Seafarers' access to health care while working on cruise and cargo vessels

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Background

President Trump's newly announced tariffs on imports arriving to the United States have drawn the world's attention to the importance of international trade. Seafarers are key to the movement of goods around the world, regardless of their tariff status. However, while our news stations make use of powerful images of cargo leviathans calling into ports adorned with huge cranes and stacks of cargo, to provide a background to the new trade wars, seafarers are given scant attention. On the whole, the working and living conditions of cruise and cargo sector workers receive little public scrutiny. Cargo ship crews are only generally the subject of public debate when a vessel collides with something or when it explodes or leaks toxins into the natural environment. In such cases crew members are frequently labelled as culpable in the public imagination but little concern is generated for their living or working conditions. On cruise vessels, passengers generally prefer to focus on the sunny smiles of the personnel they find on board, rather than dwell on the 'human costs' associated with a holiday voyage. Even if they care to dig a little deeper into the life and work of cruise sector workers, they are likely to be bamboozled by a workforce that understands its vulnerability and the desire of employers to project a public image of harmony and perfection.

In the cruise sector COVID-19 served as a reminder of how quickly viruses may be transmitted in the context of a crowded ship. Passengers faced difficulties accessing land-based health facilities in some ports and the general public was given an unprecedented insight into the extent to which vessels at sea are cut off from the normal services that are so frequently taken for granted ashore.

Cruise ships provide seafarers with a different working context to that found on cargo vessels. The point of a cruise ship is to provide tourists with a high-end holiday experience, sometimes the 'holiday of a lifetime'. Cruise vessels therefore call into ports regularly and usually during daylight hours. They are not often engaged in long sea passages, far from land, and this means that in the event of a serious accident or health emergency seafarers on cruise vessels are more likely than seafarers on board cargo ships to experience a timely evacuation to hospital. In other respects, cruise seafarers also benefit from the importance that cruise companies place on providing their customers with a first-rate holiday. In order to treat illnesses and provide emergency first aid to passengers, cruise companies frequently carry a medical staff of professional doctors and nurses who are supplied with a range of equipment and medications to allow them to provide medical care to those on board. These medical services are regarded as a positive selling point by cruise companies and are used to market holidays at sea. For example, on its website, Royal Caribbean Cruises makes the following assurance to would-be clients:

> Every Royal Caribbean ship offers limited professional medical services through licensed (international or domestic) physicians and nurses. All Royal Caribbean Cruises Ltd. ships have shipboard medical facilities that are built, staffed, stocked and equipped to meet or exceed guidelines established by the American College of Emergency Physicians Cruise Ship & Maritime Medicine Section.
>
> Depending on the size of the ship and number of passengers and Crew members, each RCL ship has one to three doctors and three-to-five Nurses, available to passengers and Crew members 24 hours a day, seven days a week. (https://www.royalcaribbean.com/gbr/en/faq/questions/medical-services-onboard-regulations#:~:text=Depending%20on%20the%20size%20of,to%20786%2D264%2D9682. Accessed 3/4/25)

As the extract above confirms, such medical provision is also available to crewmembers on board which places them in a very different context with regard to access to medical care, while on board, to their counterparts in the cargo sector where, in general, no such provision exists.

Operating away from land for long periods of time, cargo seafarers are generally isolated from shoreside communities and services. Such services include routine medical checkups and dental care which cargo seafarers can only access when they are at home on vacation or on completion of a contract.

The Maritime Labour Convention (2006) specifies that the maximum length of time a seafarer can be employed on board is 12 months (on a contract of 11 months plus or minus 1 month). In this context, and notwithstanding stringent pre-employment medical examinations, we should expect seafarers to require periodic medical and dental treatment whilst on board (Sobotta et al 2007, Mahdi et al 2016). In the event of an accident at sea, or a sudden emergency (e.g. a cardiac event), their need for treatment might be urgent. However, they are also likely to have less urgent, but nevertheless important needs, which may not be so transparently evident and may not currently be being met on either cruise or cargo vessels. This research set out to find out more about seafarers' access to healthcare on board both cargo and cruise vessels.

Research Context

In the year 2002, Celia Mather published a small booklet taking a behind-the-scenes look at the cruise sector and highlighting the extreme exploitation of many cruise workers. A decade later, Channel 4's *Dispatches* programme made a documentary about the working and living conditions of cruise workers. Their undercover reporter was greeted by a colleague on board with the words 'welcome to the hell'. (https://www.dailymotion.com/video/x13wplv. Accessed 3/4/25). These exposés were important in bringing public attention to the poor working and living conditions of cruise

sector workers, but they also served to make cruise companies double down on their efforts to prevent researchers from undertaking research that could cause adverse publicity. It would not appear to be a coincidence that in this context a significant portion of the limited research on cruise sector workers is devoted to issues where it does not pose any significant threat to cruise companies at a PR level. Examples include the impact of cruise worker activities on local ports/tourist destinations when they take shore leave (García-González and Frausto 2021), the 'misbehaviour' of cruise personnel deemed to deceive customers, co-workers, subordinates and superordinates (Pressey and Harris 2023) and the 'language attitude' of cruise workers (Williandani, et al 2020).

Notwithstanding the complexities relating to access to the cruise workforce by scientists for research purposes (Dennett 2013), some excellent work has been carried out relating to health issues in the cruise sector. Broadly speaking this centres on the themes of viral transmission (Acevedo et al 2011, Brotherton et al 2003, Filia et al 2015, Schlaich et al 2010), the impact and consequences of COVID-19 (Arjona-Fuentes 2022, Brooks and Greenberg 2022, Inui et al 2020, Sawano et al 2020, Slišković 2020, Tachikawa et al 2022), seafarers' occupational health and safety (Österman et al 2020, Stannard et al 2015), reasons for crew repatriation, accidents and ill health diagnoses on board (Bell and Jensen 2009, Dahl 1999, Dahl 2005, Dahl et al 2008, Radic 2019), dental health needs (Sobotta et al 2007), homesickness and mental health and wellbeing (Bardelle and Lashley 2015, Radic et al 2020, Wolff et al 2013).

To date, however, little research has been focussed on seafarers' access to healthcare. Two studies of women seafarers' health did highlight the potential problems that seafarers face in accessing healthcare, notably lack of confidential access to the ship's doctor on cruise vessels (Thomas 2003, Stannard et al 2015) and fears associated with being re-hired (Stannard et al 2015). In our research, these themes have proved not to be gender specific and will be returned to later in this report.

In the cargo sector research on seafarers' health has largely focussed on repatriation (Abaya et al 2015,Bell and Jensen 2009), specific physical health issues such as obesity, cardiovascular disease and hypertension among seafarers (e.g. Hoeyer and Hansen 2005 Nas and Fışkın2014, Oldenberg 2014, Tu and Jepsen 2016), seafarers' mental health and stress (e.g. Sampson and Ellis 2019, Kinali et al 2022, Lefkowitz and Slade 2019, Mellbye and Carter 2017, Oldenberg and Jensen 2019), and dental health (e.g. Mahdi et al 2016).

Some studies have alluded to issues relating to access to healthcare. For example, Tu and Jepsen (2016) observe that Danish seafarers with high blood pressure are seven time less likely to be receiving medication than a control group of land-based Danes. They note that this could reflect the poor access to land-based medical services among seafarers, stating that:

> This high prevalence in the seafarers of hypertension and the low rate of antihypertensive treatment suggests the incapability of the health service to reach this population (Tu and Jepsen 2016: 199).

However, as with the cruise sector there has been little detailed attention given to the specific issue of seafarers' access to healthcare until now. This report seeks to address the need to provide a better understanding of seafarers' access to healthcare on board cruise and cargo vessels.

The research approach and methods

The research that is reported on 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. Four reports covering different aspects of the research have been published simultaneously (see Sampson et al 2025a, Sampson et al 2025b, Sampson et al 2025c). As one of the four publications from the study, this report focuses on the issue of access to healthcare. It covers access to self-care facilities/resources, company policies/practices to protect seafarers' health, as well as access to medical facilities and care on board and ashore in the course of voyages undertaken in conjunction with employment in the cruise and cargo sectors.

The study 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 vacation[1]. 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

[1] One respondent did not answer this question

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 level[2] with effect measured using Cramer's V for Chi-squared tests and Cohen's d for t-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.

In relation to our question selection, we have included some questions which provide an indication of the capacity for seafarers to provide themselves with self-care on board in order to alleviate symptoms associated with muscle strain/arthritis[3], menstrual pain[4]

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

[3] https://www.arthritis.org/health-wellness/healthy-living/managing-pain/pain-relief-solutions/heat-therapy-helps-relax-stiff-joints (accessed 12/3/25)

[4] https://www.nhs.uk/conditions/period-pain/ (accessed 12/3/25)

and stress. These questions specifically address access to quiet[5][6] private space (an individual cabin for peace and mental restoration), access to shore leave (for mental restoration) and access to a bath or sauna on board (to alleviate arthritic/muscle and menstrual pain). In addition to a series of direct questions about access to professional medical care and first aid/medication on board we have also selected some questions which will allow us to consider health protection more broadly, including, policies to manage COVID-19, personal protective equipment, policies limiting exposure to vibrating tools, access to free sunscreen/water, access to prophylactic medications such as antimalarials, access to products relating to contraception/sexual health, and confidential counselling.

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 60[7]. 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

[5] Noise increases susceptibility to mental health conditions such as depression and anxiety (Hahad et al 2024)
[6] Noise is an established source of environmental stress (Oldenberg et al 2010)
[7] The youngest respondent was a male British dancer and the oldest was a Filipina working in the hotel department as a supervisor

hotel services[8], catering[9], entertainment, beauty/spa[10] and other[11]. Seafarers on cargo ships are subdivided by rank (senior officers, junior officers, ratings) and department ('deck', 'engine' and 'galley') 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 = 681), followed by clerical/semi-skilled (n= 238) 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 74[12]. 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.

[8] Serving rooms/laundry
[9] Kitchen, galley, restaurant, bar, cafe
[10] Hair/nails/massage etc
[11] Other includes retail, porter/concierge/security, sports and others
[12] 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

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

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)[13]. 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).

Findings

It is evident from the accounts of many seafarers that they experience multiple health challenges as a result of living and working onboard ships where they face environmental stressors such as noise, vibration and motion (Oldenberg and Jensen 2019, Oldenberg et al 2010), busy port stays resulting in strain and fatigue (Oldenberg and Jensen 2019), and long working hours including nightshifts.

Seafarers also board vessels with health problems which may or may not be associated with their work. High blood pressure, high cholesterol, and musculoskeletal problems were reported by our sample of seafarers, for example, and they have been identified in the broader literature as associated with seafaring as an occupation (see for example Tu and Jepsen 2016 on hypertension). Studies of medical repatriation among seafarers confirm that these issues often underlie the need for urgent or sustained medical

[13] One rank of 'observer' could not be classified

treatment ashore. For example, musculoskeletal problems have been identified as a significant cause of medical repatriation among seafarers (Abaya et al 2015).

Notwithstanding the use of pre-employment medical examinations to screen out unhealthy individuals from the workforce, seafarers, like any individuals, require medical attention and assistance from time to time. They may develop new health issues related to their working environment on board, or they might simply develop new health problems that require intervention.

In this challenging working environment, our study has demonstrated that in relation to some aspects of their behaviour seafarers take great care to remain healthy on board by taking actions such as consuming vitamin supplements, reducing or avoiding drinking alcohol, and eating healthily when they can (Sampson et al 2025a, Sampson et al 2025b). However, the research also shows that in pursuit of optimal health many seafarers are thwarted by factors beyond their control, such as company policies and management practices. Many seafarers do not feel able to eat as healthily at sea as they can at home, they have no choice but to observe assigned work shifts, and hours, even when these contravene international regulations, and managers' attitudes combined with the precarious nature of their work (usually on short term contracts) place them under a degree of mental strain, worry and anxiety.

In this context, we consider, in this report, some of the supportive measures that companies might, and sometimes do, put in place to ensure that seafarers remain healthy on board. They range from the provision of shipboard facilities/activities to proactively support the maintenance of good health and wellbeing (e.g. saunas and shore leave) to the provision of PPE and prophylactic medications (such as antimalarial drugs) and treatments (such as sunscreen). We also consider the kinds of medical and dental attention that seafarers can access while working on board both cargo and cruise vessels.

The availability of resources which enable seafarers to practice 'self-care'.

The Maritime Labour Convention (2006) provides guidance on the provision of a range of shipboard recreational facilities (e.g. swimming pools, gymnasia, and outdoor areas for relaxation) which are also likely to have therapeutic benefits. We did not focus on all of these here, due to limitations on seafarers' time in responding to the research (put simply we could not include everything in our questionnaire). In deciding which questions to include and which to exclude, we have focussed on areas that we feel have physical and mental therapeutic effects which may be widely experienced on board regardless of seafarers' job roles or personal interests, and which are relatively commonly accessed by individuals working ashore. Facilities which we considered in this research included the provision of saunas and en-suite bathtubs (to ease musculoskeletal and menstrual pain or simply aid mental relaxation), access to shore

leave (to alleviate isolation, and temporarily remove seafarers from environmental stressors such as noise), and single cabins (where seafarers can sleep, meditate, privately communicate with families and so forth).

