Promoting public health measures in response to COVID-19 on cargo ships and fishing vessels

Interim guidance

25 August 2020

World Health Organization

Introduction

Seafarers on cargo ships (vessels that transport goods and carry no passengers) and fishing vessels face particular challenges to carrying out their functions and maintaining their health in the time of the COVID-19 pandemic. This document provides guidance for shipowners, seafarers, unions and associations and competent authorities for health and transport on protecting seafarers working on cargo ships and fishing vessels from transmission of SARS-CoV-2 (the virus that causes COVID-19) and management of COVID-19 cases that may occur in this population (*1*).

Seafarers work in close contact environments likely to facilitate transmission of COVID-19. In some cases, they embark on extended voyages without calling at any port for long periods. An outbreak on board a ship is a concern for the safety and well-being of the crew and may affect the crew's ability to safely navigate and operate the ship (*2*).

The guidance in this document is intended to provide the basis for addressing the following issues:

- Medical doctors are generally not on the crew of these vessels, nor is there the same level of medical supplies and equipment that would be available on a passenger ship.
- Specific plans for COVID-19 prevention and care may not be in place, and generic guidance for respiratory diseases may be insufficient for managing COVID-19.
- Seafarers may not have access to personal protective measures or personal protective equipment or training in using it.
- Seafarers are responsible for cleaning and disinfecting on-board facilities; but protocols and guidance for environmental measures, including cleaning and disinfection measures for specific pathogens, may not be available for COVID-19.
- Public health policies, including requirements for preventing transmission, vary on ships and ports of call around the world, and this variation may create confusion.

Shipowners are therefore advised to develop a written contingency plan covering surveillance and reporting; case management; cleaning and disinfection; communication; and training.

Pre-boarding

Pre-boarding screening is advised for all persons (seafarers, shore personnel) to identify any symptomatic individuals or those exposed to COVID-19. If any symptoms are identified, then the person should not travel and instead seek medical care. This surveillance can be conducted through self-reporting, visual observation and/or temperature measurement with non-touch thermometers (*3*).

A questionnaire for any pre-boarding screening activity should include the following.

Within the past 14 days (*4*):

- have you experienced a fever higher than 38 °C or have you felt feverish, or had a cough or breathing difficulties?
- have you been in contact with someone with COVID-19?
- have you been within 1 m of someone with COVID-19 for longer than 15 minutes?
- have you provided direct care for someone with COVID-19 without wearing the proper personal protective equipment?

If the port authorities implement pre-boarding screening or health monitoring of port workers, then the results should be shared with the master or skipper to avoid any duplication of measures. In some instances, these pre-boarding measures may be part of the port's COVID-19 outbreak management plan, which could be requested by the master, skipper or crew for review. Insofar as it is possible, crew members should have contact with port workers only for operational and administrative purposes that are essential for the continued operation and supply of the ship.

Onboard

1. Risk analysis on board ships

Risk analysis must take into consideration two potential types of exposure to COVID-19: contact between shore personnel and crew members and contact between crew members. The analysis should describe the areas of the ship where interactions take place only between crew members and those where crew members may interact with shore personnel.

In principle, four zones and procedure categories can be created on each ship:

- potentially contaminated zones (when someone suspected to have COVID-19 (*4*) is on board); these are areas where suspected cases can be isolated, such as in the ship's medical accommodation (if present), and all other areas that are potentially contaminated but have not been disinfected
- zones where only crew interact (such as mess rooms, the bridge, control rooms, smoking rooms, communal toilets, shared cabin)
- zones or activities where crew members interact with shore personnel
- zones where no interaction takes place among crew members or among crew members and shore personnel (e.g. single cabins).

The results of this analysis will assist in determining which type of personal protective equipment should be used in each zone or during each activity, as described in Table 1.

Note: The risk analysis process must consider and plan for challenges the ship may encounter in procuring and storing the necessary personal protective equipment on board.

2. Preventive measures

2.1 General measures

- Minimize the number of non-crew members boarding the ship and ensure that shore personnel move only into authorized zones, as described in Table 1.
- Shore personnel should use outer walkways rather than gaining access through the crew's quarters.

