

# Radio Medical Denmark

Hospital of South West Jutland, Esbjerg



## Annual report 2020

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## About Radio Medical Denmark

Radio Medical Denmark is a 24/7 telemedicine specialist unit with the task of offering medical advice to Danish registered ships in primarily the merchant navy and fishing fleet. Foreign flag states' ships can also contact Dansk Radio Medical under the ILO Maritime Labour Convention (MLC2006).

Radio Medical Denmark's medical crew as of 31.3.2021, consists of 7 specialists, all of whom are affiliated with the Southwest Jutland Hospital Esbjerg.

The ships contact the doctors either by phone or by mail. In emergency cases, phone contact is often used. When less urgent assistance is required, communication is by e-mail.

In cooperation with the armed forces, evacuations of acutely ill patients are primarily done by helicopter. With some medical cases, the situation can be solved by the ship seeking the nearest port and the patient disembarking, thereby making a deviation from the original route.

The treatment of diseases and accidents at sea is often challenging due to difficult conditions, such as the distance to land, wind and weather, as well as access to equipment. On board the ships there are specially trained medical personnel who act as Radio Medical doctors' "eyes, ears and hands".

The cooperation between the ship's personnel and the doctor is essential for the sick or injured seafarer. Radio Medical Denmark's doctors therefore have a very keen interest in participating and contributing to the education of medical practitioners on the Danish ships. In this way we can continuously advance and improve conditions for seafarers.

In the following you can find out more about Radio Medical Denmark's work in 2020.



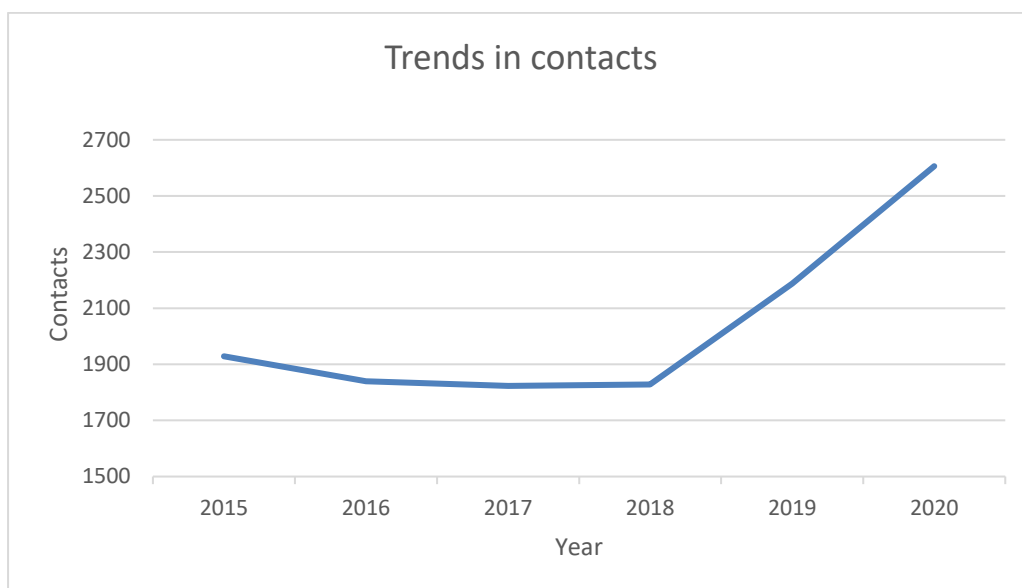
## Radio Medical Denmark 2020

2020 has been a different year for everyone – also for Radio Medical Denmark.

The COVID-19 pandemic has had a major impact on both the number and type of contacts to Radio Medical Denmark. We have had more contacts than ever.

Our 25th anniversary at Southwest Jutland Hospital in Esbjerg on 1 September 2020 was marked in a much reduced version due to COVID-19 – not quite what we had hoped for.

In 2020, there were 2606 registered contacts from 40 different countries to Radio Medical Denmark. This figure is an increase of almost 20% compared to 2019 and an increase of just over 42% compared to the period 2016-2018.



**Figure 1. Trends in contacts from 2015 to 2020**

The increase in 2020 is mainly due to many contacts from merchant ships. A likely explanation for this is the worldwide pandemic of COVID-19.

