To: All IMO Member States
   United Nations and specialized agencies
   Intergovernmental organizations
   Non-governmental organizations in consultative status with IMO

Subject: Coronavirus (COVID-19) – Roadmap for vaccination of international seafarers

1 The Secretary-General has received a "Roadmap for Vaccination of International Seafarers", prepared and launched by ICS and supported by a broad cross section of global industry associations representing the maritime transportation sector, i.e. IAPH, IACS, INTERTANKO, InterManager, IMCA, IHMA and ITF, and also by the European Community Shipowners' Association, the Singapore Shipping Association and the Swiss Shipowners Association.

2 The Roadmap sets out procedures for a programme that can be implemented by all stakeholders concerned to facilitate safe ship crew vaccination during the COVID-19 pandemic. It can be used by shipping companies (their agents and representatives, including crew agencies), maritime administrations and national health authorities, in liaison with other authorities (such as local customs, immigration, border control, seaport and civil aviation) and seafarers, during the planning and roll-out stages of the vaccination programme.

3 The Secretary-General encourages a wide dissemination of the Roadmap to all interested parties.

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Coronavirus (COVID-19)
Roadmap for Vaccination of International Seafarers

Supported by

Version 1.0 – May 2021
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Coronavirus (COVID-19) Roadmap for Vaccination of International Seafarers

1 Introduction

There have been over 100 million cases of coronavirus (COVID-19) and more than three million COVID-19 deaths recorded worldwide. To date, more than one billion people have received one dose of the COVID-19 vaccine.

A number of vaccines are now authorised in different countries and more are gaining official authorisation on a regular basis. In the global fight against the COVID-19 pandemic, vaccination of populations is a key step.

Seafarers can be considered as a unique population with its own needs and constraints and requirements for international travel.

To protect the health of seafarers, passengers and the general public, and to minimise disruptions to trade and global supply chains, vaccination of seafarers is considered highly preferable.

While industry bodies are working with authorities at national, regional and international levels to prioritise rapid access to vaccinations for seafarers as key workers in all countries, it became apparent that a roadmap dedicated to seafarer vaccination would help to achieve global immunisation.

Vaccination of seafarers in their home countries remains the preferred option but measures should now be taken to permit access to vaccination for seafarers from all countries.

The roadmap provides a framework to establish a local vaccination programme dedicated to seafarers.

International Chamber of Shipping thanks the European Commission DG Mobility and Transport (MOVE) Unit D.2 Maritime Safety for their support with the production of this document.
Coronavirus (COVID-19) Roadmap for Vaccination of International Seafarers

2 Purpose and Scope

This roadmap sets out procedures for a programme that can be implemented by all stakeholders concerned to facilitate safe ship crew vaccination during the COVID-19 pandemic.

This roadmap can be used by shipping companies (their agents and representatives, including crew agencies), maritime administrations and national health authorities, in liaison with other authorities (such as local customs, immigration, border control, seaport and civil aviation) and seafarers, during the planning and roll-out stages of the vaccination programme.

Some countries have already deployed mass vaccination campaigns, which can take place in large off-site vaccination centres set up in car parks, stadiums, commercial centres, etc. A programme for seafarers can specifically enable vaccination for seafarers who:

- Need to leave their vessels and return home;
- Emanate from countries which currently do not have vaccination available to seafarers; or
- Emanate from countries which currently have not prioritised seafarers in their vaccination campaigns.

This roadmap:

- Proposes a framework dedicated to seafarers, for the establishment of vaccination centres in hubs, i.e. places easily accessible to seafarers (ports or airports); and
- Describes aspects to consider in a vaccination programme for seafarers, such as:
  - Planning, setting up and operating a vaccination centre, including vaccine logistics and distribution;
  - Registering seafarers and associated documentation; and
  - Legal/liability considerations.

Shipping companies should ensure that they follow national requirements with regards to vaccination and quarantine.
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3 Eligibility

In this roadmap ‘seafarer’ means any person who is employed or engaged or works in any capacity on board a ship, as defined in the Maritime Labour Convention, 2006.

A seafarer vaccination programme is not intended for:
- Seafarers with documentation showing they have already been vaccinated; or
- Seafarers who can demonstrate that they cannot be vaccinated for specific reasons.

