



The health of seafarers working on cruise and cargo vessels 2023-2024

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Background

The COVID-19 pandemic had a dramatic and negative impact on demand for holidays in the cruise sector (Arjona-Fuentes et al 2022). Publicity relating to the quarantining of passengers and crew aboard ships such as *Diamond Princess*, in 2020, reinforced a perception amongst some members of the public that cruise vessels could be dangerous sites of high viral transmission. Following the end of the pandemic phase of COVID-19, passenger numbers have steadily increased and in 2024 *Cruise Lines International Association* (CLIA) reported that passenger volume had bounced back completely, surpassing 2019 by seven percent and standing at a remarkable 31.7 million people (https://cruising.org/-/media/clia-media/research/2024/2024-state-of-the-cruise-industry-report_updated-050824_web.ashx accessed 11/02/25). Looking after the passengers on board the more than 300 cruise ships across the globe, are a host of seafarers from different countries. The industry's high staff to passenger ratio makes the sector a significant employer of seafarers despite cruise vessels constituting less than 1% of the world's commercial fleet (https://cruising.org/-/media/clia-media/research/2024/2024-state-of-the-cruise-industry-report_updated-050824_web.ashx accessed 11/02/25).

Research Context

Despite the significance of both the cruise sector and cruise work, there has been relatively scant attention paid by academics to the living and working conditions of cruise sector workers (Dennett 2013) or indeed to their health. Research which has been conducted has highlighted a range of challenges faced by workers on board cruise vessels including, homesickness (Bardelle and Lashley 2015), poor working conditions (Ariza-Montes et al 2021b), long hours (Radic et al 2020) fatigue (Radic 2019) sexual risk (Thomas et al 2013) worry (Wolff et al 2013), reliance on gratuities (Dennett 2013) and workplace bullying (Ariza-Montes et al 2021a). In terms of the health challenges faced by cruise sector workers, the literature suggests that, overall, seafarers are reluctant to take medical leave while working and can be said to be characterised by presenteeism (Dahl 2005, Ariza-Montes 2021a). Nevertheless, studies using different methods have identified occupational injuries and illnesses associated with slips, trips and falls, (Radic 2019), gastroenteritis (Dahl 2005), skin disorders (Dahl 1999), musculoskeletal conditions (Bell and Jensen 2009, Österman, et al), and psychiatric disorders (Bell and Jensen 2009, Österman et al 2020) as prevalent amongst cruise seafarers. One three-year study that focused on lost time accidents at sea, reported wounds and punctures as the most common injuries to crew on board, followed by contusions and sprains/strains. Together these types of injury accounted for more than three-quarters of the shipboard crew injuries (Dahl et al 2008). The same study identified the galley crew and dancers as particularly exposed to the risk of injury and disproportionately affected by cuts and injuries resulting from slips, trips and falls, respectively.

Overall, the research which has been undertaken on cruise workers' health has generally investigated diagnosed medical conditions. Given that presenteeism appears to be associated with cruise work it is reasonable to assume that research based on diagnoses will likely underestimate the health problems experienced by cruise employees, overall.

The research approach and methods

The research that is reported here, is part of a study which took place in the period 2023-2025. The study was funded by the Stiftelsen Sveriges Sjömanshus. It made use of questionnaires and interviews and considered the cargo and the cruise sector. This report focuses on the data collected from seafarers working on board **cruise** ships and compares it with data collected on **cargo** ships as part of the same study (see Sampson et al 2025a, Sampson et al 2025b and Sampson et al 2025c) . As such, it is based upon the results from 1102 questionnaires and 100 interviews with active cruise seafarers as well as 1139 questionnaires and 101 interviews with active cargo seafarers. At the time of the data collection, 950 cruise seafarers who completed a questionnaire were at sea and 151 were on vacation¹. Among cargo sector workers 763 seafarers who completed a questionnaire were at sea and 360 were on vacation.

In conducting the research, we made use of face to face and internet-based approaches. Researchers visited seafarers' centres in the UK, Germany, Spain and Sweden to administer **questionnaires** on a face-to-face basis. The seafarers who took part in such interviewer-administered questionnaires were generally taking shore-leave from a vessel that had called into the associated port. In total 860 cruise, and 525 cargo, questionnaires were completed face to face in this manner and a further 242 cruise, and 614 cargo, were completed by seafarers via an online version of the same questionnaire. This was made available in English, Mandarin and Tagalog. Before we began the analysis, making use of the whole questionnaire-generated dataset, we checked for any indications that the onboard/vacation status of respondents might be significantly impacting on the findings. We also compared the online vs face to face responses to see whether there were any indications that the response method (face to face or online) was strongly influencing responses. In each case, we found minor, statistically significant, variations in some of the responses but no indication of an overall pattern of concern. We therefore analysed the data as a single dataset with reasonable confidence that neither the method of response nor the onboard/vacation status of participants was notably skewing the results. Quantitative data were analysed using SPSS software and statistically significant differences are reported at the 0.05 level² with effect measured using Cramer's V for Chi-squared tests and Cohen's d for t-

¹ One respondent did not answer this question

² Where we state that significance cannot be assessed, or where we do not report statistically significant findings, this is generally due to the percentage of cells having an

tests. In this report we detail the significance level and indicate the category of effect. In reporting percentages, we round up or down to whole numbers, such that 6.4% and downwards is rounded down to 6% and 6.5% and upwards is rounded up to 7%. However, to aid readers in interpreting the data there are some occasions (and in our tables) where we elect to round percentages up or down to one decimal place in order to properly convey subtle differences in results.

The majority of the one-to-one interviews with participants were conducted online using a platform such as Zoom or Teams. This allowed us to reach seafarers across the globe, ashore on vacation (more usually) and at sea (sometimes). Face-to-face interviews were occasionally conducted at seafarers' centres. In total 97 cruise and 98 cargo interviews were recorded online and 3 cruise and 3 cargo interviews were recorded face-to-face at seafarers' centres.

We also made use of internet-facilitated, semi structured, recorded interviews with a small number of industry stakeholders. We carried out 4 interviews with cargo employers, 4 interviews with cruise employers and a further 6 with medical professionals and other stakeholders.

The research took place with oversight from the Cardiff University, School of Social Sciences, Ethics Committee. Having obtained informed consent, all interviews were recorded and transcribed. Transcripts were subsequently thematically coded using NVivo software. The results are presented anonymously, and individual companies and ships are not identified in our reporting.

Throughout this report we make comparisons between the results of our cruise sector questionnaire and those for the cargo sector. The full findings from the cargo sector questionnaire and interviews can be found in our report '*The Health and Wellbeing of Seafarers Working Onboard Cargo Ships in 2023-2024*' (Sampson et al 2025). In this report it is only the notable, headline, comparisons between the two sectors that we discuss.

In relation to our choice of questions, we have taken a holistic approach to health and wellbeing incorporating questions about diet, smoking, alcohol consumption, fatigue, and stress. We have additionally asked about common minor medical conditions and ailments, as well as self-medication practices. In selecting which conditions to enquire about we have taken into account the academic literature relating to seafarers' health as well as the requirement for seafarers to have pre-employment medical examinations (PEME) which generally exclude seafarers with serious ongoing health conditions/risks,

expected count of less than five. Where the percentage of cells with counts of less than five exceeds 20%, statistical significance is not reported.

and also those who are morbidly obese³, from the labour market. As a result, we have omitted specific questions or pre-coded responses pertaining to serious medical conditions and high Body Mass Index (BMI)⁴. However, the questionnaire did incorporate a number of opportunities for free text and ‘other’ answers, and we are confident that seafarers had ample opportunity to offer responses that were not predetermined by the questionnaire design.

Participant profile

The 2024 cruise questionnaire sample

Most questionnaire respondents were men (72.5% of the total). The smaller proportion of women in the sample (27.5%) is a reflection of the lower numbers of women seafarers employed in the global cruise shipping fleet which is estimated to stand at about 20% overall <https://cruise.jobs/opportunities-for-women-in-the-cruise-industry/> (accessed 13/2/25) . In total, respondents represented 44 different nationalities. This reflects the diverse recruitment practices of ship operators. The three largest nationality groups constituted almost three quarters of the sample (74%). This group was predominantly Filipino (48% of total sample), 14% of the sample were Indonesian and 11% were Indian. The mean age of respondents was 34.4623 (about 3 years younger than our cargo sample) with the youngest participant aged 19 and the oldest aged 60⁵. Across the sample, respondents most commonly reported (in 39% of cases) that their last completed contract was 7-8 months long. Twenty percent of cruise workers who completed the questionnaire had worked for 9 months on their last completed contract and 14% reported working for 6-7 months. The average cargo sector contract was slightly longer (4.722 months) than the average cruise sector contract (4.411 months).

Cruise companies employ seafarers in a variety of functions and across different departments. For the purposes of this research, we have grouped cruise seafarers by rank (senior manager, junior manager, semi-skilled/clerical and manual) and department differentiating between those who work in the marine section of the cruise vessel (deck and engine) and those who work in different non-marine functions (such as

³ https://www.american-club.com/files/files/PEME_Guidance_on_Standards_2017.pdf (accessed 12/3/25) <https://www.ukpandi.com/news-and-resources/news/article/crew-health-advice-obesity/#:~:text=An%20accurate%20clinical%20assessment%20is,unable%20to%20go%20to%20sea.> (accessed 12/3/25)

⁴ For example, we have not specifically asked about cancer or cardiovascular disease.

⁵ The youngest respondent was a male British dancer and the oldest was a Filipina working in the hotel department as a supervisor

hotel services⁶, catering⁷, entertainment, beauty/spa⁸ and other⁹. Seafarers on cargo ships are subdivided by rank (senior officers, junior officers, ratings) and department ('deck', 'engine' and 'galley' workers) in our analysis of cargo ships. These subdivisions are not applied to 'marine workers' on cruise vessels where they constitute a very small proportion of the overall workforce (on cargo ships they constitute the entire workforce) meaning that such subdivision would result in groupings that were too small for analysis purposes. As noted above, on board cargo vessels all personnel are ranked according to the occupational hierarchy of senior officers, junior officers and ratings. On cruise vessels, seafarers across all functions are ranked in the occupational hierarchy of senior management, junior management, clerical, semi-skilled and manual (see Appendix Two for details). Most respondents fell into the 'manual work' bracket (n = 655), followed by clerical/semi-skilled (n= 236) followed by junior management (n= 113) and senior management (n=52). In very broad terms this is what we might expect to see in any organisation with workers outnumbering managers by a considerable margin.

The 2024 cargo questionnaire sample

Most cargo questionnaire respondents were men (97% of the total). The small proportion of women in the sample (3%) is a reflection of the low numbers of women seafarers employed in the global cargo shipping fleet which BIMCO/ICS (2021) estimates to stand at 1% overall. In total, seafarers represented 47 different nationalities (see Appendix One). This reflects the diverse recruitment practices of ship operators (Sampson 2013). The three largest nationality groups (Filipino, Chinese, Indian), nevertheless, constituted almost three quarters of the sample (74%). This group was predominantly Filipino (57% of total sample). Nine percent of the sample were Chinese, and 8% were Indian. The mean age of respondents was 37 with the two youngest participants aged 18 and two the oldest aged 74¹⁰. Just under a third of respondents (31%) worked on board a bulk carrier or stated that their last ship was a bulk carrier (for those who were on vacation when completing the questionnaire). Twenty six percent gave their last or current ship as a tanker and 26% said they were working on, or last worked on, a container vessel. The remainder worked on a variety of ship types including gas carriers, car carriers, refrigerated cargo ships (reefers), passenger/cargo vessels, ro-ro vessels and a diverse range of ships such as nuclear waste carriers, cable layers, pipe layers, survey vessels and so forth.

⁶ Serving rooms/laundry

⁷ Kitchen, galley, restaurant, bar, cafe

⁸ Hair/nails/massage etc

⁹ Other includes retail, porter/concierge/security, sports and others

¹⁰ One 18-year-old was a male engine cadet, and the other was an Indian male messman. At the other end of the age scale, one 74-year-old was a Korean male captain working on a bulk carrier and the other was a male chief engineer from Montenegro who was working on a container ship.

The 2024 cargo sample was composed of 24% senior officers, 29% junior officers and 47% ratings. Just over half (54%) of respondents in 2024, worked in the deck department, 35% worked in the engine department and 11% worked in the galley.

Cruise Interviewee demographics

As was the case with the cruise questionnaire respondents, the majority of our cruise interviewees were male. Sixty-four participants were male and thirty-six were female. There was an uneven split between managers, and non-managers. Eighteen percent held roles in senior management, 17% held junior management roles, 29% worked in clerical/semi-skilled jobs and 35% were manual workers. Seafarers working in the catering department predominated (48) with 17 in hotel services, 11 in entertainment, 7 in the marine (deck or engine) department, 6 in security/concierge, 1 in beauty/spa, and 6 in 'other' categories. Our interviewees were predominantly Filipino (96) but they also came from Romania (1), Sweden (1), UK (1) and Vietnam (1).