2.2 Hand hygiene and respiratory etiquette

- Hand hygiene stations, such as handwashing facilities and dispensers for alcohol-based hand rub, should be put in prominent places around the ship and be accessible to all staff, contractors, clients, customers and visitors, along with communication materials that promote hand hygiene and other preventive measures (*5*).
- Adhere to WHO's principles when practicing hand hygiene and respiratory etiquette (*6*).

2.3 Physical distancing

Crew members must remain at least 1 m apart from one another and from shore personnel.

If there is space in the crew mess or other communal areas, seats and workstations should be arranged so that crew members are at least 1 m apart.

In situations in which physical distancing of at least 1 m cannot be implemented in full, the master or skipper should consider whether that activity needs to continue, and if it does, take all mitigating actions possible to reduce the risk of transmission; for example, by staggering times for activities, minimizing face-to-face interactions or use a fabric mask, placing crew side by side to work or having them work facing away from one another rather than face to face (*7*).

2.4 Use of masks

Table 1 describes when and where personal protective masks are recommended for use by the ship's crew and shore personnel in different working zones on the ship.

Table 1. Recommendations for using personal protective masks while in different zones on board a ship

Zone	Recommendation
i. Potentially contaminated zones (when someone suspected to have COVID-19 is on board). These are areas where suspected cases can be isolated, such as in the ship's medical accommodation (if present), and all other areas potentially contaminated by a suspected case that have not been disinfected	All persons entering the isolation area should apply standard precautions, including contact and droplet precautions, as described in WHO's guidance for infection control; and all persons should receive appropriately information about precautions before entering the isolation room (*8*) . A medical mask is recommended in these situations.
ii. Zones where only crew interact (such as mess rooms, the bridge, control rooms, smoke rooms, communal toilets, shared cabin)	Fabric masks can be considered if a physical distance of 1 m cannot be maintained to prevent possible transmission.
iii. Zones or activities where crew members interact with shore personnel	Fabric masks can be considered if a physical distance of 1 m cannot be maintained to prevent transmission.
iv. Zones where no interaction takes place among seafarers or among seafarers and shore personnel (e.g. single cabins)	No medical or fabric masks are needed in these situations.

Note: The use of a mask alone is not sufficient to provide an adequate level of protection, and other measures, such as hand hygiene and physical distancing, should be applied. The type of face mask (fabric or medical) to be worn should be selected based on the level of risk and availability of masks, after considering any potential problems or disadvantages associated with wearing a mask. Medical face masks must be prioritized for use as PPE by health care workers and for persons suspected of having COVID-19. In all instances, good practices, as recognized by WHO, should be followed about when and how to wear, remove, replace and dispose of masks and for hand hygiene after removal (*9*).

3. Environmental measures

Respiratory secretions or droplets expelled by infected individuals can contaminate surfaces and objects, creating fomites (contaminated surfaces). Depending on the environment and type of surface, the virus causing COVID-19 can be found for periods ranging from hours to days. Despite consistent evidence about viral contamination of surfaces and the survival of the virus on certain surfaces, no specific reports have directly demonstrated fomite-based transmission (*10*).

In accordance with WHO's guidance about infection prevention and control (IPC) measures to be used during health care when COVID-19 is suspected, medical facilities and quarters occupied by patients and close contacts of a confirmed COVID-19 case should be cleaned and disinfected daily. Cleaning and disinfection should be carried out again after cases and close contacts have disembarked (*11*).

In addition, high-touch surfaces on board the ship should be identified as priorities for disinfection. These include doors and windows and their handles, kitchen and food preparation areas, countertops, bathroom surfaces, toilets and taps, touchscreen personal devices, keyboards on personal computers and work surfaces. The disinfectant and its concentration should be carefully selected to avoid damaging surfaces and to avoid or minimize toxic effects (*12*).

Laundry, food service utensils, and waste from the cabins of suspected cases and their contacts should be handled as if infectious and according to the outbreak management plan provided on board for other infectious diseases (*13*).

To date, there is no epidemiological information to suggest that contact with goods or products shipped from countries affected by the COVID-19 outbreak have been the source of COVID-19 disease in humans. Special environmental protocols for shipping containers are not required. For additional information, see: Rational use of personal protective equipment (PPE) for coronavirus disease (COVID-19) (*14*).

