CIRM NEWS

N.89/90
MARCH
2025

90 YEARS OF C.I.R.M.

International Radio Medical Center

7 april 1935 - 7 april 2025

CIRMNEWS
Quarterly of the International Radio Medical Center
no. 89-90 - MARCH 2025

Editor in Chief: **Claudio Moriconi**
Scientific Director: Francesco Amenta
Co-Editor-in-Chief: Daniela Amenta
Graphics: Paola Gaviraghi

Via dell'Architettura, 41- 00144-Rome-Italy
E-MAIL: info@cirm.it
Telephone (+39) 06 59290263

A trip 90 years long

This 89-90 issue of CIRM NEWS is published at an important time, the celebrations of the centenary of radio and the one-hundredth anniversary of the birth of our first president, Guglielmo Marconi, in 2024, and the anniversary of the beginning of the activities of the International Medical Radio Center (C.I.R.M.) in this 2025. We intentionally merged these important moments for the C.I.R.M. into one issue of our news bulletin, straddling two years.

C.I.R.M., which, for 90 years, has been providing free medical care to all seafarers around the world, 24 hours a day and every day of the year. An ingenious intuition of a Sicilian doctor, Professor Guido Guida, supported by Guglielmo Marconi, to care for, and support the health of seafarers of all nationalities and sailing the seas and skies worldwide. Yesterday through Morse signals and radio, today through the most advanced satellite and network technologies. Nearly 140 thousand patients assisted onboard ships and planes, about one million medical messages sent and received, thousands of rescue operations, constant medical support: from giant oil tankers to passenger ships, to small fishing boats. This in a nutshell is our remote hospital mission: an Italian excellence, top of the world between "sister" organizations worldwide.

It was April 7, 1935, when C.I.R.M. received, via radio, the first request for assistance from the ship Perla sailing in the Atlantic Ocean requesting help for a stoker with a very high fever and convulsions. The intervention of our Center was decisive.

On April 7, 2025, we will turn 90 years old, which we will celebrate with a ceremony at our headquarters in Rome, Via dell'Architettura 41, at the EUR quarter. In general, on important anniversaries, we try to coin a sentence that sums up the spirit of the occasion. I think the beautiful one by Anatole France may be appropriate: "To accomplish great things, we must not only act but also dream; not only design but also believe."

C.I.R.M., despite the many difficulties that have marked its navigation, has always striven to improve the quality of medical care at sea, has designed solutions to which this folio is also dedicated. We are sure that we did something good for the thousands of our patients, workers often forgotten, who face challenges of sea and sky with us every day.

HAPPY BIRTHDAY C.I.R.M.

Prof. Francesco Amenta
President

SUMMARY

April 7
All Programs

April 7, 2025, the party is here

90 years, then. An important milestone for C.I.R.M., for its staff, and for the history of the Center that we continue to pursue with passion using the latest technology for medical assistance at sea, in the sky, and on small islands.

A ceremony, on April 7, 2025, that we want to share with our thousands of patients, with the Center's well-wishers and advisers, with the women and men of the sea, politics, science, culture, the Coast Guard, Civil Defense, and with shipowners.

Our 90 years are a sign of perseverance and tenacity, but on our own we would not have succeeded in the undertaking. In this festive circumstance, our thanks also go to the associations that have always stood by us, Stella Maris for example, to the universities and facilities devoted to medical and scientific research, to the relevant ministries and state institutions, to the Bodies, Foundations and trade unions. The meeting, at our historic headquarters at ***EUR, Via dell'Architettura 41 in Rome,*** will follow this program:

10:30 a.m. Introduction by the president of the International Radio Medical Center, Professor Francesco Amenta

10:40 a.m. Greetings from the authorities present and reading of the messages sent by the country's highest institutions

11:10 a.m. Tour of the Center and connection from our medical working room to a ship requesting rescue

12 noon Projection of the Rai docufilm dedicated to Guglielmo Marconi with a focus devoted to the Center's activities

12:30 pm toast and greetings

The afternoon session will consist of a scientific meeting entitled "From medicine via radio to telemedicine: the impact of new technologies on health protection" at which C.I.R.M.'s "sister" centers and cutting-edge facilities in remote medicine will discuss the most recent solutions for improving medical assistance at sea.

Info and accreditation:

Luciano Capone, 348-398 4226,
capone@cirm.it

Antonio Arcese, 338-847 7597,
aarcese@cirmservizi.it

From medicine via radio to telemedicine

An international conference will close our Center's 90th anniversary celebration on April 7

In addition to its purely medical activities in support of the health and care of workers at sea and in the sky, C.I.R.M. also boasts a sector dedicated to research related to the pathologies of its patients and to improving the life-styles of those on board. Statistical surveys, epidemiological data, analyses, publications in international medical-scientific journals, but also easy first-aid manuals and good practices easily understood by those on, for example, ships or fishing boats, and even pleasure boats.

We give our readers an account of much of research in this issue and previous issues of CIRM NEWS, all of which can be found on our website http://www.cirm-tmas.it/, which has a very high rating from users on Google (4.9 out of 5).

On April 7, 2025, after the festive morning, we have organized a panel discussion in English and Italian to be held again in our historic building in Rome, and it will be about the transition from telemedicine to new technologies, including the possibility of the use Artificial Intelligence, for the health protection of our patients at a distance.

The appointment is scheduled from 2:30 to 6:30 p.m.