Cargo interviewee demographics

As was the case with the cargo questionnaire respondents, our cargo interviewees were overwhelmingly male. Ninety-five participants were male and six were female. There was a relatively even split between senior officers (27), junior officers (34) and ratings (39)¹¹. However, seafarers working in the deck department predominated (65) with 26 engineers and 10 galley crew taking part. Interviewees were mostly working on bulk carriers (45), tankers (33) and container ships (13). However, some also worked on car carriers (3), general cargo vessels (3) and assorted 'others' (4). Our interviewees were predominantly Filipino (84) but they also came from India (3) UK (3) Singapore (2) UAE (2) Bangladesh (1), Georgia (1), Jamaica (1), Pakistan (1), Poland (1), Spain (1), and Ukraine (1).

¹¹ One rank of 'observer' could not be classified

Findings

Healthy and unhealthy behaviours at sea and at home

In the contemporary shipping industry heavy drinking is no longer the norm and, overall, seafarers report moderate alcohol consumption on board. Smoking remains relatively high compared with the UK adult population¹² and with EU citizens aged 15 plus¹³. In terms of food, the proportion of seafarers following a meat free diet seems to be broadly similar on cruise and cargo vessels, however, the consumption of fried food is higher among cruise sector workers than cargo seafarers. The consumption of fresh fruit and vegetables was negatively impacted by supply issues on cargo ships and by a perception of being given over ripe fruit and vegetables left over from passengers on cruise vessels.

Alcohol consumption

Drinking alcohol on board, was far more prevalent on cruise vessels than on cargo ships (see Table One). Seafarers working on cargo ships were much more likely to state that they ‘never’ drank alcohol on board (60%) than their counterparts working in the cruise sector (36%). This difference was statistically significant ($p < 0.001$, large effect). Cruise sector seafarers who drank alcohol **at sea** usually drank once (30%) or twice (21%) a week. Less than one percent of respondents working in the cruise sector drank alcohol every day while they were working on board. At home seafarers reported the reverse pattern of consumption ($p < 0.001$, medium/large effect). Fewer seafarers working in the cargo sector (34%) stated that they never drank alcohol **at home** than in the cruise sector (44%). Cruise seafarers who drank alcohol at home normally drank it just once a week (44%) and this pattern was the same for cargo sector workers (40%).

¹² The UK Annual Population Survey (APS) suggested that 11.9% of adults smoked cigarettes in 2023 [https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/adultsmokinghabitsingreatbritain/2023#:~:text=The%20Annual%20Population%20Survey%20\(APS\)%20gives%20headline%20indicators%20on%20the,Scotland%20was%2013.5%25](https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/adultsmokinghabitsingreatbritain/2023#:~:text=The%20Annual%20Population%20Survey%20(APS)%20gives%20headline%20indicators%20on%20the,Scotland%20was%2013.5%25) (accessed 2/4/25).

¹³ The EU average for daily smokers was 18.4% of people aged over 15 [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tobacco_consumption_statistics#:~:text=In%202019%2C%2018.4%20%25%20of%20people,Bulgaria%20\(see%20Table%201\).](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tobacco_consumption_statistics#:~:text=In%202019%2C%2018.4%20%25%20of%20people,Bulgaria%20(see%20Table%201).)

Table One: Alcohol consumption on cargo and cruise vessels, at sea and at home

Alcohol consumption	Cargo		Cruise	
	At Sea	At home	At Sea	At home
Never	60.1%	33.8%	35.8%	44.2%
Once a week	29.5%	40.1%	29.7%	43.5%
Twice a week	5.6%	13%	20.9%	6%
Three times a week	2.3%	7.3%	8.9%	3%
Four times a week	0.4%	2.7%	3.2%	1.5%
Five times a week	0.4%	1.1%	0.6%	1%
Six times a week	0.5%	0.4%	0.2%	0.4%
Every day	1.1%	1.6%	0.8%	0.4%

Unlike cargo ships, cruise ships do not usually ban seafarers from consuming alcohol on board. On the contrary, we were told that sometimes alcohol was used by managers in the cruise sector to reward seafarers and we were told of ‘appreciation dinners’ when free alcohol was served with food and the costs were covered by donations to the crew welfare fund from happy clients. However, our interviewees also told us that many companies have limits on the quantity of alcohol that seafarers are allowed to consume and that they enforce these with breathalyser tests. A seafarer explained that:

We also have a crew bar here if you want to relax but we have a maximum tolerance about the liquor. We are zero tolerance in drugs. We are allowed [alcohol] but don’t drink too much. If someone will see you [drunk] they will do breath analyser and then they will send you home. (Hotel department)

Others gave very similar accounts. One explained:

There is an alcohol limit according to the policy of the company. But you know, internally, that would not be really checked [...] so as long as the security cannot see you as swaying like a drunk in the gangway [...] You can go all out as long as you don’t make trouble and you are not drunk. If they see you swaying, then that is breathalyser automatically. If there is high alcohol content, then you go home the next day. (Catering department)

Limits varied from company to company but could be in the region of one or two cans of beer per day. One seafarer explained how his company had introduced limits to curb excessive drinking on board and disruptions to work. He described how seafarers could have:

...only two cans of beer every day. You can’t go over that limit. I heard that before they were allowing more than that, but there had been cases when the crew failed to show up for work. So, they put a limit to what we could drink. (Catering department)

Despite the limits imposed on cruise vessel workers, however, interviewees also revealed that ‘some heavy drinking’ went on whilst they were on board. One seafarer told us how he observed his own limits although he suspected that his idea of limited alcohol intake did not conform with the company’s idea of appropriate limits. He described how:

I used to be a heavy drinker. I finished like 12, 16 bottles of alcohol on one drink, on one sitting. But now, I always limit myself to just four. Three to four, and then I'm out. I'm gonna say bye, goodbye to everyone. So, three to four bottles, yeah. That's still okay. Just three to four bottles. Yeah, that's... Honestly, I'm not sure if I'm gonna pass the alcohol test, but that four bottles is not gonna make me fall over (Entertainment department)

Another described narrowly escaping being sent home after getting drunk at a farewell party. His colleague in the same department was not so fortunate. He described how:

We were together in the room. We were on a farewell night. We drank. We got off at 2 or 3 in the morning. We were drunk. Then we were invited to a cabin, and he was still in the room with us. When I was invited to the room, I escaped and went to bed. The next day he was late at work, he was drunk. I didn't tell them that he was drunk. When we were checked, our numbers were high – he was 2.5, I was 1.5. They let us sleep and I was fine after that, but he still got a high number. My boss said he could save me but not the pastry chef. I was very thankful. (Catering department)

Smoking

Around a quarter of cruise respondents (24%) stated that they smoked cigarettes. This was very close to the proportion of cargo ship seafarers who reported smoking (27%) and the difference between the two groups was not statistically significant. Managers were more likely to smoke cigarettes than other ranks ($p = 0.003$, small/medium effect) with junior managers most likely to smoke (36%), followed by senior managers (31%), manual workers (24%) and clerical/semi-skilled workers (18%). Men (29%) were significantly more likely to smoke than women (11%) ($p < 0.001$, small/medium effect) and smoking was also more common among workers in some departments than others ($p = 0.004$, medium effect). Workers in the entertainment department were the most likely to smoke (32%) but they were very closely followed by those in the marine (i.e., deck and engine) department (31%) with catering (24%), hotel services (19%) and beauty (15%) smoking less.

Not only did smoking prevalence vary significantly between cruise and cargo sector workers but cigarette consumption also varied ($p < 0.001$, Cohen’s d medium effect). On average, cruise sector workers smoked fewer manufactured cigarettes per day (5.76)

than cargo sector workers (mean = 8.19). Differences in mean daily consumption of hand-rolled were not significant (cargo 4.25 per day, cruise 3.79 per day).

The smoking of cigars and pipes was relatively unusual across both cargo and cruise sector populations of seafarers. However, cruise sector workers (2%) were slightly less likely to smoke cigars or pipes than cargo sector seafarers (5%)¹⁴.

Vape use was also similar in both sectors with slightly more cruise sector workers vaping (15%) than cargo sector seafarers (13%). Younger cruise workers were more likely to use vapes than older colleagues ($p = 0.002$ small/medium effect) and men (17%) were more likely to vape than women (10%) ($p = 0.003$, small effect). Clerical and semi-skilled workers were most likely to vape (19%), followed by manual workers (16%), senior management (14%) and junior managers (7%). The differences were statistically significant ($p = 0.040$, small effect). The health impact of vapes is yet to be determined but this is an area where concerns have been raised (see for example [Vaping \(E-Cigarettes\): What It Is, Side Effects & Dangers](#) accessed 25/3/25).

Dietary habits and preferences.

In line with a paradigm shift in thinking about vegetarian diets and health (Sabaté 2003) and a move towards an understanding of the health benefits of plant-based diets (Leitzmann 2005) we asked cruise and cargo ship seafarers whether they were vegetarian or vegan in 2025. We found a very marginal difference in the proportions of vegetarian and vegan cruise (10.5% combined vegan and vegetarian) and cargo (11.1% combined vegan and vegetarian) ship workers. Such an insignificant difference was a little surprising given that the cruise worker population is much more diverse at the level of gender (Rosenfeld 2020) and occupation than the cargo sector seafarer population. However, the cruise data indicate that pre-conceived ideas about variations in vegetarianism/veganism across gender would be incorrect, at least for this sector, as we did not find such differences in our sample.

A reduction in the consumption of fried food is also widely considered to benefit overall health (Djousse, et al., 2015; Cahill, et al., 2014; Qi, et al., 2014). While they are **on board** more respondents from the cruise sector stated that they ate fried food ‘most days’ (48%) or ‘every day’ (14%) than from the cargo sector. Thirty-five percent of seafarers in the cargo sector reported eating fried food ‘most days’ with 12% reporting eating fried food ‘every day’. The difference in the consumption of fried food among cruise and cargo seafarers at sea was significant ($p < 0.001$, medium effect). At sea, on cruise vessels, men were likely to eat fried food less frequently than women. Two percent of male cruise workers stated that they never ate fried food at sea compared with 1% of women cruise workers. Conversely, higher proportions of women (15%)

¹⁴ Small numbers meant that significance could not be assessed

reported eating fried food every day at sea, compared to 14% of men. These differences were significant ($p = 0.003$, medium effect).

The same pattern was observed in relation to the consumption of fried food **at home** (see Table Two). Cruise ship seafarers again reported higher levels of fried food consumption than seafarers on cargo ships. At home 41% of cruise workers ate fried food ‘most days’ or ‘every day’ compared with 23% of cargo sector seafarers ($p < 0.001$, large effect). Men were more likely to report ‘never’ eating fried food at home (5%) than women (3%) while 9% of female seafarers ate fried food every day compared to 8% of male cruise workers ($p = 0.035$, small/medium effect). Younger cruise ship workers ate fried food more frequently at home than older seafarers. Four percent of under 46-year-olds never ate fried food at home compared with 6% of cruise workers who were aged 46 plus. Conversely, 9% of seafarers aged 35 years old and less ate fried food every day at home compared with 6% of seafarers aged 36 plus. The age differences were significant ($p < 0.001$, medium effect).

Table Two: Fried food consumption on cargo and cruise vessels, at sea and at home

Consumption of fried food	Cargo		Cruise	
	At Sea	At home	At Sea	At home
Never	2.3%	7.6%	2%	4%
Less than once a week	16.2%	24.9%	10.4%	11.9%
Once or twice a week	35.1%	44.7%	25.4%	43.1%
Most days (3-6 times a week)	34.6%	20%	48.2%	32.8%
Every day	11.7%	2.9%	13.9%	8.1%

Despite having regular supplies of fresh produce as a result of frequent port-calls and a need to provide top-quality cuisine to passengers, cruise personnel were more likely than cargo seafarers to believe that their diet at home was healthier than on board. Eighty-seven percent of cruise ship seafarers felt that their diet at home was more, or equally as healthy, as at sea. This compared with fewer cargo sector seafarers (85%). The percentage difference was relatively small, but the result was statistically significant ($p = 0.013$, small effect).

