



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

HAZARD EVALUATION SYSTEM AND INFORMATION SERVICE

Annual Report

November 1, 2014 – October 31, 2015

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

December 2015

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HAZARD EVALUATION SYSTEM AND INFORMATION SERVICE 2014–2015 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 established in 1978 that 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

- A listing of 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.

In 2014–2015, 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 promulgating protective occupational health standards; and initiated and worked collaboratively with others on targeted public health projects and activities. The mandates of the Labor Code have been implemented through the provision of

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

Selected accomplishments of HESIS during this period include:

- Responded to 123 calls to the Workplace Hazard Helpline (also referred to as the Telephone Response System, or TRS). Sixty-seven 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; 6 percent came from Cal/OSHA personnel. A TRS response generally involves one to three telephone interactions with the caller, as well as substantial online technical data retrieval and assessment, 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:

Electronic Waste Recycling: Working Safely (Spanish)
<http://www.cdph.ca.gov/programs/hesis/Pages/New.aspx>
- Conducted several key collaborative public health activities, including:
 - Response to possible Ebola Virus Disease risk in California. Beginning in the Fall of 2014 and continuing into 2015, HESIS participated in 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 Disease (EVD) transmission to health-care workers. HESIS collected, reviewed, and shared articles from the scientific literature on transmission and exposure control methods and gathered practical information from experts. In advance of having any patients suspected of having EVD in California, HESIS worked with infectious diseases staff in preparing guidance on protecting health-care workers for inpatient, outpatient, and ambulatory care settings, for emergency departments, and for managing contacts of EVD patients. HESIS staff responded to questions from local health officers and health-care providers on implementing the guidance and also reviewed and contributed to Cal/OSHA guidance documents on EVD.
 - Isoflurane exposure in veterinary hospitals and clinics. Following receipt of a call regarding neurological symptoms in a veterinarian, HESIS visited two veterinary hospitals and reviewed work practices and exposure monitoring results for these and similar workplaces. HESIS reviewed the literature on the potential health effects from exposure to the anesthetic vapor isoflurane. After interviewing stakeholders, HESIS determined that educational outreach would be beneficial to inform veterinary staff of potential health effects and of the need for exposure monitoring and control of waste anesthetic gases.

- Avian influenza in poultry workers. HESIS worked with colleagues in veterinary public health, infectious diseases, and the CDPH laboratory to develop draft guidance that communicates how CDPH and public health partners will monitor, detect, treat, and control possible avian influenza (AI) among workers exposed to an infected commercial poultry flock that requires depopulation. After it is finalized, the guidance will provide a framework for worker monitoring following any future outbreaks of avian influenza in commercial poultry and will raise awareness about applicable requirements of the Cal/OSHA Aerosol Transmissible Diseases – Zoonotic standard, Title 8 §5199.1.
- Coccidioidomycosis (Valley Fever). HESIS built upon prior experience investigating coccidioidomycosis among solar farm construction workers in collaboration with Cal/OSHA and a local health department by continuing to raise awareness about this workplace hazard and expanding relationships with other entities working on this topic. HESIS worked with local health departments to conduct further outreach promoting the HESIS Work-related Coccidioidomycosis (Valley Fever) fact sheet and a coccidioidomycosis curriculum for health-care providers. In 2015, the Centers for Disease Control and Prevention, Mycotic Diseases Branch, reconvened a national Coccidioidomycosis Public Health Workgroup, in which HESIS participates; this workgroup provides an opportunity to exchange information about current and future plans for Valley Fever–related activities and identify additional opportunities for collaboration.
- Evaluated the health hazards of specific work-related exposures and provided technical assistance to numerous agencies and groups.
- Conducted ongoing surveillance of the occupational health literature, identification of new and unappreciated hazards, and expansion of the information repository.
- Utilized the OHB website at www.cdph.ca.gov/programs/ohb and other information dissemination methods, including partnerships with other organizations, to showcase the publications and other resources developed by HESIS.

