

## Missing the hits: CHIRP Maritime and information gaps on seafarer injury and illness

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### Introduction.

The work of **CHIRP** Maritime has its main justification in the assumption that reporting and publicising near misses and dangerous incidents will, through the education of mariners and shipping companies alike, reduce the scale and severity of harm to people, the marine environment and vessels. My article gives a personal view on whether this assumption is well-founded.

I became a member of the **CHIRP** Maritime Advisory Board at its start in 2003 as the lone medical adviser among many experienced mariners; this has been a wonderful educational experience on the cultures of the maritime sector! At the time I joined I was well aware of the success of near miss reporting in aviation. Indeed, it was Tony Nicholson, one of the originators of the aviation system and former director of the Institute of Aviation Medicine, who encouraged me to join. This was because considerations of health and human performance had repeatedly contributed to the analysis of aviation accidents and dangerous incidents. He did caution me that, just like aviation, it might take ten years for the maritime industry to recognise its importance. Here he was just about right, as shown by the recent work on vision, perception and alertness that **CHIRP** Maritime has initiated.

I came to maritime safety with a background in the Health and Safety Executive and before that in the petrochemical industry. Both based priorities on well-developed systems for recording accidents and in the latter also on dangerous occurrence data and on asking 'What if?' questions about the consequences of engineering or human failure, in the course of plant design and commissioning.

### Evidence of harm.

One of my first questions about maritime health and safety issues was 'Where is the data on incidents, injuries and major disasters?' Even in the UK, with greater long-term continuity of statistics than most other countries I found that, while investigations of major ship disasters were available, information on serious and fatal injuries was limited, and information on ill-health of seafarers even scarcer, something which, with hindsight, I should have given a higher priority to while working for the MCA. Since its formation in 1989, the Marine Accident Investigation Branch has investigated most fatal accidents involving UK shipping, UK subjects or UK waters, an improvement on its predecessors. The Registry of Shipping and Seamen has traditionally recorded and/or registered deaths at sea among UK subjects or in UK vessels, although less so in recent years. Death rates from injury and illness have only been analysed and published occasionally either by academics from a limited range of traditional maritime countries, often on behalf of maritime authorities, or by maritime insurers. Insurers' findings are rarely published. One of the biggest gaps has been the lack of any clear information on the population at risk: how many seafarers, in what jobs? How much of their year was spent at sea? Knowing how many people are at risk is key to any attempt to look at the level of risk to any individual and to assess the relative importance of any harmful event. Some population-based studies have, however, been published from countries including the Nordic states,<sup>1-4</sup> the UK,<sup>5,6</sup> Poland,<sup>6,7</sup> and Germany.<sup>8</sup>

## Lessons from the past.

In addition to my work as medical adviser to the MCA I pursued my interest in the risks to seafarers by studying the history of seamen's health, and in 2014 wrote a book on this.<sup>9</sup> In particular I was concerned at how seafarers' health had been neglected in comparison with many lower-risk groups of workers ashore and I noted the existence of what seemed to be an unstated conspiracy between employers, insurers and government agencies to obscure their high level of risk for much of the last 150 years. I later started to work with Stephen Roberts, based at Swansea University, building on his earlier investigations and publishing studies on long-term trends (late nineteenth century to the present) in mortality by causes of death in UK seafarers. Despite the limitations of the available information sources, we have shown that, despite major improvements in risk management and healthcare, the incidence of deaths from injuries and from certain diseases has fallen much more slowly in seafarers than in other populations and in some cases, such as the fishing sector, there have been few recent improvements in mortality rates.<sup>10,11</sup> However it is clear that the proportion of seafarers who die in ship disasters has reduced over the years, with individual fatal injuries now a more common cause of death. Illness is harder to chart, but some diseases that took a major toll, such as infections, are now rare.<sup>12</sup> Our data have necessarily been limited to fatalities, as that is all we can access, and we have been unable to take account of the more numerous, yet disabling and career ending, conditions.

## Present and future.

Internationally the position on access to data on incidents and deaths is even worse. A recent follow-up study by the Seafarer's International Research Centre in Cardiff has shown how few maritime authorities have consistent information over a number of years on fatalities among seafarers.<sup>13</sup> With international crewing and diverse flagging the norm, searching for information on harm, let alone relating it to the population of seafarers at risk becomes almost impossible. What I originally suggested was a national conspiracy to hide information on risks to seafarers has now taken on global dimensions.

What are the implications of this state of affairs for the place of **CHIRP** Maritime and other dangerous occurrence and near miss reporting systems? First it is hard to judge their effectiveness. A good example of this would be the regular reporting of defective pilot boarding arrangements; from frayed rope ladders on poorly maintained vessels, to design failures in the placement of access doors on newly built ships. We know about such reports, but without information on pilot boarding injuries it is impossible to look at trends to see if the concerns expressed by **CHIRP** have reduced injuries or to judge how important these are as a cause of harm to pilots compared, say, with their pattern of duties or their personal fitness.

Many of the reports to **CHIRP** Maritime relate to navigational issues and to the adequacy of engineering standards for design and maintenance. Again relating the value of a reporting system for dangerous occurrences to actual harm, in the absence of information on injuries and non-catastrophic damage to vessels is difficult. However, onshore safety practice is increasingly adopting approaches based not merely on compliance with regulatory requirements but on building a set of attitudes where continuous improvement in safety is accepted as the goal. One of the features of such an approach, based on developing a positive safety culture, is openness about anything that went wrong and sharing the lessons that can be learnt from it. Near miss reporting of the sort developed by first **CHIRP** Aviation and more recently **CHIRP** Maritime is an important contributor to this. All the onshore evidence is that a positive safety culture brings reductions in harm and sensitises people to look critically at activities and to propose practical solutions that will further reduce risks.

## A positive safety culture.

The development of a positive safety culture may still be a long way from the prevailing approaches to safety in much of the maritime industry where a seafarer may find that a future contract for work is not offered if they have been assertive about safety during their last contract. There is the hope of a ‘trickle-down effect’ from the adoption, with benefit, of positive approaches to safety by some of the more organised and caring shipping companies.

A final example from CHIRP reports is the repeated reporting of poor safety practices on super-yachts. Sleek designs demanded by purchasers mean that guard rails are often missing and a gung-ho approach by poorly supervised crew members to keeping the vessels clean and shiny means that work that should require safety harnesses and protective clothing or be automated is carried out in shorts and slip-on sandals. Perhaps here we have to wait until the super-rich super-yacht owners join the minority of maritime transport companies who see their crews as an asset and not a disposable commodity.

What we need to aim for is to gain recognition that near miss reporting does contribute to a no-blame safety culture and such a culture has been shown in other sectors to reduce harm to people, vessels and the wider environment. At the same time steps need to be taken to improve the information on injury and illness in seafarers until it is at least as good as that on ship disasters. To use this as a driver for improving risk management also needs population data so that rates for both actual harm and dangerous occurrences can be derived and used as the basis for setting priorities for improvement. It is a big but not impossible agenda but one that CHIRP Maritime is well placed to champion!

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