From medicine via radio to telemedicine the impact of new technologies on health protection

1 • Telemedicine approaches for health coverage in areas of shortage of medical facilities ***(Dr Michelangelo Bartolo)***

2 • - Epidemiological data on medical issues on board ships ***(Dr Getu Gamo Sagaro)***

3 • The taking in charge of Seafarers by SASNs (Territorial Services for the Health Care of Seafarers, Maritime and Civil Aviation Personnel) (**Dr Antonio Salzano**)

4• Marine Doctor: The impact of artificial intelligence supported systems on medical assistance on board ships (**Dr Gopi Battineni**)

5 • SeaMinds: A support to mental health well-being of seafarers (**Dr Nalini Chintalapudi**)

6 • Tele ultrasound for advanced diagnostics of pathologies on board ships (**Dr Spiridon Kurtis**)

7 • Interactive system for handling the ship's pharmacy (**Fabio Sibilio**).

8 • Experiences of territorial telemedicine and telehealth (**Dr Tiziana Chiriaco**)

2

C.I.R.M. A STORY THAT SPEAKS ITALIAN

From 1935 to the present looking to the future

This from CIRM NEWS is a prologue to the celebrations our Center is preparing to hold next April 7. That's when we will turn our 90th anniversary. It is an important milestone, a very long crossing at sea, but also in the sky, thanks to the ingenious intuition of Professor Guido Guida, a doctor born in Trapani on September 11, 1897, and transplanted to Rome, the creator and founder of the International Radio Medical Center, an Italian excellence with planetary reach.

The idea of a remote hospital capable of providing free medical care to seafarers in every corner of the Globe is an enlightenment that has become a reality thanks to the endorsement of Guglielmo Marconi, the first president of C.I.R.M., who provided his invention, the radio, to enable ships on all the world's seas to communicate with a medical staff on land.

Guida succeeds with passion and stubbornness in obtaining the support of the Ministry of Communications, which grants exemption from radiotelegraphic and telegraphic fees to messages to and from the C.I.R.M., which are marked "MEDRAD." It is also given the possibility, in relation to the modest power of Guida's home radio equipment, to have telegrams, to and from the Center, transited by Italian coastal radio stations intended for public service.

The first request for assistance reaches C.I.R.M. on April 7, 1935, from the steamer PERLA, sailing in the Atlantic Ocean, off Dakar. C.I.R.M.'s response is decisive

The Perla contacts C.I.R.M. at 8:15 p.m. April 7, shortly after departing Dakar, requesting help for a stoker, whose symptoms the ship's commander describes *(Stoker diagnosed day 2 doctor Dakar Pott's disease prescribed Adrenocalcin stop. Today he is accusing fever 39 with eclampsia pulse 77 please advise. Captain De Simoni)*; at 8:35 p.m. C.I.R.M. responded via Coltano Radio, and prescribed treatment *(Received your marconigram stop. We recommend giving the patient antipyretics such as Aspirin one and a half grams per day in three times stop. If the patient still complains of convulsions administer tranquilizers such as bromides a couple of grams a day or morphine injections stop. In the absence of those medicines administer some opioid sedatives such as opium tincture 10 drops every 5 hours discontinue Adrenocalcin stop. Inform us tomorrow morning about the conditions of the patient C.I.R.M.)*. With prescribed treatment, the stoker began to improve over the next night, soon reaching recovery. The Center's headquarters were at Prof. Guida's Roman home at 122 Via Torino. From 1935 to 1940 the activities of C.I.R.M. continue with the increasing development of the initiative. From the middle of 1939, the Center's activities are also extended to the small Italian islands, which are regarded as "ships on the high seas." C.I.R.M.'s activity was stopped on June 10, 1940, date of Italy's entry into the war. Operations resumed at the end of the conflict on April 7, 1946.

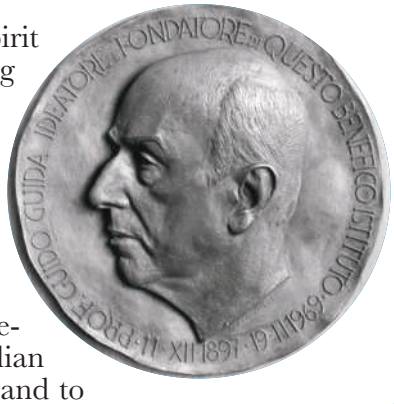
In 1949, the C.I.R.M. radio station was officially recognized with the radio-telegraphic call sign "IRM," the "radio medical ambulatory" service was organized for the benefit of seafarers operating from 07:00 to 09:00 GMT and from 19:00 to 21:00 GMT daily, and through the IRM radio station a course of medical instruction for ship's Captains and Officers was established for the purpose of facilitating the preparation of precise medical requests by radio.

1950 is an important year for the institutional arrangement of the C.I.R.M. The Presidential Decree 533 of April 29, 1950, recognized C.I.R.M. as a Moral Entity, establishing it into a Foundation. On Jan. 15, 1952, C.I.R.M. activates an important new service, providing medical assistance to crews and passengers on intercontinental airlines. In 1953, the parliamentary process began that would lead to C.I.R.M. receiving an annual grant from the state to make possible the operation of the Foundation's welfare activities. The proposal, whose first signatory is Prof. Giuseppe Caronia, who, upon Guido Guida's death, will succeed him as president of C.I.R.M., became the Law No. 209 of March 31, 1955 (published in the Official Gazette on April 9). The funds made available by the law enable C.I.R.M. to have a more stable organization, to extend its welfare services to 24 hours of the day, and to be able to hire doctors and telecommunications operators to devote themselves full-time and with increasing professionalism to the Center's activities.

In 1957, the systematic implementation of telemedicine courses started directed to students at the Nautical Technical Institutes of various cities. In 1959 started a fruitful collaboration with the U.S. Coast Guard, which supports the activities of the C.I.R.M., making available to the Center the use of its telecommunications network, and its rescue means in case of evacuation of the sick and seriously traumatized.

