Stepping up: the need for proactive employer investment in safeguarding seafarers' mental health and wellbeing

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Abstract

In recent years mental health has been identified as a significant issue for the global workforce. In the shipping industry charities and insurance companies have raised concerns about seafarers' mental health and wellbeing and have suggested a range of largely reactive and behaviour-based remedies and risk mitigation strategies. This paper contributes new data to the existing debates around seafarers' welfare and mental health by exploring stakeholder and employer attitudes and approaches to the mental health and wellbeing of seafarers working aboard deep-sea cargo vessels alongside the views and perceptions of active seafarers themselves[2]. Unusually, the central focus is on what seafarers themselves consider to be supportive of their own happiness and wellbeing. Drawing on these two major sources of data the paper recommends a practical range of steps which should be taken by employers to mitigate seafarers' exposure to a variety of risk factors associated with unhappiness and poor mental health. These recommendations relate to the shipboard provision of communication facilities, food, recreational facilities, shore-leave, work to leave ratios, bullying and harassment, furnishings, officer training and the provision of counselling services.

Keywords: seafarers, shipping, mental health, wellbeing, work, isolation

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[2] The full results from the study can be found at https://iosh.com/media/6306/seafarers-mental-health-wellbeing-full-report.pdf

Introduction

In 2018, the World Health Organization estimated that 300 million people suffered from depression, noting that 'The burden of mental disorders continues to grow with significant impacts on health and major social, human rights and economic consequences in all countries of the world' (https://www.who.int/news-room/fact-sheets/detail/mental-disorders – accessed 9/4/19).

Having been overlooked for many years, the importance of mental health/wellbeing has been given greater prominence in the media more recently. Such exposure, combined with concerns raised by governmental and non-governmental authorities at both the global and national level, has led to many industries examining the issue of work and mental health more closely. In shipping, this concern has been shared by the UK Chamber of Shipping and related stakeholders.

However, despite recently expressed concern for the mental health of seafarers, it is apparent that there is confusion relating to the scale of the problem within the international cargo shipping sector and conflicting views about the usefulness of a variety of approaches aimed at reducing the prevalence of mental health problems on board. These oppositions are underpinned by an overall lack of evidence pertaining to rates of mental ill-health and suicide across the sector. Maritime Administrations are required to collect data on serious incidents on board, which are usually defined as fatalities. In relation to physical/mental illness, however, there are no such requirements. In addition, most Maritime Administrations do not collect population data, so it is impossible to construct fatality rates or suicide rates. This makes it very difficult to establish trends and to make comparisons over time or with other industries. As a result, interested parties have relied on a very few sources of data, all of which

carry with them drawbacks in terms of providing a representative picture of the issues of interest, on a global scale.

To make a significant contribution to our understanding of the related issues, this study has taken a fresh approach to the problem and has set out to address the following questions:

1) In the context of changes to shipboard work and life, are mental health problems among seafarers considered to be a significant problem by key stakeholders?

2) What features of life on cargo vessels do **seafarers** identify as supporting/undermining good mental health/wellbeing?

3) What policies and practices could be implemented by ship operators and/or welfare bodies to provide better support for the mental health/wellbeing of seafarers?

Poor mental health results in workforce attrition and can also lead to serious accidents and suicides on board. For these reasons, and because many would regard the protection of health in the workplace as a basic human entitlement it is important to consider mental health and wellbeing at sea. In this paper we draw upon the findings from our study to explore the issue of seafarers' mental health and to produce practical recommendations for the industry. Our approach differs from existing published studies in giving prominence to seafarers' own views of what supports and undermines their mental health and wellbeing on board - given the shipboard context and the associated occupational conditions which seafarers encounter such as isolation, loneliness, and stress. It is these kinds of factors which have frequently been the focus of earlier studies, but we have not located publications which have drawn on seafarers' self-knowledge to identify the everyday (micro) shipboard activities and interactions which in this

isolated, lonely, and stressful context, further undermine or support their wellbeing. This paper provides a better understanding of these activities and interactions from the perspective of seafarers and of interested stakeholders. In doing so it allows us to arrive at a series of practical recommendations for the industry, relating to how best to mitigate the negative impact of the shipboard environment for working seafarers.