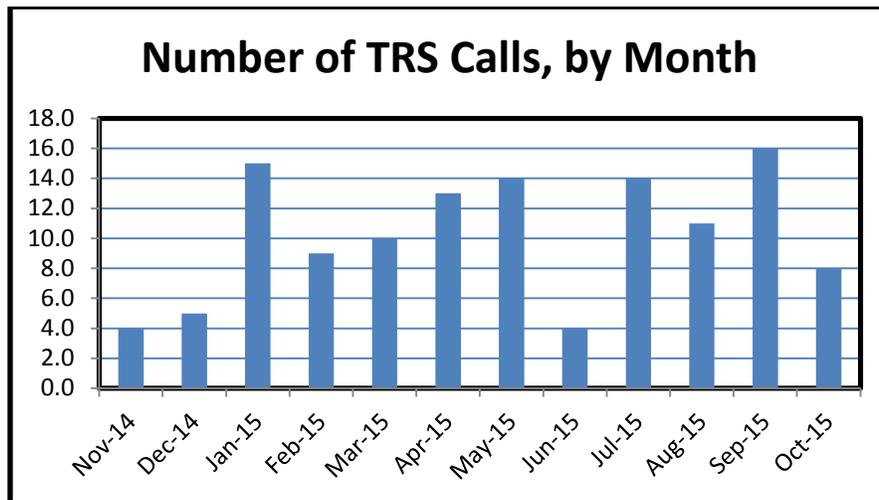
Labor Code Section 147.2 – Mandate 1

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

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

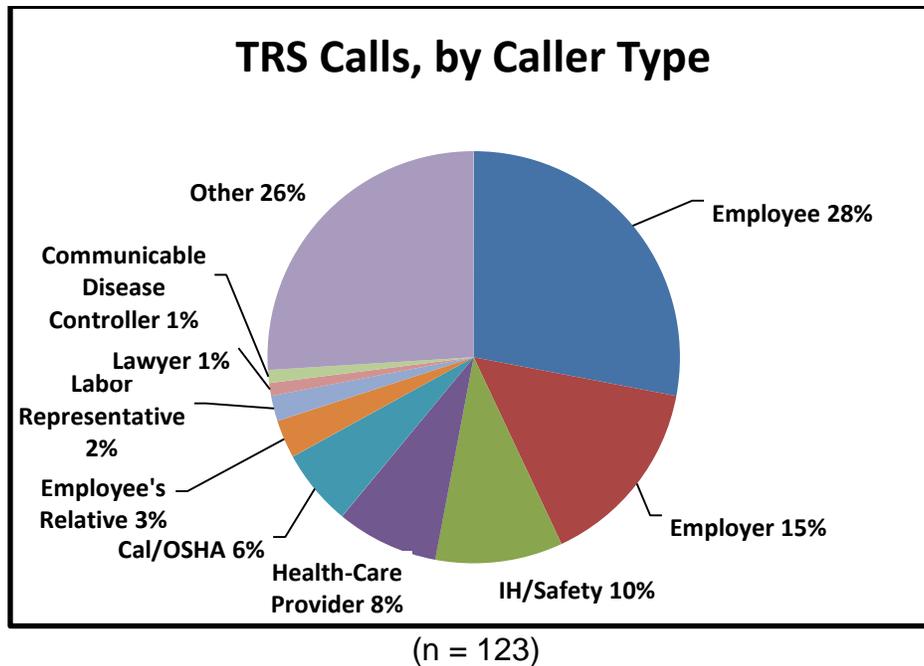
A total of 123 calls were logged from November 2014 through October 2015 (including some inquiries received via an email address on the CDPH website). A TRS response generally involves one to three telephone interactions with the caller, as well as substantial online technical data retrieval, determination of appropriate referral avenues, and provision of supporting documentation, either as online links or in hard copy. Interns, students, and fellows placed at OHB supplement the HESIS staff and work under their mentorship to assist with TRS response, gaining experience in addressing the questions and concerns raised by callers.

- Monthly calls ranged from 4 to 16, with the highest number in September 2015.

