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MAGAZINE

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Editorial

Dear Colleagues,

we proudly present to you another International Maritime Health magazine!

Once again we succeeded in collecting a lot of information that — hopefully — will find your interest and be a valuable contribution to your work.

Thanks to all who contributed!

Some of you may have read the perspective of our Camerino University/International Radio Medical Centre (CIRM) colleagues on the options of employing the metaverse including the use of avatars for healthcare at sea. While most of that probably still is far out, the International Maritime Health Foundation's (IMHF) Expert Panel held a workshop in Berlin on the options of transforming telemedical advice into telemedical assistance at sea. The internet nowadays provides the possibility for telemedical maritime assistance service (TMAS) professionals to almost stand by the first responders on board as the increasing satellite coverage allows for realtime audio-/videostreaming.

Ships already use these features for many purposes, the International Maritime Organization (IMO) is about to implement that into its provisions for the new "maritime services". Telemedicine is part of it (MS 09).

While this creates room to improve medical care at sea (in a foreseeable future) there are obstacles to overcome. Among them the regulations on data protection.

Read the report on IMHF's 4th workshop in this magazine! — IMHF plans a follow-up workshop next year that hopefully will present solutions.

Another follow-up workshop in December this year will deal with the challenge of developing "pathways" for the management of medical incidents at sea — reflecting the special maritime environment. It will be IMHF's 6th workshop based on IMHA's 2015 London workshop and IMHF's 3rd workshop last year in Hamburg (see IMH magazine 2/2023). As developing such "pathways" probably is the most groundbreaking (and demanding) work to improve the quality of health care at sea we look back at the London workshop in this magazine.

We also look back at now 3 years of IMHF Expert Panel (IMHF-EP).

Past and present are addressed in our presentation of the London-based Seafarer Hospital Society (SHS). The article illustrates to what degree seafarer health and wellbeing was and still is carried by charity organizations. See also the presentation of the International Transport Federation's Seafarer's Trust. The article starts our loose serial presenting organizations relevant to the health of seafarers.

In this magazine we continue our serial on institutes involved in maritime medicine by presenting the Norwegian Centre for Maritime and Diving Medicine (NCMDM).

I hope that once again we can provide an inspiring reading matter.

If yes tell other colleagues. If not tell us!

Klaus Seidenstücker
Temporary magazine editor
International Maritime Health Foundation's Expert Panel

News

WORLD HEALTH ORGANIZATION (WHO) LAUNCHED THE WHO ONLINE REPOSITORY OF EVIDENCE-INFORMED DECISION-MAKING (EIDM) TOOLS

Contributed by Nebojsa Nikolic

The World Health Organization (WHO) online repository of evidence-informed decision-making (EIDM) tools (https://evidence-impact.org/) is the first of its kind to highlight WHO tools and external tools utilized by WHO to facilitate knowledge translation and partner organizations involved in planning, managing, monitoring, and evaluating the process of evidence use and implementation. This tool will be of importance to health planning in maritime industry too (i.e. vaccination programmes, quarantine programmes, etc.).

The easy-to-navigate online platform enables users to search and access EIDM methods and tools corresponding to each step of the policy/action cycle. In addition to searching across the cycle, users can refine their searches using advanced functionalities to filter by document type, language, and publication date. The platform offers tools that span the clinical (or practice), public health, and health system domains.

The repository actively houses and maintains 75 tools and is continuously being updated as new tools emerge. The Evidence to Policy and Impact Unit will be actively adding more tools to the repository, employing a scoping literature review and other steps. EVIPNet and the Evidence to Policy and Impact Unit will integrate the online repository of EIDM tools into their other capacity-sharing activities.

If you would like to learn more about the online repository of EIDM tools, please contact WHO experts at: eidm@who.int.

NEWS ON COVID-19 FROM WHO

Contributed by Nebojsa Nikolic (Non-Governmental Organizations [NGO's])

Globally, as of 12:20pm CEST, 30 August 2023, there have been 770,085,713 confirmed cases of coronavirus disease 2019 (COVID-19), including 6,956,173 deaths, reported to the World Health Organization (WHO). As of 20 August 2023, a total of 13,499,865,692 vaccine doses have been administered.

On WHO press conference on global health issues held on 9 August 2023, Secretary General of WHO, Dr. Tedros Adhanom Ghebreyesus reported that since May 5th 2023, when an end to COVID-19 as a global health emergency has been declared, the number of reported cases, hospitalisations and deaths globally has continued to decline.

However, he emphasized that the number of countries reporting data to WHO has also declined significantly. In the past month, only 25% of countries and territories have reported COVID-19 deaths to WHO, and only 11% have reported hospitalisations and intensive care unit admissions. This doesn't mean that other countries don't have deaths or hospitalisations, it means they are not reporting them to WHO.

There is no question that the risk of severe disease and death is vastly lower than it was a year ago, thanks to increasing population immunity from vaccination, infection or both, and from early diagnosis with better clinical care. Despite these improvements, WHO continues to assess the risk of COVID-19 to the global public as high.

The virus continues to circulate in all countries, continues to kill and it continues to change. WHO is currently tracking several variants including EG.5. The risk remains of a more dangerous variant emerging that could cause a sudden increase in cases and deaths.

Starting from the week of 7 August 2023, the Region of the Americas has paused its specific COVID-19 Epidemiological Update. Subsequent COVID-19 surveillance will continue through the Influenza and Other Respiratory Viruses bulletin and dashboards available here: https://www.paho.org/en/topics/influenza-and-other-respiratory-viruses.

WHO WEBINARS

Contributed by Klaus Seidenstücker

For all maritime health care professionals, it is essential to keep abreast of epidemiological/infectious disease developments. The World Health Organization offers at regular intervals webinars. See for more information and registration/subscription: www.who.int/teams/epi-win/epi-win-webinars.

ILO/IMO MEETINGS 2024

Contributed by Nebojsa Nikolic

The Joint International Labour Organization/International Maritime Organization (ILO/IMO) Tripartite Working Group to identify and address seafarers' issues and the human element will convene in the first and last quarter of 2024. Date and place still to be confirmed.

Also, in the first quarter in Geneva: Meeting of Experts to produce joint ILO/IMO Guidelines for Medical Examination of Fishers.

ITF TARGETS FOUR WORST FLAGS ACCOUNTED FOR MORE THAN 100 CREW ABANDONED IN THE LAST TWO YEARS

Contributed by Nebojsa Nikolic

The International Transport Workers' Federation (ITF) announced that up to a thousand ships flagged to the Cook Islands, Palau, Sierra Leone, and Togo will be targeted for safety, maintenance and seafarer welfare inspections across the Mediterranean Sea in the coming 8 weeks by an army of inspectors from the ITF, seafarers' unions and port authorities.

"Substandard shipping in the Mediterranean Sea is driving down seafarers' wages and conditions, its endangering the lives of crew and risking our environment," said ITF Inspectorate Coordinator Steve Trowsdale. "These flags take money from shipowners to register ships that other countries wouldn't touch. Many are old vessels and are poorly maintained by their owners. Many of these ships are dangerous and should not be trading," he said. The blitz comes off the back of new analysis showing the four flags of convenience registries together accounted for more than 100 crew abandoned in the last 2 years, with millions of dollars wages not paid to crew by the flags' shipowners that the ITF then had to recover on seafarers' behalf.

Trowsdale said often when the ITF or its affiliated unions called on the flags to fix problems caused by irresponsible shipowners, such as in cases of abandonment — "that's when these flags are nowhere to be seen — they take the money and run."

In just 3 years, the Cook Islands, Palau, Sierra Leone, and Togo flags were responsible for:

— 33 cases of crew abandonment, affecting more than a hundred seafarers, leaving many without pay, food, water, or a way to get home;
— over $5,500,000 USD in unpaid wages cheated from crew, that the ITF then had to recover from the flags' shipowners on seafarers' behalf;
— 5,203 deficiencies or detentions issued by European Port State Control enforcement agencies.

Managing stress. ITF published factsheet on stress management for seafarers on its webpage. Stress is the body's reaction to any change that requires an adjustment or response. The body reacts to these changes with physical, mental, and emotional responses. When external and internal demands are greater than the resources we have to meet those demands, we experience stress.

The earlier we recognize the signs and symptoms of stress, the better we will be able to manage it. These are some common signs and symptoms:

— difficulty in sleeping, and insomnia;
— abnormal appetite and weight changes;
— frequent headaches;
— stomach upsets and frequent urination;
— trembling, sweating and restricted breathing;
— periods of being tearful or crying;
— increased heart/respiratory rate;
— dehydration, dizziness and fainting;
— blurred eyesight, or sore eyes;
— inability to get things done;
— isolation and increased conflict in relationships;
— substance abuse;
— problems with memory and concentration, and difficulty making decisions;
— feeling nervous, anxious, angry, irritable or easily frustrated.

Whole factsheet with key facts, and practical tips for managing stress is available at: https://www.itfseafarers.org/en/health/managing-stress.

MENTAL HEALTH AND THE IMPACT OF ABUSE HIGHLIGHTED AS KEY CONCERNS FOR YACHT CREW IN ANNUAL HELPLINE REPORT FROM ISWAN

Contributed by Nebojsa Nikolic

The International Seafarers' Welfare and Assistance Network (ISWAN) launched its Yacht Crew Help service in November 2020, in order to provide accessible, specialised support to help those working in the yachting industry to cope with the unique challenges of life at sea. Yacht Crew Help is a free, multilingual, 24/7/365 service operated by a team of helpline officers with broad-ranging experience of providing emotional support and practical guidance. Demand for the service has continued to grow, with Yacht Crew Help supporting 300 crew members from at least 42 different nationalities in 2022, up by 31.0% year-on-year.

