

# Survey of Non-fatal Workplace Injuries to Commercial Fishermen in Dutch Harbor, Alaska, 2007-2008

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# Background

- **Commercial fishermen in Alaska**
- **124 deaths/100,000 workers**
- **31 times national average**
- **Significant reduction in fatal injuries**
- **Minimal attention to non-fatal injury**
- **Non-fatal injury patterns unknown**

# Objectives

- Describe non-fatal injuries to commercial fishermen in AK
- Develop preventive strategies
- Create plan for AK investigation
- Develop model for expansion to U.S.

# Dutch Harbor, Alaska

- Unalaska island
- Largest volume fishing port in U.S.
- Thousands employed
- Seasonal
- Migrant workers
- Solitary medical clinic
- Iliuliuk Health Center

# Dutch Harbor, Alaska



# Methods

- **Query medical records (2007-2008)**
  - ICD-9 codes: 800-999
  - Job Type: Fisherman
  - Corporate payer
- **Onsite medical chart review (N=366)**
  - Demographics
  - Injury description
  - Lost time

# Injured Fishermen (N = 366)

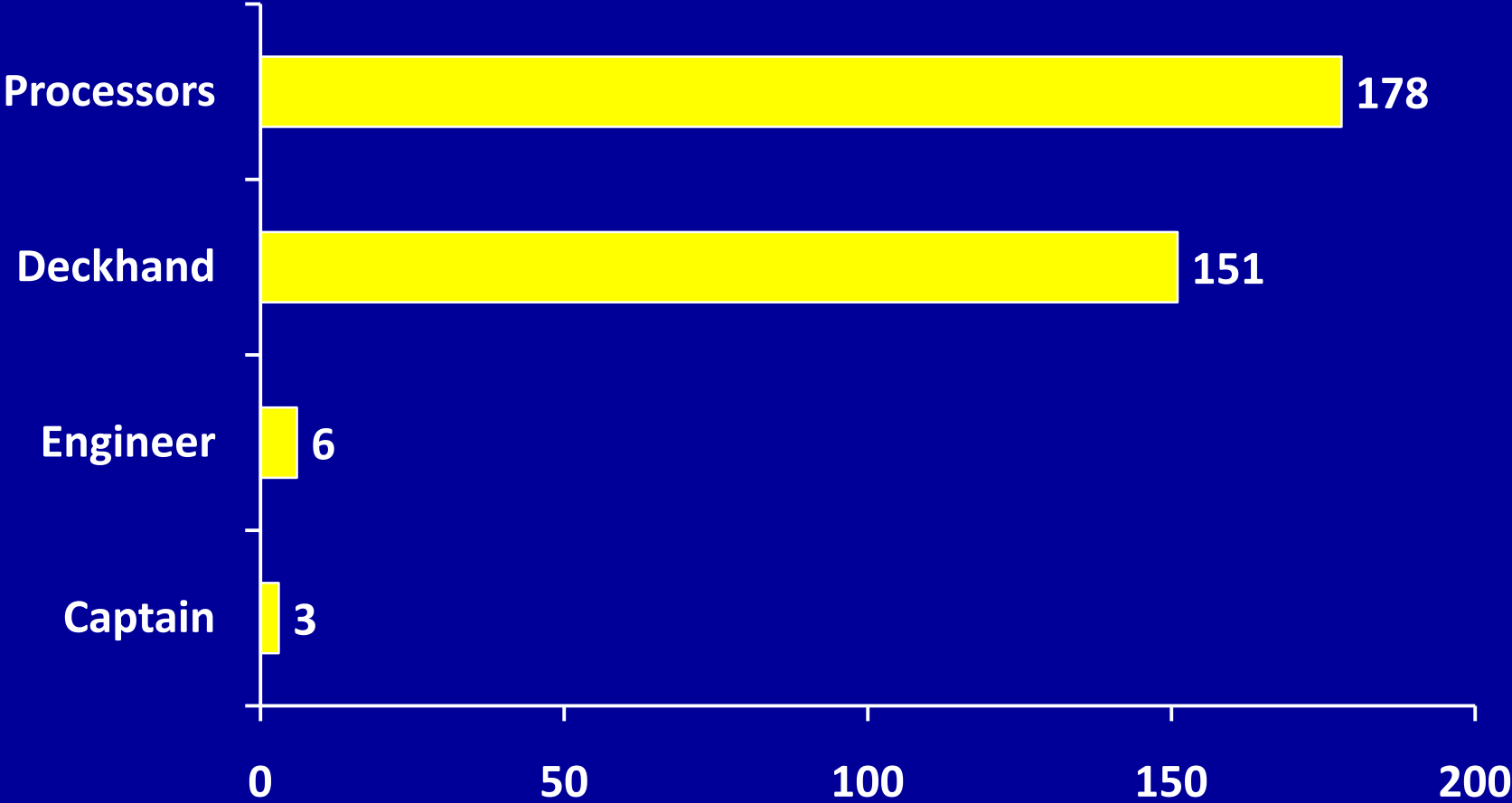
	%
<b>Male</b>	<b>99</b>
<b>Caucasian</b>	<b>55</b>
<b>African American</b>	<b>6</b>
<b>Pacific Islander</b>	<b>6</b>
<b>Asian</b>	<b>5</b>
<b>American Indian</b>	<b>3</b>
<b>Filipino</b>	<b>1</b>
<b>Other</b>	<b>6</b>

