



**Division of Environmental and Occupational Disease Control
Occupational Health Branch**

HAZARD EVALUATION SYSTEM AND INFORMATION SERVICE

Annual Report

November 1, 2013 – October 31, 2014

A report to the California Legislature submitted to the Department of Industrial Relations
for the Hazard Evaluation System and Information Service

December 2014

HAZARD EVALUATION SYSTEM AND INFORMATION SERVICE

2013-2014 ANNUAL REPORT

Executive Summary

This report is mandated in Labor Code section 147.2. Herein are detailed the implementation and operation of a “repository of current data on toxic materials and harmful physical agents in use or potentially in use in places of employment in the state,” as mandated by the above code section. Under legislation signed by Governor Brown in September 2014 (Statutes of 2014, Chapter 830; Senate Bill 193 – Monning), the Labor Code was amended to clarify that “repository” refers to the program which was established in 1978 and is now known as the Hazard Evaluation System and Information Service (HESIS). HESIS is located within the California Department of Public Health (CDPH) Occupational Health Branch (OHB) and is supported by an interagency agreement with the Department of Industrial Relations (DIR).

This report includes

- The toxic materials, harmful physical agents, and other workplace hazards investigated during the past year and recommendations made concerning them;
- Actions taken to inform interested persons of possible hazards of exposure to toxic materials and harmful physical agents;
- Any recommendations for legislative changes relating to HESIS functions; and
- The amounts and sources of funds allocated for repository activities.

The mandates of the Labor Code have been implemented through the provision of

- Technical support and consultation regarding occupational health to DIR, other programs within the CDPH, and other agencies and organizations;
- A telephone information service for individuals seeking information about workplace hazards;
- Educational materials and education/outreach;
- Technical input and recommendations on standards-setting;
- Hazard assessment; and
- Rapid access to electronic databases and full-text articles through CDPH’s contract with the Public Health Library of the University of California, Berkeley.

In 2013-2014, HESIS continued to implement its mandates to protect California workers from occupational illness and disease. HESIS identified, evaluated, and provided practical information on toxic chemicals and other workplace hazards; assisted the DIR

Division of Occupational Safety and Health (Cal/OSHA) in determining whether illnesses and diseases were work-related and in promulgating protective occupational health standards; and initiated and worked collaboratively with others on targeted public health projects and activities. Accomplishments of HESIS during this period include the following:

- Provided technical support to Cal/OSHA's Research and Standards Unit on revision of the Director's List of Hazardous Substances and on the development of other occupational health and safety standards.
- Provided 20 medical consultations to Cal/OSHA enforcement staff concerning a total of 21 employees in incidents of serious or fatal injury/illness at various work sites.

Medical consultations, which often address the issue of the work-relatedness of an injury, illness, or fatality, typically begin with a request from Cal/OSHA staff, followed by information gathering, data synthesis, medical literature and records review, and report writing.

- Responded to 105 calls to the Workplace Hazard Helpline (also referred to as the Telephone Response System or TRS). Seventy-six percent of these calls were initiated by workers, relatives of workers, employers, health care providers treating workers, industrial hygiene/safety personnel, labor unions, or attorneys serving workers; five percent came from Cal/OSHA personnel.

A TRS response generally involves 1-3 telephone interactions with the caller, as well as online technical data retrieval, determination of appropriate referral avenues, and provision of supporting documentation, either as online links or in hard copy.

- Published and disseminated the following new HESIS fact sheet:
 - Isocyanates: Working Safely
<http://www.cdph.ca.gov/programs/hesis/Documents/iso.pdf>
- Revised and disseminated the following HESIS health hazard advisory:
 - N-Methylpyrrolidone (NMP)
<http://www.cdph.ca.gov/programs/hesis/Documents/nmp.pdf>
- Continued revisions on and/or translations of the following HESIS fact sheets:
 - Epoxy Resin Systems
 - Mercury
 - Electronic Waste Recycling: Working Safely (Spanish)

HESIS continued to work with collaborators to expand the public health impact of the program. This year, HESIS participated in meetings and other activities of various groups representing business, labor, health professionals, academia, and government. These groups include the following:

- Contractors State License Board
- Worksafe
- Western Occupational and Environmental Medicine Association (WOEMA)
- University of California, Center for Occupational and Environmental Health, Northern California
- Cal/EPA's Department of Toxic Substances Control

HESIS continued to provide technical assistance to Cal/OSHA to help prevent workers from becoming ill or injured. HESIS provided technical assistance to Cal/OSHA advisory committees to help develop policies and procedures to amend permissible exposure limits (PELs) for workplace chemicals and other agents. HESIS continued to serve as a referral source for inquiries received by Cal/OSHA on the health hazards of chemicals and other workplace hazards and to inform employers and workers about Cal/OSHA regulations and services through the HESIS Workplace Hazard Helpline and HESIS publications.