Mental health difficulties were the most frequently raised issue, accounting for 16.6% of all issues raised and for 19.1% of those raised by women. Yacht crew who contacted the helpline frequently talked about the impact on their mental health of long working hours, lack of sleep, the impact of alcohol or drugs onboard or difficulty fitting into the crew culture.

However, ISWAN's helpline data suggests that experiences of abuse, bullying, harassment or discrimination (ABHD) are collectively the issue that has the greatest impact on the mental health of yacht crew. Almost a quarter (24.3%) of yacht crew who contacted Yacht Crew Help in 2022 in relation to mental health challenges also raised an experience of some form of abuse. Overall, experiences of ABHD accounted for 9.2% of all issues raised, in comparison to 3.0% of issues raised to SeafarerHelp, ISWAN's long-established helpline for all seafarers across the maritime sector and their families. Contacts relating to ABHD increased by 81.3% on the 2021 level.

Amongst women, experiences of abuse accounted for 13.5% of issues raised to Yacht Crew Help, as opposed to 5.8% of issues raised by men. In many cases, yacht crew contacted the helpline for support to cope with bullying, aggression and at times assault, frequently by more senior crew members. Amongst women yacht crew, half of all ABHD-related contacts involved sexual abuse or harassment.

A year in data of Yacht Crew Help 2022 can be downloaded at: https://www.seafarerswelfare.org/assets/documents/resources/Yacht-Crew-Help-2022-a-year-in-data_2023-07-07-150420_prad.pdf.

Presentations

INTERNATIONAL TRANSPORT WORKER'S FEDERATION'S SEAFARERS' TRUST (ITF ST)

By Luca Tommasi

The International Transport Worker's Federation's Seafarers' Trust (ITF ST) is a grantmaking trust registered as a charity in the United Kingdom. We have a small secretariat based in the United Kingdom and overseas, and an international Board of Trustees. Specifically working in the maritime sector, the Trust is the charitable arm of the ITF, a global federation of transport workers' unions with over 20 million worker members. The Trust was established by the ITF in 1981 to fund programmes that advance the wellbeing of maritime workers, seafarers and their families. Our mission is to support the provision of services to maritime workers; we invest in long-term programmes that improve seafarers' and their families' health and wellbeing; and we act as a catalyst for positive change in the maritime community. Our core business is to make grants that support projects such as seafarers' centres and other port-based welfare, research into issues affecting seafarers, and the provision or development of welfare and wellbeing services to seafarers and maritime workers. We also provide a small number of scholarships each year at the International Maritime Organization's World Maritime University and International Maritime Law Institute. We fund and work with a wide variety of partner organizations who share our charitable aims such as other maritime charities, trade unions and non-governmental organizations. We also carry out work in the maritime medical sector. On top of providing grants for research and intervention aiming to improve seafarers' health and wellbeing, we have been working closely with a number of European telemedical maritime assistance service (TMAS) providers in order to harmonize data collection and improve cooperations. We involved national TMAS from Denmark, Finland, Germany, Italy, the Netherlands, Norway, Poland, Sweden, Turkey and the United Kingdom in order to agree common definitions and record comparable anonymised data sets and to develop a standardised method of data collection with a view to facilitating an annual report of selected consolidated statistics.

At the moment, our most visible project is the Life At Sea seafarer photography competition, started during the early months of the COVID-19 pandemic while seafarers remained trapped on board, and now in its fourth year. This popular seafarer photography competition has resulted in a large catalogue of images that represent the reality of seafaring, as seen by seafarers, and we are now working with maritime museums and other organizations worldwide to bring this honest insight into the seafarers' world to the general public.

Whilst the majority of our work is focused on seafarers, we also support some work with other maritime workers. Our OSH Ports app-based training project aims to improve occupational health and safety in ports across the Arab World, Latin America and Caribbean through training and empowering dock workers to engage with OSH issues in their workplace.

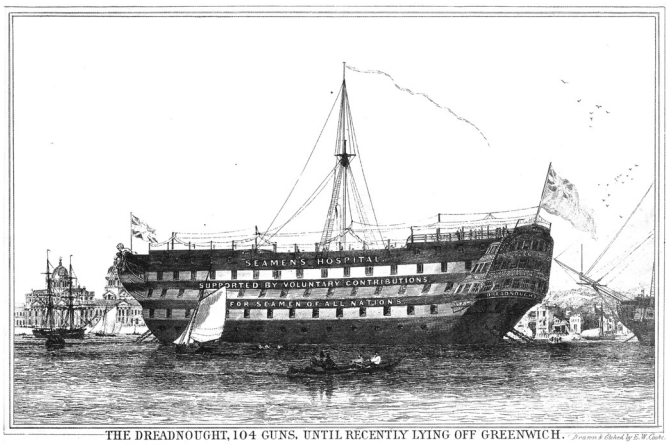
You can find out more about the work of the Trust at our website: https://www.seafarerstrust.org/ or find us on social media.

THE SEAFARERS HOSPITAL SOCIETY — PAST AND PRESENT

By Tim Carter (Society Trustee)

On September 23rd, 1842, George Nimmo, a fourteen year old apprentice on a ship plying from Newcastle to London, probably laden with a cargo of coal, was taken ill with a fever. He was admitted to the 'Dreadnought' hospital ship moored on the River Thames at Greenwich and spent three weeks being treated there.[1] *He fortunately recovered and later in his life qualified as a mate. At this time the different diagnostic features of the two fevers typhus and typhoid were only beginning to be recognised, but the term 'fever' was usually applied to typhoid, an infection that the doctors at the hospital knew to be common on the ships carrying coal to London.*

[1] Great-great-grandfather of my partner Anne, and one of several generations of seamen. The hospital admission books for this period still survive and have been digitised.



HMS Dreadnought at hospital ship 1870s

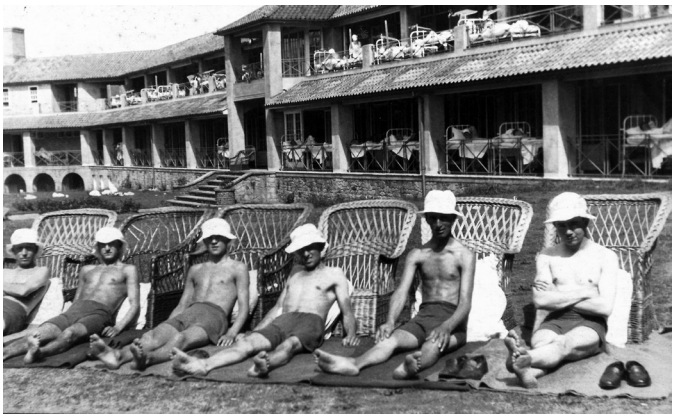
A hospital ship on the Thames had been set up by the Seaman's Hospital Society in the 1820s at a time when there was unemployment and destitution among seamen in the port of London.[2] Benefactors had contributed to its costs, and it provided free care for seafarers of all nationalities in the port. From the outset, the Society and its hospital were pioneers in the health care of seafarers. The hospital 'came ashore' to premises in Greenwich in the 1870s.

Bringing a sick seafarer ashore for transfer to hospital early 1900s

Pioneering activities in the nineteenth century included responding to the repeated outbreaks of cholera among seamen, and active monitoring of ships for new cases to protect the population ashore. Doctor Harry Leach, from the hospital, contributed to new laws protecting the health of seamen and wrote 'The Ship Captain's Medical Guide' in 1868, an updated version of which is still the medical guide carried on many United Kingdom and other ships. Towards the end of the century as British imperialism flourished and as knowledge of the causes of infectious diseases and their vectors developed, Doctor Patrick Manson, recently returned from the investigation of diseases in British Colonies, based the first United Kingdom Hospital for Tropical Diseases at a new Society hospital built downstream, where larger vessels could be docked.

Education was central to the work of the hospitals and both a nursing and a postgraduate medical school were instituted. The importance of tuberculosis as a leading cause of death in seamen came to be recognised early in the twentieth century and the hospital had a pioneering role in its prevention and treatment. An open-air ward was set up when this was the preferred treatment, followed by a newly built sanatorium in the countryside. The use of mass miniature chest X rays for screening seamen was developed during the 1940s.

[2] For more details of the history of the Society see: https://seahospital.org.uk/about-us/our-history/.



Seafarers with tuberculosis having sun and open air treatment at King George Sanatorium for Seafarers 1925

Following the creation of the National Health Service in 1948 the hospital services became integrated with those for the local community, and this remains the case to the present, although the decline in London as a port and changes in medical practice now mean that a limited service for today's seafarers is provided within one of London's major hospital groups.

Since 1948 the Seamen's (now Seafarers) Hospital Society has moved away from direct provision of hospital services to provide a range of other health related support services for seafarers. Seafarers' Advice and Information Line (SAIL) is a specialised advisory service that helps seafarers, current and retired, gain access to benefits and to avoid debt.[3] The Society also makes grants to individuals to help with needs such as mobility aids and adaptations. Health promotion initiatives, especially among fishing communities, have been a major part of its recent work as have targeted aspects of clinical support such as quick access physiotherapy and dental services.[4]

The Society is a charity and is still able to benefit from the generosity of those who founded and supported it over the last 200 years. It is the only United Kingdom-based charity specifically concerned with the health of seafarers and is always on the lookout for new ways to contribute to this, for instance its recent review of gaps in current seafarer health care and the steps now being taken to encourage the development of quality and performance indicators for seafarer health, as described in the last issue.

