Seafarers' health and access to healthcare in the cruise and cargo sectors in 2024: An overview

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Introduction

This report summarises some of the main findings of our research into seafarers' health and healthcare access in the cruise and cargo sectors in 2024. Full details of the research context and background, of the findings, and of the research methods may be found in three publications which are being published simultaneously and in parallel with this account (Sampson et al 2025a, Sampson et al 2025b, Sampson et al 2025c). Having summarised some of the main findings of the research, we will discuss areas where the cruise and cargo industries could make improvements which would make a significant difference to the health and health care of seafarers. We will then complete the account with a set of recommendations which we hope will provide the basis for the improvements in both sectors.

Findings in the cargo sector

Our findings in the cargo sector allow us to compare questionnaire responses from 2011, 2016 and 2024, in some cases, to see where health behaviours, medical conditions, and health protections have changed and how.

In relation to seafarers' own health behaviours, we have identified a strong improvement since 2011. Seafarers in 2024 smoked less, consumed alcohol less frequently, and in smaller quantities, and ate fried food less often than they did in 2011 or 2016. In 2024, surprisingly high proportions of seafarers were tee total both at sea and at home and this chimed with their awareness of a need to maintain good health in order to continue working at sea.

There were indications that the lack of food choices on board their vessels, while working, caused seafarers to feel that their diet at sea was less healthy than their diet at home. Most participants described problems with food as relating to the quality of provisions which were often poor, lack of variety with inadequate supplies of fruit and vegetables (particularly on long voyages), poor techniques of food preparation, and either real, or alternatively 'real terms', cuts to per person/per diem food budget rates. Food was acknowledged to be of great importance to seafarers both socially and as a source of energy. Where food was unpalatable, monotonous, or lacking in nutrition seafarers found that that their morale, and their feelings of healthiness, were negatively impacted.

Long working hours, long contracts, lack of sleep and fatigue are well-established challenges in the cargo sector. In the previous 48 hours more than a third of respondents who were on board when they completed our questionnaire said that they had not had enough sleep. Insufficient sleep was described by more seafarers in 2024 than in 2016 or 2011. In 2024, more seafarers stated that they did not get enough sleep because of the number of hours they worked, the patterns of work they observed (shifts), their port duties, vessel movement and noise than in 2016 or 2011. More

seafarers in 2024 also described insufficient sleep due to work related anxiety, general anxiety and homesickness than in 2016 or 2011. Insufficient sleep as a result of work-related anxiety was a particularly acute problem among senior officers. Relatedly, severe fatigue levels were found among more respondents in 2024 than in 2011 although they had improved from a peak in 2016. Moderate levels of fatigue had increased since 2011 and 2016 and the proportions of seafarers scoring as having 'no' fatigue reduced considerably from 18% in 2011 to 8% in 2024. Overall, our findings in the area of working hours and fatigue strongly endorse the accounts provided by other researchers who have identified routine, undocumented, contraventions of work-rest hours regulations in their studies (e.g. Devereaux et al 2020, Bhatia et al 2024).

There have been considerable efforts made across the cargo sector to highlight, and address, mental ill-health in the industry. In that context it was reassuring that our research indicated that short-term anxiety and depression were less prevalent in 2024 than in 2016. However, rates among some categories of worker were found to be higher in 2024 than the overall rates identified in 2016. Over forty percent of senior officers scored as suffering short-term anxiety and depression in 2024[1], and scores were higher amongst engine room workers and non-Filipinos than in other groups. The results, therefore, indicate that short-term anxiety and depression continue to be an issue of major concern in the cargo sector where some workers appear to be much more strongly affected than others.

Despite their inability to eat as healthily at sea as at home, and their long working hours and lack of sleep, seafarers in 2024 were remarkably positive about the state of their own health and were generally more positive about it than they had been in 2016. Counterintuitively, we found that this was despite an increase in the proportion of seafarers with a medical diagnoses of high blood pressure, high cholesterol, and/or anxiety and depression, in 2024, compared with our participants in 2016 and 2011. Senior officers were more likely than other ranks to have been diagnosed with high blood pressure, high cholesterol and anxiety and depression than other ranks. Older seafarers were more likely to have been diagnosed with high cholesterol and high blood pressure than younger ones which is a pattern that would be expected. Senior officers and older seafarers also experienced more arthritis than other groups although there did not appear to be much difference in the prevalence of arthritis in the years 2016 and 2024. Younger seafarers were much more likely to experience seasickness than older age groups which would seem to indicate that seasickness is either a reason for people to leave the sea, or something which seafarers can acclimatise to, and/or eliminate.

[1] Binary logistic regression showed seafarers from China, Europe/Russia and 'other' nationalities were approximately twice as likely to score as suffering from minor psychiatric disorders (short-term anxiety and depression) than those from the Philippines, and junior officers and ratings were half as likely to demonstrate minor psychiatric disorders as senior officers

Use of prescribed medications at sea was generally lower amongst seafarers in 2024 than in 2011/2016. However, exceptions included medication for high blood pressure (up to 10% in 2024 from 6% in 2011) and medication for anxiety and depression. Prescription medication for stress and anxiety rose steadily over the period 2011-2024 but was still relatively low with 1.8% of respondents reporting its use at sea. Over-the-counter non-prescription medications were generally used by larger proportions of seafarers at sea than at home. Vitamin supplements were taken by 63% of seafarers at sea indicating that they were highly incentivised to protect their own health. Painkillers were the next most common over-the-counter medication to be used by seafarers at sea and more seafarers used painkillers at sea than at home demonstrating their need to alleviate pain frequently at sea, which is likely to be as a result of their work and/or living environment. Interviewees described to us how they preferred to use their own medication, rather than that provided on board, because they trusted the brands that they were familiar with at home and also because they generally wished to keep their symptoms private. Sometimes, seafarers concealed quite serious symptoms from senior officers because they were afraid that revealing them might lead to the assignation of blame when it came to accidents, and the threat of medical repatriation if they were deemed unfit for work. This can be seen as a rational response to injury and illness in a context where proper medical attention is not available on board and where port stays are too short to allow for the conduct of complex diagnostic tests. Seafarers may not want to be medically repatriated for conditions which they feel they can recover from within a few weeks (even without treatment) and with which they feel they can manage to work (even if in a limited manner).

Our findings indicate that under reporting is quite a general feature of life on board cargo ships for many seafarers. Not only were injuries and ailments under reported but sexual harassment, sexual assault and physical assault were also under reported alongside violations of work-rest hours regulations. Fear of reprisals on board (often associated with the requirement that reports are made to, or via, the captain), fears of being sent home and fears about not being believed all drove down reporting of sexual harassment, violence and assault, while seafarers understood that complaints about work-rest hour violations would result in the termination of their employment. Such under reporting conceals the real extent to which seafarers' health and wellbeing may be being compromised by life and work at sea. It therefore needs to be understood and taken into account by policy makers and managers, when evaluating the health and welfare needs of cargo seafarers.

By definition, under-reporting limits access to shipboard medical care and attention. However, we identified other barriers to healthcare and wellbeing on board that are associated with institutional arrangements for medical treatment, the presence or absence of corporate policies to protect seafarers' health and wellbeing and the

availability of facilities and resources to allow seafarers to look after their own health and wellbeing needs.

In relation to resources/facilities/policies enabling self-care on board we found that cargo seafarers generally had access to single cabins allowing them to rest and recuperate in privacy which is likely to be beneficial to their health and wellbeing. Less positively shore leave was not available at all to some cargo seafarers (those working on VLCCs for example) and was not regularly available to about 60% of all cargo seafarers. Seafarers identified occasions when they could have enjoyed shore leave had companies been prepared to pay for the provision of transport from an anchorage to a port. On other occasions rapid turnaround, workload, work role, and local immigration officers were responsible for the denial of shore-leave. The result was for one in six cargo seafarers to report that they had not had shore-leave in the previous 43 days. Shore leave was identified by seafarers as extremely important in alleviating stress. It is perhaps the most effective counter to the stress that seafarers suffer on board. However, alongside access to shore leave we also considered access to a sauna and to a bathtub on board, as these can be effective in inducing relaxation as well as in alleviating musculoskeletal and menstrual pain. Almost one in ten cargo seafarers reported having access to a bathtub in their bathroom on board, but four times as many seafarers felt that they would like to have one in addition to their shower. Baths were identified as calming and soothing with the capacity to alleviate pain and improve wellbeing. Saunas were available to about 15% of cargo seafarers but more than 60% stated that they would like to be able to access a sauna on board to help manage pain and stress and anxiety. Outside space allocated to relaxation was also something which few seafarers described having access to on cargo vessels. They put lack of access to outdoor leisure spaces, saunas, bathtubs, and other facilities such as swimming pools, down to the desire by companies to disinvest in crew in favour of profit maximisation.