Other collaborative public health activities this year include the following:

- Initiated an interagency discussion among occupational health professionals and managers from CDPH and Cal/OSHA to consider and recommend the appropriate level of personal protective clothing and respiratory protection for preventing Ebola virus transmission to health care workers. HESIS collected and shared articles from the scientific literature on transmission and control.
- Collaborated with the Occupational Health Internship Program in a project to evaluate the impact of existing HESIS health and safety educational materials, describe the usage of methylene chloride in workplaces, evaluate the performance and safety of safer-alternative chemical paint removers, and develop a worker educational piece on the dangers of chemical paint removers. The project helped inform HESIS on factors that affect choices employers make when selecting one chemical over another, on ways to promote safer chemical alternatives, and on ways to better educate employers and workers.
- Continued to participate in a joint investigation of coccidioidomycosis (valley fever) cases among solar farm construction workers in San Luis Obispo County (SLO) that resulted in citations issued by Cal/OSHA to seven employers. Collaborators included Cal/OSHA Compliance, the SLO Public Health Department, and CDPH's Infectious Diseases Branch (IDB).

- Participated in a project along with the University of California, Berkeley and San Francisco, to evaluate the feasibility of characterizing occupational exposures for a cohort of pregnant patients and identifying toxicants that pose risks of developmental toxicity using occupational codes on patient information forms.

HESIS staff continued to assess the health hazards of specific work-related exposures and provide technical assistance to agencies and groups. Surveillance of the occupational health literature, identification of new and unappreciated hazards, and expansion of the information repository are ongoing. The OHB website at www.cdph.ca.gov/programs/ohb showcases the publications and other resources developed by HESIS.

Specific Accomplishments by Mandate

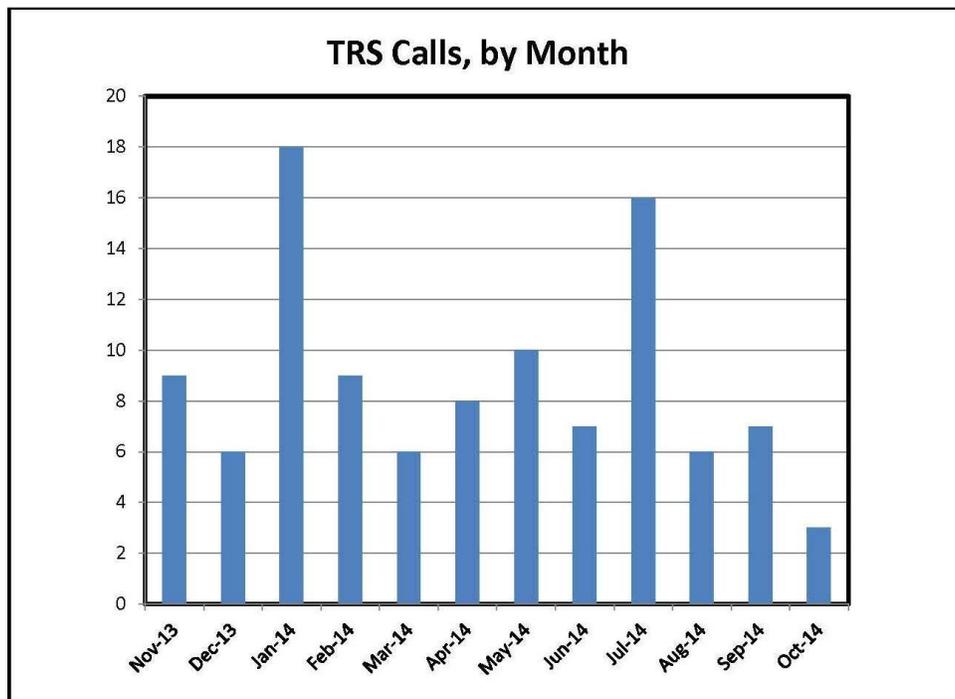
Labor Code Section 147.2 – Mandate 1

Provide reliable information of practical use to employers, employees, representatives of employees, and other governmental agencies on the possible hazards to employees of exposure to toxic materials or harmful physical agents.

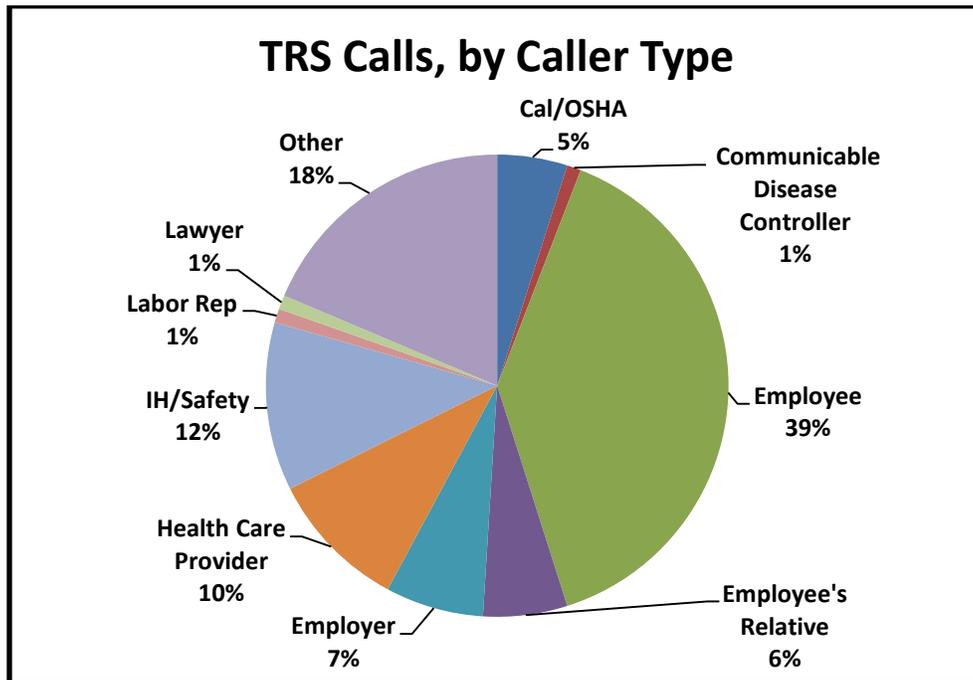
1. Workplace Hazard Helpline / Telephone Response System (TRS)

