Agenda Item 5: SAR system administration, organization and implementation methods:

5.5: evaluation of the effect of various technical co-operation projects in cooperation with relevant governments, organizations and agencies with a view to assessing their impact on implementing and maintaining SAR services

SAR OPERATIONAL PRINCIPLES, PROCEDURES AND TECHNIQUES

Medical assistance in SAR services, including SAR response and hypothermia

Provision of medical advice to ships at sea

(Presented by Australia)

SUMMARY

This document proposes to amend Section 4.7, Chapter 4, Volume I of the IAMSAR Manual on MEDICO Communications, providing a template for RCCs and medical authorities to establish Telemedical Assistance Services (TMAS) procedures and practices.

Action by the ICAO/IMO JWG is in paragraph 3.

Related documents: MSC/Circ. 960; Exchange of Medical Information (COMSAR 10/16 Annex 13).

1. INTRODUCTION

1.1 The International Convention on Maritime Search and Rescue, 1979 provides for parties to the Convention, on request from Masters of ships, to make arrangements for medical advice, initial medical assistance or medical evacuations for patients.
1.2 The Rescue Co-ordination Centre (RCC) is the unit responsible for providing search and rescue services which include the provision of medical advice and assistance. The RCC may establish contractual arrangements to provide this Telemedical Assistance Service (TMAS) from a suitably recognized medical authority.

1.3 At ICAO/IMO Joint Working Group 12 (JWG/12), Australia introduced a working paper comprising, as an example and prospective template, the contractual arrangements made by the Australian Maritime Safety Authority (AMSA) with the Royal Flying Doctor Service (RFDS) for the provision of a Telemedical Assistance Service (TMAS) to Masters of ships at sea.

1.4 This proposed template includes suggested text to establish the procedures and practices, including lines of responsibility for both the TMAS and the RCC, in the coordination and provision of medical advice and assistance to ships at sea and the provision of medical advice to the RCC in support of search and rescue.

1.5 It was suggested that this data could be included in the IAMSAR Manual as an Appendix.

1.6 It was recommended at that meeting that Australia submit an amendment proposal that will combine material from the existing MSC Circular 960 and the Australian paper for incorporation in the IAMSAR Manual.

2. **PROPOSAL TO AMEND THE IAMSAR MANUAL**

2.1 The template set out in the Annex could be incorporated into the IAMSAR Manual.

2.2 Australia proposes that the section 4.7, Chapter 4, Volume I of the IAMSAR Manual on MEDICO Communications should be amended, as follows:

   a) paragraph 4.7.1 – stet; and

   b) add new paragraph 4.7.2; 4.7.3 & 4.7.4, as follows:

   **4.7.2** The International Convention on Maritime Search and Rescue, 1979 provides for parties to the Convention, on request from Masters of ships, to make arrangements for medical advice, initial medical assistance or medical evacuations for patients;

   **4.7.3** The Rescue Co-ordination Centre (RCC) is the unit responsible for providing search and rescue services which could include the provision of medical advice and assistance. The RCC may establish contractual arrangements to provide this Telemedical Assistance Service (TMAS) from a suitably recognized medical authority, and

   **4.7.4** Appendix ( ) provides a sample text for RCCs and medical authorities to establish appropriate procedures and practices, including lines of responsibility, for both the TMAS and the RCC, in the coordination and provision of medical advice and assistance to ships at sea and the provision of medical advice to the RCC in support of search and rescue.
3. **ACTION BY THE ICAO/IMO JWG**

3.1 The ICAO/IMO JWG is invited to:

a) consider the information provided; and

b) recommend to ICAO/IMO the amendment to the IAMSAR Manual as proposed in paragraph 2.2 above.
1 Roles and functions of the Telemedical Assistance Service (TMAS) Provider and the Rescue Coordination Centre (RCC)

1.1 General

1.1.1 The International Convention on Maritime Search and Rescue 1979 allows for parties to the Convention to provide on request from Masters of ships, medical advice, initial medical assistance or arrange medical evacuations for patients.

1.1.2 The RCC is responsible for search and rescue services which include the provision of medical advice and assistance. The RCC has established a Telemedical Assistance Service. This service will be provided from the (Organization) at (Location). Accordingly, (Organization - Location) is the designated (Country) Telemedical Assistance Service (TMAS).

1.1.3 The procedures and practices defined in this document establish Procedures and Practices, including lines of responsibility for both the TMAS Provider and the Rescue Co-ordination Centre in the coordination and provision of medical advice and assistance to ships at sea and the provision of medical advice to the RCC in support of search and rescue.

