

**California Department of Public Health
Division of Environmental and Occupational Disease Control
Occupational Health Branch**

**HAZARD EVALUATION SYSTEM
AND
INFORMATION SERVICE**

Annual Report

November 1, 2011 – October 31, 2012

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

HAZARD EVALUATION SYSTEM AND INFORMATION SERVICE (HESIS)

Executive Summary

This report is mandated in Labor Code Section 147.2. Herein is 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, and 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 the functions of the repository; and
- ✓ The amounts of and source of funds allocated and spent on repository activities.

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

- ✓ Technical support and consultation regarding occupational health to the Department of Industrial Relations (DIR), other programs within the California Department of Public Health (CDPH), and other agencies;
- ✓ A telephone information service to individuals seeking information about workplace hazards;
- ✓ Educational materials and an education/outreach function;
- ✓ Technical input and recommendations on standards-setting;
- ✓ A hazard assessment function; and
- ✓ An extensive information repository.

In 2011-2012, 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. HESIS' accomplishments during this period included:

- Provided technical support to Cal/OSHA's Health Expert Advisory Committee for consideration of Permissible Exposure Limit for trimellitic anhydride.

- Reviewed the scientific literature and provided the Cal/OSHA's Research and Standards Unit with a first-draft PEL document for dibutyl phthalate.
- Provided 39 medical consultations to Cal/OSHA enforcement staff concerning a total of 67 employees in incidents at various work sites.

Medical consultations, which often address the issue of 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. A typical medical consultation involves approximately 8 hours of time on the part of a HESIS Public Health Medical Officer.

- Responded to 104 calls to the Workplace Hazard Helpline (also referred to as the "Telephone Response System" or "TRS"). Sixty-three percent of these calls were initiated by workers, relatives of workers, employers, health care providers treating workers, or industrial hygiene / safety personnel serving workers.

TRS responses generally involve 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. The median TRS response occupies approximately 30 minutes of technical staff (i.e., Industrial Hygienist, Toxicologist, or Public Health Medical Officer) time.

- Published the following new **HESIS Fact Sheet**:
 - ✓ *Electronic Waste Recycling: Working Safely*
<http://www.cdph.ca.gov/programs/hesis/Documents/eWaste.pdf>
- Published the following new **HESIS Occupational Health Hazard Alert**:
 - ✓ *Methylene Chloride is Dangerous: There are Safer Alternatives*
www.cdph.ca.gov/programs/hesis/Documents/MethyleneChlorideAlert.pdf
 - ✓ *El cloruro de metileno es peligroso... ¡Existen alternativas más seguras!*
www.cdph.ca.gov/programs/hesis/Documents/MethyleneChlorideAlertSpanish.pdf
- Provided CAL FIRE with a new **training resource** for crew leaders:
 - ✓ *Basic Training for CAL FIRE Wildland Firefighters on Preventing Valley Fever Illness*
- Provided the Fresno Co. Health Dept. with a new **worker education tool**:
 - ✓ *Psittacosis Information for Turkey Farm Workers*

- Began revisions on the following **HESIS Fact Sheets**:
 - ✓ *Isocyanates*
 - ✓ *Epoxy Resin Systems*

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:

- Collaborative for Healthy Nail Salons
- Interagency Indoor Air Quality Working Group
- Western Occupational and Environmental Medicine Association (WOEMA)
- WorkSafe

HESIS continued to provide technical assistance to Cal/OSHA to help prevent workers from becoming ill or injured. HESIS served on and 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 included:

- 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 to 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 Occupational Health Branch (OHB) Web site:

www.cdph.ca.gov/programs/ohb/Pages/default.aspx

continues to showcase the publications developed by HESIS. HESIS also continued to provide support for OHB through active participation on the management team and serving on Branch-wide and Division-wide committees.