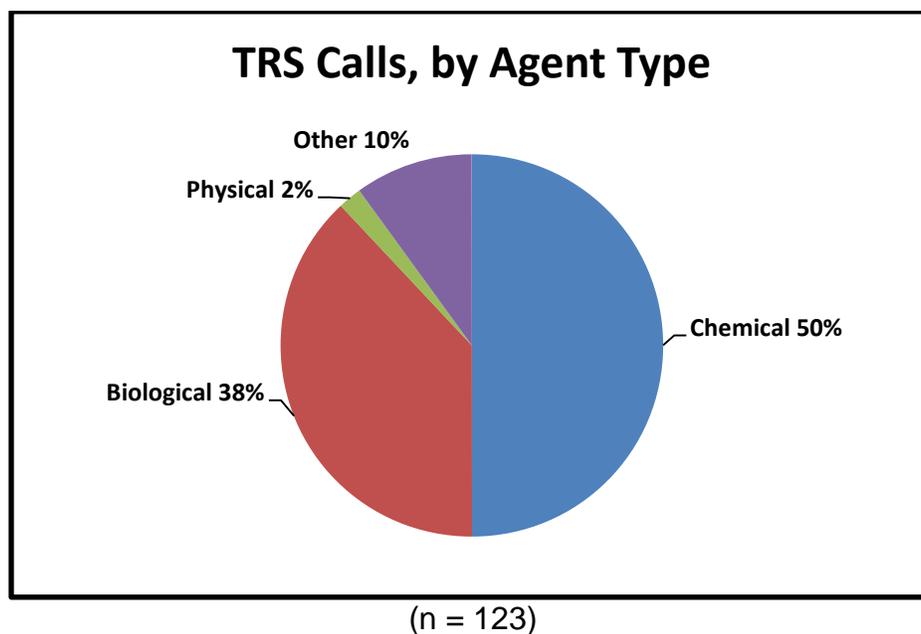


(n = 123)

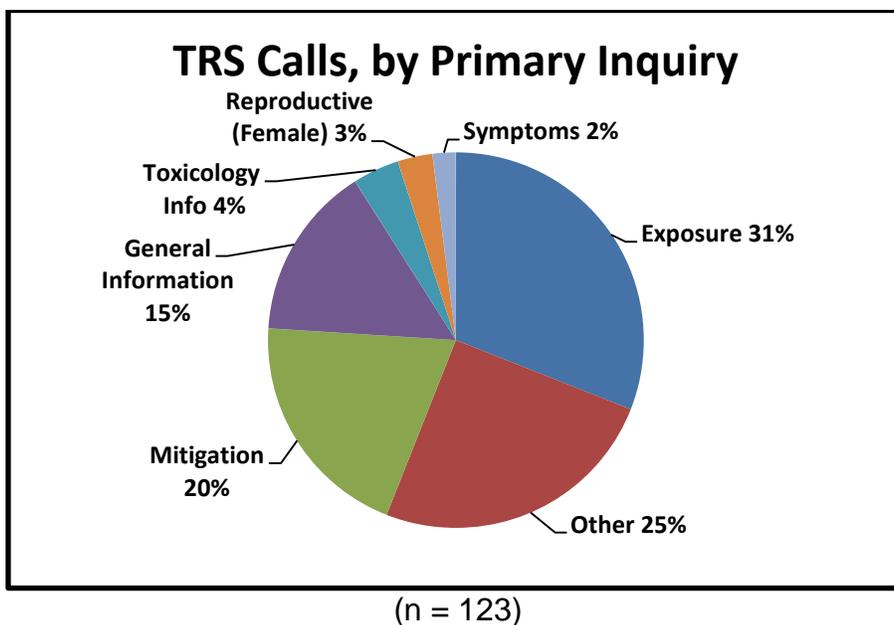
- Callers. Most inquiries came from employees and their relatives, followed by “other,” employers, industrial hygiene (IH)/safety personnel, health-care providers, and Cal/OSHA staff. (See the chart on the following page.)



- Hazardous agents of concern were principally chemical (e.g., formaldehyde, methylene chloride, n-methyl pyrrolidone), followed in frequency by questions about biological agents (e.g., bloodborne pathogens, aerosol transmissible diseases, coccidioidomycosis), physical agents (e.g., heat, physical injuries), and other work-related issues.



- Primary inquiry. The highest number of questions were about workplace exposures, followed in frequency by “other” questions (e.g., mold in residences, consumer exposures to toxic chemicals), questions regarding ways to control the hazard, questions related to general workplace information, questions regarding the toxicity of specific chemicals, questions about pregnancy risks, and questions about the relationship of symptoms to work exposures. 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 2014–2015 TRS calls
 - A veterinary technician called on behalf of a breastfeeding co-worker about hazards associated with exposure to a lead- and cadmium-containing alloy used to make radiation shielding. HESIS visited the radiation oncology clinic in the veterinary hospital to observe the process and prepared recommendations (provided as written guidance) for minimizing worker exposures to metal alloys.
 - A pathologist called regarding her exposure to formaldehyde, a carcinogenic chemical. HESIS provided its fact sheet on formaldehyde and discussed the regulatory requirements for handling formalin in the laboratory.

