

MAGAZINE

Table of contents

Editorial

Klaus Seidenstücker 65

News

Nebojša Nikolić and Klaus Seidenstücker 65

Presentations

The International Seafarers' Welfare and Assistance Network

Simon Grainge 66

The International Maritime Health Association

Brant Connors 67

German Seafarer Mission's Psychosocial Response Program

Dirk Obermann 69

Reports

6th IMHF-EP Workshop on Treatment Pathways

Nebojša Nikolić 70

Retrospectives

IMHA 2013 Workshop on Telemedicine at Sea

Tim Carter 72

IMHA 2019 Expert Panel on the Management of Medical Emergencies at Sea

Klaus Seidenstücker 74

Editorial

Dear Colleagues,
welcome to another year of our journal's magazine!

The 2024 IMHF strategy conference proposed, and the International Maritime Health Foundation's boards approved to continue with this new feature of the IMH journal.

It is devoted to carry information of practical use into the community of maritime health professionals including everyone responsible for human resources management in shipping. So, we shall carry on improving the journal's **practical impact!**

This will also be supported by remodeling the foundations internet portal. It is in construction mode still but can already be accessed via www.imhf-portal.org

In addition, we presently pursue adequate ways for an IMHF presence in relevant social media with a professional profile (like LinkedIn, ResearchGate or others ... any suggestions from your side?).

To further extend our practical impact, **IMHF has approached IMHA** last year. An agreement for cooperation was drafted and approved by IMHA's General Meeting during ISMH in Athens last October and by IMHF's Bord of Governors in February this year. We shall now join forces to bring 'medical state of art to the deckplates'!

For this issue we have once again collected a number of contributions that we hope find your interest.

- You will find a wealth of information on what is going on in the maritime world.
 - We present IMHA, ISWAN and a seafarer mission service dedicated to preserve mental health of seafarers.
 - We give a first impression report on IMHF's most recent workshop on the development of medical pathways to handle incidents at sea.
 - We dive once again into previous workshops that still hold a message for the improvement of health care at sea today.
- Thanks for reading and stay tuned with us!

Klaus Seidenstücker

News

THE SEAFARERS' CHARITY LAUNCHED A WEBINAR ON WELFARE FOR YACHT CREWS!

The seafarers' Charity convened a group of leaders in the superyacht industry who are passionate about improving crew welfare. A webinar was held on March 20th to share the group's recommendations to increase wellbeing of crew and create a more diverse and happy industry.

We shall come back to this initiative in our next issue.

ITF: NEW INDEX NAMES COMPANIES THAT ABUSE SEAFARERS' RIGHTS

The International Transport Workers' Federation has launched a new online index* to tackle the exploitation and abuse of workers at sea. This index will name companies, shipowners/-managers etc. who deliberately ignore seafarers' rights and international conventions governing working and living conditions on board.

*see <https://www.itfseafarers.org/en/issues/seafarers-breach-of-rights>

LLOYD'S REGISTER FOUNDATION HELPS IMPROVING SUSTAINABILITY PERFORMANCE

Register Foundation and the Sustainable Shipping Initiative launched the 'State of Sustainable Shipping Project'*, to help global maritime stakeholders track the industry's performance against six safety and sustainability metrics. The program is funded by Lloyd's Register Foundation and meant to build a roadmap to a sustainable shipping industry comprising the areas: 1. Oceans, 2. Communities, 3. People, 4. Transparency, 5. Finance and 6. Energy.

The project will amplify the relevance of the roadmap by defining milestones to be achieved to build a sustainable maritime sector.

*see <https://www.sustainablesipping.org/roadmap/>

ANNOUNCEMENT

The EU — SHIPSAN Association organizes the

"Public Health Congress on Maritime Transport and Ports 2024"

18 to 19 October 2024 in Naples, Italy

For more information: <https://shipsancongress2024.eu/>

Presentations

THE INTERNATIONAL SEAFARERS' WELFARE AND ASSISTANCE NETWORK (ISWAN)

By Simon Grainge



ISWAN is an international non-governmental organization (NGO) established in 2013 and based in the UK; we also have small teams in India and the Philippines. Our goal is to improve the lives of seafarers and their families through services, resources, strategies, and advocacy. ISWAN is an independent membership organization — our members are drawn from across the industry and comprise shipowners and managers, training institutions and welfare organizations. We differ from the majority of maritime welfare organizations in that we do not have religious origins and do not have any port-based services.

We are probably best known for operating the *SeafarerHelp* helpline, a free and confidential service operating 24 hours a day for seafarers and their families regardless of nationality, religion and where they are in the world. Our helpline team speaks 12 languages and can be contacted by a range of different media (e-mail, telephone, Live Chat, social media). The service is a general helpline offering practical and emotional support, handling any manner of calls ranging from contractual issues, family and personal issues, stress, anxiety, isolation and simple requests for information.