THE NORWEGIAN CENTRE FOR MARITIME AND DIVING MEDICINE

By Jon Magnus Haga

The Norwegian Centre for Maritime and Diving Medicine (NCMDM) is the national centre of excellence for maritime medicine in Norway. The centre was established in 2005 by an act of the Norwegian Parliament and is organized as an integrated part of the Haukeland University Hospital, the second largest hospital in Norway. The NCMDM cooperates closely with the Norwegian Maritime Authority, the Norwegian Coastal Administration, the Coastal Radio Service, the Norwegian Joint Rescue Coordination Centres (JRCC) and the Norwegian Navy.

The mission of the NCMDM is to promote health among seafarers. Main activities include research and innovation projects, coursework in selection medicine and medical

[3] Details of SAIL advisory service (part funded by the Society): https://sailine.org.uk.
[4] For information on the current work of the Society see: https://seahospital.org.uk.

consultancy of maritime authorities, authorities, ship-owners, and seafarers' organizations. NCMDM chairs the appellate body of the Norwegian Maritime Authority and acts as experts in the vetting of seafarers' doctors in Norway. NCMDM has national responsibility for occupational examination of professional divers and operates the Norwegian telemedical assistance service (Radio Medico Norway). In 2022, NCMDM provided telemedical services for 2275 seafarers and assisted in 204 medical evacuations.

The NCMDM Course Centre provides all compulsory training for medical doctors seeking approval as seafarer's doctors, petroleum doctors and diving doctors (renewal) in Norway. In 2022, NCMDM organized 18 courses, based on 6 different curricula approved by the Norwegian Maritime Authority and the Norwegian Directorate of Health. A total of 526 doctors participated in courses at NCMDM in 2022.

The Appellate Body is the legal body of the Norwegian Maritime Authority which considers appeals of decisions made by Norwegian seafarer's doctors regarding health certificates for seafarers. The body is chaired by a medical doctor from the NCMDM and includes representatives from the Norwegian Maritime Authority and the seafarers' trade unions. A total of 73 cases were concluded by the appellate body in 2022.

The NCMDM is the point of contact for international collaboration in maritime medicine and collaborates closely with maritime medical experts all over the world and maintains and updates the Textbook of Maritime Health (https://textbook.maritimemedicine.com). The textbook is a comprehensive collection of articles covering the field of maritime medicine available online free of charge.

In cooperation with the maritime insurance company Gard and the Norwegian Maritime Administration, the NCMDM developed the Mariners Medico Guide (www.medicoguide.com, published in 2022) which is a step-by-step, digital and quality assured medical guide for seafarers. The guide is available free of charge to seafarers worldwide and is recognised by a number of maritime flag states.

The maritime industry is evolving fast. As we continue to develop our medical services into the future, we welcome closer cooperation a with partners in Norway and abroad. Please reach out. Together we can make a difference to health at sea.

Reports

4TH IMHF WORKSHOP ON MARITIME HEALTH ON BOARD "TELEMEDICINE FOR SHIPS IN FUTURE"

11–12 November 2022, Berlin, Germany

Report by Jens Tülsner and Nebojsa Nikolic

Introduction

Following its statutory objectives, the International Maritime Health Foundation (IMHF) decided to conduct a series of expert workshops following the proposals of its Expert Panel (EP) [1]. The IMHF-EP consists of medical professionals, all of them engaged in various aspects of healthcare for seafarers [2]. In parallel to IMHF's primary project, the journal International Maritime Health (IMH), these workshops shall collect relevant expertise and knowledge to provide state of art guidance for maritime health practice [3].

The International Labour Office's (ILO) Convention 2006 (as amended) states that seafarers' medical care should be "as comparable as possible to that which is generally available to workers ashore". While this may leave room for interpretation the IMHF-EP held the opinion that the implementation of this rule would need specific definition and that in the end medical guidelines should be established that would reflect the conditions of the maritime environment as well as those of actual best medical practice.

The management of medical incidents of any severity on board commercial ships mainly depends on three pillars: 1) the skills of the medical responsible officer on board, 2) the quality of advice and recommendations given by telemedical service provider, and 3) the quality of the medical equipment on board [4–7]. Whilst 1) and 3) are discussed in separate workshops, the reported one aimed for evaluation of future improvement of the telemedical advice given itself as well as for training and education for all parties involved, considering the implications for technical requirements and training of medical responsible officers.

Tools for collecting, structuring, transmitting and validating data are rapidly developing. This may open possibilities for collecting structured individual patient data in medical incidents on board. The collection of a wider range of vital parameters is possible too, possibly also interpretation and the best-found diagnosis [8]. The technological development may influence the direction of this communication and give new opportunities for collecting information to be used for guiding the medical officer [9, 10].

The aim of the workshop has been to reach consensus of what telemedical support to ships should look like in future, to evaluate how telemedicine for ships may and should adopt options that are available ashore, and to define consequences that apply to training and education of medical responsible officers on board ships and medical assistance providers on shore.

Materials and methods

The workshop "Telemedicine for ships in future" was held at the Unfallkrankenhaus (Occupational Trauma Centre), Berlin, Germany, November 11th–12th, 2022. The following 14 experts were identified, invited and attended the workshop: Jon Magnus Haga (Norwegian Centre for Maritime and Diving Medicine; IMHF-EP); Nebojsa Nicolic (IMHF-EP); Alf Magne Horneland (IMHF-Management Board [MB]); Beate Stelzer (Master of container vessels; Maersk); Jens Tülsner (Marine Medical Solutions; IMHF-EP; DGMM), Joanna Ewa Szafran (TMAS Poland); Patrick Roux (TMAS France); Francsesco Amenta (CIRM Italy); Guiliano Pesel (CIRM Italy), Margarita Huerte (Nordic Medical Clinic, OSM, Philippines; IMHA Board); Dennis Gümbel (Unfallkrankenhaus Berlin); Admir Kulin (m.Doc); Sascha Burggraf (Marine Medical Solutions) and Spike Briggs (MSOS) — by virtual presence.

For initial overview and as a basis for the following explorations and discussions, five presentations were given by participants depending on their particular area of expertise: "IMHF and IMHF Workshops" (Alf Magne Horneland), "Definition and scope of Telemedicine for ships" (Jens Tülsner), "Telemedicine — applications: what is available ashore and how does it fit into a 'holistic care model'?" (Admir Kulin); "Telemedical Service — experience and gaps in information provided" (Francesco Amenta) and "How must the vision of future Telemedical Services reflect on training and education?" (Jon Magnus Haga). These presentations were supplemented by three remote (Teams) presentations and demonstrations of some digital tools and platforms that already are available globally: BINAH — Israel (https://www.binah.ai/); MedAssist Online — Netherlands (https://medassist.online/); QT Medical — USA (https://www.qtmedical.com/).

To achieve the aim of the workshop, three Working Groups (WG) were constituted to separately discuss relevant topics identified as potential drivers for future developments of telemedicine for ships. Each topic was analysed, discussed, and prepared for presentation by a WG, and presented in a plenary session for further discussion. A report/consensus statement was drafted based on the views expressed in the discussion and later tuning process, after the workshop. This document was sent to IMHF-EP panel for their opinion before its approval by the IMHF-MB.

Results

WG 1: WHAT PARAMETERS AND INFORMATION SHOULD BE STANDARD TO BE RECEIVED FROM THE SHIPS IN THE FUTURE?

Initial information to be transmitted from the vessel requesting medical advice:

- IMO Code of the vessel;
- name of vessel;
- flag state;
- type of vessel;
- number of the persons on board;
- position of the vessel;
- departure and arrival port and date;
- who is calling? (name/rank).

Patient — relevant information:

- name, surname;

— date of birth/age;
— sex;
— nationality;
— rank.

Data relevant to assess the situation (the list is non exhaustive):

— medical problem:
  • the reason why they call the telemedical support?,
  • when did it start, how has it developed, treatment thus far?,
  • vitals (height/weight, heart rate, blood pressure, frequency of breathing, temperature, blood sugar),
  • consciousness (Glasgow-Coma-Scale); Pain Scale;
— context:
  • what the person did before the injury/illness, symptoms (when the symptoms started?; other persons with the same symptoms on board),
  • actual problems;
— previous history:
  • previous medication (dosage/days),
  • allergies,
  • previous diseases/medical treatment,
  • did the patient receive medical support already? If yes, what was done,
  • additional information's: SpO_2 (after doctor advice).

WG 2: SCOPE OF TELEMEDICINE FOR SHIPS

The scope of future telemedicine should include **preventive, diagnostic and therapeutic** approach, using tools available to achieve the best possible medical care for seafarers on board ships — to the level that can be managed on board using the available facilities.

Future telemedicine for ships should be based on following four premises:

— know the patient concept;
— telemedicine "completes the cycle" to the next pre-employment medical examination (PEME);
— organized portal that supports online exchange of data and enables the "know the patient" and "complete the cycle" concept;
— trained personnel (universal certification?).

Knowledge and access to medical records of the patient significantly improves understanding of the case, facilitates its management and clinical decisions in situations where telemedical maritime assistance service (TMAS) doctors for the first time treat the patient in an offshore situation. An application that enables the individualised storage of data for each crew-member will guarantee continuity of care and the creation of a progressive medical record. Those data must always be encrypted — so that access rights could be controlled. It will be the seafarer's decision to agree or not to give the access. In case the shipowner will be included to some level — data must be protected in order to keep compliance with data privacy regulations and to keep intact the doctor-patient relationship.

A digital telemedical portal would provide opportunities to achieve a clear picture of the case, including follow up of the course of treatment. Implemented application for storage and exchange of data should be multilingual/multicultural and enable reporting of medical data/endorsement of patient to treating doctor on shore (e.g. workflow of data to be available to another doctor in next port; incentive-based data on endorsement by master).