A total of 105 calls were logged from November 2013 through October 2014.

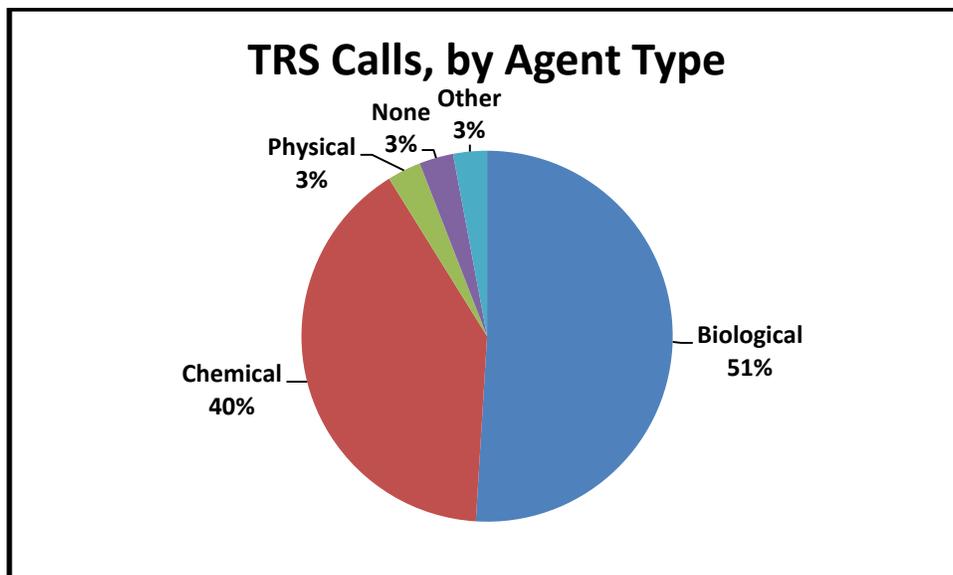
- Monthly calls ranged from 3 to 18, led by January 2014.



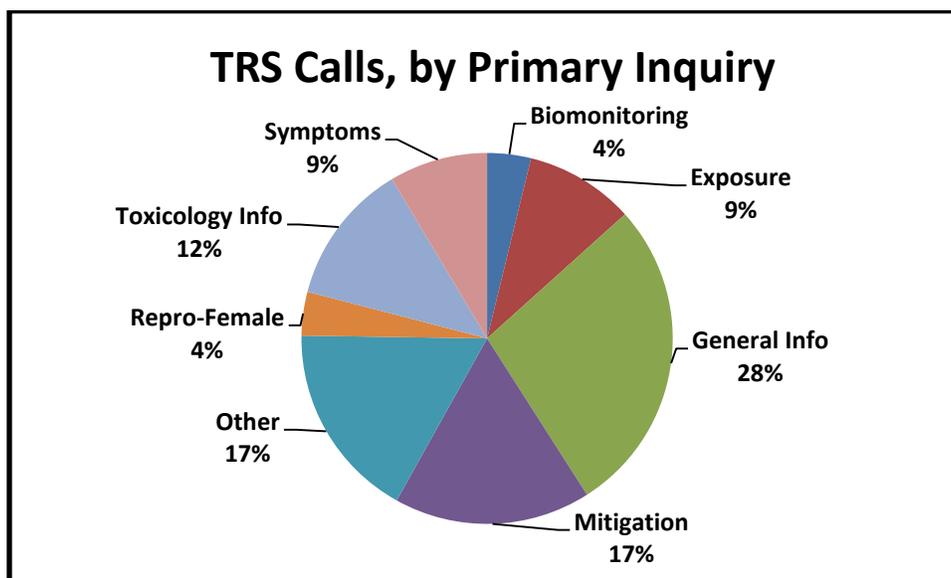
- Callers. Most inquiries came from employees and their relatives, followed by “other,” industrial hygiene/safety personnel, health care providers, and employers.



- Agents of concern were principally biological (e.g., bloodborne pathogens, aerosol transmissible diseases, coccidioidomycosis), followed in frequency by questions regarding the toxicity of specific chemicals, physical agents (e.g., cold temperature, noise), and other work-related issues.