Bathtubs

We found that en-suite bathtubs were infrequently provided to seafarers on board. It is ironic that on board cruise vessels, where bathtubs commonly feature in passenger cabins, they are even more unusual than on cargo vessels. Only 2% of cruise sector workers reported access to an ensuite bathtub on board compared with 9% of cargo sector workers ($p < 0.001$, small effect). Not all seafarers stated that they would like a bathtub in their bathroom. To some it was a matter of indifference and some stated that they wouldn't want a bathtub in their bathroom. However, 42% of cruise sector workers and 39% of cargo sector workers stated that they would like a bathtub, in addition to their shower, in their bathroom on board. Explaining why, one seafarer told us at interview that:

> I don't think it is allowed to have our own bathtub in the cabin. But I would love to have one because in my case after a long day at work, my hands are aching from doing a lot of massage and oftentimes I stand a lot, so my feet are aching, so I need a good soak in a bathtub. That is very relaxing. Warm water and then you just lie there. Then you put in some aromatic oil. We need it so I would love to have one in my cabin. (Cruise, beauty)

A male seafarer had experienced using a bath in his hotel while waiting to board a ship and with this experience in mind he told us:

> I had one [a bathtub], I remember, in a hotel when I was waiting to board my ship. I enjoyed it. Maybe we can have one too in our cabins. (Cruise, hotel)

Saunas

Saunas were more commonly available, than bathtubs, to seafarers on both cruise and cargo vessels. However, the use of a sauna was far more widely available on cruise ships than cargo ships ($p < 0.001$, large effect). Only 15% of seafarers working on cargo ships had access to a sauna compared to 60% of respondents on cruise vessels. Saunas were desirable to many seafarers and there was little difference found between the view of seafarers on cargo or cruise ships in relation to the attractiveness of the prospect of a sauna on board. Sixty four percent of cargo seafarers who did not have a sauna on their present ship stated that they would like one and 59% of cruise sector workers without access to a sauna on board stated that they would like to have access to one. A cargo sector worker described how he had experienced a sauna on board a Norwegian ship. It had made quite an impression and when asked what recreational facilities he would recommend for seafarers on board he responded that:

> I don't know if this is considered a recreation facility, but it's a sauna [that I would recommend]. I experienced this before when I was in a Norwegian vessel. We had a sauna. It's good – sauna - because it's one of the best stress relievers. [...] swimming pool is okay, but of course, when the weather is cold, you won't enjoy swimming pool. [...] In the sauna, anytime, you can go in. If you want to relieve yourself of stress, your body, that's good. That's the best thing I can recommend. (Cargo, electromechanical officer)

He was not alone in feeling the physical and psychological benefits of using a sauna. One seafarer on a cruise vessel described how she experienced the therapeutic benefits of a sauna on the limited occasions when she was allowed to access one on board. She told us:

> Every week we have a spa night, so we can use also the sauna, the swimming pool, the dry sauna, we have like this. The sauna is my favourite because it is good for tired muscles. So, I try to use it as much as I can, when we are allowed to. (Cruise, junior manager)

Meanwhile a male catering cruise worker stressed the ways that he found that the sauna on his ship was an aid to relaxation. At interview he commented that:

> We have sauna just for the crew. [...] For me, it's okay for all ships to have sauna because it's for relaxing. (Cruise, catering)

On board some cruise vessels, crew members were permitted use of spa facilities on specific occasions and at times when they were closed to guests. However, on others, senior grade staff were allowed more general access to specific facilities provided for guests as a privilege or 'perk' of the job. Among our cruise respondents, saunas were more likely to be available to senior managers than to manual workers on board. Seventy seven percent of senior managers had access to a sauna followed by 64% of junior managers, 63% of clerical/semi-skilled workers and 58% of manual workers ($p= 0.027$, small effect). One manager felt that spa facilities were very helpful in reducing seafarers' stress and inducing relaxation, as such he felt they should be regularly made available to all crew. He described how on board his vessel:

> With sauna, officers have a privilege to use sauna, two stripes up, and you can talk to the spa manager to schedule your use. But the welfare committee from time to time organise events like free use of spa so that those who are non-officers can also use the spa. So, they have ladies' night or gentlemen's night. And the use of spa is very good because it helps you detox, we need that. It is a nice way to relax, you just sit there and enjoy the quiet moment. It relaxes your mind. I like it. The crew should be given the opportunity to use the spa, if not regularly, maybe, from time to time. (Cruise, entertainment)

Shore leave

Shore leave is an alternative, or an additional, way for seafarers to relax and de-stress. Time away from the shipboard environment allows seafarers to escape the scrutiny of supervisors, walk in green spaces and enjoy some time when they can please themselves. Seafarers were acutely aware of the benefits of shore leave in terms of their mental wellbeing and gave ready descriptions of its value to them.

A cargo seafarer described how:

> Shore leave is important because it allows us to unwind. It allows us to forget our work even for a short period of time. It allows some form of relaxation, enables us to meet other people, and visit other places as well. You see, we are always on board, and we need to go out sometimes. (Cargo, 3rd engineer)

A cruise sector worker reflected that:

> When I do shore leave, I feel like I regain my strength. There is a reset. Even if you don't buy anything, you just go out, use the internet outside. If feels different when you are outside. (Cruise, catering)

Another echoed his view expansively, explaining that he had struggled on his most recent contract and had been forced to consult a doctor on board. He partly attributed his medical problems to a lack of shore leave and explained that:

> This last contract. That was my first [time to consult a doctor on board]. I think it was primarily because of my broken schedule. I found it very tiring. My body could not cope. And I could not regularly go out to enjoy shore leave. I tell you, if you can't do shore leave, it feels different, it does something to your brain. You need fresh air, so shore leave is very much needed. It helps me. There are times it is fine not getting enough sleep just to be able to go ashore for a short break. When I go out, it feels great just to be away from the ship. I love just sitting somewhere and drinking coffee, or whatever. (Cruise, catering)

Meanwhile, a manager hinted at the ways in which shore leave might obviate the need to engage in less-healthy recreational activities such as drinking with teammates. He told us:

> In my case, I don't see the need to spend time drinking with my team. When I have the chance, I do shore leave. I treat myself, I eat what I want to eat. Then if you feel a bit down, go shopping, buy something for yourself. That's what I do. (Cruise, entertainment)

However, shore leave is unfortunately unavailable to some seafarers for the entire duration of their contracts and in the cargo sector it is much less readily available than it is to cruise sector workers ($p < 0.001$, very large effect). Only 42% of cargo sector

workers had experienced shore leave in the previous two weeks compared with 84% of cruise workers and in the previous four weeks only 68% of cargo seafarers had been able to enjoy a break ashore compared to 95% of cruise sector workers. Moreover, 15% of cargo sector workers stated that they had not had shore leave in the last 43 or more days. This contrasted with less than 1% of cruise sector workers. Some cargo sector respondents elaborated in free text to explain that because of the vessels they worked on they **never** had any possibility of going ashore for the duration of their contract. One wrote

> 'Never [are] such big tanker like VLCC are alongside. On SBM' (Single Buoy Mooring) (cargo questionnaire respondent)

And others confirmed this situation on tankers stating:

> 'None. VLCC no shore leave' and 'None. VLCC tanker not possible' (cargo questionnaire respondents)

At interview seafarers talked about other reasons why shore leave was not available to crewmembers. Sometimes it was as a result of a seafarer's nationality and restrictions associated with the immigration rules. A captain from Pakistan explained:

> It depends from port to port, and it depends on the nationality as well, so for example if you're going to Australia, it is very easy to go for the shore leave, just send your documents, get your pass and off you go. But if you are sailing in a region like Saudi Arabia or UAE, then it's not very easy to be honest, and there's a huge amount of paperwork and then the agents will bother you a lot, and for the nationality issue for example, if you are Pakistani and you are going to discharge cargo in India you won't be allowed to go out because of the political tension out there, and if you're Indian and going to Pakistan to discharge cargo you won't be able to be allowed to go out there. There are some issues with the nationalities and port to port it varies. (Cargo, captain)

At other times when vessels had arrived within port limits and were waiting for a berth for several days, seafarers were unable to avail themselves of the opportunity to enjoy a decent spell of shore leave because companies would not cover the costs of a launch to transport them from the anchorage to the port. One seafarer described how:

> The vessel will stay, for example in anchor two days, the crew, they prefer to go to shore leave. The company won't pay for, ok pay $400 for, the boat who will take you from vessel to the port. (Cargo, 3rd officer)

In some roles on board, seafarers also explained that it wasn't possible to take shore leave. A chief officer explained that:

> You see, once I became chief mate, I did not have the time to do shore leave. But when I was second mate, if I had the chance, I would usually do shore leave. It is

> different when you have the time to go ashore and enjoy some free time. You feel refreshed. Because I am now chief mate, I need to be on board during port operations. (Cargo, chief mate)

Single occupancy cabins

In the context of a busy ship where shore leave is infrequent and working hours are long, and often organised in a shift system, access to a single cabin is of value to seafarers who find privacy and solitude soothing and necessary. Cargo seafarers described how important a private cabin was to them as a place of rest and relaxation. This seemed particularly significant in the context of little or no outdoor space provided for leisure or relaxation (notwithstanding MLC guidance – ILO 2022). When asked if there was outdoor space where they could relax on board one cargo seafarer responded:

> We don't have that. I have not noticed that. Maybe you can stay in the back but if the wind direction changed then the smoke from the chimney goes to you. So, it is just really cabin, tv room and mess room to chit-chat. But [...] outside, I have not experienced that. (Cargo, second officer)

On a cruise vessel a seafarer described how there was an outdoor area for relaxation but as it was also a smoking area and a crew bar she did not like to sit there. She explained how:

> We have [...] what we call a crew bar, which is a smoking area too. If you don't smoke, like me, you don't want to go there. So, I wish [...] they can just make couches that you can sit on and put a coffee machine. In the smoking area, there's a coffee machine. But in other areas [interviewee indicates that there is nothing]. What if you don't smoke?! (Cruise, hotel)

In this kind of context private cabins acquire additional importance. However, on board cruise vessels cabin-sharing is the norm with the vast majority (84%) of cruise sector workers sharing a cabin. This compared with only 7% of cargo sector workers ($p < 0.001$, large effect). In the majority of cases of cabin sharing, women seafarers shared with other women seafarers and men shared with men but in 3% of cases, seafarers shared with people of the opposite sex. Hierarchy mattered when it came to cabin sharing and there were significant differences in cabin sharing across ranks in the cruise sector ($p < 0.001$, very large effect). On cruise vessels manual workers (93%) were most likely to share a cabin, followed by clerical/semi-skilled (87%), junior managers (61%) and senior managers (25%). Department also made a difference to rates of cabin sharing in the cruise sector ($p < 0.001$, large effect). Cruise seafarers working in the marine department were least likely to share a cabin with only 67% stating that they shared a cabin. They were followed by seafarers in the entertainment department (78%), in catering and hotel services (both at 92%), and in the beauty department (94%) where almost all seafarers shared cabins.

Although there are a facilities and resources that companies can choose to provide in support of seafarers' mental and physical wellbeing, such as single cabins, saunas, bathtubs, outdoor relaxation spaces, support for shore leave and so forth, many avoid doing so. Competition, and the pursuit of profit, drives companies to cut spending where they can, and this frequently involves sacrificing the comfort and wellbeing of their workers. On board one vessel a chief engineer explained that:

> Yes, outside space has become less and less important to shipowners. I see why because it's lost cargo space. Because when you're building a ship you if can cut out, if you're building a ship that's a lot of metal they're going to put on the back of the ship for crew entertainment, well that's money they're going to have to pay for building, and then they're going to have to upkeep it, paint it, etc, etc, etc. So, they just cut it back as it's lost cargo space and it's more weight to carry etc, and it's just, crew. Crew welfare, as much as most companies say they're all for it, has become less and less of a thing. [...] so the ships I'm on now, don't have... they're deep sea ships... they don't have a swimming pool, and that would be really nice to have, though the container ship pools which is only like a two metre, like a three metre by three metre square, it was just nice to have, if you're in the middle of the tropics it's nice to have that. But the ships I'm on don't have them and I quite miss it, it was nice. (Cargo, chief engineer)

Profit maximisation is a concern in the management of both the cargo and cruise sectors. However, as we have seen, the differences in the nature of the trades result in different outcomes for seafarers in relation to their living and working conditions (see Table 1). On cruise vessels which carry vast crews to provide passengers with an environment of high customer care, private cabin space is a luxury that most crewmembers cannot access. This is not true for cargo sector workers who can normally expect to be provided with a single en-suite cabin space. However, some facilities that are placed on board for passengers may be occasionally made available to crew members on cruise vessels and this largely explains why crew on cruise ships have better access to saunas than crew of cargo ships.

Table One: Access to therapeutic resources in the cruise and cargo sectors

Therapeutic resource	Cargo	Cruise
Bathtub	8.6%	2.4%
Sauna	15.4%	60.1%
Shore leave in past two weeks	41.6%	84.3%
Private cabin	93.2%	15.7%

The protection of seafarers' health and welfare on board

Having considered some of the limitations imposed on seafarers who are attempting to safeguard their own physical and mental welfare (i.e. lack of access to facilities/shore leave/private space) we now turn to a consideration of company shipboard policies and practices which are designed to protect seafarers' health and welfare at sea. These include, the provision of appropriate personal protective equipment (PPE), COVID-19 prevention/mitigation policies, time limits on the use of vibrating machinery which may cause vibration white finger, the provision of prophylactic items such as anti-malarial tablets/sunscreen/water/soft drinks/condoms/contraceptive pills/period products/pregnancy tests, and access to counselling. We start, however, with a consideration of the direct impact of shipboard work tasks on seafarers' health.