Our interviews shed some light on why cruise sector workers were not happier with the healthiness of their diet on board. Often it was because they were unable to eat food that they would be used to eating at home. This also applies on board cargo vessels but with fewer nationalities to cater for, cooks on cargo ships can cater more closely to seafarers’ usual diet. One cruise worker described how he found it difficult to adapt to the food on his vessel. He explained:

Sometimes it's good but mostly it's not good because of the different palate of the group of members. So yeah. [...] For example, this ship as a majority is

Indonesia. So mostly they cater Indonesian foods. So basically, I think for me, if I have to complain, it's about the food, the quality of the food. [...] I mean, you cannot eat curry for the whole month, right? Yeah. So types of food is... You cannot eat spicy food every day. (Entertainment department)

This kind of comment was echoed by many other cruise workers who felt that in attempting to cater for such varied tastes, cooks often fell back on repetitive menus churning out the same meals on a regular basis. A seafarer explained that maintaining a healthy diet on board was challenging. She said:

Actually that (healthy eating on board) is challenging, I think whether it's small ship or big ship, they're providing food that can feed different nationalities because they're trying to provide food like, which is suitable for Filipino, for Indonesian, for European. So sometimes it's challenging ma'am, sometimes it's just the same food all over again. It's not something that can be eaten. And the selections of food you cannot choose. What they can provide then that is what you can eat. But unless you have stocks like for example most Filipinos were bringing canned goods, canned goods, noodles.... (Catering department)

Where food was generally unattractive at mealtimes some seafarers resorted to unhealthy breaktime fare such as pastries and doughnuts. One seafarer explained:

We do have a coffee break as well, but it actually depends on the department. In my department we have a coffee break [...] it's scheduled but in other department their breaks are not in that time. So, our snacks here are like bread as well. Sweet. Sweet bread. Yeah, basically that's it. Donuts every day. That's just it. So, the variety, it also matters. There's not a lot of variety. The snacks are just like sweets. I guess that's how they call it. (Marine department)

Others focussed on the fatty and salty nature of much of the food that was served:

You see, our diet on board is saturated with fats, oily and salty and dishes are repetitive. Imagine, 19 years of eating the same food. (Hotel worker)

And some spelt out the health concerns that they felt that the diet on board contributed to. One told us that:

Then since you eat food which is heavily seasoned with salt, or there is too much fatty content. If you are working in the kitchen, you should be aware of that. But sometimes you can't avoid eating food with too much salt. Then you will have high level of uric acid. You will also have seafarers suffering from heart attack. (Catering worker)

While in a similar vein one interviewee felt that the shipboard diet might be particularly unsuitable for Filipino seafarers. He was a nurse so particularly aware of health problems experienced by crewmembers and he suggested that:

For me maybe, because for the Filipinos especially, because they [the cooks] are always cooking beef, which is red meat, fish sometimes, and salty. So it's high in uric acid. For the Filipino genes, red meat also of course, fish, and oily, all salty or high uric acid so majority of the crew member complaining of gout afterwards (Medic)

Seafarers also attributed problems to the low food budgets that were established on board. They told us that per person budgets were very low on cruise vessels due to the higher numbers of seafarers on board and the economies of scale that were sought. One told us that:

Seafarer: They also follow a certain budget for our food, so resources are limited. Let me tell you, the budget per seafarer is 1 USD for a three-day cruise.

Researcher: Really? On cargo ships it is maybe 8-10 USD per seafarer per day.

Seafarer: That is because they are very few [crew]. But if you have 1,500 crew members, imagine. So it is less than 1 dollar per day. (Catering worker)

Budget and tight purse strings were regularly commented on by cruise interviewees and these monetary concerns were seen to lead to mundane, repetitive, menus for seafarers and sometimes insufficient food on board as well. A seafarer described how:

The vegetables are always frozen - frozen veggies, carrots, and the peas that are mixed together. And then, for example, their hot meal, just small portions. And the variety is not that a lot. There are cruise lines where you can really see they have tight purse when it comes to food for the crew. (HR manager)

There were also indications that the contrast between the lavish fare served up for guests and the food choices available to seafarers led to general discontentment on board. One seafarer described how:

The problem really is, there are limits to what can be had by the crew because guests are the priority. Food is not a top priority for the crew. There is a programmed meal everyday, same dishes. Hopefully they would also provide us with guest-quality food on board, for the crew. Not their usual practice of giving us the left-over food of guests. (Catering worker)

Returning to our questionnaire responses, we asked seafarers to describe how strongly they agreed or disagreed with the statement that 'I can eat as much fruit and vegetables as I want'. Seafarers on cruise vessels were much more likely to agree with this statement than seafarers on cargo ships. Eighty percent of cruise workers agreed that they could eat as much fruit and vegetables as they wanted compared with only 67% on cargo vessels ($p < 0.001$, large effect). Despite this overall perception, cruise workers felt very conscious of the ways in which they were provided with spoiled fruit and vegetables that were left over from passenger cabins or had become too ripe. They were

aware that passengers always had priority in terms of access to fresh fruit and good quality vegetables. One described how:

As long as there are stocks, we can eat them. Once they are gone, they are gone. You can't expect that they are available all the time. For example, if it is a long cruise, the priority is passengers, so they get to have the first crack on fresh fruits and vegetables. (Hotel worker)

Another described how:

Sometimes in fact, the leftovers were over-ripe, and you have no choice but to eat them because you wanted to eat fruits. Maybe the company is saving money, they just give the crew what is left unconsumed by passengers. But there are also times when you can eat decent proper fruits. But most of the time, fresh expensive fruits are not made available to the crew at once. The crew have to wait until the passengers are done with them, what is left, then that is for the crew to enjoy. (Hotel worker)

Others echoed this time and again. A member of staff in catering almost made it seem as though the crew were treated as a convenient waste disposal unit. He said:

As you can expect, the passengers are the priority. For example, with fruits, like bananas. They will be included in the buffet, all the fine ripe bananas. No banana will be made available in the crew mess, unless all these bananas are over-ripe then then they will find their way to the crew mess. The same with apples, and other fruits. Then you have yoghurts that are nearing expiration. So, all the fruits and more, once they are not in a very good condition, they will be brought to the crew mess. Then all these biscuits, nearing expiration, they will be made available to the crew. So, when you go to the crew mess, there are new products available for the crew to consume, new to our eyes, things that are due to expire. (Catering worker)

Overall, cruise ship workers did not seem to enjoy a healthier lifestyle than their cargo ship counterparts, at least in relation to the areas that we considered. This is counterintuitive given that cruise vessels call into ports frequently and carry plentiful supplies of fresh fruit and vegetables for their passengers. Seafarers on board cruise ships work in larger crews where friendships may be struck more readily than seafarers who work in cargo vessels in very small crews. As a result, the social environment should be more akin to the environment which is found ashore for cruise seafarers, given the diverse groups of workers and passengers on board. Despite these factors that might be expected to support healthier eating and living practices on board, more seafarers on cruise ships reported consuming alcohol than in the cargo sector. Smoking was equally prevalent among cruise and cargo crews, but cruise seafarers reported eating more fried food than their cargo vessel counterparts. They complained that the

food on board many cruise vessels was fatty and salty, and they often regarded this as being because cooks catered for other nationalities on board. The large number of crewmembers on board cruise ships might have been expected to produce a greater variety of food than found on board cargo ships but instead the effect of mass catering appeared to be that seafarers felt that their personal and national preferences could not be expressed or met. There was a sense in the accounts given to us by interviewees, that cruise seafarers felt more like a very small fish in a large pond, when it came to catering on board, than their cargo counterparts. They did not have the relationship with cooks that seafarers on board cargo ships had and as a result they felt that they had no way of having their particular preferences met. Budgets were reported by interviewees to be lower on cruise ships than on most cargo ships, on a per diem basis, and there was a strong feeling among crew that they were given the leftovers from the passenger provisions once these were no longer fit for client consumption. This practice is unlikely to encourage fruit and vegetable consumption among some seafarers.

Sleep quality, sleep quantity and fatigue at sea

Our findings on sleep and fatigue need to be considered in the context of the length of time that seafarers are contracted to spend on board. Prolonged periods of fatigue have the potential to take a cat toll on seafarers' health (Lock et al 2018). In this research we asked seafarers how many months they had spent on board for their last complete contract and whether this was more or less than their contract stated plus/minus one month. In 2024, the mean length of time for cargo respondents to have served on their last complete contract was 7.2674 months. For cruise sector workers the mean length of time served on their last complete contract was higher at 7.5515 months. The difference is only weakly significant ($p = 0.002$, no effect).

As with interviewees in the cargo sector, cruise sector workers described the cumulative toll of long working hours during long contracts. One explained:

As you know, we don't have any day off. Every day is Monday for us. So even if your entire body aches, you have no choice but to go to work. (Hotel worker)

Another described how:

I come to work at 5 am. So I work for 12-14 hours a day. That is my routine on board, my minimum number of hours. As you very well know, there is no day off on board. So my work starts at 6 am, but I usually go to work at 5 am, and then I clock out at 2 pm. And if I am lucky, I finish my work at 3 pm. Then I return to work at 4 pm. Then I finish work at 10 pm, sometimes 12. (Catering manager)

When asked about how long they had slept in the previous 48 hours, cruise sector workers were less likely than cargo sector workers to have had 16 hours sleep or more (see Table Three). Only 11% of cruise sector workers had had 16 hours sleep or more (i.e. an average of 8 per 24 hours) compared with 28% of cargo workers. The differences

in the number of hours slept in the previous 48 hours were significant ($p < 0.001$, large effect). Conversely when asked about hours worked in the previous 48 hours cruise seafarers were much more likely than cargo sector workers to have worked for 16 hours plus. Ninety percent of cruise sector workers had worked for 16 hours or more in the previous 48 hours compared with fewer cargo sector workers (72%).

Table Three: Hours slept and worked in the last 48 hours cargo and cruise

Hours worked	Cargo		Cruise	
	Hours slept	Hours worked	Hours slept	Hours worked
0 to 5 hours	3.1%	0.9%	0.7%	0%
6 to 10 hours	26.9%	12.2%	34.7%	4.7%
11 to 15 hours	41.5%	15%	53.2%	5.2%
16 to 20 hours	22.3%	54.3%	9.8%	41.4%
21 to 25 hours	5.1%	15.9%	1.4%	47.9%
More than 25 hours	1%	1.7%	0.2%	0.7%

We found that hours worked (in the previous 48 hours) varied considerably with department on board cruise vessels ($p < 0.001$, large effect). Catering and hotel staff were much more likely to have worked long hours over the previous 48 hours. Sixty-six percent of catering staff stated that they had worked 21 hours or more in the previous 48 hours with 62% of hotel staff stating the same thing. They were followed by staff in the beauty department (42%) staff in the marine department (30%) and lastly staff in entertainment (27%) who were the least likely to report working for more than 21 hours in the last 48.

Rank and nationality also had a significant impact on hours worked in the previous 48 ($p < 0.001$, medium effect). Senior managers were the most likely to have worked for 21 hours plus in the last 48 hours. Sixty-four percent of senior managers stated that they had worked 21 hours or more in the previous 48 hours, followed by manual workers (55%), clerical/semi-skilled workers (38%) and junior managers (28%). In relation to nationality, 'other' nationalities were the most likely to have worked 21 hours plus in the previous 48 hours. They were followed by Indians (57%), Indonesians (51%), Filipinos (41%), and European/Russians (35%).

Cruise seafarers were more likely than cargo respondents to feel that they had not had enough sleep in the previous 48 hours. Forty-four percent of cruise sector workers felt that they had not had enough sleep in the previous 48 hours compared with 36% of cargo respondents. Some of them described how exhausting their work was and particularly at certain times during the voyage cycle such as the day when passengers disembarked, and new clients arrived. One described how:

We are so tired, during embarkation day, when new passengers get on board, and other passengers disembarked. When new passengers are coming on board, you are hard pressed to finish the cleaning of cabins fast. For example, you are assigned 10 cabins, that means you have to finish them all before the new passengers arrive, usually all cleaning should be done before 2 pm. Then when they are on board, you need to introduce yourself to them, then the amenities in the room, and also the amenities on board. It is really tiring, I tell you. Sometimes you feel like crying because you feel exhausted to the bone. (Hotel worker)

Significant differences ($p < 0.001$, large effect) once again emerged in relation to department and seafarers working in hotel (55%) and catering (53%) were the most likely to feel that they had not had enough sleep in the previous 48 hours. They were followed by those working in the entertainment department (48%), those working in beauty (42%) and finally those working in marine (30%). However, work was not the only reason that cruise sector workers gave for feeling that they had not had sufficient sleep in the last 48 hours, and cruise sector workers were less likely to say that they had not slept due to work (28%) than cargo sector workers (61%). Remarkably similar proportions of cruise (24%) and cargo (25%) sector workers stated that they had gone to bed but been unable to sleep and a similarly small proportion stated that they had been playing computer games (Cruise 3%, Cargo 1%). However, much larger differences emerged in the proportions of respondents who said that they had not had sufficient sleep due to their need to communicate with family/home and due to socialising with shipmates. On cargo vessels 10% of respondents said that lack of sleep was due to communicating with family/home compared with 23% of cruise sector workers and the differences were even greater when it came to socialising with shipmates. Only 1% of cargo respondents stated that they lacked sleep due to having socialised with crewmates on board. In the cruise sector the proportion was much higher at 20%. However, marine workers on cruise vessels, like their counterparts on cargo ships, were far much less likely than crew in other departments to lack sleep due to socialising on board and only 3% ticked this response. At the other end of the scale, cruise workers in the beauty department (50%) and entertainment department (49%) were much more likely to lack sleep due to socialising with other colleagues on board. Fifteen percent of catering and of hotel staff stated that they had not had enough sleep because of socialising on board in the previous 48 hours. The differences between the reasons why cruise seafarers had not had enough sleep and the reasons why cargo seafarers had not had enough sleep in the previous 48 hours were statistically significant ($p < 0.001$, very large effect).