Audio and video option, transmission of pictures; connectivity to medical devices should be enabled (i.e. the widening portfolio of point of care testing devices).

The Medical Chest Inventory may also be considered a part of such a platform — instant access with given review of the medicines required to be on board.

WG 3: WHAT IS TO BE EDUCATED AND TRAINED FOR STAFF ON BOARD AND ASHORE?

Considering upcoming broader technical options and solutions, as well as the need for training and education of all involved parties has been agreed. This not only for the onboard medical responsible staff; but for the shoreside consulted doctors, and rescue services.

The topics identified are:

— for the telemedical assistance providing doctor:

- ships medical chest/equipment,
- skills of the medical officer,
- use of the medical guide on board,
- skills in communication, maritime and medical English, use of interpreter,
- able to advise on exercises ('train the trainer'),
- knowledge of maritime context/environment,
- know how to work with the rescue services/MRCC/rescue services/SAR,
- proficiency in offering advice and giving medical directions via telephone, text and video,
- awareness of legal/ethical aspects — including GDPR,
- documentation,
- know about PEME requirement?,
- regular clinical skills update,
- update on new technical update;

— for the medical officer and master:

- refer to the learning outcomes agreed during IMHF's 2nd workshop on the medical training of seafarers (see article in IMH 1/2023),
- skills in communication: medical English,
- awareness of the ship's medical chest/equipment and its maintenance,
- know the pertinent medical guide for ships,
- know how to communicate with TMAS/SAR/MRCC,
- advice in exercises ('train the trainer'),
- how to prepare a case for TMAS,
- legal/ethical issues,
- documentation,
- medical history, observation, examination, technical procedure.

The training should always consist of a combination of courses and continuous training on board, including scenario training. Portal, as described by WG 2 should also have the options for training of onboard personnel and instructions on how to handle different medical activities. Concept of the outcome-oriented learning with competences as defined for current needs by the 2nd IMHF-EP Workshop on Maritime Health on Board — Medical Training of Seafarers (18–19 March 2022, Bergen, Norway) should be used in creating future training programmes.

Discussion — identified obstacles, open issues and further recommendations

The following points have led into some discussion.

— The involvement of the shipowner/ship management company (SO/SMC) and/or its representatives (e.g. Crew Dept.) raised some questions that impede the aims as defined in this workshop. Considering the fact that the SO/SMC has a wide responsibility for the seafarer's health and its management, the issue of data privacy and confidentiality came up and has been discussed. No solution was found (yet) how to keep compliance with GDPR/HIPPA regulations on one hand and the involvement of the SO/SMC in the loop of information and the medical care provided; especially in case of further management like shoreside referrals and/or medical disembarkation with shoreside treatment. This is highlighted as a specific issue in the general problem of confidentiality issues in medical telecommunications.

— The usefulness and/or need for video — options in medical telecommunication on board was discussed with aim to explore its validity, usefulness and realism of its use on board. Whilst a virtual impression of a patient is always considered useful in the examination aiming to find the appropriate diagnosis and respectively appropriate treatment, reality is that not all ships will have the required bandwidth for this tool. Considering the character of the industry it is not realistically to expect such a bandwidth on majority of ships in the near future. Beside this limitation it was recognised that only a few cases have a real need and substantial benefit for video transmission. It has been agreed that the option for video-consulting should be given; the technical basis provided by the SO/SMC.

— The need for point of care testing (POCT) was evaluated having in mind future developments of such a technology. Some options for simple POCT — testing are already given (e.g. malaria, influenza, COVID-19-testing). As the portfolio of POCT — testing has tremendously extended during the last years (simple machines detecting various parameters in whole blood/serum/urine/stool; simple electrocardiogram — devices and much more), still the costs are comparably high while the use of such devices on board is very limited due to few cases on board per year; training needed to use them and their maintenance.

— The availability of pre-embarkation medical information was discussed in the context of data usefulness on board. Whilst it has been agreed that future telemedicine on board should implement "know your patient", "complete the cycle" to the next PEME concept, no consensus was achieved regarding the validity of PEME related information in the telemedical setting: especially as the „advanced PEME-profiles" are not considered as always compliant to the flag state regulations. It was discussed if such information once available, would be manageable in compliance with data privacy and confidentiality rules.
— During the presentation of the results of WG 1 on necessary data to be transmitted to the medical advisor on shore, it was explored if, and to what extent other information might be needed or useful like SpO_2. While standard in emergency rooms on shore there was no agreement, whether SpO_2 is a useful parameter in an onboard context or if it's rather potentially misleading for the consulted doctor and designated medical persons on board. The discussion lead into agreement that this topic refers to two major aspects: the conclusions already taken during the IHMF workshop on training and educational outcomes (Bergen, March 2022) and the need for a further exploration by an additional workshop on quality control and assurance for telemedical services provided for ships.
— Competences and some further aspects for the work of telemedical providers have been mentioned and discussed: Are all shoreside doctors providing telemedical advice to ships familiar with the ship's/shipping environment and conditions? What should duties/shifts for telemedical doctors look like? Should it be doctors only providing telemedical advice? How can combined ship side/shoreside exercises be organized and executed? There is a clear need to define competences of telemedical providers and tune them with the future system of medical help on board.

Conclusions

International participants from various organizations and companies have discussed and reached consensus on foreseeable future needs of telemedicine for ships, considering recently available and/or future technical and digital options. Requirements for future services have been agreed upon and open issues that need to be overcome and resolved were identified.

The need for further workshops with following defined subjects was suggested:

— data privacy and confidentiality in the telemedical services for the shipping industry;
— quality control and assurance for telemedical services for the shipping industry;
— definition and creation of diagnostic and treatment pathways for telemedical assistance providers for ships.

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IMHF WORKSHOP AND CONFERENCE ON "SEAFARER MENTAL HEALTH — A SYSTEMS PERSPECTIVE"

Report by Alison Kay, Joanne McVeigh and Bill Kavanagh

Background

The International Maritime Health Foundation's (IMHF) International Workshop/Conference on Seafarer Mental Health was convened at the National Maritime College of Ireland, Munster Technological University, Cork, Ireland, on 27th–28th April 2023. The aim of the workshop and conference was to contribute to the current body of knowledge on how the maritime industry can most effectively support the mental health and broader well-being of seafarers.

The 2-day workshop and conference were organized by members of the IMHF's Expert Panel (IMHF-EP), established in 2020. The IMHF-EP, as an expert scientific panel, aims to leverage scientific and academic expertise to continually monitor and address relevant health issues and developments to help solve or ameliorate problems in the maritime environment.

The workshop and conference were funded by the International Maritime Health Foundation; the Cork Convention Bureau; Geoquip Marine; the Institute of Marine Engineering, Science and Technology; the Irish Institute of Master Mariners; Lloyd's Register Foundation; Munster Technological University; the Nautical Institute; and Tidal Marine Management. All contributions were gratefully received.

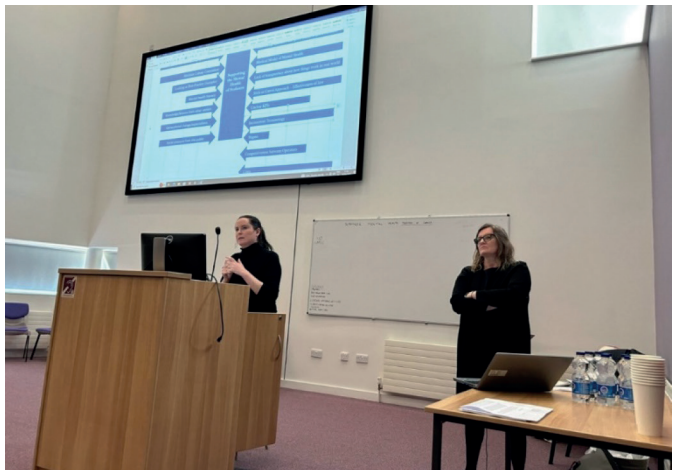
On day 1, a workshop was held with members of the IMHF-EP and other industry experts, with a total of ten participants. On day 2, the main conference was convened with all conference presenters and attendees, comprising 48 participants in total.

The purpose of the workshop and conference was to address facilitators and challenges in relation to the mental health of seafarers at the systems level. Conference themes included well-being, suicide awareness and prevention, public health management, bullying and harassment, and organizational justice, from a policy, legal, and human rights/social justice perspective.

Conference speakers included academics, captains, legal practitioners, and health practitioners from Shell London, International Transport Workers' Federation, Lloyd's Register Foundation, International Maritime Organization, IMHF, North Standard, Marine Benefits, Simply Blue Group, Medical University of Gdansk (Poland), Ordu University (Turkey), Maynooth University (Ireland), Linnaeus University (Sweden), Trinity College Dublin (Ireland), and MTU (Ireland).

Consensus session

The final session of the conference featured an interactive consensus workshop to facilitate knowledge exchange between attendees. The aim of this consensus session was to solicit the opinions of conference participants in relation to factors that support or impede changes in the maritime sector to optimally support the mental health of seafarers and to capture input on how to translate recommendations into policy. Some very useful and insightful discussion emerged during this session, from which further collaboration and publication are envisaged.