We asked respondents in both the cruise and cargo sector if they had experienced a medical condition on board which they directly attributed to their work. Slightly more cargo sector workers than cruise sector workers ($p= 0.047$, no effect) stated that they had suffered from a medical condition on board which they attributed directly to their work. Eleven percent of cargo sector workers responded that they had a suffered a work-related health issue compared with 9% of cruise sector workers. We asked seafarers to provide details, in their own words, of the health problems that they felt had arisen as a result of their work. Examples ranged from back problems to athlete's foot, from hearing problems to seasickness and from anxiety to heat stroke. We categorised the varied responses we were given into the following groupings: falls/slip/trips; burns; environment-related (e.g. sunburn and seasickness, hearing loss); contagious illnesses; musculoskeletal strains/hernias/fractures; diet-related; stress-related; fatigue-related; chemical-related; welding-related; miscellaneous (see Appendix One for further details). Cargo sector workers were most likely to report diet-related and environment-related conditions while cruise sector workers were more likely to identify environment-related and stress-related conditions (see Table 2).

Table Two: Health problems attributed to shipboard work.[14][15]

Medical condition/cause of health problem	Cargo	Cruise
Falls/trips/slips	0.0%	1.2%
Burns	1.0%	1.2%
Environment-related (e.g. sunburn, seasickness, hearing loss)	16.3%	23.5%
Contagious diseases/viruses	11.2%	8.2%
Musculoskeletal conditions/strains/hernias/fractures	15.3%	14.1%
Diet-related	23.5%	15.3%
Stress-related	7.1%	22.4%
Mental health-related	2.0%	0.0%
Fatigue-related	8.2%	4.7%
Chemical-related	2.0%	7.1%
Carpal Tunnel/ tendonitis	1.0%	2.4%
Dental	1.0%	0.0%
Urinary Tract Infection (UTI)	1.0%	0.0%
Miscellaneous	10.2%	0.0%

Personal Protective Equipment (PPE)

Almost all of our respondents in both the cruise and cargo sectors were provided with personal protective equipment (PPE) on board. Ninety-nine percent of cargo sector workers and 97% of cruise workers stated that this was the case ($p < 0.001$, no effect). When handling chemicals, specifically, 93% of both cargo and cruise seafarers reported being provided with appropriate PPE and, when welding, 96% of cargo sector workers and 91% of cruise sector workers reported being provided with welding goggles or a welders' face mask. However, notwithstanding the encouraging responses relating to the provision of PPE we nevertheless found that 29% of cargo seafarers and 40% of cruise sector workers had experienced skin irritation, itching or redness after handling chemicals on board and 22% of cargo sector workers and 35% of marine department cruise workers had experienced sore eyes or 'arc eye' after welding.

PPE is not always as effective as it should be and one reason for this can be if it is incorrectly sized. Badly fitting PPE has the potential to hinder safe work and may ultimately be counterproductive if the sizing issues are significant. It is disappointing, therefore, that our results indicate that the PPE that was provided on cruise and cargo vessels was not always available in the correct size. While the majority of cargo (79%) and cruise (88%) sector worker reported always having PPE that was of the correct size, some said that it was only 'sometimes' available in their size (cargo 18% and cruise

[14] Percentages represent respondents reporting a condition, in the categories we have assigned, as a proportion of the respondents who described a work-related medical condition (only).
[15] Table 2 excludes the groupings of 'multiple conditions' and 'unclassifiable/unclear' conditions

10%) and a small percentage of workers stated that it was 'not very often', or 'never', available in their size (cargo 3%, cruise 1%). This issue has previously been reported in research about the experiences of women seafarers (Sampson and Acejo 2023) and at interview in this study women seafarers reported the same issues of boiler suits and gloves only being available in designs and sizes that are produced for men. At times inappropriately sized PPE was reported by interviewees to be painful, particularly poorly fitting safety shoes, and this led some seafarers to feel that they had no option but to purchase their own PPE for use on board. One cruise sector worker told us:

> We wear company safety shoes. The only problem there is they are painful to wear. They don't fit well the shape of your feet because they are one shape fits all type. So, what I do is I buy my own safety shoes. It is not allowed, actually, I have to use the company issued safety shoes, but buying my own is better than wearing shoes which causes me so much pain. (Cruise, catering)

Among our cargo interviewees there were several accounts of poorly fitting PPE, substandard PPE provided by companies said to be 'scrimping', and old threadbare PPE in the form of boilersuits (coveralls). There were also accounts given to us of how difficult it could be to wear appropriate PPE in very severe conditions. One seafarer explained:

> On tankers, it is true that you are equipped with all the necessary PPE. If the cargo is dangerous, you should be given safety equipment. If PPE is not given, it is a violation of company policy. However, and this is the problem. [...] exposure to chemical can't be avoided on tankers. Why? Okay, we do sampling. You wear your BA (breathing apparatus) for a day whilst doing sampling. Chemical is highly toxic, corrosive. Wearing a chemical suit all day is so exhausting, draining. I wore a chemical suit for the entire day of my duty. It makes you feel so weak. Now, imagine you are in Saudi, it is so hot there. You will be cooked in your suit. I often told myself, what kind of life is this. So, what we would do, we would just wear half of the chemical suit and tie the other half in our waist. You can't wear it in full for the whole day in that kind of weather. It is so hot in Saudi. You feel drained because of too much sweat. [...] imagine, wearing that kind of suit in an extremely hot environment. For example, you do loading and discharging in Saudi, the temperature there is 40 degrees, you will drop dead from the heat. You will be dehydrated from extreme heat. (Cargo, third officer).

Blanket policies regarding PPE use are intended to protect seafarers. However, when PPE is the wrong size and/or causes pain and/or inhibits safe work and when conditions are so extreme that seafarers cannot bear to wear the provided PPE, it may in itself become a safety issue. However, interviewees told us that failing to wear the appropriate PPE on board could lead to being reprimanded and that in the event of an accident they would be held personally liable, and the company would not cover their

medical, or repatriation, costs. This led to some seafarers wearing painful PPE for the entire length of their contract. One manager told us at interview that:

> One of my staff, an Indian, who has got some huge feet. So, no safety shoes in our ship would fit him. So, he was bearing it for the whole contract. He couldn't walk, [...] That is one thing that really needed effective action. [...] You can have your personal shoes but if you had an accident then you would not be covered by the company because you are using personal things which are not part of the rules and regulations. So that is not allowed. [...] If you see his feet, you would feel pity. He bore it for eight months. He already complained about that but the company didn't do anything about it. (Cruise, catering)

Protection from COVID

In 2020, new PPE was introduced on most vessels relating to the COVID-19 outbreak. We asked seafarers whether they had experienced an outbreak of COVID-19 whilst they were on board a vessel and more cruise seafarers had experience of a shipboard outbreak than cargo respondents ($p < 0.001$, no effect). Eighteen percent of cruise respondents had been on board during a COVID-19 outbreak compared with just 12% of cargo sector workers. Respondents described what had happened in free text and some of the comments conveyed a strong sense of the distress associated with their experiences. One cargo seafarer wrote, for example, that:

> 2020 docked in a port in Spain. Many of us had symptoms and could not work. Had been stuck in port for more than a week. A very awful experience. (Cargo questionnaire respondent)

Another explained that:

> 2021. Chief Cook had to be sent via helicopter because he had life threatening symptoms. We were off the coast of Japan. (Cargo questionnaire respondent)

Some wrote of the fear that they felt when COVID was detected on board. One wrote that:

> 2021. Off the coast of Africa. 10 days high fever and diarrhoea. Very scary and difficult (Cargo questionnaire respondent)

And another stated:

> 2021. All symptoms were manageable and no one got really sick but we had to be on anchorage for those weeks. Everyone was very afraid. (Cargo questionnaire respondent)

On cruise vessels COVID outbreaks also brought fear as one described as follows:

> Height of COVID onboard for an extended period of time. Very scary. (Cruise questionnaire respondent)

However, they also recounted the hardship of being confined on the ship for longer than their contract stipulated, being unable to access dental treatment for an abscess on board, being confined to cabins (albeit passenger cabins in some cases), having very 'basic' food, working 'double-time' to cover for sick colleagues and the mental toll associated with all of these kinds of things. One wrote that:

> 2021. USA. I tested positive but I had no symptoms. It was very chaotic and people were going crazy. I was very ill mentally as I was missing my family (Cruise questionnaire respondent)

Given how recent the pandemic was and the need to continue to protect vulnerable populations from COVID-19 it was a little surprising to find that many respondents in 2024 stated that there was no COVID policy on board their current, or latest, vessel. Fifty-one percent of cruise sector workers and 39% of cargo sector workers stated that there wasn't a COVID policy on board their ship. Furthermore, thirty-two percent of cargo sector workers did not have access to COVID lateral flow tests on their current/last ships. Access to COVID tests on cruise vessels was better but, nevertheless, almost a fifth of respondents (18.2%) stated that they did not have access to COVID tests on board. The difference between the responses of cruise and cargo sector workers was statistically significant ($p < 0.001$, small effect).

Where cargo sector seafarers were aware of a COVID policy on their current/last ship they said that it consisted of one, or several, of the following approaches: social distancing, sanitising, quarantine for those testing positive, use of facemasks, vaccination, testing new arrivals, daily temperature checks and daily testing. For cruise seafarers the policies were described in more or less the same ways but on cruise vessels seafarers who tested positive were moved to a single cabin, on occasion. They were invariably instructed to inform the shipboard medical team and they also mentioned 'hand washing' a great deal. One summed up some common features of the COVID practice on cruise vessels today when they wrote that:

> If we know that we have COVID we have to call the nurse on duty. Don't come out of the room or report personally to the supervisor. Wearing mask and immediately inform the hospital. Wash our hands and don't interact with other crew members on board. (Cruise questionnaire respondent).

Several cruise sector workers indicated that there would be penalties applied if they failed to follow policy, stating that they would be 'punished' for failing to report symptoms. However, there were indications that some seafarers might feel incentivised to ignore, or cover up, symptoms because they would lose basic pay as well as their access to tips. One wrote that:

> A rumour have spread through that if we get positive for COVID we won't get paid for the days we cannot work. (Cruise sector worker).

Although a significant proportion of respondents did not think there was a COVID policy on board their ship, the pandemic did appear to have carried some lessons for cruise and cargo sector workers, and it did appear that some measures associated with sanitising, isolating and distancing were familiar practices on board.

Jet hammers

It is not only COVID and other viruses that carry with them some job-related risk to seafarers confined on board a remote vessel. There are numerous work-related risks to do with working with heavy, sometimes hot, machinery, welding, working with chemicals, working in areas where specific diseases such as malaria are present, lifting and carrying weights, and working in an unstable, hot and noisy environment. Other specific task-related areas of risk include working with vibrating machinery for prolonged periods. We therefore asked respondents about practices associated with working with jet hammers. Marine staff on board cruise vessels were rarely required to make use of a jet hammer for chipping rust in the course of their work and just 3% reported that they frequently did so. However, rust chipping while using a jet hammer was much more common on cargo ships ($p < 0.001$, small/medium effect) and 15% of cargo sector workers stated that using a jet hammer was a regular part of their current or previous job on board. Using vibrating machinery such as jet hammers for prolonged periods can result in long term nerve damage and the condition known as 'vibration white finger' (https://www.hse.gov.uk/mvr/topics/vibration.htm#:~:text=Case%20study-,Introduction,reasonable%20estimate%20of%20employees'%20exposures accessed 10/4/25). However, a large proportion of cargo and cruise sector workers who did use jet hammers on board were not subjected to any limitations with regard to the duration of jet hammer use. Fifty-two percent of cargo sector workers and 51% of cruise respondents stated that there wasn't a limit placed on duration of jet hammer use. This appeared to jeopardise their physical health with 33% of cargo seafarers and 21% of cruise marine workers ($p = 0.040$, small effect), who used a jet hammer on board, reporting having experienced numbness, tingling or colour change in their hands after prolonged jet hammer use. At interview some seafarers provided a better understanding of the situation they faced on board. One seafarer explained that he felt under pressure to keep going when using a jet hammer even if his hands were numb. He described how:

> You can always stop using these tools when you feel that your hands are going numb. You rest for some minutes, then you go back to work again. There are maintenance work that need to be finished. [...] It is more about clandestine stoppage, because you could be seen resting, and therefore accused of not doing your work. [...] Five minutes is fine. That is good enough for a short rest. (Cargo, rating)

Others echoed the comments. One told us that:

> There is no limit to the number of hours of use. So, you could be using them for a whole day. You only stop using them during breaks, say 10:00 to 10:30 break, and then you return to work, then have lunch at 12:00, return to work at 1:00, so the whole day you use vibrating tools. So, you will really feel your hands go numb. (Cargo, rating)

And another stated that:

> Chipping… it's frequent that people are working with them for more than 6 hours, it's pretty common. (Cargo, rating)

Protection from malaria

Moving on from task-related risks to environment-related hazards, we now consider malaria. Malaria is a serious and potentially life-threatening illness that results from parasitic infection following a bite from an affected mosquito (a male Anopheles). Malaria is prevalent in many tropical and subtropical regions which can be visited by cargo and cruise vessels in the course of their operations. Malaria therefore constitutes a specific and potentially serious job-related risk to some seafarers. Our research results indicated that cruise sector workers were significantly less likely than cargo sector workers to operate in areas where malaria is prevalent ($p < 0.001$, large effect). Twenty-seven percent of cargo sector respondents worked in malaria areas compared with just 2% of cruise workers. Of those seafarers who worked in malaria areas, 15% of cargo sector workers and 36% of cruise workers reported that they were **not** supplied with prophylactic medication to protect from the condition. This appears to be a serious oversight by some companies, given that seafarers are unlikely to be able to source their own anti malaria tablets while on board. It warrants further attention.

Protection from the sun

Another environmental hazard with the potential to impact on seafarers relates to excessive ultraviolet light and heat, associated with exposure to the sun. The majority of cargo sector workers (74%) and a large proportion of cruise sector workers (40%) reported being required to work in the open air exposed to the sun in the course of their duties on board. Most of these workers (70% of cargo seafarers and 75% of cruise workers) who worked in the sun were not provided with free sunscreen in association with their duties. Given the strong association between exposure to ultraviolet light and skin cancer this would seem to be a corporate dereliction of duty[16].

