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Non-Fatal Injuries and Injury Treatment in the West Coast Dungeness Crab Fishery

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Abstract

Objectives.—Non-fatal injuries in the high risk US Dungeness crab fishery have been under-documented, despite their potential for lost work time and income, long-term disability, and early unwanted retirement. The Fishermen Led Injury Prevention Program (FLIPP) characterized injuries in this fishery, in order to identify work hazards and inform injury control measures.

Methods.—The FLIPP injury survey was completed by 426 fishermen in 23 Washington, Oregon, and California fishing ports prior to the 2015–2016 Dungeness crab season; 413 (97%) provided injury information for this analysis. Participants indicated whether they had been injured in the previous 12 months, described the injury, any treatments received, and whether the injury limited their ability to work.

Results.—Participants were mostly male (98%), more than half (56.6%) worked as deckhands, and reported considerable fishing experience (median=14 years, interquartile range 5–27). Eighty-nine fishermen (21.5%) reported an injury incident in the past year, of which 49 (55.1%) were limiting. The 89 incidents yielded 102 injuries, of which nearly two-thirds were sprains/strains (23, 22.5%), surface wounds/bruises (17, 15.0%), cuts (18, 17.6%), or punctures (11, 10.8%). More severe injuries, including eight fractures, were rare. The majority of injuries received either no treatment (27, 26.5%) or first aid (35, 34.3%); clinical care was less common (22, 21.6%), and emergency care rare (3, 2.9%).

Conclusion.—One in five Dungeness crab fishermen reported an injury incident in the previous year. Most injuries were not severe and did not result in clinical care, but approximately half were work-limiting. Control measures must account for the remote and resource-limited workplace in commercial fishing.

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Keywords

commercial fishing; injury; safety; occupational health

Introduction

The fatal hazards of commercial fishing have been well documented for some time [1]. In the United States, the Dungeness crab fishery is a high risk commercial fishery [2]. Commercial fishing for United States West Coast Dungeness crab takes place in California, Oregon, and Washington. It is the region's most valuable fishery [3]; for instance, during the 2016–17 season, 3,200 captains and deckhands worked in the West Coast Dungeness crab fishery [4], and fishermen in Oregon landed 20.4 million pounds of Dungeness crab [5]. The US National Institute for Occupational Safety and Health (NIOSH) showed that the Dungeness crab fleet experienced the highest number of fatalities in the region during 2010–2014 [6].

While continued attention is appropriately focused on reduction of fatal injuries, non-fatal injuries in this fishery have been under-documented, despite the potential for non-fatal injuries to result in substantial loss of work time and income, long-term disability, and early unwanted retirement. Our preliminary research on non-fatal injuries in the Dungeness crab fishery found 28 fatal and 45 nonfatal injuries reported to the United States Coast Guard (USCG) during 2002–2014 [6]. Fractures were the most commonly reported injury. USCG injury reports, however, are likely to be skewed toward severe injuries, and are not required for injuries which don't receive professional care [7]. A survey approach was therefore implemented to complement existing sources of data, and to capture a broader range of injuries associated with Dungeness crab commercial fishing.

The Fishermen Led Injury Prevention Program (FLIPP) began in 2014 and supported fishermen through engaged occupational injury prevention research on the US West Coast. Its aims were to: 1) characterize patterns of non-fatal injuries in the West Coast Dungeness crab fleet; 2) identify the highest-risk injury hazards by work processes (i.e., job tasks); and 3) test injury risk reduction interventions. The injury survey results reported here informed the identification of high-risk work tasks, and provided the basis for identifying potential control measures.

Methods

Setting

The FLIPP survey covered 23 fishing ports along the Washington, Oregon, and California coasts immediately prior to the 2015–2016 Dungeness crab season. Surveys were completed in person on vessels or docks, and in gear yards where crab pots were being prepared.

Participants

Participants were fishermen preparing for the Dungeness crab season. Participants were approached, either individually or as a crew, by a FLIPP community researcher, and asked

whether they were over age 18 and willing to participate in the survey. All fishermen were offered a pair of work gloves (the type commonly used when preparing gear). Participants who met the criteria were provided an opportunity to ask questions about the survey and the study and were provided a survey to complete on site; surveys were completed individually and collected anonymously, with no personal identifiers recorded by the study team. For the current analysis, participants were excluded if they failed to respond to the survey injury items. The study recruitment and data collection protocols were approved by the Oregon State University Institutional Review Board.