In addition to asking seafarers to specifically identify the reason they had not had enough sleep in the previous 48 hours, we also asked those who felt that they **generally** didn't get enough sleep on board, to state why this was. They were invited to tick as many reasons as they believed applied (see Table Four). Over half of cruise sector

workers (52%) ticked that they did not generally get enough sleep because of the number of **hours** that they worked compared with a slightly smaller proportion of cargo seafarers (44%). This difference was weakly significant ($p=0.004$, no effect). Cruise sector workers were also more likely to state that they generally didn't get enough sleep because of their work, or shift, **patterns** than cargo sector respondents. Forty-three percent of cruise workers indicated this as compared to 32% of cargo sector workers ($p<0.001$, small effect).

Table Four: reasons for not generally getting enough sleep, cruise and cargo (multiple responses allowed)

Reason for not generally getting enough sleep	Cargo	Cruise
Working hours (number worked)	43.8%	52.3%
Work patterns (shift)	31.8%	42.8%
Port duties	36.6%	13.2%
Ship's movement	37.6%	10.5%
Noise	23.6%	16.2%
Disturbed by roommates	3%	17.4%
Cabin is too light	2.4%	2.7%
Cabin is too hot or cold	9.3%	11.5%
Mattress uncomfortable	10.2%	5.4%
Day bed uncomfortable	3.5%	3.5%
General worry and anxiety	9.9%	9.5%
Work-related worry and anxiety	23.9%	16%
Homesickness	21.7%	27.5%

It is far more likely that cruise sector seafarers will be expected to share cabins with other workers than seafarers on cargo ships. On cargo vessels a minority of seafarers (just 7%) shared a cabin compared with the vast majority of seafarers on cruise vessels. Eighty-four percent of cruise sector workers reported sharing a cabin and the difference between the experience of the two groups with regard to cabin sharing was statistically significant ($p<0.001$, large effect). In this context, it is relatively easy to understand why cruise ship workers were significantly more likely to indicate that they didn't generally get enough sleep because they were disturbed by noise from cabin mates than cargo sector workers ($p<0.001$, medium effect). Seventeen percent of cruise workers felt that noise from cabin mates was a reason for not generally getting enough sleep compared with just 3% of cargo workers. Cruise workers were also slightly more likely to be generally disturbed by feelings of homesickness during their sleep hours. Twenty-eight percent of cruise seafarers gave missing their family as a reason for not generally getting enough sleep compared with 22% of cargo seafarers ($p=0.025$, no effect).

Conversely, cargo workers were more likely than cruise sector workers to state that they did not generally get enough sleep because their mattress was uncomfortable (cargo

10%, cruise 5%, $p = 0.004$, no effect). They were more likely than cruise workers to state that they didn't generally get enough sleep because of work-related worry and anxiety (cargo 24%, cruise 16%, $p < 0.001$, small effect), and because they were disturbed by vessel movement and noise. Thirty-eight percent of cargo seafarers found their sleep was disturbed by vessel movement compared with just 11% of cruise workers ($p < 0.001$, large effect) and 24% of cargo seafarers were disturbed by noise compared with 16% of cruise workers ($p = 0.002$, small effect). Cargo sector workers were also significantly more likely to generally lack sleep because of their port duties ($p < 0.001$, medium effect). Thirty-seven percent of cargo sector workers found that port duties prevented them from generally getting enough sleep compared with just 13% of cruise sector workers.

Among the various 'other' reasons given by seafarers for not generally getting enough sleep several notable differences stood out. Several cruise seafarers gave social activity as a reason for not getting enough sleep whereas this did not appear at all as a reason why cargo sector workers generally didn't get enough sleep. On the other hand cargo seafarers mentioned being required to adjust to changing time zones ('flogging the clock') as a reason for not generally getting enough sleep. Time zone changes have previously been noted to be of significance in creating fatigue on board (Sampson 2024) and this seems a broadly under-considered factor.

Rank had an impact on working hours being a reason for getting insufficient sleep on cruise vessels ($p = 0.038$, medium effect). Senior managers were the most likely to indicate that working hours prevented them from generally getting enough sleep. Seventy-one percent of senior managers gave this as a reason for inadequate sleep followed by manual workers (54%), junior managers (48%) and clerical/semi-skilled workers (42%). Conversely managers were the least likely group to state that they generally don't get enough sleep because of homesickness. Just 4% of managers gave this as a reason for sleeplessness compared with 30% of manual workers, 25% of clerical/semi-skilled workers, and 21% of junior managers.

As with the reasons given for not getting enough sleep in the previous 48 hours, we found that respondents from different departments had different experiences of the impact of working hours and working patterns on their ability to generally get enough sleep. Catering (62%) and hotel (60%) respondents were the most likely to indicate that working hours generally interfered with sleep. They were followed by marine (43%), entertainment (37%) and lastly beauty (16%) workers ($p < 0.001$, very large effect). Departmental differences were also apparent when we considered seafarers who felt that they generally didn't get enough sleep because of shift work and work patterns ($p < 0.001$, very large effect). In this case, however, it was seafarers in the marine department who were most likely to indicate that they generally didn't get enough sleep because of shift working. Sixty-seven percent of marine workers stated shift work and

work patterns as a reason for generally getting insufficient sleep. They were followed by catering workers (52%), hotel services (25%), entertainment (16%) and beauty workers (12%).

Work-related anxiety and worry were also found to disturb the sleep of cruise seafarers working in some departments more than others. In this instance, it was entertainment staff who were most likely to be kept awake by worries about their work. Thirty-eight percent of staff working in the entertainment section of the ship stated that they generally didn't get enough sleep because of work related anxiety and worry. They were followed by 25% of marine staff, 15% of catering staff, 8% of hotel staff and just 4% of staff in the beauty department. These variations were statistically significant ($p < 0.001$, large effect).

Being disturbed by room mates also varied by department ($p = 0.036$, medium effect). In this case it was beauty workers who were most likely to be disturbed by cabin mates. Thirty-nine percent of beauty workers were disturbed by cabin mates, followed by 19% of staff in hotel services, 16% of catering staff, 13% of marine staff and 10% of staff in the entertainment department.

Finally, nationality also had an impact on the things which generally kept seafarers awake at night ($p < 0.001$, medium/large effect). Shift patterns and port duties were cited by some nationalities as more significant in keeping them awake than others. Shift patterns were found to be most disruptive to sleep by Indian (51%), Indonesian (50%), and Filipino (48%) cruise sector workers. Fewer European/Russian seafarers (39%) cited shift patterns as a cause of generally disturbed sleep, and they were followed by 26% of seafarers falling into our 'other' nationality group. Overall, shift patterns were more disruptive than port duties, but port duties also demonstrated differences according to nationality ($p < 0.001$, medium/large effect). Indonesian seafarers were most likely to indicate that they generally didn't get enough sleep because of port duties. Twenty-one percent of Indonesian seafarers stated that they didn't get enough sleep due to port duties followed by European/Russians (19%), Filipinos (16%), Indians (9%) and 'other' nationalities (3%).

In addition to sleep disturbance as a result of shifts and port duties, we also found variations between nationalities and what generally disturbed their sleep in relation to noise and homesickness. Filipino seafarers were the most likely nationality group to be generally disturbed by noise when trying to sleep. Twenty-one percent of Filipino seafarers were disturbed by noise followed by 'other' nationalities (16%), Indian cruise sector workers (15%), Europeans/Russians (13%) and Indonesians (6%). These differences were statistically significant ($p = 0.037$, medium effect). In terms of homesickness, it was our 'other' nationality group that was most likely to report being kept awake at night. Thirty-nine percent of seafarers falling into the 'other' nationality group who described generally not getting enough sleep stated that this was because

they were disturbed by homesickness. They were followed by 28% of Filipinos, 22% of Indians, 18% of Indonesians and 14% of European/Russians. The differences were statistically significant ($p = 0.002$, medium effect).

In order to calculate levels of fatigue we made use of a fatigue score that we had used in our earlier research on the cargo sector, and which had been used in an earlier fatigue study for the off-shore oil industry support sector (Smith et al 2001). This demonstrated that cruise sector workers were less likely than cargo sector workers to be scored as experiencing no fatigue. They were more likely to experience moderate levels of fatigue than cargo sector workers but they were less likely to be scored as experiencing severe fatigue (see Table Five). These differences between cruise and cargo sector workers were statistically significant ($p < 0.001$, small/medium effect).

Table Five: Fatigue scores for cruise and cargo sector workers in 2024

Fatigue level	Cargo	Cruise
None	8.3%	7%
Moderate	63.7%	76.6%
Severe	27.9%	16.5%

These responses indicated that there are several areas where improvements could be made by companies to improve the sleep quality of cruise sector workers. Sleep deprivation negatively impacts on seafarers just as it does on the general population (Akerstedt and Wright 2009, Chellappa et al 2021, Knutsson 2003, Morris et al 2016) and where companies are particularly poor at protecting seafarers from overwork and inadequate rest they gain a poor reputation among workers who may then avoid returning to their vessels. One seafarer described such a situation to us, explaining that:

Yes, there is this company, and they manage many ships, and we call their ships the slave ships. [...] On their ships, we had to work for at least 13 hours, that is mandatory. Many of us fell ill on board. In fact, many did not finish their contract, they resigned. Many of their ships were new, so they recruited from cargo ships and from other cruise companies. On one of their ships, there were 14 wipers. They were just cleaning tank tops, The ship was gleaming, it was new. But the working hours, 13-14 hours. So, my duty was from 12 midnight to 4 am. So I should go to sleep after that. But of course, I can't sleep at once. Then at 7:30 am, I need to be in the workshop. Imagine you are expected to be able to sleep between 4 am and 7:30 am. And by 7:30 you start working again. From 7:30 am to 5:30 or 6:00 pm, you are working. That's how harsh our working condition was. We only had very few hours of sleep. Many of us got sick because of lack of sleep and irregular mealtimes. (Marine worker)

Health and wellbeing

In this section of the report, we consider seafarers' mental health using the General Health Questionnaire (GHQ) to assess the prevalence of short-term anxiety and depression. We analyse responses to questions about seafarers' physical health and diagnosed health problems, about medication prescribed by a doctor and about 'over the counter' (not prescribed) supplements/medications used at sea and at home. We also discuss seafarers' experiences of sexual harassment and sexual and physical assault, which have the potential to impact strongly on seafarers' wellbeing.

The results of the GHQ demonstrated that there was a higher proportion of respondents with short-term anxiety and depression in our cruise sample than there was in our cargo sample. Twenty-nine percent of cruise workers were scored as displaying evidence of short-term anxiety and depression compared with 24% of cargo sector seafarers and this difference was weakly significant ($p = 0.014$, no effect).

As with cargo vessels, hierarchy was found to impact on short-term anxiety and depression, and as with cargo vessels it was the most senior seafarers who were the most strongly affected. Over half of the respondents (51%) in senior management roles on cruise vessels were scored with minor psychiatric disorders, this compared with manual workers (29%), junior managers (28%) and clerical and semi-skilled workers (24%). The differences were statistically significant ($p = 0.003$, small/medium effect).

Department also had an impact on short-term depression and anxiety scores. Again this was similar to the situation on cargo vessels where the department where seafarers worked was significant. On cruise vessels seafarers in the entertainment department had the highest scores for short-term anxiety and depression (37%). They were followed by seafarers in catering (34%), seafarers in hotel (33%) seafarers in the marine department (24%) and seafarers in beauty (20%). The differences were statistically significant ($p = 0.004$, medium effect).

At interview cruise workers indicated that they found some aspects of their work extremely stressful. This was often a result of customer expectations and the speed with which work had to be completed. Describing the days when new passengers arrived on board one seafarer explained that:

In our department, the most difficult part is during embarkation. That is when new passengers come on board. We need to work fast; in my case, I need to clean 43 cabins. Once the passengers are checked out, we have three hours to clean all the cabins because new passengers are coming. We need to be in a hurry. That is every week. That what really stresses me out. (Hotel worker)

The high expectations of passengers often led to complaints being levelled at cruise workers or about cruise workers to managers. One bar tender described how:

Not all passengers are kind. There are those who are demanding. Yes, they are demanding especially [specific nationality]. Although they are big-tippers, they are very demanding. They are too much of a complainer. It's just a simple thing. Sometimes your patience can run out. But the management don't like that. So you have to please the management. But of course, if you think of it, on the other side, they are the ones who are paying you, the passengers. So sometimes, you will be asked by the management. Why is it like that? Why did you do it again? (Catering worker)

Other accounts provided a similar insight into the tensions that could arise in trying and failing to please all passengers. An assistant waiter told us how language barriers could exacerbate such difficulties. He explained that:

I had to deal with passengers from different countries. Not all of them spoke English, and I had to deal with them on a regular basis. The language barrier was a source of stress. There were times when I could not understand them, like, what drinks they wanted. Of course, when they could not get what they wanted, they would make a complaint [...] that is very stressful. [...] This situation would be shared with others until it reaches the manager. Not all managers were understanding, some of them, especially the old ones, they were impatient. They would be asking questions like where did you get your training? Who recruited you? (Catering worker)

A head waiter described how not only were specific complaints stressful but the guest ratings at the end of each cruise could also cause anxiety and loss of sleep. He described how:

At the end of every cruise, we have this what they call guest rating. If your restaurant and staff get a low rating from guests, it is very stressful. So I am always checking on possible reasons, that is my priority. Now, if there is a major complaint, that really stresses me out. But I can handle stress. I talk to guests if there are problems, and I try to resolve them, if not, I could not get a proper sleep, I am stressed out. (Catering supervisor)

In other settings, such as the shipboard casino, stress associated with disgruntled passengers seems almost a given. As one casino manager explained

With the players, especially if they're losing a lot. Because the tendency that they will show, they are more [...] they are sometimes causing a trouble but not that much. So sometimes it is really stressful [...] Of course you need to take back the money. This kind of thing and it's very difficult sometimes to explain to them, oh my god, especially if they can hardly understand you because [...] they don't speak English at all. (Entertainment manager)

Others in senior roles also described the multiple problems of managing staff to try to ensure that the work done pleased exacting passengers, and even the captain. An executive chef told us that:

I have more than 300 staff, I need delegate work to them. I am focusing on critical issues which I think I am only able to deal with. The demands of the operation is overwhelming. I need to take care of 4,500 passengers and 1,300 crew. We need to do their breakfast, lunch and dinner, morning snack, afternoon snack and late-night snack. So, we are producing 21,000 meals every day. I am also in charge of requisition, I need to make a list in advance, so there are so many things to do. And you are motivated by – money. And you need to satisfy everyone on board, from passengers to the captain. If there is a problem with food, then it is the chef. The chef is the culprit. Imagine the stress! (Catering manager).