Specific Accomplishments:

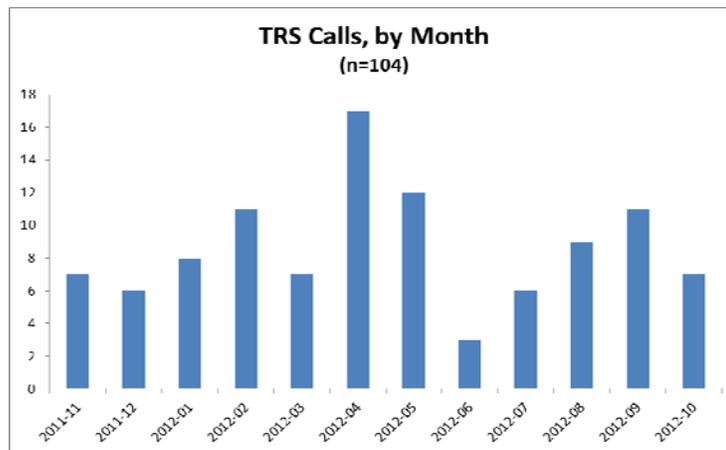
Labor Code Section 147.2 – Mandate 1

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

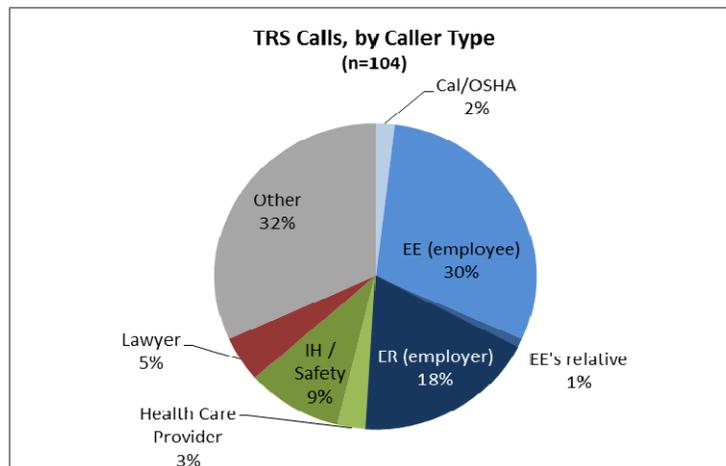
1. Workplace Hazard Helpline / Telephone Response System (TRS)

A total of 104 calls were logged between November 2011 and October 2012:

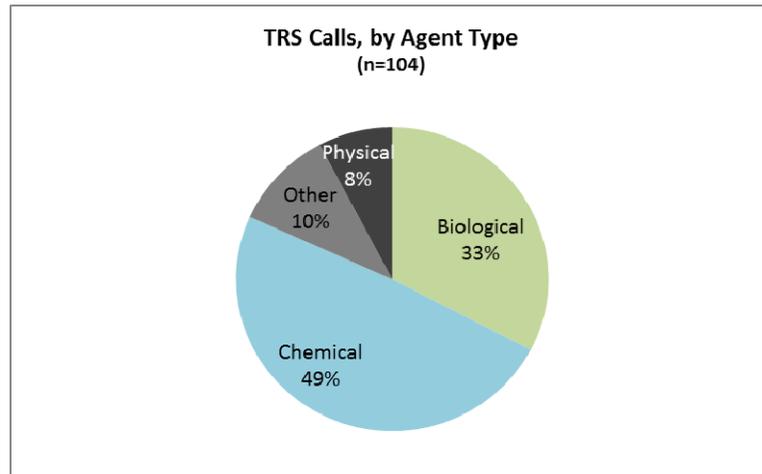
- Monthly calls ranged from 3 to 17, led by April.



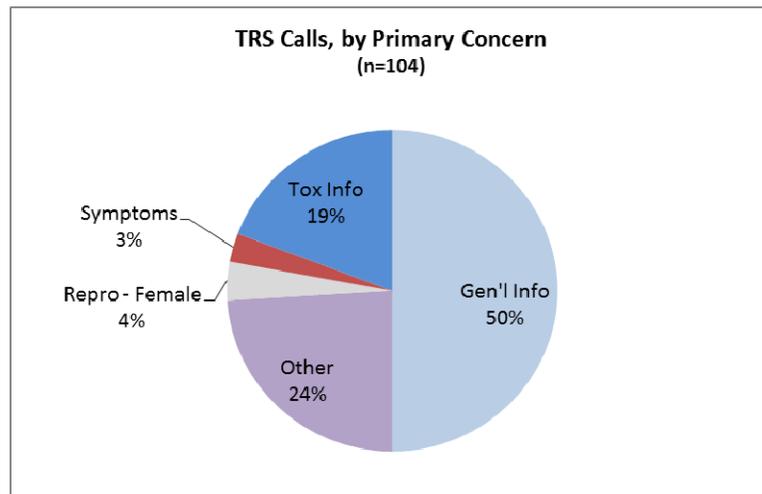
- Callers. Inquiries came from employees and their relatives, industrial hygiene / safety personnel, employers, health care providers, attorneys, and others.