The paper begins by outlining existing data and related literature. We describe the methods utilised in the research. We present the findings from the study and we complete the article with a discussion, a conclusion, and a set of recommendations.

Existing data and literature

There are three bodies of knowledge of relevance to concerns about the mental health/wellbeing of seafarers. The first addresses the issue of seafarers' mental health. The second relates to suicides at sea and the third concerns evidence about the repatriation of seafarers in combination with a longer standing (small) body of work concerning medical attendance in relation to seafarers.

Seafarers' mental health

There is relatively little empirical work comparing seafarers' mental health to the general population (Melbye and Carter 2017). This is partly due to a historic lack of interest in the topic (International Committee on Seafarers' Welfare 2009), the transient nature of seafarers' employment (Beechinor 2017) and the challenges that are associated with assessing rates of mental ill-health within the seafarer population. There are several dimensions to this challenge. Firstly, seafarers are largely recruited on temporary voyage-based contracts (Sampson et al 2018) which are only awarded on successful completion of medical examinations. This screens out unhealthy workers,

leading to a particularly strong 'healthy worker effect' (McMichael 1976, Oldenburg et al 2009) which cannot be adequately compensated for with use of appropriate reference groups (Shah 2009). This makes it very difficult to compare the mental health status of seafarers with other groups. A further difficulty is that seafarers are a remote and dispersed group of workers who are extremely difficult to access. For related reasons it is very difficult to obtain a random sample of international seafarers employed by different organisations.

The modest quantities of available evidence indicate higher levels of psychiatric disorders (Sampson et al 2017, Lefkowitz and Slade 2019) and associated conditions such as alcoholism (Olkinuora 1984, Roberts 2005) among seafarers than other occupational groups. In a rare contemporary comparative study of the health of active seafarers, Sampson et al (2017) found that short-term psychiatric disorders had increased among seafarers in the period 2011–2016. In 2016, 37% of active seafarers were found to have experienced a recent-onset deterioration of mental health. The study concluded that while this figure did compare favourably with some studies of the general population, it compared unfavourably with most. Furthermore, the authors considered the deterioration in seafarers' mental health over a relatively short period of time to be a cause for concern (Sampson et al 2017). Other recent work has similarly concluded that depression levels amongst active seafarers are higher than those reported in many studies of the general population (Lefkowitz and Slade 2019). In addition to these international studies some earlier work, based on single nationality samples of seafarers, has suggested that the occupation of being a seafarer presents a risk in relation to psychiatric diagnosis (Hemmingsson et al 1997). Furthermore, there is evidence that some ranks of seafarers (galley staff in particular) suffer higher levels of emotional

exhaustion and moderately elevated levels of what is termed 'burnout syndrome' than employees in other occupations (Oldenburg et al 2013).

There are many factors that have been identified as undermining seafarers' mental health and wellbeing. Some of these are generic and others relate to specific shipboard positions. Generic predisposing factors that may be regarded as inherent to the seafaring profession overall include isolation and loneliness (Melbye and Carter 2017, Jepsen et al 2015, Borovnik 2011, Oldenburg et al 2009), lack of shore-leave (Borovnik 2011, Iverson 2012, Martek Marine 2017), bullying and violence (Lefkowitz and Slade 2019, Martek Marine 2017, Iverson 2012), fear of criminalisation (Iverson 2012, Martek Marine 2017, International Committee on Seafarers' Welfare 2009), fear of job-loss (Swift 2015, Jezewska et al 2013) and separation from family (Oldenburg et al 2013, Carotenuto et al 2012, Iverson 2012, Jezewska and Iverson 2012, Borovnik 2011, Jepsen et al 2015, Jezewska et al 2013). There is little consensus over which shipboard roles carry greater challenges for mental health. However, there is agreement that risk exposure in terms of mental ill-health does vary with rank and role (Melbye and Carter 2017, Lefkowitz et al 2015a, Carter 1976, Levy 1972, Carotenuto et al 2012, Elo 1985). Officers are generally regarded as having more psychiatric problems than ratings (Melbye and Carter 2017, Lefkowitz et al 2015a, Carter 1976, Levy, 1972) and both engineers and engine crew have been identified as more prone to mental health problems than other seafarers (Carotenuto et al 2012, Elo 1985). Shift work (practised more frequently by some ranks) has been identified as a risk factor by Jepsen et al (2015) and Filipinos have been identified as less likely to present with psychiatric disorders on board (Bell and Jensen 2009, Gron and Knudsen 2012) as a result of both pre-employment medical screening and under-reporting (Gron and Knudsen 2012).