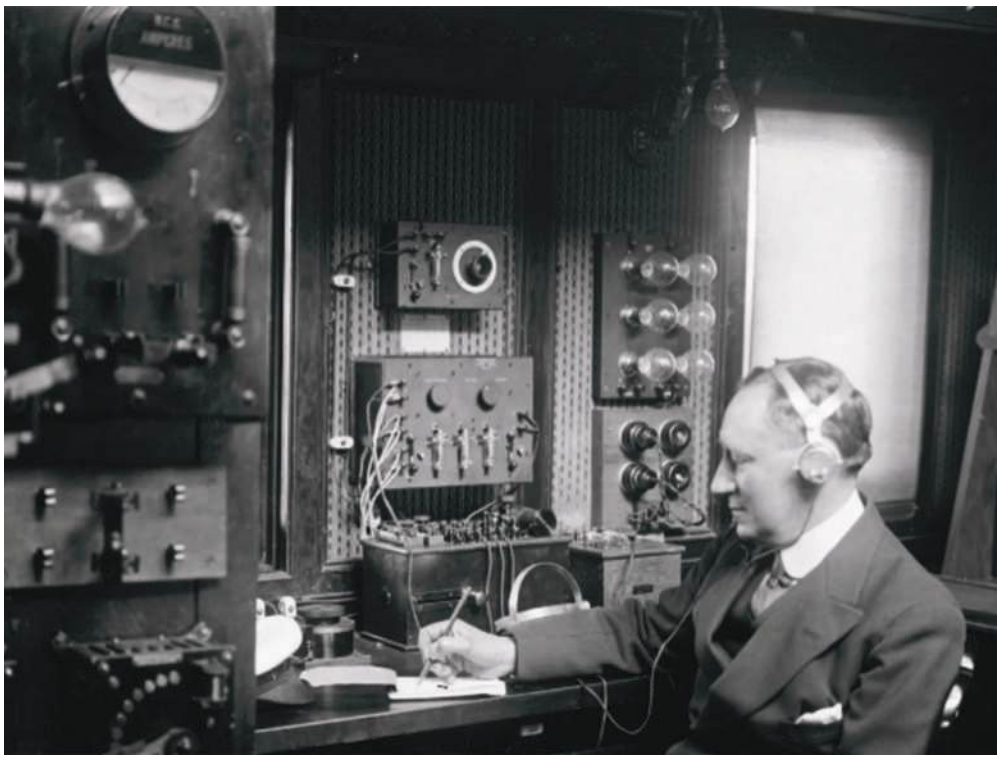
C.I.R.M. AND PLANETARY ASSISTANCE (TMAS)

In 1962, C.I.R.M. moved to a new location in the Roman quarter EUR, at 41 Via dell'Architettura, where the Center is still located today.



Professor Guida left us on February 19, 1969, but his spirit continues to illuminate our work as physicians serving seafarers. A service done of care, assistance, support and listening. So that no one ever, not even in the waves of a stormy sea, is left alone.

With the development of advanced telecommunication systems, dedicated specialized centers, now called Telemedical Assistance Maritime Services (TMAS), were established and recognized to provide qualified medical assistance at sea. Our Center was recognized Italian TMAS by interministerial Decree on April 15, 2002, and to the credit the largest number of patients served in the world, following a planetary user base.