# Location of Injury, 2007-2008 (N=366)

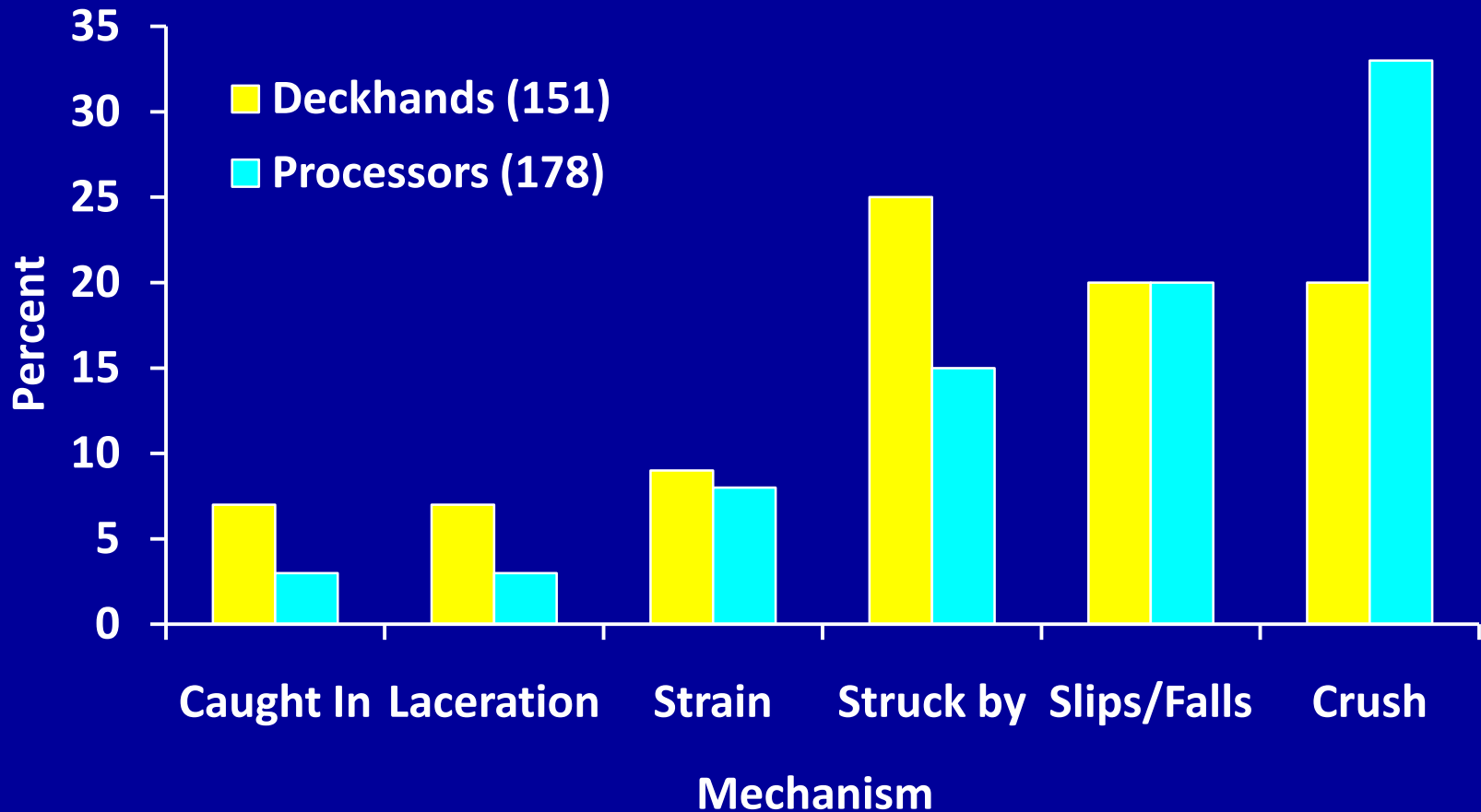
	%
<b>At Sea</b>	<b>65</b>
<b>In Port</b>	<b>17</b>
<b>On Deck</b>	<b>30</b>
<b>Freezer</b>	<b>15</b>
<b>Factory</b>	<b>4</b>



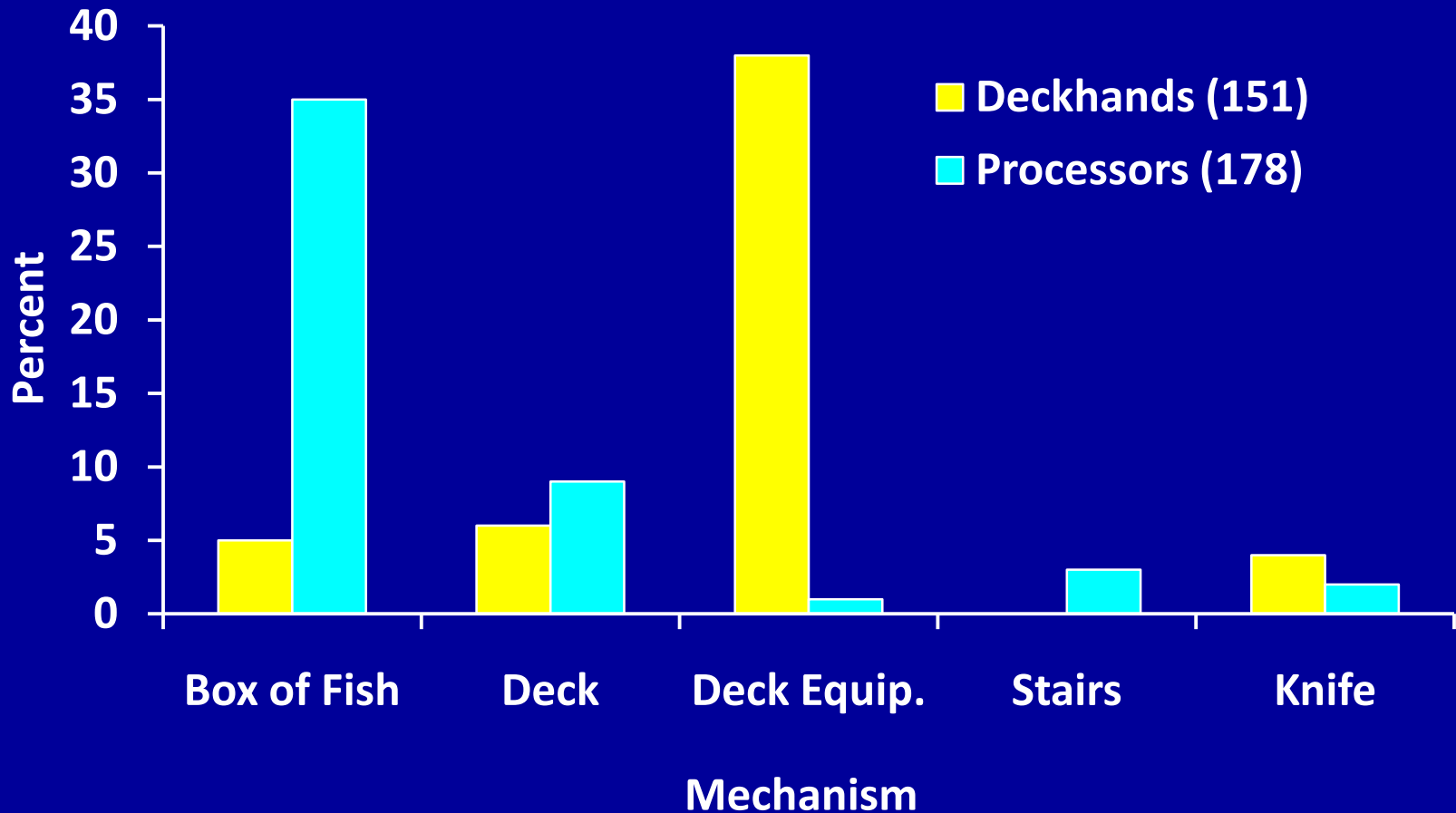
# Injured Workers by Job Type, 2007-2008 (N = 366)



