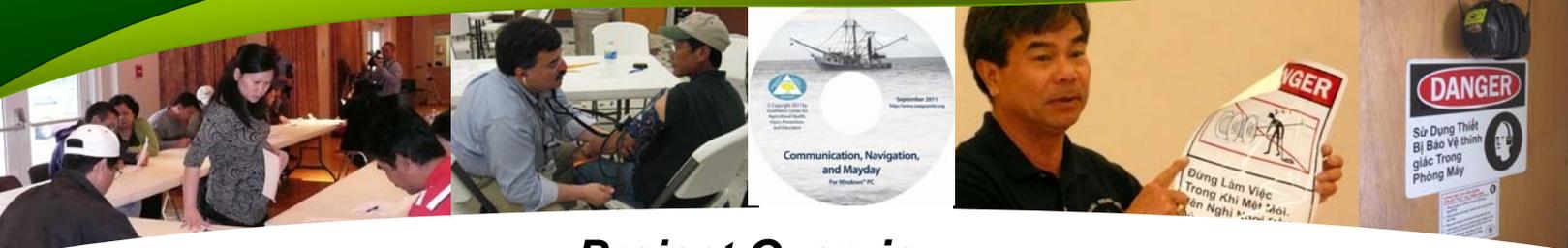


# Innovative Approaches to Worker Health Protection in Vietnamese Shrimp Fishermen of the Gulf Coast

PI: Jeffrey Levin, M.D., M.S.P.H.

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## Project Overview

*Houston/Galveston, October 2009*- A deck hand aboard a fishing vessel was working the winch when his arm became entangled in the cathead (winch drum). The Vietnamese captain stopped the winch and called his brother on another fishing vessel to call the Coast Guard because he was not confident about making a Mayday call in English. During the mayhem, the captain gave an incorrect location of his vessel, delaying Coast Guard rescue by helicopter. It was later learned that the vessel was one mile from the Coast Guard station. The station dispatched a boat crew and medical technician to board the vessel and found the injured deckhand in critical condition. The deckhand was transported ashore and transferred by Life Flight to the hospital. The injured deckhand's arm was amputated; he passed away five months later from complications.

### The Challenge:

The rate of fatal occupational injuries in fishers and related fishing workers is 58 times higher than any other industry (BLS, 2009), making research with this work group of highest-priority. From 2000-2010 the Gulf of Mexico shrimp fishery has been the leading fishery by number of fatalities (Lincoln J et al., 2012). Less is known about non-fatal injuries and illnesses and the behavioral factors that may contribute to them.

Stakeholder advisors reported that lack of knowledge of accepted ship to ship communication signals and appropriate radio monitoring and use (inhibited by lack of English language skills), as well as inability to make a proper Mayday call, contribute to the high mortality rate in the region. This observation was validated by project partners for the enclaves of Spanish-speaking fishermen in South Texas ports.

### The Approach:

- Under the direction of Jeffrey Levin, M.D., M.S.P.H, a survey was developed and translated into Vietnamese. The U.S. Coast Guard District 8 Marine Safety Unit and other opinion leaders helped administer the survey to shrimp fishermen in three communities along the Gulf of Mexico (N=227). The survey collected data on work and related behavioral factors. Each study participant received an audiometric assessment, blood pressure measure, and spirometry reading.
- Preliminary data have suggested that, to be effective, trainings should be conducted in the primary language of the participants, by a respected leader, and with opportunities for hands-on experience (Carruth, et al., 2010).
- Fishing community leaders were convened in subsequent focus groups to learn the survey results and select an intervention from among the priority issues indicated from the survey.
- Intervention materials were disseminated in community training sessions.
- A post-intervention survey was administered to ascertain attitudes toward the work risks selected for intervention and use of intervention strategies, and adoption of or intention to adopt work safety intervention behaviors.
- A workgroup comprised of U.S. Coast Guard representatives, Vietnamese fishermen, Spanish-speaking fishermen, and a Vietnamese merchant marine was convened to develop a trilingual (Vietnamese, Spanish, and English) interactive CD. Multi-modal instruction teaches basic navigation sound signaling, radio channels to monitor and use for vessel to vessel communication, and an exercise to demonstrate a proper Mayday call. A certificate of completion is generated upon successful completion of the quizzes.
- The CD was reviewed by the Fishing Vessel Safety Division, Office of Vessel Activities, U.S.C.G. Headquarters.

**The Results:**

<b>Preliminary Findings (n=227)</b>	
<b>Variable</b>	<b>Prevalence</b>
Vietnamese –primary language	>95%
Work perceived as somewhat to very risky	>70%
Working >22 days/mo; Working>12 hrs/day	61%; 64%
Estimated exposures in engine room	95-105 dBA
Moderate or more severe speech frequency hearing loss	32%
Elevated single BP measurement	59%
Mild obstruction on spirometry	11%



<b>Intervention Dissemination</b>			
	<b>Houston/Galveston</b>	<b>Abbeville, LA</b>	<b>Belle Chasse, LA</b>
<b>Intervention Focus Group</b>	July 8, 2009	August 4, 2009	August 3, 2009
<b>Intervention Selected</b>	Hearing Protection	Fatigue	Winch Safety
<b>Initial Dissemination</b>	March 19, 2010	March 25, 2010	March 24, 2010
<b>Deepwater Horizon Event</b>	April 20, 2010		
<b>Secondary Dissemination</b>	April-May 2011	April-May 2011	April-Aug 2011
<b>Community Training</b>	March 27, 2012	March 19, 2012	March 20, 2012
<b>Fishermen Reached</b>	105	111	128
<b>CD Dissemination</b>	118	150	183

**Intermediate Outcomes:**

- Over 600 copies of the Communication, Navigation and Mayday CD have been distributed.
- The National Oceanic & Atmospheric Administration Southwest Office has requested the CD to use in upcoming training programs with their Southeast U.S. staff as well as the U.S. Coast Guard West Coast Safety Units.
- This research project responds to NAS recommendations to: 4) identify & track target population; 5) diffuse new knowledge, translate r2p, create communication tools; 6) use new models to engage stakeholders, partner with federal/state agencies.

*“I was pleased to see the HSC Fishing Vessel Safety Project concentrated on communications and Rule 5. I’m also pleased to see the materials relate to the people who own and operate commercial fishing vessels in the Gulf of Mexico. The project produced some great tools, I know if they are widely used by the CFV operators it will certainly reduce the number of serious collisions.” –Troy Rentz, USCG Thirteenth District, Fishing Vessel Safety, ACSA Coordinator*