Joanne McVeigh and Alison Kay facilitate the consensus session using force field analysis

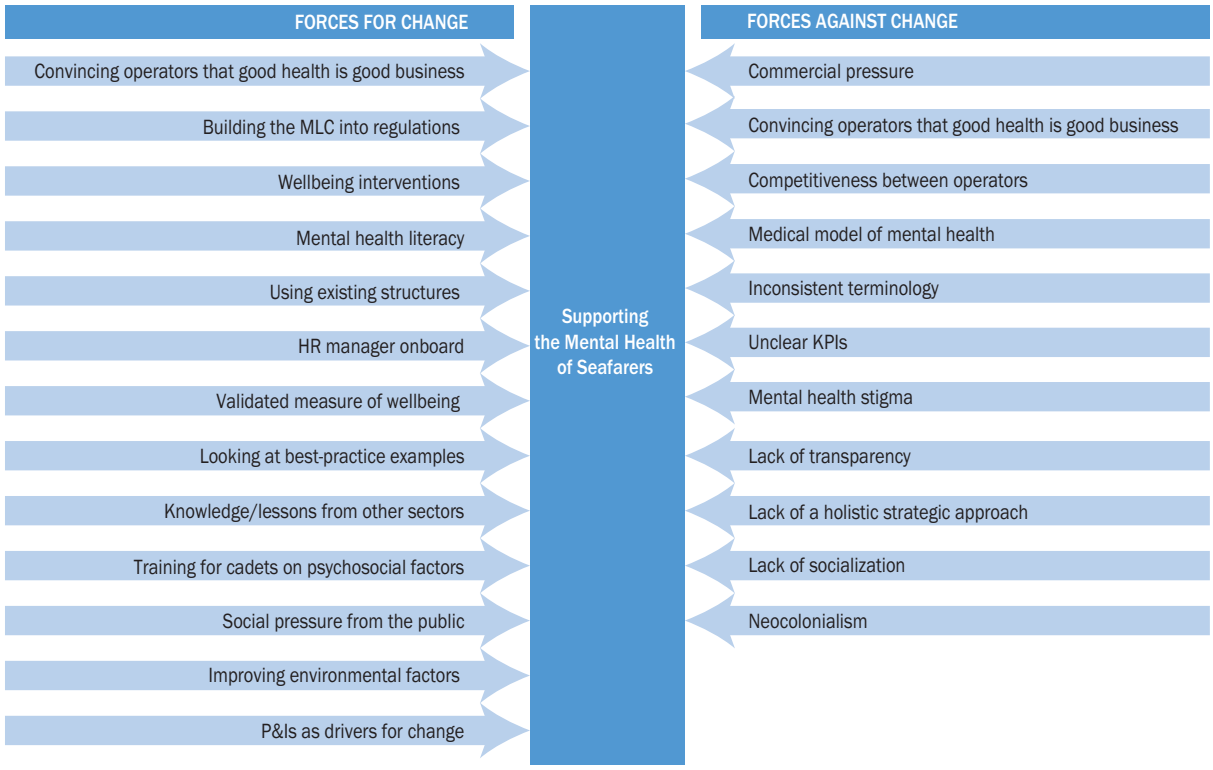


Figure 1. Force field analysis findings from consensus session

Force field analysis was used to collate the opinions of participants. Participants were asked questions on the main factors both **supporting** and **hindering** the mental health of seafarers. Within the confines that time allowed, 75 minutes was allocated to the consensus session including the force field analysis. Figure 1 schematically presents findings from the force field analysis exercise with participants. These factors are not presented in order of importance and do not imply a hierarchy.

For example, with regard to 'Forces FOR Change', participants emphasised the importance of **convincing operators that good health is good business**. Participants agreed that a **financial hook** is therefore needed to motivate operators, as indicated by evidence from the aviation industry. Robust evidence is required to demonstrate the impact of improved wellbeing on operational risk, to provide this incentive for organizations to invest in seafarer wellbeing.

Participants also discussed 'Forces AGAINST Change', including **commercial pressure**. Participants noted that the commercial pressure placed on ships' masters is a major contributor to stress and risk-taking by senior officers and captains. The imposition of unrealistic objectives increases stress and in many cases results in workarounds, which may compromise safety and place additional pressure on crew. This may also result in the transfer of blame to subordinates, thus fuelling a blame culture, which is endemic in shipping.

The full findings of the workshop and consensus session will be published in an upcoming issue of International Maritime Health journal.

Retrospectives

THREE YEARS OF THE INTERNATIONAL MARITIME HEALTH FOUNDATION'S EXPERT PANEL

By Klaus Seidenstücker, Alf Magne Horneland and Jon Magnus Haga

Development of the International Maritime journal since 1973

Best medical practice greatly relies on structures continuously generating evidence-based knowledge on the one hand. On the other it requires means to transfer that knowledge into practice with as little delay as possible. Publishing journals for a long time was the one pillar of such effort — next to education and training. The internet has added many other routes of knowledge transfer. At the same time, it has made knowledge accessible so much easier than via the print media of earlier times.

The journal[1] you are reading right now has made a first step into this new digital world that has contributed to an enormous acceleration of generation as well as distribution of knowledge. Since 2019 International Maritime Health (IMH) is available online and free of charge. That year the International Maritime Health Foundation (IMHF) took ownership of the journal looking primarily for a reliable financial basis to carry it into a sustainable future. However, it soon became obvious that ownership would also include content management such as acquisition of submissions and setting up effective editorial routine. In its statutes the foundation also obliged itself to consider alternative ways of knowledge transmission such as supplying training opportunities, organizing workshops, conferences etc. Finally, the foundation intends to use the internet's opportunities by setting up interactive options on its website and entering the social media.

It was clear that the foundation for this purpose would need structures beyond its two governing bodies. Consequently, it welcomed the proposal of a handful of 'seniors' to set up an expert panel to assist and advise the IMHF governing bodies (Board of Governors [BoG] and Management Board [MB]).

Statutes for such an expert panel were drafted and authorized by IMHF's MB on July 28th, 2020. An invitation went out to 25 colleagues identified at that time as possible candidates to join the panel. First members were appointed on August

[1] International Maritime Health's history can be traced back until 1949, when the Polish Institute of Maritime and Tropical Medicine (Gdynia) published its first "Bulletin".

26th, 2020[2]. The expert panel started into 2021 with 8 appointed members and 4 candidates. Today the panel consists of 13 full and 2 corresponding members. Further members are welcome! (point of contact: Jon Magnus Haga, e-mail: jon.magnus.haga@helse-bergen.no).

Since its establishment the panel meets via videoconference on a monthly basis (with 1- or 2-months summer release) and engaged in a steady dialogue with the foundation's MB.

Our statutes entrust the expert panel with the following activities:

— identifying conditions with relevant impact on the health of communities exposed to the sea and options of a medical remedy of such conditions;
— transfer of such knowledge into education of professionals engaged in maritime medicine and advice to authorities, decisionmakers and responsible executives on maritime medical matters;
— advising students, researchers as well as grant providers on the prioritization and execution of research projects on maritime medicine and adjacent fields;
— participation in organizing seminars, events, workshops, conferences and scientific conventions;
— cooperation with national and international institutions and organizations with the same or similar interests;
— participation in other IMHF activities as appropriate, e.g. as reviewers and advisors to the IMH journal.

The first three panel meetings were devoted to establishing focal points for the panel's future engagement. The foundation's first and foremost objective at that time was to create sustainable financial conditions for itself and for the IMH journal. The expert panel supported these efforts through 2021. They resulted in a donation from the German Association for Maritime Medicine to ensure that year's 4th issue of the journal.

In October 2021 an expert workshop (first in a row of presently five IMHF workshops) on the development of the journal was conducted. It was organized by the Polish Society of Maritime, Tropical and Travel Medicine. Based on a prior situation analysis the 2 days of intense discussion and consecutive review rounds resulted in a report to IMHF-MB and BoG with a multitude of recommendations for a sustainable future as well for the journal as for the foundation in general.

Based on these recommendations the foundation drafted a strategy document for the period 2022–2024 titled "Ensuring Knowledge and its Dissemination in Maritime Health".

The objectives and activities addressed were presented to the International Transport Workers' Seafarers' Trust (ITF-ST) and the trust could be convinced to join the IMHF as the fourth "cooperating institution" (a constituting member according to §16 of IMHF Statutes).

With support of ITF-ST and aided by the IMHF-Expert Panel (EP) the foundations MB applied for grants and was successful with the Torben Karlshoej Foundation (TK Foundation) and the Seafarers Charity.

With such backup the foundation decided to extend its activities beyond the dissemination towards the creation knowledge. The IMHF-EP was tasked to organize and conduct a series of further workshops. The first (numbered 2 IMHF workshop) was held in March 2022 in Bergen, Norway, with organizational and financial support of the Haukeland University Hospital and especially the Norwegian Centre of Maritime and Diving Medicine (NCMDM). It addressed the medical training of seafarers. A consensus document was drafted and recently published in this journal[3]. It will provide the basis for an IMHF initiative at International Maritime Organization (IMO) (preferably the Subcommittee on Human Element, Training and Watchkeeping [HTW]).

The next workshop (numbered 3 IMHF workshop) was held in September 2022 in Hamburg, Germany with organizational and financial support from the University Clinic Eppendorf, the Hamburg Centre of Occupational and Maritime Medicine and the German Association of Maritime Medicine. It addressed the management of medical incidents at sea and thus reiterated on an IMHA workshop held in London 2015[4].

Again, a report[5] was drafted and following three review rounds submitted to IMHF-MB. The consensus statement now is an IMHF position paper stating strongly the need for research studies delivering objective data on the quality and quantity of medical incidents at sea in order to create adequate rules for structures, education and training, equipment and procedures. Regarding the latter, it was consensus that the development of "management pathways" would be mandatory that reflect the special conditions at sea. In its September 2023 meeting IMHF decided on a follow up workshop in December this year to identify applicable procedural recommendations.