Suicide

In extreme cases, poor mental health and the presence of depression may result in suicide among seafarers (Szymanska et al 2006, Borch et al 2012). There is, however, relatively little robust evidence relating to suicide rates among seafarers, making the contemporary situation across the international fleet very difficult to gauge. This is partly due to the absence of population data and partly due to the inherent difficulties in the process of identifying suicides (Bedeian 1982). Nielsen describes the difficulties faced by all researchers in discussing his study of deaths at sea on board Hong Kong-registered ships. He writes that:

> […] the third biggest cause of death is 'individual persons missing at sea'. Classifying these disappearances is a difficult task as the cause could be suicide, homicide, or an accident. (Nielsen 1999:12933)

The robust data that do exist are largely based on national studies. Some studies are clear that suicide rates are historically higher among seafarers than populations ashore (Szymanska et al 2006, Wickstrom and Leivonniemi 1985, Roberts et al 2013, Roberts et al 2010, Brandt et al 1994) while others suggest that contemporary rates of suicide among seafarers are more broadly comparable with the general population (Roberts et al 2010). There are indications that seafarers are more at risk of suicide in deep-sea trades (Roberts and Marlow 2005, Roberts and Williams 2007), that rates of suicide among some national groups of seafarers are falling (Roberts and Marlow 2005, Borch et al 2012), and that some departments[3], nationalities (Roberts et al 2010) and ranks[4] may

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[3] Notably catering.

[4] Notably ratings.

have higher risks of suicide (Roberts and Marlow 2005, Szymanska et al 2006, Wickstrom and Leivonniemi 1985, Brandt et al 1994, Roberts et al 2010). Very few international studies of suicide have been attempted with reference to data from open registers (also termed 'flags of convenience'). This is largely due to access difficulties (Nielsen 2001). However, in 2019 a study of fatalities in the international fleet was published by the Seafarers International Research Centre. It indicated that suicides were infrequently recorded as discrete events by Maritime Administrations, making data analysis and interpretation challenging (Sampson and Ellis 2019). Over a period of 17 years the study identified 38 cases of suicide, which represented 3.7% of all fatalities. However, the authors noted that only four cases of suicide had been recorded by any of the seven administrations in the period 2000–2006, and that three of the administrations did not record a single suicide in the whole period. This was indicative of considerable under-reporting/recording (Sampson and Ellis 2019).

Repatriations and medical assistance

The patchy nature of the available data on seafarers' mental health and associated suicides has led to some researchers studying data on repatriations and medical assistance to consider what they reveal about psychological disorders among contemporary seafarers. Lefkowitz et al (2015b) considered a telemedicine database of 3,921 seafarers requiring medical assistance/advice, of which 61 cases resulted in repatriation. They found that the incidence of psychiatric illness was relatively low among seafarers for whom assistance was sought (0.6%) but that psychiatric cases were disproportionately represented among repatriations (5%). This emphasises the severe consequences of psychiatric illness on board. Abaya et al (2015) considered repatriation rates among Filipino seafarers via an examination of the records of local manning

agents over a five-year period. Of 6,759 cases, just 1.8% related to psychiatric disorders, which were mostly depression but also included anxiety, schizophrenia and bipolar disorder. Much higher rates of anxiety, depression and self-harm were identified in a study by Bell and Jensen in 2009, however. On examining the international fleet medical records of crew employed by P&O Princess Cruises, they identified 8.3% of repatriations as due to psychiatric conditions.

While repatriation data add valuable insights into severe cases of mental ill-health, it is likely that many seafarers who are aware of a deterioration in their mental health suffer silently while on board and may seek repatriation on alternative grounds that are less likely to jeopardise their future careers.

Methods

There were two main strands to our study, and we adopted different methods to address the different research questions.

Firstly, in order to assess the perceptions of stakeholders[5] we undertook a review of 'grey literature' relating to seafarers' mental health, we interviewed a small number of employers and welfare organisations (10), we visited 11 P&I clubs[6] and conducted semi-structured interviews with claims handlers/key personnel (15) and we analysed the results from a questionnaire sent to HR managers in ship operating companies (43).