Survey development

Because previous studies had primarily focused on fatal or serious non-fatal injuries, we intended to quantify the risk of injury through the full spectrum of severity. Knowing that many injuries, even those that limit work activity, were likely to go unreported to clinicians or USCG, we developed a survey for fishermen to self-report injuries.

Survey development was conducted in two phases. First, 19 fishermen participated in 7 focus groups held along the California (Morro Bay, Trinidad, Moss Landing, and Fort Bragg) and Oregon (Port Orford, Charleston, and Newport) coasts [8]. The purpose of these focus groups was to review and reflect on USCG injury reports, and identify and refine appropriate survey sections and topics. In the focus groups, fishermen identified several areas to modify the survey, including adding an open-ended item asking fishermen to describe their own safety habits. Fishermen specifically discounted items having to do with musculoskeletal injuries as being so common as to not merit asking. Items were added and modified based on feedback from fishermen.

Second, the survey was pilot tested by 21 fishermen, who were asked to take the survey and were timed. Upon completion, we had a brief discussion with the fisherman or group of fishermen and asked a series of open-ended questions about each section (instructions clear; fillable; improve, remove, missing items) as well as the survey as a whole (relevancy, how to get fishermen to respond). The community researchers who administered the pilot test also provided feedback on the survey and the experience administrating the survey with fishermen. After pilot-testing, the survey was revised a final time before administration.

Survey content

The FLIPP injury survey is four pages, with additional injury information pages used if a respondent reported more than one injury in the past 12 months. The survey covered six content areas: 1) fishing history (past year and lifetime); 2) demographics (age, gender, crew position); 3) safety attitudes; 4) injury risk and safety opinions; 5) the number and nature of injuries in the past year; and 6) the circumstances (e.g. work activities, vessel activity) in which injuries took place [8]. (The survey may be found at https://health.oregonstate.edu/sites/health.oregonstate.edu/files/labs/kincl/pdf/flipp_injury_survey_for_flippresources.pdf)

For each reported injury, participants were asked to indicate the nature of the injury from among amputation, fracture, cut, puncture, tear, hernia, hypothermia, sprain/strain, surface wound/bruise, or “other” injury. We used terms in common use rather than medical terms (e.g. cut instead of laceration), and for injuries reported as “other” we asked participants

to describe the injury. Those descriptions were entered in a separate text field. We asked participants whether the injury limited work, that is, whether work tasks had to be modified or reduced to accommodate the injury. In a free response item, we asked "What treatment did you receive for the injury and where? (for example, 'first aid on vessel')." This enabled us to collect data on the broadest possible range of responses to injury, including the sort of *ad hoc* treatments which might be utilized on a small vessel, far from shore.

Survey administration

In all but one port, surveys were administered by nine community researchers rather than by study staff. We recruited community researchers from ports along the coast. Community researchers were local community residents, generally with a connection to commercial fishing (e.g., a family member), who were employed by the project; they were responsible for identifying local venues for survey administration, recruitment of fishermen participants on docks and in gear yards, administration of surveys, and sending the surveys to the study team. Using community researchers enabled us to quickly identify the best local spots for participant recruitment, and overcome some of the potential reluctance of fishermen to complete a survey on their injury experiences.

Data management

All surveys were double entered into spreadsheets by study staff using data dictionaries. After the surveys had been entered, the two spreadsheets were imported into a statistical software package and compared. Each cell which did not have an *exact* match (e.g. "Fish" in one file and "fish" in another would have been flagged as discrepant) was flagged for review. All apparently discrepant entries were resolved, either by inspection of the data files (e.g. different spellings of the same word) or by review of the original paper survey (e.g. discrepancies in numeric responses).