[2] Professor John Timothy Carter, Doctor Nebojsa Nikolic, Doctor Klaus Seidenstücker, Professor Eilif Dahl in a corresponding function.
[3] Nikolic N, Haga JM, Tuelsner J et al. Medical training of seafarers: International Maritime Health Foundation (IMHF) Expert Panel Consensus Statement. Int Marit Health 2023; 74(1): 15–23.
[4] A revised version of the IMHA workshop report is published in this magazine below.
[5] Workshop Report: Seidenstücker K, Nikolic N. The 3rd IMHF Workshop "Management of Medical Incidents at Sea". Int Marit Health 2023; 74(2): 135–137.

The 4 IMHF workshop was organized in cooperation with "Marine Medical Solutions" and supported by the Occupational Trauma Centre Berlin-Marzahn in November 2022 in Berlin. It addressed future options for telemedicine at sea and their possible consequences. This workshop also reiterated on an IMHA workshop of 2013 and later IMHA activities at the IMO Subcommittee on Navigation, Communications, Search and Rescue (NCSR).

A report (see report in this magazine above) was drafted and presently is under consideration by IMHF-MB and IMHF-BoG. The complexity of the issue and the speed of technical development probably also requires a follow up workshop. There is some urgency in order to still influence the current discussions on Maritime Services at IMO, Subcommittee on NCSR.

In April 2023 the IMHF-EP organized its 5th workshop in Cork, Ireland in cooperation with the National Maritime College of Ireland. This time the organizers added to the workshop format a conference in order to address a wider audience and to promote awareness of its subject: "Seafarer Mental Health Challenges". A first impression report is part of this magazine (see above). It is planned to devote a special issue of this journal to the subject in 2024.

In 2024 the EP also faces a possible handover to another chairperson, and we shall have to focus on the foundation's financial continuity once again!

By courtesy of the International Maritime Health Association (IMHA)

IMHA

IMHA WORKSHOP "THE MANAGEMENT OF MEDICAL EMERGENCIES AT SEA"
February 2nd – 3rd 2015, London, United Kingdom

Report by Sue Stannard[1] and Tim Carter[2]

Background

This article reproduces the work and recommendations of an International Maritime Health Association (IMHA) workshop held in 2015, funded by ITF Seafarers' Trust. It is re-issued here as it is not readily accessible and is relevant to other current maritime health initiatives.

The Maritime Labour Convention (MLC) 2006 Standard A.4.1 (b)[3] states 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'*.

On ships without a doctor the management of medical emergencies and other immediate medical care requirements depends on a number of provisions which include:

— training of the ship's crew in first aid and medical care on board;
— the medical equipment and medication on board;
— the literature available to ships officers on board, i.e. The International Medical Guide for Ships (IMGS) (3rd edition) or accepted equivalent;
— the availability of remote telemedical assistance services (TMAS).

These provisions are specified in a number of international conventions agreed at the International Labour Organization (ILO) or the International Maritime Organization (IMO), but the responsibility for implementing each of them lies with national authorities, and it is for ship operators to ensure that they meet the requirements of the state where the ship is

[1] Workshop rapporteur (Norwegian Centre for Maritime Medicine at time of workshop, now UK Maritime and Coastguard Agency)
[2] Workshop organiser (Norwegian Centre for Maritime Medicine)
[3] https://www.ilo.org/global/standards/maritime-labour-convention/text/WCMS_763684/lang–en/index.htm.

flagged. Concerns have been raised among those who provide TMAS services, those working in port clinics and hospitals who give follow up treatment, and from seafarers and ship operators, regarding the quality and consistency of care provided to seafarers on board ship in case of a medical emergency. However, the multiplicity of conventions and recommendations and the fact that the provisions for medical emergency management form only a small part of each, mean that the scope for coherent change is severely limited. It has been suggested that one approach could be the development of treatment pathways such as those used in the military, prehospital care and in developing countries[4].

With the support and funding of the International Transport Federation (ITF) Seafarer's Trust a workshop was convened by the International Maritime Health Association (IMHA). The aim of the workshop was to discuss the current status of medical care at sea on ships without medical practitioners on board and to ascertain support for the development of an approach based on treatment pathways, including the identification of the resource requirements for carrying such a programme of work forward. This workshop followed on from the work done at an earlier IMHA workshop on one aspect of medical care: the provision of TMAS services.

Programme

The workshop ran over 2 days and included a number of presentations and sessions of small group work. The presentations gave background information and different subject areas were then explored in more detail within the small groups.

Presentations

Doctor Tim Carter (Norwegian Centre for Maritime Medicine) looked at the current status of medical care at sea and the different conventions covering this area of life at sea. In addition to MLC these include:

— International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended ("STCW")[5, 6] (Chapter VI: Emergency, occupational safety, medical care and survival functions);
— International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS)[7];
— Directive 92/29/EEC — medical treatment on board vessels[8].

These conventions came after national practices had already been established in major maritime nations and hence existing practices in these states were adjusted to them. This has led to a lack of international consistency and many flag and coastal states do not in practice meet the convention requirements, e.g. with regards to TMAS and Search and Rescue (SAR) services. The problems of incompatibility between training, guides and medications/equipment are exacerbated when officers serve on ships flagged in a different country from the one in which they have trained and then possibly treat crew of a third nationality who may have different health beliefs and expectations.

Uncertainties about the accuracy of information relayed to them and concerns about the quality of care on board often make TMAS adopt precautionary approaches. This may lead to costly diversions, medevacs and repatriations that are potentially avoidable.

Doctor Rudi Stiltz (Shell International) presented a case series demonstrating that the earlier involvement of TMAS and the availability of/increased use of point of care diagnostics may have prevented costly disembarkations amongst the crews of a single ship operator. The case series also showed that on average a ship experiences one serious medical incident every 2 years, so each seafarer trained in medical care can only expect to see such a case every 4 years.

Figures presented by doctor Jim Ferguson (Aberdeen Royal Infirmary and Scottish Centre for Telehealth and Telecare) showed that over recent years there has been a change in the type of cases the Scottish Centre for Telehealth and Telecare are assisting. Trauma has decreased, medical cases and particularly issues related to chronic disease have increased and the average age of seafarers requiring disembarkation has also increased. He also stressed that experience is key to the management of medical incidents, alongside training and knowledge. This is not only the case for the seafarer providing care but also for the TMAS doctor, who must be aware of the medical capability on board a vessel, the limitations of care and the options for further care. Whilst additional equipment and different types of medication, e.g. thrombolysis may improve treatment and outcome there is a cost associated with this.

[4] Carter T, Stannard SL. Healthcare at sea: are regulations a guarantee of minimum standards or a barrier to improved practice. Int Marit Health 2014; 65(4): 1–4.
[5] http://www.imo.org/About/Conventions/ListOfConventions/Pages/International-Convention-on-Standards-of-Training-Certification-and-Watchkeeping-for-Seafarers-(STCW).aspx.
[6] International Maritime Organization; International Convention on Standards of Training, Certification and Watchkeeping for Seafarers Including 2010 Manila Amendments. ISBN: 978-92-801-1528-4.
[7] http://www.imo.org/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-(SOLAS),-1974.aspx. ISBN 978-92-801-15949 (English).
[8] https://osha.europa.eu/en/legislation/directives/sector-specific-and-worker-related-provisions/osh-directives/17.

Doctor Spike Briggs (Poole Hospital and Medical Support Offshore Limited) spoke about the use and development of treatment pathways. They have been shown to have many advantages and are used successfully within maritime and other remote healthcare environments. They provide a guide to medical decision making and treatment which can be used to standardise and improve the application of treatments, reducing uncertainty. However, they are NOT a replacement for education, clinical knowledge, physician judgement or common sense. They are also not protocols but a set of guidelines within which to think. Treatment pathways can be presented in various formats to suit the user requirement including:

— hard paper-based copy;
— apps for tablets, smart phones etc.;
— computer programmes;
— voice controlled applications;
— telemedicine vehicles.

They can also be searchable by voice or content list and can contain hyperlinks to additional useful information.

Doctor Marie Hamming (Danish Radiomedical Services) provided an overview of the case load handled by the services of Radio Medico Denmark. Her presentation emphasised the importance of training for ships' officers and the benefits of using scenarios that also incorporated links with TMAS providers. Ms. Connie Gehrt (Seahealth Denmark) built on this with a presentation of the current Danish project to rewrite their national version of the International Ships Medical Guide, incorporating training, the use of TMAS and, in some cases, treatment pathways.

Small group work

The presentations were complemented by small group sessions to review specific facets of medical care at sea. During each session the four groups each considered one particular topic in more detail. To encourage a multidisciplinary approach each group included individuals with different areas of expertise. Each group in turn fed back to the whole workshop and further discussion followed where required. However, it should be noted that there was almost always universal agreement on the key points raised and suggestions made by the individual groups.

First group session: Current status, strengths, weaknesses and means of/barriers to improvement of

Training in medical care and medical first aid

It is recognized that there are differences in the expectations and quality of training, ranging from very low with simple attendance guaranteed to receive the correct certificate, to a very high level with good practical involvement of the seafarers on the course. Whilst the minimum requirements are outlined in the Standards of Training, Certification and Watchkeeping (STCW) convention, these are not always enforced by the individual nations and there remains a large gap between these minimum requirements and the extensive guidelines used by a number of nations. Whilst some countries have a small number of training providers, often associated with the maritime regulators, others have a large number of individual providers, and this can make it difficult to ensure appropriate quality assurance of the organizations and the courses they are running. Equally the content of the courses often varies, and this can cause practical difficulties when the seafarer then sails on a ship flagged to a different nation. Standardisation of the courses and particularly their content, accompanied by audit of the providers and courses by people with a background in maritime medicine, would be beneficial in ensuring good quality and appropriate training.