In terms of corporate protections of seafarers' health, it is important to recognise that approximately one in ten cargo seafarers identified health problems which they directly attributed to their work on board. This indicates that the protections that are currently in place are inadequate or inappropriate in relation to some tasks/contexts. While standard PPE is provided to the vast majority of cargo seafarers, they identified problems in relation to quality and sizing that could have a negative impact on the protections afforded by such PPE. Being forced to wear PPE for long work periods in extreme conditions was not considered by many respondents to be viable or beneficial to seafarers' health. In such circumstances punishing seafarers for removing PPE, for example in sweltering heat, is not an effective approach to the protection of seafarers' health. Overall, respondents recognised that PPE was simply not protective if it was the wrong size, the wrong quality or if it was mandated in inappropriate, unendurable, conditions. COVID protections were reported to have diminished at sea and many cargo seafarers reported that there was no COVID policy on their vessel. Proactive measures

that companies and shipboard supervisors could take to protect seafarers' health on board were frequently reported as being absent on many vessels. For example, just over half of respondents who used jet hammers as part of their work, reported that there were no time limits placed on their use, and consequently no effort to protect against symptoms associated with vibration white finger. Three quarters of cargo sector workers were not provided with sunscreen when working in the sun and a quarter were not provided with free water and soft drinks when working in hot, sunny, conditions. One in six cargo seafarers working in malaria-prone areas reported that they were not provided with anti-malaria prophylactic medication prior to entering such zones, and indeed, malaria emerged as an issue in the experiences recounted to us by a number of interviewees in our study.

Provision for sexual/menstrual health was reported to be inadequate on board cargo vessels except in relation to the provision of condoms. Condoms were widely supplied to seafarers on board but menstrual products, pregnancy test kits and contraceptive pills (including emergency contraceptives) were not available to the majority of women seafarers on board cargo ships.

In the event of ill-health or injury, access to shipboard medical help and support was reported to be extremely limited by cargo seafarers. Seafarers lamented the lack of medical knowledge, competence and confidence among the colleagues who would be tasked with taking care of them in the event of an accident or severe illness at sea. They recognised that telemedical assistance was severely hampered in these circumstances and they were not always able to access face-to-face shore-based medical care when they required it. Access to shore-based medical care was generally a rather hit or miss affair as seafarers relied on non-medical professionals (generally agents) to decide where appropriate attention would be available. They also reported language barriers resulting in a lack of understanding about their diagnosis and/or treatment. Rapid port turnarounds limited seafarers' access to diagnostic imaging and more complex treatments, while commercial pressures could impinge on the decisions of captains with regard to diverting or delaying vessels to allow seafarers to access medical attention. One in six seafarers additionally reported being refused permission to access dental care when they needed it and this happened before, during and after COVID.

Findings in the cruise sector

The working and living environment for seafarers in the cruise sector is unlike that of seafarers in the cargo sector. In the majority of cases, the work is distinct too. This creates different health and health care issues for cruise sector workers as compared to those in the cargo sector.

Many operators of contemporary cargo ships ban the consumption of alcohol on board while on cruise vessels it is available to seafarers with an expectation that it is drunk in

moderation. In this context the finding that fewer cruise seafarers are teetotal on board compared with colleagues in the cargo sector is to be expected. However, the fact that over a third of cruise workers were, nevertheless, teetotal on board may be a surprise to some stakeholders and the finding that more cruise workers were teetotal at home than at sea may also be unexpected. Smoking patterns were found to be similar between seafarers in the cargo and cruise sectors with close to a quarter of seafarers reporting that they smoked. The use of vapes was less common with one in six seafarers reporting that they used vapes in the cruise sector. Plant-based diets had been adopted by similar proportions of seafarers in both the cruise and cargo sectors with around one in ten seafarers reporting that they were vegan or vegetarian. However, seafarers on cruise ships were more likely to eat fried food regularly than their cargo counterparts. Interview data revealed that despite their large numbers, cruise workers did not feel that they had the variety or choice of food that they wanted. They described per person food allowances as extremely low, and their accounts intimated that as a small 'fish' in a large 'pool' of workers their personal preferences were largely irrelevant to the cooks on board. Cargo sector workers also felt that food budgets were inadequate but the closer relationships that they had with catering personnel and managers on board may make it more likely that food will meet with their approval. This may explain why seafarers on cruise vessels were more likely than seafarers on cargo vessels to feel that they ate more healthily at home than at sea. Despite regular port calls and being given unused, over ripe, fruit and vegetables originally intended for passengers, cruise seafarers reported food to be too fatty, too salty and too sugary.

The average length of a cruise sector worker's contract was slightly higher than the average for a cargo sector worker. Like their colleagues in the cargo sector, however, cruise sector workers frequently found themselves with little free time and without a regular 'day off'. They worked long hours and were often required to work split shifts. Some ranks (such as senior managers) and workers in the hotel and catering departments were more likely than others to feel that they hadn't had sufficient sleep in the previous 48 hours due to work. Unlike the cargo sector, however, insufficient sleep was sometimes also due to the pursuit of opportunities to socialise. This was more common in the entertainment and beauty/spa departments. Entertainment department workers were also more likely than their colleagues to find that they were kept awake at night by anxiety. Often this related to performances and some noted that they were required to switch productions frequently and to learn new roles and dialogue rapidly and under pressure. More prosaically, noise from cabinmates was a far more common reason for disrupted sleep in the cruise sector than in the cargo sector and this seems to be largely a result of the very significant numbers of workers who are required to share a cabin on board a cruise ship. Overall, interviewees provided an insight into the relentless and exhausting work schedules imposed on cruise sector workers and some directly attributed ill health to their work schedules and demands.

Seafarers on cargo ships described intense periods of work and scrutiny during port stays. However, cruise sector workers in many shipboard roles found themselves under constant pressure to satisfy guests and keep them happy. They described finding embarkation days particularly pressurised and intense, and dealing with client complaints, as well as supervising staff who were fatigued and over-burdened, was highly stressful. This is likely to explain the higher scores for short-term anxiety and depression found on cruise vessels compared with cargo ships. Like the cargo sector it was senior managers who were most affected. Staff attempting to satisfy guest tastes and preferences in departments such as catering, hotel and entertainment were also highly impacted.

Despite cruise vessel staff being more likely to be dissatisfied with the healthiness of their food on board and working extremely long hours over split shifts compared to cargo workers, and notwithstanding their higher levels of short-term anxiety and depression, they were nevertheless even more positive about the state of their own health than their cargo sector colleagues. This did reflect reality to a degree as fewer cruise sector workers had been diagnosed with high blood pressure or high cholesterol than had cargo seafarers. There were also smaller proportions of seafarers who had been diagnosed with arthritis, dermatitis and anxiety on board cruise vessels. In this sense they **were** healthier than their cargo counterparts. As with cargo vessels, rank and age played a part in the distribution of high blood pressure and cholesterol. More senior employees and older employees suffered from high cholesterol and high blood pressure. However, department also had an impact on cruise vessel employee health with more of those working in the catering department suffering from high cholesterol than in other departments. It was a little surprising to find that there were no significant differences in the proportions of seafarers suffering from seasickness on cruise ships and on cargo ships. The result is unexpected because cruise vessels normally offer passengers a very smooth ride and take care to maintain vessels stability via technical and other means such as use of stabilisers and the avoidance of rough seas. It may reflect the relatively low numbers of 'career' seafarers, inured to seasickness, in the cruise sector, where there is believed to be a relatively high turnover of 20-35% in some staff functions[2] (Scherbl 2020). Prescription medication use was lower on cruise vessels than on board cargo ships. However, the most commonly used prescription medications were the same in both sectors. Tablets for high blood pressure and painkillers were the medications most likely to have been prescribed to both cruise and cargo sector workers. Painkillers were the most commonly used non-prescription medication at sea among both cargo and cruise workers but again use was lower for cruise sector workers than in the cargo sector. It was notable, however that in the hotel services department of cruise ships over-the-counter painkiller use was particularly

[2] Information on retention is difficult to access but see https://www.cruisetradenews.com/is-cruise-still-in-the-midst-of-a-talent-crisis/ (accessed 26/4/25)

high with almost one in three staff using non-prescription painkillers. The use of vitamin supplements was higher on cruise vessels than on cargo ships with younger cruise workers and those working in the beauty department more likely to report taking them.

Sexual harassment was experienced by similar proportions of workers in the cruise and cargo sectors, and it was under reported on cruise vessels just as it was on cargo ships. However, cruise workers had to deal with sexual harassment from passengers as well as other crewmembers and it was encouraging to hear from interviewees that in these cases, they felt sufficiently confident of support from their managers to instruct passengers to desist when they initiated harassment (or risk being reported to management). The presence of CCTV on board cruise vessels was also considered helpful as a deterrent to harassment and a source of proof relating to harassment should it be needed.

In relation to resources/facilities/policies enabling self-care on board we found that cruise seafarers generally had better access to shore leave and saunas than cargo seafarers, but they were overwhelmingly required to share cabins and were less likely than cargo seafarers to have access to a bathtub. Sauna use was often restricted on cruise vessels to particular categories of staff and/or for limited periods of time (once a week, for example). Saunas were valued by staff for their therapeutic properties and two thirds of seafarers without access to a sauna on board their cruise vessel stated that they would like to be able to use one. Forty-two percent of cruise workers would also like access to a bathtub on board and at interview they spoke of the physical and mental benefits of a soak in a bathtub. The benefits of shore leave were very well understood by cruise sector workers and most availed themselves of the opportunity to take shore leave when it arose. Fewer than one in one hundred cruise seafarers had not had shore leave in the last 43 days compared with 15% of cargo seafarers. However, cruise seafarers were at a significant disadvantage to cargo seafarers when it came to cabin occupancy. Shared cabins were the norm among our respondents, although they were distributed according to shipboard hierarchy and were much less likely to be allocated to senior managers than other ranks.