- [16] Cancer Research UK states that 'Too much ultraviolet (UV) radiation from the sun can damage DNA in your skin cells and cause skin cancer'. And that 'In the UK almost 9 in 10 cases of melanoma skin cancer could be prevented by staying safe in the sun and avoiding sunbeds' They recommend the application, and regular reapplication, of sunscreen with a minimum of SPF 30

Several seafarers described the challenges of working in extremely hot sunny conditions in the Middle East. An officer described how:

> In 2021, our ship docked in a port in Iran, and it was my first time to experience 51 degrees. It was so hot that leaving the accommodation felt like entering an oven. The arrangement in such situations when you have a good captain or chief mate, they say, okay, if you can't tolerate the heat anymore, seek cover, go back to accommodation, and cool down. We don't want you to drop to the floor unconscious. There are some inconsiderate officers who would pay no attention for how long you're working outside; they don't care. That explains why sometimes there are ratings who lose consciousness whilst working under the sun because they are too afraid to seek relief from the sun. They are too afraid of the chief mate. [...] . So, for example, they are working on deck, and it is too hot, so they seek refuge in the accommodation area, but they are also worried that the captain might see them absent from their workplace. There are situations like that. (Cargo, 3rd officer)

In the cruise sector, staff were also obliged to work outside periodically, depending on their role. One member of the marine department (an ordinary seaman) described how:

> Actually, in my department, we are always exposed to the sun because we are always doing maintenance or we are always doing our work outside. [...] we are always exposed but we actually are like given like a hat. But when I came on board there was not any [hats] available. It was that there's no stock [...] Sunscreen? Yeah, I think they do need to provide us that as well because they don't provide us that. (Cruise, marine department)

More encouragingly, we found the majority of respondents were provided with free water and/or soft drinks when working in the sun. However, significant and worrying proportions of seafarers on both cruise and cargo ships stated that this was not the case. Twenty four percent of cargo sector workers and 33% of cruise sector workers who worked in the open air were not provided with free water or soft drinks whilst working in these conditions. This is of concern given the risks associated with dehydration when working in hot or sunny conditions. The UK Health and Safety Executive recommends that outdoor workers drink plenty of water to avoid dehydration (https://www.hse.gov.uk/skin/employ/sunprotect.htm accessed 25/4/25). This advice is particularly important given that dehydration and heat stroke can be life threatening [17]

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https://www.cancerresearchuk.org/about-cancer/causes-of-cancer/sun-uv-and-cancer/how-does-the-sun-and-uv-cause-cancer accessed 8/4/25.

[17] See for example, https://www.hopkinsmedicine.org/health/conditions-and-diseases/dehydration-and-heat-stroke (accessed 8/4/25)

Sexual health, menstruation, contraception

Our final questions relating to the protection of seafarers' mental and physical health on board were about the availability of products associated with sexual health, menstruation and contraception and additionally the availability of counselling following physical/sexual harassment or assault. Most questions about the availability of products relating to menstruation and conception were only directed at female respondents, but we did ask both males and females about the availability of condoms on board (see Table 3).

Table Three: Access to products related to sexual health/menstruation/contraception. Female respondents only unless specified

Products	Cargo		Cruise	
	Available	Unavailable	Available	Unavailable
Condoms (males and females)	98.5%	1.5%	83.1%	16.9%
Tampons/sanitary towels	41.2%	58.8%	80.0%	20.0%
Menstrual cups	5.9%	94.1%	24.6%	75.4%
Period pants	23.5%	76.5%	11.6%	88.4%
Standard contraceptive pills	5.9%	94.1%	13.0%	87.0%
Emergency contraceptive pills	0.0%	100%	15.4%	84.6%
Pregnancy tests	5.9%	94.1%	22.5%	77.5%

Condoms were the most widely available item of those which we listed. Almost all respondents on cargo vessels (99%) indicated that condoms were available to them on board and the majority of seafarers on cruise vessels (83%) also had access to condoms on their vessels. We asked women about the availability of a range of menstrual care products on board their vessels. Here we found some significant differences between cruise and cargo vessels in relation to tampons/sanitary towels but the small numbers of women seafarers on cargo vessels made statistical significance as such, impossible to confidently assess. Women on cruise vessels (80%) were much more likely to be able to access tampons/sanitary towels than women on cargo ships (41%). Given the regular port calls made by cruise vessels it is likely that even those women who are unable to access tampons/sanitary towels on board their ship would be able to purchase them ashore. This is not at all the case in the cargo sector, where port calls are less frequent, where they do not necessarily take place in daylight hours, and where they are extremely hectic (Sampson 2024). Compounding these difficulties for women working in the cargo sector and needing to purchase sanitary items, are a range of other factors including the remoteness of cargo ports from urban centres and shops, unavailability of local transport and currency to pay for such transport, and the language difficulties that cargo seafarers face in many ports where tourism is not a feature of the local economy and English is not widely spoken. Most menstrual care

items were more widely available to women on cruise vessels than on cargo vessels, but the exception was period pants which were more frequently available on cargo ships (cargo 24%, cruise 12%) but still relatively unusual. Furthermore, the small numbers of women on cargo vessels requires the statistic of 24% to be treated with caution as it represents just 4 respondents in this instance. Contraception and conception-related products were also more readily available on cruise ships than on cargo ships. Ony 6% of cargo seafarers had access to regular contraceptive pills compared with 13% of cruise workers, emergency contraceptives were not reportedly available on cargo ships at all, whereas 15% of cruise workers could access them on board their vessels and pregnancy test kits were only available to 6% of women on cargo vessels and 23% of women on cruise ships.

Access to counselling and confidential medical care following harassment or assault

Harassment and assault are occasionally features of seafarers' lives and work on board. While companies may have anti bullying and harassment policies as well as zero tolerance to violence incidents may still occur causing short- and long-term harm to victims. In this context, responsible companies may make arrangements for seafarers to be able to access confidential medical care and/or counselling in the event that they require it. Our research indicates that such provision is more common on cruise than cargo vessels ($p < 0.001$, medium/large effect). Thirty-four percent of respondents working in the cargo sector reported that they did not have access to confidential counselling or medical support in the event of being harassed or assaulted. This compared with 15% of cruise sector workers. Ten percent of cruise sector workers reported that they could only access confidential counselling on board, 7% reported being only able to access confidential medical support and 69% stated that they could access both counselling and confidential medical support if needed following assault/harassment on board. This contrasted with 12% of cargo sector workers who could only access counselling, 5% who could access confidential medical support and 50% of cargo seafarers who could access both (see Table 4).

Table Four: Access to confidential counselling and/or medical support following harassment/assault

Availability of counselling/medical support	Cargo	Cruise
ONLY confidential counselling	12.0%	10.3%
ONLY confidential medical support	4.5%	6.5%
BOTH confidential counselling and confidential medical support	50.0%	68.7%
NO ACCESS to confidential counselling or confidential medical support	33.5%	14.5%

In relation to the corporate protection of seafarers' health on board vessels it seems there is still a great deal that employers need to consider and further policies/practices

which they need to enact. PPE is normally supplied on most vessels, but it is not always available in the correct size and it is not always appropriate to the prevailing conditions. Further provision needs to be made in relation to protecting seafarers when working outdoors in extreme heat and in sunshine (including sunscreen and free bottled water/drinks). Prophylactic medication for malaria and to protect against unwanted pregnancy needs to be more systematically available on board and products for menstrual care and pregnancy testing are also necessary and should be provided by ship operators on an urgent basis. Finally improved access to confidential medical care and counselling following harassment/assault should be a priority for responsible companies concerned to protect seafarers' physical and mental health.

Access to health care while on board

Having considered seafarers' access to self-care resources and facilities on board along with the company policies and practices which are enacted to protect their health and safety, we now turn to the experiences of seafarers when it comes to medical assistance for both minor and major injuries and ailments.

We asked seafarers a range of questions about the kinds of injuries and illnesses they had suffered on board and what treatment they received for these. In relation to minor injuries and illnesses we offered seafarers a range of responses to select from and also gave them the opportunity to describe other relevant conditions which they had suffered in free text. In relation to major medical concerns, we included a range of possible injuries, but we did not specify any categories of major illness as we were aware that very few seafarers with major illnesses such as cardiovascular disease, cancer and so forth, would have returned to a career at sea. However, seafarers were given the option of describing additional, serious, medical conditions in free text.

Minor injuries and ailments on board

Before asking seafarers to describe their precise experience of ill health/injury on board we first asked whether they had suffered a minor injury or illness, at all, while on board a vessel. Cruise sector workers were slightly more likely to state that they had experienced a minor injury or illness on board than cargo seafarers. Sixty percent of cruise sector workers stated that they had experienced a minor injury/illness on board compared with 53% of cargo sector workers ($p < 0.001$, no effect).

Respondents who indicated that they had experienced a minor ailment/injury on board were then asked to indicate what these conditions were from a pre-coded list of options and they were also given an opportunity to select 'other' and provide free text details. Minor cuts were the most commonly described injuries. Sixty-two percent of cargo seafarers and 46% of cruise sector workers described minor cuts as among the injuries they had experienced (see Table 5). The three most common injuries described by cargo seafarers were cuts, bruises (50%) and minor strains to limbs, joints, or backs (38%).

The top 3 conditions described by cruise sector workers were a little different. Cuts were the most frequently identified injury, but they were followed by minor strains to limbs, joints and backs (31%), and respiratory infections (27%). More cargo seafarers had experienced burns (35%) than cruise sector workers (13%) and they were more likely to have suffered minor skin irritations (37% cargo, 23% cruise) and fungal infections (11% cargo and 3% cruise) than cruise sector workers.

Table Five: Description of all minor injuries/illnesses suffered while on board (only respondents stating they had suffered a minor injury are included)[18]

Minor injury/illness (all that applied)	Cargo	Cruise
Minor burn	34.5%	13.3%
Minor cut	62.0%	45.6%
Minor bruise	50.2%	25.1%
Minor strain to limbs/joints/back	38.2%	31.3%
Minor skin irritation	37.0%	22.5%
Haemorrhoids	7.8%	4.4%
Conjunctivitis	8.8%	7.7%
Respiratory infection	17.2%	26.5%
Fungal infection (e.g. thrush or athlete's foot)	11.1%	3.0%

A varied range of minor ailments were also described by seafarers using free text. They included foreign bodies in eyes, food poisoning, headaches, muscle pain, period pain, nosebleeds, dental issues, urinary tract infections, allergies, boils, dandruff, electric shock (no further details), liver abscess, and fatigue.

We asked seafarers whether following the onset of these minor injuries/ailments they were referred to a doctor ashore. We offered a range of options for them to tick: 'yes in every case' ; 'yes in every case that I wanted to'; 'In some cases but not all of the times I wanted to'; 'no, but I was able to see the ship's doctor' (cruise questionnaire only); and 'no not at all' (see Table 6). Thirteen percent of respondents working on cargo ships had seen a doctor ashore on every occasion when they suffered a minor ailment/injury or on every occasion that they wanted to go ashore for treatment for minor ailments/injuries. Seventy percent had not had treatment ashore when suffering a minor ailment/injury and 17% stated that they had received treatment ashore in some cases but not on all of the occasions that they wanted it. In the cruise sector respondents provided significantly different responses ($p < 0.001$, very large effect). Four percent of cruise respondents had seen a doctor ashore in every case, or in every case that they wanted to, and 52% of respondents in the cruise sector had been able to access medical treatment form their shipboard doctor. This left 40% of cruise respondents not receiving

[18] This was a multiple response question allowing respondents to tick as many minor injuries/illness as applied.

medical treatment at all and 4% being able to see a doctor ashore in some cases but not in all the cases that they wanted to.

Table Six: Access to medical treatment ashore following minor injury/ailment

When you suffered these minor injuries/illnesses were you referred to see a doctor ashore?	Cargo	Cruise
Yes, in every case	4.4%	2.2%
Yes, in every case that I wanted to	8.6%	1.7%
In some cases, but not all the times I wanted to	17.0%	3.7%
No but I was able to see the ship's doctor on board (cruise only)	-	52.3%
No not at all	70.0%	40.0%

We can infer from these findings that the presence of a shipboard doctor on cruise vessels means that seafarers suffering from minor ailments/injuries are generally more likely to access medical treatment on board cruise ships than on board cargo vessels. Cargo respondents were much more likely that cruise respondents to feel that they had not been able to access medical treatment ashore (their only option in the absence of shipboard doctors) on all the occasions that they wanted to, and a lot more cargo respondents did not have any treatment at all following minor injuries/ailments than their counterparts on cruise vessels. On cruise vessels treatment ashore was a rarity but over half of respondents accessed treatment from the shipboard doctor when they suffered from the minor ailments/injuries they had described.

Major injuries on board

In addition to minor ailments and injuries we also asked respondents about major injuries that they had suffered on board at any time in their career. We found a weakly statistically significant difference between respondents working on cargo ships and respondents working on cruise vessels ($p=0.042$, no effect). Cargo sector workers (8%) were more likely than cruise sector workers (6%) to have experienced a major injury on board. As with minor injuries we provided a list of categories of major injury for respondents who said they had experienced a major injury to select from when describing their past injuries as well as a free text option (see Table 7). The most common injuries among cargo workers were fractures, major lacerations and major strains. The three most common major injuries among cruise respondents were major strains, major bruising, and fractures.