As well as *SeafarerHelp*, we also have 20 other helplines in place, commissioned by shipping companies to provide emotional support to their crew, and in 2020 we launched *YachtCrewHelp*, a helpline specifically for superyacht crews.

All our services are confidential, and our operators are anonymous so seafarers often tell us things that they would not tell their colleagues on board, their employer or even their family. Across all of our helplines, we averaged around 570 new contacts per month in 2022.

Over the years, our work with helplines has helped shape the development of other services such as the provision of crisis funds for seafarers and our training course for seafarers on how to maintain good mental health and wellbeing, including advice for officers and shore staff on the early detection of suicidal thoughts. We have also developed health and wellbeing guides offering good practical advice for seafarers and the maritime industry.

Our helplines saw a significant increase in calls during the pandemic, demonstrating the value of the service. However, whilst we have since seen a reduction in the number of calls we still have more calls than pre-pandemic. This is probably due to ISWAN's raised profile but also due to a greater awareness of mental health amongst seafarers.

As a result of our work, we collect a wealth of data, and we are now starting to analyze that data in a more structured way so that we can identify themes and trends such as bullying and harassment. Many seafarers who contacted *SeafarerHelp* for help with their mental health in 2022 cited experience of abuse, bullying, harassment, discrimination, or violence at sea as one of the contributing factors to their mental health issues. Women seafarers were much more likely to report experiencing some form of abuse at sea*.

In response, ISWAN will work over the coming year to strengthen the database on the prevalence of harassment at sea and its impact. This will include developing a reporting platform to encourage seafarers to share their experiences and increasing the level of specialist support that *SeafarerHelp* can provide. If we do not fully understand the scale of the problem, it is difficult to develop an answer and advocate for change within the industry.

Issues such as bullying have implications in terms of future recruitment and retention. Younger generations are more aware of the problem of bullying and abuse, they tolerate it less and expect to be treated properly. If the industry has a bad reputation, why would they be attracted to work there? Seafarers are also facing increasingly complex technology and isolation due to smaller crews. With this in mind, in November 2023 we held a seminar on the issue of recruitment and retention where we focused on the importance of fair working conditions, inclusive working environments and the impact of technology in attracting the workforce for the future.

ISWAN is a small organization, so partnership is important if we are to achieve our goals. We are always keen to hear from anyone who has an interest in our work, so do please get in touch if you want to know more.

THE INTERNATIONAL MARITIME HEALTH ASSOCIATION (IMHA)

By Brant Connors



The International Maritime Health Association was established after long debates in Oslo in 1997 during the 4th International Symposium on Maritime Health. IMHA is registered as an international non-profit organization in Belgium and has approximately 150 individual members from more than 35 different countries. As an international association of maritime health experts, IMHA has consultative status at IMO and observer status at ILO.

IMHA's board of directors consists of seven members of different nationalities. From the start IMHA separated itself from organizing the bi-annual International Symposia on Maritime Health. While IMHA designates the host city, the local organizers have the freedom to organize ISMH in a way that shows their local maritime medical systems to the participants with

respect to the tradition to allow as much interaction between participants as possible. This was seen in Athens in October, 2023 at ISMH16 and will be seen in Rotterdam in 2025 at ISMH17.

Quite simply, IMHA's mission is to work in solidarity with other international and industrial organizations in advocating for the health of all who work at sea and towards better harmonized maritime medical systems. As a scientific organization, IMHA supports research done by individuals or groups and shares information on an international level to improve maritime medicine. This is reflected in our motto: Know it, share it!

The social purpose of the Association as detailed in the bylaws, is to promote the quality of medical services for maritime healthcare and to support high standards of healthcare and safety at sea. To do this, we provide a forum for people, ideas, initiatives, research and any question in relation to maritime healthcare. The Association acts as an information source for other organizations, governments, shipping companies and other professional entities.

In IMHA's bylaws, article 7 describes the activities that help us achieve our social purpose and goals such as the encouragement of scientific research in maritime healthcare; the promotion of the exchange of scientific data and results of research projects; providing special and specific know how to prepare reports and directives in relation to maritime healthcare; the promotion of the development of high quality international medical health care and systems; providing assistance in the international coordination of initiatives in relation to maritime health care; and the promotion and facilitation of education and training in maritime health care. Activities are executed by the Board of Directors and reported to the General Assembly on an annual basis.

A cornerstone of sharing research in the maritime industry is supporting the scientific journal International Maritime Health which is why the members of IMHA approved an agreement between IMHA and the International Maritime Health Foundation (IMHF) to respectfully recognize the missions of both organizations, cooperate whenever possible, and distribute scientific knowledge by supporting the production and publication of the journal. The agreement was voted on and approved by IMHA members at the General Assembly on October 5, 2023.