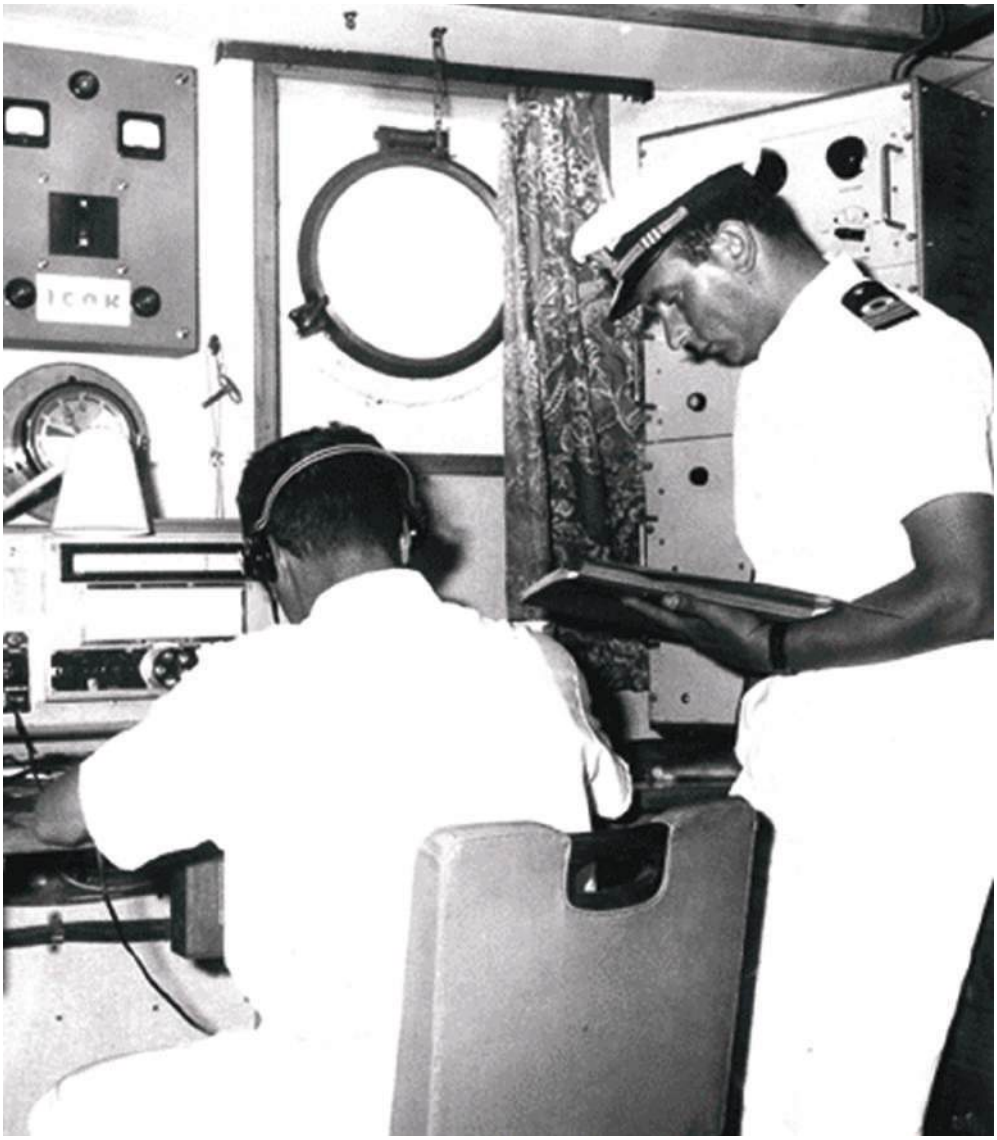
2

MARCONI AND THE C.I.R.M.

It is 1909 when the Nobel Prize in Physics is awarded to an Italian, the first in history. He is Guglielmo Marconi, the scientist who in 1924 signed a crucial junction in the history of telecommunications thanks to his study of short waves: it is the transition from radiotelegraphy to radio phony.

As Pietro Greco, one of our country's most brilliant and experienced science journalists, wrote: *"Throughout his life Marconi constantly challenged established physical knowledge. He had courage and great luck. No one, not even he, could have imagined that up there in the upper atmosphere is a band of ionized gases that reflect radio waves and allow them to run from one side of the planet to the other."*

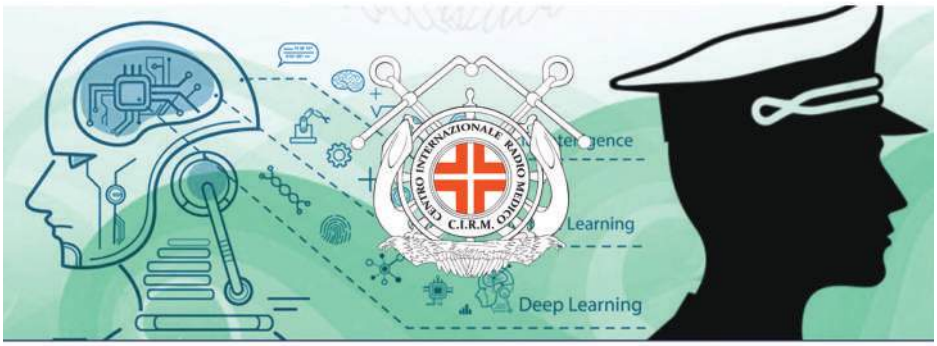
At dawn on January 23, 1909, the ocean liner Republic launches the first SOS in history. 1,700 people were saved at sea thanks to the emergency signal sent by Marconi's radiotelegraph. Thanks to the prompt rescue, there were only 6 victims of the incident, 3 crew members and 3 passengers. His daughter Elettra, custodian of such an important memory, said to ANSA, *"My father's greatest merit was being able to save so many lives at sea. The wireless communication he invented made it possible for ships and boats in trouble to call for help and be rescued."*



To Guglielmo Marconi, the first president of the C.I.R.M., was dedicated an episode of *"Seeking Daring"* a program by Leonardo Lo Frano for RAI Guglielmo Marconi is also indicated as the scientist that inspired the activity of Professor Guido Guida in the Italian Space Agency's *"Up the Head "* Podcast dedicated to the fathers and mothers of science. The British called Marconi *"the wireless wizard"* of wireless communications. But our scientist, who died in Rome on July 20, 1937, was more, much more. He truly invented the future and built what he desired: *"a belt capable of embracing the world."* In its entirety.

Suffice it to say that NASA's Voyager probe, the man-made object furthest away from mankind (24 billion km in continuous distance) still uses radio signals to communicate with earth, and these take 22 hours to cover that distance. Perhaps, not even Marconi could have imagined such wonder.

CENTRO INTERNAZIONALE RADIO MEDICO (C.I.R.M.)



ROUND TABLE
100 YEARS OF RADIO/TELE MEDICAL ASSISTANCE AT SEA
18 November 2020 16:00 – 18:30

2 From sea waves to radio waves

The possibility of providing medical care through telecommunication systems was born in 1897 with the development by Guglielmo Marconi (first president of C.I.R.M.) of radiotelegraphy. In the following years, coastal radio stations and radio stations aboard ships were established. This development represented the epoch-making breakthrough in the possibilities of communicating with ships at sea and, consequently, also of providing medical care through telecommunication systems. The first radio license in history for a medical service for ships at sea is issued by the State of New York on November 18, 1920, to Seamen Church in New York.

As Antonio Pascale, a former marcher, writes in his book *"The Island Ship and the Memory of the Last Marconians" (Davide Zedda Editions, 2007), "For three quarters of a century, land-based radio communications were, with radiotelegraphy and radiotelephony, the only means of safety on board ships in case of danger or alarm".*

It was not until 1975 that the International Maritime Organization (IMO) began work to establish a structure capable of facilitating maritime satellite communication, adding the space segment to the terrestrial segment, with consequent expansion of available frequencies. The Convention adopted on September 3, 1972, and in 1982 the related organization, called Inmarsat, began to operate using in maritime telecommunications the space segment, which is not subject to weather or ionospheric disturbances. In the mid-1980s the Morse code went into the archives, for good, and the Global Maritime Distress and Safety System (GMDSS) was born.

During those years, C.I.R.M. carried out its work using mainly the Telex and the Inmarsat-C satellite system.