- A worker called to ask whether exposure to environmental tobacco smoke (secondhand smoke) was regulated in California workplaces. HESIS staff provided a summary of the provisions of Labor Code Section 6404.5 that prohibits smoking in places of employment.
- A retired U.S. Air Force firefighter called to ask whether his exposures to chlorobromomethane, a fire-extinguishing agent, or JP-4, a jet fuel, could cause cancer. HESIS staff reviewed authoritative sources and several recent articles from the toxicology and epidemiology literature regarding potential adverse health effects from these chemicals and provided a summary of this information to the requestor along with recommendations for further medical follow-up.
- A health-care provider requested information on hexavalent chromium and the potential for worker exposure during aircraft corrosion control. Her patient was diagnosed with nasal cancer many years after his potential occupational exposure to chromium VI in a surface coating on aluminum aircraft panels. HESIS staff reviewed the literature and provided information from the National Institute for Occupational Safety and Health (NIOSH)–recommended standard for occupational exposure to hexavalent chromium and the OSHA fact sheet on hexavalent chromium exposure in aerospace to the caller.
- A cashier requested information about potential exposure to chemicals in the thermal paper used in cash registers. HESIS provided information to the caller on potential exposure to bisphenol A.
- A hazardous materials remediation specialist requested advice on testing the air for mold following a sewage spill cleanup. HESIS recommended against measuring indoor microorganisms or using the presence of specific microorganisms to determine the level of health hazard or the need for further remediation and recommended more protective personal protective equipment than the company was planning to use.
- A technician requested information on the best glove to use to clean up a small spill from a leaking transformer at his worksite. HESIS provided a recommendation for gloves and referred the caller to the OSHA website for more information.
- A nurse practitioner requested information on appropriate clinical laboratory tests for workers exposed to n-hexane and benzene. HESIS provided information on the Biological Exposure Indices established by the American Conference of Governmental Industrial Hygienists (ACGIH) for possible use by the company’s occupational medicine provider.

- Electronic database of TRS calls. HESIS' searchable database of TRS calls uses 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 URLs, agency contacts, and other information resources.

2. Educational Materials Development

- Electronic Waste Recycling: Working Safely (in Spanish). HESIS completed the Spanish-language version of this fact sheet. HESIS had previously conducted field investigations of electronic waste recycling facilities and produced a fact sheet in English. When interviewing workers, HESIS received input that a Spanish-language version was needed. The Spanish-language version of the fact sheet was highlighted on the HESIS What's New web page and is available at <http://www.cdph.ca.gov/programs/hesis/Documents/EWaste-Span.pdf>.
- Mercury and epoxy resins. HESIS staff prepared a draft revision of the mercury fact sheet and collected information for an update of the epoxy resins fact sheet.
- Isoflurane in veterinary hospitals. HESIS began work on a new educational fact sheet on isoflurane, an anesthetic gas used by veterinarians and veterinary technicians. Work was initiated in this area after HESIS received two inquiries from employees regarding hazards in this type of workplace and conducted two site visits that revealed a lack of awareness of the Cal/OSHA isoflurane Permissible Exposure Limit and limited understanding of how to respond to air-monitoring measurements. HESIS collected input regarding the need for educational materials by visiting veterinary hospitals and interviewing key informants (e.g., representatives from the Veterinary Medical Board, two trade associations, and the veterinary medical supply industry) and by reviewing Cal/OSHA reports. Staff also conducted a literature review on this chemical. The information gained will inform the development of a fact sheet on potential health effects and on minimizing exposure to isoflurane.

3. Educational Materials Dissemination

- HESIS distributed the new Spanish-language version of the *Electronic Waste Recycling: Working Safely* fact sheet through the California Department of Toxic Substances Control website and through their on-site inspectors. Additional publicity for the fact sheet was planned for November 2015, and these activities will be described in next year's report.

- 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:

- UCLA Labor Occupational Safety and Health Program
- Port of Oakland
- Cal/OSHA
- Cosmetology colleges
- Contractors State License Board
- City and County of San Francisco
- State Compensation Insurance Fund
- Kaiser Permanente
- California Coccidioidomycosis Collaborative
- California Department of Toxic Substances Control
- National Institute of Health's e-Newsbrief of the National Clearinghouse

- Dissemination at conferences, meetings, and presentations

HESIS distributed its publications at formal conferences and meetings including:

- Pacific Builders Safety Expo
- State Building and Construction Trades Council of California
- Workers' Memorial Day, Oakland
- American Industrial Hygiene Association, Northern California Section
- American Public Health Association annual conference
- Conference for safety representatives hosted by Worksafe and the Labor Occupational Health Program, University of California, Berkeley
- Western States Occupational Network (WestON) annual meeting
- American Public Health Association annual conference
- Cal/OSHA Advisory Committee and Senior Industrial Hygienist Technical Meetings
- California Coccidioidomycosis Collaborative meeting
- U.S. Forest Service workshop on risk and resiliency

- TRS consultations

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

- Websites and e-newsletters

HESIS continued to use the program's CDPH website to disseminate its educational materials:

www.cdph.ca.gov/programs/hesis/Pages/Publications.aspx.