Table Seven: Major injuries on board

Major injury/injuries description (all that applied)	Cargo	Cruise
Loss of consciousness and/or concussion	3.6%	22.2%
Fracture	58.0%	50.0%
Major burn	32.4%	46.7%
Major cuts/lacerations	38.9%	46.7%
Major bruising	26.5%	53.3%
Major strain	36.4%	77.8%
Major skin irritation	13.3%	18.2%
Lasting damage to limbs/fingers/toes	31.3%	20.0%

In terms of the other conditions described by seafarers in free text options cargo seafarers noted the following: arm dislocation during ballast inspection, cornea burn out due to welding, dental damage, elbow dislocated, herniated disc, hypothermia, knee injury, malaria, particle stuck in eye, ruptured appendix. Cruise seafarers noted: hernia, carpal tunnel syndrome, De Quervain's Tendinosis, fall from stairs, shoulder problem (long term).

At interview we were given an insight into what it is like for seafarers to sustain an incapacitating injury and the limited treatment and diagnostic solutions that are available to them. One cargo seafarer recounted the following experience:

> There was a ladder attached to the bulkhead and while I was going up, must have been a split second lapse of concentration and I lost my grip and fell, about a metre and a half, but as I fell I fell backwards on to my backside, but obviously my hands kind of instinctively shot out and I landed most of my weight went on to my wrist, and it hadn't quite registered what had happened, and I stood up and tried to get back on to the ladder, and both the motorman and there was an able seaman walking around, and he was like no you should probably go and get that checked, and that's when I kind of looked and realised my wrist was like this in shape [gestures shape of wrist], and I thought 'maybe you're right'. So, but this actually quite annoyed the engineers a little bit that I didn't go down to them, I just went straight to the bridge first, but I think that's just, you know the engine/deck relations. So, I went up to the bridge and the third officer was there and I says 'ah, I'm here to complicate your day', and he was like 'what do you mean' and I was like (laughs). So, he immediately called the captain and the two of them had a look and they were like 'right, get some ice on it, make sure it's kept straight and we are going to send you to the doctors because this could be broken'. So that was fine, and it was actually the chief cook had ice packs in the freezer so he put two packs almost as a splint, and then we wrapped it up,

> bandaged it and then put me in whatever they call that, it's like a sling. But we had maybe four days to the next port so during that I was just told to stay in my cabin and do nothing. We got to the port in Romania and then I was informed that yes that afternoon the agent would come and pick me up and take me to a doctors for an x-ray and a check. The x-ray was done there, and the doctor wasn't sure if I had a fracture based on the x-ray. So, then the agent took me to the pharmacy to get a proper wrist support with metal inside it and stuff, but the doctor in Romania was adamant that I should then have an MRI scan, the only problem was [...] this was the Saturday evening, next time he could fit in somebody for an MRI was on the Monday morning and we were leaving on the Sunday night, so the captain made the decision that I should be sent home because we didn't know if it was broken or not, and there was no time to get that confirmed, and I could be out of action for another week, or another six weeks, so they contacted the company and they were able to very quickly book repatriation from Romania back to Scotland and I left essentially the next day, the next morning. (Cargo, engine cadet).

In illustrations provided to us by cruise sector workers some accounts also gave a strong sense of the kinds of issues that are faced by seafarers when they sustain injuries on cruise vessels. One cruise worker told us how:

> On my previous trip, I actually got into an accident. Okay. I fell inside a little boat and I actually broke a rib, my lower rib, right lower rib. Okay. And I was unable to like breathe for like a second, a couple of seconds. And then I was rushed to the medical and all they did was like X-ray. Because I was... I was describing that I feel a lot of pain and I couldn't really breathe. It hurts when I try to breathe. When I move, I can't really move. I can't walk properly. So that's why they did an x-ray and they saw that I had a broken... [...] Actually, that was like, I was kind of disappointed with them because the reason they didn't send me there, they didn't send me to the shore side because they said that, what do you call this, they said it's expensive in Norway, the cost of medical expenses are expensive in Norway. So, since it's just I think they can handle the broken rib. It can be treated by first aid. They didn't send me ashore. [...] I was just on board. I was given an off sick for like seven days because they couldn't send me home. I mean immediately as well because I couldn't travel with a broken rib. It would be very hard for me with all the luggage I have. I couldn't lift. I can't lift a heavy bag. So, they waited for like seven days for that. For me to be able to walk a little bit more like properly. But yes, it was still hard for me to get back home. (Cruise, marine).

Another seafarer gave an example of a more positive experience when he told us that:

> In 2008. I was medically repatriated because I had a cervical herniated disc. But everything was fine. I was sent home, but they also paid my basic salary for three

> months. I underwent physical rehabilitation for five months and all expenses were paid for by the company. [...] So one day I felt very stiff, and I could not move my body properly. So, to determine what was happening to me, I was sent ashore for medical tests in Miami. So, I had MRI. So, upon seeing what was wrong with me, they decided to send me back to the Philippines. [...] So, everything was arranged for by the ship doctor, and everything was paid for by the company. (Cruise, senior catering)

We asked seafarers whether following their major injuries they were referred to a doctor ashore. We offered a range of options for them to tick: 'yes in every case' ; 'yes in every case that I wanted to'; 'In some cases but not all of the times I wanted to'; 'no, but I was able to see the ship's doctor' (Cruise questionnaire only); and 'no not at all' (see Table 8).

Table Eight: Access to medical treatment ashore following major injury

When you suffered these major injuries were you referred to see a doctor ashore?	Cargo	Cruise
Yes, in every case	68.8%	27.8%
Yes, in every case that I wanted to	12.5%	20.4%
In some cases, but not all the times I wanted to	10.0%	7.4%
No but I was able to see the ship's doctor on board (cruise only)	-	40.7%
No not at all	8.8%	3.7%

Despite the major nature of their injuries some respondents reported that they did not receive any medical treatment from doctors ashore or on board (the latter was applicable to cruise only). Nine percent of cargo seafarers and 4% of cruise sector workers stated that they did not see a doctor at all. A further 10% of cargo sector workers and 7% of cruise workers did not see a doctor ashore on every occasion that they wanted to. This would appear to be a highly unsatisfactory situation.

For many seafarers, access to professional medical treatment was better than this, however. Eighty-one percent of cargo sector workers were referred to a doctor ashore in every case that they suffered a major injury, or in every case that they wanted to see a doctor ashore following a major injury. Among cruise sector workers 48% of respondents who suffered a major injury were able to see a doctor ashore in every case or in every case that they wanted to. A further 41% of cruise sector workers received medical treatment from the shipboard doctor following their major injuries.

Notwithstanding this encouraging overall picture, this nevertheless, leaves significant proportions of cargo and cruise sector workers feeling that they had been unable to access medical treatment from a doctor ashore when they needed to, following a major

injury[19] . Furthermore, several difficulties are associated with the current system for providing seafarers with shore-based medical care in port, even when access is permitted. These include reliance on agents who are not qualified to evaluate patient needs or appropriate local services as well as language barriers and the need for haste. Our interviews with medical professionals described some of these issues. One expert told us that:

> The shipping companies they simply put it in the hands of the agent, and agent is agent, he's not a medical person, so he's actually not in the position to see, to evaluate the level of the medical help provided. The other problem is that they are very short in the port, ships are now 12 hours, so there is very short time for the doctor on shore to provide adequate medical help, and on the other side knows that he will probably never see the patient again, so he is somewhere in the middle of that. There is no time for the complicated diagnostics and if everybody is under the pressure, doctor to do it immediately, agent not to disembark the seafarer because if there is a need to disembark him then the ship has to wait, if they wait for a new seafarer to come to be embarked on board, and there is a pressure, a pressure on everybody in the whole chain. (Maritime medical expert)

Telemedical assistance

On board cargo ships it is frequently the second officer who is responsible for making sure that the medical and first aid kit on board is updated and they can usually give seafarers medicine for very minor ailments when this is requested. However, in any cases where symptoms are more worrying or where the appropriate treatment is not obvious, the vessel captain may become involved and there is normally an option for them to access telemedical support services ashore. We asked cargo sector workers if in their career they had experienced being on a ship when telemedical assistance was sought in support of a sick or injured crew member. Thirty-five percent of cargo sector workers stated that they had been on board a vessel when telemedical assistance was sought, 57% had not and 8% did not know. At interview some seafarers described how remote assistance had improved from the 'old days' in the event of an accident or illness occurring while a ship was far from shore. One captain summed the situation up as follows:

> So, when I started my career I didn't see any medical subscriptions like third party medical subscriptions, what we have these days. So, what we used to do, either we contact the company to arrange a doctor on the satellite phone, or still it depends if we are open sea and if there is some land nearby, it's not like an

[19] NB We also asked seafarers about medical care following a sexually transmitted infection (STI). However, the numbers of seafarers who reported having had an STI was too small to undertake further analysis (1.2% of cargo respondents and 0.7% of cruise respondents)

> open sea, so we can still contact them by satellite communication, like a text message, so we can basically give them the whole symptoms and the condition of the patient in a written text, and there is a format for that, it is given in the International Code of Signals, you can actually get how you need to send a message regarding medical emergencies to the shore, so that they can understand it in a common language, and we can use satellite voice communication as well. But these days as it was not really practicable - to be honest the satellite communication it doesn't work well always - so these days what we are doing is, for example, if we couldn't contact the nearest coast station because as you see if they are not manned properly, and the communication is not maintained properly, so these days the companies are subscribing some additional third party hospitals, I actually forgot the name of the subscription we had on the last ship, so they actually used to give us weekly pamphlets regarding health and safety and they were 24 hours available, and they had all doctors available. So, we didn't have to do these old school things, like making a message, then sending it them, and then waiting for them to reply, so it was really handy. So there was one instance when the second mate had some issues with his root canal, so we immediately contacted that hospital service, that third party service which our company has subscribed, so we received a call from the doctor and she actually and she was really helpful and very polite, and you know when you are in pain and you know that you're talking to an actual doctor - it gives you the mental pain as well as the patient - that you are being treated well, so he [the seafarer] was really satisfied with the service and so were we. (Cargo, captain)

The improvements described by the captain are welcome, but they have clearly developed from a very low baseline. Telemedical services frequently rely on third parties conveying information back and forth between patient and doctor and as such they are fraught with the potential for significant information to be missed and for an incorrect diagnosis to be arrived at. Our interviews with maritime medical experts shed light on both the advantages and the shortcomings of telemedical service provision and how outcomes for seafarers can depend heavily on the skill and professionalism of both the telemedical service providers and the captain and senior officers on board. One described how:

> There are good stories and very bad stories. We had a case of a seafarer was denied medical help by the captain, he had some, they were in Ivory Coast, and he got fever, and they sailed out and it turned out that this was malaria, and he died. It was a very complicated case, the captain tried to falsify the ship log, and the guy at the end died. [...] they were heading to Brazil and captain was falsifying the log [...] he was in the hurry, and I know that he then didn't go all the way through, he go back and lost the time, so at the time when he came to the

> place the guy was dead. [...] He left the port, he speed up ship to reach the [...] place earlier, so that he can be there a day or two, and he falsified the ship log so when the problem started and the guy was, he saw that he will need medical attention or whatever, he turned back with the ship and then after that to, how would I say, to compensate those two days that he falsified in the log, so when he came back it was too late for the guy to save him. [...] Cargo ship yes. Very sad story.
>
> *Interviewer: A terrible story. You said you had some good accounts as well?*
>
> There was that one when we treated him on board with antimalarial drugs that he had and he managed to survive, come to the port, to the hospital and treated, it was a [...] company ship that I am doing pre-employment examinations, so they know what to do and I told them what to do, and happy ending. (Maritime medical expert)

Not all telemedical consultations are able to produce such a good outcome as in this latter case (described by the medical expert above) and some of the difficulties that arise are somewhat intractable and have been touched on in other research. Dehours et al describe for example how:

> Another problem evidenced is inherent to all teleconsultations, whether these take place at sea or on land [12, 13]. This relates to the absence of a physical examination, which is a limitation of telemedicine and a certain source of error. This is also often aggravated by language barriers, which are common for seafarers on the open seas [12]. To offset this difficulty, objective examinations such as measuring temperature, pulse oximetry and respiratory rate appear to be effective and particularly useful in the context of COVID-19 [14] (Dehours et al 2022:87)

Our interviews with medical experts involved in providing telemedical services to ships revealed that seafarers on board vessels were often unable to provide medics ashore with the objective diagnostic data that would otherwise assist in correct diagnosis in the absence of an ability to personally examine a patient. One expert explained that:

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

Under reporting of medical problems

In order for a diagnosis and treatment plan to be even attempted, however, seafarers need to report their need for medical attention to an officer, or a medic, on board. We asked seafarers if they had ever needed medical attention but been afraid to ask for it while they were on board. We found that there was no significant difference between the responses of cruise and cargo seafarers to this question. Fifteen percent of cargo seafarers and 16% of cruise sector workers reported that they had needed medical treatment on board in the past but had been afraid to ask for it. In order to understand why such a high proportion of seafarers would be afraid to ask for medical attention on board we asked them to tick as many reasons as they had for this decision from a list of possible explanations and we also provided them with the opportunity to explain their reasons in free text, if they were not represented in our list of options (see Table 9).