Secondly, in order to gain an understanding of the factors which seafarers identify as supporting or undermining their mental health on board, we carried out a total of 1,507

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[5] In this instance stakeholders incorporates employers, welfare organisations, P&I Clubs.

[6] Insurance providers

interviewer-administered questionnaires and five semi-structured interviews with seafarers.

In total therefore we conducted 30 semi-structured interviews (15 claims handlers, ten employers/welfare organisations, five seafarers). We collected 43 self-complete questionnaires from HR managers selected using a random sample of shipping companies and we undertook 1,507 interviewer-administered questionnaires with active seafarers using a convenience sampling strategy. All data were collected over a period of 18 months[7].

All semi-structured interviews were conducted face to face or using Skype. They were recorded and transcribed and were thematically coded utilising NVivo software. Data from interviewer-administered questionnaires with seafarers and from questionnaires with HR managers were entered (separately) into SPSS and analysed accordingly.

Sampling

In order to interview representatives from P& I clubs we contacted all thirteen members of the International Group of P&I clubs. Together these groups cover 90% of the world's ocean-going tonnage (https://www.igpandi.org/about accessed 20/11/20). All eleven clubs which were willing to participate were included in the interviews and no further selection was applied. Interviewees from employers and welfare groups were

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[7] NB data were not collected sequentially by the research team and there was no requirement to terminate data collection as a result of time constraints. The project was adequately resourced and managed, allowing for the completion of all elements of the data collection as per the original research design and plan.

selected using a convenience sampling approach. In this, we made use of the extensive contact database held by the Seafarers International Research Centre and the advice of key industry informants who constituted members of our advisory group. An effort was made to include all the major welfare providers and a range of different sized employers engaged in different trades.

It is not possible to generate a random sample of seafarers who supply the international labour market as there are no available sources of international seafarer population data, with contact details. We therefore utilised a convenience sampling strategy and approached seafarers making use of seafarers' centres in the UK, Germany and the Philippines, as well as whilst on board vessels. These locations were selected as they were known to include seafarers from a variety of countries working in a variety of roles and on a variety of different types of ship. No screening criteria were applied to select individual seafarers other than a determination of eligibility for the study as an active (i.e. currently working on board a vessel) seafarer. To reduce any impact of sample bias we aimed to collect data from a very large sample and to recruit a minimum of 1,500 active seafarers. In the event we completed 1,507 interviewer administered questionnaires with seafarers. The five seafarers who took part in interviews were recruited at the same seafarers' centres using the same approach.

The sample of companies included in the survey of HR managers was selected randomly using a database of companies (*Seaweb*). A list of companies operating at least 10 in-service cargo vessels over 1,000 GT was randomly generated and the top 173 for whom HR manager contact details could be established were contacted by email and asked to complete a questionnaire. Repeated follow-up was used until no further responses could be elicited. The follow-up was initially by email, then by telephone and

finally by post. Of 173 companies contacted, responses were finally elicited from 43. Given the detailed information that was extracted from the questionnaire, this was deemed a satisfactory result.

Findings

In this research, we interviewed 11 of the 13 P&I clubs that constitute the International Group of P&I clubs. We also asked them if they could provide us with data relating to claims relating to repatriations on mental health grounds.

While the majority of P&I clubs were more sensitive to issues of mental health at the current time, than they had been in the past, they didn't have a strong feeling that medical repatriations on mental ill-health grounds were increasing. As one interviewee explained:

> It's a very live issue at the moment so we do notice them when they come in but I wouldn't say that we're being flooded with such claims. You know we've always had the psychosis cases […] and they're not on the increase.

In addition to providing us with interviews, five P&I clubs provided us with data, and from these we were able to ascertain the percentage of crew illness claims that related to mental health (including suicide cases). The lowest percentage of illness claims relating to mental health issues was found to be 0.9% and the highest proportion was found to be 3.6%. The average across the P&I clubs that provided us with data was 2%. This indicates that mental health claims make up a very small proportion of overall illness-related repatriation cases. In relation to trends and patterns, the data did not reveal any discernible increase/decrease in mental health repatriations as a percentage of overall ill-health repatriation cases. This was also true in relation to an analysis of the raw

numbers. It was not possible to consider rates of mental ill-health from the P&I club data as there were no data relating to numbers of seafarers employed by P&I club members in any given time-period.