During the one-year report period, HESIS publications were downloaded more than 217,000 unique times. The top ten HESIS publications downloaded or viewed during the report period are listed below in order of volume. They represent nearly 50% of the downloads:

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

In addition to our educational materials, HESIS promotes our activities, other information of interest to stakeholders, and health and safety resources on our web pages. During the report period, HESIS web pages were visited 13,447 times.

In 2015, HESIS began to work with DIR's communications staff to develop a proposal for adding a HESIS description and links to HESIS and OHB resources on DIR web pages as well as additional links to DIR on the CDPH website. These links are expected to be added in 2016.

HESIS publicizes over 60 of its online educational materials and reports through a searchable website created by NIOSH, called the State-Based Occupational Health Surveillance Clearinghouse. The Clearinghouse, which includes publications from over 25 state occupational public health programs, was

featured in the October 2015 issue of OHB's stakeholder e-newsletter, *Occupational Health Watch*.

HESIS promoted its Isocyanates Fact Sheet through a contribution to the section "News from Our Partners" in the widely read electronic publication, *NIOSH e-News*. HESIS also distributed publications through the National Institute of Environmental Health Science's *e-Newsbrief* of the National Clearinghouse for Worker Safety and Training, which includes updates from government agencies on worker health and safety issues.

4. Presentations and Scientific Publications

- HESIS and OHB staff presentations

David Harrington, MPH, and Bob Harrison, MD, OHB colleagues, spoke about HESIS work on the following topics:

- "Methylene Chloride in Paint Strippers, An Unacceptable Risk and Safer Choices Campaign" at the American Public Health Association Annual Meeting, New Orleans, LA, November 17, 2014.
- "Methylene Chloride Safer Choices Campaign" at the Department of Industrial Relations brownbag seminar, Oakland, CA, December 9, 2014.

Barbara Materna, PhD, CIH, OHB Chief and Acting HESIS Chief, spoke about HESIS work:

- "Update from the CDPH Occupational Health Branch" at the California Industrial Hygiene Council annual conference, San Diego, December 3, 2014
- "Dialogue on Health-Care Worker Protection: From the Aerosol Transmissible Diseases Standard to Ebola Personal Protective Equipment" at a meeting of the Association of Occupational Health Professionals in Health-Care (AOHP) Northern CA chapter, Oakland, CA, January 9, 2015
- "Right to Know: Protecting Public Health by Reducing Toxics" at the Green California Summit, Sacramento, January 20, 2015
- "Ebola Personal Protective Equipment" at the Council of State and Territorial Epidemiologists annual meeting, Boston, June 14, 2015

- “Investigations of Occupational Coccidioidomycosis Outbreaks and Prevention Efforts” at the third California Coccidioidomycosis Collaborative Meeting, Visalia, August 27, 2015

Jennifer McNary, HESIS Research Scientist, spoke about HESIS work:

- “Preventing Exposure to Valley Fever (Coccidioidomycosis)” to U.S. Forest Service Health and Safety Officers, during their workshop on risk and resiliency, January 28, 2015. These health and safety officers are responsible for safety programs for employees in California who manage federal lands, which includes civil engineering, trail and road maintenance, forest biology, fuels and timber management, hydrology, and wildland fire suppression.
- Public health and scientific journal publications

HESIS contributed to the article “Coccidioidomycosis Among Workers Constructing Solar Power Farms, California, USA, 2011–2014,” published in the Centers for Disease Control and Prevention’s journal, *Emerging Infectious Diseases*, in November 2015 (online in October 2015). This article describes the interagency outbreak investigation and recommendations HESIS and OHB provided to the involved construction companies, in conjunction with Cal/OSHA and the San Luis Obispo County Public Health Department. The article is available at <http://wwwnc.cdc.gov/eid/article/21/11/pdfs/15-0129.pdf>.

Wilken JA, Sondermeyer G, Shusterman D, McNary J, Vugia DJ, McDowell A, et al. (2015) *Emerg Infect Dis.* 21(11):1997–2005.
<http://dx.doi.org/10.3201/eid2111.150129>

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. Selected Hazard Evaluations and Technical Assistance

- Isoflurane exposure in veterinary hospitals and clinics

After receipt of a call regarding a veterinarian who was showing neurological symptoms, HESIS visited two veterinary hospitals and reviewed work practices and exposure monitoring results for these and similar workplaces. HESIS reviewed the literature on the potential health effects from exposure to the anesthetic vapor isoflurane. After interviewing stakeholders, HESIS determined that educational outreach would be beneficial to inform veterinary staff of potential health effects and of the need for exposure monitoring and control of waste anesthetic gases. Educational materials are being developed (see Mandate 1).