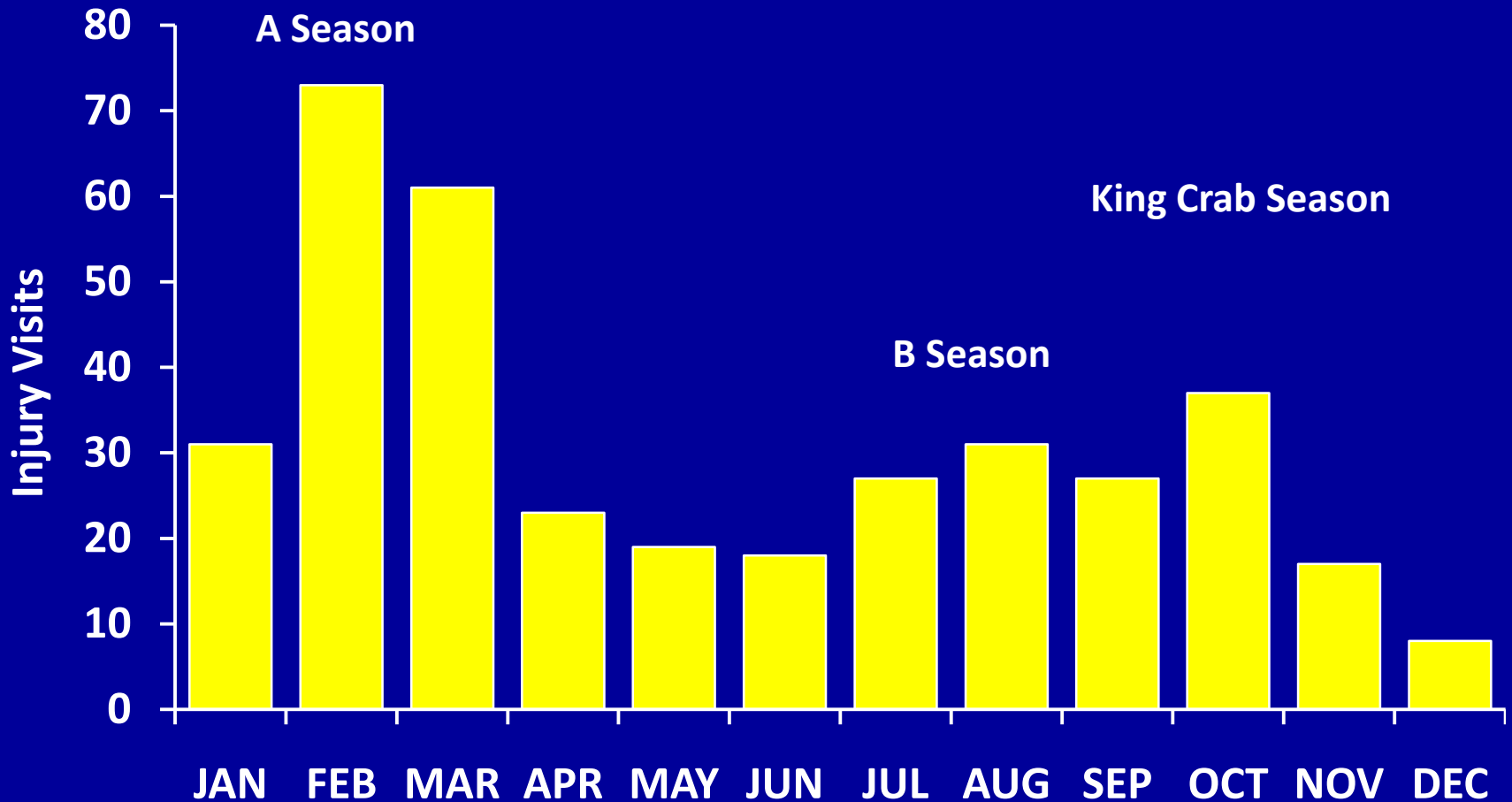
# Injuries by Mechanism, 2007-2008 (N=366)