It was also felt that the standardisation of training with the use of common words and agreed actions to be taken on the presentation and recognition of specific signs and symptoms would be beneficial. The use of preprinted questions to be used for some symptoms would aid the responsible ship's officer in making an appropriate assessment of the patient and being able to provide the relevant information to the TMAS doctor.

It was also accepted by all that the level of recall of knowledge is poor when a seafarer returns for refresher training in first aid or medical care at sea. More frequent training would be beneficial to ensure the retention of knowledge and the maintenance of skills. However, there is a cost associated with additional training and this must be taken into consideration. E-learning modules and/or the use of drills on board, perhaps even coordinated with a TMAS provider, may help in this area.

Medical stores, equipment, and facilities on board, including 'doctor's bag' on ferries[9 10 11]

It was agreed that one of the main issues in this area is the fact that the guidelines for the contents of the medical chest have been produced by the World Health Organization (WHO), but unfortunately these are not in line with current best

[9] http://whqlibdoc.who.int/publications/2010/9789241547994_eng.pdf.
[10] International Maritime Organization MSC/Circ.1172.
[11] International Maritime Organization MSC/Circ.1042.

practice and often do not accord with the practical needs of crewmembers or with those of TMAS when advising ships. Discussions between all interested parties, including the three United Nations agencies, flag state authorities, ship operators, TMAS providers and marine pharmacists, would be of benefit and help to ensure consistency between nations and therefore allow consistency in the content of the training courses. Again, whilst there is a minimum requirement set out, compliance to this is variable between flag states, ship owners etc., and enforcement of these standards differs between states. There are also significant shortcomings in the quality of medications supplied to ships in some countries and this may lead to ineffective or dangerous products being present on board. Cost is of course an issue, but a simple list of required medication and equipment and advice on the need to obtain supplies from quality assured pharmacies would assist in improving the level of medical care received by seafarers at sea.

National and international medical guides, including advice on dangerous cargoes[12] [13]

Again, all agreed that there is a 'system' in the form of the IMGS, a WHO publication, now in its 3rd edition. In many cases individual nations have developed their own publication(s) as an equivalent to the international guide. There are weaknesses with the original guide that include:

— issues with accessing the contents quickly and easily;
— the original document is only available in a limited number of languages;
— it is not aligned with the training syllabuses produced by IMO;
— it is not clear and concise in its guidance on the management of medical emergencies;
— it does not include guidance on the use of point of care diagnostics.

The limitations in the list of recommended contents for the ships medical chest that is included in an addendum to the IMGS 3rd edition are covered above. Again the publication and use of national equivalents to the international guide does not aid consistency in training or the delivery of medical care at sea by officers of one nationality, trained in one country but sailing on a ship under a different flag and treating seafarers of a third nationality.

Ideally the IMGS should now be revised and rewritten in a simple to use format, based on agreed international best practice. The principles of medical practice are largely shared between states and many of the practical aspects can be learnt from the experience available within the industry itself. The same guide should be accepted by all states. It will require time, money, and appropriate legislation to make this a reality but first the need for such an approach must be recognized and agreed by all relevant interest groups.

Telemedical advice and medevac arrangements

There is an international framework, and this is specified in several of the conventions mentioned above. However, the level of training for staff is often low and very variable and there is often miscommunication due to language issues. This may be reduced using pictures and written instructions. Other issues include:

— miscommunication due to language issues;
— training differences between countries;
— cultural barriers;
— the use of trade names for medicines.

With the improvements in satellite technology there is scope for improving the service offered by TMAS providers to seafarers and this was the subject of an IMHA workshop held in February 2013.

Second group session: Would an approach based on treatment pathways aid the management of medical incidents at sea?

Each group looked at a different set of medical conditions that may arise at sea and considered the use of treatment pathways in the management of these situations.

Major injuries — threatening life, limb, or sense organs

The management of these situations relies on good first aid and basic airway management with the control of bleeding. It was agreed that pathways would be useful to focus on initial care. Whilst shore based equivalents have been shown to have benefit if the patient can reach advanced medical care within 6–8 hours this may not be possible in all cases of a major injury at sea. However, pathways would be appropriate for cases at sea up to and including the first recommended point

[12] International Medical Guide for Ships. 3rd ed. http://apps.who.int/iris/handle/10665/43814. ISBN 978-92-801-15444.
[13] International Maritime Dangerous Goods Code Supplement. ISBN 978-92-801-1598-7.

of contact with a TMAS provider. They would have to continue past this point in case such contact was not possible, but it should be recognized that after this point the many variables in a particular situation may mean that the pathway will become too complicated to be of use. The pathways should be symptom based and assist in improving training, not just increase the requirement for more pieces of equipment. They should also be generic wherever possible to reduce confusion. They may also be particularly useful in training drills and role play scenarios.

Acute life-threatening illness

Again, it was agreed that pathways could be beneficial in the management of these cases. They should be symptom based in a similar way to those used by the British Association of Immediate Care and must include indications on when to call for help. However, the use of pathways in this and any other situation must be accompanied by appropriate training, and they must not be seen as an obstacle to independent thinking. Neither should they be considered a substitute for effective training and the regular practice of skills in basic resuscitation. Training should help to ensure that the correct pathway is followed, and that care is delivered quickly in a structured and effective way. The use of pathways needs to be implemented in parallel with changes to the training modules and alongside review of the contents of the medical chest to ensure that all are integrated. Integration with the training of TMAS doctors may also help to improve communication at this stage.

Minor injuries — temporarily disabling

There are many examples of situations where the use of pathways in these situations has been shown to work well, e.g. 'walk-in centres' for primary care in the United Kingdom. The pathways may require some adaptation to reflect the very different environment of the seafarer, but the approach could easily be replicated. Here the aim is to get people back to work and the initial care could be supplemented by pathways that include appropriate follow-on care, e.g. exercises, wound dressing etc., perhaps with video clips to demonstrate these. Again, the group stressed that pathways must not become a reason not to think and that there must be integration with training and the contents of the medical chest. It was also pointed out that documentation showing that a particular pathway was followed appropriately by the officer responsible for medical care may be of benefit to the ship owner and P&I club with regards to ongoing treatment and any need for repatriation, retraining or compensation.

Less severe and immediate illness, including health concerns, physical and mental

These are often pre-existing conditions, and it is a commonly held opinion that such conditions now form the majority of medical conditions that require care at sea. Although there may not be similar pathways in use on shore it was again felt that treatment based on pathways would be beneficial to understand the priorities and objectives of care and to assist in effective communication with TMAS providers.

In the general discussion that followed several key points were raised and reiterated:

- the use of pathways would be useful in all situations where medical care is delivered at sea;
- seafarers are used to using checklists and they work in this way all the time; hence pathways will be a familiar way of thinking;
- all pathways need to be simple, in a number of languages and fully integrated with training, the contents of the medical chest and the expectations and requirements of TMAS providers;
- language and ease of communication is always a barrier and TMAS doctors, trainers etc. must use the same pathways; not only is it essential to train the seafarers in the use of pathways but also the instructors and TMAS doctors;
- the structure of the training will have to change slightly but this shouldn't mean additional time or money;
- the use of clinical cases to train seafarers in the use of pathways would be beneficial and effective;
- pathways must be generic where possible rather than producing too many specific pathways and they should contain check-points to help the officer responsible for medical care and TMAS doctor to ensure that the correct one is being followed.

Third group session: The development of a programme for maritime health care pathways

Formats and styles

It was agreed that a paper manual/handbook of some description is probably necessary to ensure that all seafarers, whatever vessel they are serving on, will have access to the relevant information. However, all the information should also be available on a computer-based system as these are much easier to keep up to date and more cost effective to develop and maintain. A computer system would also enable the use of videos that could form part of a revised training course. Any system of presentation should be symptom based and have easy and obvious links to the more detailed medical guidance.

Priority topics for development work

It is difficult to see how one area can be prioritised over another. All efforts should be aligned to ensure consistency and the introduction of pathways must be integrated with changes in training (of the seafarer, trainer and TMAS doctor) and with review of the contents of the medical chest. All changes should have the support of TMAS doctors as they are the shore-based staff who interact most often with seafarers involved in the management of medical emergencies at sea. Hence, they are in a unique position to advise on what is required. Ideally this would be supported by relevant research.

Interactions with current provisions for medical care at sea

How do we develop from where we are now towards a future based on improved systems for medical care at sea? The aim should be to raise the baseline and ensure consistency in all areas. This can only be done with a holistic and integrated approach involving all interested parties and providers, state and commercial. Whilst it is accepted that the proposed change in approach may take several years to implement there are small changes that could be made quickly to bring some areas of care at sea in line with recognized best practice on shore, e.g. the inclusion of Tranexamic Acid in the medical chest for use in major haemorrhage. Adopting the practice of some of the best providers of training, reviewing the contents of the medical chest, revising medical guides to use treatment pathways, and improving TMAS support would all be good starting points. There is no need to be revolutionary, but rather to encourage evolution and adoption of the best in current practices.

How to gain acceptance for the care pathway approach from the maritime sector and how to incorporate it within the relevant international conventions

Once a selection of pathways specific to the maritime environment have been developed it will be necessary to obtain the support of all the key organizations within the maritime industry. These include the United Nations agencies, ship owners, representative bodies for seafarers, the training providers, TMAS providers, marine pharmacists and of course the governments of individual states. The benefits of such an approach will primarily be improved care at sea, hopefully with a secondary reduction in the frequency that shore based advisers recommend evacuation or diversion, and hence reduced costs for evacuations, repatriations, and the associated tasks of replacing staff and potential interruption to the ship's schedule and function. Whilst there will be costs associated with the development of the system it is expected that over a number of years these will be more than offset by the advantages outlined.