In terms of corporate protections of seafarers' health, it is important to recognise that, as with their cargo sector counterparts, approximately one in ten cruise seafarers identified health problems which they directly attributed to their work on board. Environment and stress-related conditions were at the top of the list of work-related conditions that cruise workers described. However, they also identified diet-related and musculoskeletal conditions that they attributed directly to their work on board. PPE was routinely provided to cruise sector workers but as with the cargo sector the availability of correctly sized PPE was problematic for just over one in ten seafarers. COVID protections were somewhat limited for cruise seafarers with over half stating that there was no COVID policy on board their vessel. However, many were under instruction to

inform their medical team immediately if they experienced symptoms of COVID and to avoid any interaction with passengers or crew. Relatively few cruise sector workers regularly used jet hammers but, of those who did, only around a half of respondents identified the imposition of time limits on such use (designed to protect them from symptoms of vibration white finger). Malaria was also an issue that impacted on few cruise seafarers as most respondents' ships did not operate in malaria areas. However, over a third of cruise sector workers who did accompany their vessels into malaria areas did not get issued with anti-malaria, prophylactic medication. Fewer cruise sector workers, than cargo sector workers, worked out in the open air and hot sun. However, those who did were less likely than cargo sector workers to be provided with sunscreen by employers. They were more likely than their cargo counterparts to be given free water or soft drinks while working in the open air, but the majority of seafarers, regardless of the sector that they worked in, were not normally given free dinks when working in the sun. In terms of protections relating to sexual and reproductive health our finding that condoms were not provided on board cruise vessels as regularly as on cargo vessels was unexpected. However, menstrual products, oral contraceptives and pregnancy tests were more frequently reported to be available, on board, by cruise respondents than cargo respondents. Nevertheless, the vast majority of women on cruise vessels lacked access to pregnancy test kits, emergency and standard contraceptive pills, and re-useable menstrual products. In the event of harassment or sexual and physical assault cruise workers were more able to access confidential counselling than cargo sector workers. However, it was unfortunately the case, that one in six cruise sector workers reported that they did not have such access.

The biggest difference in the experiences of cruise and cargo sector workers when it came to health care access results from the fact that cruise vessels invariably carry qualified medical staff who are available to treat both passengers and crew, and cargo vessels do not. When they needed shore-based services in addition to the treatment available on board, cruise sector workers were also at an advantage. Their vessels were generally within reasonable range of shore-based facilities whereas their cargo counterparts might find themselves needing medical help days away from the nearest port. Doctors and medical teams were generally appreciated by the cruise sector workers who had visited them. They were not only consulted for major problems, and more than a third of cruise respondents had consulted a doctor in the course of their current contract. Doctors were reported to have provided help and advice on both a routine, and an incidental, basis. They were trusted by respondents as sources of medical advice and support and this contrasted starkly with the lack of confidence described by cargo sector workers in the ability of their colleagues on board to provide medical assistance, if and when required. Cruise sector workers also had the advantage when it came to dental care. Only four percent of cruise workers sailed on vessels which carried dentists. However, some of those who did, could access routine as well as

emergency care. For the most part, cruise and cargo sector workers were required to seek dental treatment ashore when they needed it. However, this was generally easier for cruise workers than for cargo sector workers. Not only are cruise sector workers in and out of port more frequently than many cargo sector workers allowing them readier access to shore-based services, but fewer cruise seafarers than cargo sector workers reported being denied permission to go ashore for treatment, when they asked for it.

Summary of positive findings associated with cargo seafarers' health and access to healthcare

The findings reveal that cargo seafarers have adopted healthier lifestyle choices since 2011 and 2016 when similar research was conducted. They smoke less, consume less alcohol, and eat less fried food than previously, with likely benefits for their health. They also take more vitamin supplements than they did in 2011/2016[3] which may be a benefit to their health when the diet on board is insufficiently varied and nutritious and is certainly a signifier of their motivation to protect their own health. Scores for short-term anxiety and depression had improved overall compared with 2016 but remained much higher among senior officers than the average for 2016. The majority of seafarers on board cargo ships had access to privacy in single cabins. Reported provision of basic PPE in the form of coveralls, safety shoes, gloves, was almost universal and condom provision was widespread.

Summary of positive findings associated with cruise seafarers' health and access to healthcare

A high proportion of cruise seafarers are either tee total on board or drink alcohol just once or twice a week and in moderate quantities. Although they were more likely to regularly eat fried food than cargo seafarers, they reported a higher availability of fresh fruit and vegetables than their cargo counterparts and the majority of cruise sector workers could eat as much fruit and as many vegetables as they wanted. The use of vitamin supplements was high among cruise sector workers (and even higher than among their cargo counterparts). This may have health benefits, but it also signifies a strong commitment to the preservation of their own health. There appeared to be confidence among cruise workers when it came to resisting sexual harassment from passengers and the presence of CCTV on board cruise vessels may help reduce inappropriate behaviour overall. Saunas were available to far more cruise workers than cargo sector workers (although 40% of cruise workers did not have any access to a sauna) and cruise workers had much better access to shore leave than their cargo

[3] Multivitamin use among seafarers exceeds reported use in the US land-based population by a considerable margin. 63% of seafarers in 2024 reported using multivitamins at sea while and average of 34% of women and 28% of men in the US were reported to take vitamins supplements in 2017/18 (https://ods.od.nih.gov/factsheets/MVMS-HealthProfessional/ Accessed 28/4/25)

counterparts. PPE was widely provided on cruise vessels and was more likely to be correctly sized than on board cargo ships, although sizing remained an issue for some seafarers. Condoms were available to the majority of cruise workers (though not as readily available as on cargo vessels) and they had far greater access to menstrual products, overall. Cruise sector workers were more likely than cargo seafarers to have access to confidential counselling/medical support in the event that they required it, following sexual harassment or assault. Access to regular medical care, and occasionally even dental care, was a major advantage for cruise sector workers when compared with cargo workers. This enabled cruise sector workers to access professional support for known conditions on board as well as minor ailments and injuries. In the event of a major accident or illness, cruise sector workers were able to access quicker professional medical attention with the likely benefits of reducing their stress, improving their overall outcomes, and alleviating their immediate suffering.

Summary of concerns relating to the health of cargo seafarers and their access to healthcare.

Cargo seafarers had less access to fresh fruit and vegetables than their cruise counterparts and there were reports of vessels running out of provisions during long sea passages or when facing unexpected delays. Seafarers reported that food budgets had fallen at a time when food prices had increased hampering the efforts of catering staff to provide good nutritious food. Access to facilities with therapeutic functions such as bathtubs and saunas was extremely limited on board cargo vessels where shore leave was infrequently available and sometimes was not possible at all. Lack of sleep is a significant problem for cargo seafarers and higher proportions of seafarers in 2024 reported lack of sleep due to working hours, work patterns, work-related anxiety, port duties, ship movement, and noise than in 2011and 2016. Loss of sleep due to work-related anxiety was a particular problem for senior officers. Very high proportions of senior officers also scored highly in relation to the General Health Questionnaire (GHQ) assessment of short-term anxiety and depression (i.e. indicating high proportions of senior officers with anxiety). Fatigue remains an issue on board cargo ships with higher levels of severe fatigue scored in 2024 than 2011 and higher levels of moderate fatigue scored in 2024 than in either 2011 or 2016. Seafarers confirmed existing reports (Devereux et al 2020, Bhatia et al 2024) that work-rest hour records are ‘adjusted’ to conform with regulatory minimums and to cover-up routine breaches. Under reporting of injuries, illness, and harassment/assault remain an issue on board cargo vessels. The phenomenon is frequently driven by fears associated with the precarity of shipboard employment, with seafarers fearing the loss of their own jobs and/or the jobs of their colleagues. One in ten seafarers reported that they had experienced health problems that they directly attributed to their work. Most of the conditions which seafarers described were preventable and they indicate that insufficient protective measures are

currently in place to prevent environment-related, musculoskeletal, diet-related, stress-related, fatigue-related, chemical-related, and welding-related injuries and illnesses. Specific questions included in the questionnaire confirmed that PPE is not always available in the correct sizes and is therefore not fit for purpose in some cases. Protective measures such as the issue of sunscreen and free water/soft drinks to seafarers working outdoors, the issue of anti-malaria tablets prior to entering a malaria area, and restrictions on the duration of the use of vibrating tools were frequently not taken by companies and/or senior officers on board. Menstrual products, pregnancy test kits and contraceptive pills were not widely available on board.

Just over one in three cargo seafarers reported that they did not have access to confidential counselling or medical care following experiences of harassment or assault. In many respects this represents the tip of the iceberg as cargo seafarers were extremely limited in terms of the medical support and treatment that they could access while on board. The knowledge and experience of the seafarers assigned the duties of so-called 'medical officer' on board was regarded as lamentably inadequate. Telemedical services were described by seafarers and by maritime medical professionals as potentially useful but were hampered by the process of relaying information between patients and medics via third parties (e.g. the captain). They were also seriously compromised by the inability of seafarers to use the basic equipment which is relied upon by medics to aid diagnoses. In the event of an emergency when a colleague might be seriously injured and perhaps at risk of death, seafarers felt that they were not equipped to help, even with support from a telemedical service and we were told of sad cases where seriously injured seafarers suffered for days before receiving proper medical care. In the event of a minor injury or ailment, the majority of respondents in the cargo sector did not access professional medical care at all. Moreover, in almost 1in 5 cases, cargo seafarers who had experienced a **serious** injury or illness had not had medical attention on all of the occasions when they wanted or needed it. The major injuries that were described by cargo seafarers most commonly included fractures, major lacerations, major burns, lasting damage to fingers or toes, major strains and major bruising. These are all conditions where it would be expected that seafarers should be able to access professional medical assistance. When permission to seek medical attention ashore had been withheld, cargo seafarers considered that captains were the most likely people to have refused permission for them to go ashore to see a doctor, followed by their company and immigration officials.