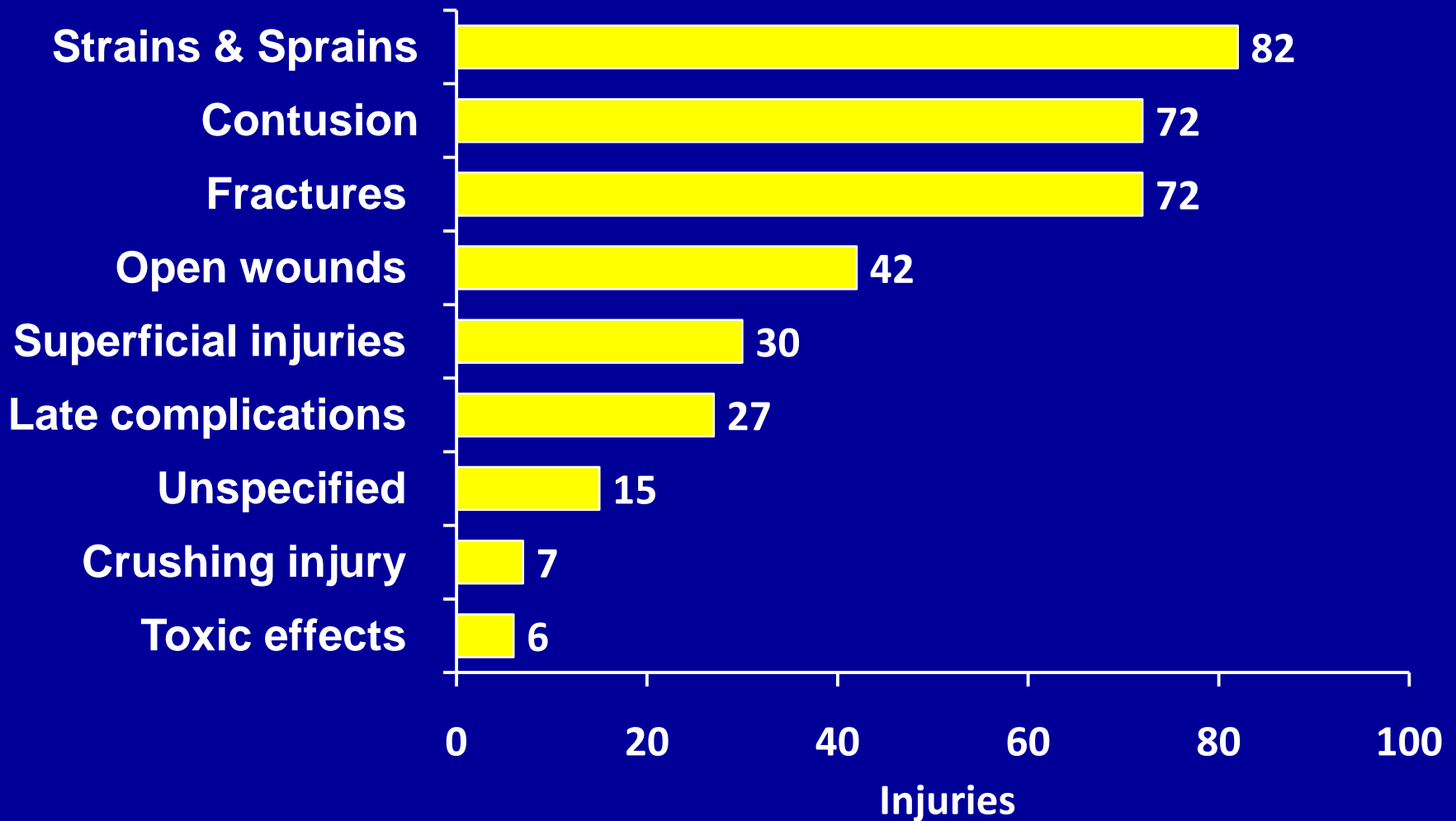
# Injuries by Causal Agent, 2007-2008 (N=366)



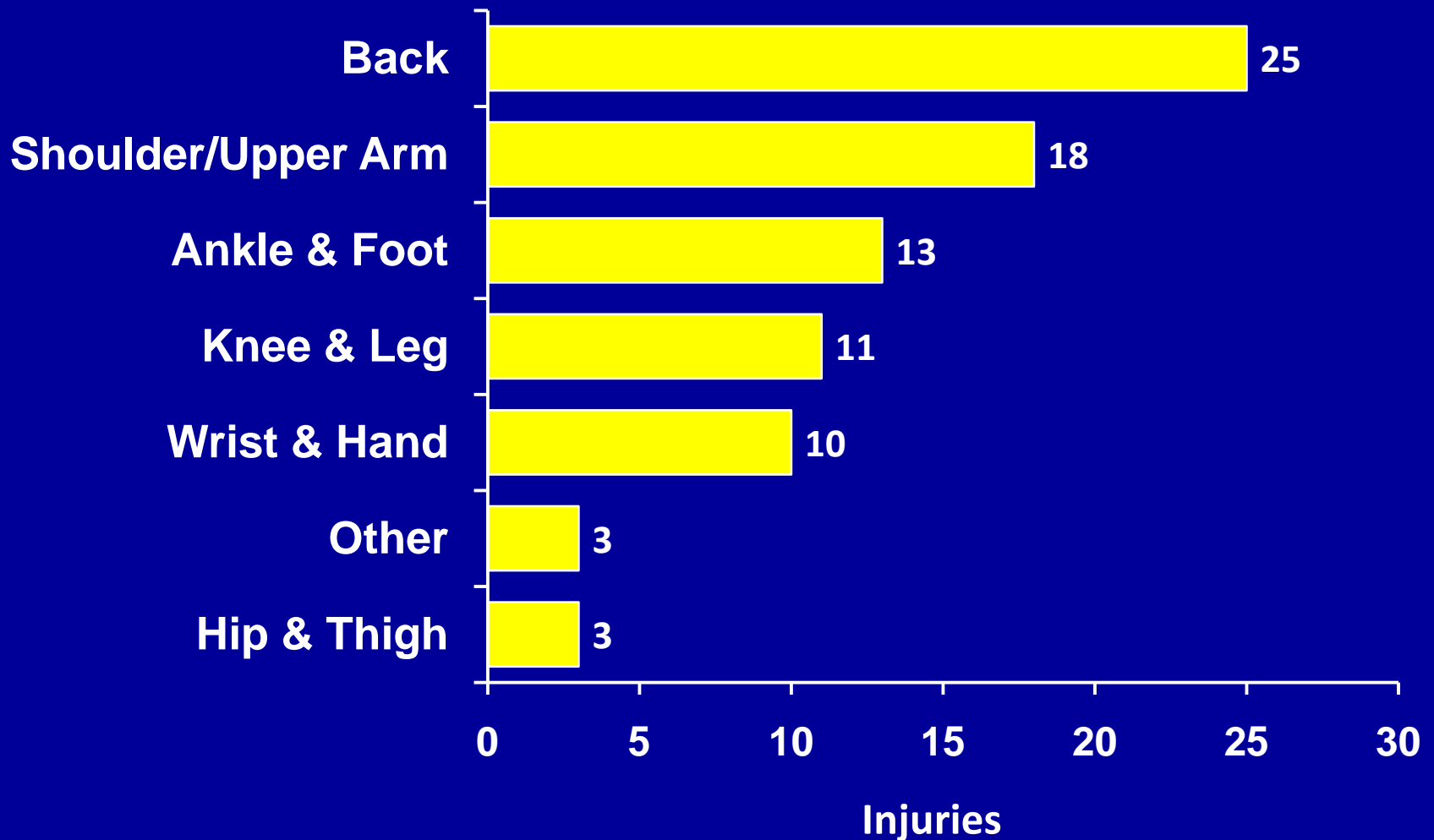
# Iliuliuk Clinic Visits for Acute Injury to Fishermen, 2007-2008