The Telex, through the of SITOR-A transmission allowed continuous text message exchange with the support of the various coastal stations. Inmarsat-C, on the other hand, is a satellite system with global coverage to allow store-and-forward protocol message exchange with outstanding speed and reliability characteristics. A direct ISDN link to the Fucino satellite center was used for Inmarsat-C.

As an alternative to these two systems, the Center had at its disposal the IRM radio station and the radio-telegraph services of the coastal station, operated by Telecom Italia, Roma Radio. IRM, C.I.R.M.'s historic radio station, active now since 1935 (the international call sign IRM was assigned in 1950), has been housed, since 1956, in the premises of the Ministry of the Merchant Marine (located in the EUR district of Rome, a few hundred meters from the C.I.R.M. headquarters) and now serves as the Beacon in telegraphy of the center's at- tivity since the powerful 10 kw transmitters of IAR - Roma Radio are used for most of the connections.

With the advent of the Web and digital technology, things are changing completely and forever. Italy was among the first countries in the world to experiment telemedicine, with the transmission of electrocardiograms at distance starting in 1970, and later with use of video communication for remote consultation and exchange of information, diagnostic images, and reports in the various fields of medical sciences. With the development of technology, the spread of the Internet in particular, the care offered by our Center has also changed dramatically. Technology has made great strides in this area, and even in ships without medical or health personnel on board, proper care can be ensured through telemedicine. The World Health Organization (WHO) defines telemedicine as: *the provision of treatment and care services, in situations where distance is a critical factor, by any health care provider through the use of information and communication technologies for the exchange of information useful for the diagnosis, treatment and prevention of disease and trauma, for research and evaluation, and for the continuing education of health care personnel, in the interest of the health of the individual and the community.*

https://www.cirm-servizi.it/

2 The web, satellite and telemedicine

There are now ultra-sophisticated technology platforms that are also applicable to the maritime sector. These range from telehealth to real tele visits to specialist teleconsultation to collect prescise information from the remote doctor through interaction between personnel on board and medical personnel ashore. In the market today, we have several devices interfaced to telemedicine applications: electrocardiograph, sphygmomanometer, video-otoscope, and again blood and urine analyzers and cardiac marker detectors. With proper training of shipboard personnel, the seafarer is less alone today.

Information technology and telemedicine can also be used in the field of occupational medicine, both for more functional management of it and to enable better handling of emergencies involving seafarers subject to health surveillance. Computerized management of occupational medicine can produce structured and organized information that can be automatically made accessible to the *competent physician*, workers and shipboard personnel, and employer, each according to their areas of expertise.

To foster the development of technologies capable of transmitting from the edge not just descriptions of pathological situations, but precise biomedical data, in 2014 C.I.R.M. formed CIRM SERVIZI, its own spin- off, juridically a single-member company, to identify solutions capable of collecting biomedical data on board, minimizing the interference of human factors, to transmit objective biomedical data (electrocardiogram, blood pressure, blood sugar, spirometry, and more) to the C.I.R.M. medical service. Thus, medical care at sea based on objective data is finally born. Embarking seafarers are being given the opportunity to be cared for as if they were in an outpatient clinic or small hospital. Something unthinkable until a few years ago.

Technological solutions identified by CIRM SERVIZI develop a crescendo of advanced approaches for increasingly comprehensive and advanced remote diagnostics. Cardio protected ships, equipped with electrocardiographs, defibrillators and troponin kits become a reality, offering the possibility of diagnosing cardiovascular emergencies in real time. Emergencies which still represent the leading cause of death among seafarers. The latest development is ultrasound scanners, which optimized for being used at sea under the video guidance of the shore doctor will finally bring imaging diagnostics even to cargo ships without qualified medical or paramedical personnel.

In the following years, various initiatives were consolidated, and a partnership was developed with the ITF Trust, which supports with its own grants various initiatives of the C.I.R.M. or in which the C.I.R.M. participates. These include meetings between the European TMAS to standardize the collection of care data from the different centers, to to have an accurate large-scale epidemiological picture of the most frequent pathologies and injuries among embarked seafarers.

Notable contribution of the C.I.R.M., launched between 2021 and 2022, is the Epidemiological Observatory of Seafarers' Diseases (https://www. ospiemare. it/) implemented with funding from the Ministry of Health.

The Observatory has developed a collection of the main data on diseases and injuries suffered by sea workers using modern epidemiological criteria. The aim of the Observatory is to improve the health conditions this category of workers by monitoring trends in communicable and noncommunicable diseases and injuries.

Thanks to the elements that are collected, it will be possible to implement prevention campaigns, equip on-board pharmacies with appropriate therapeutic agents to cope more effectively with the most frequent diseases on board, and develop tools (questionnaires) for risk assessment, especially with regard to accidents.

3

Data on assistance from 1935 to 2024

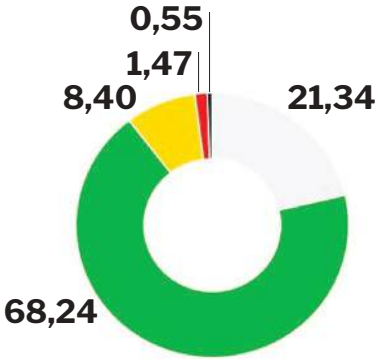
From April 7, 1935, to December 31, 2024, C.I.R.M. assisted, aboard ships and aircraft, 138,648 patients

A detailed analysis of data on the care provided by C.I.R.M. in 2024, in which 7,054 patients were treated, with an average of 19.3 new patients assisted daily is reported below.

Triage

The figure below highlights the severity of care requests received in terms of the triage code.
Triage is a standardized procedure for assessing the urgency and priority of treatment in a short period of time. Triage is an emergency department tool that allows urgent treatment to be initiated without loss of time when resources are limited.

