



Texas Environmental Health Institute

Progress Report

Prepared January 2015

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BACKGROUND

In 2001, in response to citizen concerns about the potential impact of environmental pollutants on their health, the 77th Texas Legislature passed legislation establishing the Texas Environmental Health Institute (TEHI or Institute) as a joint venture between the Texas Department of Health, predecessor agency to the Texas Department of State Health Services (DSHS), and the Texas Natural Resources Conservation Commission, predecessor agency to the Texas Commission on Environmental Quality (TCEQ), the State environmental agency. Section 19.01, Title 5, Subtitle G, Chapter 427, of the Texas Health and Safety Code, directs the TCEQ to enter into an agreement with the DSHS, to jointly establish the Texas Environmental Health Institute *to examine ways to identify, treat, manage, prevent, and reduce health problems associated with environmental contamination.*

In September 2007, DSHS prepared a Progress Report that described the establishment of the Institute, its purposes and objectives, and TEHI accomplishments as of that date. An updated Progress Report was completed in January 2013 that summarized background information on the Institute and described TEHI activities for 2008 through 2012. This Progress Report includes TEHI activities for 2013 and 2014. A complete listing of TEHI accomplishments to date is included in the Appendix.

Establishment of the Institute

On December 6, 2001, an Interagency Memorandum of Agreement (MOA) was entered into by and between the Texas Natural Resources Conservation Commission (predecessor of the TCEQ) and the Texas Department of Health (predecessor of the DSHS). The purpose of the Agreement was to establish the Institute and to describe the tasks to be performed and the duties and responsibilities of each of the agencies in enabling the Institute to accomplish its purposes.

The Institute was established as a virtual entity with its functions assigned to existing staff in the Texas Department of Health, Environmental Epidemiology Division (currently the Environmental & Injury Epidemiology and Toxicology Unit or EIET within DSHS). Currently, DSHS and TCEQ share joint responsibility for management of TEHI activities.

VISION AND MISSION STATEMENTS

Institute Vision Statement

To have healthy informed communities

This vision statement describes what the Institute strives to achieve. Individuals often have to make choices about their lifestyles that can affect their health. They frequently need to rely on public authorities to provide them with reliable information so that they may make informed decisions. Often they also rely on government to protect them from threats which are beyond their control.

Institute Mission Statement

To examine ways to identify, treat, manage, prevent, and reduce health problems associated with environmental contamination

This mission statement identifies the overall purpose of the Institute and describes the Legislative mandate that it must fulfill.

PROGRESS

TEHI Activities

In the September 2007 Progress Report TEHI planned to utilize the Toxic Substances Coordinating Committee (TSCC) meetings as a means of notifying other state agencies of Institute functions and making the information available to the public. TCEQ and DSHS staff regularly attend TSCC meetings and discuss TEHI activities. In addition, DSHS hosts a webpage on behalf of TEHI. The webpage (<http://www.dshs.state.tx.us/epitox/tehi.shtm>) contains background information about TEHI and summaries and reports for projects funded by TEHI.

During the 2012-2013 biennium, one project was funded by TEHI. A summary of this project is included below. The remaining TEHI funds for 2012-2013 were used by TCEQ to conduct remediation at Superfund sites in Texas. No funds were obligated for TEHI use for the 2014-2015 biennium. A list of all TEHI funded projects to date is included in the Appendix. All of these projects have been completed, and project summaries, reports, and presentations (as available) are posted on the TEHI website (<http://www.dshs.state.tx.us/epitox/tehi.shtm>) or can be requested by e-mailing tehi@dshs.state.tx.us or calling (800) 588-1248.

To carry out the purposes of TEHI the Institute has funded projects related to its mission. DSHS and TCEQ work closely with TEHI grantees to provide support and to ensure TEHI-funded projects fulfill the mission of the Institute. Specific research areas have included:

- Research on Priority Health Conditions Potentially Associated with Exposure to Environmental Contaminants
- Development and Use of Biological Markers of Exposure Relatable to Sources of Exposure and the Potential for Adverse Health Effects
- Assessment and Increased Understanding of Potential Risks to the Citizens Living Near Superfund and Other Hazardous Waste Sites
- Public Access to Information about Potential Environmental Health Risks
- Geocoding of Environmental and Disease Data

Project Funded for 2012-2013

Lavaca-Matagorda Bay System Seafood Tissue Contaminant Monitoring and Risk Assessment (September 2012-August 2013)

TEHI provided the Texas Department of State Health Services (DSHS) with approximately \$65,000 to characterize the human health risks associated with consumption of select seafood from the Lavaca-Matagorda Bay System potentially due to mercury-impacted sediments related to the Alcoa-Lavaca Bay Superfund Site. Between 1966 and 1970, wastewater from the Alcoa-Lavaca Bay chlor-alkali plant that contained mercury was transported to an offshore gypsum lagoon located on Dredge Island. After a settling period, the overflow from the gypsum lagoon was discharged to Lavaca Bay from two outfalls on Dredge Island. This resulted in unacceptable levels of mercury in fish and crab in Lavaca Bay and DSHS issued a fishing ban for Lavaca Bay. Prior to this project, DSHS had not conducted any seafood contaminant monitoring in the Lavaca-Matagorda Bay System since 2001. For this project, the DSHS Seafood and Aquatic Life Group collected seafood from the Lavaca-Matagorda Bay Estuary and prepared a report to quantify current mercury-related human health risks associated with consumption of seafood from the Lavaca-Matagorda Bay Estuary and compare historical mercury data. Results from this project indicated that consuming fish from the Prohibited Area of Lavaca Bay continues to pose an apparent hazard to public health and the closure remains in place. DSHS staff

conducted an educational campaign and handed out informational brochures about the fish and crab possession ban to local residents, fishermen in the area, libraries, city halls, chambers of commerce, RV parks, bait shops, hotels, city parks, boat ramps, and marinas.