Since the outbreak of COVID-19, merchant ships have faced major challenges in terms of medical examinations in ports and many sailors have had longer periods on the ships. There are also a number of contacts about handling possible cases of COVID-19.

In 2020, in consultation with Radio Medical Denmark, 46 evacuations and 132 landings were carried out. This is a decrease of just under 20% in evacuations compared to 2019. There has been a decrease in landings of 30% compared to 2019. The decrease in evacuations is due to a significant reduction in the number of evacuations from ferries/passenger ships in 2020.

In 2020, 86% of contacts have been via e-mail and 13% by telephone.

**International meetings:**

Radio Medical Denmark has in 2020 been represented in an international collaboration between maritime TMAS (Tele Medical Assistance Services) from Norway, Finland, Germany, the Netherlands and Italy. The aim of the collaboration is, among other things, to gather epidemiologically comparable data between countries, in order to gain knowledge for the benefit of sailors worldwide.

Many of the countries use the diagnostic coding system ICPC-2, which is why we have switched our diagnostic coding system to ICPC-2 instead of ICD-10.

**Research:**

Radio Medical, in collaboration with the University of Southern Denmark, has contributed to an article about socially acquired pneumonia in sailors. We expect the article to be published in an international journal in the next few months.

## Number of contacts in 2020

### Distribution of contacts by type of ship

In 2020 there have been 1838 contacts with Radio Medical from the Merchant Navy, which amounts to 71 % of total contacts (Table 1 and Figure 2). Supply ships accounted for 484 contacts (19 %) while passenger ships/ ferries had 161 contacts (6%). The fishing fleet had only 86 contacts, representing 3% of the total number of contacts with Radio Medical.

In comparison with 2019, 2020 saw an increase of almost 600 contacts from merchant ships (53%). The picture is however very different for ferry/passenger ships, which have had a 61% decrease in 2020. This decrease is probably due to the fact that many ferries/passenger ship trips have been cancelled due to COVID-19.

There has been a slight increase in the number of contacts from fishing vessels and supply ships in 2020.

Ship type	2020	2019
Fishing vessel	86	71
Ferry/passenger ship	161	415
Merchant	1838	1201
School ship	17	12
Supply ship	484	459
Other	19	29
Total	2604	2188