IMHA members are experts in many areas of maritime medicine including:

- Guidelines on the medical examinations of workers at sea;
- Tele Medical Assistance Service;
- Infectious diseases;
- Medical chests onboard;
- Medical guides for seafarers and fishers;
- Mental health topics;
- Research in maritime medicine.

IMHA regularly holds workshops on these and other topics. IMHA also provides technical support and expertise in drafting and updating medical guides and guidelines including the International Medical Guide for Seafarers and Fishers recently published by the International Chamber of Shipping.

During the covid-19 pandemic, IMHA had very strong interaction with maritime industrial organizations all over the world. Never had IMHA been part of more publications and documents produced by Agencies and Organizations. Thus, IMHA had a direct effect on the health of seafarers who got stuck onboard or back home and weren't able to travel. IMHA also learned from Covid-19 in a way that will be translated into useful preparations for the next pandemic.

One key takeaway from the pandemic is that within the industry, it became clear how important the health is – both physical and mental health and wellbeing. With the support of our members and working with partner organizations, IMHA is not only addressing current issues within maritime health but preparing for future challenges.

Further information on IMHA including how to apply to be a member can be found at <https://www.imha.net/>.

PSYCHOLOGICAL FIRST RESPONSE

by Dirk Obermann (German Seafarer Mission)



Several dramatic and sad accidents have occurred on board of seagoing ships in recent weeks and months. Due to the scale and number of seafarers involved, the Fremantle Highway accident on 26 July, in which 1 seafarer died, and the tragic collision of the VERITY with the POLESIE on 24 October, in which the VERITY sank within minutes, 1 seafarer died, and 4 other seafarers are still missing today, are particularly noteworthy.

Our thoughts and prayers are with the deceased, their families and the seafarers who were also on board during these events. They have lost colleagues, perhaps even friends, and for everyone, regardless of their rank on board, their view of their own lives has collapsed from one second to the next, because of these accidents. In addition to these two serious accidents, there are many other accidents and deaths on board that are not reported in the media. Last year, for example, the German Seafarer's Mission supported crewmembers in 47 serious accidents with and without fatalities, sudden death on board and suicides.



In these cases, the 'Deutsche Seemannsmission (German Seafarer Mission)' provides psycho-social first response and supports seafarers in coping with critical events and with the associated psychological stress. Dirk Obermann is a deacon, social worker and is coordinating the psycho-social response program within the worldwide network of the German Seafarers' Mission.

The physical and psychological strain on seafarers is severe and with a rising number of conflicts and wars in the world, as well as the increase of severe storms and bad weather events, work on board also is increasingly perceived as threatening. "Fear is always on board", as a seafarer who was worried about pirate attacks said many years ago, when passing the Somali coast. Due to the war

in Ukraine, Gaza and, above all, the missile attacks on merchant ships in the Red Sea, fear has unfortunately become a frequent companion.



Seafarers must withstand psychological and physical stress factors, often over many months and without the immediate support and care from their families and friends. Ashore, such extraordinary, stressful events would at once lead to a short-term break, to help the person concerned, to recover and to prevent stress related illnesses. This is usually not possible for seafarers, who must carry on with their responsibilities and contracts on board. They are expected to continue to fulfil their duties even after very stressful events, which often means to live and work in an environment that constantly reminds them of those devastating experiences.

However, psychosocial, and mental support after stressful events must be made available on board as soon as possible, if seafarers have been in distress. Therefore, the German Seafarer Mission currently provides 40 trained Port Chaplains who can offer support through group or individual debriefings, counseling, or social support which in distinct cases like far from home or shore, can also be offered online.

In addition, the German Seamen's Mission offers the 24/7 chat platform 'dsm.care', where seafarers can contact trained Port Chaplains in order to find support.

Contact:

Deutsche Seemannsmission e.V.
www.seemannsmission.org
dirk.obermann@seemannsmission.org
Tel.: + 49 (0) 40 2393 698 15

Reports

6TH IMHF-EP WORKSHOP „MARITIME HEALTH ON BOARD – TREATMENT PATHWAYS “ by Nebojša Nikolić

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). The 6th IMHF EP Workshop on Maritime Health on Board – „Treatment Pathways” was held at the Medical Support Offshore Ltd – Unit 5, Southampton, UK, from 4–5th December 2023. The following 9 experts were identified, invited and attended the workshop:

Dr. Spike Briggs (NHS/MSOS), Dr. Nebojša Nikolić (MCOHR, IMHF), Dr. Sue Stannard (MSA), Dr. John Magnus Haga (NCMDM), Capt. Beate Stelzer (DGMM), Dr. Alf Magne Horneland (NCMDM), Dr. Tim Carter (Prof Em. NCMDM), Capt. Bill Kavanagh (NMCI) and Mr. Steven Shackleton (RCEM).