Statistics

This analysis focused on the nature of injuries reported by fishermen participants, and the steps taken by themselves or others to treat those injuries. Relatively few participants reported more than one injury incident in the previous year; therefore, the unit of analysis was the person rather than the injury incident, in order to avoid giving undue weight to frequently injured fishermen, or risk including injuries that may have been related. For those fishermen reporting injuries, we used the first injury incident reported in this analysis. For each injury incident, however, we allowed participants to report more than one injury (e.g., a fracture combined with a surface wound/bruise).

We calculated descriptive statistics for continuous variables (median and interquartile range) and presented categorical variables as both counts and proportions. The "treatment" variable was created from an open-ended response item: "What treatment did you receive for the injury and where?" Two study investigators reviewed the treatments reported by survey respondents and classified them as "nothing" (no clear treatment provided), "first aid" (immediate care provided by a non-healthcare professional, whether or not the care was in the typical scope of first aid training), "clinical care" (care by a healthcare professional outside an emergency setting), or "emergency care" (pre-hospital emergency medical care,

evacuation, emergency department treatment). In the few instances in which more than one treatment was indicated in the free response field, the variable was coded to indicate the treatment of greatest intensity (e.g., if first aid and a clinic visit were listed, treatment was coded as “clinical care”). Disagreements were resolved by consensus. We created two tables, one showing the nature of reported injuries stratified by their limiting status (i.e., limiting work vs. not limiting), and one showing the nature of injuries stratified by the level of treatment received.

Results

A total of 426 fishermen completed the FLIPP injury survey, with 413 (97%) completing the injury section. Missing data for non-injury variables was low (Table 1). Participants were relatively evenly distributed across the three states. Nearly all were male, and the largest single group by crew position were deckhands; respondents were allowed to indicate multiple operational positions (e.g., owner and captain), consistent with the fluid nature of duties on smaller crab vessels. Participant age and fishing experience varied widely, with some first season crew members and some who had been fishing for several decades. Approximately one in five fishermen reported at least one injury in the past year.

The 89 injury incidents were fairly evenly split between those that limited or modified work and those that did not (Table 2). A total of 102 injuries were reported in the 89 injury incidents; nine incidents (10.1%) were reported to have multiple injuries (seven incidents with two injuries, one with three, and one with five). Of the 102 injuries, nearly two-thirds were sprains/strains (23, 22.5%), surface wounds/bruises (17, 15.0%), cuts (18, 17.6%), or punctures (11, 10.8%). More severe injuries, including eight fractures, were rare. There were no reported cases of hypothermia or amputation. Because we allowed free response in the “other” injury category, responses were a mix of injuries not included in the categories provided (e.g., “scratched cornea”), and some were mechanisms rather than injuries (e.g., “pot fell on foot”). Although we did not have sufficient sample size to formally test for differences in limitation by nature of injury, there was no strong pattern in our findings to suggest that the nature of the injury, by itself, was associated with limitation.

Of the 89 injury incidents, there were only four (4.5%) for which participants listed a second treatment. Three-quarters of reported injuries were not treated by healthcare professionals, approximately evenly split between injuries receiving no care and those for which first aid was provided (Table 3). Only three (3.4%) required emergency care, while 35 (34%) required first aid. The study sample size precluded drawing firm conclusions regarding intensity of treatment by nature of injury, but it was clear that the nature of the injury, by itself, was not highly associated with treatment received; for only two injury categories, strain/sprain and surface wound/bruise, was no treatment the most common response. The majority of treatments listed by participants in the free response field were easily categorized. However, a number of treatments in the “first aid” category were—regardless of their effectiveness—treatments that would not typically be recommended in land-based first aid (Table 4).

Discussion

Injuries

In contrast to our earlier study of Dungeness crab fishing injuries reported to the USCG [6], in which fractures were the most commonly reported injury, we found that nearly 70% of self-reported injuries were sprains/strains, surface wounds/bruises, cuts, or punctures. While such injuries (e.g., a deep laceration) can be life threatening, they are typically not. Thus, we view our current findings as complementary to, rather than inconsistent with, our earlier findings. The USCG injury data result from reports that not only have a higher bar for reporting, but may underrepresent less severe injuries [2,6]. In contrast, the FLIPP survey asked about all injuries, regardless of injury severity or treatment intensity. The injuries identified through the FLIPP survey add to our understanding of commercial fishing injuries, paired with findings based on official reports.