Table 1. Number of contacts by ship type in 2020 and 2019

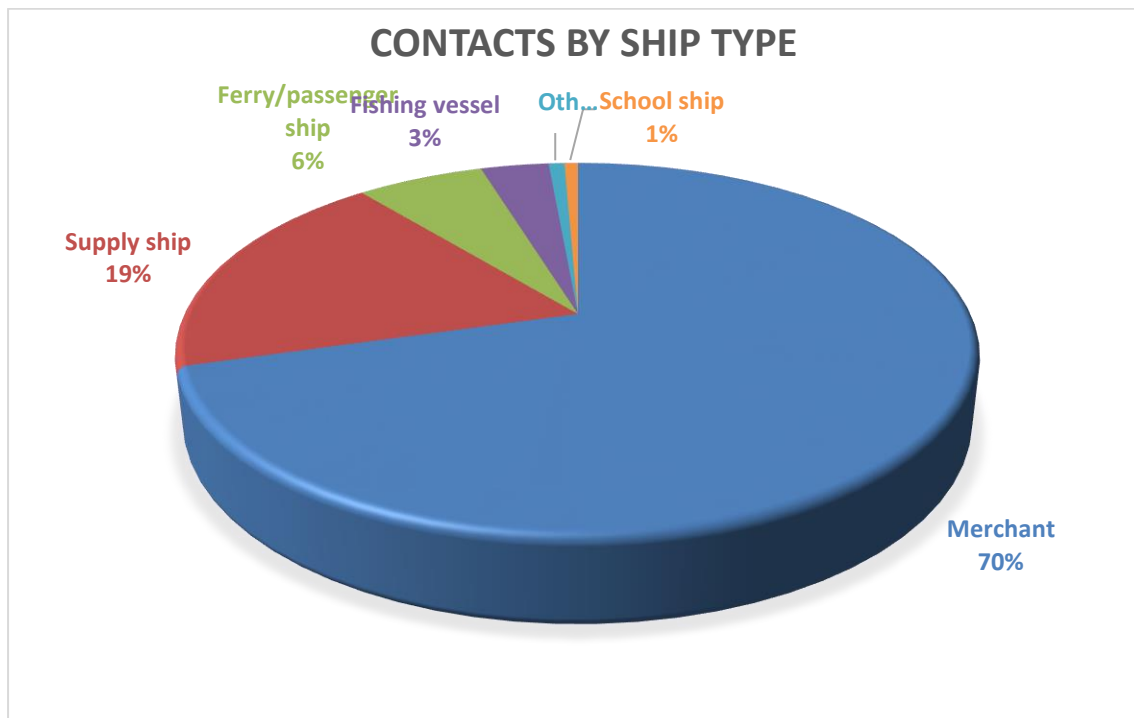


Figure 2. Break down of contacts by ship type as % in 2020.

## Emergency evacuations and landings

In 2020, a total of 46 people were evacuated and 132 disembarked at port. Evacuations are defined as emergency evacuation from ships to land by helicopter or with the assistance of vessels from JRCC or via drilling rigs. Landings are defined as crew members who disembark before scheduled, or further treatment at the next possible port. Evacuations and landings account for almost 7% of the total number of contacts to Radio Medical Denmark.

Despite the fact that the merchant navy has had 71% of contacts with Radio Medical, "only" 43% of evacuations were from this type of ship, see Table 2. By contrast fishing vessels are responsible for 13% of the evacuations but only 3% of contacts to Radio Medical. Similarly, ferries have been responsible for 17% of evacuations, despite having had only 6% of contacts.

It may be noted that the majority of evacuations from ferries (63%) has been of passengers. Passengers have thus accounted for 11% of total evacuations in 2020. This figure is significantly lower than in 2019, when passengers accounted for 39% of total evacuations. The reason for the significant decrease is assumed to be due to restrictions on ferry operations because of COVID-19.

Ship type	Number	%
Other	1	2%
Fishing vessel	6	13%
Ferry/passenger ship	8	17%
Merchant	20	43%
School ship	1	2%
Supply ship	9	20%
"Undisclosed"	1	2 %
Total	46	100%



Table 2. Number of evacuations in 2020 by ship type

Merchant ships are also the type of ship most frequently landed. In 2020, merchant ships accounted for 54% of landings. Ferries and supply ships account for 17% and 16% of landings respectively.

Ship type	Number	%
Fishing vessel	12	9%
Ferry/passenger ship	23	17%
Merchant	71	54%
School ship	5	4%
Supply ship	21	16%
Total	132	100%

Table 3. Landings in 2020 by ship type



## Nationality of patients

The majority of contacts in 2020 were with regard to Filipino patients (32%), see Table 4. In addition, a large proportion of contacts has involved Danish patients (24%) and Indian patients (18%). Patients from Poland, the Great Britain, Ukraine and Romania have each made up around 2- 4% of contacts, similar to last year. Patients from "other countries" make up the remaining 14% and were 40 different nationalities.

Land	Contacts	%
Philippines	839	32%
Denmark	615	24%
India	463	18%
Poland	110	4%
Romania	72	3%
Great Britain	84	3%
Ukraine	67	3%
Other	356	14%
Total	2606	100%

Table 4. Nationality of patients



## Distribution of contacts by ocean area

The distribution of contacts from the ocean area continues to show that the Danish merchant fleet is represented across the globe, see Figure 3. A large proportion of contacts come from areas far away from Denmark. The Pacific Ocean (22%), the Indian Ocean (14%) and the South Atlantic Ocean (5%).

Compared to 2019, there is a 27% drop in North Sea contacts. As previously described, this is expected to be due to the Covid-19 pandemic.