Informed and voluntary consent to vaccination

Vaccination requires an individual's informed and voluntary consent. If an employed seafarer refuses vaccination, employers should consider the reasons given carefully. Employers may consider not allowing unvaccinated employees to work. Each case will need to be considered on its own facts and an individual response made accordingly.

For further information on this, see the ICS Guidance Legal, Liability and Insurance Issues arising from Vaccination of Seafarers at: https://www.ics-shipping.org/publication/coronavirus-covid-19-legal-liability-and-insurance-issues-arising-from-vaccination-of-seafarers/

The guidance addresses legal, liability and insurance issues that could potentially arise for shipowners from or in connection with vaccinations of crew for COVID-19. It considers questions raised by shipowners such as: whether and under what conditions a shipowner can require crew to have vaccination, what vaccines may be safely given and what might be the potential liabilities for shipowners in requiring crew to be vaccinated. It provides guidance on best employment practice to protect against such liabilities and information on insurance cover for such liabilities under the shipowner’s standard Protection and Indemnity (P&I) insurance.
4 Types of Vaccines

Currently, over 60 vaccines are in clinical trials and many more are in the pre-clinical stages. It is recommended that vaccinations which are administered should be on the World Health Organization (WHO) list of vaccines which are under review for Emergency Use Listing (EUL).

The list is available on the 'Status of COVID-19 Vaccines within WHO EUL/PG evaluation process' webpage: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines

If the time comes when shipowners are able to supply vaccines directly to seafarers, they should ensure that any vaccine to be used has been approved by a relevant international or relevant national regulatory authority, the home state of the seafarer or the flag State.

Due to the transient profile of international seafarers, single dose vaccines are strongly preferred under this roadmap. However it is recognised that these may not always be available in certain countries. Should a second dose be needed, plans should be developed for the second injection to be received in a timely manner.

The Vaccine Market Dashboard is available at: https://app.powerbi.com/view?r=eyJrli5oNnE0YyZInzU6Zjk0OS00ZTg4LTlhMzZtvmFtbGF0aW9uT2NvbGhbMl9pZDAtN0Z1ZnJlcnNvZG1uc2UtdXNlcnMtbGF0Z3JvdWxk&name=ReportSections329b3eaf98059a947b

It provides information on the availability of vaccines in individual countries which can be found in the United Nations (UN) COVAX programme and is updated daily. It outlines:

- Vaccines currently available;
- Who and which countries have agreements in place; and
- Quantities purchased.
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Nucleic acid (mRNA or DNA): Pfizer BioNTech; Moderna
These contain genetic material from the virus that instructs human cells to make the spike protein. Once made, the viral genetic material is destroyed. The body then recognises the protein produced as foreign and stimulates an immune response. This type of vaccine is safe and does not affect the person’s genes in any way. It is easy to develop and the technology has been used in cancer patients for many years.

Viral Vector: Oxford/AstraZeneca; Sputnik V/Gamaleya; Johnson & Johnson; CanSinoBIO
These contain a safe version of a live virus that does not cause harm, with genetic material from the COVID-19 virus inserted. Hence the first virus becomes a viral vector. Once inside the cells, the genetic material carried gives cells instructions to make a protein, usually the spike protein, unique to the COVID-19 virus. Using these instructions, the cells make copies of the protein that are recognised as foreign and stimulate an immune response. This technology has been successfully used in the Ebola vaccine and gene therapy.

Inactivated or weakened virus: BBIBP-CoV/Sinopharm; CoronaVac; Covaxin
These vaccines use a form of the virus that has been inactivated or weakened by heat or chemicals so it does not cause disease, but is recognised by the body as foreign and stimulates an immune response. Many existing vaccines are similarly produced and are very safe, but it is difficult to increase production of this vaccine type.

Protein subunit: EpVacCorona
These include small pieces of virus protein, not the whole virus. The most common protein included is the spike protein or a key component of it. Once introduced to the body, it is recognised as foreign and stimulates an immune response.

Source: ICS: Coronavirus (COVID-19) Vaccination for Seafarers and Shipping Companies: A Practical Guide

Figure 1: Different types of COVID-19 vaccines
5 Implementing the Roadmap

A multi-disciplinary team is required to establish and implement a seafarer vaccination roadmap, from setting up a centre to rolling out the vaccination programme. It is important to stress the need for extensive coordination between national and local authorities and the multi-disciplinary participation required in planning and implementation of such a vaccination programme.