The Workshop ran over two days and included several presentations, group-work and plenary discussion. The workshop was held with the support of the TK Foundation's grant.

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. Treatment pathways are the key element in such a guideline for medical care on board.

Concerns have been raised over recent years among those who provide TMAS and associated medical services, regarding the quality and consistency of medical care provided to seafarers on ships in case of a medical emergency. The management of medical incidents of any severity on board of commercial ships mainly depends on three pillars:

- 1) the skills of the medical responsible officer on board,
- 2) the quality of advice and recommendations by telemedical service providers and
- 3) the quality of the medical equipment on board

All these elements had already been discussed in separate workshops. Based on the recommendations of:
– the 2nd IMHF-EP Workshop on the medical training of seafarers – held in Bergen 18–19 March 2022
– the 4th IMHF-EP workshop on maritime telemedicine held in Berlin 11–12. November 2022, and especially
– the 3rd IMHF-EP workshop on the management of medical incidents at sea held in Hamburg 29–30 September 2022,
*(see also the article on the 2019 IMHA expert panel below)

the 6th IMHF-EP workshop aimed for the evaluation of treatment pathways used by providers in telemedical help on board (TMAS) and to review and validate various treatment pathways ashore.

To focus participants on pathways that are raising concerns on their validity or usability in the context of medical help on board, with permission of the authors, 19 pathways from *The Ship Captain's Medical Guide 23rd Edition*, were chosen by the workshop organizers and included in the Delphi study survey, sent to participants before the Workshop.

The results were analyzed and arranged in three answer categories as follows:

strongly disagree; undecided; strongly agree:

Three levels of agreement were defined and

Agreement: was reached on following pathways:

Fitting (convulsions), Loss of consciousness, Serious infection and sepsis, Shortness of breath, Abdominal injuries, Chest injuries, Facial injuries, Limb's fracture and dislocation.

Agreement with minority disagreement was reached for pathways:

Allergy and anaphylaxis, Blood loss (hemorrhage), Chest pain and heart attack, Confusion and delirium, Gastrointestinal bleeding, Shock and hemorrhage, Burns, Head injuries, Neck and spinal injuries. Pelvic and hip injuries, and Wounds and bleeding.

None of the 19 pathways tested caused **Disagreement** among the experts who participated in the survey.

Eleven pathways from the category **Agreement with minority disagreement were introduced in the workshop.**

Next, the participants received explanations on the protocol and workshop design. The following presentations included results of the above mentioned IMHF EP Workshops. Also, the concept of treatment pathways, their use and structured medical sections on the delivery of training, as well as the standard *European Resuscitation Council* training courses (ALS and Trauma course) for medical professionals, were presented to the participants to create a realistic view on possibilities of training for medical persons on board merchant ships.

Participants were allocated to three task teams (TT) and were allocated pathways to work on. Each TT discussed, evaluated and tuned received pathways, and drafted their position paper. Each **TT** then presented their position paper to other task teams and after each **TT** presented their position paper, teams fine-tuned their positions.

The fifth part of the workshop (2nd day) was conducted as plenary session where all task group position papers were included, discussed, and tuned.

In the month after the workshop, the workshop chair identified the main consensus statements from the workshop and submitted them to the second round of Delphi survey where participants rated them using the following three criteria:

- **VALIDITY** will be operationalized as to whether this recommendation is substantiated based on current data, theory, literature, or other types of scientific evidence.
- **FEASIBILITY** will be operationalized as to whether this recommendation is realistic to expect by maritime community (seafarers, shipowners) to implement on board ships in international trade.
- **CLARITY** will be operationalized as to whether this recommendation is clear and easy to understand.

Beside those main consensus statements that were submitted to a further Delfi survey – round. Several important items that are influencing the approach to creating treatment pathways, emerged in plenary discussions. Causes of one's condition are of less importance in a situation where one will always have to operate with different alternatives in mind, and where a diagnosis cannot be established with certainty. The typical «doctor way» of thinking is to use the likely cause as a means to decide proper treatment approaches. Lay people cannot to the same extent be expected to reach a correct diagnosis and should not be led by treatment pathways in that direction. There is also the issue, when using paper-based binary decision trees, of how to take users through them, step by step, so that they don't work backwards to reach the conclusion that is most expedient for them. Wider debate in the workshop on whether decision trees that offer binary choices are the best way for the future, or whether more sophisticated, and probably IT based systems, that rate a number of factors and then come out with recommendations, would give better advice.

One of the conclusions from the workshop was that the development or adaptation of existing treatment pathways for use on board should be done in the format of workgroups and further workshop(s).