Managing staff in situations where work pressures were high, and staff felt over-worked was difficult for managers. One told us that:

It is managing staff which is stressful for me. I am dealing with people from different countries. Then when it is loading time. Everybody is busy and there is an assigned task for everyone. When I talk to my staff, maybe because they are too tired because of whole day at work, they make faces that I don't like. It is like they are telling me that they don't like more work, or instructions. (Catering junior manager)

Many of the stressors experienced by cruise workers are not present on cargo ships. However, pressures associated with periods of high intensity work are commonly experienced by both cruise and cargo sector workers and it appeared that some seafarers on cruise vessels shared a perception with their cargo counterparts that ports could bring additional work and scrutiny. One interviewee explained that:

Now, there is another pressure when we call into a US port. That's the time when every day we need to clean our workstation, and when I say clean, I mean really clean. That is because of the possibility of the US Public Health Inspector coming on board. The result of their inspection will determine whether the ship could continue sailing to the next port or not. They will find out whether the ship's cleanliness is up to their standard of public health. (Catering worker)

Despite the more socially vibrant environment on board cruise vessels it seemed that stress was a regular feature of the work of very many seafarers. Crew members described how meeting passenger demands, working 'flat out' on days when there were new passenger arrivals, working in multilingual settings and managing subordinates all impacted on their levels of stress. The holiday environment that had to be created on the ship was experienced by many cruise workers as an additional burden to be carried.

Before asking seafarers some specific questions about their medical diagnoses and medications/self-medications we asked a general question to assess their view of their own overall health. In this question, we asked seafarers to say how strongly they felt that a series of four statements about health reflected their own situation. Cargo seafarers had a strongly positive outlook when it came to their health and health prospects, but we found that among cruise seafarers the attitude was **even more positive**. Cruise workers were overwhelmingly of the view that they did not get ill more easily than most other people. Eighty-five percent of cruise workers disagreed with this view compared with 74% in the cargo sector ($p < 0.001$, small/medium effect). High proportions of cruise (82%) and cargo (81%) sector seafarers believed that they were as healthy as ‘anyone I know’ ($p = 0.34$, no effect). Looking ahead, cruise seafarers (70%) did not expect that their health was going to get worse compared with a smaller proportion of cargo (65%) seafarers ($p < 0.001$, small effect) and more cruise seafarers (92%) agreed that their health was ‘excellent’ than cargo seafarers (89%). This was a statistically significant difference ($p < 0.001$, small effect).

We asked seafarers whether they had been diagnosed with a small range of specific medical conditions by a doctor (see Table Six). Overall, there were only found to be small differences in the diagnosed conditions reported by cruise and cargo sector workers and where these existed cruise sector workers were usually the least likely to report diagnoses. In relation to high blood pressure, for example, there was a weakly significant difference ($p = 0.40$, no effect), with cruise sector seafarers (9%) less likely to report being diagnosed with high blood pressure than cargo sector seafarers (11%). High cholesterol was the most regularly diagnosed condition on our list for both cruise and cargo seafarers. High cholesterol had been diagnosed in relation to 11% of the cruise respondents and 12% of cargo seafarers (this difference was not statistically significant). A diagnosis of diabetes was uncommon among our respondents. Only 2% of cargo seafarers and 2% of cruise seafarers reported a diagnosis of diabetes. Asthma was another diagnosed condition where the results in both groups closely mirrored each other. In both sets of respondents, asthma had been diagnosed in 3% of cases. Post traumatic stress disorder had been diagnosed in less than 1% of cruise and cargo sector cases and vibration white finger was also rarely diagnosed and not significantly different in the cruise and cargo datasets, with fewer than 1% of seafarers reporting such a diagnosis.

Table Six: Medical conditions diagnosed by a doctor

Medical Diagnosis	Cargo	Cruise
High blood pressure	11.4%	8.8%
High cholesterol	12.1%	10.7%
Diabetes	2.3%	2.4%
Arthritis	4.2%	1.1%
Asthma	3.0%	3.2%
Depression	1.4%	0.3%
Anxiety	3.7%	1.3%
Post Traumatic Stress Disorder (PTSD)	0.7%	0.3%
Dermatitis	3.5%	2.0%
Vibration white finger	0.3%	0.2%

There were a couple of conditions which were reportedly diagnosed in a larger proportion of cargo seafarers than cruise sector workers. One of these was osteoarthritis/rheumatoid arthritis which was reported by 4% of cargo sector workers but only 1% of cruise sector workers ($p < 0.001$, small effect). Dermatitis was also a little more common on cargo ships than on cruise vessels ($p = 0.029$, no effect). Four percent of cargo seafarers reported that they had been diagnosed with dermatitis compared to 2% of cruise sector workers. In relation to mental health conditions, depression and anxiety were each more likely to have been diagnosed among cargo respondents than cruise sector workers. A diagnosis of depression was reported by 1.4% of cargo sector workers and 0.3% of cruise sector workers ($p = 0.005$, no effect) and a diagnosis of anxiety was reported by 4% of cargo sector seafarers compared with 1% of cruise sector workers ($p < 0.001$, no effect).

As with our sample of cargo workers we found significant differences between older and younger seafarers when it came to diagnoses of high blood pressure ($p < 0.001$, very large effect) and high cholesterol ($p < 0.001$, medium/large effect). Only 1% of seafarers aged 35 years and less had been diagnosed with high blood pressure compared with 18% of 36–45-year-olds and 41% of seafarers aged 46 and over, in the cruise sector. The pattern for high cholesterol diagnoses in the cruise sector was similar with 7% of seafarers aged 35 years old and less reporting a diagnosis of high cholesterol followed by 20% of 36–45-year-olds and 25% of cruise sector workers aged 46 plus. This pattern was also present in diagnoses of dermatitis among cruise sector workers. Although dermatitis diagnoses were not very common, they did increase with age ($p < 0.001$, medium effect). One percent of cruise seafarers aged 35 years old, and less, reported a diagnosis of dermatitis. This rose to 4% of 36–45-year-olds and 4% of seafarers aged 46 plus.

Hierarchy had an impact on our results in the cruise sector just as we found that it had in the cargo sector. Higher ranking workers in the cruise sector reported more diagnoses of high blood pressure ($p < 0.001$, medium effect) and high cholesterol ($p = 0.032$, small effect) than lower ranking workers. Twenty-eight percent of senior managers reported a diagnosis of high blood pressure compared with 13% of junior managers, 9% of clerical/semi-skilled workers and 7% of workers in manual jobs. The pattern for diagnoses of high cholesterol was similar with 21% of senior managers reporting such a diagnosis followed by 14% of junior managers, and 10% of both clerical/semi-skilled seafarers and manual workers.

We found that in the cruise sector (as in the cargo sector) seafarers in different departments reported significantly different levels of high cholesterol diagnoses ($p = 0.037$, medium effect). Seafarers working in the kitchen reported the highest levels of high cholesterol diagnoses (14%) followed by those in hotel services (12%), marine (10%), entertainment (6%), beauty 4%.

Nationality differences were apparent in reported diagnoses of high cholesterol ($p < 0.001$, medium effect). Filipino respondents were the most likely to have received a medical diagnosis of high cholesterol (16%) followed by Indian seafarers (10%), 'other nationalities' (7%), European/Russians (4%), Indonesians (2%).

We asked seafarers whether they experienced seasickness on board. Cruise companies generally attempt to offer passengers a stable holiday environment that will not promote seasickness and cruise vessels are fitted with stabilisers. These efforts should also serve to protect workers from seasickness, all other things being equal. However, in our data there were no significant differences found in the proportions of seafarers experiencing seasickness on cruise ships compared with cargo vessels. Twenty-one percent of cargo ship respondents stated that they suffered from seasickness on board compared with 19% of cruise workers. As with cargo ships, we found that younger seafarers were significantly more likely to report suffering from seasickness on board than older seafarers ($p < 0.001$, medium effect). Twenty-seven percent of cruise seafarers aged 35 years and under reported seasickness compared with 14% of cruise workers aged 36 plus. This suggests that, as with cargo ships, younger seafarers with seasickness in the cruise sector decide to leave the industry early and/or that seafarers become less prone to seasickness as they age or become more experienced.

We asked seafarers to disclose whether or not they had taken a small range of commonly prescribed medications in the previous 12 months. We further asked them to specify whether this was at sea or at home or both (see Table Seven). When we compared the results between cruise and cargo sector workers, we found that at sea there were no significant differences in the prescription medications that respondents had taken in the previous 12 months. Prescription painkillers had been taken by 6% of both cargo and cruise sector workers, indigestion medication by 4% of cargo workers

and 3% of cruise sector workers, tablets to lower blood pressure had been taken by 10% of cargo and 8% of cruise workers, sleeping pills had been taken by less than 1% of cargo and cruise workers, use of prescription medications to alleviate anxiety were reported by 2% of cargo seafarers and 1% of cruise workers, anti-depressant use was very rarely reported and less than 0.5% of seafarers on cruise and cargo vessels had taken prescription anti-depressants. Finally, prescription medication for seasickness was taken by a slightly larger proportion of cruise workers (4%) than cargo sector workers (3%) but this difference was not significant.

Table Seven: Percentage of respondents using prescribed medicine at sea and at home

Type of medication	Cargo		Cruise	
	At Sea	At home	At Sea	At home
Painkillers	6.4%	5.4%	5.7%	2.8%
Medicines for indigestion	4.4%	4.0%	3.2%	2.8%
Tablets to lower blood pressure	10.1%	9.8%	8.0%	8.5%
Sleeping pills	0.9%	0.6%	0.9%	0.4%
Antidepressants	0.4%	0.5%	0.3%	0.3%
Medicines for stress or anxiety	1.8%	1.4%	1.2%	1.3%
Medication for seasickness	2.80%	0.4%	4.00%	0.6%

At sea we found that hierarchy impacted on the use of prescription painkillers and tablets to lower blood pressure. Ten percent of seafarers in senior and junior management roles reported the use of prescription painkillers on board compared with 6% of manual workers and just 3% of clerical/semi-skilled workers ($p = 0.035$, small effect). Blood pressure medication was used by 25% of senior managers, 12% of junior managers, 9% of clerical/semi-skilled workers and 6% of manual workers ($p < 0.001$, medium effect). A similar pattern in the home-based use of blood pressure medication was reported by cruise workers ($p < 0.001$, medium effect). Twenty-seven percent of senior managers reported use of blood pressure medication at home, followed by 13% of junior managers, 9% of clerical/semi-skilled workers, and 6% of manual workers.

Nationality was also found to have a significant impact on the use of some medications at sea (prescription painkillers - $p < 0.001$, medium effect - and seasickness medication - $p < 0.001$, medium effect). Use of prescription painkillers was reported by a higher proportion of Filipino seafarers (9%) followed by European/Russians (8%) 'other nationalities (3%), Indians (2%) and Indonesians (1%). Seasickness medication was most likely to be used by Filipino seafarers (7%) followed by European/Russians (4%), Indonesians, other nationalities and Indians (1% or less).