The following stakeholders should contribute to forming a multi-disciplinary team:

<table>
<thead>
<tr>
<th>National and local authorities</th>
<th>Ships and seafarers</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maritime administration</td>
<td>Shipping companies</td>
<td>Welfare providers</td>
</tr>
<tr>
<td>Port authorities</td>
<td>Agents</td>
<td></td>
</tr>
<tr>
<td>Health authorities, including</td>
<td>Union representatives</td>
<td></td>
</tr>
<tr>
<td>medics available in port or</td>
<td>Crew agencies</td>
<td></td>
</tr>
<tr>
<td>airport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customs, Immigration and border</td>
<td></td>
<td></td>
</tr>
<tr>
<td>control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil aviation authorities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>where relevant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airlines where relevant</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Figure 2: Stakeholders in the multi-disciplinary team*

The multi-disciplinary team will function as a high-level coordinating body which may require the following roles:

- Head of the vaccine roll-out programme;
- Head of the vaccination hub;
- Manager in charge of the vaccination centre and staffing; and
- Person responsible for vaccine cold chain management and supply of vaccines to the hub facilities.

Stakeholders need to establish how to fund the roadmap and vaccination programme.

The Ergonomics Society have issued a guide to support the safe roll-out of COVID-19 vaccination programmes which include a number of work systems, including cold chain delivery, local administration of the vaccine and patient follow-up.


Figure 3 highlights key stakeholders and their areas of responsibilities.
Coronavirus (COVID-19) Roadmap for Vaccination of International Seafarers

Figure 3: Example of a chain of responsibilities for a seafarer vaccination roadmap

To maintain the cold chain fully adhere to the manufacturer's storage requirements. Ensuring no wastage of doses at the facility is essential.
6 Establishing a Vaccination Site

A vaccination programme for international seafarers requires the selection of an appropriate site to accommodate seafarers and their specificities.

Accessibility to the selected site is key and relies on:
- Efficient crew access to the vaccination centre (inbound and outbound); and
- Appropriate infrastructure to support supply and storage of vaccines.

When planning the setting up of a vaccination centre, the following aspects are reviewed:
- Criteria for the selection of the appropriate site;
- Ensuring logistic needs can be supported (for seafarers’ access and for vaccine distribution); and
- Human resource for staffing the centre.

This section provides details on each aspect.

Figure 4: Planning and operating a seafarer vaccination hub centre
6.1 Selection of a vaccination site

There are different options for selecting a site for a seafarer vaccination centre:

- Creating a centre dedicated to international seafarers in a port or airport;
- Using already existing facilities and making changes to accommodate international seafarers; and
- Using mobile vaccination teams to board merchant ships in port.

In all cases, efficient crew access and vaccine distribution (cold chain and storage) is paramount.

It is also important to determine the target number of seafarers to be immunised on a daily/monthly basis – also known as an immunisation rate – which will impact the number of staff required at the centre and the number of vaccine doses needed.

Stakeholders as described in section 6 above should be involved in selecting a site, setting up and operating a centre.

6.2 Establishing an on-purpose setting

Different criteria are taken into account to select a site for vaccination of seafarers. It is important to estimate how much space is needed and if the required amenities are available.

<table>
<thead>
<tr>
<th>How much space is needed for</th>
<th>Associated amenities that should be available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical distancing practices and other applicable guidance</td>
<td>Open areas for seating and waiting; separate room for staff; physical barriers; one way flow through the centre (separate entrance and exit)</td>
</tr>
<tr>
<td>Enhanced infection control procedures</td>
<td>Ventilation; handwashing stations and disinfection; washroom facilities</td>
</tr>
<tr>
<td>Proper vaccine storage, handling, preparation</td>
<td>Separate access for receiving/loading supplies; access to electricity to support refrigerator</td>
</tr>
<tr>
<td>Waste management</td>
<td>Waste disposal practices and equipment</td>
</tr>
<tr>
<td>Accessibility/ease of access for seafarers (security issues)</td>
<td>Parking for shuttle bus; no restrictions to site access due to International Ship and Port Facility Security Code (ISPS Code) measures</td>
</tr>
<tr>
<td>Dealing with safety issues for patients including need for observation</td>
<td>Separate/private first aid area for managing medical situations; enough space available for that purpose</td>
</tr>
<tr>
<td>Administration, IT</td>
<td>Enough space available to perform administration and other support functions</td>
</tr>
</tbody>
</table>