It was apparent, that among P&I clubs there was a raised awareness of mental health problems among seafarers. However, this was largely because of concerns raised by others and did not seem to be driven by intra-organisational evidence of an increasing problem.

Similarly, many companies had not identified mental ill-health as an urgent priority. Just under half of HR managers (46.5%) did not believe that mental health problems were increasing and three quarters of respondents (72.5%) stated that their own company had not specifically identified the mental health of seafarers as an area of priority in the last 10 years. Relatedly, 55% of respondents said that their company had not introduced any practices or policies relating to seafarers' mental health in the last 10 years.

Reduced shore-leave and moving to more mixed nationality crewing patterns have both been identified as potential threats to seafarers' mental health (Borovnik 2011, Iverson 2012, Martek Marine 2017). Over half of the HR managers who responded to our questionnaire (55.6%) believed that shore-leave had reduced in the period 2006–2016 and just under 10% had either changed from single nationality to mixed nationality crewing or added a nationality to their crew mix.

Taken together, our data therefore indicate that while a number of stakeholders have raised the issue of poor mental health among seafarers as a difficulty, employers are not convinced that it is a problem that requires immediate or extensive action. This finding

is less surprising when the contradictory evidence in the public domain is taken into account and when we consider shipping companies' experiences of medical repatriations on mental health grounds and employee suicide at sea.

We asked HR managers to provide some specific and detailed information on numbers of seafarers employed in 2006 and 2016, numbers of medical repatriations in the period, numbers of repatriations on the grounds of mental ill-health and numbers of suicides. The data indicated that repatriations on the grounds of mental ill-health had actually fallen as a proportion of all medical repatriations in our small sample of companies (which collectively reported employing 30,034 seafarers in 2006 and 41,254 seafarers in 2016). Medical repatriations in 2006, totalled 619 and in 2016 they totalled 1,091. Of these, 31 (5%) were repatriations on the grounds of mental ill-health in 2006 and 36 (3.3%) were repatriations on the grounds of mental ill-health in 2016 (this difference is **not** statistically significant, $\chi2 = 3.062$, d.f.=1, p=.080). When we considered repatriations on the grounds of mental ill-health as a proportion of the numbers of seafarers employed by our respondent organisations in 2006 and 2016, we found a stable rate of 0.1% in both years. Analysis of the data relating to causes of repatriations on the grounds of mental ill-health indicated that most HR managers identified depression as the leading cause of repatriation, followed by anxiety.

In terms of deaths on board, 70.7% of HR managers reported that at least one seafarer in their company had been found dead on board in the period 2006–2016. Across all companies, a total of 109 seafarers had been found dead on board in the 10-year period. Thirteen of these deaths (11.9%) were deemed to have been suicides. In one case a suicide note was left. In addition to the 109 seafarers who were found dead on board, a further 18 seafarers were reported to have gone missing from their vessels in this period.

Seven of these missing seafarers (38.9%) were subsequently identified as suicides. The majority of HR respondents (72.1%) did not believe that suicides among seafarers on board were becoming more common.

Seafarers' experiences

Prior to an exploration of the features of shipboard (and home) life that made seafarers happy or unhappy we asked them to describe how happy they felt on average when they were at home and at sea. The majority (70.5%) described themselves as 'very happy' on average while at home compared with only 10.5% of seafarers who described themselves as very happy on board. When we combined the answers 'very happy' and 'happy' we found that 92.8% of seafarers considered themselves to be happy/very happy at home while only 66.9% considered themselves to be happy/very happy on board. This difference was strongly significant ($\chi 2 = 315.080$, d.f.=1, p=.000). In relation to the things that made seafarers happiest at home we categorised responses (which were open and could be multiple). We found that the things that made most seafarers happiest (1,920) could be categorised as relating to being with family members. The second largest category of responses related to activities such as sports, DIY, hobbies, watching movies, being outdoors, driving cars/motorbikes, cooking, walking, being with pets etc. with 530 seafarers identifying these kinds of activities as making them happiest. The next largest category was related to friendships with 429 responses of a friend-related nature (e.g. partying, vacation, talking, going to bands with friends etc.). The second last category of responses related to visiting places with 303 responses of this nature while the final category related to having a sense of freedom. It is worth noting that most things that make seafarers happiest at home are simply unavailable at sea. It is not surprising, therefore, that the things that seafarers identified

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as making them happiest at sea were rather different to those that they identified as making them happy at home.