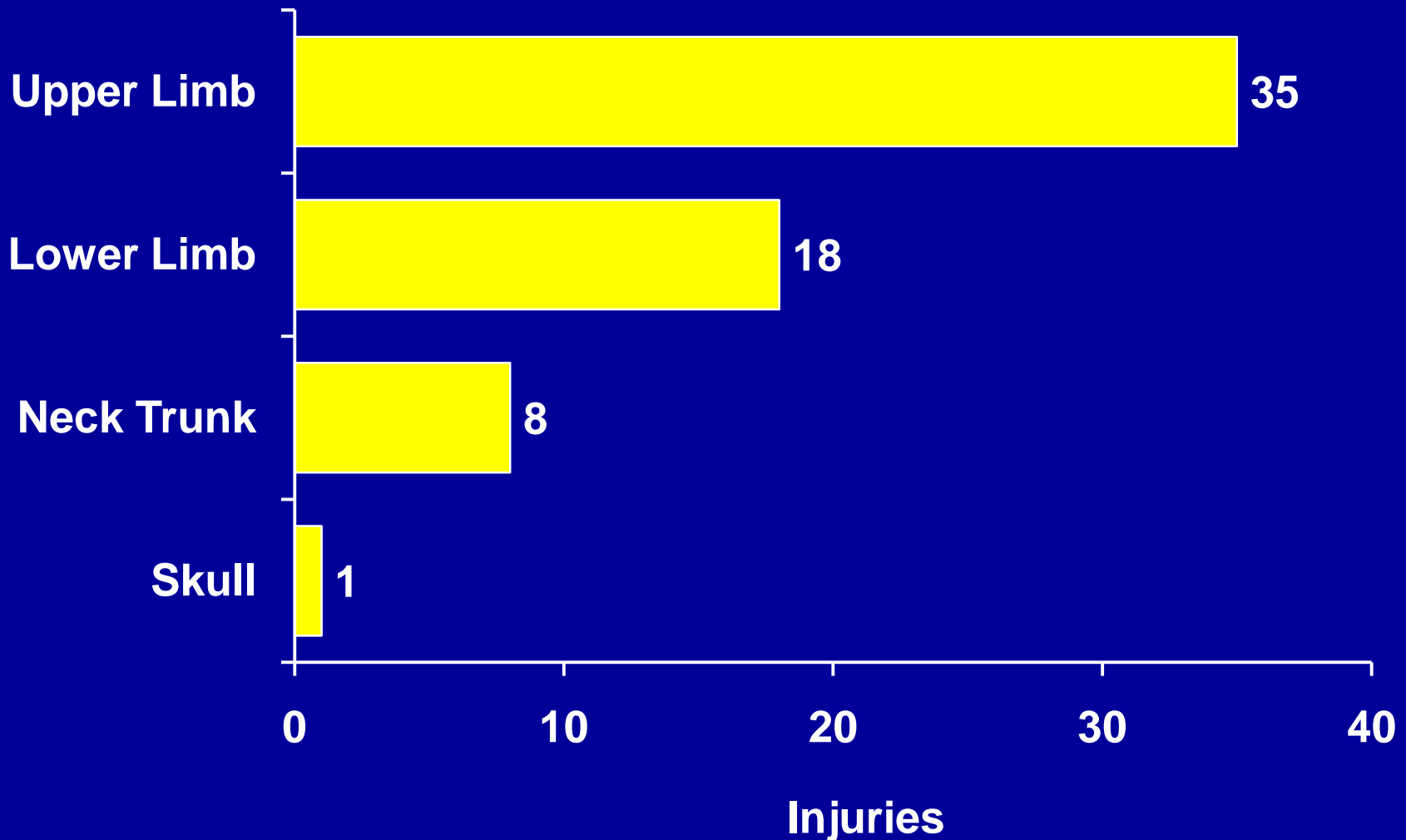
# Number of Injuries to Fishermen by Type, 2007-2008 (N = 366)



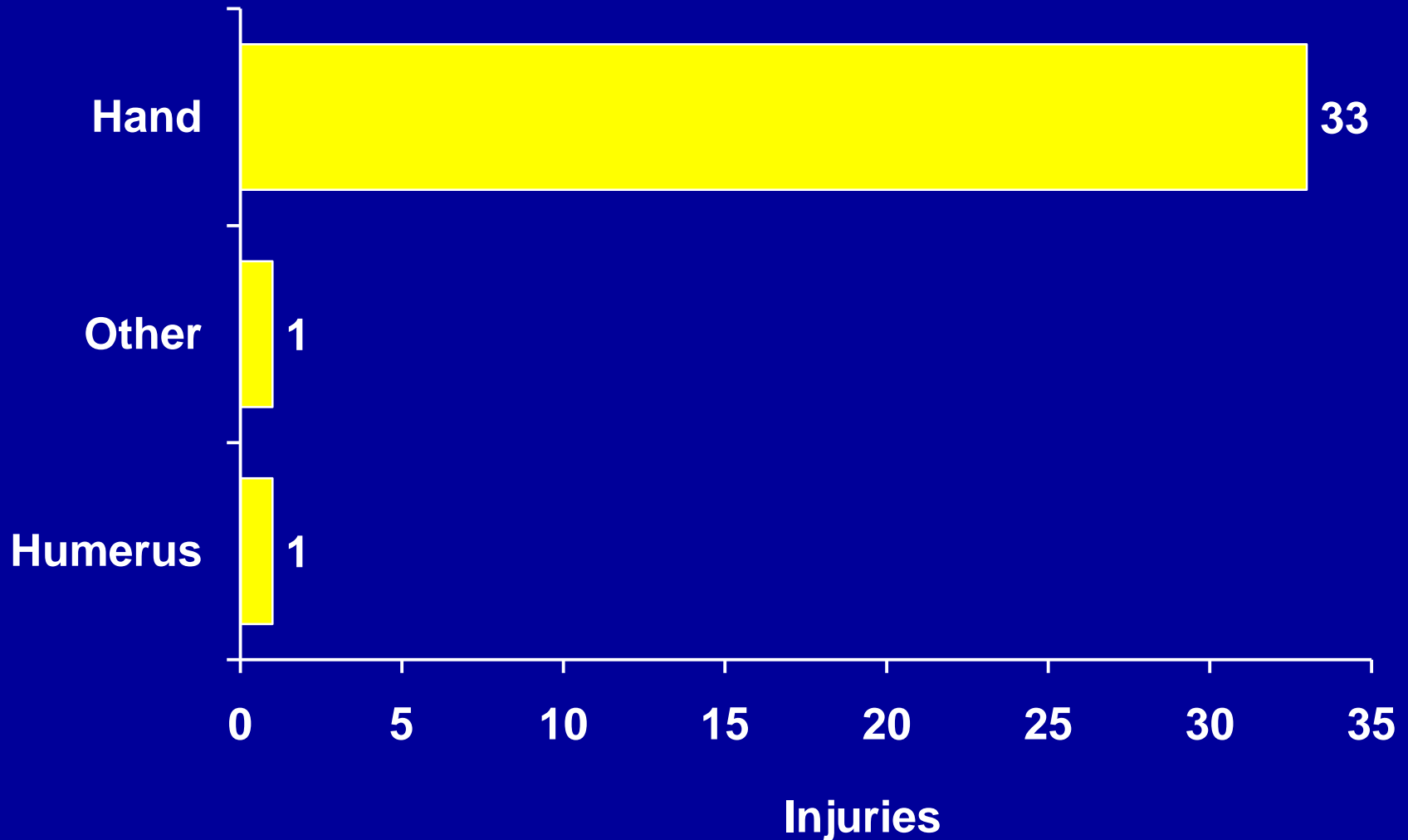
# Strain & Sprain Injuries to Fishermen, 2007-2008 (N = 82)