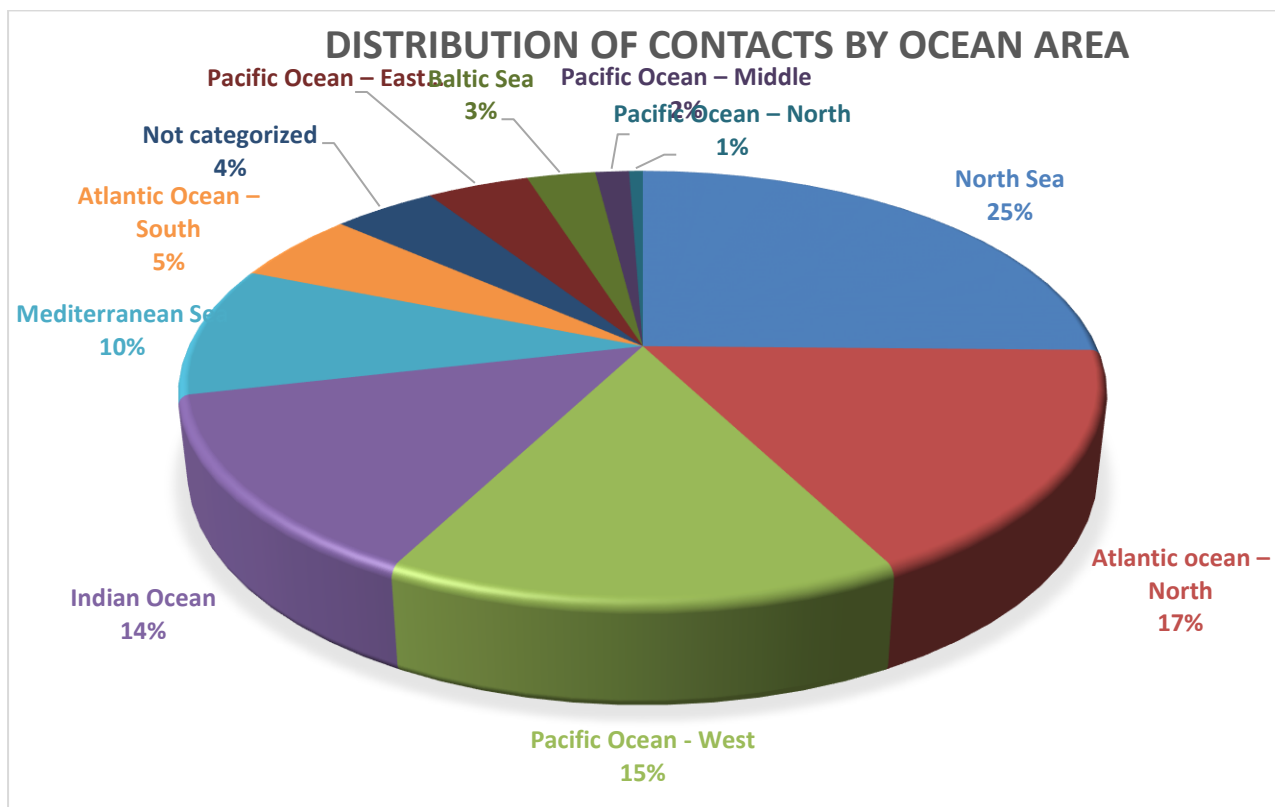


Figure 3. Distribution of contacts by ocean area as a percentage

## Distribution of contacts over the year

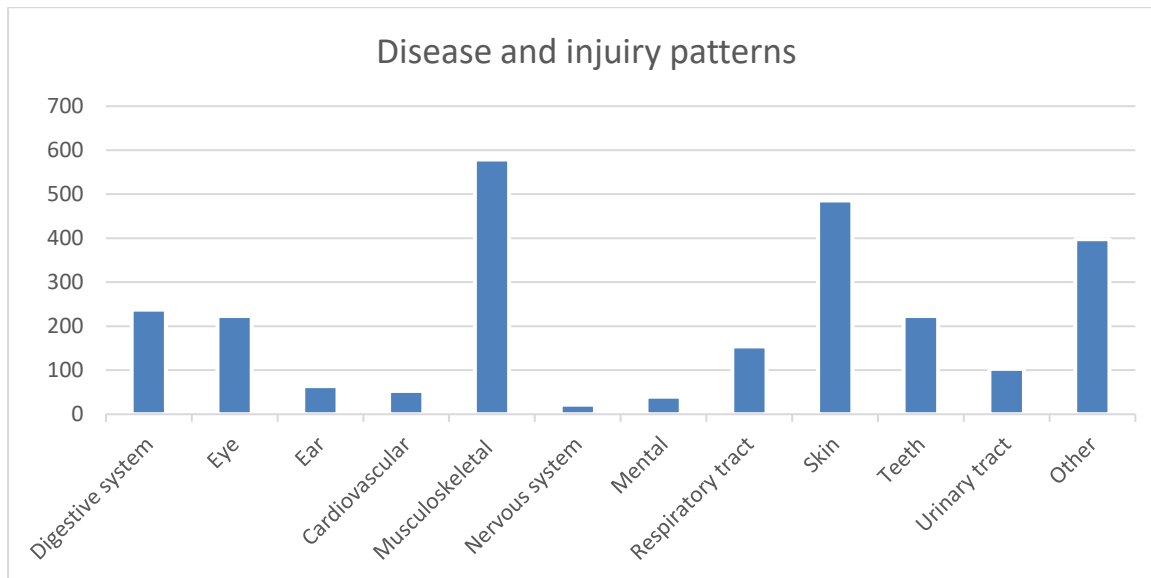
The figure below illustrates the number of contacts each month in 2020. The figure shows that the number of contacts is slightly lower in January, February, November and December. As it was in 2019, the month of August has a higher number of contacts than other months.



**Figure 4. Breakdown of contacts by month 2020**

## Disease and injury patterns in 2020

Musculoskeletal disorders are the leading cause of contact in 2020 with almost 600 contacts (22%), this is followed by skin conditions which accounted for 19 % of contacts, see Figure 5. Disease of or injury to the digestive system, eyes, teeth and other organs each account for about 10% of contacts to Radio Medical in 2020.



**Figure 5. Disease and injury patterns in 2020**

Table 5 shows the distribution of diseases/injuries by type of ship. The figure highlights the differences in contact causes from the different type of ship. Musculoskeletal disorders make up a third of contacts from fishing vessels, slightly above the level of the other types of ships where they account for about a fifth.

On all ship types, skin conditions constitute a large proportion of reasons for contact. 21% of requests from merchant ships were due to skin issues.