We found little difference in the reported use of prescription medications between cruise and cargo sector workers at home on vacation. One weakly significant difference

($p = 0.002$, no effect) was identified in the use of prescription painkillers, with cargo seafarers reporting slightly higher use than cruise sector workers while on leave. Five percent of cargo seafarers had taken prescription painkillers at home in the last 12 months compared with 3% of cruise sector workers. In relation to all other prescription medications, we did not identify any statistically significant differences in home-based usage between cargo and cruise workers. At home, indigestion medications were taken by 4% of cargo seafarers and 3% of cruise workers, tablets to lower blood pressure were taken by 10% of cargo sector workers and 9% of cruise workers, sleeping pills were rarely used with just 0.6% of cargo sector workers taking them at home compared with 0.4% of cruise workers, antidepressants were taken by just 0.5% of cargo workers and 0.3% of cruise workers, anti-anxiety medication was taken by 1% of both cargo and cruise sector workers and medication for seasickness was rarely taken, with less than 1% of seafarers in the cargo and the cruise sector reporting use at home.

The age of respondents had a statistically significant impact on the reported use of prescription medication for high blood pressure by seafarers at sea and at home. Cruise seafarers were slightly more likely to report use of blood pressure medication at home than at sea but in both cases (at sea and at home) older respondents were significantly more likely to report use ($p < 0.001$, very large effect - in both cases). Just 1% of seafarers aged 35 or less reported use of high blood pressure medication at sea, with the same proportion taking it at home, 17% of seafarers aged 36-45 reported taking prescription medication for high blood pressure at home and at sea 18% of seafarers in this age range reported taking it. Use of prescription high blood pressure medication was highest in the oldest group of seafarers, aged 46 plus. Among this age group 37% of respondents reported use at sea and 39% of respondents reported use at home.

We asked seafarers to disclose whether or not they had taken a small range of common ‘over-the-counter’ (i.e., not prescribed by a doctor) medications in the previous 12 months, further asking them to specify whether this was at sea or at home or both (see Table Eight).

Table Eight: Percentage of respondents using non-prescribed ‘over-the-counter’ medicines and supplements

Type of medication	Cargo		Cruise	
	<i>At Sea</i>	<i>At home</i>	<i>At Sea</i>	<i>At home</i>
Vitamin supplements	63.0%	55.9%	68.5%	59.4%
Painkillers	24.3%	17.3%	19.5%	7.3%
Traditional Chinese medicine	4.6%	3.0%	6.8%	4.2%
Herbal tranquilisers	2.5%	1.9%	1.9%	1.4%
Herbal stimulants	2.2%	2.00%	1.8%	1.00%
Medication for seasickness	5.0%	1.1%	5.5%	0.6%

At sea, cruise seafarers' use of non-prescription medications was higher than cargo seafarers' use in relation to vitamins (cargo 63%, cruise 69%), traditional Chinese medicine (cargo 5%, cruise 7%), and medication for seasickness (cargo 5%, cruise 6%¹⁵). The differences in use of vitamins ($p=0.007$, no effect) and traditional Chinese medicine ($p=0.025$, no effect) were weakly statistically significant. In terms of the use of painkillers the pattern was reversed. Non-prescription pain killers were used by more cargo sector respondents when they were at sea than cruise respondents ($p=0.007$, no effect). At sea, over-the-counter painkillers such as paracetamol were used by 24% of cargo seafarers and 20% of cruise sector workers

We found that, in the cruise sector, over-the-counter painkiller use varied by department and this difference was significant ($p<0.001$, medium effect). Thirty percent of seafarers in hotel services reported self-medicating with painkillers at sea. They were followed by 22% of seafarers in the marine department, 18% of seafarers in entertainment, 17% of kitchen staff and 13% of the personnel in the beauty department. These variations were not repeated for at home use of over-the-counter painkillers by seafarers in different departments.

In the cruise sector, over-the-counter painkiller use also varied with nationality ($p=0.003$, medium effect). Europeans/Russians were the most likely to taken non-prescription painkillers (27% did so), followed by Indonesians (22%), Indians (16%), and Filipinos (16%)¹⁶.

When we compared the use of 'over-the-counter' medications by cruise seafarers **at home** with the use by cargo sector seafarers **at home** we found very little significant difference. The one strong exception related to painkiller use. Seven percent of cruise sector workers used over-the-counter painkillers at home compared with 17% of cargo sector seafarers ($p<0.001$, small effect). This indicates a possibility that the pain suffered by cargo seafarers is of a longer term chronic nature than that suffered by cruise sector workers. This is speculation and the findings warrant further investigation.

At home, vitamin supplements were the over-the-counter medication that was most used by seafarers (cargo 56%, cruise 59%). They were followed in second place by painkillers. As with seafarers in the cargo sector, respondents in the cruise sector reported less use of all listed over-the-counter medications (vitamins, painkillers, traditional Chinese medicine, herbal tranquillisers, herbal stimulants, and remedies for seasickness) at home, than at sea.

Age had a counterintuitive impact on vitamin use. Although we might expect older seafarers to feel that they need vitamin supplements than younger (presumably fitter)

¹⁵ Women were more likely to take over-the-counter seasickness medication than men. 11% of women cruise workers took non-prescription seasickness tablets and they were taken by just 3% of men ($p<0.001$, small effect).

¹⁶ 27% of Other nationality groups reported use of non-prescription painkillers

seafarers, we found that vitamin supplements were taken by younger seafarers more than older seafarers in the cruise sector ($p= 0.005$, small/medium effect). Seventy-five percent of seafarers aged 35 or less took vitamin supplements at sea compared with 61% aged 36 plus. More explicably, department also had an impact on vitamin use ($p= 0.016$, medium effect). Cruise seafarers working in the beauty department were the most likely to report using vitamin supplements at sea (83%) followed by those in entertainment (75%), marine (71%), kitchen (67%) and hotel (61%)¹⁷. This pattern was repeated at home although use was less at home, overall ($p= 0.009$, medium effect). Seventy-seven percent of beauty staff took vitamins at home followed by 69% of entertainment, 59% of marine, 57% of kitchen and 54% of hotel staff. We found that seafarers of different nationalities also varied in their use of vitamins ($p< 0.001$, medium effect). Filipinos were the most likely group to take vitamins and 74% said they did so at sea. They were followed by Indonesians (67%), Indians (55%) and European/Russians (49%). This pattern was repeated when we analysed the use of vitamins at home ($p< 0.001$, large effect) although use at home was generally less than at sea (Filipinos, 70%, Indonesians 50%, Indians 40%, European/Russian 38%)¹⁸

Traditional Chinese medicine was significantly more likely ($p< 0.001$, medium effect) to be used at sea by Indians (14%) and Indonesians (9%) than Filipinos (4%) and European/Russians (3%). This pattern was very similar at home where significant differences in the use of traditional Chinese medicine were also observed between nationality groups ($p=0.10$, small/medium effect). At home use among Indians (8%) was followed by Indonesians (4%), European/Russians (3%), Filipinos (3%).

We asked seafarers some questions about experiences of sexual harassment, and sexual and physical assault on board. These undesirable behaviours and actions impact significantly on seafarers' wellbeing and can impact on their ability to optimise their general health on board. Other research has shown, for example, that women seafarers in the cargo sector may isolate themselves to protect against sexual assault and harassment, with adverse impacts on mental wellbeing (Sampson and Acejo 2022). More generally all seafarers are likely to avoid interaction with colleagues who are threatening, and this may also involve practices of self-isolation and social exclusion.

Although a larger proportion of cruise respondents (4%) than cargo respondents (2%) reported sexual harassment the difference was not statistically significant. Most of the seafarers who reported sexual harassment stated that it happened rarely or sometimes with just 8% of those who had reported experiencing harassment stating that it happened very often or almost every day on cargo ships and 3% of those who had reported experiencing sexual harassment saying that it happened very often or almost

¹⁷ Use of vitamins in 'other' departments was 71%

¹⁸ Use by 'other' nationalities was 61%

every day on cruise ships¹⁹. Forty-one percent of harassed cruise workers stated that they had experienced sexual harassment from passengers, 54% stated that the perpetrators were other ship employees, and the remainder said they had experienced harassment from both employees and passengers (8%). Like their cargo ship counterparts most cruise seafarers who had experienced sexual harassment chose not to report it (64% chose not to report on cruise vessels and 88% chose not to report on cargo vessels). In all cases where they made reports, these were to a senior officer and there were no examples of sexual harassment being reported to the cruise company or the police. Fifty-two percent of those who had experienced sexual harassment but had not reported it said that this was because they had been afraid that they would not be believed. Twenty percent said that they were afraid of being sent home and 12% were afraid of being sacked. A minority of seafarers who had experienced sexual harassment on board did not report it because they were afraid of reprisals on board (8%) and of perpetrators seeking revenge once back ashore (4%). A number of respondents chose to give further free text details of their experiences, and these offer an insight into the kinds of situations they deal with on board. One spa therapist wrote:

I was massaging him. He was naked. Then he said 'do you think my dick is big?' I said I didn't know and warned him if he did not stop, I would call in my supervisors. He apologised and stopped. (Free text response, questionnaire)

Another stated that:

I was offered money, and I told the passenger that if he repeated the offer I would report him. (Free text response, questionnaire)

At interview situations with spa clients were also described. One therapist told us:

So some of these foreigners are really naughty I tell you. So in the sauna, if we do infusion, we are wearing sports wear whilst guests are naked. One time, we had a Russian guest. He could speak English well. They were two of them there, and he was talking to the other guest in English, and he was asking why I was wearing my uniform when they were naked. He said that it would be better had I been not wearing anything. So, I said that 'excuse me, I am a crew member and we are not allowed to be doing our work naked. What I am wearing is proper work clothes, respect me', that's what I said. But the guy was very persistent. He was like a child, pressing on. 'Why are you wearing clothes?' He said. 'Take off your clothes'. So, I went to the reception and told them what was happening. I said that other guests in the room were getting annoyed, too. The other guests were Germans, and for them, it is very common to be naked in the sauna. But they respect us. They know that we can't be naked. Now, when you are giving a massage, the

¹⁹ This difference was not statistically significant

client could be wearing a robe but no underwear, whatsoever. So we will do the massage regardless they are naked or not. (Beauty worker)

The positive aspect of these accounts lies in the confidence that seafarers had in their managers and colleagues in these situations. They did not appear to fear reporting such incidents or to feel that they had to endure inappropriate behaviour. This seemed to extend to harassment by crew members even though complainants knew that perpetrators of harassment could be sent home. Several interviewees described circumstances when managers and, sometimes, their Human Resources (HR) departments on board had become involved in incidents involving harassment. One described, for example, how:

I was stalked by a fellow crew member and I was relatively new on board. He was also a Filipino. I knew what would happen to him if I report him to the authorities. I knew that he was on board, like everyone else, because he wanted to earn money, he was on board for his family. His reason aligns with mine, we were on board for a better life. I did not inform the security at once. I talked to his head of department. He was the bosun. I told the bosun, bosun, tell your crew, this is my last warning to him, and I am telling you this because you are his boss. But if he continues to do it, I will definitely report his conduct to the authorities. We are here to work. When I say no, it is no. When I say I don't like it, then I don't like it. I told the person to stop what he was doing and instead look for somebody who would like him. So, the bosun talked to my stalker and after that bosun spoke to me and said I already spoke to my crew, and if he does it again, I will accompany you to the security and the HR for the filing of appropriate complaint. (Catering worker)

Perhaps because cruise vessels carry so many crewmembers and passengers, companies appear to have developed clear policies and practices relating to sexual harassment and seafarers see them enforced. Ships also benefit from carrying a great deal of CCTV which can provide evidence in support of, or indeed refuting, complaints. One seafarer recounted an experience and how effectively she felt her company had dealt with it. She described how:

We had a pre-departure seminar on this topic, and on board, we had another training on this. And the ship that I was on, they were very serious about sexual harassment cases. And I can prove that because I have experienced that first hand. And they took action. My harasser was of a different nationality. Based on my experience, they acted immediately on my complaint. They gathered the necessary evidence. [...] He was a co-worker but working in a different department. I was not the only one who was victimised by this guy. What this guy did, at least in my case, he was stalking me. And he would stare at me in a very intimidating way. He made attempts to approach me when we were in the crew

mess. Then later on, I was informed that he was doing the same to some of my friends. When we raised the issue with the vice-captain, because he was the one in charge of handling cases like this, he summoned all of us and talked to us individually. Then they ended up sending the guy home. (Hotel worker)

This should not be taken to imply that all cases of sexual harassment and/or assault are sympathetically dealt with from the perspective of complainants. We found examples of respondents who chose not to report inappropriate behaviour in order to protect offenders as in the following case:

I did not want the guy to lose his job. He was always good to me. (Free text response, questionnaire)

While in others we learnt that victims of assault felt forced to return home while alleged perpetrators remained on board. In one case a seafarer told us that:

She signed off. I am not sure if the company shouldered the ticket because she personally decided to go home. She felt embarrassed because this was known not only in our ship but also to other ships. Imagine, the news spreading that much, that there was someone who was raped. But I don't think so that the guy who was said to have raped her, I was still able to work with. So HR didn't really pursue that the guy who was in their drinking session be punished. HR didn't really side with her. (Catering worker)

Sexual and physical assault were uncommon on cruise vessels. Less than 1% of cruise ship respondents reported sexual assault and this was similar to the proportion of seafarers who had experienced sexual assault on cargo ships. Physical assault was more common on cargo vessels than on cruise ships. Eight percent of respondents in the cargo sector stated that they had experienced physical assault while working on board compared to just 3% in the cruise sector. The difference was statistically significant ($p < 0.001$, small effect). Cruise respondents were more likely than seafarers working on cargo ships to report physical assault to a senior officer on board (54% compared with 43% respectively²⁰). However, like seafarers on cargo ships, it was unusual for reports to be made to the police. This happened in 3% of cases on cruise vessels compared with none at all on cargo ships. Seafarers on cargo ships who reported physical violence were more likely to report it to the company (17%) than cruise sector workers (6%) although this difference was not statistically significant.