Table Nine: Reasons why seafarers did not seek medical attention when they needed it on board

Reason given for not asking for medical attention	Cargo	Cruise
Afraid I would not be re-hired if medical condition known	43.3%	60.8%
Afraid I would be sent home if medical condition known	53.0%	59.1%
Afraid I would get poor appraisal if medical condition known	36.0%	19.9%
Other (please specify)	5.5%	2.9%

Although we did not identify statistically significant differences between the proportions of cruise and cargo seafarers who were afraid to report a medical condition on board, we did find that there were some statistically significant differences between cargo and cruise sector workers when they explained their reasons for this decision. More cruise sector workers (61%) were afraid that they would not be re-hired than cargo sector workers (43%). This difference in response was statistically significant ($p<0.001$, small/medium effect). There was no statistically significant difference between cruise and cargo seafarers who said that they did not seek medical treatment because they were afraid of being sent home (53% cargo, 59% cruise). However, we did find statistically significant differences between seafarers who had not sought medical attention because they were afraid of a bad appraisal on board ($p< 0.001$, small/medium effect). This fear was greater among cargo sector workers (36%) than cruise sector workers (20%). The 'other' reasons given by cargo seafarers for not seeking medical treatment when they needed it included: 'medical officer sometimes telling other officers what health problems do other have. They were making jokes. I preferred to keep my problems private', 'not always get medical assistance', 'because of procedures that need to be followed', 'manageable pain level', 'route/country', 'the minor injury healed', 'you suspect something so observe first (standby mode)'. These comments indicate that lack of confidentiality, too much bureaucracy, mistrust of medical care available in local ports/countries, and a tendency to want to delay treatment until certain that it is required, underpin some cargo seafarers' decisions not

to seek medical treatment on board. Cruise seafarers were less likely than cargo respondents to specify other reasons for not seeking medical treatment. However, the comments that were given were of a different nature to those given by cargo sector workers. They included: 'it is just a recurring muscle pain which started when I strained my arm lifting a heavy bucket of water. Knowing how the ship's doctor work, they would probably just give me a muscle gel to relieve it. Hence I did not ask for help', 'people angry at me for being not able to do my job', 'tasks would pile up and will be needing a lot of effort to catch up a lot with the job', 'the medical staff are rude and seem so busy whenever crew goes there to have something checked it's as if we're a burden to them'. In contrast to cargo sector workers therefore cruise workers were more likely to feel that being signed off work would cause issues for them and their colleagues, and they didn't want to ask the medical staff on board for help either because they felt the staff were ineffectual or because they felt they were unapproachable.

Accessing shore-based medical care

A major difference between cruise and cargo sector workers is ready access to a professional qualified medic on board. Given the presence of medical personnel on board their vessels it would be reasonable to expect that cruise seafarers would be more likely than cargo sector workers to indicate that they had experienced asking to see a medical professional ashore and being refused permission. We might, for example, anticipate that in some cases cruise sector workers might want treatment ashore but might be told that the treatment available from medical professionals on board was adequate for their needs. Such a situation could not arise on cargo ships simply because there aren't any shipboard doctors on cargo vessels. However, although such supposition might be logical, it transpired that cargo seafarers had significantly more experience ($p < 0.001$, small effect) of being refused permission to see a doctor ashore than cruise sector workers. Seven percent of cargo seafarers stated that they had experience of asking to see a doctor ashore but had been refused permission compared to 2% of cruise sector workers. In almost half of cases cargo sector workers elaborated, when asked, that this had only happened during the COVID pandemic. However, 40% said that it happened **before** the pandemic and 11% stated that it had happened **both before and during** the pandemic. Cruise sector workers were even more likely to state that refusal of permission to visit a doctor ashore had happened before COVID ($p = 0.042$, medium effect). Sixty-seven percent of cruise sector workers said that permission had been refused before the pandemic, 21% said that permission to visit a doctor ashore had been refused during the pandemic and 13% stated that it had happened both before and during the pandemic.

We further explored situations where respondents had been refused permission to visit a doctor ashore by asking them who it was who had refused permission. Cruise sector workers were provided with an additional option of 'supervisor' which was not given to

cargo seafarers as in small crews on cargo ships it is the captain who is the key decision maker in such matters (see Table 10).

Table Ten: The people/groups identified as having refused to give seafarers permission to visit a doctor ashore

Who refused permission (multiple responses permitted)	Cargo	Cruise
Shipboard supervisor	-	12.5%
Captain	46.6%	20.8%
The company	42.5%	16.7%
Immigration officers ashore	42.5%	4.2%
Don't know	5.5%	50.0%

Among cruise sector workers, supervisors were identified as having refused permission to seek medical treatment ashore when asked, by 13% of respondents. The captain was significantly less likely to be perceived as responsible for refusing permission to go ashore for medical treatment ($p= 0.026$, small/medium effect) by cruise respondents (21%) than by cargo sector workers (47%). Cruise sector workers were also significantly less likely ($p= 0.022$, small/medium effect) to see the company as preventing them from going ashore for medical treatment than those in the cargo sector. Seventeen percent of cruise sector workers reported that their company had refused them permission to go ashore for medical treatment compared with 43% of cargo sector workers. Immigration officers were also less likely to be seen by cruise workers as responsible for refusing permission to access medical treatment ashore than by cargo sector workers ($p< 0.001$, medium effect). Just 4% of cruise workers believed that immigration officers had prevented them from accessing a doctor ashore compared with 43% of cargo sector workers. Finally, there was also a significant difference between cargo and cruise sector workers ($p< 0.001$, large effect) when it came to feeling that they knew who had refused permission for them to go ashore to see a doctor. Fifty percent of cruise workers who said that they had experienced being refused permission to see a doctor ashore had no knowledge of who it was that had made that decision. This compared with just 6% of cargo workers who stated that they did not know who had refused them permission to be treated by a doctor ashore.

At interview seafarers told us about experiences that shed light on the reasons why they might be denied medical care ashore. Sometimes these involved being directly prevented from seeking medical treatment ashore. A desire not to delay a vessel or incur costs for the company motivated some senior officers to avoid requesting the necessary permission to seek medical care from shore-based doctors when it was required on board. One seafarer described a serious injury for which he was denied medical treatment ashore. He described how:

> What happened was I got hit by the mooring line, under tension, so it hit my lip, we tried to free that but because it was stuck. it was cold and everything and you know accidents happen, so I actually cut my entire lower lip. So first thing was my ship, the people dedicated on medical care on board wasn't [...] I mean in rectifying or trying to treat me because yes we do learn, background for senior officers we go through medical care training where we learn to do suturing which is like stitching, basic IVs, so we have the training but like I said it's not like doctors or nurses, that you do that as a profession you know. So, of course, they weren't confident in administering that to me, so I had to deal with like an injury. It took about two to three weeks to be calmer but in the meantime, I couldn't eat and I couldn't work. I mean I had to work even though I couldn't work, I had to still work, [...] and I had to, all I did was take painkillers, you know there wasn't, and as I said we were leaving the port at the time, but [...] they didn't dare to request for me to leave, to bring the ship back because I think they were afraid about some cost and how the company would view that. So, it's not only like, you see the point about having dedicated medical professionals on board, might make a difference in the sense where if you are under some pressure on the commercial side which is always happening on ships, so having a dedicated professional might somehow help in certain circumstances, I wouldn't say all,[...]. I've heard about other stories where some certain medical help was delayed or turned down because of cost, resulted in the loss of life. I have known people in the past, in my career, they sustained severe injuries and wasn't able to receive the required medical aid.[...]I mean I would like at least some treatment, or just like a basic, it's a wound yes, but you know it's nothing small, it's bleeding very heavy, and I blacked out for a while from the shock and the impact, maybe a few seconds then the next thing you know you're bleeding all this. It would be good to, like I said, if they have a professional there, I suppose that they will be able to render proper care in that sense. (Cargo, senior officer)

However, there were also occasions where medical consultation ashore was permitted, and facilitated, but when treatment was hampered by a system reliant on agents for assistance and often for translation. One seafarer described a situation where he felt left with a very unclear understanding of his medical diagnosis and the treatment he needed. He described how:

> The agent seemed to do that job fairly well, the only problem was he didn't know much of the medical jargon. It's the same ways like I can speak German but I can't speak to you about anything to do with ships and engineering, because I just don't know the words, you know, so like he was like, instead of like, [...] saying you know whatever this is, it's this bone here, kind of thing [...]. It would have been better to have some sort of translator there (Cargo, junior officer)

Accessing medical care on board

Most contemporary cruise vessels set forth with a medical team on board and it is usual practice for this team to offer treatment to both crew and passengers. Ninety-five percent of cruise respondents sailed on ships that carried a doctor on board. However, the process by which seafarers can access the medical team, and the treatment which they receive at the hands of the team, can deter, or conversely encourage, seafarers in need of a doctor to approach the medical professionals on board. In order to explore shipboard access to a medical doctor in the cruise sector in further detail, we asked cruise sector workers about the procedures and protocols associated with visiting the doctor on board their vessel.

The vast majority of cruise respondents (95%) reported that they sailed with a doctor on board. Of those who worked on a vessel with a doctor on board, 96% were able to make an appointment with the doctor whenever they wanted one and 35% reported having had an appointment with the ship's doctor in the course of their current contract. In the majority of cases, seafarers reported just one appointment (in 67% of cases). However, 25% reported two appointments, 4% reported 3 appointments and 1% reported 4 appointments during their current or most recent contract. In order to make an appointment with the ship's doctor just over a fifth of cruise sector workers (21%) had to go through their supervisors and in only 19% of cases did cruise seafarers report that their appointment would be kept confidential from other staff and/or supervisors. In 39% of cases, respondents believed that their medical records were made available to supervisors, or other managers, on board with 22% stating that they did not know if this was the case or not. Requirements to make medical appointments through supervisors and practices allowing supervisors/managers to access medical records, have the potential to deter seafarers from seeking timely medical attention for conditions which they think may result in repatriation or which are of a particularly sensitive nature. More positively, when we asked seafarers how helpful they had found medical staff on board they were generally positive. Ninety-one percent of respondents who had seen a doctor on board reported that they had been very helpful or helpful compared with just 2% who thought they had been unhelpful or very unhelpful (7% felt they were neither helpful nor unhelpful). When invited to tell us anything they would like about visiting a ship's doctor while working on board many seafarers wrote comments about the care they had received. For example, one had received guidance relating to posture to ease back pain, one had been given valuable advice about foods to avoid in order to alleviate an allergic skin condition, some received regular check-ups due to pre-existing conditions, and several commented on the speed of appointments and knowledge and kindness of the staff. However, alongside the many positive accounts of shipboard treatment some seafarers complained about the poor English language skills of the doctors on board, some stated that the medication that was prescribed was too strong for them (in the context of work), and some felt that they were discriminated against or patronised.

On cargo vessels seafarers rely on senior officers for medical treatment for minor conditions and/or until assistance can be sought ashore. However, our research participants generally felt that the medical training and experience of officers was inadequate, and they had little confidence in their ability to treat seafarers on board. One seafarer explained that:

> I have no confidence. In fact, when I am unwell, which is not often, for example, in my last contract, I had a tooth ache. So, I asked the second mate, [...] when I asked him what medicine to take, I was surprised. I knew more knowledge, I had more opinion about my condition, than him. So, I told myself, you couldn't really rely on your officers about medical matters. And this observation cuts across nationalities, so not just Filipinos, any nationality. So seafarers should be vigilant, should know things. (Cargo, rating)

In several examples seafarers told us of how when they were sick or injured they were just left to wait until shore-side help could be sought. One seafarer gave an illustration of just such a scenario. He explained that:

> So what happened was, our trip from Africa, to Europe, in Spain, it was about two weeks more than our trip. When we left Africa, my stomach started to hurt. First, I thought it was just bloating. Until I couldn't walk anymore. So, I stayed in the cabin for about 10 days. I couldn't walk and then I was given anti-inflammatory, anti-pain. Something like that. So, what happened is I had appendicitis and it didn't go away. So, I was traumatized. I realized that if there's an emergency or between life and death, it would be a pity if you are in the middle of the ocean. And I thought about not returning to the ship [i.e. leaving his career]. So, what happened was I suffered for like long, like 10 days. We are on the way to Europe. [...] When I arrived in Spain, on the 11th day I think, I was already on the way down, I was given an emergency surgery in Algeciras, Spain. So, the doctor said, it's good that my appendix was contained or that my appendix didn't break while enroute. I feel like the medicine helped. At the same time, I didn't really work. I just stayed in the cabin, minimal movement. My other crew mates also told me that it might be appendicitis so I should not move about. We were far from port too and there is no helicopter lift. (Cargo, junior officer)

Many of our interviewees explained that they would like a medical professional to be required by the Maritime Labour Convention to sail with them on their vessels. Overall, there was an expressed lack of confidence in the ability of fellow officers, or indeed themselves, to treat injured or sick colleagues. One seafarer put it like this:

> All ships should have doctors because I know that we have trainings for first aid, medical and we were taught how to diagnose persons especially when there are accidents but in my previous experience when I was a cadet before, we had a

> fellow crew that had malaria. But he was diagnosed with malaria when we are at port which was one week of him having the symptoms. Everyone thought, and the medical officer thought, that this was just a normal fever but it greatly affected him and he was hospitalized. (Cargo, rating)

Another interviewee told us that:

> The medical officer has no idea what ails you. So, I think much better if there is a nurse or a doctor. Their presence is even more needed during long voyages. Now, if there is a medical emergency, an airlift is only possible if the ship is only some distance to the shore. But if the ship is in the Indian ocean, Atlantic ocean, many days away from the nearest island, that cannot be done. The officers on board, they have no idea how to treat medical emergencies. (Cargo, rating)

Another gave examples of two incidents that he had experienced as a junior officer and later as a captain, including one where he felt a great deal of trepidation in deciding to divert his ship for medical help. He told us that:

> I was 3rd mate, I was on board ship, we were crossing the Pacific from Korea to US, it was during Christmas time, it was very rough weather there, in the Pacific, and we had an ingress of water at the forward part of the ship because of the heavy weather. So, there were three people who were going to check, so the next day because we had this alarm, in the night, so the master decided let's go in the morning because the weather is so rough we can't go now and it's nighttime, so he decided to send people the next day, the next morning. So five of them went forward, we altered the ship, made sure that there is no more rough weather on the foc'sle of the ship, and unfortunately three of those seafarers were taken by a wave, very hard, and they were in the middle of the Pacific and one of them fell off from the deck, he somehow fractured his back bone and he was about to go overboard. One of them has his lower left limb into two, yes, like this, so these were two very critical life-threatening emergency conditions. That's when we really felt that there has to be a doctor on board the ship. So we were in the middle of the Pacific, and there's nowhere to go because we were on the ship in the middle of the Pacific, rough weather, and the closest land was 800 nautical miles from the ship which takes about three days to reach, and if you consider the rough weather it takes around five days, so we were not getting any medical support, I mean obviously doctors can say we recommend…, but at the time, the kind of stress you work with that situation, the people in those kind of distress, it's really, you feel like there has to be a doctor for this kind situation. So obviously for these kind of situations we really need to have a doctor on board, […] that's the one case. The other case is, it was not that serious as I just expressed, this case was an appendicitis case, so this is something which very commonly happens on board the ships, even I have personally had the

> experience where I had appendicitis on board the ship. But I won't discuss my situation, let me bring another seafarer when I was a master, and that is when I was so afraid that the doctor in the shipping company was not very supportive, because they never knew what's happening on ship, ok, so let me bring you this example. We were going from US to Brazil, and a few days after departure the vessel goes to Jamaica, seafarer came to me and complained of stomach pain, and I was observing him for a couple of days to see if it subsides, but it never happened, and then I was worrying, because I'd been through that particular kind of situation, I knew the symptoms, so I was comparing my symptoms with his symptoms, and it was coming up, my observations were getting really accurate so I was really positive it was really a case of appendicitis. But then I get in touch with the doctor in the shipping company, they thought it's a normal problem of acidity or gastric issue, so I really had to fight against experts sitting in the office, because I'm not a doctor, but I had a gut feeling it's a serious issue because, you might be knowing that appendicitis is something that if it bursts then it's an issue, it's a life issue, and once we came, I mean we were in Jamaica so we had land close by, the next port was two days and I don't want to take that [risk] so what I did I altered the ship and I took the ship to Venezuela, a diversion, and the guy was taken to the hospital, and I was praying that, I mean obviously I don't want him to have appendicitis, but I was praying that my decision was right because altering the ship takes a lot of … you know it's a lot of expense for the shipping company, so it's not a very easy decision to take, so when he went to the hospital, the seafarer he was tested and he was found to be having appendicitis. So even then I was feeling there has to be a doctor on board the ship. (Cargo, captain)

These accounts provide very graphic evidence of the inadequacies of the existing provisions that are made for seafarers' healthcare on board cargo vessels. They raise questions about the morality of sending workers out to sea without access to adequate medical care and the discussion of whether or not medical personnel should be carried on board cargo ships is one that we will return to elsewhere (see Sampson et al 2025c).

Access to dental care on board

As well as asking about shipboard medical care we also asked cruise workers about dental care on board their vessels. Four percent of cruise respondents sailed on vessels which carried a practising dentist on board. Just over half of these respondents reported that despite the presence of a dentist on board they were not able to have an appointment with them when they wanted one. Those who were permitted dental appointment were not always allowed these for 'any' treatment but only for emergency care. Thirty-seven percent of cruise respondents who were sailing on vessels with a dentist could make appointment for everyday treatment and 12% could only make

appointments for emergency treatment. Dental appointments usually had to be requested via supervisors on cruise vessels. Fifty-four percent of seafarers had to request their supervisor's permission to visit their shipboard dentist, 23% of respondents, with a dentist on board their vessel, did not have to go through their supervisor to make an appointment and 23% of respondents, with dental care on board, did not know what the procedure was in relation to accessing an appointment. Forty-two percent of respondents with a dentist on board stated that their appointments were not kept confidential from their supervisors or other managers and a further 30% did not know whether appointments were confidentially managed or not. Nineteen percent of respondents with a dentist on board stated that their dental records were not kept confidential from their supervisors or other managers and a further 36% did not know whether records were confidentially managed or not. Only 2% of respondents sailing with a dentist on board had visited them in the course of their current contract. Among the small number of seafarers who had ever visited a dentist on their ship in the course of their career the majority (85%) felt that the dentist had been helpful or very helpful and a minority (7%) felt that they had been unhelpful or very unhelpful (the remainder were neutral about their experience).

Accessing shore-based dental care

The majority of cruise sector workers are in the same position as cargo sector workers inasmuch as they do not have access to shipboard dentists. We therefore asked cruise and cargo sector workers about their experiences of accessing dental care ashore in the course of their contracts. About a quarter of respondents in the cargo (25%) and cruise sector (26%) reported that they had requested a dental appointment ashore at some point in their career at sea. The majority of seafarers who had requested dental treatment ashore had been allowed to access it. However, a significant proportion of cargo seafarers had experienced being refused permission to visit a dentist ashore in the course of their career. Sixteen percent of cargo respondents who had asked to see a dentist ashore reported that they had been refused permission, compared with just 6% of cruise sector workers ($p< 0.001$, small effect). In just under half of these cases among cargo seafarers (46%) and in 61% of cases among cruise workers this was during the COVID pandemic. However, of those refused permission, 48% of cargo respondents and 17% of cruise workers were refused permission to seek dental treatment ashore before the pandemic and a further 6% of cargo sector workers and 22% of cruise sector workers stated that this had happened before the pandemic and also during the pandemic. The differences in these experiences between cargo and cruise workers were statistically significant ($p= 0.030$, large effect). Among cruise sector workers who had been refused permission to go ashore for dental treatment 14% reported that it was their supervisor who had refused them permission. More cargo (31%) than cruise (7%) sector workers stated that the captain had refused permission for them to obtain dental treatment ashore. Over half of the cruise respondents (57%) who had been refused

permission to seek dental treatment ashore considered that it was the company that had refused permission but the proportion of cargo sector workers who stated the company had refused permission for dental treatment ashore was lower at 36%. Relatively high proportions of both cruise (64%) and cargo (47%) sector workers who had been refused permission to go ashore for dental treatment stated that immigration officers had been responsible for the decision. Conversely small proportions of cargo sector workers (7%) and cruise respondents (14%) did not know who had refused permission for them to go ashore to obtain dental treatment (see Table 11).

Table Eleven: The people/groups identified as having refused to give seafarers permission to visit a dentist ashore

Who refused permission (multiple responses permitted)	Cargo	Cruise
Shipboard supervisor	-	14.3%
Captain	31.1%	7.1%
The company	35.6%	57.1%
Immigration officers ashore	46.7%	64.3%
Don't know	6.7%	14.3%

Conclusion

While seafarers in our study demonstrated commitment to the maintenance of their own health (Sampson et al 2025a, Sampson et al 2025b) they were profoundly limited in the self-care that they could practice on board both cargo and cruise vessels by the limited facilities which they could access. Cruise seafarers were extremely limited in their capacity to access private, quiet space where they might rest, recuperate, meditate or otherwise seek to restore mental stability. On cargo vessels seafarers generally had access to their own, sole occupancy, cabins but they were significantly less likely to be able to enjoy shore-leave than their cruise counterparts. Conversely cruise sector workers were more likely than cargo sector workers to be able to access saunas which could help them with pain and stress. Overall, very few seafarers had access to the simple facility of a bathtub which could also be physically and mentally therapeutic. In these matters, there is huge scope for improvement. Despite the very challenging shipboard environment, very basic resources and facilities are not provided to seafarers to help them to alleviate the kinds of minor ailments and health problems that are fairly routinely experienced in human populations.

Companies appeared to be better at providing PPE for their employees than they were at providing basic amenities to support good health[20]. However, PPE was not always

[20] This is possibly the impact of the implementation and enforcement of the International Safety Management Code (ISM code) which requires companies to prepare a safety management system on board which would usually include a description of the correct PPE to be used in undertaking specific tasks.

available to seafarers in the correct size, and it was not always suitable for extreme conditions. This undermines the effectiveness of PPE provision and is worthy of further attention. In some conditions seafarers were left under-protected by more significant proportions of companies, which failed to provide sunscreen and water for seafarers working outside in the sun, and/or malaria prophylactic medication prior to arrival in malaria areas. Perhaps surprisingly, COVID protections were reported to be fairly limited on board many ships. A significant proportion of seafarers felt that there weren't any COVID policies on board their vessels. However, where these did exist, they followed the generally available medical guidance and protocols about isolation, hygiene and vaccination. Finally, in relation to the protective measures that could or should be adopted by companies, many companies (more than half) failed to impose limits on the use of vibrating hand tools such as jet hammers. This lack of overall care increases the likelihood of seafarers requiring healthcare services in the course of their contracts on board.

A major difference between cruise and cargo vessels is the availability of shipboard medical services on most cargo ships. The research showed that cruise seafarers benefitted from shipboard medical advice, not only when major incidents arose, but also on a more routine day to day basis. In the absence of trained medical professionals on board their ships, cargo sector workers are expected to rely on their colleagues for medical assistance and they expressed a complete lack of confidence in this provision highlighting the inadequate training and inexperience of colleagues on board. This contravenes the provisions of the Maritime Labour Convention 2006 which states that member states should 'ensure that seafarers are given health protection and medical care **as comparable as possible to that which is generally available to workers ashore**, including prompt access to the necessary medicines, medical equipment and facilities for diagnosis and treatment and to **medical information and expertise**' (ICS 2023: 165 *our emphasis*). Discrepantly, seafarers on board cargo ships have no access to the routine medical advice and care that people enjoy ashore and in the event of a severe injury or illness this lack of medical expertise results in unnecessary, prolonged suffering, and periodic loss of life. As medical provisions in the cruise sector readily demonstrate this disparity between medical care for those who work ashore and for those who work at sea could be easily addressed by placing trained medical personnel on ocean going cargo vessels plying deep-sea trades.

Compounding the lack of medical provision that they faced on board, it was cargo seafarers who were more likely than cruise workers to be denied access to shore-based medical facilities and there was evidence that this was due to the influence of commercial concerns on the decision-making of senior officers on board, and of managers ashore. Furthermore, shore-based medical care and telemedical care for cargo seafarers were shown to be beset with difficulties pertaining to reliance on non-medical personnel (agents) for decisions about the appropriate medical facility to

attend, difficulties in communication, barriers to diagnosis, time limitations, and so on. Overall, it is possible to conclude that the medical care provided to cargo seafarers is inadequate while the medical care provided to cruise seafarers is regarded by them as largely satisfactory, and sometimes excellent.

For all seafarers in both the cargo and cruise sectors there is room for a great deal of improvement in the provision of facilities and resources to allow seafarers to maintain their own mental and physical health, there is room for some improvement in company protections afforded to seafarers extending beyond the standard issue of boiler suits, gloves and safety shoes/goggles, and on cargo vessels there is a pressing need to overhaul medical provision for sick or injured seafarers, as it is, quite simply, inadequate at the present time.

Appendix One

Groupings applied to free text descriptions of work-related medical conditions described by respondents

Grouping	Raw Answer
Falls/ slip/ trips	Falling down a ladder during a poorly planned fire training exercise - joint injury
Burns	Burn
	Burn from bread trolley
Environment-related (e.g. sunburn and seasickness, hearing loss)	Allergy
	Chest pain due to severe heat condition and no air condition onboard
	Dandruff - reoccurring
	Dry skin/ infections
	Dry skin/ irritation
	Dryness of skin
	Dryness of skin
	Flaky/ dry skin
	Hearing problems I sign off
	Hearing range reduced, believe due to noise onboard.
	Heat stroke
	Heatstroke
	High temperature seasickness
	I developed asthma whilst working onboard
	In the last 3 months my arms and legs are covered in rashes. Now some parts are healing but they are very itchy.
	Nausea

Grouping	Raw Answer
	Recurring dandruff- tends to have when I'm onboard
	Reoccurring dandruff
	Reoccurring dry skin
	Reoccurring skin allergies/ irritation
	Reoccurring skin allergy
	Seasickness
	Severe rashes due to hot engine room
	Skin allergies/ irritations.
	Skin allergy
	Skin irritation
	Skin irritation (fingers)
	Skin irritation/ allergies
	Very dry painful lips
	Vomiting due to rolling ship
Contagious illnesses/viruses	High temperature
	At first it began from colds and was too worried that tasks will get accumulated and a lot of tasks needed to catch up. Then it got worst with cough, sore throat and eye irritations then that's the time I visited the ship's doctor.
	Bacterial Pneumonia
	Blocked nose
	Caught Covid from a crew member
	Common cold
	Covid

Grouping	Raw Answer
	Eye infection
	Fever
	Fever - due to too much work
	Flu
	Flu/ fever. Tonsilitis - cold on the ??????
	Got covid during vetting inspection in San Francisco
	I had a tuberculosis a year ago
	Infection
	Infections and illness caused by chronic lack of sleep
	Lung Infection
	Viral bacterial
Musculoskeletal/strains/hernias /fractures	A pain in the knee
	Back pain
	Back pain - it is searing and there are really where deep mainly due to work in the laundry room
	Back pain. I started having it whilst working onboard
	Back pain/????????
	Back pains and muscle pains (arm)
	Back trouble
	Bad back
	Bad back and slipped disk operated on
	Damage to right shoulder
	Head fracture

Grouping	Raw Answer
	Herniated disc in lower back
	Inguinal hernia
	Lower back pain
	Lower back pain and stiff neck
	Muscle strain
	Numb hands, too much work in kitchen for women like me
	Plantar fasciitis
	Reoccurring back pain due to work onboard
	Rheumatism - I had it onboard
	Ruptured intervertebral disk
	Sciatica from poorly set up office and furniture
	Severe over-exertion of joints, tendons and/or muscles in hand, probably from opening/closing many valves in a stressed situation (didn't notice pain until after stress was over). Couldn't touch ring or pinky finger without it causing a shock of pain
	Slip disc at the back
Diet-related	Bad diet and lifestyle onboard
	Bad/ high cholesterol. I feel like years of being at sea has made me sickly. It is easy to get sick.
	Constipation because of poor diet and others
	Constipation
	Diet onboard is not very good