Figure 6: Non-exhaustive list of considerations for identifying an appropriate vaccination site

Examples of potential sites that could be appropriate for seafarer vaccination include:

- Seafarers clubs;
- Cruise and ferry terminals;
- Shopping centres or vacant spaces in airport;
- Convention centres; and
- Outdoor areas with appropriate equipment (tents, heaters) and parking spaces.
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When establishing a vaccination centre, procedures should be in place to manage adverse effects (such as anaphylaxis or fainting) or emergency situations. Such procedures should follow national or local protocols and should include a clear plan for patient transport to a health care facility.

The table below contains links to various guidance documents from national or international agencies:

<table>
<thead>
<tr>
<th>Institution</th>
<th>Document name</th>
<th>Website</th>
</tr>
</thead>
</table>

*Figure 6: List of guidance documents from national or international agencies*

A simplified example checklist of best practices to set up seafarers' vaccination centres in a hub port is available at the end of this section.

### 6.3 Using existing facilities

A seafarer vaccination centre could also be set up in existing facilities. In such cases, it will be necessary to evaluate if existing facilities are appropriate to conduct mass vaccination of seafarers.

Criteria to review for the selection of an existing facility are similar to those provided in section 6.2 above and in section 6.4 below.
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Particular attention should be paid to the following aspects:

- Ease of access for seafarers;
- Possibility to establish a dedicated pathway for seafarers;
- Possibility to carry out administrative functions specific to seafarers; and
- If a hub port is being established to service a specific region.

6.4 Supporting logistic requirements

The centre location should be adequate to ensure efficient logistics, allowing:

- Easy access for seafarers; and
- Efficient transport of supplies, including vaccines, to and from the centre, and cold chain management.

The logistic needs for seafarers’ access and for vaccine supply and distribution are covered in sections 7 and 9 of this roadmap. The centre location should be selected to ensure logistic needs can be supported.

6.5 Medical staff on site

Staffing is usually based on the expected immunisation rate (number of seafarers to vaccinate per day), working days per week and opening hours. A need for shifts should also be taken into account.

For reference, it should be noted that an average size clinic operates with 10–15 persons performing vaccine jobs (immunisers).

<table>
<thead>
<tr>
<th>Role</th>
<th>Functions and background</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manager</strong> responsible for hub port vaccination centre</td>
<td>Ultimate responsibility; should be a director or manager with experience in immunisation.</td>
</tr>
<tr>
<td></td>
<td>Oversees all aspects of centre planning, implementation and operation.</td>
</tr>
<tr>
<td></td>
<td>Liaison role. Supported by medical health officer or other physician.</td>
</tr>
<tr>
<td><strong>Medical support</strong> (on site or off site); medical staff in charge of the centre</td>
<td>Medical health officer or other physician.</td>
</tr>
<tr>
<td></td>
<td>Writes medical directives under which vaccines are administered for health care professionals who may delegate immunisation; management of anaphylaxis.</td>
</tr>
<tr>
<td></td>
<td>Reviews reported adverse events following immunisation.</td>
</tr>
<tr>
<td></td>
<td>Available by telephone to assist with questions (contraindications, precautions) if medical support if not available at the centre.</td>
</tr>
<tr>
<td><strong>Clinic leader</strong></td>
<td>Managers or nurses with immunisation experience.</td>
</tr>
<tr>
<td></td>
<td>Responsible for the overall operations of the clinic; troubleshoots problems/concerns.</td>
</tr>
<tr>
<td><strong>Immunisers</strong> (administering vaccines)</td>
<td>Nurses, doctors, paramedics, pharmacists, dentists, registered practical nurses, nursing and medical students, midwives (depending on jurisdictional requirements and legislation).</td>
</tr>
<tr>
<td></td>
<td>Immunises the patient.</td>
</tr>
</tbody>
</table>
Coronavirus (COVID-19) Roadmap for Vaccination of International Seafarers