# Fractures Among Fishermen, 2007-2008 (N = 72)

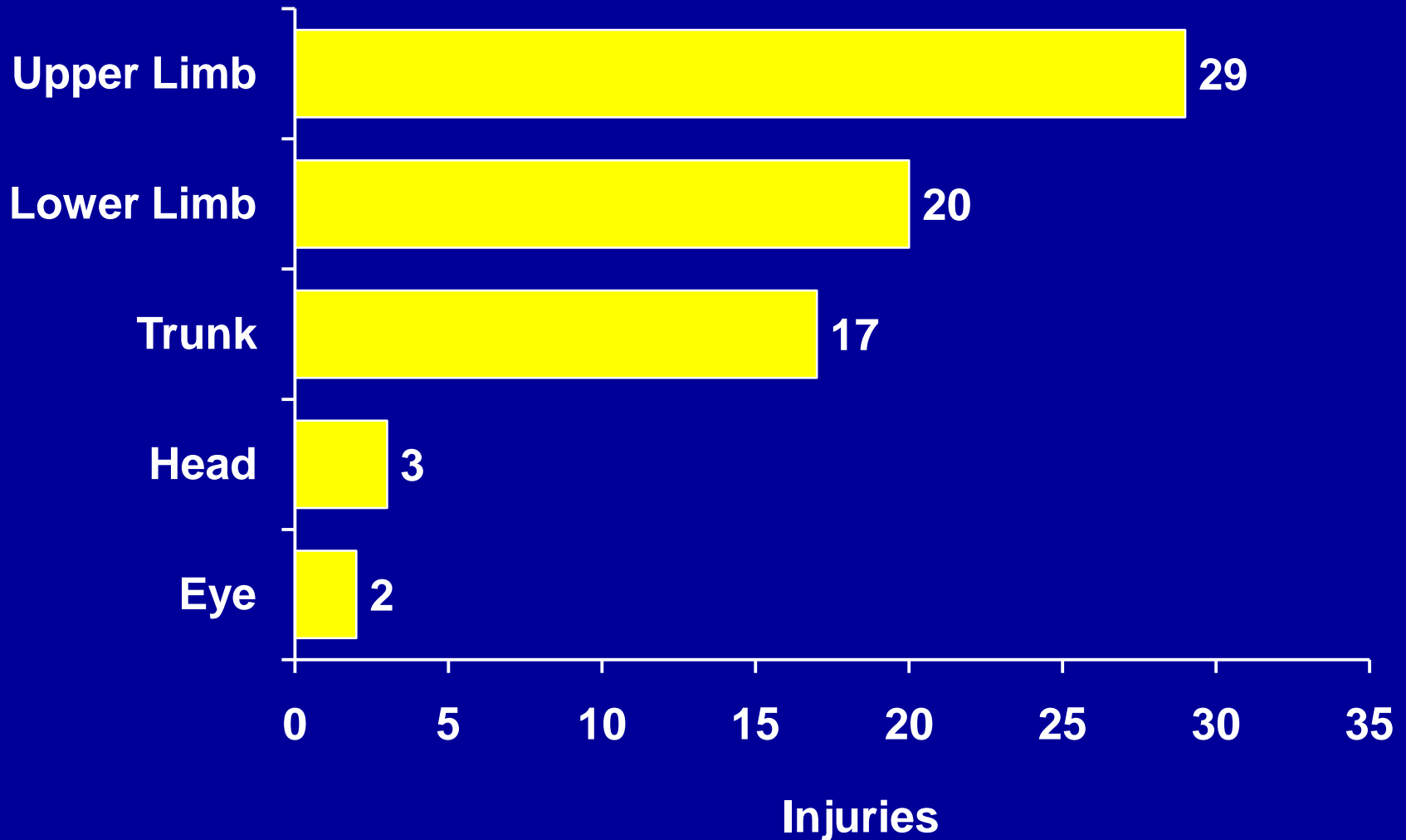


# Upper Limb Fractures Among Fishermen, 2007-2008 (N = 35)

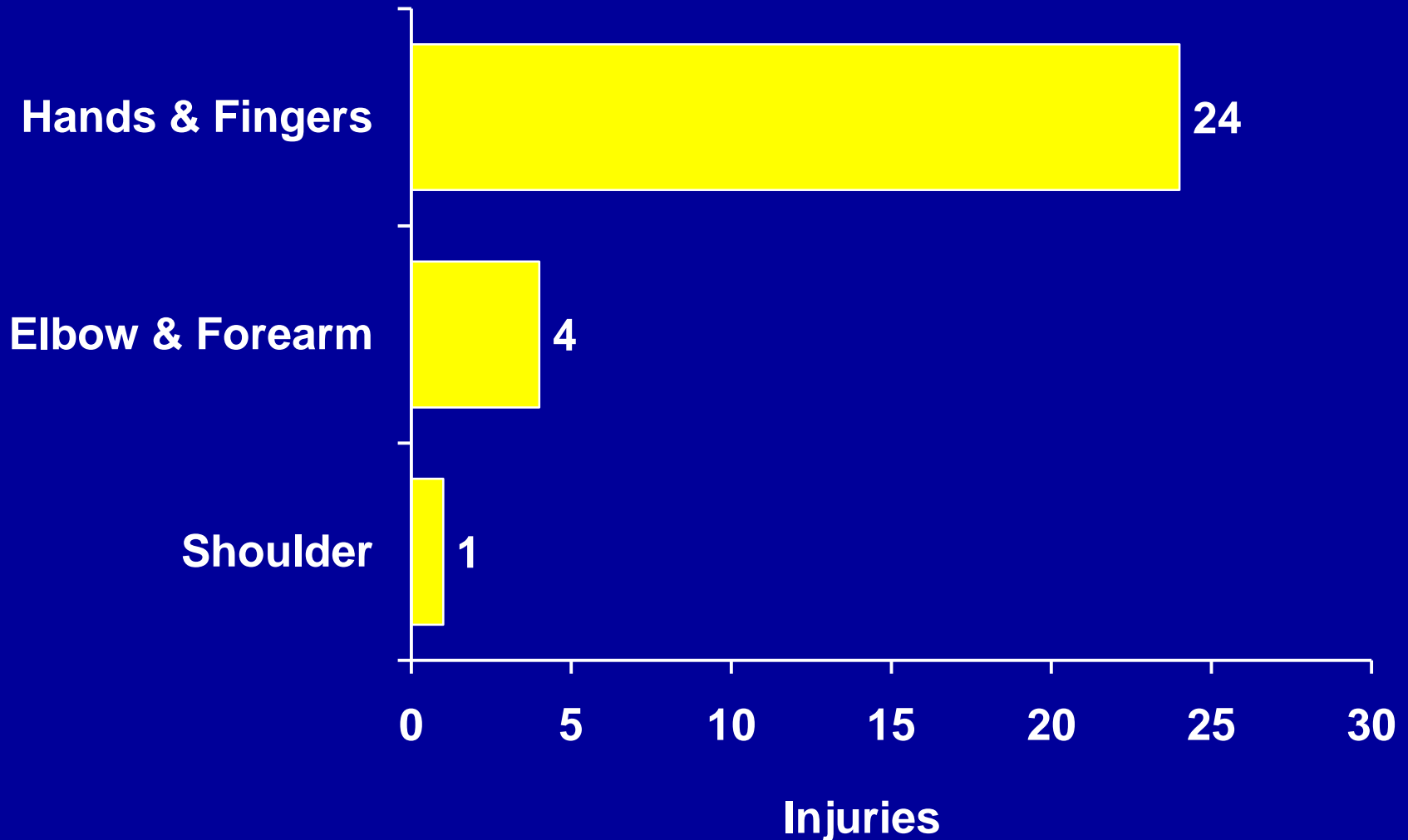




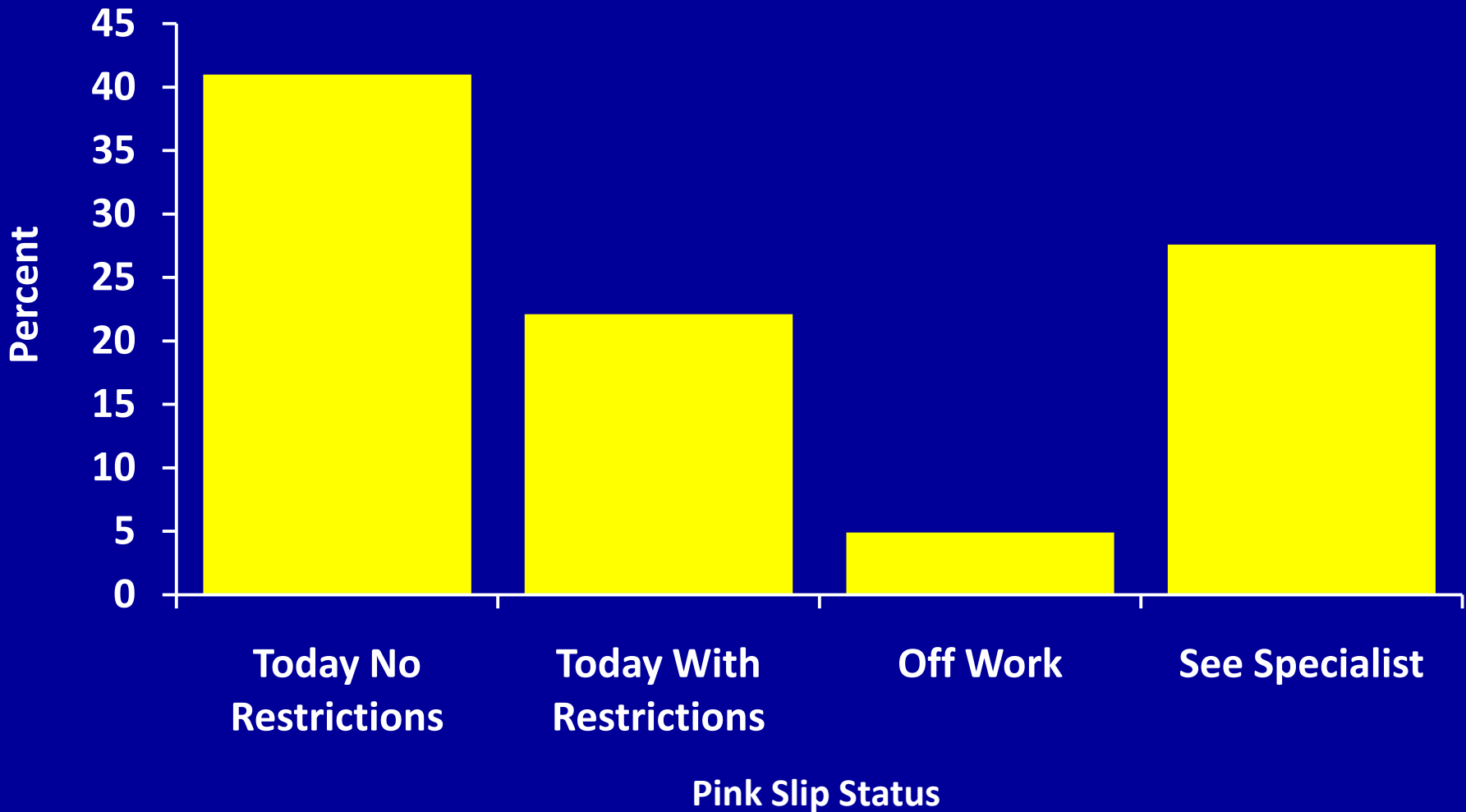
# Contusions Among Fishermen, 2007-2008 (N = 72)