- Primary inquiry. The greatest number of questions related to general workplace information, followed in frequency by questions regarding ways to control the hazard, “other” questions (e.g., mold), questions regarding the toxicity of specific chemicals, questions about workplace exposures, questions about the relationship of symptoms to work exposures, and questions about pregnancy risks. Examples of “general information” include inquiries regarding workplace policies or discrimination issues; workplace sanitation; and guidance on developing injury and illness prevention, hazard communication, and respiratory protection programs.



- Examples of 2013-2014 TRS calls
 - A veterinarian called to request information on various hazardous chemicals and ask about the potential for her exposure to contribute to her existing symptoms. HESIS staff visited the workplace to identify potential exposures and reviewed the literature for information on the potential health effects from exposure to waste anesthetic gases. Staff also provided advice to the employer on controlling exposure to waste anesthetic gases.
 - A pharmacy technician shop steward called to request information about regulations and guidelines for the safe transport of chemotherapeutic drugs within a medical center. HESIS provided the National Institute for Occupational Safety and Health guidelines on preventing exposure to chemotherapeutic agents and other hazardous drugs, including measures to prevent exposure during transport and handling. HESIS staff also

provided information on the requirements of the Hazard Communication regulation.

- A worker called who was experiencing respiratory symptoms associated with exposure to methylene chloride (MeCl) and other solvents used in bathtub refinishing. HESIS assisted him in receiving treatment at an occupational and environmental medicine clinic. The employer does large-volume tub refinishing for hotel chains in multiple states. Workers refinish tubs onsite, sealing off the bathrooms and creating a confined-space situation with limited ventilation. HESIS staff informed the worker that the personal protective equipment (PPE) provided by the employer did not protect against MeCl exposure. HESIS recommended alternatives to MeCl and changes to the PPE that workers wear. This case highlights an industry that was previously considered to be primarily a cottage industry with local customers.
- A family member of a worker who died of cancer called to ask whether the deceased's exposure to hexavalent chromium and arsenic at the workplace could have caused the cancer. HESIS staff reviewed several authoritative sources and provided a summary on carcinogenicity of both hexavalent chromium and arsenic.
- A worker who had used solvents in lithographic printing for many years developed asthma. HESIS staff provided information on solvent exposure from the use of lithographic cleanup chemicals and provided relevant review articles describing the hazards of solvents in lithographic cleanup and safer alternatives that may be available.
- A health care worker called to ask whether contact lenses could be safely worn by someone caring for an Ebola patient. HESIS responded that the powered air purifying respirators (PAPRs) indicated for respiratory protection had hoods that completely covered the head and neck, safely accommodating the use of contact lenses.
- A teacher with allergy symptoms called to ask about her right to obtain an air sampling mold report prepared on behalf of her employer. HESIS staff informed her that Cal/OSHA had regulations requiring employers to provide results of exposure monitoring to employees and to correct uncontrolled indoor accumulation of water that may cause mold.
- Electronic database of TRS calls. HESIS' searchable database of TRS calls utilizes EpilInfo software and is routinely employed by staff when responding to information requests.

- TRS intranet site. HESIS utilizes a CDPH Information Technology Services' SharePoint utility to maintain an intranet site for use by TRS responders within OHB. The site includes commonly consulted documents, useful website URLs, agency contacts, and other information resources.

2. Educational Materials Development

- Methylene chloride. HESIS continued to work collaboratively with the Occupational Health Surveillance and Evaluation Program within OHB in updating and disseminating educational documents to promote the use of safer paint-stripping products. These educational materials include the following:
 - Color-coded poster highlighting alternative stripper formulations
 - Guide to paint stripping products
 - Guide to recommended personal protective equipment

The above materials can be accessed at OHB's Methylene Chloride Topic Page, <http://www.cdph.ca.gov/programs/ohb/Pages/methylenechloride.aspx>.

- Isocyanates. HESIS revised Isocyanates: Working Safely. The fact sheet emphasizes the hierarchy of industrial hygiene controls, such as considering whether safer alternatives exist, with specific application to auto body paint and spray polyurethane foam insulation and roofing. HESIS provides worker protection recommendations for emerging isocyanate industries, including spray polyurethane foam roofing and insulation. In developing this revision, HESIS staff obtained input from key informants in academia, industry, and labor. Reviewers included a large automotive paint manufacturer, collision repair and spray paint applicators, a spray polyurethane foam trade association, the United Union of Roofers, Waterproofers and Allied Workers, and the Center for Construction Research and Training. Revision of this document coincided with a special emphasis program on isocyanate exposure held by the Occupational Safety and Health Administration (Fed/OSHA).

The fact sheet can be accessed at OHB's Working Safely with Isocyanates Topic Page: www.cdph.ca.gov/programs/hesis/Pages/Isocyanates.aspx.

- N-Methylpyrrolidone (NMP). Anticipating the 2014 adoption of a new permissible exposure limit for NMP by Cal/OSHA, HESIS revised and updated the HESIS health hazard advisory on NMP to include this regulatory change. The revised advisory contains information on the adverse health effects of NMP, emphasizes the use of safer alternatives, and contains an updated list of commercially available products that have NMP as an ingredient.

The NMP Health Hazard Advisory can be accessed at <http://www.cdph.ca.gov/programs/hesis/Documents/nmp.pdf>.