1.1.4 Further guidance on Medical Assistance at Sea, Importance of the Role of Telemedical Assistance Services; and Medical Assistance at Sea and Maritime Radiocommunications can be found in IMO MSC Circular 960.

1.2 Roles and responsibilities

1.2.1 Masters of ships

1.2.1.1 The Masters of ships are ultimately responsible for the health and safety of crew and passengers on board their ships.

1.2.2 Maritime Communications Station.

1.2.2.1 The Maritime Communications Station is responsible for:

a. responding to any request for medical advice or assistance;

b. providing an effective communications interface between Masters of ships at sea and the TMAS; and
c. in the event of a MEDEVAC being required, requesting and passing all necessary information to the RCC.

1.2.3 Telemedical Assistance Service (TMAS).

1.2.3.1 The TMAS is responsible for the following functions:

a. Be available 24 hours per day, 7 days a week to receive requests from vessels at sea and/or the RCC for the provision of medical advice;

b. Making prompt medical assessments of remote patients and providing prompt advice to ships’ Masters in relation to medical treatment to be administered to those patients, generally by non-medical personnel;

c. Providing prompt medical specialist advice when required;

d. Where it is essential for the safety of the patient, taking into account all circumstances, making recommendations to ship Masters and to the RCC for evacuation of patients to shore-based facilities or to another vessel;

e. Advising the RCC of any special medical requirements or constraints that may affect the type and equipment fit of the proposed recovery platform for evacuation of patients to shore-based facilities or to another vessel;

f. Providing briefing to the paramedic or doctor who may accompany the MEDEVAC vehicle, to provide continuity of medical attention and also consult on evacuation procedures and constraints;

g. When a patient is to be evacuated to a shore-based medical facility or the Master of a ship has decided to divert to a port, consulting with the RCC and the evacuating craft and recommending a medical facility to which the patient should be evacuated. Make appropriate arrangements with the medical facility to receive the patient;

h. Ensuring, through liaison as required, that the receiving hospital is briefed about the patient’s condition and treatment;

i. As necessary for the purpose of communicating with a ship’s Master or crew, arranging access to interpreter services where possible. - Note that this interpreter service may be arranged by the RCC;

j. Providing medical advice to the RCC with respect to the prospects for survival/injury of persons subject to search and rescue in both land and sea environments; and

k. Providing statistical information, to the RCC, on an annual basis in relation to the services performed.

1.2.4 Rescue Coordination Centre.

1.2.4.1 The RCC is responsible for the following functions:

a. Ensuring that ships’ Masters have the necessary information available to be able to contact the TMAS;
b. Co-ordinating any MEDEVAC when requested, assisted by medical advice provided from the TMAS;

c. Arranging of surface (water and land) or air assets necessary to conduct a MEDEVAC to achieve delivery to the medical facility determined by the TMAS. As an integral part of the evacuation, the RCC will, where possible, organize to have paramedics on board the recovery platform;

d. Where evacuation is required and requested, co-ordinating with the ships’ Masters for meeting or receiving the rescue platform and patient transfer arrangements;

e. Where the TMAS recommends the patient is landed urgently, and the Master requests assistance, the RCC will advise the ship’s Master and the TMAS of suitable port(s) based on operational assessment only;

f. Liaising with the provider of the surface or air assets for invoicing and payment; and

g. As necessary for the purpose of communicating with a ship’s Master or crew, arranging access to interpreter services where possible.

2 Practices and Procedures

2.1 General

2.1.1 The TMAS can expect to receive requests for assistance from:

a. any ships in surrounding waters; and

b. Country-flag and foreign ships outside that country’s designated Search and Rescue Region.

2.1.2 This section addresses procedures to be adopted in response to three main conditions:

a. medical advice to ships;

b. diversion of a ship to another port; and

c. MEDEVAC.

2.1.3 When the TMAS receives a request for medical assistance it must:

a. promptly undertake a remote medical assessment of the patient; and

b. promptly provide appropriate medical advice to the ship’s Master on the treatment to be administered (generally by non-medical personnel).

2.1.4 Where the condition of the patient is such as to warrant more urgent and specialized care, the TMAS may also decide to make a recommendation to a ship’s Master that:
a. the patient should be landed urgently/as soon as possible to enable more expert treatment of the patient; or

b. the patient should be evacuated immediately/as soon as possible to a land-based medical facility.

2.2 **Medical advice to ships**

2.2.1 On receipt of a request for medical advice from a ship’s Master, the TMAS will consult with the ship’s Master as necessary and provide the appropriate medical advice.