The final document, after conclusion of the tuning process will be sent to the IMHF EP to be endorsed and finally approved by IMHF boards as official IMHF consensus/position paper. It will also be formatted as an original article and submitted to *International Maritime Health Journal* for publishing.

Retrospectives

By courtesy of the International Maritime Health Association (IMHA)



IMHA/NCMM WORKSHOP, MALTA, FEBRUARY 2013 ON MARITIME TELEMEDICINE – CONSENSUS STATEMENT

Organizer and rapporteur: Tim Carter

A. Background

1. State maritime telemedical services are a well-established part of the measures taken to minimize the harm to seafarers from illness and injury at sea.
2. TMAS have been the subject of international Conventions, Regulations, and associated guidance for several decades.
3. Maritime states are required to provide TMAS services. However, only a few developed countries meet these requirements and both developing countries and many of the countries with major open registries for ships fail to do so.
4. The arrangements where services are provided vary widely in terms of objectives, funding and resources for the service.
5. In addition to national TMAS centers providing services for both national and international shipping there are private providers of services, some are a formal part of national requirements. Others offer more sophisticated services than national centers, in particular to the cruise, superyacht and energy sectors.
6. There is a limited amount of data on service use available. It only covers a few providers, and much is unpublished. Studies on the effectiveness of the advice given and on the outcomes of cases on which TMAS services have advised are scanty.
7. Developments in communications technology mean that ships in virtually all parts of the world now have broadband access by maritime satellites. This technology is widely used for ship management and technical functions but has not been adequately exploited by state maritime telemedical services, although similar technology is widely used in other healthcare settings.
8. Sensors that can relay clinical information through broadband channels are available for a wide range of clinical applications. Some only work with dedicated proprietary systems but other use readily accessible open systems.
9. Maritime telemedicine arrangements need to be compatible with medical supplies, equipment and facilities on board, with the training of officers who have healthcare responsibilities and with other sources of information such as published, or web based medical guides for ships. Changes in telemedical systems and practices may lead to consequential changes in these related systems.
10. There are complex issues of ethics and confidentiality that relate to medical care on board. Telemedical advice needs to align with good ethical practice to ensure that the safety of the ship and the recovery of the individual are paramount and that incidents on board will not unjustifiably affect the future employment prospects of seafarers.

B. Development of TMAS services

11. The competence of crewmembers in working with TMAS to identify symptoms and signs and diagnose and treat seafarers needs to be enhanced. Modifications to training are needed to increase the use of treatment protocols that include obtaining advice from TMAS. More skill-related practical training is needed, and this requires regular refreshment and updating to maintain competence. Some aspects of this training could be provided on board using remote training and enhanced TMAS links. A system of credits for courses successfully completed would be advantageous.
12. Standards for TMAS should be developed. The introduction of formal quality standards, and possibly endorsement based on them, should be considered. These will need to cover:
 - training and competence of TMAS professional staff, qualifications and experience;
 - language skills: international providers will need good English with knowledge of maritime terms and conditions. They should be able to communicate using standard maritime communication phrases (SMCP);
 - immediate access to translation services, electronic or personal;
 - understanding of telemedical systems as applied to ships – including RCC and SAR services;

- knowledge of shipping routes, living and working condition and their risks, cultures and lines of command on board;
- anticipated medical training and competencies of responsible crewmembers;
- relevant maritime regulations, e.g., IHR and infectious disease.

There is scope for developing online training resources to meet these needs, especially for use in developing countries.

13. The use of available technology to enhance current practices in remote diagnosis and treatment needs to be optimized.

Aspects to be considered include:

- voice, text with attachments and basic video all have wide-ranging uses in communication about symptoms, diagnosis, treatment and continuing care;
- full video conferencing is better but is rarely portable to all parts of ship and the cost is higher;
 - It should be possible to use equipment in the sick bay and in all other parts of a ship, for instance when there is an injury with entrapment;
- to assist this ship-wide wired or wireless LANs should be the norm for new build ships and installed as far as possible on existing ones;
- cameras and other electronic equipment used for real time transmission need to be robust and simple to use. There are products designed for clinical use that meet these requirements but often off the shelf consumer products are suitable for still and moving image transmission;
- real time transmission of streams of clinical data e.g. audio link with electronic stethoscope can improve diagnosis;
- many other sorts of data, e.g., ECG can be sent as images but real time transmission enables trends to be monitored.

14. Different symptoms, diagnostic processes and treatments needs require different modes of communication, e.g., video is useful for neurological assessment and for oversight of abdominal palpation. Still images are needed for skin conditions and injuries.

15. Compatibility of clinical IT applications worldwide needs to be addressed. Open web-based systems have advantages of access and cost. The use of proprietary systems will greatly reduce the scope for use of more than a single TMAS provider.