It is noteworthy that only 3 of 102 injuries required emergency care, and that less than one-quarter of injuries received any clinical care. On the other hand, over one-third of the injuries required first aid treatment. The USCG does require that commercial fishermen have first aid training. Providing first aid training that is relevant and for the marine setting is of utmost importance, especially when training programs can include injury prevention strategies as well as scenarios based on actual commercial fishing injuries from research such as this and injury surveillance programs.

Approximately half of reported injuries were classified as limiting work in some way. The pattern of limitation by injury is not surprising; those injuries that seem more likely to involve multiple joints or muscle groups involved in all work tasks (e.g., strain/sprain, tears, hernia) were more often reported as limiting, compared to those injuries that may have been confined to a smaller area and did not involve joints (e.g., cuts and punctures). Our findings underscore the importance of assessing non-fatal injuries; while immediately life-threatening injuries rightly deserve immediate attention and prevention efforts, less spectacular but more common injuries can nonetheless be limiting and disabling, particularly over the course of a career.

Our finding that the majority of injuries are of relatively low acuity, and predominantly sprains/strains and localized wounds, is consistent with findings from similar occupational settings, including construction [9], public safety [10, 11], and manufacturing [12]. It is also consistent with injury surveys conducted in other commercial fishing settings [13–16]. Finally, our findings were consistent with what fishermen reported during our focus groups —that small injuries are perceived as an acceptable part of the job and happen all the time [8]. The nature and acuity of the majority of injuries suggest that they may be amenable to prevention through engineering controls, changes in work practices, relatively inexpensive personal protective equipment, or some combination of those approaches. Approaches used successfully in other settings may be candidates for adaptation to commercial fishing, understanding the inherently hazardous setting (e.g., rolling and wet surfaces, long and irregular work hours) and the need to find solutions appropriate to the wide range of vessels and crew sizes.

As intended, using a free response item to assess treatment provided a broad range of responses. Consistent with the general mix of injuries reported, the vast majority of injuries received either no treatment or first aid. In particular, strains/sprains and surface wounds/bruises were predictably unlikely to receive anything beyond first aid. Injuries involving skin penetration or fracture were more likely to receive at least first aid. There was not, however, a clear dividing line between those injuries that were treated and those that were not; some fractures received first aid, while some strains/'sprains received clinical attention. In part, this may be explained by either the specific nature of the injuries or the setting in which the injury takes place. For instance, a finger fracture suffered offshore may be splinted so that work can continue. Some proportion of the injuries suffered and treated at sea might have received clinical care had they occurred ashore.

Using a free response item for treatment also provided methodological challenges. In almost every instance, treatments were easily categorized as none, first aid, clinical care, or emergency care. We chose to code treatments by their intent, rather than by whether they fit into an accepted scope of treatment. For instance, using electrical or black tape on a cut is clearly intended as first aid, even though conventional land-based first aid would recommend a sterile pad and gauze wrap. In addition, collecting treatment data in a free response item allowed us to determine what treatments were actually provided, rather than force a response into categories that might not apply in an austere setting (e.g., "bandage and gauze").

Methods

In addition to the comments above regarding treatment assessment, we identified two important methodological advantages to our survey approach. First, our approach encouraged engagement with commercial fishermen. Using community researchers familiar with both the community and local ports, and conducting the survey on docks and in gear yards, enabled us to cover 23 ports during the course of the survey—far greater reach than a survey using only study staff. Conducting surveys at worksites is not novel, but has been shown effective in other commercial fishing settings [17] and should be considered the preferred approach to survey fishermen.