Summary of concerns relating to the health of cruise seafarers and their access to healthcare.

Cruise seafarers were unhappy with the quality of their food on board and felt that their preferences and needs were not well-catered for. As a result, many ate more fried food at sea than they did at home and some described disliking the food that was provided

so much that they supplemented their diet with convenience foods that they could purchase ashore on a regular basis, such as instant noodles. Dissatisfaction appeared to be linked to the high number of cruise employees on board and the very low per diem budgets that were applied. The former made it difficult for cruise workers to make their preferences known and/or to have them taken into account on board, and the latter forced catering staff to produce repetitive menus using basic ingredients, some of which were cast offs from the passenger kitchens.

Cruise workers worked extremely long hours and often on split shifts. Long hours were particularly prevalent in the hotel and catering departments and amongst senior personnel working in management functions. Just under half of all cruise sector workers felt they had not had sufficient sleep in the previous 48 hours. Work hours and work patterns were the main reasons for insufficient sleep. Fatigue levels were high among cruise workers with more than three quarters of respondents scoring as experiencing moderate fatigue and another 17% experiencing severe fatigue. More cruise sector workers than cargo sector workers were assessed as suffering from short-term anxiety and depression, and rates were particularly high among senior managers. Workers in the entertainment department also displayed high levels of short-term anxiety and depression and employees tasked with satisfying the expectations of passengers in catering, hotel and entertainment functions all displayed higher rates of short-term anxiety and depression than other shipboard colleagues.

Cruise seafarers were denied private space as a result of widespread cabin sharing. They also lacked access to bathtubs and described a preference for greater access to these as well as to saunas. Almost one in ten described a medical condition which they attributed directly to their work, and these were most commonly environment-related and stress-related, followed by diet-related and musculoskeletal conditions, hernias and strains. One in ten cruise workers were supplied with ill-fitting PPE and a high proportion of cruise sector workers had experienced skin irritation after handling chemicals on board. Disturbing examples were given to us of workers persisting with the use of painful, wrongly sized PPE because of penalties or punishments in the event of an accident or disclosure. COVID protections were reported to have declined and some seafarers feared that they would lose pay in the event of taking time off work with COVID. Given that many cruise seafarers are already financially penalised if they are off work (because they lose gratuities which often form a large proportion of their income) such developments, if they come to pass, would add to the existing pressures to under report illness. Under reporting of hours worked and of harassment were features of the shipboard culture where seafarers feared job loss for themselves and for their colleagues. More than half of the cruise respondents who used jet hammers were not subjected to any protective limits on duration of use and three quarters of cruise workers who worked in the open air were not provided with sunscreen, with a third reporting that they were not provided with free water or soft drinks. Malaria tablets were

not supplied to over a third of cruise workers while they were in malaria areas. Re-useable menstrual products were only available to the minority of cruise sector workers, and this was also true of contraceptive pills (standard and emergency) and pregnancy testing kits. Seafarers on board cruise vessels reported better access to confidential counselling and medical support following harassment or assault on board than cargo sector workers but 15% of seafarers, nevertheless, lacked such access. Following a major injury one in ten cruise workers had not had treatment ashore when they wanted it or reported not having treatment at all. Under-reporting of medical conditions was as common on cruise vessels as it was on cargo ships but on cruise vessels seafarers were more likely to under report medical needs due to fears that they would not be re-hired by their company. Like their cargo counterparts they also feared that they would be sent home if their condition was known.

Discussion

In several ways seafarers demonstrate that they are committed to maintaining their health and wellbeing. They make use of multivitamins, drink alcohol in moderation, if at all, and eat less fried food at home (where they control their own diets) than at sea. They also report making the most of opportunities for shore-leave in order to support their mental wellbeing and where they are available, they make use of saunas and baths for therapeutic purposes. In these ways, they indicate a willingness to invest in their own physical and mental health if, and when, provided with the means to do so.

At sea the means to protect themselves from ill-health is not always available to seafarers who are not in control of many aspects of their day-to-day life including what food they can eat, what clothing they can wear, and how they spend their rest time. In a context where companies control so much that influences seafarers' health and wellbeing many are doing what might be regarded as the bare minimum to support seafarers' health and welfare. The International Shipping Federation (ISF) states in its guidance on the mandatory provisions established under MLC 2006 that 'health care provision is not limited to treating sick or injured seafarers but includes preventative measures such as health promotion and education' (ISF 2006:48). In an institutional workplace where control does not lie with the workers there is a social and moral obligation for employers to back up health care 'education and promotion' with actions and resources that allow seafarers to pursue healthy lifestyles. This is implicit in the provisions of MLC but remains largely overlooked by companies and inspectors enforcing MLC. There are a number of areas that this research indicates should be addressed by shipping companies and regulators, in both the cruise and cargo sectors, in support of seafarers' health.

Food

The provision of varied and nutritious food to a population of workers unable to access their own supplies from shore seems to be a very basic element of any commitment by employers to support seafarers' health. As one cruise seafarer explained to us:

> All that I want is good food and availability of fruits. That's what we did not have in my previous ships. [...] Food is really important for us, crew. When it comes to medical service on board, I can't really complain. The medical staff look after us. But if your food is not good enough, you will also get sick because your tendency is to eat junk food, noodles, because you don't like the food being served. (Cruise, catering)

Seafarers report falling daily budgets for food on cargo vessels along with a failure to adequately supply some vessels with provisions for long voyages. On cruise ships seafarers feel that the economies of scale that are demanded of catering staff when ordering provisions result in the production of monotonous and unhealthy fare that does not adequately cater for varied personal, multicultural, tastes. Increased food budgets would go some way to address the problems experienced on both cargo and cruise vessels and, on the latter, a mechanism for confidential crew feedback to catering staff regarding their food preferences would also be beneficial.

Single cabins

The benefits of single bedrooms have been explored in various contexts but have not been well-considered in relation to institutional work settings. It is normally the case that adults living in OECD countries reside in private accommodation that includes a private bedroom. In this context, it is usually children or elderly people who share sleeping spaces, if at all. Research on young and elderly people nevertheless emphasises the benefits to them of sleeping in private rooms. In research relating to young people living with their families, private bedrooms are said to be of benefit in constituting a space where young people can express some autonomy in deciding who does or doesn't have access to them, they can provide privacy 'away from the challenges of every day life' (Lincoln 2015: 87) and offer young people an opportunity to 'take stock' of current situations and/or dilemmas. At the other end of the age spectrum, some research has been conducted on the merits and costs of private bedrooms in nursing homes (Calkins and Casella 2007). In their study of the cost and value of private bedrooms in nursing homes Calkins and Casella note that:

> The issue of private rooms is of primacy in institutional settings—hospitals and nursing homes—where people often have little or no choice about where they live or with whom they may share a room. (Calkins and Casella 2007:170)

Cruise vessels can be said to be similar to nursing homes inasmuch as they, too, are institutional settings where crew members have little or no choice about cabin sharing,

or about the people with whom they are required to share a cabin. The benefits that accrue to younger and older people offered a private bedroom space as opposed to a shared one, are also of relevance to seafarers. Among adults, research has concluded that even married couples may benefit from sleeping in separate bedrooms given that an environment that provides comfort for one adult may not be a comfortable sleeping environment for another (Troxel et al 2007). If young people living with their own families, older people in nursing homes, and married couples (in some circumstances) have a need for personal space and individual sleeping rooms, then how much more important is access to a single sleeping space when you are working among strangers in a stressful and demanding job. A cruise manager summed up some of the issues that he had experienced with cabin sharing on board when he told us that for seafarers, cabin sharing could be a serious concern:

> It's one of the serious things, yes, yes, yes. It's one of the serious things happening on board. Sometimes they don't respect your private space. [...] There's a conflict between different crew members because of the cabin issues. Something like that. Like for example, you have, you have a girlfriend and I don't have a girlfriend, we're staying in the same cabin. Without my permission, you just bring your girlfriend and I'm, I'm not comfortable with that. [...] Something like, it's also one of the, one of the things become a conflict. [...] In the cabins yeah. [...] If they don't, if they don't rest well [...] they will be easily irritated or annoyed, not focussed on the job. (Cruise, entertainment manager)

In a single cabin seafarers would be able to take steps to minimise disturbance, control access, and optimise their own environment to adapt to their own sleep preferences. They would have the opportunity to communicate, in private, with family members without disturbing others, which may help to mitigate the homesickness that many cruise seafarers suffer away from home (Bardelle and Lashley 2015, Radic et al 2020). Furthermore, cruise ships may be regarded as high risk in relation to the spread of infectious diseases. Multiple occupancy cabins carry inherent health risks associated with the transmission of contagious diseases (Acevedo et al 2011, Brotherton et al 2003, Kak 2015, Marshall et al 2016) and in the context of relatively high-risk cruise vessels, these additional jeopardies should not be imposed on seafarers.

Happily, shared cabins on cargo vessels largely appear to be a thing of the past. The Maritime Labour Convention (2006) specifies that single cabins must be provided to seafarers working on cargo vessels larger than 3000 gross tons.