- Agents of concern were principally chemical in nature, followed by biological agents, other work-related issues, and physical agents:



- Major Concern. The greatest numbers of calls related to general workplace information, followed in frequency by the impact of work exposures on pregnancy outcome, specific questions regarding the toxicity of chemicals, questions about the relationship of symptoms to work exposures, and “other.” Examples of “general information” include: allegations of workplace discrimination, workplace sanitation (other than mold, which is included in “other”), guidance on IPPs and hazard communication, and respirator fit testing requirements.



Examples of 2011-2012 TRS calls include:

- A genetic counselor called regarding a pregnant pharmacist who handles an anti-androgenic medication (finasteride). HESIS staff recommended use of gloves and referral to OTIS (Organization of Teratology Information Specialists).
 - The environmental manager from a university called regarding the question of a potential “cancer cluster” and asbestos insulation. HESIS provided input on latency and specificity of asbestos-related malignancies. The caller was referred to the California Tumor Registry for follow-up.
 - A set designer called after discovering that he had inadvertently conducted a grinding operation on a beryllium-containing part. Cleanup was already complete. He was advised to obtain baseline spirometry and to follow-up with an occupational medicine provider if symptomatic.
 - The health and safety staff from a university inquired about regulations concerning the use of diesel engines indoors. HESIS staff provided information on the hazards of diesel exhaust exposure.
 - An office worker called indicating that she was discharged from employment after complaining that a supervisor smokes in the workplace. She was given appropriate contacts at the local environmental health department and at the Division of Labor Standards and Enforcement.
 - The safety director for a county coroner requested information on infectious disease transmission during autopsies and training materials for the coroner’s office staff. HESIS staff provided informational materials on disease transmission, on requirements of the aerosol transmissible diseases standard and on specific types of engineering controls and respiratory protection required for high hazard procedures.
 - An employer called to ask what to do after a dental hygienist was stuck with a non-sterile sharp in a dental clinic. Although the employee had visited an emergency room, no post-exposure prophylaxis was provided. HESIS referred the caller to the University of California, San Francisco (UCSF), post-exposure hot line and to the current Centers for Disease Control and Prevention (CDC) guidelines for managing occupational exposures and to the Cal/OSHA Bloodborne Pathogens Standard.
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- Electronic database of TRS calls. HESIS’ searchable database of TRS calls utilizes EpiInfo software, and is routinely employed to respond 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, Web site URLs, agency contacts, and other information resources.

2. Educational Materials Development

- ***Electronic waste recycling: Working safely.*** HESIS completed a field investigation of electronic waste recycling facilities and produced a new fact sheet. The HESIS industrial hygienist, along with a preventative medicine resident, visited seven e-waste recycling facilities in the Bay Area and Central Valley, interviewing workers, a union representative, and health and safety staff. HESIS staff also conducted a literature review, reviewed key legislation and voluntary standards, and interviewed key informants to gain insight on best practices. HESIS obtained input from Cal/EPA's Department of Toxic Substances Control, US EPA, Cal/Recycle, the National Institute for Occupational Safety and Health (NIOSH), and from selected non-governmental organizations.

- ***Methylene Chloride is Dangerous... There are Safer Alternatives!***

This health hazard alert was developed in response to reports from the Michigan Fatality Assessment and Control Evaluation (FACE) Program, NIOSH, and the federal Occupational Safety and Health Administration (OSHA) of multiple deaths among bathtub refinishers using methylene chloride-containing paint strippers. During the preparation of this alert, CDPH's FACE Program initiated investigation of what would ultimately include two occupational fatalities in California involving consumer-available paint strippers, and occurring in the years 2010-2011.

3. Educational Materials Dissemination

- Mass mailing.