TEHI-Related Agency Activities

DSHS and TCEQ continue their work to protect and promote the health of Texas residents and provide medical, epidemiological, toxicological, and laboratory support to state and federal agencies in all areas of environmental public health. More information about DSHS- and TCEQ-specific activities that are related to the mission of TEHI can be found on each agency's respective website at <http://www.dshs.state.tx.us/epitox/> and <http://www.tceq.state.tx.us/implementation/tox/>.

DSHS' EIET has established a Cooperative Agreement with the Agency for Toxic Substances and Disease Registry (ATSDR), a federal agency within the Department of Health and Human Services, to develop the capacity to collect, integrate, analyze, and interpret data about environmental hazards, exposure to environmental hazards, and health effects potentially related to environmental hazards. EIET evaluates and responds to public health concerns as they relate to human exposure to hazardous substances around Superfund sites or other areas of concern. EIET also conducts biological testing and exposure investigations to obtain exposure information for the completion of an investigation. Community involvement and health education are integral parts of EIET activities. Since September 29, 2001, EIET has received approximately \$4,400,000 in federal funds through a Cooperative Agreement with ATSDR to identify pathways of exposure to contaminants from hazardous waste sites and releases and identify, implement, and coordinate public health interventions to reduce exposures to hazardous substances at levels of health concern.

Numerous TCEQ activities complement the mission of TEHI. For example, the agency has been involved with numerous studies investigating human exposure to airborne toxic chemicals and the potential of these exposures to cause adverse health effects. Studies have been completed in Houston, Midlothian, the Dallas–Fort Worth area, and Corpus Christi.

TCEQ funded projects completed in 2013 wherein DSHS helped investigate possible exposures to metals in residents living in Freeport. For the first round of sampling, DSHS collected urine samples from 353 residents living in the area of interest and tested them for cobalt, molybdenum, and nickel (metals reported to be in ambient air), and held an open house to discuss the results. Based on the results of the initial screening, follow-up nickel testing was conducted for 67 residents. For both rounds of sampling, DSHS provided participants with their test results and information about how the levels of metals in their bodies compared to those typically seen in the US general population and completed final reports summarizing results from the screenings (available at <http://www.dshs.state.tx.us/epitox/assess.shtm>).

APPENDIX

Complete List of TEHI-Funded Projects

The following is a complete list of projects that have been funded by TEHI as of January 2015. All of these projects have been completed, and project descriptions, reports, and presentations (as available) are posted on the TEHI website (<http://www.dshs.state.tx.us/epitox/tehi.shtm>) or can be requested by e-mailing tehi@dshs.state.tx.us or calling (800) 588-1248.

Project	County	Project Period	Approximate Funding
Lead Exposure - West Dallas Area & Cadillac Heights	Dallas	September 2002- August 2006	\$545,000
Screening for Asbestos - Related Lung Diseases Associated with W.R. Grace & Co./Texas Vermiculite	Dallas	June 2006- August 2007	\$192,900
Toxic Release Inventory (TRI) & Superfund Site Map Layers & GeoDatabase	Statewide	July 2007- August 2007	\$37,000
Database of Environmental Hazards	Statewide	July 2007- August 2007	\$112,300
Survey of the Trace Element Geochemistry of Texas Soils	Statewide	August 2007- August 2009	\$159,800
Proximity to Hazardous Waste Sites and Industrial Facilities and Selected Pregnancy Outcomes Among Residents of Dallas, Denton, and Tarrant Counties	Dallas Denton Tarrant	October 2007- March 2008	\$38,400
GIS-Augmented Environmental Health Research in Texas: Maternal Residential Proximity to Superfund Sites and Low Birth Weight in Offspring	Statewide	March 2008- August 2009	\$87,900
Bayesian Risk Mapping of Childhood Cancer Around Texas Superfund Sites	Statewide	March 2008- August 2009	\$150,000
Pilot Project - Assessing the Role of Prenatal Lead Exposure on Infant Blood Lead Levels	Statewide	March 2008- August 2009	\$11,000
Characterization of Airborne Contaminants around the Texarkana Wood Preserving Site in Texarkana, Texas	Bowie	October 2008- August 2011	\$250,000
Grand Prairie Vapor Intrusion Investigation	Dallas	January 2009- August 2009	\$250,000
Characterization of Airborne Contaminants at the Ballard Pits State Superfund Site in Nueces County, Texas	Nueces	April 2009- August 2011	\$66,500
Defining Biota-Sediment Accumulation Factors for the San Jacinto River Waste Pits, Texas	Harris	September 2009- August 2012	\$250,000
Prevalence Estimates of Asthma in Texas	Statewide	September 2010- August 2012	\$250,000
Lavaca-Matagorda Bay System Seafood Tissue Contaminant Monitoring and Risk Assessment	Calhoun	September 2012- August 2013	\$65,000