3. Educational Materials Dissemination

- Mass mailings and widely disseminated articles

HESIS distributed hard copies of the fact sheet *Isocyanates: Working Safely* by mail to 1270 spray polyurethane roofing and insulation contractors, auto body painters, apprenticeship training programs, and other businesses identified as regular users of polyurethane systems.

HESIS staff developed a new Isocyanates website topic page to enable easy access to the revised fact sheet and related OHB educational materials on work-related asthma, as well as to useful materials from other organizations and free online training on isocyanates offered through the American Chemistry Council. The Working Safely with Isocyanates web page may be accessed at <http://www.cdph.ca.gov/programs/hesis/Pages/Isocyanates.aspx>.

To reach a wide audience of 5,000+ occupational health stakeholders including construction contractors, HESIS distributed a link to the fact sheet *Isocyanates: Working Safely* and the new web page through an article in the Occupational Health Branch's electronic newsletter, *Occupational Health Watch*. This outreach provided information on health hazards from isocyanates and ways to minimize workplace exposure. The newsletter may be accessed at <http://bit.ly/WdHA11>.

HESIS contributed to the summer 2014 *California Contractors State License Board Newsletter* an article on spray polyurethane foam that covered health risks and safety measures. This electronic newsletter goes to many of the 124,000 licensed contractors in the state. The article titled "Chemical in SPF Poses Health Risks without Proper Safety Steps" provides a link to the OHB topic page where contractors can get guidance on minimizing exposure to the family of chemicals known as isocyanates. The article can be viewed at <http://cslb.ca.gov/Newsletter/2014-Summer/isocyanates.asp>.

HESIS continued to provide outreach to independently owned hardware, building supply, and painting supply stores to promote safer paint stripping products for contractors and other employers. For a summer 2014 project, two student interns from the Occupational Health Internship Program were placed at OHB to promote awareness of the hazards of methylene chloride and NMP in paint strippers and assist painting contractors with trying a safer alternative: benzyl-alcohol-based strippers.

HESIS also contributed to an article, "Toxic Paint Remover: Safer Choices," that appeared in the spring 2014 *California Contractors State License Board Newsletter*. The article provides a link to the OHB topic page [Preventing Worker Deaths from Paint Strippers Containing Methylene Chloride](#), where contractors

can get guidance on safer alternatives to methylene-chloride-containing paint strippers and information on ways to minimize exposure. The article can be viewed at

www.cslb.ca.gov/resources/newsletters/ContractorNewsletter2014Spring.pdf.

- Dissemination through Cal/OSHA and the HESIS Publications Request Line

HESIS distributed hard copies of its publications through outreach activities and in response to direct requests during the report period.

HESIS continued to mail its publications to the Cal/OSHA district and area offices for further dissemination by Enforcement and Consultation staff and to serve as resource information for their telephone consultations.

Organizations and groups that requested and disseminated HESIS publications include the following:

- UCLA Labor Occupational Safety and Health Program
- Port of Oakland
- Cal/OSHA
- Cosmetology colleges
- CAL FIRE
- Contractors State License Board
- City and County of San Francisco

- Dissemination through conferences, meetings, and presentations

HESIS distributed its publications at formal conferences and meetings including the following:

- Pacific Builders Safety Expo
- State Building and Construction Trades Council of California
- Workers' Memorial Day, Los Angeles
- Workers' Memorial Day, Oakland
- American Industrial Hygiene Association, Northern California Section
- Conference for safety representatives hosted by Worksafe and the Labor Occupational Health Program, University of California, Berkeley
- UCSF Occupational and Environmental Interdisciplinary Grand Rounds
- Western States Occupational Network (WestON) annual meeting
- American Public Health Association annual conference
- Cal/OSHA Advisory Committee and Senior Industrial Hygienist Technical Meetings

- TRS consultations

HESIS disseminated its publications to supplement and reinforce the information provided to callers.

- OHB website

HESIS continued to disseminate its educational materials via the program's website: www.cdph.ca.gov/programs/hesis/Pages/Publications.aspx.

The top ten HESIS publications downloaded or viewed during the report period were the following:

1. Understanding Toxic Substances
2. If I'm Pregnant, Can the Chemicals I Work With Harm My Baby?
3. Formaldehyde Fact Sheet
4. Isocyanates: Working Safely Fact Sheet
5. Epoxy Resin Systems Fact Sheet
6. Methyl Methacrylate Fact Sheet
7. Methylene Chloride Fact Sheet
8. N-Methylpyrrolidone (NMP) Health Hazard Advisory
9. Occupational Exposure to Rabies Virus Fact Sheet
10. Glycol Ethers Fact Sheet

4. Presentations and Scientific Publications

- HESIS and OHB staff presentations

Dennis Shusterman, MD, MPH, HESIS Chief, spoke on the following topics:

- 3/5/2014 – “Work-Related Pneumonitis: Infectious, Immunologic, or Toxic?” at Updates in Occupational Health CME session, University of California, San Francisco
- 11/14/2013 – “Health Effects of Methylene Chloride and Other Solvents” at the University of California, Berkeley, School of Public Health, Occupational and Environmental Health Graduate Division, Current Topics in Environmental Medicine class

