



**CONFERENCE MINISTERIELLE SUR LA COOPERATION HALIEUTIQUE ENTRE LES ETATS
AFRICAINS RIVERAINS L'OCEAN ATLANTIQUE**

**MINISTERIAL CONFERENCE ON FISHERIES COOPERATION AMONG AFRICAN STATES
BORDERING THE ATLANTIC OCEAN**

Workshop Report

"Digital health and telemedicine for seafarers: towards innovative and accessible remote care"



Tangier, March 18-19, 2025

Introduction

ATLAFCO organized, on March 18 and 19, 2025 in Tangier, a workshop entitled " ***Digital health and telemedicine for seafarers: towards innovative and accessible remote care.***

This event is part of the ongoing efforts made by this Organization to strengthen the capacities of its member states in several areas of the fisheries system.

It is also part of its 2025 action plan and more particularly to contribute to ensuring an environment favorable to the exercise of maritime fishing activities with the main objective of improving the working and living conditions of seafarers on board fishing vessels.

Also, this workshop had the specific objectives of sharing experiences in terms of maritime health within the member states of ATLAFCO, establishing a comparative diagnosis of the different health systems serving active populations in the African fisheries sector and establishing their state of evolution since the organization of a first workshop on the same theme in 2022.

This action was also organized within the framework of the intermediation role played by ATLAFCO with international organizations, notably the International Maritime Organization (IMO) and the World Health Organization (WHO) concerning telemedicine to act effectively in the interest of its member states.

I- Opening ceremony

The opening ceremony of the workshop was marked by high-level interventions, reflecting the commitment of authorities and experts to improving maritime health in Africa:

Opening speech by the Representative of His Excellency the Current President of ATLAFCO

Dr. Moussa Fofana, representative of the Minister of Animal and Fisheries Resources of the Republic of Côte d'Ivoire, current President of ATLAFCO, thanked the Executive Secretariat for organizing this important workshop in view of the importance of telemedicine as an essential tool to overcome the challenges related to the geographical remoteness of seafarers and to guarantee effective medical care at sea in the event of a health or medical problem or distress.

He also highlighted the initiatives undertaken by Côte d'Ivoire to integrate digital technologies into the fisheries sector, thus strengthening the safety and well-being of fishermen.

Opening remarks by the Executive Secretary:

Mr. Taoufik EL KTIRI, Executive Secretary of ATLAFCO, expressed his gratitude to the authorities of the Kingdom of Morocco and the city of Tangier for having kindly hosted this important workshop which brings together doctors specialized in maritime health and occupational medicine.

He also thanked the central and local representatives of the Secretariat of State for Maritime Fisheries for having kindly honored the opening ceremony of this workshop with their presence and asked them to convey the recognition and thanks of the Executive Secretariat of ATLAFCO and the participants to the Secretary of State for Maritime Fisheries of Morocco for her support and backing for the actions undertaken by this Organization.

He also congratulated and thanked the representatives of the Member States for their massive participation in this workshop and their commitment to maritime health. In addition to the in-person participation, several doctors and maritime affairs managers are following this workshop with us via videoconference.

He further recalled that the overall objective of this workshop was part of the role of ATLAFCO as a regional instrument for strengthening fisheries cooperation between its member states and promoting sustainable use of living marine resources.

Opening speech by the representative of the Moroccan Secretariat of State for Maritime Fisheries

The representative of Morocco's Maritime Fisheries Department highlighted the country's efforts to improve the living and working conditions of fishermen, particularly through the establishment of 22 seafarer health centers in the country's main ports. He also emphasized the importance of telemedicine as a lever to strengthen access to care for seafarers at sea, by reducing medical evacuations and improving emergency management.

II- Summary of Presentations

Telemedicine and technological innovations

Speaker: Abdennaji LAAMRICH, ATLAFCO

The first presentation highlighted the advances in maritime telemedicine as an essential solution for ensuring medical care for seafarers. Mr. Abdennaji LAAMRICH presented the various technologies currently in use, including connected sensors for remotely monitoring seafarers' vital signs, Teleconsultation platforms, and digital devices facilitating the management of emergencies at sea. He also highlighted the positive impact of these innovations on reducing medical evacuations and improving patient monitoring in maritime environments.

Seafarers' medical system in Morocco

Speaker: Mr. Driss TAZI, ATLAFCO

The second presentation focused on the health system implemented by Morocco to meet the medical needs of seafarers. Mr. Driss TAZI presented the organization of the Seafarers' Medical Health Centers (AMSGM), established in 1995 through a partnership between the Ministry of Health and the Department of Maritime Fisheries. These centers provide medical monitoring, occupational risk prevention, and access to telemedicine, thus strengthening health safety at sea.