Overall, cruise sector workers were more likely to lodge a formal complaint about sexual harassment, sexual assault and physical assault than their cargo vessel counterparts. This is likely to relate to the much larger numbers of other seafarers on board cruise ships and the more diffuse network of power and hierarchy found onboard which

²⁰ This result is not statistically significant

provides seafarers with more immediate reporting options. The presence of an HR department and the ease and speed with which grievances can be lodged, and dealt with, may also impact on reporting behaviour as may the use of CCTV as in the following example:

Good thing that it was seen in the CCTV. [...] So he pulled her inside the cabin and started kissing her. So that was seen in the CCTV and so the guy was sent home. If you are caught in the act in the CCTV then there is strong evidence (Catering worker)

Conclusion

In relation to healthy living our research identified some variations in the dietary habits, smoking and drinking patterns of cruise and cargo sector workers.

Seafarers working in the cargo sector were much less likely than cruise seafarers to be teetotal²¹ at sea. On the other hand, a larger proportion of cruise workers were teetotal at home than at sea. In both cases, when alcohol was consumed it was in moderation. In 2017 in the UK, an average of 19% of adults in the age group 25-64-years-old did not drink at all

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/druguse/alcoholandsmoking/bulletins/opinionsandlifestylesurveyadultdrinkinghabitsingreatbritain/2017> (accessed 3/4/25) . This figure is considerably lower than the proportion of seafarers who stated that they did not drink at all in either the cruise or cargo sector.

In general, smoking was higher among cargo sector workers than cruise workers, but the pattern was reversed in relation to vaping. On average, more seafarers smoked, than in the UK or EU. In the Philippines tobacco use is reported among 20% of the population but it is highly skewed by gender with 35% of men using tobacco compared with 4% of women (<https://cdn.who.int/media/docs/default-source/ncds/ncd-surveillance/data-reporting/philippines/gats/gats-philippines-national-2021-rev.pdf> accessed 3/4/25). On board cruise vessels women smokers were less prevalent than male smokers but the difference between the two groups was less extreme than that reported for the Philippines. Overall, cruise and cargo seafarers were less likely to smoke than the male population of the Philippines but more likely to smoke than men and women combined in the Philippines.

In terms of diet and food consumption the vast majority of seafarers in the cruise and cargo sectors considered that their diet at home was healthier than at sea. From this finding we can infer that seafarers are not able to eat as healthily at sea as at home and our interviews confirmed this indicating that they feel constrained in relation to the kinds of food that are available to eat and the forms of food preparation that are used on

²¹ This term means to not drink any alcohol at all

board. Counterintuitively, seafarers on board cruise vessels were more likely to consume fried food both at sea and at home than cargo seafarers. They were, however, more likely to be able to eat fresh fruit and vegetables although these were described by interviewees as being leftovers from passengers that were regarded as overripe.

Seafarers on cruise ships worked more and slept less than seafarers on board cargo ships. Cruise seafarers more frequently attributed generally inadequate sleep to the numbers of hours they were required to work and to having to work shifts. However, cargo seafarers were more likely to cite, port duties, vessel movement, noise and uncomfortable mattresses as reasons for generally inadequate sleep. Work-related anxiety disturbed the sleep of cargo seafarers more frequently than cruise workers and homesickness as well as roommates disturbed the sleep of cruise workers more than cargo workers.

The relationship between sleep deprivation and fatigue is self-evident. Overall, the levels of severe fatigue were higher among cargo seafarers than cruise sector workers. They should be regarded as of great concern given the safety-critical nature of the sector yet efforts to reduce fatigue via international regulation are clearly being circumvented and are failing.

Some sleep deprivation can be readily resolved by the companies running cruise and cargo vessels. Reducing working hours (perhaps by increasing staff numbers) and reviewing shift work patterns could improve sleep on board as could providing single cabins, better quality mattresses and more effective sound proofing. These measures may be thought to be long overdue.

Despite long hours of work, seafarers had a generally positive view of their own health. It is possible that this relates, in part, to the fact that they regularly pass pre-employment medical examinations. Nevertheless, some seafarers are working on board with diagnoses of high blood pressure, high cholesterol, and arthritis as well as smaller numbers of seafarers with diabetes, dermatitis, asthma, and depression/anxiety. All of these conditions may require monitoring and treatment and ongoing medical care. On cargo vessels more seafarers were taking prescribed medication for pain relief, gastric pain, and high blood pressure than on cruise vessels and on board both cargo and cruise ships seafarers were more likely to take a range of over-the-counter medications/remedies at sea than at home. This latter finding implies that seafarers, in both sectors, feel that they need to be more self-reliant at sea in terms of managing or preventing ill-health than they do at home where they have better access to healthcare systems.

Finally, the results of the research indicated that sexual harassment remains a problem on both cargo and cruise vessels. In both cases seafarers may be reluctant to make complaints but it appears to be more likely for seafarers on cruise ships to feel able to

complain to managers on board about harassment than seafarers on cargo ships. Our interview material suggests that this could be due to having better access to a greater range of human resource managers on board cruise ships, as well as working among a larger number of seafarers, which may reduce the tendency for seafarers to feel guilty about reporting abuse by others because of the consequences that may follow. It may also reflect the fact that it is often possible for seafarers on cruise vessels to be transferred between departments to escape harassment. This remedy may be seen as preferable to a colleague losing their job (being sent home) and it is one which is not available on cargo ships.

Appendix One

Nationality Groupings

Grouped Nationality	Raw Nationality
Filipino	Filipino
Indonesian	Indonesian
Indian	Indian
European and Russian	British/UK
	Bulgarian
	Croatian
	French
	German
	Greek
	Hungarian
	Irish
	Italian
	Lithuanian
	Netherlands
	Polish
	Portuguese
	Romanian
	Russia
	Spanish
	Swedish
	Ukrainian
Other Nationality	American
	Brazilian
	Brazilian/ Portuguese
	Chilean
	China
	Columbian
	Ghana
	Honduran
	Kenyan
	Kiribati
	Madagascar
	Malaysian
	Mexican
	Myanmar
	Nepal
	Nigeria
	Peruvian

Grouped Nationality	Raw Nationality
	Samoan
	South African
	Sri Lankan
	Thailand
	Vietnamese
	Zanzibar/Tanzania
	Zimbabwe

Appendix Two

Rank Groupings

Rank	Job
Senior Management	1st Officer
	Executive Housekeeper
	Housekeeping manager
	Systems Manager
	Audio Manager
	Bar Manager
	Captain
	Casino Manager
	Casino Slot Manager
	Chief Engineer
	Chief Officer
	Deck Superior
	Deck Supervisor
	Executive Chef
	Executive Housekeeper
	Executive restaurant manager
	Floor Supervisor
	Head bartender
	Head Steward
	Head steward/supervisor
	Head technician -Casino Chief
	Head Utility
	Head Waiter
	Housekeeping Supervisor
	Laundry Manager
	Master
	Music Manager
	Production Manager
	Restaurant Manager
	Retail sales manager
	Shop Manager
	Show manager
	Spa Manager
	Speciality Restaurant manager
	Staff Chief Engineer
Junior Management	1st cook
	1st plumber
	2nd Officer
	2nd Plumber

Rank	Job
	3rd Assistant Engineer
	3rd Engineer
	3rd Officer
	Assistant Bar manager
	Assistant Carpenter
	Assistant electrician
	Assistant head Waiter
	Assistant restaurant manager
	Assistant 3rd Engineer
	Bar supervisor
	Bike Leader
	Buffet Manager
	Cadet
	Carpenter
	Chef / Cook
	Chief Cook
	Chief Cabin Steward
	Chief Galley Steward
	Chief nurse
	Chief Security Officer
	Chief Stewardess
	Crew dining supervisor
	Deck Administrator
	Deck cadet
	Deck Cadet
	Electrician
	Environmental Officer
	Fitter ventilation
	Junior Service Supervisor
	Photography Manager
	Plumber
	Public Health Officer
	Purser
	Reception Manager
	Repairman
	Safety Officer
	Second Electrical Engineer
	Second Officer
	Senior Barista
	Senior Cabin Steward
	Senior HVAC Technician
	Senior Steward
	Shore excursions Manager

Rank	Job
	Sports manager
	Store supervisor
	Third Engineer
	Third Officer
	Uniform Supervisor
Clerical/ Semi-Skilled	2nd cook
	3rd cook
	Admin
	Admin Staff (Public health officer)
	Amusement specialist
	Appetizer
	Assistant baker
	Assistant Broadcast Engineer
	Assistant Chef
	Assistant Chef De Partie
	Assistant Cook
	Audio Technician
	Automation-Rigging Technician
	Baker
	Barber
	Barber/ hair cutter/ hair stylist
	Barber/ hairdresser
	Beautician
	Broadcast Operator
	Butcher
	Casino Technician
	Ched de Cuisine
	Chef de Pastry
	Chef de partie
	Chef De Partie
	Chef de Partie (Grilling)
	Commi
	Commi Cuisine
	Commis
	Commis 1
	Commissary
	Coms
	Cook
	Cook (In bakery)
	Cook/ Baker (Pastry)
	Culinary Administrator
	Dancer

Rank	Job
	Demi Chef
	Demi Chef De Partie
	Ensemble (singer)
	Entertainer
	First assistant pastry chef
	First cook/ commis 1
	Florist
	Hair Stylist
	Hair Stylist/ Barber
	Hair Stylist/ Dresser
	Hairdresser
	Hospital Assistant
	Hotel Storekeeper
	Inventory Supervisor
	IT Assistant
	Junior Sous chef
	Light Tech
	Medical Admin
	Musician
	Musician/ Singer
	Nail technician
	Nurse
	Paramedic
	Pastry Chef
	Payroll Purser
	Photo and video manager
	Photographer
	Production Asst
	Public Health Officer
	Receptionist
	Receptionist/ guest service staff
	Safety Officer
	Second assistant pastry chef
	Second cook
	Singer
	Singer/ Entertainer/ performer
	Singer/ musician
	Solo Dancer
	Solo Singer
	Sous Chef
	Spa Beautician
	Spa Masseur
	Spa Therapist

Rank	Job
	Sports staff/ personal trainer
	Sushi Chef
	Sushi Cook
	Sushi Master
	Technician
Manual	AB
	Able-Bodied Seaman
	Assistant in the Galley
	Assistant Bartender
	Assistant Butler
	Assistant Cabin Host
	Assistant Cabin Steward
	Assistant Housekeeper
	Assistant Security
	Assistant Server
	Assistant Steward
	Assistant Storekeeper
	Assistant Waiter
	Assistant Waitress
	Assistant Bartender
	Bar
	Bar Keeper
	Bar server
	Bar Server
	Bar Steward
	Bar Tender
	Bar Utility
	Bar Waiter
	Bar Waitress
	Barista
	Barkeeper
	Bartender
	Bosun
	Buffet attendant
	Cabin Host
	Cabin Host (suites)
	Cabin Steward
	Cashier
	Casino Dealer
	Casino Host
	Casino Host/ Operator
	Cassino Dealer

Rank	Job
	Concierge
	Crew Cleaner
	Dealer
	Deck Crew Supervisor
	Deck Utility
	Deckhand
	Diesel mechanic
	Dining Steward
	Dish washer
	Engine foreman
	Entertainment Roadie
	Entertainment Runner
	F&B Attendant
	F&B Steward
	F&B Utility
	F&B utility galley
	Fire Fighter
	Fireman
	Floor Runner
	FRWT (Waiter)
	Galley Utility
	Galley Utility (Dishwasher)
	Galley
	Galley Attendant
	Galley Staff
	Galley Staff/ utility
	Galley Steward
	Galley Utility (cooking)
	Guest Reception
	Guest services
	Guest Services Agent
	Hotel assistant Resto/ Dispatcher
	Hotel Cleaner
	Hotel Storekeeper
	Hotel Utility
	Housekeeping
	Housekeeping Attendant
	Housekeeping Room attendant
	Housekeeping services
	Housekeeping - room attendant
	Kitchen Utility
	Laundry Staff
	Laundry Woman

Rank	Job
	Laundry Man
	Light operator
	Lighting staff
	Lights and Sound
	Linen Keeper
	Maintenance
	Mechanic
	Mess Assistant
	Mess Attendant
	Messman
	Messman /Preparing food for the crew
	Messman/Steward
	Motorman
	Oiler
	Ordinary Seaman
	OS
	OS Rigger and QC tally clerk
	Pax cabin cleaner
	Pax cabin steward
	Pool Service Attendant
	Printer (Digital Printing Operator)
	Props tech
	Quarter Master
	Quarter master - AB
	Quick Service Attendant
	Restaurant Server
	Restaurant Utility
	Restaurant Waiter
	Restaurant Attendant
	Retail sales assoc/staff
	Sales Assistant
	Sanitation Officer
	Second cook - Commis 2
	Second Mate
	Security Guard
	Security officer
	Security Staff
	Senior HVAC Technician
	Server
	Service (Restaurant Utility)
	Service assistant
	Shop Assistant
	Shop Assistant/ Sales Person