David Harrington, MPH, an OHB colleague, spoke about HESIS work on the following topic:

- 5/1/2014 – “Occupational Health Branch’s Outreach on Valley Fever and Safer Paint Strippers,” in a course titled Cal/OSHA Standards for the Construction Industry, put on by the Sacramento Regional Builders Exchange for health and safety staff in construction and public agencies, Sacramento

Jason Wilken, PhD, Epidemic Intelligence Service Officer assigned to OHB by the Centers for Disease Control and Prevention (CDC), spoke about HESIS work on coccidioidomycosis at the following events:

- 9/26/2014 – “Valley Fever and Agriculture” at the 2014 Strategic Planning Meeting of the Western Center for Agricultural Health and Safety, University of California, Davis
- 5/10/2014 – “Coccidioidomycosis among Outdoor California Workers” at an Occupational and Environmental Medicine Symposium for occupational medicine providers, University of California, Davis
- 3/6/2014 – “Occupational Factors in Coronavirus, Hantavirus, Avian Influenza, Coccidioidomycosis, and other Emerging Pathogens” at Occupational and Environmental Factors in Infectious Disease, a continuing education course for occupational and environmental medicine providers, University of California, San Francisco
- 11/14/2013 – “Outbreak of Coccidioidomycosis among Solar Panel Farm Construction Workers” at Occupational and Environmental Interdisciplinary Grand Rounds (for medical providers), University of California, San Francisco

Barbara Materna, PhD, CIH, OHB Chief (and Acting HESIS Chief since Dr. Shusterman’s August 2014 retirement), spoke about HESIS work at the following events:

- 9/16/2014 – “The CDPH’s Occupational Health Branch: Promoting Safe & Healthy Workplaces” at a lunch meeting of the Stanislaus County Safety Council, Modesto
 - 9/9/2014 – “Occupational Health Risks from Infectious Diseases and Emerging Pathogens” at a dinner meeting of the American Industrial Hygiene Council, Northern California Section, Berkeley
 - 12/2/2013 – “Update from the CDPH Occupational Health Branch” at the California Industrial Hygiene Council annual conference, San Francisco
- Public health and scientific journal publications

HESIS contributed to the article “Coccidioidomycosis Among Cast and Crew Members at an Outdoor Television Filming Event — California, 2012,” which was published in the CDC’s *Morbidity and Mortality Weekly Report* (Wilken 2014). The article describes the outbreak investigation, in which HESIS provided technical assistance to Los Angeles County Health Department, including

occupational coccidioidomycosis prevention recommendations. The article may be viewed at

www.cdc.gov/mmwr/preview/mmwrhtml/mm6315a1.htm?s_cid=mm6315a1_w.

Labor Code Section 147.2 – Mandate 2

Collect and evaluate toxicological and epidemiological data and any other information that may be pertinent to establishing harmful effects on health of exposure to toxic materials or harmful physical agents.

1. Technical Assistance – Cal/OSHA Medical Unit Consultations

- HESIS performed a total of 20 medical consultations, involving a total of 21 employees, during the reporting period. The workplace hazards, summarized by class, include the following:
 - Physical (heat) in 17 investigations involving 18 workers
 - Physical (a fall from height) in 1 investigation involving 1 worker
 - Physical (a suspected electrocution) in 1 investigation involving 1 worker
 - Chemical in 1 investigation involving 1 worker
- Physical (heat). Of 18 suspected heat illness cases, 11 were medically confirmed as primarily heat-related and 1 as partially heat-related. For 6 cases, heat was judged not to have played a significant role. Eight heat-related investigations involved fatalities.
- Physical (fall from height). The fall was a non-fatality and was found to be work-related.
- Physical (suspected electrocution). The suspected electrocution was a fatality and was not found to be work-related.
- Chemical. One non-fatality (a seizure in a pharmaceutical worker involved in a production line malfunction) was judged to be work-related.
- Biological. No infectious disease cases were referred from compliance officers in 2013-2014. (See separate description of joint CDPH / DOSH / San Luis Obispo County investigation of coccidioidomycosis among solar farm workers.)

2. Support for Cal/OSHA Appeals Hearings

- No sworn testimony was required in 2013-2014.

3. Selected Hazard Assessments and Cal/OSHA Collaborative Investigations

- Cal/OSHA compliance. HESIS (and CDPH Infectious Diseases Branch [IDB]) personnel previously identified an outbreak of coccidioidomycosis (valley fever or “cocci”) infections among workers at two solar energy construction projects (“solar farms”). HESIS identified serious illnesses (including hospitalizations) and participated with Cal/OSHA in the subsequent interagency investigation, which resulted in citations issued to seven employers. HESIS and IDB are currently conducting a follow-up survey of all known individuals employed at the two sites since the inception of construction activities (i.e., late 2011). The objective of this survey is to identify additional confirmed cases (particularly among workers residing out-of-state), individuals who experienced symptoms consistent with self-limited coccidioidomycosis infection, and potential risk factors for infection. A manuscript was prepared for publication. HESIS continues to provide support to Cal/OSHA related to employer conferences regarding settlements and/or appeals.

