Improving PFD Use Among Commercial Fishermen: Using Partnerships to Effect Change

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2017 Expanding Research Partnerships: State of the Science

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The findings and conclusions in this report are those of the author(s) and do not necessarily represent the views of the National Institute for Occupational Safety and Health.
Overview

- Problem: Falls Overboard
- Initial NIOSH Study
- Partner Studies
- Outcomes
- Future Partnerships
Falls Overboard in Alaska

- 1990 to 2005-- 71 fatal falls overboard
  - 24% of all fatalities

- Fatal falls overboard did not decrease
  - Major decreases in other types of fatalities

- The study’s goals were to:
  - Conduct an in-depth analysis of the issue
  - Analyze circumstances of each incident
  - Identified possible areas for intervention

Falls Overboard in Alaska – Findings

• None of the victims were wearing a PFD

• Other circumstances\(^1\) of the incidents:
  • Working gear – 61%
  • Alone – 38%

Recommendations

• Primary Prevention
• Secondary Prevention
• Personal Flotation Devices PFDs
  • Wearing a PFD is not a regulatory requirement

“Why doesn’t somebody buy a bunch of PFDs and see which ones guys like to wear?” – f/v captain

• Measured perceptions of risks for falling overboard and preconceptions about PFDs

• Evaluated new styles and types of PFDs for comfort while working

• 400 fishermen from 4 gear types surveyed

• 216 PFD evaluations of 6 different designs

Alaska Study Results

• Gap between perceived utility of PFDs and actual use
  • Salmon fishermen: 86% effective preventing fatalities
    • 55% never wore
  • Crabbers: 87% effective
    • 16% never wore

• Each group identified a PFD they can wear

Alaska Study – Lessons Learned

Fishermen want to talk to us
Different gear groups = Different PFD preferences
Commercial Fishing Incident Database
Regional Summaries, 2000-2009
Expanding PFD Studies

- West Coast Crabbers
- Gulf of Mexico Shrimpers
- New England Lobstermen
How do we Partner? Who do we Partner with?

• ERCs and Ag Centers
  • Motivated colleagues
• Tap into the talent and expertise
  • Enhance the approach and design
• What we offered to create synergy
  • Data
  • Advisory
  • Assistance with presentations and/or data collection
  • PFDs
  • Co-authorship
• Let's move forward
The Power of Partnerships
2010: Oregon Crab Fishing Safety Assessment

- 87 safety surveys completed
- 50 PFDs randomly distributed
- Mustang Inflatable Vest
- Association created rebate program

Photo credits: Oregon State University
2010-2015: Marketing Safety and Health Among Vietnamese Commercial Fishermen

PI: Ann Carruth, DSN, RN Host Institution: Southeastern Louisiana University

Dockside Safety Survey
• Falling overboard & other safety concerns
• 339 Surveys completed (English/Vietnamese)
• 3 Types of PFDs distributed to 29 fishermen

Study Results
• Barriers: thermal load, cost, and PFD size

Photo credits: Southwest Center for Agricultural Health, Injury, Prevention, and Education
2017: The Impact of Thermal Load on PFD Use Among Shrimp Fishermen
PI: Ann Carruth, DSN, RN

New PFD Study Underway

- Objectives:
  - To test the physiological impact of heat on PFD use
  - Sizing issues of PFDs
  - Design and test a multimodal and culturally appropriate social marketing campaign

Photo credits: Southwest Center for Agricultural Health, Injury, Prevention, and Education
2014-2015: The Use of PFDs in the Northeast Lobster Fishing Industry

Interviews and focus groups

* Factors contributing to low PFD use
  - Lack of comfort and ease of use
  - Significant social stigma and superstition
  - Increased risk of entanglement
  - Costs

* Sought motivators to increase PFD use
  - Improvements to PFD design for comfort
  - Reduction in costs
  - Reframing the idea of a PFD to conform with the commercial fishing identity

2017: Giving Safety a Competitive Advantage: Increasing PFD Use Among Lobstermen

PI: Julie Sorensen (Director, NEC); Research Coordinator: Rebecca Weil (NEC); Research Coordinator: Liane Hirabayashi (NEC); Research Assistant: Jessica Echard (NEC)

Current PFD evaluation and perceptions study:

• Goal: increase wear rates of PFDs among NE lobstermen and increase their chance of survival following a fall overboard.

• Enrolled 81 lobstermen – winter evaluation
  • 8 PFD types

• Currently enrolling 80 more – summer evaluation

• Calling a random sample of 260 lobstermen
  • Assess “Stage of Change” regarding PFD use

Photo credits: Northeast Center for Occupational Health and Safety
Outcomes

• Fishing companies in Alaska have mandated PFD use for their vessels

• Manufacturers have modified designs and created new designs for PFDs

• PFDs seen more often— but lets measure it

• Greater percentage of Alaska Crab Fishermen report wearing PFDs
  • 22% vs. 52%
The Power of Partnerships

Each iteration identified a unique problem, approach and/or solution

Together we better addressed the hazards

Lead to new opportunities for collaboration
NIOSH Center for Maritime Safety and Health Studies

- Established November 2015

- Brings focus to the OSH needs of the Maritime Industry

- Understand the OSH hazards enough to reduce them
  - Through collaborative research with industry and workers
Expanding Partnerships

• Yale University
  • Marine transportation (seafarers)
  • P6 - Risk factors for injury and illness in seafarers

• Oregon State University
  • Seafood processing
  • Commercial fishing

• Interested in establishing more synergy
Thank you!

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NIOSH Center for Maritime Safety and Health Studies:
https://www.cdc.gov/niosh/maritime/

NIOSH Commercial Fishing Safety Program: https://www.cdc.gov/niosh/topics/fishing/

****Topic Table****
Partnerships— together we can go further