It is not clear what ethical basis there could be, for differentiating between cruise and cargo sector workers' entitlements to private cabin spaces. A review of the MLC to align cruise and cargo vessel standards in this respect is therefore overdue.

Shore leave

In relation to shore leave, cruise sector workers have the advantage over their cargo sector counterparts. Cruise vessels are regularly in and out of ports which most cruise seafarers report being able to access on a relatively regular basis. While steps need to **continue** to be taken to ensure that all cruise sector workers have the regular opportunity to enjoy shore leave, it is in the cargo sector that attention to shore leave is most badly needed. The MLC was amended in 2025, and shore leave was given some welcome attention. This largely focused on the duties of member states to ensure that seafarers are not discriminated against on any grounds, including nationality, when it comes to granting permission for shore leave. In principle, the amendments state that shore leave should be routinely permitted by port states (unless specified exceptional circumstances pertain) and that seafarers should not be required to hold a visa or special permit to benefit from shore leave. Flag States are also required to ensure that ships flying their flag allow seafarers to take shore leave 'consistent with the operational requirements of their positions'. These provisions will be of considerable benefit to some seafarers who have, hitherto, been denied shore leave because of their nationality. However, they do not go far enough, given the reasons that seafarers, in this study, described for being unable to take shore leave. These included the demands of their work roles and the pressures on their time when in port.

An obvious time when almost any cargo seafarer might be able to take shore leave without compromising the operations of their vessel is when a vessel is at anchor. Unfortunately, most companies do not routinely pay for launch services to ferry seafarers from anchorages to the shore for the purpose of shore leave. The new standard provisions within MLC state that:

- Each Member shall require shipowners to allow seafarers serving on ships that fly its flag to take shore leave to benefit their health and well-being, consistent with the operational requirements of their positions.
- Shipowners shall allow shore leave to seafarers when off duty, upon the ship's arrival in port, except when leaving the ship is prohibited or restricted by relevant authorities of the port State, or due to safety or operational reasons.

Furthermore, in a new guideline the MLC states:

- Each Member should cooperate, as appropriate, with shipowners' and seafarers' organizations and other relevant stakeholders in port to establish procedures on board ships and in ports to facilitate shore leave for seafarers (ILO 2025)

Anchorages are frequently part of port infrastructures and are often within port limits. When a ship is at an anchorage within port limits, we can infer from MLC that ship owners shall be required to allow shore leave. This is not merely a matter of permission but also of facilitation. However, the 2025 MLC amendments stop short of requiring

companies to organise or pay for transportation to facilitate seafarers' shore leave. Without such provision to allow seafarers at anchor to take shore-leave, some seafarers will always be denied shore leave on operational grounds as they are needed on board while their vessel is alongside to load and discharge cargo (the chief officer, for example). To strengthen MLC and to make sure that cargo seafarers do not spend their entire contracts confined on board their vessel, a means needs to be found to address the issue of companies saving money by not paying for launch services from anchorages. The liberation that seafarers experience when able to take a break ashore must be central in any serious effort to protect and preserve seafarers' health and wellbeing. Seafarers know this, and it is increasingly understood by managers within the sector – on board as well as ashore. As one cruise manager put it:

> It makes a big difference when you take in fresh air. [...] I remember I met a crew on my last contract. She said that in that contract she only had two instances of shore leave. Imagine that! I told her that it was very unhealthy! She said that she was feeling tired all the time, so she would rather rest in the cabin than go out. I told her that it's not the way to maintain a healthy living on board. Even a 30 minute walk outside would make a big difference. Change into a casual dress, then leave the ship for a short time, it makes a difference going out. (Cruise, manager)

In this case, the manager described exhorting seafarers who had the opportunity to go ashore to make regular use of shore leave to benefit their health. In the cargo sector, however, there are all too many seafarers who might see getting ashore twice in the period of a contract, as extremely fortunate, given their current lack of regular access to shore leave. This is a situation that, notwithstanding the very welcome 2025 MLC amendments (ILO 2025), needs to be further addressed.

Bathtubs and Saunas

Saunas and baths are increasingly recognised to have therapeutic effects with regard to relaxation and pain relief and also to stave off some health problems such as Alzheimer's disease and dementia (Laukkanen et al 2017), sudden cardiac deaths, fatal cardiovascular disease (Laukkanen et al 2015) coronary heart disease and stroke (Ukai et al 2020), conditions related to poor glycaemic control, and low-grade inflammation (Cullen et al 2020). Seafarers on board cruise and cargo ships described the benefits that they experienced in using a sauna/bath, and they were looked upon with favour as facilities which could aid mental and physical restoration on board. The provision of saunas for seafarers' use and bathtubs in seafarers' bathrooms (in addition to existing shower facilities) would have health benefits for seafarers and may serve to mitigate the high levels of stress and anxiety that we identified on board (see also Oldenburg and Jensen 2019, Wolff et al 2013), improve sleep quality, and reduce dependence on prescription and over-the -counter painkillers for musculoskeletal problems (Abaya et

al 2015). Reductions in stress and anxiety levels, as well as the experience of pain, may have positive effects on high blood pressure which had been identified as an issue in the seafaring workforce (Tu and Jepsen 2016) and which our study suggests remains a problem.

Fatigue

Endemic fatigue was identified among both cruise and cargo participants in our study. Many seafarers described how after months at sea without a single day of rest, they were worn down and exhausted. Extreme fatigue added to this pervasive exhaustion and was caused at different moments in the voyage cycle, but some cruise, and almost all cargo workers, experienced fatigue in port. Among cruise workers it was the arrival of new guests that created pressure on seafarers to work extremely intensively and for long hours. On cargo ships, seafarers also found ports exhausting as they loaded/unloaded cargo, tended to visiting officials, took on stores, were subjected to inspections, refuelled, changed crew and maintained vigilant watches in terms of security. The period before and after a port call could also be tiring, with engineers and navigators required for pilotages, ship-wide preparations necessary for inspections, and tank stripping/cleaning to make way for new cargoes.

Fatigue has been identified as a factor in many accidents and incidents in the cargo sector. It is also regarded as a cause of cardiovascular disease, diabetes, and cancer (Ramar et al 2021). In an analysis of accident investigation reports undertaken for the period 2002-2016 fatigue was implicated as an immediate accident cause in 9% of groundings (Acejo et al 2018). It remains an intractable problem in the cargo and cruise sectors, and it emerged most recently, as a probable causal factor, in the expert discussions of the collision of the vessel *Solong* with the *Stena Immaculate* on March 10th 2025, in the North Sea offshore anchorage at Hull[4] as well as in the May 2025 grounding of the *NCL Salten* beside a domestic dwelling in Trondheim.

Our study confirms that fatigue remains an established problem on board very many cargo vessels and that is also an issue for cruise sector workers. Many cruise sector workers work 7 days a week (in common with many cargo sector workers), work split shifts, and as a result of being required to share cabins may be disturbed by roommates, on different rotas, when trying to sleep. The contravention of Maritime Labour Convention work-rest hours is a well-established feature of sea-life and is now well-known amongst academics (Devereux et al 2020, Bhatia et al 2024). Such contraventions undoubtedly contribute to fatigue. However, in the event that existing MLC work/rest hours were carefully followed, it is clear that fatigue would nevertheless remain an issue on cruise and cargo ships. Under MLC, Flag States are permitted to implement either a minimum number of rest hours in every week (77 hours rest per

[4] An interesting podcast on the topic can be found at https://podcasts.apple.com/us/podcast/is-seafarer-fatigue-a-killer/id1653029130?i=1000700577238&l=es-MX (accessed 2/5/25)

week with a minimum of 10 in every 24 hours) or a maximum number of work hours (14 hours in any 7-day period and a maximum of 72 hours work in any week). The two systems allow for different periods of work and rest with the implementation of maximum work hours resulting in seafarers getting more time to rest and fewer hours of work. Flag States have generally elected to implement rest hour minimums, however, and these are less favourable to seafarers. Minimum rest hour regulations are also the standard utilised in port-state control inspections (ISF 2023). The rest hours rules established by MLC, allow for the 10 hours of mandatory rest for seafarers (within every 24 hours) to be divided into two parts and they stipulate that one of these must be a minimum period of six hours rest. It is clear that this does not offer sufficient protection to seafarers from fatigue and contravenes expert opinion on adequate sleep (Ramar et al 2021, Watson et al 2015). Seafarers who are attempting to manage their fatigue on board, point out, quite reasonably, that it is impossible for anyone to fall asleep at the very moment when they finish work and that a part of any six-hour rest period is necessarily taken up with washing and changing, eating, and then washing and dressing again in preparation for the next work period. This makes it likely that many seafarers whose maximum rest period in 24 hours is six hours long, will be getting no more than 4 to 4.5 hours of unbroken sleep. In any second rest period of 4 hours within 24 hours (which would comply with MLC rules) it is unlikely they could achieve more than an hour and a half of sleep once sleep/work preparations (changing/washing/eating/handovers etc), are taken into account. This is inadequate and is completely out of kilter with expert opinion on the number of hours of unbroken sleep required by an adult (Watson et al 2015). UK government regulations for land-based workers stipulate that workers have a right to 11 hours rest between working days. While this is not generous, on paper it provides workers with a realistic opportunity of getting the 7-9 hours of sleep recommended for an adult. In reality many land-based workers work 8-hour days which provide them with 16-hour rest periods between their workdays. Land-based workers in the UK also have a right to an uninterrupted 24-hours rest, without work, each week. Seafarers in many positions never have such a day without work whilst on board, and those who do (usually ratings) normally only have the opportunity for a rest day if they experience a Sunday during a deep-sea passage. While the minimum rest hours entitlement for a week is 90 hours for UK land-based workers it is 77 hours for seafarers.