4. Technical Assistance – Selected Other Constituencies

State Government

- University of California, Davis. HESIS staff provided information to researchers to enable them to secure funding from the National Institute for Occupational Safety and Health (NIOSH) to study the incidence of coccidioidomycosis in agricultural workers.
- California State Parks Service. HESIS staff consulted with the Public Safety Superintendent on the elements of an infectious disease exposure control program for emergency medical services. HESIS sent regulatory information, guidelines specific for law enforcement, and an example of an aerosol diseases exposure control plan.
- California Department of Corrections and Rehabilitation. HESIS staff had previously participated in a CDC/NIOSH health hazard evaluation visit at a prison and consulted with members of the California Department of Corrections (CDCR) Public Health Unit within Correctional Health Care Services regarding environmental testing for *Coccidioides* spores. In the past year, HESIS staff provided consultations on direct and surrogate measurement methods for the presence of *Coccidioides* spores.
- California High-Speed Rail Authority. HESIS staff consulted with program managers and environmental, safety, and risk-management staff from the High-Speed Rail Authority on dust mitigation measures to minimize the risk to construction workers of acquiring occupational coccidioidomycosis (valley fever).

Staff recommended exposure control methods, training for workers, and reporting serious illnesses internally and to Cal/OSHA.

- California Department of Toxic Substances Control (DTSC)
 - HESIS staff provided technical information to DTSC for use in a background document on spray polyurethane foam insulation materials containing diisocyanates. The document was used to communicate the basis for listing these materials as priority products with a chemical of concern for consideration by DTSC for possible regulation. The document covered exposures, potential adverse health hazards, and the availability of safer alternatives.
 - DTSC informed CDPH that DTSC would soon be issuing a new permit for expansion of a hazardous waste landfill. The permit allowed construction in previously undisturbed soil in an area where the fungus that causes valley fever was known to be endemic. Working with DTSC and the county, HESIS staff prepared recommendations for the employer on ways to prevent occupational exposure to the fungus.

Local Government

- California Conference of Local Health Officers
 - HESIS provided assistance to a county communicable disease controller in assessing the risk to and recommending control measures for mortuary employees who were considering embalming the body of a person known to have had active tuberculosis (TB). HESIS provided articles on the risk of occupational transmission of TB disease and provided guidelines and recommendations for ventilation and employee respiratory protection.
 - HESIS assisted local health departments in Los Angeles and Ventura Counties with the investigation of a coccidioidomycosis outbreak that occurred among cast and crew during the filming of a television show. Staff provided the employer with the HESIS fact sheet, Preventing Work-Related Coccidioidomycosis (Valley Fever) for integration into their injury and illness prevention program (IIPP).

Academia

- Pregnancy and Work: Identifying occupational exposures to pregnant women in a prenatal clinical setting

The Pregnancy and Work Project began through an interagency agreement with the University of California, Berkeley. The goal of the project is to assess the

feasibility of integrating a self-administered occupation and hobby questionnaire into standard prenatal and OB/GYN care. This information would help HESIS conduct industry and job-related education for and outreach to workers, employers, and health care providers on reproductive and developmental toxicants and ways to protect against exposure. The project continues under a no-cost extension with UCSF's Project on Reproductive Health and the Environment (PRHE). PRHE prepared a manuscript that summarized the Pregnancy and Work Project for peer-reviewed publication. This project included 69 women from San Francisco General Hospital's prenatal clinic. Of the 69 women, 36 were referred to the UCSF Occupational and Environmental Medicine Clinic and/or the HESIS Workplace Hazard Helpline for further risk assessment. The manuscript provides recommendations for health care providers interested in using questionnaires during routine care to identify occupational exposures.

Labor Representative

- HESIS discussed guidelines and the absence of a specific exposure control regulation with a Service Employees International Union shop steward for pharmacy technicians. HESIS staff provided recommendations and educational materials including the NIOSH guidelines on preventing exposure to chemotherapeutic agents. HESIS staff also encouraged the shop steward to become involved in Cal/OSHA's rulemaking on hazardous drugs.

5. Information Repository

- HESIS Electronic Repository of Occupational Health Information

HESIS staff, in collaboration with the UC Berkeley Public Health Library, continued electronic document delivery to Cal/OSHA Research and Standards Unit staff and expanded services to the Medical Unit staff. HESIS staff continues to review table-of-contents alerts in toxicology, industrial hygiene, and occupational medicine journals and to compile selected key articles in electronic format.

Labor Code Section 147.2 – Mandate 3

Recommend to the Chief of the Division of Occupational Safety and Health Administration that an occupational safety and health standard be developed whenever it has been determined that a substance in use or potentially in use in places of employment is potentially toxic at the concentrations or under the conditions used.

Standards Recommendations and Assistance

1. Cal/OSHA Development of Permissible Exposure Limits (PELs) in California Code of Regulations Title 8, Section 5155, Health Effects Advisory Committee (HEAC)

- Di-ethyl-hexyl phthalate. HESIS completed a draft toxicology review in 2013 and continued work on the derivation of a potential occupational exposure limit based upon animal experimental data.
- N-butyl glycidyl ether. HESIS continued work on a draft toxicology review and derivation of a potential occupational exposure limit based upon animal experimental data.

