

## **EXAMPLE PROBLEM STATEMENT – Fishing Industry**

Previous research shows that the fishing industry is one of the most dangerous occupational fields with continuously high numbers of workplace incidents (Evans et al. 2005; Fragar, Lower & Temperley 2011). A recent study states: “Globally commercial fishers experience high rates of disease, are at high risk of accidents and injuries, and are subject to many physical and mental health challenges” (King, Kilpatrick & Willis 2014, p ix)

The health risks are broad and include cardiovascular, dermatological and musculoskeletal risks, as well as risks of hearing loss, stress-related issues and anxiety (Jensen et al. 2012).

Continuing changes in working conditions, unstable employment and income uncertainty increase the pressure on the workforce. Being out at sea, working in isolation and being confronted with high workloads during harvest seasons add to the demands that workers of this industry encounter. As a largely uneducated and often vulnerable group, with a lack of supportive structures and social stability, workers in the fishing industry have been stated as being particularly susceptible to certain stressors that influence their mental health and well-being (King, Kilpatrick & Willis 2014).

Despite the health risks of workers within this industry having been documented internationally, research into preventing workplace injury and disease and promoting workers' well-being is limited. A lack of concern for health and safety within Australian fishing industries, as well as an acute need of health promotion interventions and targeted support is stated in recent reports (Brooks 2011; Fragar, Lower & Temperley 2011; Kilpatrick et al. 2013).

The views of key stakeholders, industry managers and workers on the possibilities of workplace health promoting strategies within commercial fishing industries are at present largely unknown and areas of priority to support workers' health and well-being need to be identified (Fragar, Lower & Temperley 2011). This applies not only to the Australian fishing industry, but also, internationally, research and development of health supportive structures for fishing industry workers are called for (Jensen et al. 2012).

### **EXAMPLE PROBLEM STATEMENT – Public Health Chemical Emergencies**

The public health consequences of accidental or intentional toxic chemical releases can be significant in terms of morbidity and mortality. Atmospheric releases involving toxic gases or vapors are the most common occurrence in hazardous material (HAZMAT) incidents that result in human injuries [1,2].

The most serious hazard from exposure to gases or vapors is via the respiratory system. Dermal exposure, as an alternative route of exposure, is still a concern most acutely for the unprotected public, and for emergency hospital departments. For example, during the Tokyo sarin attack, 500 individuals presented to a nearby hospital during the first hour of the event [2]. Reports suggest 110 hospital staff developed symptoms of nerve agent poisoning via non-inhalational routes of exposure [2,3].

Following toxic gas exposure, it is often assumed that isolation from the source and removal of clothing is typically all that is needed to prevent further exposure or injury [1,4,5]. Levitin et al. [1] and Houston et al. [2] suggest removal and double-bagging of the victim's clothing can eliminate 80–90% of the contaminant and minimize the risk of spreading the toxic agent to others. This percentage may depend on amount of clothing worn and the duration of exposure. Bagged clothing should be left at the scene and managed by emergency responders so as to minimize risk of exposure to hospital personnel [4,5].

However accident scene management and victim care varies throughout the world and is based primarily on personal judgment and dogma rather than on scientific evidence. Ill-informed decisions about the management of exposed individuals and groups during chemical releases have the potential to cause a significant drain on resources as well as a variety of undesired outcomes amongst those affected. In particular, decisions about mass decontamination following suspected or known chemical exposure should be risk-based and supported by suitable empirical evidence.