<table>
<thead>
<tr>
<th>Role</th>
<th>Functions and background</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other medical support staff</td>
<td>Physician, nurse practitioner responds to questions.</td>
</tr>
<tr>
<td></td>
<td>Monitors/responds to post-immunisation adverse events and other medical emergenoeise and supervises patients.</td>
</tr>
<tr>
<td>Administrative support</td>
<td>In charge of administrative aspects; IT; logistics.</td>
</tr>
<tr>
<td>Other support functions</td>
<td>Greeters, client flow monitors and post-immunisation waiting area monitors.</td>
</tr>
<tr>
<td></td>
<td>Assists with seafarer access to the centre.</td>
</tr>
<tr>
<td></td>
<td>Assists with administrative functions or monitoring (stewards).</td>
</tr>
<tr>
<td></td>
<td>Can be performed by volunteers.</td>
</tr>
</tbody>
</table>

Figure 7: Examples of roles and functions that are expected in a vaccination centre, in order to estimate adequate human resources

Reference should be made to national requirements or guidance from medical authorities with regard to vaccination centre staffing and operation.

The following link provides guidance documents, made available by a national agency:

Government of Canada
Planning guidance for immunization clinics for COVID-19 vaccines; Table 2: Examples of clinic roles and activities in immunization clinic operations:


6.6 Training and qualifications for medical teams

Reference should be made to national requirements or guidance with regard to training and qualifications of medical staff administering vaccines and other medical support staff.

Only personnel with appropriate training and qualifications may prepare and administer a vaccine.

Vaccination providers at the centre should be certified in cardiopulmonary resuscitation (CPR), be familiar with the signs and symptoms of anaphylaxis, know their role in an emergency, know when and how to administer epinephrine and trained in its indications and uses.

6.7 Mobile vaccination teams

A mobile vaccination service in port is an efficient way to save time for seafarers, when time in port is short. It also allows vaccination of a whole crew or a large part of the crew on board. A team can be linked and supervised by an existing vaccination facility or a purpose-built facility for seafarers.

As vaccination must be supervised, a medically trained person/physician must be part of the team and can intervene in case of an unexpected reaction. When establishing a mobile vaccination team, the following aspects should be considered.
### Mobile vaccination team

**Team members**
A trained physician/doctor (from the port or elsewhere) can do the vaccination with a nurse or medically trained person who is allowed by the local medical authorities of the port to give vaccinations. One person acting as the driver.

**Equipment required**
- All tools required for vaccination (e.g., syringes, needles, ampoules, cleaning and disinfection material, personal protective equipment (PPE), etc.).
- First aid material in case of adverse effects (e.g., Epipen, assistive equipment).
- Equipment to contact the supervising base; efficient localisation systems (in case of emergency interventions).

**Vaccine transport and storage**
All storage equipment as required by the vaccine manufacturer to guarantee cold chain (cool-boxes or refrigerators in vehicles).

**Documents**
Registration of the vaccinations handled by the team on board. Vaccination cards to be handed out or completed on board, by team members authorised to do this.

**Emergencies**
Intervention in case of serious side effects or allergic reaction should be available, on the spot or within a reasonable time (10 to 20 minutes away maximum).

*Figure 8: Considerations for a mobile vaccination team*

A mobile vaccination service could utilize suitably qualified medicals working either on board cruise ships or in diving environments if permitted by national laws and regulations.

### 6.8 Example checklist of best practices to establish seafarer vaccination centres in a hub port

<table>
<thead>
<tr>
<th>Requirement</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BEFORE THE VACCINATION CENTRE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaccine shipped directly to the centre, where adequate storage is available (direct shipment is preferred for cold chain integrity)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VACCINE TRANSPORT (OR DIRECT SHIPMENT TO CENTRE IS NOT POSSIBLE)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaccines transported with a portable vaccine refrigerator or adequate containers and within the temperature range recommended by the manufacturers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The person transporting the vaccines confirms that the manufacturer’s instructions for packing configuration and proper conditioning of coolants were followed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital data logger (with a Certificate of Calibration Testing) placed directly with the vaccines and used to monitor vaccine temperature during transport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount of vaccine transported limited to the amount needed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>VACCINE STORAGE AND HANDLING (UPON ARRIVAL AT CENTRE)</th>
</tr>
</thead>
</table>
If vaccines were shipped, shipment to arrive within the appropriate timeframe (according to manufacturer/distributor guidelines) and in good condition.

