1-12. PMID:24673105.
- NIOSH/States WRA Annual Meeting. Atlanta, GA. March 26-27, 2014: OHSP moderated and presented in several sessions attended by funded and non-funded surveillance states as well as NIOSH and other CDC and federal agency partners.
- “Lessons learned: Implementing green cleaning in MA”. Oral presentation. Northeast Regional Occupational Disease and Injury Surveillance Conference. May 13-14, 2014.
- “May is Asthma Awareness Month”. Lobby display featuring asthma data for children and adults, including WRA, with APCP and Bureau of Environmental Health. May 2014.
- Massachusetts Asthma Action Partnership (MAAP) Steering committee and summits
 - Dec. 10, 2013 Summit. Worcester, MA. Panel presentation “Work-related asthma—what we know and how we use it,” attended by CDC NCEH Evaluation team.
 - Primary Prevention subcommittee and Steering Committee.

- **MAJOR OUTCOMES**

Intermediate Outcomes

- **Policy change.** Proposed changes to MDPH's mandatory reporting requirements to include all occupational lung diseases were adopted by the Massachusetts Public Health Council (12/13), expanding OHSP's capacity to conduct surveillance of a broad range of work-related respiratory diseases.

- **Use of findings locally and nationally.** OHSP analyzed BRFSS data on exposure to ETS at work among non-smokers over time and by occupation group. Findings from this



innovative analysis highlighted the overall success of the statewide Smoke-free Workplace Law, but also groups of blue collar workers that continue to be exposed. APHA identified the findings as newsworthy and, with OHSP, prepared a press release issued in conjunction with the APHA 2013 meeting. A *Boston Globe* article was redistributed by news outlets nationally (11/4/13—see graphic). On request, OHSP collaborated to disseminate findings through NIOSH Science Blog, NIOSH eNews, and BRFSS Facts & News. Several colleagues reported that this was instrumental in persuading state BRFSS programs to include I/O questions in their surveys.

- **Action on cleaning and disinfecting.** OHSP continues to focus on promoting safer cleaning and disinfecting practices, and has contributed to a number of initiatives with potential to reduce exposures to asthmagens in workplaces:
 - OHSP participated in NIOSH's National Occupational Research Agenda, Healthcare and Social Assistance, Cleaning and Disinfection in Health Care (CDHC) Working Group. The Group prepared a manuscript that identifies gaps in knowledge in infectious disease and WRA prevention, currently in NIOSH review before submission to American Journal of Infection Control. A leading infection control expert has incorporated lessons from this process in a recent article.ⁱ
 - Massachusetts Early Education and Care is working with MDPH to develop a new policy statement that guides dilution of bleach to avoid overexposures, and promotes safer alternatives. The policy statement will be released by Fall 2014.
 - OHSP's meeting with the MDPH Food Protection Program has highlighted the need for updating state guidance on sanitizers used on food contact surfaces, which may promote safer alternatives.
 - The MA procurement agency, with input from OHSP, finalized and disseminated "[Cleaning the Bathroom](#)" and engaged OHSP in ensuring asthma-safe criteria are included in a new facilities contract that is mandatory for purchasing; 2013 purchases amounted to \$5 million. Approved vendors must sell to multiple states regionally.

Potential and End Outcomes. Given under-recognition of WRA and the case-based nature of our surveillance system, it is not possible to document trends in WRA incidence. However, surveillance findings and prevention recommendations have the potential to lead to enhanced awareness, improved capture of WRA cases, improved prognosis, and real reductions in workplace exposures that cause and exacerbate asthma in a variety of settings.

ⁱ Rutala WA, Weber DJ. July 2011. Selection of the ideal disinfectant. *Inf Contr and Hosp Epi* 35(7):855-65.