- Response to possible Ebola Virus Disease risk in California

HESIS participated in 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 Disease (EVD) transmission to health-care workers. HESIS collected, reviewed, and shared articles from the scientific literature on transmission and exposure control methods and gathered practical information from experts. With input from Cal/OSHA health staff, HESIS developed a list of personal protective equipment (PPE) available on the market to assist health-care professionals in understanding PPE performance characteristics prior to selection and purchase.

Beginning in the fall of 2014, HESIS staff helped write CDPH guidance on protecting health-care workers in hospitals, clinics, and laboratories from infection with EVD. In advance of having any patients suspected of having EVD in California, HESIS worked with infectious diseases staff in preparing guidance for inpatient, outpatient, and ambulatory care settings, for emergency departments, and for managing contacts of EVD patients. HESIS staff also responded to questions from local health officers and health-care providers on implementing the guidance. When CDPH activated the Emergency Preparedness Office, Medical and Health Coordination Center (MHCC), and the Richmond Campus Coordination Center (RCCC) for Ebola, HESIS staff members were recruited to handle questions regarding occupational and environmental protection. HESIS responded through the RCCC to numerous questions from the public with information, guidance, and recommendations for a period of several months. HESIS also reviewed and contributed to Cal/OSHA guidance documents on EVD, to provide technical assistance and ensure consistency across the two agencies' documents.

- Avian influenza in poultry workers

HESIS worked with colleagues in veterinary public health, infectious diseases, and the CDPH laboratory to develop guidance that communicates how CDPH and public health partners will monitor, detect, treat, and control possible avian

influenza (AI) among workers exposed to an infected commercial poultry flock that requires depopulation. The protocol provides detailed guidance on actions local, state, and federal public health partners can take for interagency communication and for medical monitoring and follow-up of people who work with infected birds. It also includes a short summary of the Cal/OSHA Aerosol Transmissible Diseases – Zoonotic standard, Title 8 §5199.1, to raise awareness among response agencies about the applicable provisions of this standard. After the draft protocol is approved, CDPH will send it to the local health officers for their review and input. Once finalized, the guidance will provide a framework for worker monitoring following any future outbreaks of avian influenza in commercial poultry.

HESIS also contacted the U.S. Department of Agriculture (USDA) to request that the agency's guidance on selection of personal protective equipment for workers involved in poultry eradication efforts include a note referencing California's §5199.1 standard and highlighting that California requires the use of half-mask respirators in certain instances where USDA is recommending N95 respirators.

- Coccidioidomycosis (Valley Fever)

In 2015, the Centers for Disease Control and Prevention, Mycotic Diseases Branch, reconvened a national Coccidioidomycosis Public Health Workgroup, in which HESIS participates; this workgroup provides an opportunity to exchange information about current and future plans for Valley Fever–related activities and identify additional opportunities for collaboration.

HESIS staff also participated in the California Coccidioidomycosis Collaborative meetings to improve risk communication and promote the HESIS fact sheet and a coccidioidomycosis curriculum for health-care providers.

HESIS provided additional support to Cal/OSHA and local public health related to 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.

- Technical Assistance – Cal/OSHA Medical Unit

HESIS did not perform any medical consultations during this period because the HESIS chief medical officer retired, and the position was not yet filled. In the new DOSH-CDPH interagency agreement implemented starting July 1, 2015, the nonmandated HESIS function of providing medical consultation to support individual Cal/OSHA compliance inspections was discontinued.

- Support for Cal/OSHA appeals hearings and compliance settlement conferences
 - No sworn testimony was required in 2014–2015.
 - HESIS staff provided Cal/OSHA with scientific journal articles to support citations against an employer for failing to use engineering controls to prevent transmission of extensively drug-resistant tuberculosis to staff and patients in a health-care setting.
 - HESIS staff attended a technical meeting and several follow-up phone calls to discuss measures a solar farm construction employer should implement in future construction projects, as part of their settlement agreement. The construction employer had been cited by Cal/OSHA for not providing sufficient protection for employees and subcontractors to avoid infections with coccidioidomycosis or Valley Fever.