There are five triage codes adopted by the C.I.R.M. namely

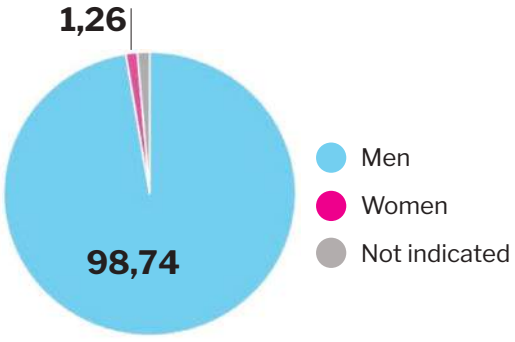


Data in percentages

- White: Problem not urgent or minimal clinical relevance;
- Green: Stable condition, treatment single specialty, deferrable;
- Yellow: Urgent, nursing reassessment within 15 minutes. Patients at risk of rapid compromise;
- Red: Top priority emergency. Patients with severe impairment of one or more vital functions;
- Black: Deceased patient.

Sex

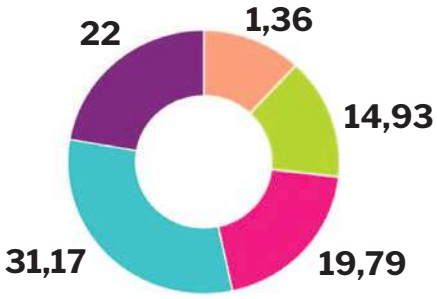
The figure on the right shows the gender of patients for whom C.I.R.M. assistance was required. As can be seen, almost all the assistances were for male individuals



Data in percentages

Cases by age

The figure on the right shows the age patients given care divided into the following 5 age groups:



Data in percentages

- Age 18 -30 = 1552 – 22%
- Age 31-40 = 2198 – 31.17%
- Age 41-50 = 1396 – 19.79%
- Age 51-65 = 1053 – 14.93%
- Age 66-99 = 96 – 1.36%

Unreported = 759 – 10.75%

As for the communication routes used for the first request for assistance, e-mail predominates, relating to 6,656 cases (94.36%). In second place we have the telephone, with requests for 398 cases (5.64%). The reasons why e-mail is preferred in maritime teleservice requests are mainly economic and are to be found in the greater satellite coverage for this type of contact. Many ships do not yet have sufficient broadband systems to enable video communication and the telephone is predominantly used, for an initial request for assistance, for urgent cases.

However, the use of e-mail for medical communications poses numerous problems related to the confidentiality of the medium used. Medical data were always, by definition, considered sensitive data and, therefore, their confidentiality requires adequate protection measures. Measures that cannot be adequately guaranteed by e-mail, which present the risk of:

Data interception: E-mail transmitted via the Internet can be intercepted especially if unprotected networks are used to share e-mail.

Unauthorized access: If e-mail accounts are compromised, sensitive information contained in e-mails may be accessible to unauthorized persons.

Data Breach: Inadequate security measures or human error can lead to data breaches, exposing sensitive information to unauthorized parties.

Lack of encryption: Without encryption, e-mail content is essentially a plain text, susceptible to interception.

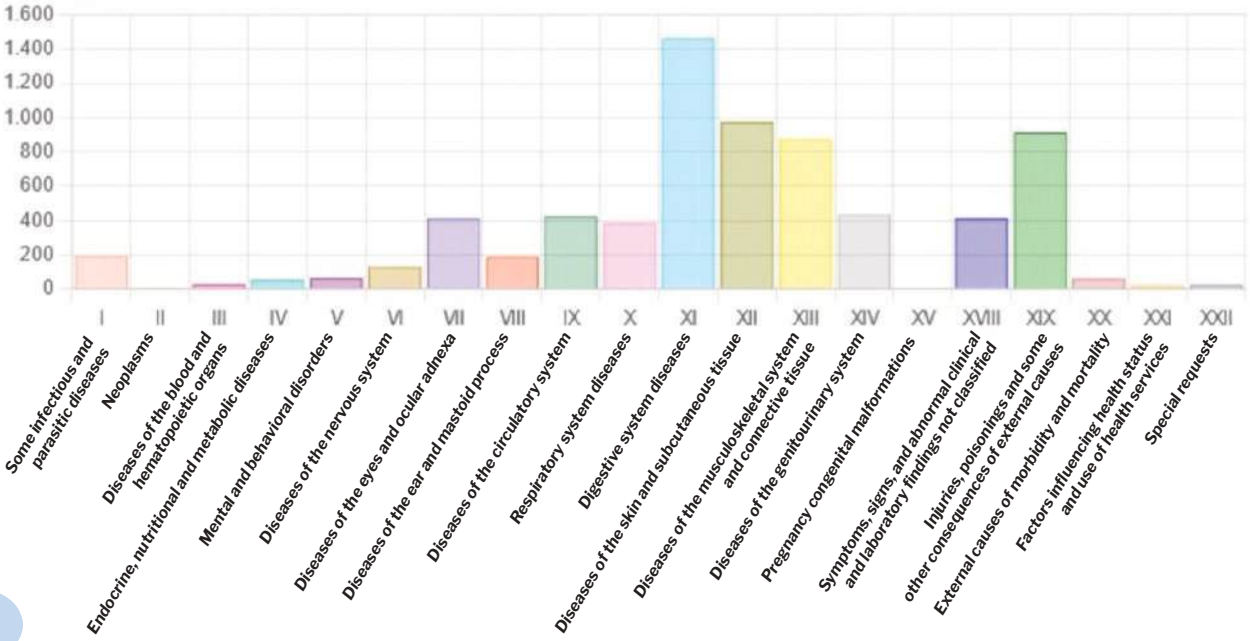
To obviate these risks, C.I.R.M. has developed the initiative called CIRM-4PRIVACY. Vessels participating in the project access a platform developed by C.I.R.M. in line with the requirements of security imposed on medical communications by the General Data Protection Regulation (GDPR).