Second, we were successful in recruiting a broad range of commercial fishermen with different positions, from vessel owners (who often are heavily engaged in fishing tasks in this fishery) to deckhands. This enabled us to assess the full range of injuries and injury treatments associated with Dungeness crab fishing, including treatments that suggest the need for improved austere first aid training; fishermen were critical of the "land-based" first aid (i.e., first aid based on ample resources and rapid definitive care) training commonly offered, and wanted more opportunities to learn "austere" first aid methods (i.e., first aid using limited resources, with potentially long waits for definitive care). We also identified, as expected, injuries that would otherwise not have been reported; only one-quarter of injuries reported in our survey would have resulted in clinical documentation. The survey also captured other subjective but important information not available from any other source (e.g., safety perceptions), which are likely to be important in identifying injury control measures that are not only effective, but practical, scalable, and accepted by fishermen. However, the intensity of data collection for both community researchers and participants,

as well as the inability to verify diagnoses and outcomes, makes this survey approach impractical for ongoing surveillance.

Limitations

Many limitations of the current study are inherent in survey research: potential for recall or reporting bias, inability to independently verify reports, differences in item interpretation across participants, and inability to clarify unclear or out-of-range responses. In particular, because we relied on non-clinician reports, the level of detail provided by the survey made it impossible to map injuries onto standard coding schemes (e.g., ICD-10, injury severity), or to judge the effectiveness of the reported treatments. Our sample, though large for research in commercial fishing, was not randomly drawn. As there are no “rosters” of everyone employed in Dungeness crab fishing, it is not possible to know whether our sample represents Dungeness crab fishermen as a whole; we had no alternative but to rely on volunteers.

Relatively few of the 89 incidents listed multiple injuries, but those that did were certainly more likely to be of greater severity. With relatively few such injuries, we did not have the opportunity to assess that possibility, and by disaggregating injuries we may have mismatched a few injury-treatment pairings. A larger study would be necessary to explore more complicated injury incidents. Similarly, relatively few injury incidents listed more than one treatment, but clearly those with more than one were likely to have been more severe than those with only one. Finally, our participants were fishermen preparing for the upcoming season; any fishermen who had been severely enough injured in the previous 12 months to have either quit fishing or sat out the season would likely have not have been included in our study.

Conclusion

This study conducted the first injury survey in the Dungeness crab fishery, noted for its danger relative to other US fisheries. Nearly one in five Dungeness crab fishermen reported an injury during the previous 12 months. While the intensity of data collection and nature of the data provided make ongoing injury surveys inappropriate for injury surveillance, the survey captured injuries common to Dungeness crab fishing, which may contribute to lost work time and disability. The vast majority of injuries would not have been classified as severe and most did not result in clinical care, but approximately half were reported to have limited the ability to carry out work tasks as usual. The nature of most of the injuries —sprains/strains and lacerations—are consistent with those reported in similar occupations, but take place in a very different setting. Control measures and first aid for such injuries must take into account the remote and sometimes harsh nature of the workplace, as well as the limited resources immediately available in a commercial fishing setting.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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References

[1]. Grainger CR. Hazards of commercial fishing. World Health Forum. 1993;14(3):313–5. [PubMed: 8397749]

[2]. Lucas DL, Case SL. Work-related mortality in the US fishing industry during 2000–2014: New findings based on improved workforce exposure estimates. Am J Ind Med. 2018;61(1):21–31. [PubMed: 28833290]

[3]. Oregon Department of Fish and Wildlife. 2017. Oregon's Ocean Commercial Fisheries. Marine Resources Program Available at: https://www.dfw.state.or.us/MRP/docs/Backgrounder_Comm_Fishing.pdf. (accessed on May 16, 2018)

[4]. Hughes SE, Goodman SE. 2013. Update of fishery employment estimates for workers on U.S. commercial fishing vessels, West coast and Alaska (1994–2012), East coast (2000–2012) and Gulf of Mexico shrimp (2000–2012). Seattle, WA, National Resource Consultants.

[5]. Oregon Department of Fish and Wildlife. 2017. 9th Annual Dungeness Crab Fishery Newsletter. Marine Resources Program. Available at: https://www.dfw.state.or.us/mrp/shellfish/commercial/crab/docs/2017CrabNewsletter_Final_web.pdf (accessed on May 16, 2018)

[6]. Syron L, Case S, Kloczko D, et al.. 2017. Commercial Fishing Fatality Summary: West Coast Region (2010–2014). Department of Health and Human Services. Centers for Disease Control and Prevention. National Institute for Occupational Safety and Health. DHHS (NIOSH) Publication Number 2017–172.