4. Managing suspected COVID-19 cases and their contacts

Some shipping companies now have a high-level plan for addressing COVID-19. The first step for the crew member designated to take charge of medical care on board the ship is to determine whether the situation is serious and necessitates reaching out for immediate shoreside medical support and advice; or whether it can wait until the ship reaches the next port of call. Depending on the jurisdiction, the master, skipper or crew member designated as being in charge of medical care on the ship is encouraged to ask for shoreside telemedical or radio medical assistance when triaging suspected cases and determining next steps. If the case is considered to be moderate, severe or critical, the primary objective is to keep the patient stable until additional medical help is available.

4.1 Managing suspected COVID-19 cases

The early identification of cases allows for rapid initiation of supportive care and safe and rapid referral and transfer to a designated shoreside facility that has the appropriate medical expertise and equipment. To meet this need for rapid testing, diagnosis and care, the crew member designated as being in charge of medical care should seek advice from the Maritime Telemedicine Assistance Service (TMAS) or other shoreside medical services. Fig. 1 summarizes the pathway for identifying and managing a suspected case of COVID-19 on board a ship (*15*).

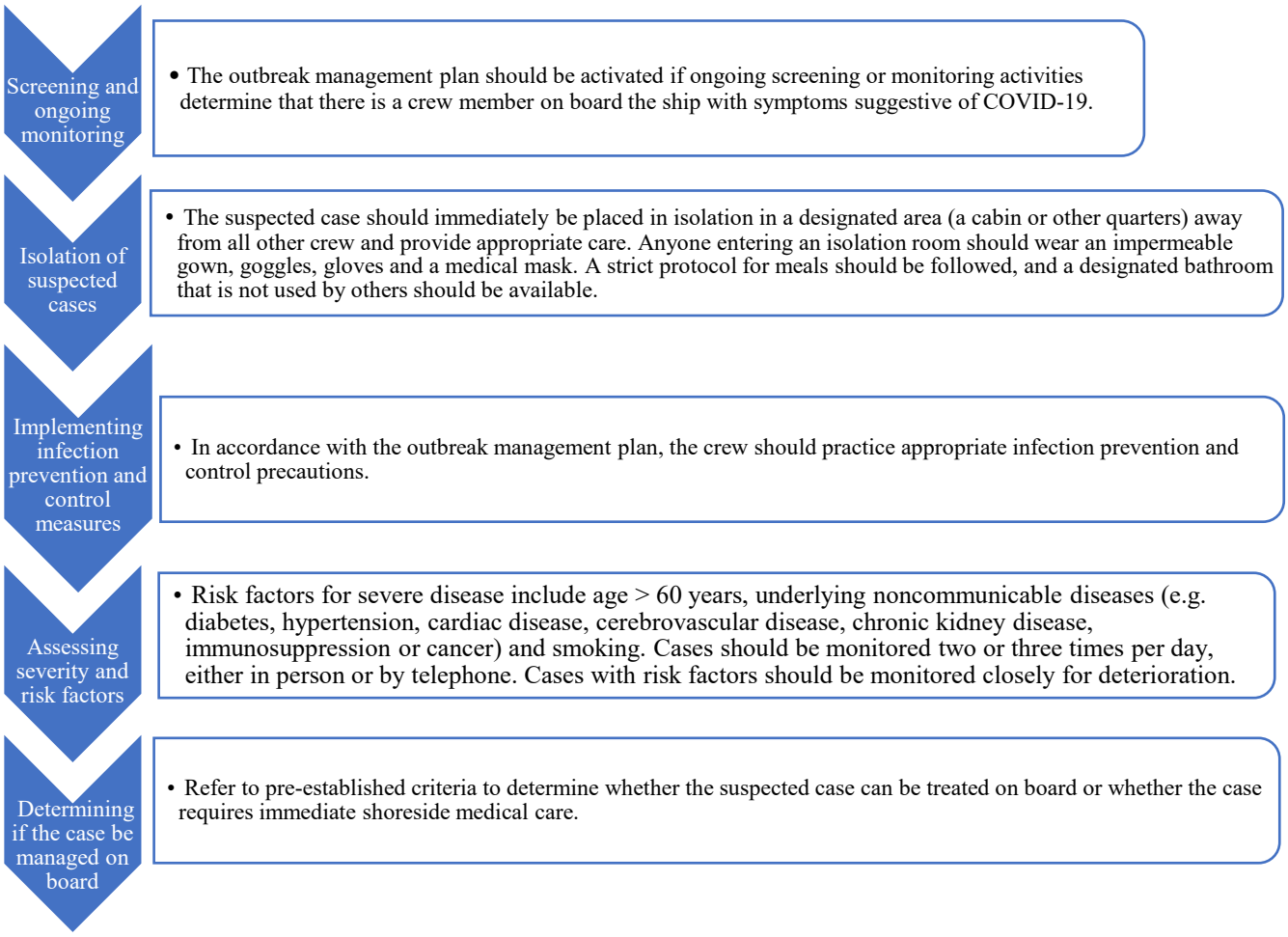
4.2 Triggers for further treatment

Moderate and severe cases (cases that meet the case definition of COVID-19 (*16*) and have clinical signs of pneumonia, which include fever, cough, laboured breathing, and a respiratory rate of >20 breaths per minute) should trigger a call to TMAS and transfer to a shoreside medical facility (*17*).

The decision about whether to monitor a patient on board the ship or to transfer them immediately to a shoreside medical facility for further treatment should be made on a case-by-case basis. This decision will depend on the clinical presentation, requirement for supportive care, risk factors and conditions on the ship.

Note: During the disembarkation of suspected cases, efforts should be made to minimize the exposure of other persons and environmental surfaces. Suspected cases should be provided with a medical mask to reduce the chance of transmission. Staff involved in transporting the suspected case should follow strict IPC measures. Box 1 references a series of international regulations that describe the requirements to provide assistance to seafarers in distress, including the need for medical assistance. These requirements are enshrined in United Nations (UN) conventions.