It may be apposite to remind ourselves that among scientists the pervasive view is that ‘Sleep is a biological necessity, and insufficient sleep and untreated sleep disorders are detrimental for health, well-being, and public safety’ (Ramar et al 2021: 2115). With that in mind, the minimum rest hours currently implemented at sea do not just look like a social injustice, likely to cause seafarers ill-health, but also an example of regulatory and corporate social negligence, likely to jeopardise human safety. This situation needs to be urgently addressed, and the remedy needs to go far beyond efforts to improve the accurate recording of work/rest hours. It is clear that the rest-hour provisions of the

MLC, as they currently stand, foster and ingrain fatigue into the operations of the shipping industry and that is before we begin to consider the inadequate steps that are generally taken to ensure that seafarers who are disturbed by alarms during their night rest periods (engineers on watch for example) gain sufficient sleep (Sampson 2024) or to take into account the impact of night working, more broadly, on seafarers.

Anxiety and stress

There is ample evidence, in the public domain, that seafarers experience high levels of general anxiety (see for example Zhang et al 2005, Lefkowitz and Slade 2019, Sampson and Ellis 2019). In this study however, we were able to further differentiate between general anxiety and work-related anxiety as factors which seafarers identified as keeping them awake during their rest hours. Work-related anxiety was particularly experienced by senior officers and managers in the cargo and cruise sectors. For cargo sector workers, anxieties were linked with inspections, fear of criminalisation as a consequence of a mistakenly breached international regulation, and fear of job loss/poor appraisal. Cruise seafarers were generally caused anxiety by guest complaints, guest ratings and guest expectations. The precarious nature of their contracts served to amplify their fears in many cases.

Job insecurity is a particularly strong feature of the global labour market for seafarers in both the cargo sector (Fink 2011, Sampson 2013) and the cruise industry (Ariza-Montes et al 2021). Land-based studies have demonstrated links between job insecurity and mental ill-health among adults which have led academics to conclude that improvements in job security would benefit employee mental health. In 2024, Wang et al, for example, concluded that:

> Greater job flexibility and job security were associated with decreased serious psychological distress and lower anxiety among US working adults. These findings suggest that organizational policies that improve job flexibility and security may promote employee mental health and encourage use of mental health services when needed and ultimately improve overall employee well-being. (Wang et al 2024:11)

In the shipping industry improving job security would have a strongly positive impact on the levels of anxiety experienced by seafarers. A constant refrain from working seafarers relates to fear of job loss. However, there are other good reasons for anxiety among senior seafarers in the cargo sector, particularly captains and chief engineers. These include responsibility aboard their vessel in the face of limited decision-making powers (Daniels 2012, Sampson et al 2019, Jensen and Oldenburg 2021) as well as fear of criminalisation (Öving 2012, Intermanager 2025). Both of these factors cause senior officers to worry about impending port calls and inspections (Sampson 2024). In 2012, Öving found that 81% of seafarers who had faced criminal charges associated with their

work considered that they had not received fair treatment. These negative experiences are relayed back to working seafarers in various diffuse ways and serve to heighten existing anxiety.

Improving trust between office managers and senior officers in the cargo sector[5] and reducing job precarity would both have a very positive impact on cargo seafarers' anxiety levels. In the cruise sector, inspections are also a cause for concern and anxiety. However, we found that the reasons for highly stressed cruise sector workers were different to those found in the cargo sector. Job insecurity combined with the presence of guests and the pressures resulting from their expectations to be given the 'holiday of a lifetime' caused cruise sector workers a great deal of stress and anxiety. In the face of these considerations, improved job security and changes to the use of guest rating systems would be likely to reduce levels of worry on board.

Precarious employment

Precarious employment was an important feature of seafarers' anxiety on board cargo and cruise vessels, and it was also a major factor in the under-reporting of a variety of concerns on board. These ranged from harassment and assault to illness and injury. Not only were seafarers afraid to divulge medical conditions for fear of job loss, but they also sometimes decided not to report harassment and/or assault out of concern for the livelihood of their assailant. Under reporting of harassment, assault, injuries and illnesses self-evidently results in lack of treatment and support for seafarers experiencing such problems. However, precarious employment has also been shown to result in poor general health and mental health (Jonsson et al 2021) unhealthy days and days with activity limitations (Bhattacharya and Ray 2021), negative emotional wellbeing, irritation and stress (Patulny et al 2020), decreased life and job satisfaction (Blustein et al 2020, Patulny et al 2020) and increased stress (Bhattacharya and Ray 2021) among employees. In the case of shipping, precarious employment can be seen as resulting in a lack of concern for the maintenance of the long-term health status of seafarers. Seafarers are signed off and replaced if they become medically unfit and if they recover well enough to pass a pre-employment examination, they are re-hired. This does not encourage corporate investment in seafarers' health and wellbeing. Precarious employment and fear of job loss can also lead to seafarers who hold positions of authority to under-value the lives of other subordinates on board, in favour of the commercial interests of their company. A maritime medical expert described this kind of scenario in association with an incident that he had become involved in. He told us:

[5] When an accident occurs, there is a strong tendency to hold individual seafarers responsible for the outcomes of decisions taken ashore. Officers frequently practice defensive behaviours to protect themselves from being blamed by shore-side personnel in the event that a decision they have disagreed with is imposed upon them

> There is another rather sinister one, [which] is how much does the health of which groups of seafarers matter to the captain and the senior officers on board the ship? I mean an example of this, there was a, I think a Taiwanese flagged ship that was coming from Asia to Europe and had a British security guard on board, [...] who got malaria, he got malaria where he'd spent his holiday time before he joined the ship. They refused to divert and do anything about it, he was eventually landed in Djibouti, before they went up the Red Sea, still alive but he died there. I mean it was a very preventable thing given it was malaria and they could have called in at Columbo and a whole lot of other ports on their way. (Maritime medical expert)

The prioritisation of company profits over human life is something that likely arises from fear of job loss rather than personal character flaws. Providing for higher levels of job security would evidently have multiple benefits for seafarers' health and wellbeing.

Failure to protect against preventable work-related conditions

The research identified a failure across many shipping organisations to adequately protect seafarers against a range of preventable conditions. These included environmental-related conditions such as sunburn and dehydration; task-related conditions such musculoskeletal strains, vibration white finger and arc eye; and chemical-related conditions such as skin irritation. Rydz et al (2021) conclude their study of sun protection (in shore-based workplaces) with the following recommendation:

> Sun safety among outdoor workers should continue to be emphasized by employers, for example through implementing educational programs, mandating the use of specific sun protective behaviours, and providing sunscreen and shade structures (Rydz et al 2021: e144)

This advice could equally apply to sea-based workers who often work in very hot and sunny parts of the world. Not all companies fail to protect seafarers against all preventable work-related health issues. For example, our data suggest that currently sun protection measures are followed on some ships but not others and that they often seem to be determined by the personal characteristics and values of supervisors and officers. These also seem to frequently determine the use of vibrating machinery that can cause vibration white finger (such as jet hammers). A more systematic approach is advocated within the specialist literature and would be of considerable benefit to seafarers whose remoteness from shore limits their capacity to access some protections such as sunscreen and wide brimmed hats, whose own PPE may contribute to sun exposure (e.g. hard hats do not offer sun protection) and whose job precarity may prevent them from challenging instructions to work unsafely (for example being told to work for too long using vibrating hand tools).

Seafarers' access to medical treatment

On board cargo ships crewmembers have very limited training with regard to first aid and medical treatment. Their lack of experience with medical equipment and lack of diagnostic expertise results in the very basic application of first aid in many cases of seafarer injury. Our respondents' accounts suggest that seriously unwell or injured seafarers are usually instructed to rest in their cabins until a port is reached or an evacuation is arranged. In an effort to support seafarers in these impossible circumstances telemedical advice is likely to be provided. However, many medical experts agree that such services are patchy, and outcomes are diverse. When interviewed, one maritime medical expert told us that:

> Denmark is a good example, which within its own country and its own fleet, has a quite carefully integrated system of training, links to their telemedical services, and specification of how they're run. But you look at the major open registers and they for instance have very little in the way of support services and this is despite having usually signed the relevant conventions that mean they should have. I think there is also the issue that relates, much more widely, to how ill health in seafarers is perceived within the industry, and that goes right back to the whole business of P&I Clubs and the fact that providing healthcare for seafarers is seen as reducing liability rather than the thing which is an employee benefit…(Maritime medical expert).

The inference here is that sometimes telemedical services are simply established as part of a box-ticking, liability-reduction, exercise. This is far from ideal. Telemedical services are thought to work best where seafarers have training in how to interact with them. This is often not the situation, however. Oftentimes, telemedical service providers have to rely on information provided by seafarers who are not equipped to respond to major casualties. This is unsatisfactory both for the doctors attempting to diagnose patients who are at sea, and, most of all, for the patient-seafarers concerned. At interview a maritime medical expert revealed that:

> They [seafarers on board] don't know a) how to report a case in an organised manner. They don't know how to take vital signs, they don't know how a medical kit's laid out and things like that and then it becomes… They're faced with a medical emergency and they don't know the basic first responder actions.[…] , so it's the lack of knowledge about how to use the system, lack of knowledge or training on their part about how to use the medical kit and things like that (Maritime medical expert).