Challenges and Prospects of Telemedicine in Morocco

Speaker: Mr. Abdellah EL ASRI

Addressing the major challenges of telemedicine for seafarers, Mr. Abdellah EL ASRI highlighted the obstacles related to geographical distance, the lack of rapid access to care, and the inadequacy of medical resources on board ships. He emphasized the importance of the Moroccan legislative framework, which, through Law No. 131-13 and its implementing decrees, governs this practice. The establishment of a national maritime Teleconsultation center was presented as an essential strategic step forward to ensure better care for seafarers.

Presentation of the Maritime Medical Consultation Center (MMCC – France)

Speaker: Dr. Emilie DEHOURS

The Maritime Medical Consultation Center (MMCC), based in France, is a global leader in maritime telemedicine. Its role is to ensure continuous access to medical care for sailors sailing on the high seas, thanks to a high-performance communications network and effective coordination with emergency services.

A structured and efficient system:

The MMCC's presentation highlighted its key role in organizing care at sea, with a well-defined medical Teleconsultation process. When a medical incident occurs on board a ship, an initial assessment is carried out by the personnel present, taking into account the patient's vital functions (consciousness, breathing, blood circulation). This assessment is then transmitted to the MMCC, which establishes a diagnosis and decides on the actions to be taken: medical advice, prescription of treatments, or medical evacuation in case of emergency.

Cooperation and coordination of sea rescue:

The effectiveness of the MMCC relies on close collaboration with the Regional Operational Surveillance and Rescue Centers (CROSS) and the Maritime Medical Coordination Services (MMCS). These structures work in synergy to assess the severity of the situation, coordinate rescue resources (helicopters, rescue vessels, land-based medical services), and organize the disembarkation of patients when necessary.

Key figures for maritime telemedicine in France:

In 2024, the CCMM handled 6,067 medical calls, an increase of 39% in ten years. These interventions included:

- 2,755 patients were treated, 55% of whom were French nationals and 45% foreigners.
- 74% of cases could be treated on board, without the need for evacuation.
- 11% required disembarkation for treatment in a hospital facility.
- 6% resulted in an emergency medical evacuation (EVASAN).

The contribution of NICTs to maritime health in Africa

Speaker: Dr. Moussa FOFANA

Highlighting the fundamental role of new technologies, Dr. Moussa FOFANA illustrated how ICT can revolutionize access to medical care at sea. He discussed the use of satellite communication systems, mobile medical monitoring applications, and big data tools to improve prevention and remote medical care.

National experiences and specific challenges

Several presentations explored initiatives in various African countries.

Dr. Ghailan Tarik, president of the Moroccan Society of Moroccan Medicine, advocated for the establishment of a structured legislative framework and an efficient Teleconsultation network.

In Benin, Dr. Abibata Tabe highlighted the challenges associated with the lack of a national maritime telemedicine center and advocated for its creation.

In Gabon, Dr. Mwengula Ntite Dieudonné emphasized the need to strengthen medical capacity in light of the country's significant maritime traffic.

Finally, in Togo, Dr. Dobokou Amivi Helena Alassani highlighted the pilot tele-expertise experiments conducted since 2011 and the prospects for improving digital infrastructure.

III- Visit to the Medical Center of the Maritime Fisheries Delegation of Tangier

As part of the workshop, participants had the opportunity to visit the medical center of the Tangier Maritime Fisheries Delegation. This visit allowed experts and representatives of ATLAFCO member states to better understand the systems implemented by Morocco to ensure effective medical monitoring of seafarers.

During this visit, detailed explanations were provided by the managers of the medical unit, highlighting the services offered to fishermen, including:

- Preventive and curative medical consultations provided by medical staff.
- Monitoring of seafarers ' medical aptitude and medical certificates required for boarding.
- Awareness-raising actions carried out among sailors on health risks at sea.

This field immersion allowed participants to appreciate the efforts undertaken by Morocco to modernize the health care of sailors, while emphasizing the importance of strengthened regional cooperation to generalize these good practices in all ATLAFCO member states.

IV- Recommendations

The following prioritized recommendations emerged from the Workshop's work:

1. Short-term actions (1-2 years) – Easy to implement

These measures can be implemented quickly with existing resources and infrastructure.

A. Capacity Development and Awareness Raising

- Training of seafarers and aircraft crew on the use of telemedicine tools and first aid at sea.
- Raising awareness among shipowners and fishermen of the benefits of telemedicine for the safety and well-being of sailors.
- Implementation of standardized Teleconsultation protocols on board ships.