Grouping	Raw Answer
	Fatty liver - poor diet
	Gained weight - poor diet
	Gout - bad diet onboard over the years
	Gout - maybe because of poor diet
	haemorrhoids - Due to bad diet and stress
	High blood pressure - ????? diet and stress/ pressure
	High blood pressure - bad diet onboard and others due to work
	High blood pressure - bad diet/ oily food
	High blood pressure - due to diet/ lifestyle
	High blood pressure - food that I eat onboard and a lack of exercise
	High blood pressure - from diet onboard, all meat.
	High blood pressure and high cholesterol - could be because of poor diet and lifestyle onboard.
	High blood pressure due to bad diet and stress
	High blood pressure due to bad diet and then before I became conscious of my diet it was too late.
	High blood pressure due to unhealth diet and stress from work
	High blood sugar - over consumption of coke, 4 cans of coke a day

Grouping	Raw Answer
	High cholesterol - bad eating habits/ diet onboard
	High cholesterol - could be because of poor diet
	High cholesterol - diet onboard, uncontrolled eating/ drinking beer
	High cholesterol and high blood pressure due to the bad diet onboard
	High cholesterol due to unhealthy diet
	High Cholesterol -was ????
	High uric acid
	High/ bad cholesterol - from the diet onboard
	High/ bad cholesterol
	High/ bad cholesterol due to poor diet and lifestyle
	Kidney stone last 2021 and yr 2022
	My diet is not very good, I suffer from constant indigestion
	Piles - due to bad/ unhealth diet
	Uric Acid - it was only when I started working at sea that I was diagnosed with Uric acid
Stress-related	High blood pressure - years of unhealthy lifestyle onboard and stress/ bad sleeping patterns
	Anxiety - rehearsals and shows are sometimes to overwhelming
	Anxiety - Too much pressure

Grouping	Raw Answer
	Anxiety and stress as I deal with guest complaints
	Anxiety, very demanding work
	Hair loss due to stress
	High blood pressure - could be due to stress at work
	High Blood pressure - could be to do with the stress and bad diet
	High blood pressure - pressure from work, lack of good sleep
	High blood pressure - stress and poor diet, no exercise.
	High Blood Pressure - Stress at Work
	High blood pressure - stress at work, pressure, bad diet
	High blood pressure - stress due to a demanding crew
	High blood pressure - the stress at work
	High blood pressure - uneven sleep/ bad diet
	High blood pressure - years of ???? lifestyle, lack of sleep
	High blood pressure - years of a life of excess onboard - stress, unhealthy diet
	High blood pressure - years of stress and bad diet/ lifestyle on board
	High blood pressure due to many years of working at sea
	High blood pressure due to stress and poor diet

Grouping	Raw Answer
	I developed high blood pressure because of my work patterns and late-night activities
	I think that the years I worked at sea has caused my high blood pressure
	Massive stress, productions are expected to be learnt fast
	Stress and anxiety
	Stress and less sleep
	Stress/ anxiety
Mental Health-related	Depression
	Mental health
Fatigue-related	Exhaustion from work has my immune system feeling run down and I usually get sick after 3 months on board
	Fatigue
	Fatigue due to long hours
	High strength tired
	I have been struggling with my sleep ever since I joined the ship
	Insomnia
	Sleeping difficulty (Sleeping later than usual)
	Sleeplessness because I was overworked
	The vessel is in Italy, bad shape, you work too much. Fatigue forever onboard. Too much work
	Tired

Grouping	Raw Answer
	Well generally speaking, our work onboard vessels affects us both physically and mentally. We don't usually get enough rest compared to land based jobs.
Chemical-related	Allergy on PPE that is used during work hours
	CO poisoning
	Dry skin due to water quality and exposure to cleaning agents
	Due to water onboard dandruff - high chlorine
	Oil on skin
	Skin allergy I'm very sensitive to chlorine.
	Skin irritation - due to cleaning agents
	Skin irritation maybe due to exposure to strong cleaning agents
Carpel Tunnel Syndrome/ Tendonitis	Carpal tunnel syndrome
	Carpal tunnel syndrome. This is because we regularly wipe coffee cups and wine goblet everyday.
	De Quatrain's Tendinosis
Dental	Broken tooth
UTI	Medical repat 2017 due to worse case of UTI
Miscellaneous (e.g. athletes' foot).	Appendectomy
	Conjunctivitis
	Dizziness

Grouping	Raw Answer
	I contracted athletes foot from the common bathroom
	I suffered a cellulitis before
	Leg Pain
	Minor injury on my hallux (big toe).
	Removal of most of the skin on left pointer finger from getting sucked into a 480v wite wheel
	Skin allergies
	Swollen/ enlarged varicose veins
Multiple	Fatigue, gastrointestinal, diuresis, and anus
	A lot of work onboard is not very ergonomic for the body (heavy lift, same movements, hazardous gases, vibrations i.e. of chipping rust etc.).
	Depression, anxiety, shoulder and back pain
	Hand strain, haemorrhoids
	Insomnia and high blood pressure due to bad lifestyle and diet onboard
	Strain ,stress
	The ship does not need to be energetic, restless, and depressed.
Unclear/unclassifiable	Timeout special configuration
	Transport preparation
	Cabin
	Cabin Almost
	Enlarged ????????????????

Grouping	Raw Answer
	Hands constantly feeling being pucked [sic]
	Injuries
	Lack
	Serious
	Spirit
	Vulcanized

References

Abaya, A. , Roldan, S., Ongchangco, J., Ronquillo-Sarmiento, R., & Sarmiento, R. (2015). 'Repatriation rates in Filipino seafarers: a five-year study of 6,759 cases'. *International Maritime Health,* 66(4): 189-195.

Acevedo, F., Diskin, A., Dahl, E. (2011) 'Varicella at sea: a two-year study on cruise ships' *International Maritime Health* 62(4); 254-261

Arjona-Fuentes, J., Radic, A., Ariza-Montes, A., Han, H., 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; 103276

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.

Brooks, S., Greenberg, N. (2022) 'Mental health and wellbeing of seafaring personnel during COVID-19; Scoping Review' *Journal of Occupational Health* 64: 12361

Brotherton, J., Delpech, V., Gilbert, G., Hatzi, S., Paraskevopoulos, P., Mcanulty, J. (2003) 'A large outbreak of influenza A and B on a cruise ship causing widespread morbidity' *Epidemiol. Infect.* 130(2): 263-271

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.

Dehours, E.,De Camaret, E., Lucas, D., Saccavinl, A., Roux, P. (2022) 'The COVID-19 pandemic and maritime telemedicine: 18-month report *International Maritime Health* 73(2): 83–88

Dennett, A. (2013) *An Investigation of Work, Life and Community On-board Cruise Ships: A Hospitality Perspective*. Doctoral Thesis, University of Huddersfield

Filia, A., Bella, A., Cadeddu, G., Milia, M., Del Manso, M., Rota, M., Magurano, F., Nicoletti, L., Declich, S. (2015) 'Extensive Nosocomial Transmission of Measles Originating in Cruise Ship Passenger, Sardinia, Italy 2014' *Emerging Infectious Diseases* 21(8): 1444-1446

García-González, E., Frausto, O. (2021). 'Distribution and Socio-spatial Segregation of Cruise Ship Workers in Cozumel, Mexico'. *Regiones y Desarrollo Sustentable* Año XXI - No. 40

Hahad, O., Kuntic, M., Sadeer, A., Kuntic, I, Donya, G., Petrowski, K., Daiber, A., Münzel, T., (2024) 'Noise and mental health: evidence, mechanisms, and consequences' *Journal of exposure science and environmental epidemiology* 35: 16-23

Hoeyer, J., & Hansen, H. (2005). 'Obesity among Danish seafarers'. *International Maritime Health,* 56(1-4): 48-55.

Inui, S., Fujikawa, A., Jitsu, M., Kunishima, N., Watanabe, S., Suzuki, Y., Umeda, S., Uwabe, Y. (2020) *Radiology, Cardiothoracic Imaging* 2(2): 200110-200110

Kinali, H., Yıldırım, U., Toygar, A. (2022).' A quantitative study on the mental health of Turkish seafarers'. *International Journal of Occupational Safety and Ergonomics*, 28(4), 2657-2667.

Lefkowitz, R., Slade, M. (2019). 'Seafarer mental health study'. ITF Seafarers Trust & Yale University: ITF House, 49-60.

ILO (2022) Maritime Labour Convention, 2006, as amended [including 2022 amendments] https://www.ilo.org/resource/other/maritime-labour-convention-2006-amended-including-2022-amendments (accessed 24/4/25)

International Chamber of Shipping (2023) *Guidelines on the Application of the ILO Maritime Labour Convention* London: Marisec Publications

Mahdi, S., Sibilio, F., Amenta, F. (2016). 'Dental hygiene habits and oral health status of seafarers'. *International Maritime Health*, 67(1): 9-13.

Mellbye, A., Carter, T. (2017). 'Seafarers' depression and suicide'. *International Maritime Health,* 68(2): 108-114.

Nas, S., Fışkın, R. (2014). 'A research on obesity among Turkish seafarers'. *International Maritime Health*, 65(4): 187-191.

Oldenberg, M., Baur, X., Schlaich, C. (2010) 'Occupational Risks and Challenges of Seafaring' *Journal of Occupational Health* 52: 249-256

Oldenburg, M. (2014). 'Risk of cardiovascular diseases in seafarers.' *International Maritime Health*, 65(2): 53-57.

Oldenburg, M., Jensen, H. (2019). 'Stress and strain among seafarers related to the occupational groups'. *International Journal of Environmental Research and Public Health*, 16(7), 1153

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

Pressey, A., Lloyd, H. (2023). 'When We Practice to Deceive: Service Worker Manipulation and (Mis)Behavior on Cruise Ships'. *Journal of Travel Research*. 63. 447-465.

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

Radic, A, Ariza-Montes, A., Hernandez-Perlines, F., Giorgi, G. (2020) ' Connected at Sea: The Influence of the Internet and Online Communication on the Well-Being and Life Satisfaction of Cruise Ship Employees' *international Journal of Environmental Research and Public Health* 17: 2840

Sampson, H., Ellis, N. (2019) *Seafarers' mental health and* wellbeing IOSH https://iosh.com/media/n0gpp31w/iosh-research-seafarers-mental-health-wellbeing-full-report.pdf (Accessed 4/4/25)

Sampson, H., Acejo, I. (2023) *The port-based welfare needs of women seafarers*, Cardiff: SIRC.

Sampson, H (2024) *Sea-Time: An Ethnographic Adventure* London: Routledge

Sampson, H. (2013) *International seafarers and transnationalism in the twenty-first century* Manchester: Manchester University Press (MUP)

Sampson, H., Acejo, I., Ellis, N., Turgo, N. (2025a) *The health of seafarers working on cruise and cargo vessels 2023-2024* Cardiff: Cardiff University

Sampson, H., Acejo, I., Ellis, N., Turgo, N. (2025b) *The Health and Wellbeing of Seafarers Working on Cargo Ships in 2023-2024*. Cardiff: Cardiff University

Sampson, H., Acejo, I., Ellis, N., Turgo, N. (2025c) *Seafarers' health and access to healthcare in the cruise and cargo sectors in 2024; An overview* Cardiff: Cardiff University

Sawano, T., Ozaki, A., Rodriguez-Morales, A., Tanimoto, T., Sah, R. (2020) 'Limiting spread of COVID-19 from cruise ships: lessons to be learnt from Japan' *QJM: An International Journal of Medicine,* 309-310

Schlaich, C., Riemer, T., Lamshoft, M., Hgelstein, J, Oldenburg, M. (2010) 'Public health significance of chickenpox on ships – conclusions drawn from case series in the port of Hamburg' *International Maritime Health* 61(1): 28-31

Slišković, A. (2020) 'Seafarers' well-being in the context of the COVID-19 pandemic: A qualitative study' *Work* 67: 799-809

Sobotta, B., John, M., Nitschke, I. (2007). 'Dental practice during a world cruise: Treatment needs and demands of crew'. *International Maritime Health*, 58: 1-4.

Stannard, S., Vaughan, C., Swift, O., Robinson, G., Altaf, S., McGarry, A. (2015) 'Women seafarers' health and welfare survey: A joint initiative of the International Maritime Health Association (IMHA), International Seafarers' Welfare and Assistance Network (ISWAN), International Transport Workers' Federation (ITF), Seafarers Hospital Society (SHS)' *International Maritime Health* 66(3): 123-138

Tachikawa, H., Kubo, T., Gomei S., Takahashi , S., Kawashima, Y., Manaka K., Mori A., Kondo, H., Koido, Y., Ishikawa, H., Otsuru T., Nogi, W. (2022) 'Mental health needs associated with COVID-19 on the diamond princess cruise ship: A case series recorded by the disaster psychiatric assistance team' *International journal of disaster risk reduction*, Vol.81(October): 103250-103250

Thomas, M. (2003) 'Sexual health of women working aboard cruise ships' *Health Education Journal* 62(4): 293-303

Tu, M., Jepsen, J. (2016). 'Hypertension among Danish seafarers'. *International Maritime Health*, 67(4), 196-204.

Williandani, M., Ningsih, R., Silalahi, M. (2020). 'Language Attitude of Indonesian Workers in Cruise Ship Holland America Line'. *SALTeL Journal (Southeast Asia Language Teaching and Learning)*, 3: 34-38.

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