Fig. 1. Pathway for identifying and caring for suspected cases of COVID-19 on board a ship (*18*)



4.3 Managing contacts

To avoid delays in implementing health measures, contact tracing and the management of contacts should occur as soon as a suspected case has been identified.

Contacts should be quarantined for 14 days from the last time they were exposed to the suspected case, if operationally safe to do so. If a contact develops any signs or symptoms, the contact should wear a medical mask and be treated as a suspected case. Persons who are quarantined need adequate food, water, and hygiene provisions (*19*).

5. Access to medical facilities

During the pandemic, there is a risk that a State may decide to reduce or deny access to seafarers to medical assistance for matters related and unrelated to COVID-19.

It should be noted that Articles 19, 20 and Annex 1B of the 2005 International Health Regulations (IHR) require each country to designate ports that will develop the capacity to provide medical assessment and treatment of ill travellers.

Pursuant to Regulation 4.1, paragraph 3, of the Maritime Labour Convention 2006, States must ensure that seafarers on board ships in their territory who are in need of immediate medical care are given access to the Member's medical facilities on shore. Exceptional measures adopted by some governments to contain the COVID-19 pandemic cannot be invoked as valid reasons for not complying with this international obligation.

6. Obligations of ship owners

In accordance with the IHR (2005), the master or skipper of the ship must immediately inform the competent health authority at the next port of call about any suspected case of COVID-19. Ships on international voyages must complete a Maritime Declaration of Health and send it to the competent authority, in accordance with local requirements at the port of call.

In addition, ship operators are advised to regularly monitor crew while in port to determine whether they develop any symptoms associated with COVID-19, and they must report any changes in the health of crew members to the relevant authority at the port.

Leaving the ship

1. Public health measures for shoreside visits

Permission for shoreside visits is contingent on several factors, including the requirements of the State, the health status of crew members and the COVID-19 status at the ports the ship visited during the previous 14 days. Therefore, temporary restrictions on shore leave may be considered (unless an evolving situation permits otherwise). Such restrictions do not apply if a crew member is disembarking as part of a crew changeover or to receive medical attention.