Distributed over 700 hardcopies of HESIS' 2006 *Methylene Chloride Fact Sheet*, along with HESIS' new publication, "*Methylene Chloride is Dangerous... There are Safer Alternatives!*". Targeted businesses included furniture refinishing and bathtub refinishing establishments.

- HESIS Outreach Activities / Publications Request Line.

Distributed hardcopies of HESIS publications through outreach activities and in response to direct requests during the report period.

Continued to mail HESIS 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.

Wrote an article on the dangers of working with methylene chloride-based paint strippers that was published in the newsletter of the Contractors State License Board that goes to all licensed contractors statewide:

www.cslb.ca.gov/Newsletter/2012-WinterSpring/page8.htm

Organizations and groups that requested and disseminated HESIS publications included:

- UCLA / Labor Occupational Safety and Health Program
 - Port of Oakland
 - Cal/OSHA
 - Cosmetology Colleges
 - CAL FIRE
 - Contractors State Licensing Board
- Conferences, Meetings, Presentations. Distributed HESIS publications at formal conferences and meetings, including:
 - Pacific Building Safety Expo
 - California Conference of Local Health Officers (CCLHO) annual meeting
 - Latino Worker Summit
 - Asian/Pacific Worker Summit
 - Collaborative meeting of local health officers
 - American Public Health Association annual conference
 - TRS Consultations. Disseminated appropriate HESIS publications to supplement and reinforce the information provided to callers.
 - OHB Web Site. Continued to disseminate HESIS educational materials via the program's Web site:

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

The top ten HESIS publications downloaded or viewed were:

- If I'm Pregnant, Can the Chemicals I Work With Harm My Baby?
- Xylene
- Epoxy Resin Systems
- Formaldehyde
- Rabies
- Isocyanates
- Methylene Chloride
- Methyl Methacrylate (MMA)
- N-Methylpyrrolidone (NMP)
- Understanding Toxic Substances

4. Education / Outreach

HESIS staff spoke regarding workplace hazards to a variety of audiences:

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

- 1/12-3/22/12 – Course Instructor - Occupational Toxicology. UCSF School of Nursing.
- 7/6/12 – “Introduction to industrial toxicology” (UCSF Occupational and Environmental Medicine Fellows – Summer Didactics Program). Richmond.
- 7/6/12 – “Differential diagnosis of episodic dyspnea in the workplace” (UCSF Occupational and Environmental Medicine Fellows – Summer Didactics Program). Richmond.
- 7/18/12 – “HESIS: An Overview” (UCSF Occupational and Environmental Medicine Fellows – Summer Didactics Program). Richmond.

Cora Hoover, MD, MPH, CDPH Preventive Medicine Resident, spoke on:

- 10/29/12 – “Pilot investigation of California electronic waste recycling facilities: Potential hazards and practical solutions. *Annual Meeting of the American Public Health Association*, San Francisco.

Other outreach:

- 6/22/12 Barbara Materna, Jennifer McNary, and a staff member from the CDPH Infectious Diseases Branch attended and presented at the second annual California Collaborative Meeting of local health officers on Coccidioidomycosis. Barbara summarized the activities of HESIS/OHB including the development of a fact sheet for employers and a training outline for CAL FIRE on preventing Valley Fever illnesses. In this venue, Barbara and Jennifer identified interested and knowledgeable reviewers for the fact sheet.

Article in the published literature:

- CDPH Branch Chief and HESIS industrial hygienist published an article in the *Journal of Occupational and Environmental Medicine* on preventing Coccidioidomycosis (Valley Fever) in the workplace. The article is entitled, “Occupational coccidioidomycosis in California: outbreak investigation, respirator recommendations, and surveillance findings,” May 2012. It can be found at the following link: www.ncbi.nlm.nih.gov/pubmed/22504958.

Labor Code Section 147.2 – Mandate 2

Collect and evaluate toxicologic and epidemiologic 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 provided a total of 39 medical consultations, involving a total of 67 employees, between November 1, 2011-October 31, 2012. The workplace hazards, by class, included:
 - Physical (heat) in 36 investigations involving 38 workers.
 - Biological in 2 investigations involving a total of 28 workers.
 - Chemical in 1 investigation involving 1 worker.
- Physical (heat):

Of 38 suspected heat illness cases, 14 were medically confirmed as primarily heat-related, 7 as partially heat-related, 4 as possibly heat-related, 2 were indeterminate, and for 11 cases heat was judged to have not played a significant role. Five heat-related investigations involved fatalities.
- Biological:

Two investigations involved consideration of potential biological exposures. A single case (judged indeterminate in causality) involved potential exposure to MRSA (methicillin-resistant staphylococcus aureus). A second investigation (which involved a total of 27 employees) concerned potential mold-related health effects in an office environment, and causality was judged as “possible.”
- Chemical:

A single investigation found no role for chemical exposure in the death of a chronically ill animal handler.