At sea, we categorised the things that made seafarers happiest (which were again described to us in open and potentially multiple responses) into six categories: social events, lone activities, job/work-related issues, shore-leave, things relating to relationships with the people on board and communication with home. The largest group of responses (1,327) in terms of things that made seafarers happiest on board related to social events such as parties, team sports, barbecues, karaoke, social drinking together and so forth. Things that seafarers generally did alone, e.g. exercising in the gym, reading, listening to music, accounted for a smaller number of responses (490). The next largest category of responses incorporated activities relating to work, the context of work or the environment such as the general lifestyle of a seafarer, the salary, travel, good weather and so forth. Four hundred and sixty-six responses of this nature were categorised in this group. Twenty-five seafarers specifically stated that there was nothing that made them happy on board.

While we considered that it was important to understand what made seafarers happy on board, we also felt that it was necessary to comprehend what experiences made seafarers unhappy on board. In response to an open question, there were three main categories of issue that seafarers identified as making them saddest on board. The largest of these (incorporating 1,265 responses) related to vessel/crew-specific factors such as bad relationships on board, fatigue, bullying and long tours. Family-related factors such as missing family members, sickness at home etc. were mentioned 515 times and poor recreational access such as poor food, poor internet access and so forth

was specified 224 times. Forty-two seafarers expressly stated that there was nothing that made them sad on board.

The literature on seafarers' mental health and wellbeing indicates that isolation and the experience of loneliness is a long-established concern among those interested in seafarers' welfare. Isolation is a facet of shipboard life, but it is also considered to be a feature of shore-based life for some seafarers who have spent long periods of time cut off from their communities and who return home as relative 'strangers' (Sampson 2013). As one seafarer who we interviewed for this study explained:

> Three months on land is nothing. You can't see your kids grow up, you can't see anything. You are just like an Uncle coming and going. (Seafarer 2)

Nevertheless, seafarers were much more likely to describe feeling always or very often lonely at sea than they were to describe themselves at home. Just 4.2% of seafarers described themselves as either always, or often, lonely at home compared with a much higher percentage of seafarers who described themselves as always or very often lonely at sea (20.2%). This difference was highly statistically significant ($\chi2 = 179.152$, d.f.=1, p=.000).

Having invited seafarers to respond openly to questions about what made them happiest and saddest at home and at sea, we also asked them to indicate from a list of things that are sometimes available on board, or that sometimes happen on board, what made them happy. After 'leaving the ship' the thing identified by the most seafarers as making them happy was taking shore-leave with colleagues. The majority of seafarers (98.7%) identified shore-leave with colleagues as making them happy and 98.6% stated that talking with colleagues made them happy. Texting family and friends and skyping

family and friends also made most seafarers happy (98.4% and 97.3% respectively) and watching films, working, eating meals and playing games with colleagues were all identified by over 90% of seafarers as making them happy. More than 80% of seafarers identified emailing friends and family, reading, swimming, watching satellite TV and working out in the gym as making them happy. Finally, karaoke and drinking alcohol were identified as making respondents happy when they were available on board by at least 75% of respondents.

These responses are helpful in revealing some of the things that companies can do to support seafarers' mental wellbeing. They relate to facilities and possibilities that exist on many ships, but which are not available on all vessels. Most notably, only 33.5% of seafarers had satellite TV on board their current vessel, just 35.4% were sailing on a vessel with a swimming pool and only 42.1% could drink alcohol on board. It was also evident that significant numbers of seafarers did not have access to email, tasty food, a gym or a DVD library. These can be regarded as among the most basic facilities which are provided by the majority of ship operators, but which were not enjoyed by approximately one in six of our sample.