2.2.2 Requests for medical advice received directly by, or on-passed to, the TMAS from SOLAS and country-flagged merchant ships do not require referring or reporting to the RCC unless evacuation is recommended.

2.2.3 In the event that the TMAS suspects that the medical problem may have border control implications:

a. **TMAS.** The TMAS must inform the RCC of the:
   - Name of the ship;
   - Name(s) of the affected person;
   - the medical condition; and
   - probable port of arrival.

b. **The RCC.** The RCC must inform the appropriate border control agencies.

2.3 **Diversion of a ship to port**

2.3.1 In those cases where it is determined by the ship’s Master, after medical consultation with the TMAS that diversion to a port other than the next port of call is or may be necessary:

2.3.2 The TMAS must inform the RCC that diversion is or may be undertaken.

2.3.3 The RCC must, on request from the Master of the ship, render necessary assistance to the Master of the ship. This may include advice as to available ports and advising the ship’s agent, port, medical and border control authorities at the port of diversion.

2.4 **MEDEVAC**

2.4.1 The decision to MEDEVAC a patient is a matter for the ship’s Master to decide on the basis of medical advice that is provided by the TMAS. Consideration must be given to other factors, including the environmental conditions (weather, sea state etc) that may prevail at the time of possible extraction and the ship’s geographical location. The availability and type of recovery platform(s) may also affect the strategy or decision to MEDEVAC. Accordingly, close and on-going consultation may be required between the ship’s Master, the ship’s agent, the TMAS, the RCC, the operating agency/crew of the rescue platform and the receiving medical facility.
2.4.2 Medical evacuations are generally undertaken by helicopter, possibly supported by a fixed wing aircraft. The TMAS must take into account that such evacuations can be carried out only when the ship is within helicopter’s flying range from land and only when a suitably equipped helicopter is available. It may be possible under conditions of extreme medical urgency for surface and air assets to be used (ship as a staging landing platform plus helicopter), however the availability of such assets cannot be assumed or guaranteed.

2.4.3 Where the ship’s Master requires a MEDEVAC, either by his own decision or as a result of consultation with the TMAS, the ship’s Master may communicate with the RCC directly or through a Maritime Communications Station without further reference to the TMAS. In this event the Maritime Communications Station or the RCC will ascertain the:

- patients condition;
- vessel name;
- call sign;
- ship’s position;
- nearest port and ETA.

2.4.4 The RCC must:

a. Consult with the TMAS for medical advice that may affect:

   (a) the type of rescue platform provided;

   (b) any medical constraints or requirements that may affect the point and method of extraction;

   (c) the recommended medical facility for delivery; and

   (d) any other considerations that could affect the conduct of the MEDEVAC.

b. Source and task the surface and/or air asset(s) to be used as a recovery platform;

c. Advise the TMAS of the details of the recovery platform and the operating agency;

d. Advise the ship’s Master of arrangements for the MEDEVAC, including rendezvous and any pre-arrangements for the extraction;

e. Advise the TMAS and the medical facility of the actual time of extraction and estimated time of delivery of the patient to the shore based medical facility;

f. Facilitate the MEDEVAC as necessary and maintain a watch over the progress of the MEDEVAC until the patient is delivered to the medical facility; and

g. Notify the Maritime Communications Station of the outcome of the MEDEVAC on completion of the event.
2.4.5 The TMAS must:

a. Provide the RCC with:

   (a) medical advice on issues that may affect the type of rescue platform provided;

   (b) advice as to any medical constraints or requirements that may affect the point and method of extraction; and

   (c) any other considerations that could affect the conduct of the MEDEVAC.

b. If necessary advise on the most appropriate medical facility to which the MEDEVAC should deliver the patient and co-ordinate with the receiving medical facility for receipt of the patient;

c. Consult with the operating agency/recovery platform to advise on the patient’s medical condition, any recommended constraints or requirements related to immediate treatment or processes of MEDEVAC and the proposed medical facility to receive the patient;

d. Continue to consult with the ship’s Master regarding the patient’s condition as necessary in the circumstances;

e. Advise the medical facility of the medical status of the patient at the commencement of the MEDEVAC; and

f. Inform the RCC of any circumstances that may cause a need for change in the recovery platform type or timing including where the MEDEVAC is no longer deemed necessary.

2.5 Requests in respect of other than SOLAS vessels

2.5.1 Requests from the RCC.

2.5.1.1 Requests for medical advice may be directed through, or by, the RCC to the TMAS relating to fishing and pleasure craft or land situations. The TMAS should treat these events essentially as for a ship at sea except that the medical stores and expertise of the skippers or other participants may/will not be equivalent to that of a ship’s Master.