2. Cal/OSHA Standards Advisory Committees (Other than HEAC)

- HESIS staff participated in Cal/OSHA's advisory process on revision of the Hazard Communication Standard to accommodate Federal OSHA changes reflecting the Globally Harmonized System for Classification and Labeling of Chemicals (CCR Title 8, section 5194). Consistent with California's unique regulatory history in this arena, HESIS staff reviewed authoritative sources for proposed additions to the Director's List of Hazardous Substances (Labor Code, section 6380 *et seq.*) and submitted to Cal/OSHA staff-proposed changes for updating the Director's List.
- HESIS staff also participated in Cal/OSHA's Advisory Committee Meeting on Antineoplastic Drugs. Under Labor Code section 144.8, after consultation with stakeholders, the Occupational Safety and Health Standards Board must develop a standard that addresses the handling of antineoplastic drugs in health care facilities. HESIS staff has also contributed articles from the scientific literature on hazardous drug risk assessment and control.

Labor Code Section 147.2 – Mandate 4

Notify the Director of Pesticide Regulation of any information developed by HESIS that is relevant to carrying out his or her responsibilities under Chapters 2 (commencing with section 12751) and 3 (commencing with section 14001) of Division 7 of the Food and Agricultural Code.

There were no activities under this mandate during the report period.

Labor Code Section 147.2 – Mandate 5

Assure the use and non-duplication of resources of other governmental agencies.

Use of Other Governmental Agency Services / Resources

- Cal/OSHA. HESIS continued, on a routine basis, to meet with, consult with, and make referrals to Cal/OSHA and to use and disseminate Cal/OSHA educational materials.
- CDPH. To evaluate and provide consultations regarding workplace hazards, HESIS continued to consult routinely with, make referrals to, and use materials and website information developed by numerous CDPH programs. In this report period, these programs included the Indoor Air Quality Section of the Environmental Health Laboratory Branch, the Environmental Management Branch, the Vector-Borne Disease Section, the Infectious Diseases Branch, the Radiologic Health Branch, the Environmental Health Investigations Branch, and the Immunization Branch.
- Cal/EPA Office of Environmental Health Hazard Assessment. HESIS continued to consult with OEHHA staff and use risk-assessment resources to identify occupational carcinogens and reproductive toxicants and to assist Cal/OSHA in developing permissible exposure limits for workplace chemicals. HESIS has access to the resources of the Occupational and Environmental Health Library at OEHHA.
- Cal/EPA Department of Toxic Substances Control, Pollution Prevention, and Technology Development. HESIS continued to consult with Cal/EPA staff and use technical information and other resources to recommend pollution prevention strategies to protect workers from the adverse health effects of organic solvents and other hazardous substances.
- National Institute for Occupational Safety and Health. HESIS continued to use and disseminate NIOSH educational materials and to use and refer callers to the NIOSH website for information and publications. HESIS provided links to its documents in NIOSH's clearinghouse for products from state-based occupational health surveillance programs, which may be accessed at <http://wwwn.cdc.gov/niosh-survapps/statedocs/>.

Labor Code Section 147.2 – Mandate 6

Recommend legislative changes related to the functions of HESIS.

There were no activities conducted under this mandate in the report period. However, a previous recommendation for legislative change, made in the 2003-2004 HESIS Annual Report, was implemented in 2014 when the legislature passed Senate Bill 193 (Monning) and the bill was signed into law by Governor Jerry Brown (Statutes of 2014, Chapter 830).

This legislation amended Labor Code section 147.2 to provide new authority that will assist HESIS in carrying out its mandate to give early warning to employers and workers when it determines that a chemical used in the workplace potentially poses a serious new or unrecognized threat to the health of workers. As of the legislation's effective date of January 1, 2016, HESIS will be able to request and obtain from chemical manufacturers, suppliers, and distributors the names and addresses of customers to whom a specific chemical or chemical product has been sold for use in California workplaces. Having this information will increase the efficiency and effectiveness of the dissemination of HESIS health hazard alerts to California workplaces. HESIS may also request and obtain information about quantities of chemicals distributed and the proportion of a specified chemical within a mixture. Use of this authority requires consultation with the Director of DIR and the Chief of the CDPH Division of Environmental and Occupational Disease Control. Any information obtained will be considered exempt from disclosure under the Public Records Act unless it is required to be publicly disclosed under other laws or regulations; however, it may be disclosed to other state agencies.

Authorized Positions in HESIS for 2013-2014

Permanent Positions

Public Health Medical Officer III	Dennis Shusterman, MD, MPH	100%
Staff Toxicologist (Specialist)	Kashyap Thakore, PhD	100%
Research Scientist III (Phys/Engr Sci)	Jennifer McNary, MPH, CIH	100%
Management Services Technician	Angela Williams-Bell	100%

Source of Funding

HESIS is supported through an interagency agreement between the Department of Industrial Relations, Cal/OSHA, and the Occupational Health Branch of the Department of Public Health.

Annual Budget

The HESIS budget follows the state fiscal year cycle. The annual budget for July 1, 2013, through June 30, 2014, is \$718,907, and the budget for July 1, 2014, through June 30, 2015, is \$727,686.