Ships that sign up for the service have access to a dedicated platform in which medical data remain protected and cannot be shared other than between the ship requesting assistance and the C.I.R.M. medical service. In addition to guaranteeing the confidentiality of medical communications, the platform guides in formulating correct requests for maritime telemedical assistance with all the necessary elements to allow C.I.R.M. physicians an accurate framing of the case for which assistance is requested.

The following photo shows the pathologies for which C.I.R.M. assistance was requested in 2024.

Assisted diseases are classified according to what is known as ICD-10. The International Statistical Classification of Diseases, Injuries and Causes (ICD) is a standard classification of diseases and related problems compiled by the World Health Organization (WHO) and represents a valuable tool for statistical and epidemiological studies. The ICD is now in its tenth edition (ICD-10), which was approved by the 43rd World Health Assembly in May 1990 and entered into force and in use in WHO member states from 1994.

Calassification ICD - 10

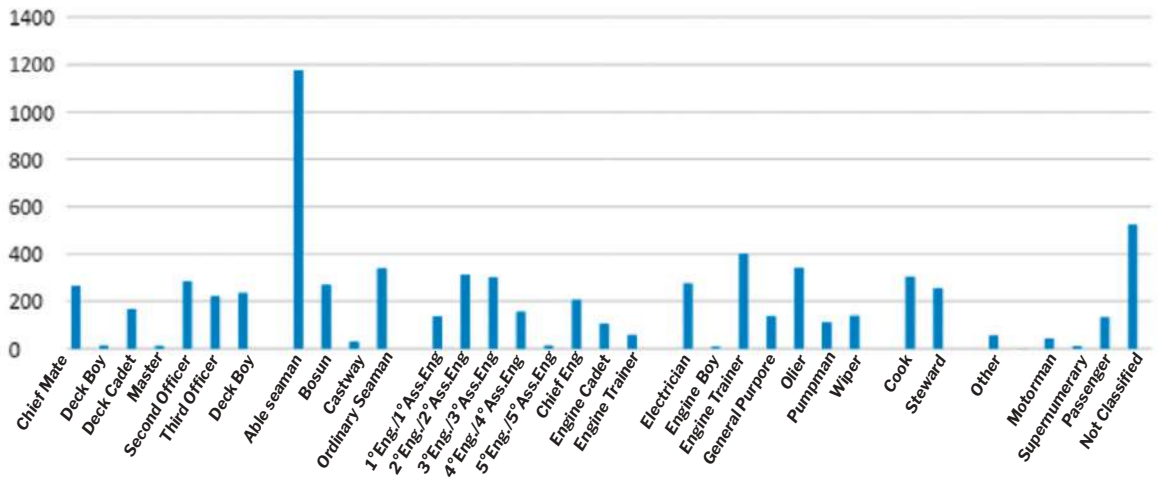


Although the levels of diagnostic accuracy of diseases that are based on what is reported by people with limited medical knowledge such as merchant ship officers interacting with the C.I.R.M. are limited, it was decided to use this type of classification in order to be able to compare, for epidemiological purposes and for identification of possible occupational diseases, the pathologies suffered by seafarers with those of the general population. At the first place, among the diseases assisted in 2024, we find those of digestive system followed by diseases of the skin and subcutaneous tissue, injuries, and diseases of the osteo-muscular system and connective tissue. Compared with the past, a reduction in occupational injuries and a significant increase in disorders of dermatological interest is noticeable. Diseases of the digestive system (including, among them, dental problems) are confirmed to be in first place among requests for medical assistance at sea. The following two figures indicate, respectively, the ranks of people for whom our assistance was required and the type of ship on which our sick or injured people were on board.

Overall, deck personnel and, among them, non-officers were among those who benefited most from C.I.R.M. medical assistance. In terms of the type of vessel on board which those for whom our assistance was requested, cargo ships (generic indication) were in first place, followed by tankers, containers, and oil-chemical tankers. Requests from fishing vessels or pleasure boats were infrequent.

The outcomes of the care provided by C.I.R.M. are summarized below. 70.1% of the cases were resolved on board thanks to C.I.R.M. treatment; 25.2% of the cases required disembarkation of the patient at the port of arrival for medical examination and/or further treatment.

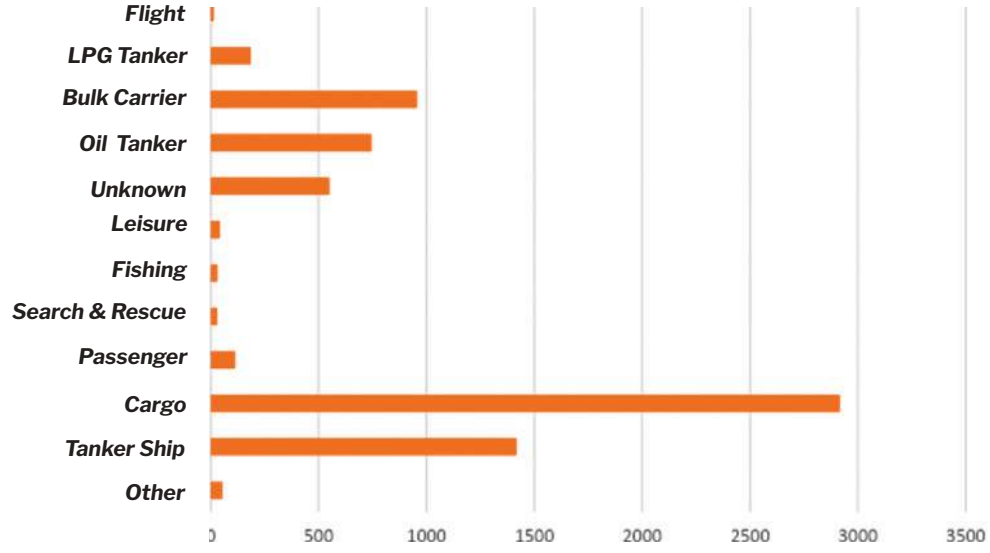
Ranks of patients assisted



In 1.2% of cases, diversion of the ship from the route to reach the nearest port was necessary; and in 2.9% of cases, C.I.R.M. cooperated in carrying out an air/ship mission to transfer the patient (MEDEVAC).