Conclusions and the next steps

There is currently a system underpinning provisions for the delivery of medical care at sea, but the provisions are included in many conventions. The standards required are low and these are often not adequately enforced.

We need research to demonstrate the frequency and type of medical situation encountered by seafarers. This will enable us to prioritise the development of pathways, the need for training etc. Moving forward we would ideally establish a common medical reporting form to be used on all ships and shared on a regular basis to allow ongoing monitoring of the cases managed at sea.

The management of a medical incident at sea should be a seamless process from the presentation of the crewmember with a medical complaint to the officer with medical responsibilities, to contact with TMAS services and appropriate management. All components should be integrated to ensure that medical incident management is optimal.

The management of a medical incident is itself part of the whole medical system which may include medical selection of seafarers, health and safety at sea, health promotion, medical incident management, TMAS support, evacuation if required, shore-based care, repatriation, and rehabilitation.

Seafarers are international. Regardless of the flag of the ship, the nationality of the owner etc., the target group for improved care is international and any change must be international to address this. Hence guidelines must be international.

With reference to the MLC statement, health care on board a ship is most comparable to that received in a pre-hospital setting on shore. The adoption of treatment pathways for use at sea could help make this a reality.

The development of a system based on treatment pathways would be suitable in all types of medical and trauma cases seen on board ship.

The starting point in the development of a new system should be the development of symptom-based pathways relevant to the maritime environment and the likely case mix, based on the results of research.

The introduction of treatment pathways needs to be integrated and form the basis of change to training, review, and revision of the contents of the medical chest, review, and revision of the international medical guide available to seafarers and the approach of TMAS providers in a 'one package' approach.

All users of the new system will need training in its aims, priorities, and use. This includes seafarers, the trainers themselves and the TMAS doctors to ensure familiarity of the system to all involved.

This itself will need harmonization of training between different countries and different organizations within each country. It should be recognized from the outset that each of the 175 members of the IMO will have their own priorities and that to move forward with change will require new legislation and one common framework acceptable to all the United Nation's agencies concerned.

The new system itself will require regular review, quality assurance and modification as necessary. Again, the whole system will need to be integrated so that a change in one area is reflected and incorporated into all of the other components.

There will be barriers to change, and these will include economic, cultural, and regulatory issues. Full engagement with all interested parties will be necessary to ensure the success of any new system.

The development and introduction of a system based on treatment pathways will require financial support and a working group of interested, experienced persons to take the initiative forward. Any programme development will need to work to a pre-defined timeline with milestones and key performance indicators. A reference group made up of representatives from the maritime authorities and social partners should be established to oversee the working group.

Although this is a large task it has precedent. The revision of the IMO/ILO medical guidelines for seafarers started as an IMHA initiative and over time has become accepted and adopted internationally. We have a starting point and shore-based experience on which to build. The enthusiasm present during the workshop indicates that change is required and is feasible and that this is a good time to begin the process.

The discussions and conclusions were summarized in a consensus statement that was agreed by all participants at the end of the meeting.

Consensus statement

Background

The ILO/IMO Maritime Labour Convention sets the requirements for on board health protection and medical care. Its Code includes standards for measures aimed at providing seafarers with health protection and medical care as comparable as possible to that which is generally available to workers ashore.

IMHA convened a workshop to address concerns raised in the management of medical incidents at sea. Current management includes the following aspects that are not always integrated in their delivery:

— training in medical care and medical first aid at sea;
— medical stores, equipment and facilities on board, including 'doctors' bag' on ferries;
— national and international medical guides;
— telemedical advice and medevac arrangements.

In consequence of this health care for seafarers is far from optimal and there are considerable difficulties in ensuring international consistency.

There is a common regulatory framework although this involves a number of conventions and recommendations. These are then redrafted as national regulations and guidance. As medical care at sea is a small part of a number of conventions change will not be easy.

Current experience

A case series of medical incidents at sea presented at the workshop demonstrates that earlier involvement of TMAS and the availability of/increased use of point of care diagnostics will increase diagnostic certainty and may potentially reduce over triage and costly disembarkations.

It is estimated that on average a ship experiences one serious medical incident every 2 years so each seafarer trained in medical care can only expect to see such a case every 4 years.

Trends reported verbally from TMAS vary but tend to indicate a reduction in trauma cases and an increase in medical cases, particularly issues related to chronic disease. The average age of seafarers requiring disembarkation has also increased.

Experience, training, and knowledge are key to the management of medical incidents. This is not only true for the trained officer but also for the TMAS doctor.

Treatment pathways are used successfully in a number of remote care environments. However, they are NOT a replacement for education, clinical knowledge, physician judgment or common sense. They are also not protocols but a set of guidelines within which to work.

Issues identified

There is a system and the strength of that is that it does give minimum standards. However, these are low, and they are not always enforced by the relevant authorities.

Most incidents involve dealing with common problems although most of the training is concerned with the management of emergencies. There is little research to demonstrate the number and types of incidents that are handled on board.

There are language and cultural barriers between officers and crew of different nationalities and with doctors of yet another nationality.

There are sometimes barriers to joint initiatives between the United Nations agencies.

Training

There is huge variability in the training given, both the content and the method of training. Currently there is audit of trainers in some countries but not by people with a background in maritime medicine.

The standard of knowledge and skills of seafarers when they attend for refresher training after 5 years is often poor and alternative models for maintaining, and potentially improving, knowledge and skill levels should be considered.

Medical chest and equipment

There is variation in the requirements for the contents of the medical chest internationally. These are also often not consistent with current best practice. This leads to significant difficulties in providing appropriate training and in communication with TMAS services. Many officers are not familiar with the contents of the medical chest and the use of proprietary names for medication may lead to additional confusion. In addition, there are major concerns about the standard of medication and the means of transportation and storage.

Medical guide

The current edition of the International Medical Guide for Ships is outdated with regards to many recognized best practice guidelines. National equivalents vary in style, content, and quality.

TMAS

Language is frequently an issue. Although English is the recognized language of the maritime industry the English capability of many seafarers does not include medical terms.

There are inconsistencies in the quality of information that seafarers are able to provide to TMAS.

The way forward

The management of a medical incident at sea should be a seamless process from the presentation of the crew member with a medical complaint to the medical officer, to contact with TMAS services and appropriate management. All components should be integrated to ensure that medical incident management is optimal.

The management of a medical incident is itself part of the whole medical system which may include medical selection of seafarers, health and safety at sea, health promotion, medical incident management, TMAS support, evacuation if required, shore-based care, repatriation, and rehabilitation.

Seafarers are international. Regardless of the flag of the ship, the nationality of the owner etc., the target group for improved care are international and any change must be international to address this. Hence guidelines must be international.

Treatment pathways

The introduction of treatment pathways must be part of an integrated approach to the management of medical incidents at sea and must have international agreement.

They could be used in all areas of medical incidents at sea — trauma, acute life-threatening illness, minor injuries, and less severe and immediate illness. It may be possible to adapt treatment pathways that are currently available for use in other settings, e.g. walk in centres, the military and pre hospital care. However, it would need to take into consideration the training and skill level of a seafarer and the logistics of a ship at sea.

These should be simple and relevant to what the seafarer encounters. They should be available in different languages. Provision should be made for standardised collection and documentation of information for transmission to TMAS. Pathways may be particularly useful to guide care up to the point of contact with TMAS and in alerting seafarers to ‘red

flags' (conditions or presentations of illness or injury which may be life or limb threatening) and when to seek further assistance. They will need to extend past the first recommended point of TMAS contact in case this is not possible.

Should be symptom based and aimed at practical case handling rather than diagnosis.

Training

Training needs to be based around the treatment pathways and there is a need to train the trainer in their use as well as the seafarer and the TMAS staff. More regular and in-depth training is required anyway, and the introduction of treatment pathways should not have a huge impact on this. Training should be supported by e-learning and practical drills to ensure the maintenance of skills and knowledge. Clinical cases and scenario training should be incorporated into the training.

Training is an essential component and implementation of pathways should start there.

Medical chest and equipment

The contents of medical chests must be reviewed, their contents and presence on board regulated and standardized. Any review should be guided by the treatment pathways but also by input from TMAS providers.

Medical guide

The pathways must be supported by additional information in the form of a manual.

The medical guide should be an international publication based on best practice. There should be one international guide only. There are many lessons that can be learned from publications already available within the medical field.

The use of IT systems should be maximised in the delivery of information, but we still need a hard copy.

TMAS

The increased use of written emails, pictures, and video consultations where appropriate would help to reduce misunderstanding in communication particularly now satellite communication has been improved.

Potential challenges to overcome

Note: It is essential to engage all interested parties at an early stage.

Economic

It will be necessary to demonstrate financial benefits to the interested parties. This system should decrease the current harmful and wasteful variation in practice, e.g. a reduced number of evacuations and diversions, improved health care outcomes for seafarers with reduced insurance claims and safer ships.

The sale of a medical guide is revenue generating for maritime nations, this needs to be addressed should the guide be produced internationally.

Cultural and political

Nations would need to sacrifice a certain amount of autonomy in order to adopt an international system.

Regulatory

A change to the regulations resulting from cooperation and collaboration of the international agencies is essential. Other sectors of the industry also need to recognize the importance of this area and that change is needed.

The next steps

After wider discussion a working group will need to be established with clear guidelines and timelines. A reference group will also need to be established with representatives from the relevant international agencies, social partners, and national maritime authorities in an appropriate timeline.

Research is necessary to establish the numbers and types of cases that the seafarer encounters. This can guide the priorities for pathway development and for training.

Any new system of medical incident handling must be reviewed on a regular basis with appropriate audit, feedback, and research. Quality assurance and enforcement is key to the success of.