2.5.2 Requests from fishing and pleasure craft.

2.5.2.1 The skippers of fishing or pleasure craft may contact the TMAS direct or through other agencies requesting medical advice or medical evacuation. Fishing or pleasure craft put in touch with the TMAS by a Maritime Communications Station, should be provided with the appropriate advice. Where the medical situation allows, the TMAS must refer to the RCC requests from such craft it considers do not come under this Agreement.
2.6 Medical advice to the RCC

2.6.1 The RCC may have need for medical advice with respect to search and rescue, such as the prospects for survival/injury of persons subject to search in both land and sea environments. The RCC will provide the details of circumstances of the survivors and then ask for medical advice. In some instances the need for medical advice may be time critical and could contribute to decisions to continue or terminate searches for survivors.

2.7 Liaison and reporting

2.7.1 The TMAS facility will provide statistical information to the RCC on an annual basis in relation to the services performed. This information will include, broken down for each month:

a. The number of requests for medical advice from:
   - Merchant Ships within the Search and Rescue Region
   - Merchant Ships outside the Search and Rescue Region
   - Commercial Fishing vessels
   - Pleasure craft (Yachts, private fishing vessels etc)
   - Other
   - Provincial government agencies

b. The number of diversions by:
   - Merchant ships
   - Commercial fishing craft

2.7.2 In the event of a need for a post event inquiry related to a MEDEVAC, the RCC may require the TMAS to provide a report on actions taken for a particular event, this may include the provision of records from the TMAS.

3 Communications arrangements

3.1 General

3.1.1 The TMAS must maintain in operation at all times facilities for voice and data communications to enable communication with the RCC, ships at sea and rescue personnel. Those communications capabilities should include:

a. Voice communication;

b. Text messages;

c. Facsimile; and

d. Digital data transmission; (photograph or electrocardiogram).

3.1.2 To support this communications capability, the TMAS must provide separate and dedicated phone and facsimile lines.
3.2 Communication between the TMAS and ships at sea

3.2.1 Ships seeking medical advice will normally be put in contact with one of the Maritime Communications Stations. Calls will then either be transferred or relayed to the TMAS. Requests for advice may therefore come to the TMAS:

a. directly from a ship via a transferred telephone call;

b. via a Maritime Communications Station which has received a request for assistance from a ship by:
   - Sea phone;
   - Radiotelephony (RTF);
   - Radio telex;
   - Fax/phone;
   - Inmarsat;
   - Email; or

c. via the RCC.

3.2.2 Fax or telex requests passed to a Maritime Communications Station will normally be relayed to the TMAS over the telephone and replies should be sent through the appropriate Maritime Communications Station. If a fax is going to be sent to the TMAS, by the RCC, a Maritime Communications Station or a Land Earth station, the initiator must contact the TMAS by telephone to advise that the fax is being sent. In some circumstances, the fax number to be used may be different from the normal contact fax number. Accordingly, when the initiator calls to advise that a fax is to be sent, check the fax number.

3.2.3 In some instances communications directly with a ship, for the provision of medical advice, may not be possible. In such circumstances, communications may need to be conducted through Maritime Communications Stations.

3.2.4 Inmarsat Communications:

3.2.4.1 The various Inmarsat systems offer two abridged codes (Special Access Codes - SAC) 32 and 38, which can be used for medical advice or medical assistance at sea through telephone, fax or telex using satellite communications.

   - **SAC 32** is used to obtain medical advice. The Land Earth Station will provide a direct link with the TMAC when this code is used.

   - **SAC 38** is used when the condition of an injured or sick person on board a ship justifies medical assistance (evacuation to shore or services of a doctor on board). This code allows the call to be routed to the associated RCC.

3.3 Communication between the TMAS and the RCC

3.3.1 Communications between the TMAS and the RCC must be conducted by telephone or facsimile:
TMAS contact details:
- Telephone
- Medical line
- General line
- Facsimile
- (Check with TMAS prior to transmission)
- Email

RCC contact details:
- Telephone
- Alternate
- Facsimile
- Email

3.4. Communication between the State TMAS and a Remote TMAS

3.4.1 Given the international dimension of maritime navigation, a medical problem may occur on board a ship very far from its country of origin. In such a case the master, who is responsible for the care of those on board, normally calls his designated national TMAS, which can perform remote consultation in his language. Should there be need, following the remote consultation, for an evacuation to the nearest shore, the master will contact the RCC responsible for SAR operations in the search and rescue region (SRR) concerned. In order to facilitate and enhance the planning of the medical aspects of the SAR operation involving medical assistance at sea, all available medical information collected by the TMAS that has carried out a remote consultation will be transferred to the TMAS attached to the responsible RCC. Everything must be done to avoid a second remote consultation by the second TMAS.