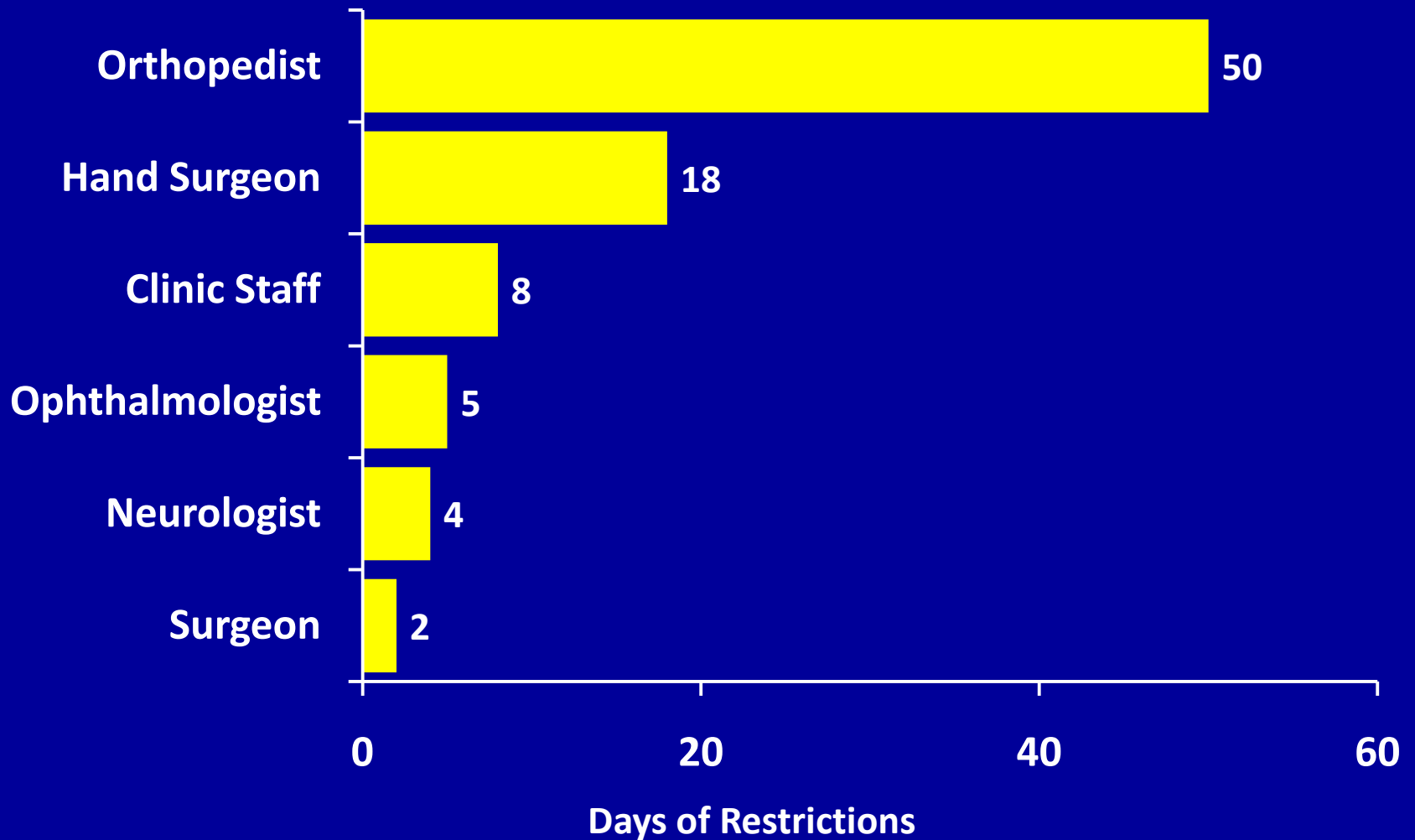
# Upper Limb Contusions Among Fishermen, 2007-2008 (N = 29)



# Fisherman Return to Work Status, 2007-2008 (N=366)



# Injuries to Fishermen by Specialist Consulted, (N=85)



# Safety Pays

- Estimates cost of injury by type
- Uses profit margin (e.g. 3%)
- Calculates profit required per injury
- 1 Fracture, 3% margin
- Direct Costs = \$37,911
- Indirect Costs = \$41,702
- Income required (3%) = \$2,653,766

# Indirect Costs

- **Wages not covered by work comp**
- **Costs from work stoppage**
- **Post-incident administrative time**
- **Employee training & replacement costs**
- **Lost productivity**
  - **new hire learning curve**
  - **Accommodation of injured employees**
- **Replacement of damaged material, machinery and property.**

# Conclusions

- **Male, Caucasian, average age 39**
- **Most are deckhands & processors**
- **Injured at sea, delayed presentation**
- **Hand injuries & back strain**
- **Slips & falls on deck**
- **Deck equipment**
- **Handling frozen product**

# Limitations

- **Documentation inconsistent**
- **Underreporting**
- **Worst injuries evacuated**



# Recommendations

- **Continued data analysis**
- **Expanded chart reviews in AK**
- **Field research for hand injury**
- **Job hazard analyses**
- **Surveillance system**

# Acknowledgements

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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 NIOSH or the Centers for Disease Control and Prevention.



# Fishing Methods



# Injuries to Fishermen by Days of Restrictions, 2007-2008 (N=88)