- Technical Assistance – Cal/OSHA Compliance

HESIS and CDPH Infectious Diseases Branch (IDB) personnel previously identified an outbreak of coccidioidomycosis (Valley Fever) 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. HESIS and IDB completed a follow-up investigation and survey of all known individuals employed at the two sites since the inception of construction activities (i.e., late 2011) to identify additional confirmed cases (particularly among workers residing out of state), individuals who experienced symptoms consistent with undiagnosed, self-limited coccidioidomycosis infection, and potential risk factors for infection. One manuscript was published (see Mandate 1), and a second, reporting on the survey results, was initiated. HESIS continues to provide support to Cal/OSHA related to employer conferences regarding settlements and/or appeals.

- Technical Assistance – Cal/OSHA Research and Standards

- HESIS staff provided guidance on employers’ obligations and best practices in preventing influenza transmission in workplaces in which employees have close contact with the public.
- A HESIS staff member discussed with Cal/OSHA whether the Middle East Respiratory Syndrome (MERS) Corona Virus would be considered a novel or newly recognized pathogen and discussed how the Aerosol Transmissible Diseases regulation would apply to workplaces with MERS patients.
- HESIS assisted Cal/OSHA in assembling a list of California users of trichloroethylene from a database of companies that emit this substance into

the air. The information will be used to contact the companies regarding revised regulatory exposure limits.

- Technical Assistance – Cal/OSHA Consultation

HESIS staff reviewed and provided input to Cal/OSHA Consultation Service's Hazard Communication Standard Fact Sheet.

http://www.dir.ca.gov/dosh/dosh_publications/ghs_fs.pdf

- Technical Assistance – Selected Other Constituencies

Federal Government

- U.S. Forest Service. HESIS staff provided recommendations for protecting workers in California from Valley Fever.

State Government

- California Environmental Protection Agency (CalEPA). HESIS staff participated in a meeting to discuss updating EPA's guidance documents on polychlorinated biphenyls (PCBs) in materials such as caulk and fluorescent light ballasts in schools.
- California Department of Public Health, Center for Infectious Diseases. HESIS staff worked with CDPH infectious diseases staff in preparing guidance on protecting health-care workers in hospitals and clinics from infection with EVD. HESIS collected and reviewed the scientific literature on transmission mechanisms and contributed to guidance that was more specific than initial CDC guidance in three areas: (1) recommending the use of airborne infection isolation rooms for individuals with suspected or confirmed EVD; (2) recommending the use of respiratory protection to protect health-care workers from aerosols when caring for a patient who may have EVD; and (3) recommending the use of respirators with a higher level of respiratory protection when aerosol-generating procedures are performed on suspected or confirmed EVD inpatients as required under the California Aerosol Transmissible Diseases Standard.
- The California Department of Fish and Wildlife called regarding its concern over potential exposure of workers to measles. HESIS staff consulted infectious disease experts in our department and provided recommendations to the caller for controlling workplace exposures.

- California Department of Corrections and Rehabilitation. HESIS staff provided assistance to the California Department of Corrections (CDCR) Public Health Unit within Correctional Health Care Services on environmental testing for *Legionella* and in developing an occupational investigation protocol.

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 from the remains of a person known to have had active, systemic tuberculosis (TB). HESIS provided articles on the risk of occupational transmission of TB and provided recommendations for avoiding occupational exposure, including containment and employee respiratory protection.

HESIS assisted local health departments in Monterey and San Luis Obispo Counties in establishing construction permit conditions to avoid occupational Valley Fever outbreaks due to future outdoor solar farm construction work in their counties where the fungal infection is endemic.

Labor Representatives

- HESIS discussed the potential for worker exposure to several chemical products with a representative of the International Brotherhood of Teamsters who was calling on behalf of a pregnant worker. The worker had asked whether her exposure could harm her developing fetus. HESIS staff reviewed a list of chemicals and reviewed authoritative sources to determine whether the chemicals were known to be reproductive or developmental toxicants or carcinogens and conveyed the information to the requestor.

2. 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

Chemical manufacturers, formulators, suppliers, distributors, importers, and their agents shall provide to HESIS the names and addresses of their customers who have purchased certain chemicals, or commercial products containing those chemicals, when HESIS, in consultation with DIR, determines that a substance, which may be in use in a place of employment, may pose a hazard under a reasonable anticipated condition of use and potentially poses a serious new or unrecognized health hazard to an employee.

- Chapter 830, Statutes of 2014 (SB 193 – Monning), added this new HESIS authority and mandate, which becomes effective January 1, 2016. The intent of the bill is to improve HESIS's ability to inform affected employers and workers about chemicals or chemical products that may pose a hazard in California workplaces and to support HESIS investigations to evaluate the extent of a particular hazard. The legislation authorizes HESIS to obtain contact information from chemical manufacturers and suppliers for California workplaces that have purchased a particular chemical or product of concern.