B. Improvement of Medical and Communication Infrastructure

- Strengthening medical and digital equipment on board (telemedicine kits, connected sensors, medical monitoring applications).
- Optimization of satellite and radio connections to ensure continuity of remote medical consultations.
- Establishment of a regional coordination platform to centralize requests and ensure efficient management of medical care at sea.

C. Legal and Institutional Framework

- Harmonization of national regulations on maritime telemedicine based on existing best practices.
- Creation of a provisional legal framework recognizing the validity of remote consultations and their role in maritime medicine.

2. Medium-term actions (3-5 years) – Requiring structuring efforts

A. Structuring and Modernization of Telemedicine Services

- Creation of regional maritime telemedicine centers inspired by the French MMCC model, with specialized doctors available 24/7.
- Development of a maritime electronic medical record (EMR) shared between ATLAFCO member states, facilitating patient monitoring.
- Improvement of medical evacuation and sea rescue services, with better networking of rescue and telemedicine services.

B. Cooperation and Strategic Partnerships

- Establishment of a certified maritime telemedicine training program for healthcare professionals and seafarers.
- Strengthening collaborations with international telemedicine centers (MMCC, Norwegian and Canadian centers) to share best practices.
- Development of regional and international financing to support the modernization of infrastructure and the acquisition of suitable digital equipment.

C. Innovation and Deployment of New Technologies

- Integration of artificial intelligence and medical telemonitoring to improve remote medical decision-making.
- Deployment of mobile solutions and connected applications allowing seafarers to perform preliminary diagnoses and access automated medical advice.

3. Long-term actions (5-10 years) – Structural Transformations

A. Strengthening Infrastructure and Governance

- Creation of a fleet of mobile hospital ships to cover remote maritime areas and strengthen emergency response capacity.
- Establishment of a pan-African maritime telemedicine network with centralized management of Teleconsultation and interventions at sea.
- Establishment of a framework for cooperation with international medical and maritime institutions (WHO, IMO, FAO) to include maritime telemedicine in a global public health approach.

B. Innovation and Technological Modernization

- Advanced use of artificial intelligence and big data to predict and manage health risks at sea.
- Complete digitalization of the seafarers' care pathway, integrating health data from ports, ships and land-based medical centers.
- Deployment of an early warning system based on the analysis of health trends, making it possible to anticipate epidemics and the risks of occupational diseases among seafarers.

Summary of the Hierarchy

Priority	Key Actions	Degree of Achievement
Short term (1-2 years)	Training, awareness, standardization of practices, strengthening of communication equipment	Easy to implement
Medium term (3-5 years)	Creation of regional centers, maritime DME, strategic partnerships, integration of new technologies	Requires investment and active cooperation
Long term (5-10 years)	Fleet of hospital ships, pan-African telemedicine network, artificial intelligence and big data, complete modernization of infrastructure	Structural transformation and multi-stakeholder involvement

Conclusion

The workshop highlighted the progress made and challenges to effectively integrate telemedicine into maritime health systems in Africa. The fruitful discussions among participants led to the development of concrete recommendations aimed at strengthening technological infrastructure, training seafaring and medical personnel, and harmonizing legal frameworks governing telemedicine.

ATLAFCO thus reaffirms its commitment to supporting innovative initiatives that contribute to improving the living conditions of seafarers, who are essential to the sustainable development of the African fisheries sector.

Appendix 1: List of participants

CONFÉRENCE MINISTÉRIELLE SUR LA
COOPÉRATION HALIEUTIQUE ENTRE LES ETATS
AFRICAINS RIVERAINS DE L'OCEAN
ATLANTIQUE



MINISTERIAL CONFERENCE ON FISHERIES
COOPERATION AMONG AFRICAN STATES
BORDERING THE ATLANTIC OCEAN

COMHAFAT/ATLAFCO

LISTE DES PARTICIPANTS

Atelier Santé numérique et télémédecine au service des gens de mer : vers une prise en charge innovante et accessible à distance 18-19 Mars 2025 Hôtel Marina Bay City Center -Tanger				
N°	Pays	Nom et Prénom	Titre et Organisation	Signature
1	Angola	Mr. Alfredo Pinto Matos MOREIRA	Technicien du service national d'inspection des pêches	
2	Bénin	Mme. Adja Iyabo Abibata TABE	Médecin du travail	
3	Congo	Mr. Omer TALANI NGOMA	Administrateur des Affaires Maritimes	
4	Consultant	Dr Tarik GHAILAN	Médecin des gens de mer, président de la société marocaine de médecine maritime	
5	Côte d'Ivoire	Mr. Moussa FOFANA	Médecin Chef du Centre Médico Chirurgical de l'académie Régionale des Sciences et Techniques de la Mer	
6	Gabon	Dr. Dieudonné MWENGULA NITTE	Médecin des gens de Mer	
7	Gambia	Mr. Basiru DARBOE	Assistant des Pêches	
8	Ghana	Mr. Emmanuel Atiso AMEVOR	Directeur Principal des Pêches	
9	Guinée	Mr. Ibrahima DIALLO	Directeur National de l'Economie Maritime	