If shoreside visits are permitted, seafarers are advised to follow WHO's recommended public health and social measures in the context of COVID-19 (*20*). Needs and

requirements will be different at each port of call, including the types of PPE necessary, physical distancing measures and the availability of hand hygiene facilities. The master or skipper should be informed about the situation. Information may be obtained by communicating with port health authorities using established communication channels.

Additional measures to be taken during shoreside visits include proper food hygiene practices (*21*), including in live markets where transmission may occur from animals to humans (*22*). WHO's website provides information about the status of transmission worldwide at the WHO Coronavirus Disease (COVID-19) Dashboard (*23*).

2. Public health measures throughout the journey

Throughout the journey from home to ship and from ship to home, seafarers may be in close proximity to a large number of travellers and staff at transport hubs, when using public transportation and at hotels. Seafarers could also come into contact with the public when using rest rooms, elevators, restaurants and other facilities. Consequently, seafarers could be exposed to the virus that causes COVID-19 if they are not properly protected.

To mitigate the risks throughout the journey, when possible, the shipowner should coordinate with State authorities to implement the following practices for transfers between the port and hotels and while crew members are staying at onshore accommodations.

2.1 Commute arrangements (between port and hotel, if needed)

- The shipowner should arrange for the commute between the port and the crew's individual hotel rooms, ensuring that hygiene measures and recommended physical distancing, including within the vehicle transferring the crew to the hotel, are applied to the extent possible.

2.2 Accommodation

- The crew must comply with relevant public health regulations and policies.
- There should be one crew member per room, and the room must be sanitized prior to occupancy.
- The crew, taking account of the above, and insofar as is practicable, should:
  - avoid contact with the public and fellow crew members, and remain in the hotel room except when seeking medical attention or performing essential activities, including exercise, while respecting physical distancing advice
  - not use public facilities in the hotel
  - dine in their room or if room service is not available, purchase food for takeaway or dine seated alone in a restaurant within the hotel
  - regularly self-monitor for symptoms including fever
  - observe good hand and respiratory hygiene and physical distancing measures when they need to leave the hotel room.
- Crew members experiencing symptoms suggestive of COVID-19 during a layover or transit should:
  - report the symptoms to the shipowner and seek assistance from a medical doctor for assessment of possible COVID-19
  - cooperate with the assessment and any possible further monitoring for COVID-19 in accordance with the evaluation procedure implemented by the State (for example, having an assessment in the hotel room or in an isolation room within the hotel or at an alternative location).
- Crew members should consider using a fabric mask while on board conveyances and in crowded places where physical distancing is not possible (*24*).

Communications

Clear and timely communication between the ship, the shipowner and its agents and shore-based organizations intending to board the ship is essential. Communications channels must be enabled between the ship and the competent authorities at port, the flag State and the shipowner (e.g. directly from the master or skipper to the doctor via telephone, video conference or through the maritime telemedical assistance service [TMAS]). Procedures must be in place to collect information about and contact details from all persons who are boarding the ship in order to communicate with them if needed during the 14 days after they disembark. Communication protocols should be established for shoreside operations to advise the ship if any shore personnel develop any signs or symptoms within 14 days of having boarded the ship.

If ship and shore requirements differ, these differences should be resolved by all parties to their mutual satisfaction before the ship arrives in port. This process can be used to address risks effectively, possibly through the agreement and adoption of equivalent measures and ensure that misunderstandings, misplaced expectations and the associated frustration of the ship's crew and shore-based personnel are avoided (*25*).

Additional measures to improve communication and information exchange on board ships include providing:

- posters, videos and message boards to increase awareness of COVID-19 among crew and promote safe individual practices, and engaging with crew members to provide feedback on the preventive measures and their effectiveness and on managing mental health challenges
- information about prevailing regulations and local public health and social measures before shoreside visits
- regular information about the risk of COVID-19 using official sources, such as government agencies and WHO, and emphasizing the effectiveness of adopting protective measures, as well as working to counteract rumours and misinformation (*26*).

Digital tools and mobile applications

Several Member States and international organizations have developed mobile applications that provide real-time information about COVID-19 and allow crew members to stay up to date with the most recent regional and global developments.

Self-assessment and monitoring applications are available to assist medical staff and crew members in diagnosing and managing cases and contacts.