An excellent achievement overall for a hospital via the airwaves, treating sick people it does not know, generally does not see, and probably never will co-know or see.

Requests by type of vessel assisted



4

OUR COMMITMENT TO THE FUTURE OF ASSISTANCE AT THE SEA


TIRRENIA

4

The Maritime Labor Convention, 2006, more simply known as MLC 2006, drafted by the United Nations International Labor Office (ILO) and entered into force on August 20, 2013, enshrines the right of seafarers to decent working conditions and contributes to creating a level playing field for shipowners.

For health protection, the Convention requires that medical care be provided to embarked seafarers is as comparable as possible to that generally available to workers ashore, including timely access to necessary medicines, medical equipment and facilities for the diagnosis and treatment of medical problems that may occur. Unfortunately, this prescription is far being implemented, considering current advances in telecommunications and medicine.

Requests for medical care from ships to a specialized center ashore generally continue to follow the same procedure used probably 100 years ago: simple description of a seafarer's symptoms or lesions, hampered by the limitation of rudimentary medical skills of ship captains or officers in charge medical care on board. This description is followed by several questions from the doctor at the telemedical center for arriving at a presumptive diagnosis leading to the best treatment of the problem(s).

Telemedicine is the only means by which good care can be obtained at sea, and there is considerable experience in its advantages and limitations. Despite technological advances, medical care to seafarers has not always improved in parallel with advances in medicine and telecommunications.

To address this limitation, C.I.R.M., through its spin-off CIRM SERVIZI, is actively engaged in developing new technological solutions to improve the capabilities for dialogue between ships at sea and C.I.R.M. to obviate the handicap of the limited specific knowledge of the shipboard partners with duties of medical care.

In the following pages is a description of our most recent initiatives for the evolution of medical care at sea to ensure that embarked seafarers receive medical care as comparable as possible to that generally available to workers ashore.

4

Marine Doctor

Marine Doctor (MDoc) is an advanced telemedicine solution designed to bridge the gap in medical services for seafarers who often operate in isolated environments with limited healthcare resources. Leveraging information and communication technologies (ICT), MDoc offers a real-time interaction between shipboard personnel and C.I.R.M. remote doctors.

Using an intuitive interface, the system enables shipboard personnel to document symptoms in a systematic manner, ensuring that the most relevant health data are accurately transmitted to shore-based physicians. This structured approach minimizes the risks of misdiagnosis and improves the ability of physicians to provide timely and appropriate treatment recommendations. The importance of MDoc goes beyond individual patient care, contributing to more efficient medical care at sea.

The system's ability to automatically organize data enables a more structured medical claims process, reducing the chances of erroneous treatment due to incomplete or unclear information. In addition, by improving communication between shipboard health care providers and remote physicians, MDoc strengthens the overall infrastructure of medical support at sea. The integration of expert system-driven decision-making tools within the software enables the system to help seafarers to receive high-quality medical care despite the limitation of distance. In summary, MDoc can make a major contribution to safeguarding the well-being of seafarers by optimizing medical decision making despite distance.

MarineDerma

MarineDerma is an innovative approach to medical care at sea, designed to support physicians in maritime telemedical service in the detection and early diagnosis of skin lesions using deep learning technology.

Often physicians on duty at TMAS do not have special expertise in dermatology and access to dermatology specialists can be limited, resulting in delays in identifying potentially serious conditions such as melanoma or other skin conditions.

MarineDerma fills this gap by providing a skin analysis tool, powered by artificial intelligence, that supports C.I.R.M. physicians in dermatological diagnostics, but also enables crew members to independently monitor their own skin health. By integrating advanced image recognition algorithms, MarineDerma ensures timely assessments, reducing the risk of undiagnosed skin diseases and improving overall well-being at sea. This technology improves the quality of telemedicine consultations and ensures that seafarers receive timely interventions before reaching a port.

SeaMinds

SeaMinds is a mental health support platform designed for seafarers, offering a comprehensive suite of tools to promote emotional well-being while at sea.

The application starts with a secure login and registration process, providing personalized access to its functions. Seafarers can use self- assessment tools based on proven questionnaires to assess symptoms of depression, anxiety and work-related stress, enabling them to take proactive measures for self-care.

For those who need professional help, SeaMinds offers confidential counseling at a distance with licensed mental health professionals and experts on maritime issues.

If needed, users can instantly send a message to a neurologist or psychologist, triggering an immediate assessment and scheduling of a Zoom-based video consultation. This is to ensure timely support wherever the seafarer is located. Through SeaMinds, the gap between embarked seafarers and mental health professionals is bridged.

SeaMinds promotes support and access to neuropsychological support for mental well-being on the high seas.


CENTRO INTERNAZIONALE RADIO MEDICO
•C.I.R.M•

CIRMNEWS
Quarterly of the International Radio Medical Center
Reg.Court of Rome 31/97 of January 20, 1997
Spedz. in abbediz. Post. - Law 662/96 - ART.2 paragraph 20/C -

Rome Branch Authorization

Via dell'Architettura, 41- 00144-Rome- Italy
E-MAIL:info@cirm.it Telephone (+39) 06 59290263