In preparation for the effective date of the legislation, HESIS staff began initial planning and met with representatives from Cal/OSHA, the Department of Toxic Substances Control, Worksafe, and other stakeholders to discuss the use of this new authority to enhance the impact of HESIS work.

Labor Code Section 147.2 – Mandate 4

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.

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

- At the request of the Cal/OSHA Research and Standards Unit, HESIS staff conducted a toxicological literature search and reviewed recent evaluations by authoritative bodies (the International Agency for Research on Cancer [IARC], US EPA, National Toxicology Program [NTP], and Cal/EPA's Office of Environmental Health Hazard Assessment [OEHHA]) to update information provided to the Health Effects Advisory Committee since 2010 for the following six chemicals: benzyl chloride, trichloroethylene (TCE), 1,1,2,2-tetrabromomethane, n-propanol, cyclohexane, and trimellitic anhydride. Based on this review, HESIS recommended that Cal/OSHA propose a further lowering of the PEL for TCE and provided documentation supporting the recommended reduction.

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

- HESIS staff 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 collected and reviewed articles from the scientific literature on hazardous drug risk assessment and control.
- HESIS staff also participated in Cal/OSHA's Advisory Committee Meeting on Housekeeping in the Hotel and Hospitality Industry. Cal/OSHA has requested that HESIS work with stakeholders to develop educational material related to the standard that is ultimately adopted by the Standards Board.

Labor Code Section 147.2 – Mandate 5

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 6

Notify the Secretary for Environmental Protection of any information developed by HESIS that is relevant to carrying out his or her responsibilities.

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

Labor Code Section 147.2 – Mandate 7

Ensure the use and nonduplication of resources of other government agencies.

- 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.

The OHB Chief and HESIS staff participate in quarterly meetings held with the Cal/OSHA Chief, Consultation Service Chief, Research and Standards Unit staff, and Medical Unit staff, to discuss priorities and share updates on HESIS and Cal/OSHA activities.

HESIS's industrial hygienist participates in the Cal/OSHA Senior Technical Meetings for health staff (industrial hygienists) from the entire state, Medical Unit, and headquarters once every two months by videoconference. This forum provides an opportunity for information exchange and discussion regarding new regulations, enforcement initiatives and procedures, sampling protocols and laboratory issues, staffing changes, significant projects, and interesting case reports. HESIS staff discuss investigations and new or revised guidelines and fact sheets.

The OHB Chief and OHB's medical officers participate in a monthly conference call convened by Cal/OSHA's Medical Unit to discuss emerging issues, medical aspects of proposed standards, and other activities under way at each agency.

- CDPH. To evaluate and provide consultations regarding workplace hazards, HESIS consults routinely with, makes referrals to, and uses 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 Health Investigations Branch, the Environmental Management Branch, the Radiologic Health Branch, the Vector-Borne Disease Section, the Infectious Diseases Branch, and the Immunization Branch.

- Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA). HESIS routinely consults with OEHHA staff to 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 consults with Cal/EPA staff and uses 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 (NIOSH) and Federal OSHA. HESIS uses and disseminates NIOSH and OSHA publications and refers callers to the NIOSH and OSHA websites for additional information and resources. HESIS promotes its publications in the NIOSH-sponsored State-Based Occupational Health Surveillance Clearinghouse, a centralized online library with publications from over 25 states, including thousands of educational materials, data and case reports, studies, investigations, and articles. The Occupational Health Branch (OHB) has over 800 publications in the Clearinghouse, which is publicly available at <http://wwwn.cdc.gov/niosh-survapps/statedocs/>.

Labor Code Section 147.2 – Mandate 8

Recommend legislative changes related to the functions of HESIS.

No legislative changes relating to the functions of HESIS were proposed.

Authorized Positions in HESIS for 2014-2015

Permanent Positions

Public Health Medical Officer III	Vacancy due to retirement*	100%
Staff Toxicologist (Specialist)	Kashyap Thakore, PhD	100%
Research Scientist III (Phys/Engr Sci)	Jennifer McNary, MPH, CIH	100%
Health Education Consultant III**	Mary Deems, MPH	100%
Management Services Technician	Angela Williams-Bell	100%

*Barbara Materna, PhD, CIH, OHB Chief, has served part time as Acting HESIS Chief since the PHMO III's retirement and is actively recruiting to fill the position.

**The Health Education Consultant III position was added under the new interagency agreement that started July 1, 2015.

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, 2014, through June 30, 2015, was \$727,686, and the budget for July 1, 2015, through June 30, 2016, is \$975,508.