Limitations associated with the use of digital tools include insufficient evidence of efficacy; the possibility that privacy or security breaches may occur; and the potential for the marginalization of disadvantaged groups who cannot afford them. These applications should not be viewed as stand-alone solutions to public health measures, such as contact tracing, but should be incorporated as part of an overall strategy used by countries to mitigate and respond to the current pandemic (*27*).

Training

The crew member designated to take charge of medical care on board the ship should be trained to care for patients with suspected COVID-19 who have mild symptoms and on how to manage their contacts. This person should be informed and updated about any new evidence and guidance (*28*).

Crew members should be educated on the following:

- signs and symptoms of COVID-19 that crew members should self-monitor
- procedures that are to be followed when a person displays signs and symptoms suggestive of COVID-19
- rules about isolation of crew members who develop symptoms suggestive of COVID-19
- the need to self-isolate immediately and inform a supervisor or manager if symptoms emerge on the job
- the higher risk that COVID-19 disease will be severe among vulnerable groups including people over 60, anyone of any age with a chronic disease (such as cardiovascular disease, diabetes or respiratory disease) and immunocompromised individuals
- hand hygiene, respiratory etiquette and social distancing.

Crew members should also learn about the ship's contingency plan for COVID-19 so that they can implement it in accordance with WHO's guidance for infection prevention and control (*29*) and WHO's interim guidance on operational considerations for managing COVID-19 cases and outbreaks on board ships (*30*) .

Mental health and psychosocial support

In the time of the COVID-19 pandemic, availability of resources and services for mental health and psychological support are critical to the well-being of seafarers.

1. Overview

Seafarers may spend prolonged periods at sea, and this may lead to increased levels of stress, depression, isolation from their social support systems and other adverse mental health and psychosocial impacts (*31*). These adverse impacts have been compounded by the COVID-19 pandemic. Issues such as uncertainty about country-specific health measures and whether certain States will allow disembarkation add to the already high stress of the job. Mental health conditions, such as anxiety or depression, can start or be amplified as a result of the stressors associated with the pandemic.

2. Risk factors

Specific stressors associated with the pandemic that are unique to seafarers include the following.

- Seafarers may come from countries with elevated levels of COVID-19 and may not be able to communicate with family for extended periods of time.
- Seafarers may have to extend their contracts and stay on board longer than expected due to travel restrictions established by some governments because restrictions impede crew change.
- Access to shoreside medical facilities and support for matters both related and unrelated to COVID-19 have been denied in some instances, leading to significantly elevated levels of stress due to the uncertainty of when the seafarer will receive necessary medical care.
- Medical facilities supplies and trained personnel on board ships may be limited.
- There may be difficulties in procuring supplies for restocking in some ports.
- The social stigma associated with COVID-19 and the labelling of certain population and ethnic groups may cause additional stress.
- Shore leave is a necessary component to seafarers' maintaining their mental health. During the pandemic, seafarers have had to manage the disappointment and stresses of not being granted shore leave.
- Some seafarers experience financial stress because they are unable to board a ship and receive their wages as a result of new rules affecting crew changeovers.
- Seafarers on a ship often come from different countries and may have cultural or language differences that limit opportunities for providing or receiving support during times of stress.
- Cultures with low levels of help-seeking behaviours, which may be a feature of seafarers' work settings, can delay a person benefiting from early identification of and support for mental health issues. Early identification and management are essential interventions for suicide prevention (*32*).

Specific risk factors for seafarer's mental health that are not associated with the pandemic but may further compound COVID-19-related stressors and increase the risks of depression, anxiety and self-harm include:

- a lack of adequate training about the on-board COVID-19 contingency plan;
- an unhealthy work environment;
- exposure to violence or threats of violence;
- coexisting medical conditions;
- ill health;
- low job satisfaction.

In addition to the specific stressors related to COVID-19 unique to seafarers, other common stressors also play a role, including fear of becoming infected or infecting others, dying or death of family members (*33*).