When seafarers were asked to name the top three things that they felt would make life on board happier 987 mentioned free internet access with 609 respondents stating that this was the number one thing that would make life on board happier for seafarers. Permanent contracts and shorter contracts were also mentioned a great deal by seafarers. Three hundred and eighty-five seafarers put permanent contracts in their top three things to make seafarers happier list, 372 mentioned shorter contracts, 260 felt that larger crews would be one of the top three things to make seafarers happier and 229

described getting more sleep as something that would be important in making seafarers happier. More shore-leave was thought to be among the top three things that would make seafarers happier by 188 seafarers.

We also asked seafarers what companies could do to reduce seafarers' depression and anxiety. The most frequent responses came in the category of recreation. One thousand four hundred and five responses mentioned some kind of recreational activity/provision, including internet (854), recreation facilities generally (158), shore-leave (117), gym (61), BBQ parties (56), games competitions (38), welfare fund (31), karaoke (29), satellite TV/DVDs (21), pool/sauna (12), video games (8) and books/magazines (4). The next most commonly mentioned thing that companies could do in order to reduce seafarers' anxiety and depression on board was considered to be the improvement of terms and conditions of employment. There were 1,270 responses mentioning terms and conditions, including better pay, longer leave periods, less workload and paperwork, and bigger crews. Given the significant link made by seafarers between food quality and depression, it is surprising that more questionnaire respondents did not mention it. However, seafarers who were interviewed dwelt on food and argued strongly for its importance on board. Our employer survey found that the victualling, or feeding, rate on board had increased from an average US$8.869 in 2006 to US$10.0029 per seafarer per day. This rate is rather meagre given that it covers three meals a day, that provisions in some parts of the world are very expensive, and that ships' cooks always have additional personnel to feed in ports. Negligible numbers of seafarers (nine) mentioned counselling as something that companies could provide to reduce depression and anxiety for seafarers while on board, and very small numbers had ever sought such support at home (3%) or on board (1.2%)

Discussion

While a review of the literature demonstrates that it is not possible to readily compare rates of ill-mental health among international seafarers with rates of ill-mental health among populations ashore, and it is similarly difficult to compare rates over time, there are indications that seafarers are increasingly suffering from recent-onset anxiety and depression on board (Sampson et al 2017, Lefkowitz and Slade 2019), and that they are generally at higher risk than populations ashore of experiencing a psychological disorder, suffering from 'burnout' or receiving a psychiatric diagnosis in their lifetime (Olkinuora 1984, Roberts 2005, Hemmingsson et al 1997, Oldenburg et al 2013). There is, however, no firm evidence that these risks are resulting in increased proportions of seafarers being repatriated on the grounds of ill-mental health or in them being increasingly prone to suicide while on board. The data we collected from both P&I clubs and employers suggest that no major changes in rates of suicide or in poor mental health (which is serious enough to require repatriation) have been detected by HR managers or by claims handlers/senior managers in P&I clubs. HR managers and P&I club personnel were generally aware of the raised profile of mental health/wellbeing and paid attention to incidents as they arose but were unable to conclude that the issue of poor mental health on board was getting worse. The data that they provided supported these impressions and we could not discern any upward or downward trends in the proportions of repatriations that were a result of mental ill-health or in the patterns of suicide. Despite the lack of hard evidence relating to a **worsening** problem of serious ill-mental health or suicide at sea, it is nevertheless apparent that both P&I clubs and other industry stakeholders such as maritime welfare charities, trade unions

and employer associations are currently concerned about mental health and welfare at sea.

In this context, seafarers can be understood to suffer relatively high levels of suicide and mental ill-health (Olkinuora 1984, Roberts 2005). However, we do not have evidence of **changing** patterns in serious mental ill-health (requiring repatriation) and suicide at sea. In response to concerns about poor mental health/wellbeing among seafarers, maritime welfare charities have tended to propose and develop guidance with an emphasis on reactive measures that can be taken by employers to assist seafarers who are suffering in relation to their mental health on board and proactive measures that can be adopted by individual seafarers to increase their resilience and ability to withstand poor shipboard conditions and the particularities of a life working at sea. While these inevitably make a positive contribution to the protection of mental wellbeing on board, in neither case can they be seen as addressing the underlying causes of the depression and anxiety that are commonly experienced by seafarers on board. These include separation from family and friends, isolation, work-related insecurities and difficulties, poor shipboard relationships, fatigue and poor physical wellbeing. It is interesting to note that employers (just under half of the employers who responded to our questionnaire) and the majority of seafarer respondents who were included in the research identified a range of proactive measures that can, and should, be taken by ship operators to improve the living and working conditions of seafarers on board in order to improve mental health and wellbeing. These measures include factors relating to terms and conditions of work, shipboard interaction, facilities and communications infrastructure and physical wellbeing.