Other diseases (e.g. infections, fainting, fever, etc.) have also accounted for a large share of the contacts to Radio Medical. 25% of requests from ferries have involved these conditions.

Tooth issues have accounted for just under 10% of contacts from fishing vessels, merchant ships and supply ships.

	Fishing vessel	Ferry/passenger ship	Merchant	Supply ship	Other type of ship
Digestive system	6%	8%	10%	8%	12%
Eye	3%	8%	9%	8%	0%
Ear	1%	2%	3%	2%	3%
Cardiovascular	2%	2%	2%	2%	3%
Musculoskeletal	33%	22%	22%	23%	21%
Nervous system	2%	2%	1%	1%	0%
Mental	2%	3%	2%	1%	0%
Respiratory tract	8%	9%	5%	9%	3%
Skin	14%	13%	21%	12%	15%
Teeth	8%	2%	9%	9%	3%
Urinary tract	5%	5%	3%	5%	9%
Other	15%	25%	13%	21%	32%
Total	100%	100%	100%	100%	100%

Table 5. Diseases and injuries by type of ship as a percentage

## Prescribed medicines

In 1704 of contacts (65 %), medication has been prescribed to the patient. As can be seen from Table 6, painkillers are the most commonly prescribed pharmaceutical group in 2020, making up 41% of prescriptions. Followed by anti-biotics agents, amounting to 19% of the total. Eye, ear and skin remedies are prescribed in one out of every 10 prescriptions - whereas anti-allergy, shock and seasickness agents are only used in one out of every 20 cases.