Vaccine shipment contains a cold chain monitor (CCM), to be checked upon arrival at the centre.

Upon arrival, vaccines are immediately unpacked and placed in proper storage.

Upon arrival, vaccines are still within the manufacturer’s recommended temperature range.

<table>
<thead>
<tr>
<th>CENTRE PREPARATION AND SUPPLIES</th>
</tr>
</thead>
</table>
A contingency plan is in place in case vaccines need to be replaced.

An emergency medical kit (including epinephrine) is at the centre.

All vaccination providers at the centre are certified in cardiopulmonary resuscitation (CPR).

Adequate infection control supplies provided, including biohazard containers and hand hygiene supplies.

Adhesive bandages, individually packaged sterile alcohol wipes, sufficient sterile needles and syringes/sharp container are provided.

A process for screening for contraindications and precautions is in place.

A sufficient number of vaccine information statements for each vaccine being offered is available at the centre.

Designated clean area for vaccine preparation identified and set up.

A qualified individual is designated to oversee infection control at the centre.

<table>
<thead>
<tr>
<th>PREVENTING TRANSMISSION OF COVID-19 AT THE CENTRE</th>
</tr>
</thead>
</table>
Sufficient supply of PPE for staff, including face masks, gloves, and if appropriate, eye shields. Face coverings, supply of thermometers to check patient temperatures.

Signs, barriers, and floor markers to instruct patients for social distancing.

<table>
<thead>
<tr>
<th>VACCINE STORAGE AND HANDLING</th>
</tr>
</thead>
</table>
Vaccines kept in proper storage equipment maintaining the temperature range recommended by the manufacturer (i.e. a portable vaccine refrigerator or qualified container).

Vaccine temperature is monitored.

If vaccines cannot be stored in a storage unit at the centre, they are kept in the portable vaccine refrigerator or qualified storage with a temperature monitoring device.

Note: this is a simplified and non-exhaustive checklist based on US CDC ‘Best Practices for Vaccination Clinics Held at Satellite, Temporary, or Off-Site Locations’ available at: https://www.cdc.gov/vaccines/schedules/hcp/professionals/clinics/02-off-site-vaccination-clinic-checklist.pdf
7 Vaccine Distribution Logistics

This section covers key steps and aspects of vaccine distribution, including transportation to the hub and the centre, handling and storage. Transportation, distribution, storage and handling must be conducted in accordance with conditions:

- That could be stipulated in national guidance or requirements; and
- Specified by the manufacturers.

7.1 Transportation to vaccination centre

![Flowchart](image)

- Vaccines shipped directly from factory to hub facilities (generally).
- Suitable containers used, compliant with local regulations. Digital data logger placed directly with the vaccines to monitor temperature.
- Limited amount of vaccines transported from bulk cold storage to vaccination centre.
- Test storage equipment used to ensure it can maintain the manufacturer’s recommended temperature range (temperature record available).
- Vaccines unpacked and placed in proper storage equipment.

**Figure 9: Flowchart illustrating key steps in the logistics chain**

A contingency plan must be in place in case vaccines need to be replaced. The plan should address scenarios for vaccines that have been compromised before arrival at the centre and for vaccines compromised during clinic hours.

Vaccine information statements (emergency use authorisation (EUA) forms, if required) should be available for each vaccine offered at the vaccination centre.
It is paramount to ensure no wastage of vaccine doses. In doing so, it is proposed to identify a reserve list of seafarers who could come if necessary at short notice to the vaccination centre.

7.2 Maintaining the cold chain

An effective cold chain relies on three main elements:
1. Well-trained personnel;
2. Reliable storage and temperature monitoring equipment; and
3. Accurate vaccine inventory management.

The flowchart below illustrates responsibilities shared regarding cold chain management.

Each vaccine vial received from the distributor must be stored at a temperature within the recommended temperature range and not be used beyond the indicated shelf-life.

Figure 10: Cold chain flowchart
8 Administering the Vaccine

The immunisation process usually follows three steps:

1. Vaccine preparation;
2. Vaccine administration; and
3. Post-administration waiting period.

However, vaccine provision protocols may vary depending on vaccine type.