In these situations, misdiagnoses are more likely to occur. Furthermore, the difficulties associated with telemedicine appear to run in both directions and we heard from frustrated seafarers about disagreements between senior officers on board, who knew

and were able to observe a sick seafarer, and remote medical officers with no contextual understanding of the emergency at hand. In some examples, this led to telemedical services undermining the provision of healthcare to seafarers rather than enhancing it.

The MLC provides as Standard that:

> Each member shall ensure that measures providing for health protection and medical care including essential dental care for seafarers working on board a ship that flies its flag are adopted which:
>
> a) Ensure the application to seafarers of any general provisions on occupational health protection and medical care relevant to their duties, as well as of special provisions specific to work on board ship;
> b) Ensure that seafarers are given health protection and medical care **as comparable as possible to that which is generally available to workers ashore**, including prompt access to the necessary medicines, medical equipment and facilities for diagnosis and treatment and to medical information and expertise. (ISF 2023: 165,*our emphasis*)

At present the cruise sector delivers medical care that meets this provision but in the cargo sector delivery falls woefully short of the standards set out in MLC. The ISF interpretation of MLC (ISF 2023) is misaligned with the wording of the regulations. It implies that MLC relates only to a medicine chest, medical equipment, carriage of a medical guide and provision by member states of a telemedical assistance service (TMAS) and that it has no application with regards to the employment of medically trained personnel on board. However, it is clear that a lack of medically trained personnel on board cargo ships creates an immeasurable gulf between the experience of shore-based workers and those working on cargo vessels. It also strongly differentiates the experience of cargo and cruise seafarers. As one maritime medical expert described in an interview:

> We haven't talked about cruise because that is so different in so many ways given that you've almost always got nurses and things on board the ship which has a big effect (Maritime medical expert)

Another expert involved in the supply of telemedical support to vessels confirmed that the experience of offering advice to medical personnel on board cruise ships and medically untrained seafarers on cargo ships was completely different. He described how:

> For cruise it is quite simple because in the cruise you have always medical staff on board, you do have a hospital, so you always have let's say some medical expertise onboard, and it's rather let's say a second opinion when we are

> consulted. […] for cruise it's almost a doctor-doctor conversation, rather a second opinion to be on the safe side for the doctor on board, than the first and only advice. (Maritime medical expert)

This gulf has day to day consequences for cargo sector seafarers who are unable to access routine medical care on board, and it has traumatic and deeply distressing consequences when serious illnesses arise, or accidents take place. Seafarers are left suffering and may die as a result of a lack of access to relatively basic care which could be delivered by medically trained personnel, but which seafarers feel ill-equipped to provide as a result of their lack of training, lack of experience and other shipboard duties. An illustration of the consequences of the unavailability of competent medical professionals on board is provided in the following extended quote from one of our interviewees. It describes a case where in the absence of a proper diagnosis a seafarer continued to work in pain until he succumbed to his condition alone and unaided in his cabin:

> One of the crew died, recently, on my last ship. The deceased seafarer had been on board for many months already, then a week before his death, he felt pain in his stomach. We did not know the cause. It was only the second officer and the captain who knew all the information. They were the ones who were in charge of the medicine. I remember during that time, when the seafarer was ill, they were talking about the medicine that he needed to take. But the seafarer at that time could still work. He was an AB like me, 35 years old. We were three ABs on that ship. We were then in anchorage in Panama. We were transiting in Panama canal. Whilst in anchorage, his duty was from 4 am to 8 am on the bridge. […] The officer was waiting for him at 4 am. But he did not show up. So, they went to his cabin because he was not answering calls. They knocked on his cabin but there was no answer. So, they borrowed the master key from the chief officer and when they opened the door, he was found unconscious. His had lost his colour. They tried to revive him. I was asleep when that happened. So around 4:30 am, word got around about his death. There was an announcement made by the captain that we had death on board. We were all caught by surprise. We were not expecting that it would happen. For us all, it was the first time to have that incident on board. Actually, that crew who died, he was the funniest guy on board. When we all went to his cabin, he was lying on his bed, ashen colour. He was holding his stomach. We thought he had a terrible pain before his passing […] He asked for medicine. […] they thought it was common stomach pain. Because of what happened, we became more conscious and aware of the possible severity of what could be thought to be regular or ordinary illness. […] Like what happened to him, we were not expecting that he was already suffering tremendously, that he was in a very serious condition. (Cargo, AB)

There were other examples given to us of seafarers waiting in pain for medical treatment, being misdiagnosed via telemedical assistance services, and of dying without medical treatment and assistance on board.

These difficulties in accessing medical care were made worse by under or late reporting of illness/injury. Fear of repatriation and of being seen to be 'making a fuss' led some seafarers to misjudge their need for medical assistance or to wait and see if it improved without intervention. As some medical experts pointed out, however, the public at large is generally ill-equipped to determine how serious their own medical case is, and seafarers are no exception. This is one extremely important reason why seafarers require better access to shipboard professional medical assessment and treatment. The experiences which seafarers had witnessed or encountered on board led many of them to advocate for medical personnel to be employed on board. Examples of these calls included the following comments from cargo seafarers who were interviewed as part of the study:

> It would be very helpful if the doctor and nurse on board, on the ship, because sometimes what happen, ship is going for 30 days passage, 35 days passage, even if we travel from US to Japan, it takes maybe 45 days passage, while crossing from this north Panama Canal, Suez Canal, if you are transiting from Suez Canal so it will take more than 45 days, and in case if some casualty happen, so nobody is there proper, nobody is proper doctor on board ship to administrate and take care of that casualty. Many times happen that seafarers lose their life, because there is no doctor and nurse on board. (Cargo, electrical officer)

> We are sometimes, [...] 45 days at sea, and if any emergency, like medical emergency, it will be very difficult for us because we are sometimes hundreds, sometimes thousand miles away from land, and for any medical emergency it takes time, like from shore assistance, and we only have Second Officer on board which is our 'medical officer', but he only have this basic training for the medical, so he's not good, I mean he don't know other medical stuff, only the basic one. (Cargo, third engineer)

> I think that would be a very good arrangement [to have a doctor on board]. If something happens to you, then somebody is on board to help you, to provide medical assistance. It is always difficult with no one having medical knowledge on board. Imagine if the ship is under navigation for a month. Even if we have 'medical officers' [i.e. second officer or captain with first aid training and responsibility for the medicine chest] on board, they only provide first aid to the crew. Then the medical officers, they also forget their medical training ashore, and that makes it even more difficult for them to administer to seafarers. (Cargo, chief cook)

> It would be a very good thing [to have a doctor on board] because it's very well known among seafarers that we have a lot of injuries, especially hand injuries, like people bang, misplace their hand and then they happen to have them cut off or they get infected, or, it happens a lot, yes the fingers, they lose a lot of fingers, so yes it would be great, but I think the companies they don't really consider that, it's going to be like an added cost to their ship, so that's why most of the ships they don't have them. (Cargo, deck officer)
>
> I think all ships needed that, even just having a doctor onboard. We don't know what will happen especially if he is in the middle of the ocean. We can only give first aid. If we have a doctor with us he can better do something in assisting the condition of the crew. I think it is better if there is a doctor. (Cargo, AB)
>
> Well having medical personnel on board or a licensed doctor or dentist it would be easier because they already know what to do. Since we are just only trained for basic training regarding medical courses it sometimes giving us a hindrance in what to do, so sometimes we would ask the medical, how can I say, medical officer, here on board the Second Officer, so sometimes he is not aware, [...] . We have some little information, or we have booklets regarding this medication or medical issues but sometimes we still ask for information regarding this one, through email, through INMARSAT-C, so it takes time and if you have a doctor you can... Yeah, so if you have a doctor on board you will be treated as soon as possible. (Cargo, third officer)

Many interviewees had direct experience of colleagues enduring serious symptoms or injuries which were exacerbated and prolonged as a result of lack of proper medical attention on board. However, just as those of us ashore benefit from routine medical advice, seafarers would also benefit from the opportunity to consult with a doctor about more routine medical matters causing them discomfort[6]. Face-to-face consultations with doctors take place on a regular basis in shore-based populations. In Korea the average number of face-to-face doctor-patient consultations is reported to be 15.65 per year. In Japan it is 11.13, in Slovakia it is 11.3, in Germany it is 9.6, in Hungary it is 9.45 and so forth. In Turkey, Poland and Croatia, all of which are significant labour supply countries for the cargo shipping industry the average annual consultations per person are 8, 7.6, and 5.98 respectively (Statista 2022 https://www.statista.com/statistics/236589/number-of-doctor-visits-per-capita-by-country/ accessed 7/5/25). Our study demonstrates that such consultations also happen in the cruise sector where medical staff are provided on board. They cannot

[6] It is important to remember that ashore the general population also has access to advice from pharmacists which is generally unavailable to cargo seafarers

happen in the cargo sector and there is an indisputable case to be made, on ethical grounds, that they should be facilitated. As one captain told us:

> When you're at home, you know whenever you want to see a doctor you have access to it, so, before other factors aside, at sea it shouldn't be different, I mean yes we have, what do you call, radio medical and we use consultation, but to have someone expertly trained in that line of work or in that field would be beneficial in terms of health, because for seafarers, [...] medical conditions and all this on board, you can't predict that, you can range from injuries to health issues and I mean yes, we are trained in medical care in a sense, but of course those would not be as, I would say, as professionally trained in that sense compared to dedicated, I mean nurses, doctors, those experts in the medical field. (Chief officer cargo)

The only grounds for not providing trained medical personnel on board appear to be financial. Companies wish to avoid the cost of an additional member of shipboard staff. In this, they show scant regard for the seafarers who operate their ships, little concern to comply with the spirit of existing regulations, and a lack of regard for the humane treatment of their shipboard workforce. Some seafarers recognise corporate reluctance to supply medically trained staff on board and accept this at face value as an 'economic reality', however, others are more imaginative and see the broader benefits that might accrue as a result of having a medic on board. One told us, for example, that:

> The company tries to save as much money as possible from the seafarers, which is very unfortunate to be honest. They actually delay promotions just to keep that one person on a particular rank, just to save some money, it is all very commercial. So asking them to bring a doctor on board, full-time doctor, I don't really think they're going to do that, but if they hire a doctor and make him an all-round person, like they should include some duties like he should be a nutritionist, who can basically oversee our health, and again can design our meals and can monitor our healthcare, clear some workout routines for the seafarers who are not looking very healthy, so yes they can make him some all-round kind of person [...] I think they should make a law something like this so that the companies are bound to do that, otherwise if you leave them on their choice I don't really think that they'll be happy with that. (Cargo, captain)

The MLC already includes provisions which indicate that medically trained personnel should be carried on board cargo ships inasmuch as it states that the provision of medical care should be **as comparable as possible to that which is generally available to workers ashore.** It is entirely **possible** for trained medical staff to be employed on board cargo ships in order to provide seafarers with an experience of healthcare which is similar to that available to personnel ashore and indeed to the experiences of cruise sector workers. However, the MLC provisions appear to be

routinely and deliberately misinterpreted, or ignored, in this regard. The end result is that many seafarers are needlessly suffering, and some are unnecessarily dying, because of the remote nature of their work. This is an indictment of the cargo shipping sector and is highly significant barrier to seafarer wellbeing and good health. It differentiates the cargo sector from the cruise sector in ways which reflect poorly on it.

Conclusion

Seafarers are remarkably upbeat about their own health. Many seafarers take great care to maintain physical and metal fitness, both on board and at home. However, they spend most of their time in institutional and remote workplace environments, and as such, they are heavily dependent on employers to provide them with adequate facilities for physical and mental self-care, as well as health protection and access to medical assistance when required.

There are many areas where improvements can be made to protect the health and wellbeing of seafarers in the cruise and cargo sectors. The provision of facilities which seafarers can use for therapeutic purposes (baths, saunas etc), access to shore leave and the provision of good quality food would all be important inclusions in a holistic effort to protect and promote seafarers' health and wellbeing. Improvements in the protection of seafarers' health on board via the elimination of job-related problems such as vibration white finger and arc eye as well as enhanced protections against environmental hazards such as sun exposure are required and these extend to very basic provisions relating to well-fitting PPE. In addition, the MLC needs to be altered to protect rest hours adequately and to align them with work-rest hour regulations for shore-based workers. Job precarity causes multiple problems on board which can impact on, or increase, anxiety and mental health and wellbeing. Finally, and above all, seafarers in the cargo sector have an unmet need for qualified medics to be available to treat them at all times while they are onboard. This would bring the cargo sector into line with the cruise industry and would meet the requirements of the MLC.

In addressing any, and all, of these issues, finance, profit and competition between companies is invariably cited as a reason for inaction, or worse still for cutting the existing resources and provisions that support seafarers' health and wellbeing. In an era where heads of state can add substantial tariffs to goods for political ends and where taxes can be applied to fuels to promote environmental improvements without catastrophically impacting on consumer demand, it seems evident that disastrous consequences would not arise from the additional marginal costs to shipping operations of adding medically qualified personnel to their crews. Moreover, reports indicate that profit margins in shipping are currently considerable. In 2024, the shipping trade press reported on 'surging' profits among container carriers. One described how:

> The global container shipping industry saw profits surge to more than $10 billion in the second quarter on record volumes and rising freight rates after Red Sea diversions, according to a new analysis.
>
> Net income for the world's major container carriers, including Denmark's A.P. Moller-Maersk A/S and China's Cosco Shipping Holdings Co., almost doubled from the first three months of the year and topped the $8.88 billion haul from the second quarter of 2023, according to a report released Aug. 31 by industry veteran John McCown. (Brendan Murray, Bloomberg news September 3, 2024[7])

The trend appears to be established, and another trade journalist reported, in 2025, that:

> The world's 139 largest shipping companies – accounting for 90% of the world's fleet – made almost US$340.0Bn in profits from 2019-2023, the last year for which full figures are available. [...] It added, "Yet despite these record earnings, shipping company taxes have remained catastrophically low and many of the world's biggest shipping companies are failing to pay their fair share of taxes." It said the top 10 largest companies paid only US$30.0Bn in tax from 2019-2023, at a tax rate of around 10%. The report said this is below the global corporation tax average rate of 21%, and below the new Organisation for Economic Co-operation and Development (OECD) global minimum tax rate of 15% (from which shipping is exempt). [...]
>
> The top 10 largest shipping companies are Moller-Maersk, CMA CGM, Hapag-Lloyd, China COSCO, Ocean Network Express, Evergreen Marine Corp, Orient Overseas, Yang Ming Marine Transport Corp, Wan Hai Lines and SITC.[...] A statement said all 10 companies were contacted for their responses to the figures in the report. Of these, Wan Hai Lines, Maersk and Orient Overseas responded to confirm the figures provided about their company are accurate. No replies were received from the remaining top 10 companies. The world's largest shipping company at the time of writing is MSC, a privately held Swiss company that does not publish its accounts. (Rebecca Moore Riviera 04 April 2025[8])

In the context of such sustained post-pandemic profits for many shipping lines, any claims that cargo sector companies cannot make improvements to seafarers' health and welfare, on financial grounds, would ring very hollow. However, even those shipping companies whose profit margins are tight would not be commercially disadvantaged by provisions that are mandated in global regulations such as the MLC, given that these

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[7] https://www.ttnews.com/articles/container-carrier-profit-q2#:~:text=Net%20income%20for%20the%20world's,to%20a%20report%20released%20Aug. (accessed 7/5/25)

[8] https://www.rivieramm.com/news-content-hub/news-content-hub/worlds-biggest-public-shipping-companies-top-all-time-high-profits--but-pay-less-than-half-average-tax-rate-84321 (accessed 7/5/25)

create a level playing field for all companies. Improvements that live up to the stated intention of MLC to make healthcare for seafarers '**as comparable as possible to that which is generally available to workers ashore'** are very long overdue. We conclude that should be instated, and we trust that our findings from this research will appropriately inform positive steps towards that end**.**

We finish this report with a short list of recommendations which arise from our study. We anticipate that these will form the basis of a constructive discussion among stakeholders about necessary improvements in standards of health, welfare, and safety, across the cruise and cargo industries. We hope the findings reported in the study will encourage stakeholders to reconsider some of the poor practices that have come to be accepted in the shipping industry and will inspire them to take a more proactive stance towards seafarers' health and welfare.

Recommendations

1) Minimum per diem food budgets should be established, taking account of the high cost of food in many world regions. Budget rises to reflect inflation should be mandatory.
2) Saunas should be provided on board for the regular use of all seafarers.
3) Bathtubs should be provided in seafarers' bathrooms along with separate showers.
4) Ports should be required to provide free launch services for ships at anchor. The costs of these services should be recovered from port dues.
5) All seafarers should be provided with single occupancy ensuite cabins on all vessels over 3,000 gross tons (including passenger vessels).
6) Protective measures against environmental and task-related risks should be specified in shipboard safety management systems. These should include the provision of free sunscreen and soft drinks/water to seafarers working outdoors in hot or sunny conditions, limits on the duration of jet-hammer use to align with shore-based advice and standards of health and safety, and the provision of malaria tablets prior to transit of a malaria area.
7) Ship medicine chests should include emergency and regular contraceptive pills, as well as pregnancy test kits.
8) Minimum rest hours regulations in MLC should be reviewed and altered to align with best practice ashore. Changes should enable **all** seafarers to obtain an unbroken 8-hour period of **sleep** in any 24-hour period.[9]
9) Full-time professional medical personnel should be employed on board all vessels, in deep-sea trades, on a mandatory basis. These should be medical

[9] We are aware that his will entail reviewing and changing work patterns and that it is likely to require that more seafarers are placed on board. In the light of the widespread 'fixing' of work-rest hour documentation these measures are necessary and overdue

personnel with recognised paramedic qualifications (at a minimum) and 3 years of field experience as a paramedic ashore. Their role should extend from the provision of first aid in emergency situations (under guidance from appropriate telemedical services ashore) to routine advice to seafarers about medical problems (with appropriate support from telemedical services ashore) and responsibility for actions and interventions aimed at improving the health and welfare of seafarers on board (including via the mitigation of fatigue and stress).

10) Steps should be taken to address the high levels of stress experienced by senior officers in the cargo sector and senior managers in the cruise sector. These should include ensuring that proper rest hours are observed as well as a mandatory requirement for senior officers to be granted facilitated-shore-leave whenever their vessel is at anchor for more than 12 hours.

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