Pharmaceutical groups	Number	%
Oxygen	1	0%
Local anesthesia	12	1%
Painkillers	702	41%
Remedies for allergies, shocks and seasickness	81	5%
Antidote	1	0%
Means against mental disorders and convulsions	32	2%
Antibiotics	328	19%
Malaria	3	0%
Heart medicine	17	1%
Skin medicine	168	10%
Disinfectants	11	1%
Agents for gastrointestinal diseases	108	6%
Eye and ear agents	193	11%
Agent for common cold and asthma	31	2%
Other	16	1%
<b>Total</b>	<b>1704</b>	<b>100%</b>

Table 6. Pharmaceutical groups and consumption in 2020

As table 6 shows, the merchant navy is most frequently prescribed medications, accounting for almost two thirds of prescriptions. They are followed by supply ships, which account for just under 20% of prescribed drugs. This is entirely consistent with the distribution of contacts by ship type as seen in Figure 1. Thus, there is direct correlation between the number of contacts and number of prescriptions.

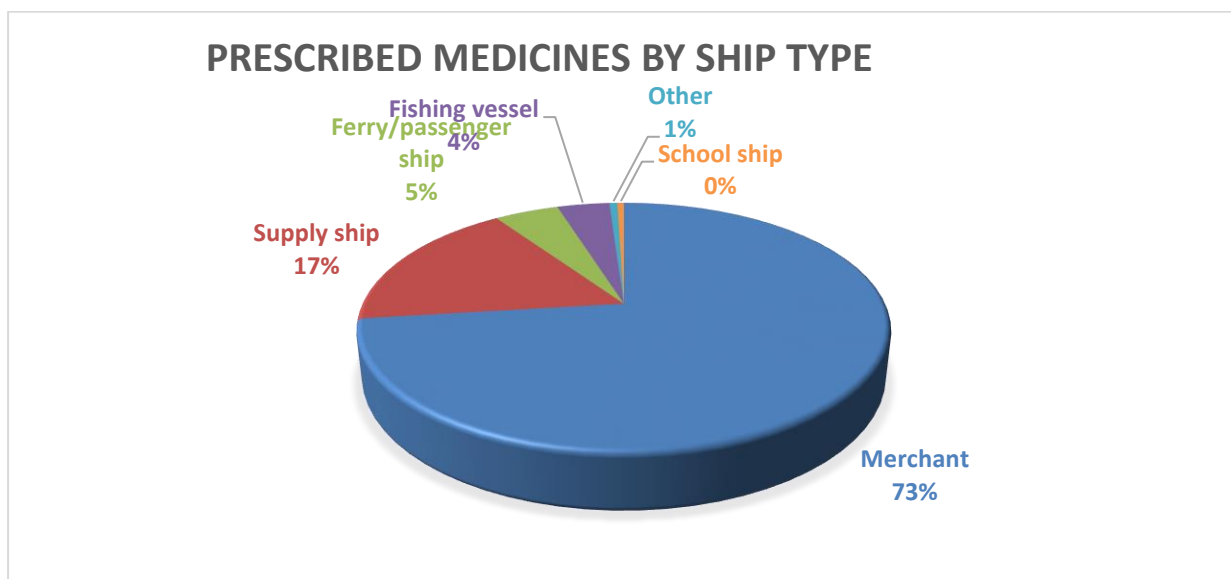


Figure 6. Prescribed medicines by ship type as a percentage

## User satisfaction survey Radio Medical 2020

In September 2020 100 questionnaires were sent to ships that had had email contact with Radio Medical in the course of 2020.

The questionnaire was in both Danish and English. The ships were sent the questionnaire in the language they had used in their contact with Radio Medical.

Out of the 100 questionnaires sent, 64 answers were returned.

There was a general satisfaction with Radio Medical. 98% answered that Radio Medical had solved the problem with which they had contacted them. All 64 respondents (100%) expressed the feeling that they had felt comfortable with the treatment they had received.

57% of respondents stated the importance of the language in which they communicate with Radio Medical. Several respondents expressed the view that it is a great advantage to be able to communicate in Danish:

*"In order to avoid linguistic obstacles with regard to medical terms, course of treatment, etc. It gives us a sense of safety and security that any errors can be clarified"....*

*"Yes, it is of great importance that the communication is in the same language as the medical books we have on board. To ensure prompt treatment and understanding, it is very important that there is no language barrier."*

*"Several of my older colleagues in fishing would have difficulty communicating in English."*

*"It is sometimes quite nice to talk Danish with the doctor. Sure, I'm good at English, but medical English isn't what I speak the most], so there are a number of concepts I don't know."*