Conclusion

In relation to very serious mental ill-health and its manifestations (suicide and requirement for repatriation) we find that there is no clear evidence of a worsening situation among seafarers in the contemporary international cargo shipping fleet. However, there is evidence that mental health problems are generally higher among seafarers than non-seafarers and that recent-onset psychiatric disorders have become more common onboard cargo vessels in recent years. This indicates that it is appropriate for industry stakeholders to be concerned about this issue and that such worries may be somewhat overdue. The findings of this research indicate that in stakeholder guidance and in the provision of resources to support seafarers' mental health there is a misdirected emphasis on self-help strategies (such as resilience building) and on reactive measures that are recommended to employers (such as the provision of counselling). Many employers do not see a need to invest resources in proactive measures to reduce the shipboard pressures on seafarers' mental health and wellbeing; however, a significant minority disagree profoundly and have been very active in promoting a holistic approach to improving seafarers' mental health and welfare. Although many seafarers seem to cope surprisingly well with challenging psycho-social issues on board they are significantly more likely to feel happy at home than at sea. The majority of seafarers identify a range of areas where ship operators could provide resources that would support seafarers' mental wellbeing on board. These include factors that would create a better work-life balance for seafarers (e.g. shorter periods of time on board), factors that would improve their ability to sustain good relationships with family and friends ashore (e.g. the provision of free internet access), factors that would improve shipboard relationships (e.g. bigger crews and more social activities) and factors that would provide seafarers with better recreational opportunities to raise

their mood (such as shore-leave, barbecue parties and sports facilities). The need for more reactive services for serving seafarers, such as counselling, hardly featured in their responses. This evidence indicates that current recommendations and initiatives targeted at improving seafarers' mental health and wellbeing on board need to be realigned. The research suggests that notwithstanding a range of well-intentioned suggestions for seafarers and companies made by stakeholders, there needs to be much more emphasis placed on proactive measures aimed at improving the conditions of work and life on board for seafarers and less importance placed on reactive and self-help strategies. While these (self-help and reactive) approaches may make a minor contribution to seafarers' mental wellbeing they are not identified by seafarers themselves as particularly useful or desirable. Many employers also regard them as of limited use and promote a more holistic approach to welfare in their organisations.

General recommendations

In response to the findings from the study we advance the following recommendations.

1) Companies/stakeholders should take steps to address the significant **difference** found between the happiness levels of seafarers when they are on board and when they are at home.

2) Companies and stakeholders should be aware of the evidence indicating that recent-onset psychological disorders are increasing among serving seafarers.

3) Companies and stakeholders should recognise the importance of good mental health and wellbeing in the cargo shipping industry.

4) Companies and stakeholders should reconfigure their efforts to support mental health and wellbeing on board in order to proactively reduce the incidence of unhappiness and of recent-onset anxiety and depression among seafarers.

Recommendations for specific measures

1) Free and unlimited internet should be made available to all seafarers on board all cargo vessels.

2) In recognition of the differences between individuals, a varied menu of interactive recreational activities (swimming, basketball etc.) should be available to seafarers on board.

3) In recognition of the differences between individuals, a varied menu of solitary recreational activities should be available to seafarers on board.

4) Comfortable mattresses and furnishings within cabins should be prioritised to facilitate rest and sleep.

5) Shore leave should be provided at every opportunity and for all ranks.

6) Varied, good-quality food should be provided on board and a feeding rate of at least US$11.00 per person should be allocated to each vessel.

7) Self-help guidance on improving mental resilience should be provided to all seafarers.

8) Contracts should balance work and leave time for all ranks in a ratio not worse than 2:1 and with an upper limit of a maximum of six months on board.

9) Anti-bullying and harassment policies should be introduced and enforced.

10) Officers should receive training in creating a positive atmosphere on board, including via the provision of positive feedback on work, when appropriate, and respectful interactions with subordinates.

11) Confidential counselling services should be made available to seafarers.

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