2. Support for Cal/OSHA Appeals Hearings

- Physicians from HESIS and the Occupational Lead Poisoning Prevention Program (OLPPP) provided pre-hearing medical consultation in support of two citation appeal hearings, including cases pertaining to an electrocution and to violation of the Bloodborne Pathogen Standard in a retail clothing store. The latter case required sworn testimony by the HESIS physician.

3. Selected Hazard Assessments

Cal/OSHA Technical Assistance Requests

- Flavor Industry Safety and Health Evaluation Program (FISHEP). This multi-year collaborative investigation (CDPH, Cal/OSHA, and NIOSH) and associated activities was concluded in 2012 with the following actions:
 - ✓ OHB, Cal/OSHA, and NIOSH staff completed worker notification, ensuring that abnormal medical results were shared with individual affected workers, and that spirometry quality scores and new NIOSH-OSHA resources were shared with providers of medical surveillance and the employers who hire these providers.
 - ✓ Published an article in the American Journal of Industrial Medicine reporting on longitudinal lung function declines among flavoring workers and an assessment of spirometry quality.
 - ✓ OHB and Cal/OSHA staff collaborated to review the draft NIOSH Criteria Document for diacetyl and 2, 3-pentanedione and submitted joint Cal/OSHA-CDPH comments for improvements to this comprehensive document.
- Cal/OSHA Compliance
 - ✓ HESIS personnel responded to a request for technical consultation on ESIP (Engineered Sharps Injury Protection) from a compliance officer inspecting an aesthetic procedures clinic.
 - ✓ HESIS personnel responded to a request for technical consultation on potential hazards in the eWaste recycling industry from a compliance officer preparing to inspect such a facility.
 - ✓ HESIS (and other OHB) personnel provided technical consultation on bovine tuberculosis, including participation in multi-agency meetings and provision of electronic bibliographic support for a literature review of the issue of transmission of *M. bovis* between animals and humans.
- Cal/OSHA Research and Standards Unit.
 - ✓ HESIS personnel provided technical consultation on new CDPH resources available regarding respirator fit testing procedures and respirator selection for health care settings.
 - ✓ HESIS personnel provided technical consultation on chemical usage data from air pollution and hazardous waste databases for use in prioritizing chemicals for the standards-setting process.

4. Technical Assistance – Selected Other Constituencies

State government

- California Department of Public Health

- ✓ HESIS personnel participated in the annual inspection of CDPH's animal handling facility at the Richmond Campus and reviewed work practices, engineering controls, and personal protective equipment.
- ✓ HESIS personnel provided health and safety guidance to the team preparing to conduct a field investigation at Yosemite National Park for Hantavirus.
- ✓ HESIS staff provided guidance to a Communicable Diseases Emergency Response Branch physician on developing an emergency response protocol for staff potentially exposed to a bioterrorism agent while conducting air sampling.

- California Department of Corrections and Rehabilitation

HESIS staff consulted with the chief of the California Department of Corrections (CDCR) Public Health Unit within Correctional Health Care Services regarding a possible CDPH request to the US Food and Drug Administration to facilitate the availability of a pending skin test for Coccidioidomycosis. HESIS staff also responded to request for estimates of Coccidioidomycosis incidence among CDCR staff using compiled Doctors First Reports of Occupational Injury or Illness.

- CAL FIRE

HESIS staff developed text and graphics for a poster and “tailgate training” module entitled “Basic Training for CAL FIRE Wildland Firefighters on Preventing Valley Fever” after obtaining input from CAL FIRE, U.S. Fire Service, and BLM. This training resource was distributed throughout the agency for use by crew leaders working in areas endemic for Valley Fever.

- CalEPA / Office of Environmental Health Hazard Assessment

HESIS staff provided information on toluene use in nail salons, to be included in a fact sheet that the agency is developing.