*"It is easier to understand the treatment when we communicate in Danish"*

However, the need for the possibility of communication in English is also evident in the answers:

*"As we have "mixed" crew it matters for us to use English language."*

*"It shall possible to receive the messages both English and Danish. Personally I Prefer Danish so I can avoid misunderstandings. However many of the officer do not understand Danish. I consider it as an advantage that we can have both languages."*

*"As there are no Danish speaking crewmembers on board, English prefers."*

*"Company language is English and so any official communication should be using that language only. "*

Only 4 questionnaire answers out of the 64 expressed suggestions for improvement. Several added that they were well satisfied with the treatment:

*"I have only had good experiences when contacting RMD by both telephone and electronically. Always good and objective help."*

*"I think responding doctors have been of great assistance and I believe the system, as designed, works. Not only as intended but it provides great support for persons in charge of medical care. This allows us to feel safe and confident in the role. "*

*“The current RM system and procedure are easy to follow and the response is quick. ”*

Suggestions for improvements included that in contacts Radio Medical should, to a greater extent, avoid the use of Latin classifications. In addition, proposals were made for the use of telecommunications equipment.



## Conclusion

There has been an increase in the number of requests for contacts of almost 20% compared to 2019. The merchant navy has had an increase of over 50% compared to 2019 and in 2020 accounts for the greater part of contacts, with 70% being from them. Several other types of ship have had a decrease in contact in 2020, which is assumed to be due to COVID-19. The number of contacts with Radio Medical in 2020 was 2606. This equates to just over 7 contacts per day.

Most of the issues can continue to be handled on board. Only 7 % of contacts result in evacuation or returning to harbor.

Starting from this year, data on prescribed drugs have been included. Data show that medicines are prescribed in 65% of contacts. The most commonly prescribed drugs are painkillers (41%) followed by antibiotics (21 %).

The user survey showed great satisfaction and faith in treatment from Radio Medical Denmark. 57% of respondents to the survey, expressed that it is of importance to them which language is used when communicating with Radio Medical.

Radio Medical Denmark works closely with the Danish Maritime Authority, in particular the Centre for the Maritime Health Service CMS on Fanø. Among other activities, collaboration includes the teaching of persons in charge of medical care on Danish ships and ongoing review of the teaching. In addition, we have collaborated on guidelines regarding COVID-19, and amendments to the medications in the medical chests onboard.

In 2020, Radio Medical has been tendered to the EU. The tender has since been rescinded but is expected to be resumed in the course of 2021

Radio Medical Denmark also hopes to participate in future research projects on maritime relevant topics in collaboration with the Center for Maritime Health and Society – University of Southern Denmark.

## Jan Vork

Jan Vork, Consultant and Head of Radio Medical Denmark

Southwest Jutland Hospital Esbjerg, March 2021



# RADIO MEDICAL DENMARK

**Staff as of 31.3.2021**

## **Doctors:**



**Jan Vork, MD:** Head of Radio Medical Denmark. Consultant, Emergency Department. Emergency Medicine and GP.

**Marie Hamming, MD, MsC:** Consultant and Head of Quality Improvement, Authorised Danish Maritime Physician. GP and Emergency Medicine.

**Søren Kristensen, MD:** Consultant, Ear- Nose-Throat and GP, Authorised Danish Diving Doctor, Authorised Danish Maritime Physician, Authorized Norwegian Petroleum doctor.

**Lise Mondrup, MD:** Consultant, Palliative team. GP.

**Carsten Hertz, MD:** Consultant, Ear- Nose-Throat.

**Thomas Kjeld, MD:** Consultant, Cardiology.

**Allan Thimsen Pedersen, MD:** Chief Consultant, Neurology.

## **SECRETARY AND IT**

**Carina Betzer Eg:** Managing medical secretary, Emergency Department Reception, Southwest Jutland Hospital.

**Dorte Østergaard:** Medical Secretary, Emergency Department Reception, Southwest Jutland Hospital.

**Ida Nielsen:** IT consultant, Southwest Jutland Hospital.

**Helene Schaldemose Billeschou:** Secretary, Emergency Department, Southwest Jutland Hospital

Cover photo: Maria Tuxen Hedegaard