3.4.2 A common form for the exchange of medical information is available to facilitate the transfer of all available and relevant medical information between the two TMAS authorities. (see attachment or refer to yet to be distributed MSC circular).

3.4.3 On the basis of trans-national partnership agreements, the “medical information exchange form” is used for SAR operations involving medical assistance at sea, in the following manner:

   a. when, following a remote consultation, a TMAS has indicated its recommendation to carry out a medical evacuation, the physician will complete the “medical information exchange form”;

   b. once the RCC responsible for the SAR operation has been identified, the remote TMAS will transmit the form to the corresponding partner TMAS of the RCC concerned;

   c. the RCC will be advised appropriately by its designated national TMAS of the medical constraints affecting the SAR operation; and

   d. at the completion of the SAR operation, the operational TMAS will send any necessary information on medical follow-up to the TMAS that had performed the remote consultation.

3.5. Recording and reporting of communications

3.5.1 Telemedical advice and assistance is subject to the confidentiality provision of the relevant Acts for the manner in which they are handled, stored and communicated.
3.5.2 In particular, telemedical advice must not be provided to third parties except for the delivery of the advice to:

a. the target ship;

b. the RCC; and

c. paramedic organizations and medical institutions involved in the provision of the particular medical services to which the advice and assistance relates.

3.5.3 All TMAS communications must be identified by date and time and must be stored securely and so as to enable the records to be accessed promptly should they be required.

3.5.4 TMAS must fully document all communications including but not limited to:

a. case notes;

b. time and date of contact and the name of the vessel;

c. the names of those with whom they deal (so far as a name can be ascertained); and

d. the means of communication (telephone, radio, fax, email, etc plus contact numbers).

3.5.5 The TMAS must make the records, with the exception of case notes, available to the RCC on request.
CONFIDENTIAL MEDICAL INFORMATION

MEDICAL ASSISTANCE AT SEA
TMAS - TMAS Medical Information Exchange Form

To: TMAS: 
(via MRCC if necessary: )

Date: ....../...../..... Time: .....h. .... Physician: Dr. 

PATIENT

Surname: .................. First Name: ..................
Date of Birth: ...../...../..... Age: ........ Sex: M ☐ F ☐
Nationality: .................. Occupation on board: ..................

MEDICAL CIRCUMSTANCES

☐ Illness
☐ Accident
☐ Poisoning
Since: ............

Previous Medical History | Ongoing Treatments | Care on board before Teleconsultation
-------------------------|-------------------|---------------------------------
.......................................................... | .......................................................... | ..........................................................
.......................................................... | .......................................................... | ..........................................................

MEDICAL OBSERVATION

Pulse: ....... /min BP: ........ mmHg
BR: ....... /min T: ....... °C
Weight: ....... Kg Height: ....... m

Diagnosis(es) given: ........................................................................................................
.......................................................... | .......................................................... | ..........................................................
.......................................................... | .......................................................... | ..........................................................
.......................................................... | .......................................................... | ..........................................................
.......................................................... | .......................................................... | ..........................................................
.......................................................... | .......................................................... | ..........................................................

See Proposed MSC Circular
## IDENTIFICATION OF THE REQUIRING TMAS:

Name: ................................................................. Tel: .........................................................
Address: ..................................................................................................................
Fax: ......................................................................................................................
E-mail: ..................................................................................................................

## MEDICAL INSTRUCTIONS


## MEDICAL ASSISTANCE REQUIRED

Medical Decision: □ Ship diversion to (Port): .................................................................
□ Ambulance
Medical Team: □ Doctor □ Nurse □ Paramedic

□ Medical Evacuation
Medevac Time frame: □ Immediate □ Daylight hours
Medevac Method: □ Land on □ Winch/stretcher □ Winch/STrop
Medical Team: □ Doctor □ Nurse □ Paramedic

□ Air Drop of supplies:

□ Quarantine situation

## SHIP

Ship Name: ................................................................. Call Sign: .................................................................
Type: ................................................................. Flag: .................................................................
Location: .................................................................
Port of Origin: ................................................................. Departure/DTG: .................................................................
Destination: ................................................................. ETA / DTG: .................................................................
Contact: .................................................................

Please send back all the available follow-up information to:

TMAS Name: ................................................................. Tel: .................................................................
Address: ..................................................................................................................
Fax: ......................................................................................................................
E-mail: ..................................................................................................................

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