[7]. Case S, Bovbjerg V, Lucas D, et al. Reported traumatic injuries among West Coast Dungeness crab fishermen, 2002–2014. International Maritime Health. 2015;66(4):207–210. [PubMed: 26726891]

[8]. Kincl L, Nery M, Syron LN, et al. Dungeness crab commercial fishermen's perceptions of injuries inform survey development. Am J Ind Med. 2019;62(3):265–271. [PubMed: 30637793]

[9]. Bureau of Labor Statistics. Nonfatal occupational injuries and illnesses requiring days away from work, 2014. US Department of Labor, 19 November 2015.

[10]. Evarts B, Molis JL. United States firefighter injuries 2017. National Fire Protection Association, November 2018.

[11]. Phelps SM, Drew-Nord DC, Neitzel RL, et al. Characteristics and Predictors of Occupational Injury Among Career Firefighters. Workplace Health Saf. 2018;66(6):291–301. [PubMed: 29251258]

[12]. Bureau of Labor Statistics. Employer-reported workplace injuries and illnesses—2016. US Department of Labor, 9 November 2017.

[13]. Frantzeskou E1, Kastania AN, Riza E, et al. Risk factors for fishermen's health and safety in Greece. Int Marit Health. 2012;63(3):155–61. [PubMed: 23129097]

[14]. Kucera KL, Loomis D, Lipscomb H, et al. Prospective study of incident injuries among southeastern United States commercial fishermen. Occup Environ Med. 2010 Dec;67(12):829–836. [PubMed: 20935288]

[15]. Jensen OC. Work related injuries in Danish fishermen. Occup Med (Lond). 1996;46(6):414–420. [PubMed: 8987374]

[16]. Marshall SW, Kucera K, Loomis D, et al. Work related injuries in small scale commercial fishing. Inj Prev. 2004;10(4):217–221. [PubMed: 15314048]

[17]. Lucas DL, Lincoln JM, Carozza SE, et al. Predictors of personal flotation device (PFD) use among workers in the Alaska commercial fishing industry. Saf Sci 2013;53:177–185.

Table 1.

Participant (n=413) characteristics

	Count	%[1]	n missing
Gender			7
Male	398	98.0	
Female	8	2.0	
Crew position[2]			5
Owner	141	34.6	
Captain	170	41.7	
Deckhand	231	56.6	
Other	30	7.3	
Survey location			0
California	129	31.2	
Oregon	155	37.5	
Washington	129	31.2	
Injury in past year			
Limiting	49	11.9	0
Non-Limiting	39	9.4	1
Total	89	21.5	0
	Median	**IQR**	
Age	36	28–52	19
Years fishing	14	5–27	3
Years crab fishing	8	3–19	2

[1]Percentages calculated based on valid responses.

[2]Participants were allowed to indicate multiple positions, consistent with small crew Dungeness crab operations.

Table 2.

Nature of injury by limitation status.

Injury	Limiting	Not limiting	Total
Strain/sprain	16	7	23
Surface wound/bruise	5	11	17
Cut	9	9	18
Puncture	3	7	11
Tear	4	0	4
Fracture	5	4	9
Burn	0	2	2
Hernia	2	0	2
Other	9	8	17
Total	53	48	102

Table 3.

Nature of injury by level of treatment provided.

Injury	None	1st aid	Clinical care[1]	Emergency care	Unknown	Total
Strain/sprain	13	4	3	1	2	23
Surface wound/bruise	6	4	3	0	4	17
Cut	2	7	5	1	2	18
Puncture	1	7	2	1	0	11
Tear	0	2	1	0	1	4
Fracture	1	4	2	0	2	9
Burn	0	1	0	0	1	2
Hernia	0	1	1	0	0	2
Other	4	3	7	0	3	17
Total	27	35	22	3	15	102

[1]Non-emergency clinical care

Table 4.

Examples of self-reported treatment by nature of treatment

Nature of treatment	Examples
None	None
	Lived with it
	Just pushed through
First aid	First aid
	Clean, bandage
	Electrical tape
Clinical	Stiches
	Doctor visit
	Physical therapy
Emergency	Medevac
	Emergency Room