Advice should be sought from medical authorities if a seafarer has any doubts or questions regarding vaccination and their health conditions.

General guidance regarding vaccine administration practices can be obtained from:

- Vaccine manufacturers’ instructions as outlined in product leaflets;
- Professional standards of practice; and
- Organisational or national policies and procedures.

**Administering a second dose**

If single dose vaccines are not administered at the centre, arrangements will be needed for the administration of a second dose in the timeframe advised by the vaccine manufacturers.

The table below contains links to various guidance documents on vaccine administration practices by national agencies:

<table>
<thead>
<tr>
<th>Institution</th>
<th>Document name</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Centers for Disease Control and Prevention (CDC)</td>
<td>Vaccine Administration</td>
<td><a href="https://www.cdc.gov/vaccines/hcp/admin/admin-protocols.html">https://www.cdc.gov/vaccines/hcp/admin/admin-protocols.html</a></td>
</tr>
</tbody>
</table>

*Figure 11: List of guidance documents on vaccine administration practices by national agencies*
Coronavirus (COVID-19) Roadmap for Vaccination of International Seafarers

9 Seafarer Rostering and Administration

Rostering of seafarers refers to scheduling appointments at the vaccination hub centre.

9.1 Appointments

An appropriate method should be established for individual companies and their agents to book slots at the vaccine hub centre for vaccination of their seafarers.

It is recommended:
- That local stakeholders investigate adequate tools or ways to develop a booking system, which could be as simple as making appointments via a common communication platform (Microsoft Outlook), or a dedicated booking tool and
- To designate one person in charge of booking appointments.

9.2 Travelling to the vaccination hub

Seafarers who cannot get a vaccine in their home country before joining a ship will need to follow protocols as specified by the port State.

Depending on the available confirmed booking slots, shipping companies can inform their manning agency, if applicable, to make travel arrangements for seafarers and to advise them of the information they need to receive prior to vaccination.

When travelling, as far as possible and practicable, a travel bubble should be formed for seafarers from their country of origin to the vaccination hub port, and vice versa.

When departing the country of origin, seafarers must provide a negative reverse transcription polymerase chain reaction (RT-PCR) test report and any additional fit for travel documentation which may be required by the destination countries and airlines on their behalf.

A seafarer’s journey to a vaccination hub can be illustrated as follows:

![Figure 12: Example seafarer’s journey to a vaccination hub](image-url)
Coronavirus (COVID-19) Roadmap for Vaccination of International Seafarers

Seafarers travelling to a hub port vaccination centre and travelling to and from the ship must be maintained within a bubble (COVID-safe environment).

When a mobile vaccination team is established, vaccination of seafarers is performed on board a ship visiting the hub port, with the mobile medical team boarding the ship berthed or at anchorage.

### Administering a second dose

If administration of single dose vaccines is not feasible at the centre, arrangements will be needed for the administration of a second dose in the timeframe advised by the vaccine manufacturers.

#### 9.3 Vaccine documentation

Documentation and records are needed at different levels:

- In the vaccination centre, regarding vaccine distribution and per vaccine administered; and
- For seafarers, i.e. documentation for their personal record.

Documents for seafarers' information and medical records must be provided in English language.

Prior to receiving the vaccine, seafarers should be handed copies of consent forms and vaccine information in English provided by the manufacturer or required by the national authorities.

Each vaccine administered is fully documented with:

1. Name of person vaccinated;
2. Vaccination date (and if applicable time range for the second dose as indicated by the manufacturer);
3. Vaccine type, manufacturer and lot number;
4. Patient receipt of vaccine information statement;
5. Edition date;
6. Date emergency use authorisation (EUA) was provided;
7. Name of person/facility/clinic administering the vaccine to the seafarer; and
8. Necessary vaccine record to support national rules and regulations.

The documentation related to the procedure used consists of:

1. Name of person being vaccinated;
2. Vaccination route;
3. Dosage;
4. Name/title of person administering the vaccine; and
5. Office/company address of person who administered the vaccine.

#### 9.3.1 Medical records for seafarers

Seafarers administered with the vaccine must be provided with documentation by the vaccination centre for their personal records and to share with their medical providers and company.

Medical information for all seafarers administered with the vaccine must be placed in a secured storage location for privacy/protection.
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