Local government

- Fresno County Health Department

HESIS staff developed a worker fact sheet entitled: “Psittacosis Information for Turkey Farm Workers” at the request of the local health officer. HESIS worked in collaboration with the regional CDFA and state veterinarians.

- California Conference of Local Health Officers

In response to requests from local health officers, HESIS staff is developing a fact sheet entitled: “Preventing Work-Related Coccidioidomycosis (Valley Fever)”

Academia

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

This project began through an interagency agreement with the University of California, Berkeley (UCB). 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 and outreach to workers, employers, and health care providers on reproductive and developmental toxicants, and on 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 has interviewed nearly 70 women from San Francisco General Hospital’s prenatal clinic, approximately one-half of whom were referred for further physician interview. PRHE has completed an internal validation of the questionnaire responses, and is in the process of finalizing a supplemental questionnaire to integrate into routine OB/GYN care.

5. Information Repository

HESIS Electronic Repository of Occupational Health Information (e-ROHI): 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 also established a shared electronic workspace for a literature compilation on an occupational infectious disease issue that was jointly investigated by Cal/OSHA, HESIS, CA Department of Food and Agriculture, and CDPH’s Division of Communicable Disease Control. Finally, 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 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 / Assistance

Cal/OSHA Development of Permissible Exposure Limits (PELs) in California Code of Regulations Title 8 Section 5155

- Standards Recommendations

HESIS staff provided input on the scientific basis for exposure standards for the following air contaminants:

- n-Propanol
 - * Provided information on concentration-time relationships for sensory irritation by n-propanol.
- Trimellitic anhydride
 - * Provided input on dose-response relationships for sensitization, as well as feedback on existing medical surveillance protocols.
- Dibutyl phthalate
 - * Completed draft toxicology review and derivation of a potential occupational exposure limit based upon animal experimental data.
- Di-ethyl-hexyl phthalate
 - * Began toxicology review and derivation of a potential occupational exposure limit based upon animal experimental data.

- Health Effects Advisory Committee (HEAC)

HESIS staff participated in quarterly meetings of HEAC, part of the 5155 standard-setting process. Two former HESIS staff members have served as HEAC members.

- Cal/OSHA Standards Advisory Committees (Other than Section 5155)

OHB staff (specifically, the Occupational Lead Poisoning Prevention Program and OHB Chief) reviewed the recent scientific literature on lead and made health-based recommendations to Cal/OSHA for revising the General Industry and

Construction Lead Standards for the protection of workers who are exposed to lead on the job.

OHB staff participated in Cal/OSHA's advisory committee meetings on the new Safe Patient Handling Regulation.

Labor Code Section 147.2 – Mandate 4

Notify the Director of Food and Agriculture of any information developed by the Repository which is relevant to carrying out his or her responsibilities under Chapter 2 (commencing with Section 14001) of the Division of Food and Agriculture Code.

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

Labor Code Section 147.2 – Mandate 5

Assure the use of 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. HESIS continued, routinely, to consult with, make referrals to, and use materials and Web site information developed by numerous other CDPH programs to evaluate and provide consultations regarding workplace hazards. In this report period, these programs included: the Environmental Health Laboratory Branch Indoor Air Quality Section, Environmental Management Branch, Vector-Borne Diseases Section, Infectious Diseases Branch, Radiological Health Branch, 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. Continued to share the resources of the Occupational and Environmental Health Library.

- Cal/EPA – Department of Toxic Substances Control, Pollution Prevention and Technology Development. HESIS continued to consult with Cal/EPA staff and to 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 their Web site for information and publications. HESIS provided links to its documents for NIOSH's central document clearinghouse. Continued to work with NIOSH staff to identify and protect workers who may be at risk for bronchiolitis obliterans in California's flavor manufacturing industry.

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.

Authorized positions in HESIS for 2010-2011

Permanent positions

Public Health Medical Officer III	Dennis Shusterman, MD, MPH	100%
Staff Toxicologist (Specialist)	Kashyap Thakore, PhD	100%
Research Scientist II (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 California Department of Public Health (formerly Department of Health Services), Occupational Health Branch.

Annual budget

\$659,264 (2011-2012 fiscal year)