3. Mental health and psychosocial support tools

In the absence of face-to-face mental health services, the use of remotely delivered mental health and psychosocial support services – such as through telephone helplines or video resources, or digitally accessed services, including self-help – should be promoted alongside risk communication messaging about mental health. A number of telemedicine, email and other support services delivered by trade unions or other seafarers' organizations are available in many different languages. Tools for addressing mental health and the psychosocial aspects of well-being should be available as part of an essential orientation for all staff on the ship, and it is important to ensure that all staff have access to confidential mental health and psychosocial support services.

The International Seafarers' Welfare and Assistance Network has published mental health guidance for seafarers (*34*) and training materials that can be accessed online (*35*). These resources provide a broad overview of the mental and psychosocial risks associated with being a seafarer and detail a number of tools that can be employed to assist in recognizing and managing these risks.

The International Chamber of Shipping has developed guidance that has strategies that can be used to enhance the mental health and well-being of seafarers. This guidance identifies several measures and links them to particular situations that may (or may not) be present on board a particular ship (*36*).

WHO has developed a series of general messages and other guidance that can be used to support mental health and psychosocial well-being (*37*).

Box 1. Relevant international regulations

International regulations that describe assistance to seafarers in distress, including the need for medical assistance, are enshrined in the following United Nations (UN) conventions.

- The UN Convention on the Law of the Sea, specifies a comprehensive regime of law and order for the world's oceans and seas, and in Article 98, sets out the duty of masters to render assistance in case of distress at sea.
- The International Convention for the Safety of Life at Sea (*38*) and the International Convention on Maritime Search and Rescue set out the obligations for contracting governments to make the necessary arrangements to provide assistance to persons in distress at sea.
- The International Convention on Salvage, 1989, in Article 10 specifies the duty of masters to render assistance, insofar as can be done without presenting serious danger to the vessel and persons thereon, to any person in danger of being lost at sea.
- The Convention on Facilitation of International Maritime Traffic states that non-parties to WHO's IHR (2005) shall endeavour to apply the IHR (2005) to international shipping. Furthermore, it sets out the principle that there must be no unnecessary restrictions or delays to entry into port of ships, persons or property on board, and that in an emergency, ships may be allowed to berth to evacuate sick persons.

Useful publications

International Health Regulations (2005)

The purpose of the IHR (2005) is "to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade" (*39*).

WHO has posted COVID-19 public health guidance documents that address the public health risks and describe measures associated with reducing transmission of the disease. This technical guidance can be found at https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance.

The Maritime Labour Convention

The MLC 2006 is an international agreement established by the International Labour Organization that enshrines a seafarer's rights with respect to conditions of work (*40*). The Convention has now been ratified by 97 ILO member States representing more than 91 % of the world merchant shipping fleet. Public health recommendations found in this guidance document respect the provisions of the five Titles of the MLC 2006.

The rights set out in the Convention must be taken into account when port health authorities seek to control and mitigate the effects of the pandemic, including by ensuring that seafarers have proper PPE, access to medical care while ashore and are, more generally, protected in matters of safety, health and medical care, including having access to mental health care (*41*). Annex 1 provides additional guidance on implementing the occupational health and safety provisions of the MLC 2006.

International Safety Management Code

In accordance with the IMO's International Safety Management Code and other applicable regulatory instruments, shipping companies are required to assess all identified risks to their ships and personnel and establish appropriate safeguards, as are normally documented in their safety management systems (*42*).

The IMO's main task is to develop and maintain a comprehensive regulatory framework for shipping, which includes addressing safety, environmental concerns, legal matters, technical cooperation, maritime security and the efficiency of shipping. This guidance document references several IMO publications about COVID-19, including specific letters that address maritime activities and ways to perform them safely in light of the risks presented by COVID-19. This technical guidance can be found at http://www.imo.org/en/MediaCentre/HotTopics/Pages/Coronavirus.aspx.

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The following people from WHO contributed to this document: Sara Barragan, David Bennitz, Anil Bhola, Kevin Carlisle, Janet Diaz, Aarti Garg, Fahmy Hanna, Muang Htike, Ivan Dimov Ivanov, Mika Kawano, Dena Kirpalani, Phuong Nam Nguyen, Ninglan Wang and Victoria Willet.

WHO continues to monitor the situation closely for any changes that may affect this interim guidance. Should any factors change, WHO will issue a further update. Otherwise, this interim guidance document will expire 2 years after the date of publication.

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