10	Guinée Bissau	Mr. Carlos Bissanmim FERNANDO N'TCHANDA	Médecin Vétérinaire	
11	Liberia	Mr. Alfred DECKER	Secrétaire Adjoint aux opérations	
12	Maroc	M. Abdellah EL ASRI	Chef de la division des gens de mer au sein de ce Secrétariat	
13	Mauritanie	Mr. Abdelbarcka Hmettou DADDA	Chef de service de l'Océanographie/ la Direction de l'Aménagement des Ressources Halieutiques	
14	Nigeria	Mr. Michael Temidayo OKON	Agent principal des pêches	
15	RDC	Mr. Raphaël BUKURU MANGALA	Directeur Coordinateur du Programme National d'Elimination des maladies liées à l'Eau et Assainissement dans les Communautés des Pêcheurs	
16	Sénégal	Mr. Ousmane WAD	Médecin des gens de Mer	
17	Togo	Dr. Amivi Hélène DJOBOKOU ALASSANI	Médecin du travail et chef Service Médicale au Port autonome	

Appendix 2: Agenda

Day 1 : Tuesday 18 March 2025

OPENING AND INTRODUCTION OF THE WORKSHOP	
9:30-10:00	- Registration
	- Official Opening
	- Introduction of the workshop
II-Understanding telemedicine in the maritime context and its benefits for the health of seafarers	
10:00-10:40	<ul style="list-style-type: none">- The introduction of telemedicine to improve healthcare on board ships: Mr. NAJI LAAMRICH (ATLAFCO)- Seafarers' medical system in Morocco (assessment and prospects) Mr. Driss TAZI (ATLAFCO)
10:40-11:00	Break
II- Technologies and applications of telemedicine in maritime health	
11:00-12:30	<ul style="list-style-type: none">- Maritime telemedical consultation and regulation. Dr. Emilie DEHOURS & Dr. Xavier MOLINIER, Maritime Medical Consultation Center (MMCC), France- L - National legal framework for telemedicine: Mr. Abdellah EL ASRI, Secretariat of State for Maritime Fisheries of Morocco- The contribution of new information and communication technologies to maritime health in Africa. Dr. Moussa FOFANA, Regional Academy of Marine Sciences and Technology (ARSTM) – Côte d'Ivoire- Telemedicine in the marine sector in Morocco, what opportunities? Dr. Tarik GHAILAN, Seafarers' Doctor, President of the Moroccan Society of Maritime Medicine - Morocco Discussions and conclusions
12:30-14:00 PM	Break

III- perspectives and awareness for the integration of telemedicine in maritime health systems in Africa	
14:00 - 16:00	<ul style="list-style-type: none"> - The situation of maritime medicine and telemedicine and priority actions at the level of Benin: Dr. Adja Iyabo Abibata TABE, Occupational Physician - The situation of maritime medicine and telemedicine and priority actions At level of Gabon : Dr. Dieudonné MWENGULA NITTE, Seafarers' Doctor - The situation of maritime medicine and telemedicine and priority actions in Togo : Dr. Amivi Hélène DJOBOKOU ALASSANI, Head of Medical Service at the Autonomous Port of Lomé <p>Recommendations</p> <ul style="list-style-type: none"> - At regional level - At national level - Discussion, adoption of recommendations and actions to be scheduled - Closing remarks and closure of the workshop

Day 2: Wednesday, March 19, 2025

- General Assembly of the African Network of Institutions responsible for the promotion of Maritime Medicine (RAP2M)	
9:00-12:00	<ol style="list-style-type: none"> 1. Opening of the meeting and designation of President of session and of the rapporteur 2. Reminder of Status of RAP2M 3. Renewal of the members of Desk 4. Preparation of a project of 2026-2027 Action Plan 5. Identification of the points focal points of Network At level national 6. Design of a Logo of RAP2M 7. Closing of the meeting of the GA
13:00 -15:00	Visit of the medical antenna of Tangier