16. Access to bandwidth for transmission of information between ship and TMAS is essentially a matter of economics. Except in high Arctic and Antarctic regions it is available. Many ships are already equipped with it for ship management, technical or scientific purposes, and here most of the access costs will already have been paid, hence the additional cost of use for contact with TMAS will be minimal. Only occasional high-priority access to a large bandwidth will be needed for medical emergency use: priority access should be specified in advance of need.

The requirements of the potential medical needs for bandwidth should be stratified by crew size and distance from onshore healthcare. Three categories of access are recommended for medical use in line with the requirements for carrying type A, B and C medicine chests. Guidance on the equipment to be carried should determine the access requirements. Ability to use video equipment has been found advantageous in ocean going ships (type A).

The business case for such provision needs to be developed, based on savings in terms of health benefits and reduced ship operating costs from diversion, medevacs and onshore care/repatriations¹.

17. Only clinical information is relevant to initial advice on diagnosis, but TMAS also need to be party to location, weather, sea condition information as well as to knowledge of medical facilities available ashore near to the location of the ship when considering case management in terms of decisions on treatment and whether to keep the seafarer on board or recommend they be brought ashore.

18. A database of standardized information on the work of TMAS worldwide is needed to improve the quality-of-service provision and to evaluate the contribution of services to health risk management at sea. The legal issues of setting up such a database need to be investigated and ownership of the data, with responsibilities for maintenance of the data, medical confidentiality and analysis defined.

19. A standardized set of documentation (electronic with hard copy when needed) is required to simplify both the case-by-case use of services and the collection and analysis of results:

- pre-call form for onboard assembly of data;
- TMAS journal of contacts with details;
- ship medical log;
- case outcome information, whenever possible.

20. Standardized coding of symptoms, diseases and drugs is essential. There are two widely used codes ICPS 2 (International Classification of Primary Care: good at recording clinical contacts and symptoms) and ICD 10 (International classification of Diseases: records diagnosis). There are translation programs between them. Agreement is needed on which to use for

¹ See: Henny C, Hartington K, Scott S, Tveten A, Canals L: The Business Case for Telemedicine. *Int Marit Health* 2013;64,3: 129–135

analysis of internationally collected data. Centers may choose to use the preferred code or to use their own and set up valid arrangements for translation into the preferred code. Medications used on board should be coded using ATC codes.

21. Certain regulatory and legal issues need to be clarified:

- the relative responsibilities of the TMAS medical adviser, the ship captain and the SAR services for decisions on clinical care, including the use of treatments on board and evacuation or diversion;
- safeguards for confidentiality of clinical information on seafarers. What to do when this conflicts with maritime safety or the need to engage captain or owner in decisions about actions to be taken;
- the right of seafarers to access to confidential primary health care advice from TMAS under MLC, in addition to advice to the ship on the management of medical emergencies. The implications of this for patterns of TMAS provision are significant;
- the liability of the TMAS for advice given under its national law and under international law, commercial law and that of other jurisdictions.

22. Currently there are a number of ways in which ships, seafarers and TMAS relate to each other. Some are based on state provision, often linked closely with MRCC and SAR services. Often these focus primarily on emergencies. Company or contractor based private provision now often uses more sophisticated technology and may have a larger primary care component to it. The means of developing partnerships and learning from experience with other models of provision needs to be developed. The concept of a global network of TMAS with common standards and interchange of data should be developed. Links should be similar to those of MRCCs with each other, enabling access to medical skills in native languages, information on locally available care and simple handover of clinical cases and their records.

23. Priorities for development work include (H = high, M = medium, L = low):

- a. Equipment: evaluation of usage/need M
- b. Data: outcome/standardized coding of TMAS statistics, in particular tracking reasons for evacuation H
- c. Training requirements and their evaluation: TMAS professionals/seafarers H
- d. Specification of standard minimum data sets and their format to aid interchange of information between authorized users M
- e. Protocols for joint diagnosis and treatment (ship/TMAS) M
- f. Integration, standardization of electronic equipment M
- g. Ethical and legal issues H
- h. Regulations, e.g., TMAS accreditation criteria L
- i. Harmonization of medical logs (on board) and data L
- j. Gap analysis on present status of communication equipment and facilities onboard M
- k. Language barriers M
- l. Ensuring that work on TMAS does not obscure importance of prevention by pre-embarkation medical assessment and by attention to working and living conditions and to lifestyle M.

Groups such as ship operators, seafarers' organizations, telecom experts and equipment suppliers should be involved in development work to ensure that practical and acceptable solutions are developed.