Rank	Job
	Shop/ sales assistant
	Shore excursion scout
	Shore Excursion Staff
	Snack Steward
	Snack Steward (Restaurant)
	Sound and Light technician
	Sound Technician
	Sound Technician/ Staff
	Spa cleaner
	Speciality Waiter
	Sports Staff
	Stagetechnician
	Stateroom attendant
	Steward
	Steward (Seman Waiter)
	Steward/ Utility
	Store Attendant
	Tech lights and Sound
	Technical Administrator / Sr. Technical Storekeeper
	Technical Storekeeper
	Technician - Riding Team
	Theatre technician
	Tram Server
	Utilities Steward
	Utility
	Utility Galley
	Waiter
	Waitress
	Waste Disposal Operator
	Waste Recycling Operator
	Waste Recycling Technician
	Wiper
	Youth Staff
Other	Junior nurse
	CDP
	GPA 1
	Hotel Support GPA NO.1
	N/A
	Restaurant officer
	Seafarer
	Trainee
	Turbine

Appendix Three

Department Groupings

Department	Job
Marine (deck and engine)	1st Officer
	2nd Officer
	3rd Assistant Engineer
	3rd Engineer
	3rd Officer
	AB
	Able-Bodied Seaman
	Assistant Carpenter
	Assistant Electrician
	Assistant 3rd Engineer
	Bosun
	Cadet
	Captain
	Carpenter
	Chief Engineer
	Chief Officer
	Deck Administrator
	Deck Cadet
	Deck Crew Supervisor
	Deck Utility
	Deckhand
	Diesel mechanic
	Electrician
	Engine Foreman
	Environmental Officer
	Fire Fighter
	Fireman
	Fitter ventilation
	Maintenance
	Master
	Mechanic
	Motorman
	Oiler
	Ordinary Seaman
	OS
	OS Rigger and QC tally clerk
	Public Health Officer
	Quarter Master

Department	Job
	Quarter master - AB
	Repairman
	Safety Officer
	Seafarer
	Second Electrical Engineer
	Second Mate
	Second Officer
	Senior HVAC Technician
	Staff Chief Engineer
	Technical Administrator / Sr. Technical Storekeeper
	Technical Storekeeper
	Technician - Riding Team
	Third Engineer
	Third Officer
	Trainee
	Turbine
	Waste Disposal Operator
	Waste Recycling Operator
	Waste Recycling Technician
	Wiper
Catering (Kitchen/ galley/ restaurant/ bar/ café)	
	1st cook
	2nd cook
	3rd cook
	Appetizer
	Assistant Baker
	Assistant Bar Manager
	Assistant Bartender
	Assistant Chef
	Assistant Chef De Partie
	Assistant Cook
	Assistant Head Waiter
	Assistant Restaurant Manager
	Assistant Server
	Assistant Steward
	Assistant Waiter
	Assistant Waitress
	Assistant Bartender
	Baker
	Bar
	Bar Keeper
	Bar Manager
	Bar Server

Department	Job
	Bar Supervisor
	Bar Tender
	Bar Utility
	Bar Waiter
	Bar Waitress
	Barista
	Barkeeper
	Bartender
	Buffet Attendant
	Buffet Manager
	Butcher
	Cabin Steward
	CDP
	Chef de Cuisine
	Chef de Pastry
	Chef / Cook
	Chef De Partie
	Chief Cook
	Chief Galley Steward
	Chief de Partie (Grilling)
	Commi
	Commi Cuisine
	Commis
	Commis 1
	Commissary
	Cook
	Cook (In bakery)
	Cook/ Baker (Pastry)
	Crew dining supervisor
	Culinary Administrator
	Demi Chef
	Demi Chef De Partie
	Dining Steward
	Dish washer
	Executive Chef
	Executive Restaurant manager
	F&B Attendant
	F&B Steward
	F&B Utility
	F&B utility galley
	First assistant pastry chef
	First cook/ commis 1
	Galey Utility

Department	Job
	Galley Utility (Dishwasher)
	Galley
	Galley Attendant
	Galley Staff
	Galley Staff/ utility
	Galley Steward
	Galley Utility (cooking)
	GPA 1
	Head bartender
	Head Steward
	Head steward/ supervisor
	Head Utility
	Head waiter
	Hotel assistant Resto/ Dispatcher
	Hotel Utility
	Junior Service Supervisor
	Junior Sous Chef
	Kitchen Utility
	Mess assistant
	Mess Attendant
	Messman
	Messman / Preparing food for the crew
	Messman/ Steward
	Pastry Chef
	Quick Service Attendant
	Restaurant server
	Restaurant utility
	Restaurant waiter
	Restaurant Attendant
	Restaurant Manager
	Restaurant Officer
	Second assistant pastry chef
	Second cook
	Second cook - Commis 2
	Senior Barista
	Senior Steward
	Service (Restaurant Utility)
	Service assistant
	Snack Steward
	Snack Steward (Restaurant)
	Sous Chef
	Speciality Restaurant manager
	Speciality Waiter

Department	Job
	Steward
	Steward (Seaman Waiter)
	Steward/ Utility
	Sushi Chef
	Sushi Cook
	Sushi Master
	Tram Server
	Utilities Steward
	Utility
	Utility Galley
	Waiter
	Waitress
Hotel services (servicing rooms/ laundry)	
	1st plumber
	Admin Hk
	Admin Staff (Public health officer)
	Assistant Butler
	Assistant Cabin Host
	Assistant cabin steward
	Assistant Executive Housekeeper
	Assistant Housekeeper
	Assistant Housekeeping manager
	Cabin Host
	cabin host suites
	Cabin Steward
	Chief Cabin Steward
	Crew Cleaner
	Deck Superior
	Deck Supervisor
	Executive Housekeeper
	Floor Runner
	Floor Supervisor
	Florist
	FRWT (Waiter)
	Guest services
	Hotel Cleaner
	Hotel Storekeeper
	Hotel Support GPA NO.1
	Hotel utility
	Hotel Utility
	Housekeeping
	Housekeeping attendant
	Housekeeping Room attendant

Department	Job
	Housekeeping services
	Housekeeping Supervisor
	Housekeeping - room attendant
	Laundry Manager
	Laundry Staff
	Laundry Women
	Laundryman
	Linen Keeper
	Pax cabin cleaner
	Pax cabin steward
	Pool Service Attendant
	Senior Cabin Steward
	Stateroom attendant
	Uniform Supervisor
Entertainment	Amusement specialist
	Audio Manager
	Audio Technician
	Automation-Rigging Technician
	Broadcast Operator
	Casino Dealer
	Casino Host
	Casino Host/ Operator
	Casino Manager
	Casino Technician
	Dancer
	Ensemble (singer)
	Entertainer
	Entertainment Roadie
	Entertainment Runner
	Head Technician -Casino Chief
	Light operator
	Light Tech
	Lighting staff
	Lights and Sound
	Music Manager
	Musician
	Musician/ Singer
	Printer (Digital Printing Operator)
	Production Asst
	Production manager
	Props tech
	Receptionist
	Shore Excursion Staff

Department	Job
	Show manager
	Singer
	Singer/ Entertainer/ performer
	Singer/ musician
	Solo Dancer
	Solo Singer
	Sound and Light technician
	Sound Technician
	Sound Technician/ Staff
	Stagetechnician
	Tech lights and Sound
	Technician
	Theatre technician
	Youth Staff
Beauty/ spa and related services (hair/ nails/ massage etc)	Barber
	Barber/ hair cutter/ hair stylist
	Barber/ hairdresser
	Beautician
	Hair Stylist
	Hair Stylist/ Barber
	Hair Stylist/ Dresser
	Hairdresser
	Nail technician
	Spa Beautician
	Spa cleaner
	Spa Manager
	Spa Masseuse
	Spa Therapist
Other	Assistant security
	Assistant Storekeeper
	Assistant Systems Manager
	Bike Leader
	Cashier
	Chief nurse
	Chief Security Officer
	Concierge
	Guest Reception
	Guest services
	Guest Services Agent
	Hospital Assistant
	Inventory Supervisor
	IT Assistant

Department	Job
	Junior nurse
	Medical Admin
	Nurse
	Paramedic
	Payroll Purser
	Photo and video manager
	Photographer
	Photography Manager
	Public Health Officer
	Purser
	Reception Manager
	Receptionist
	Receptionist/ guest service staff
	Retail sales assoc/ staff
	Retail sales manager
	Safety Officer
	Sales Assistant
	Sanitation Officer
	Security Guard
	Security Officer
	Security Staff
	Senior HVAC Technician
	Shop Assistant
	Shop Assistant/ Sales Person
	Shop Manager
	Shop/ sales assistant
	Shore excursion scout
	Shore Excursion Staff
	Shore Excursions Manager
	Store Attendant
	Store Supervisor

References

- Akerstedt, T., Wright, K. (2009) 'Sleep Loss and Fatigue in Shift Work and Shift Work Disorder'. *Sleep Med Clin.* 4(2): 257-271.
- Ariza-Montes, A., Arjona-Fuentes, J., Radic, A., Han, H., Law, R. (2021a) 'Workplace bullying and presenteeism in the cruise industry: Evaluating the effect of social support', *International Journal of Hospitality Management*, Volume 94, April
- Ariza-Montes, A., Radic, A., Arjona-Fuentes, J., Han, H., Law, R. (2021b) 'Job quality and work engagement in the cruise industry' *Asia Pacific journal of tourism research* 26(5): 469-487
- Arjona-Fuentes, J.M., Radic, A., Ariza-Montes, A., Han, H. and Law, R., (2022). 'Fear and poor mental health among workers during the global cruise tourism crisis: Impact of low employability and family support'. *International Journal of Hospitality Management*, 106.
- Bardelle, C., Lashley, C. (2015) 'Pining for home: Studying crew homesickness aboard a cruise liner', *Research in Hospitality Management*, 5:2, 207-214,
- Bell, S., Jensen, O. (2009). 'An analysis of the diagnoses resulting in repatriation of seafarers of different nationalities working on board cruise ships, to inform pre-embarkation medical examination'. *Medicina Maritima*, 9(1), 32-43.
- Chellappa, S., Qian J, Vujovic, N., Morris, C., Nedeltcheva, A., Nguyen, H., Rahman, N., Heng, S., Kelly, L., Kerlin-Monteiro, K., Srivastav, S., Wang, W., Aeschbach, D., Czeisler, C., Shea, S., Adler, G., Garaulet, M., Scheer, F., (2021) 'Daytime eating prevents internal circadian misalignment and glucose intolerance in night work'. *Sci Adv.* 7(49):eabg9910.
- Dahl, E. (1999). 'Anatomy of a world cruise.' *Journal of Travel Medicine* (6):168–171.
- Dahl, E. (2005) 'Sick leave aboard--a one-year descriptive study among crew on a passenger ship' *International Maritime Health* (56):5-16
- Dahl, E., Ulven, A., Horneland, A. (2008). "Crew Accidents Reported During 3 Years on a Cruise Ship." *International Maritime Health* 59 (1-4): 19–33.
- Dennett, A. (2013) *An Investigation of Work, Life and Community On-board Cruise Ships: A Hospitality Perspective*. Doctoral Thesis, University of Huddersfield.
- Knutsson, A. (2003). 'Health disorders of shift workers'. *Occupational medicine*, 53(2), pp.103-108.
- Morris, C., Purvis, T., Mistretta, J., Scheer, F., (2016) 'Effects of the Internal Circadian System and Circadian Misalignment on Glucose Tolerance in Chronic Shift Workers'. *J Clin Endocrinol Metab.* 101(3):1066-74.

Österman, C., Hult, C., Praetorius, G. (2020) 'Occupational safety and health for service crew on passenger ships', *Safety Science*: (121):403-413

Radic (2019) 'Occupational and health safety on cruise ships: dimensions of injuries among crew members'. *Aust. J. Marit. Ocean Aff.* (11): 51–60.

Rosenfeld, D. (2020) 'Gender differences in vegetarian identity: How men and women construe meatless dieting', *Food Quality and Preference*, 81(April)

Smith, A., Lane, T., Bloor, M. (2001). *Fatigue Offshore: A comparison of Offshore Oil Support Shipping and the offshore oil industry*. Cardiff: Cardiff University

Thomas, M., Bloor, M., Little, K. (2013) 'Sexual risk among female workers on cruise ships'. *WMU Journal of Maritime Affairs*, 12, pp.87-97.

Wolff, K., Larsen, S., Marnburg, E. and Øgaard, T., (2013). 'Worry and its correlates onboard cruise ships'. *International Maritime Health*, 64(2): 95-100.