IMHA EXPERT PANEL ON THE MANAGEMENT OF MEDICAL EMERGENCIES AT SEA

Organizer and rapporteur: Klaus H. Seidenstücker

Preceding its 15th International Symposium on Maritime Health (ISMH) the IMHA board had invited 12 experts in an effort to analyze demands on the management of medical emergencies at sea and options to meet such demands at state of art level. IMHA further expected the panel to come up with suggestions to support ongoing work at the International Maritime Organization (IMO) aiming at a review of medical training modules, possibly also for an International Chamber's of Shipping (ICS) initiative to review the IMGs and finally for the advancement of telemedical maritime services in a developing environment of broad band global satellite communication.

Eleven experts gathered on June 12th at the Hamburg Hafen City University (ISMH event location) for a projected four-hour discussion of views. IMHA also had allowed a limited audience of IMHA members and ISMH 15 attendants who should, however, have no right of speech. (see annex for list of panelists)

In preparation of the panel the invited experts were informed on the topic and the state of IMO work via four send outs containing relevant documents (see annex for list of documents).

The panel session started with a short introduction into the 2006 International Labour Organization's (ILO) Maritime Labour Convention's provisions on medical care at sea (Title 4) requesting:

"Each (IMO) member (state) shall ensure that measures are adopted which ...
... ensure that seafarers are given health protection and medical care as comparable as possible to that which is generally available to workers ashore ..."²

A short discussion followed on the limitations to medical care at sea given the prevailing time – distance parameters and the absence of medical facilities, structures, or services even in remote sea areas. Realizing that the responsibility for the (early) management of medical problems at sea would rest with nonprofessional first responders for an extended prehospital time span it was suggested that IMHA should apply the respective NATO clause for remote medical care in the field asking that:

'the outcome of medical care should in the end be as comparable as possible to that at home'

The focus of the early management on board would therefore be on damage control in order to preserve chances of later (complete?) restitution as much as possible. Definitive management of medical conditions at sea would necessarily be subject to delay and triage based upon options available. It would have to follow the concept of *'treat first what kills first'*.

The panel agreed that the situation would require:

- the highest possible level of training of first responders;
- the earliest possible involvement of professional support (even if remote);
- an understanding of both – the first responders and professional supporters of the situation at sea and its options and
- the development of procedures for or adaptation of ashore medical guidelines to prevailing conditions at sea.

The present structure of the existing IMO medical model courses for ship crews then were explained.

The IMO documents:

- Model Course 1.13; 'Elementary First Aid'³;
- Model Course 1.14; 'Medical First Aid'⁴;
- Model Course 1.15; 'Medical Care' (Volume 1 and 2)⁵.

were circulated. The panelists noticed that while the documents were published 2001 they largely made reference of the International Medical Guide for Ships of 1995. There was consensus that they were outdated and dearly needed the review as initiated by IMHA in 2018.

Such review should be a constant process to keep up with medical progress and it should set a standard especially regarding the cooperation of multicultural crew in emergency situations.

It was further noticed that the time allotted to these courses

- Three days for Elementary First Aid;
- Five days for Medical First Aid;
- Eight days for Medical Care.

would be much too short to arrive at the level of competence necessary for the task. The requirement of refresher courses every five years (not necessarily mandatory in all flag states) was considered inefficient in order to arrive at a level of routine; especially given the rate of occurrence of a representative number of medical problems.

Next the question was addressed what kind of level of care should be considered ashore as a measurement for the required medical standard at sea. The participants were aware that such comparison might be difficult on a global scale.

Recommendation to IMHA was to insist on advanced medical standards as would be the rule in highly developed societies. For reasons already explained above, however, they need adaptation to the situation at sea.

The following discussion circled around the question on how to break down such standards into structures, procedures, equipment, and training requirements adequate and applicable in the maritime environment (especially its time/distance characteristics). Like in similar remote situations an extremely prolonged prehospital phase would require advanced intervention by nonprofessional first responders.

² International Labour Conference, Maritime Labour Convention 2006, as amended (2019); https://www.ilo.org/wcmsp5/groups/public/-normes/documents/normativeinstruments/wcms_554767.pdf

³ International Maritime Organization, Elementary First Aid, London 2001

⁴ International Maritime Organization, Medical First Aid, London, 2001

⁵ International Maritime Organization, Medical Care, London 2001

Bringing the ‘virtual doctor’ on board to aid these first responders was seen as a major step to raise chances of a favorable outcome⁶ (survival and in the end restitution). The development of broad band satellite communication (projected to provide 10 Mbit/sec) would (under optimal conditions) facilitate the doctor ashore to see what the first aider sees on board and interact in real time with the crew performing diagnostic or therapeutic procedures. Such an option, however, would have repercussions on training and equipment of ship’s crews. While the panelists largely shared the view that there would be exceptional options to advance the level of medical care at sea by advanced telemedical support it was also understood that legal as well as educational limitations needed to be considered. The implementation of such support into the regulatory instruments of IMO and ILO would therefore require legal advice. IMHA as a medical specialty organization on the other hand would have to consider the educational needs for first responders on the one hand but also for medical professionals engaging in telemedical support of ships at sea.

The panel at this point turned to the training needs of ship crews. There was consensus that the IMO medical model courses (published in 1995!) would need substantial review to adapt to current medical state of art and to the immensely improved management options offered by advanced telemedical support. There was further consensus that necessary knowledge and skills to be achieved would be limited as well by the talents of personnel involved as by the time available for training.

The panel then tried to set up desired outcomes of medical training bringing the demands of conceivable medical situations in concurrence with the level of competence to be expected from personnel that would not be professionally educated.

A suggestion was to derive desired training outcomes from several model cases as introduced by a German consensus group on emergency medicine⁷. This group had agreed on six so called ‘tracer diagnoses’ to derive rescue response times and demands for the begin of a specialized clinical treatment.

These were:

- Sudden circulatory failure;
- Stroke;
- Severe brain trauma;
- Severe other trauma/polytrauma;
- Sepsis;
- ST elevation infarction of the heart;
- and in addition
- Pediatric aspects of the above.

In the absence of epidemiologic evidence, however, the panelists found it difficult to focus only on these conditions in order to arrive at mandatory training outcomes for first responders in a remote location. It was only after the panel session that some panelists asked for a follow up workshop to arrive at useful recommendations.

A longer discussion followed on what in the given situation at sea should be considered as an emergency severe enough to seek telemedical support and that nonprofessionals might shy away from calling for it because of fear of being out of one’s depth by what might result from a consultation.

At this point it was recognized that it would be of paramount importance not only to have a mandatory medical training at the start of a maritime career and that even the prescribed refresher training every five years would not amount to the necessary routine to allow confidence to confront any medical problem without fear of failure and subsequent avoidance behavior.

At that point two further suggestions appeared on how to profit from the new communication options:

- The use of distant/e-learning tools in conjunction with the establishment of a continuous medical education structure including a certification process within the STCW convention.
- The use of VR techniques within such a CME procedure to allow for simulation training that increasingly governs medical education.
- The use of e-health applications for medical care at sea.

The first two have the potential of greatly improving and sustaining the competence level of first responders mandatory to comply with the demands for survival of life and preservation of health at sea (IMO SOLAS) and the provisions for seafarer’s rights as formulated in the ILO MLC 2006 (as amended).

Telemedical communication could even be useful to conduct medical exercises involving onboard and ashore personnel as a team to learn to cooperate.

The panel then finished with a plenary discussion that strongly supported the IMHA’s IMO initiative to implement advanced telemedical support for ships at sea in order to comply with the ILO requirement. There was a consensus that medical care

⁶ Telemedizin in der prähospitalen Notfallmedizin: Strukturempfehlung der DGAI, *Anästh Intensivmed* 2016; 57: 160–166

⁷ Eckpunktepapier 2016 zur notfallmedizinischen Versorgung der Bevölkerung in der Prähospitalphase und in der Klinik, *Notfall+Retten* 5, 2016; p. 387-395

at sea — especially the management of medical emergencies on board — would extremely benefit from an opportunity for the first responders to get real time live stream audiovisual telecommunication with medical professionals ashore.

The panelists as well as the audience supported the IMHA initiative as well on the review of model courses and IMGS and the implementation of advanced telemedicine into the Maritime Services presently negotiated at IMO.

Appendix

1. List of Participants:

- Prof. Dr. Jörg Beneker; Occup. Health Insurance Trauma Center, Berlin
- Dr. Spike Briggs; Maritime Offshore Service, UK
- Dr. Jens Kohfahl, German Maritime Health Association
- Dr. Nebojša Nikolić, IMHA
- Dr. Wilm Rost; German Military Hospital, Hamburg
- Dr. Markus Stuhr; Occup. Health Insurance Trauma Center, Hamburg
- Mr Holger Schwalbe; German Maritime Rescue Assoc.
- Mr. Agnar Strom Tveten; Norwegian TMAS
- Dr. Jens Tülsner; Marine Medical Solutions
- Dr. Lucas Viruly; Dutch TMAS
- Dr. Klaus Seidenstücker, IMHA

2. Documents provided for preparation:

- IMHA/NCMM consensus statement: Maritime Telemedicine; Malta workshop 2013
- IMHA consensus statement: The Management of Medical Incidents at Sea; Workshop London, 2015
- World Sailing/IMHA position paper: Medical Support for Offshore Yacht Races, Telemedical Support; Workshop London 2018 (incl. appendices 1 and 2: medical training and medical kit)
- IMHA submission to IMO HTW 5 meeting: Review of Medical Model Courses, London 2018
- IMHA submission to IMO NCSR 6: Telemedicine in a broadband satellite communication environment; London 2019
- IMO NCSR 6 Draft MSC Circular on Maritime Services, London 2019

