iMed Norwegian Telemedicine

Telemedicine at Sea; Communicational Challenges

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The ILO convention 164

- Article 4:

  Each Member shall ensure that measures providing for health protection and medical care for seafarers on board ship are adopted which:

  (b) aim at providing seafarers with health protection and medical care as comparable as possible to that which is generally available to workers ashore;

- Article 7:

  1. The competent authority shall ensure by a prearranged system that medical advice by radio or satellite communication to ships at sea, including specialist advice, is available at any hour of the day or night.

  2. Such medical advice, including the onward transmission of medical messages by radio or satellite communication between a ship and those ashore giving the advice, shall be available free of charge to all ships irrespective of the territory in which they are registered.

Injuries and illnesses at sea: Who is in charge?

- A medical officer is in charge of the patient
- On land, dedicated medical centres are available to give advise
- The doctors will need the best possible information about the state of the patient
- The medical responsibility remains with the captain

Some difficulties

- The doctor has never seen the patient, and probably never will
- The doctor will talk to the first mate, not the patient
- No global system for personal IDs
- The doctor has no previous medical history of the patient

Telemedicine at sea

- Since the first Radio Medical service started in New York City (1920) and in Sweden (1922) 12 countries have developed Radio Medico
- All countries ratifying ILO 164 are required to have a Radio Medical Service free of charge
- No distinction made between nationality of patients using Radio Medical services

Telemedicine at sea

- More advanced telemedical systems are slowly being taken on board the ships
- Since medical assistance shall be free of charge, the funding of the Radio Medicos must allow for the introduction of telemedicine systems
- Circular IMO MSC/circ 960 (2000) “ Medical assistance at sea” emphasizes the relevance of telemedical services for providing high quality medical assistance to sailing seafarers
- The circular introduces the Telemedical Maritime Assistance Service (TMAS) and defines standards and roles for TMAS

CIRM (International Radiomedical Centre, Italian TMAS)

Established: **1935**

Headquarters: **Roma**

Service: **24 h a day, every day**

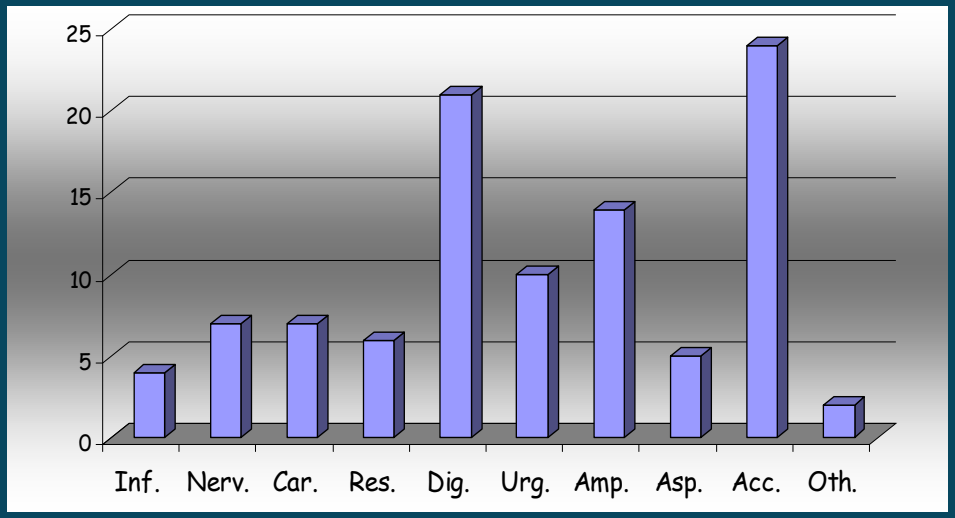
Organization: **Telemedicine Department, Telecommunication Department and Research Department**

Doctors : **9 + medical director**

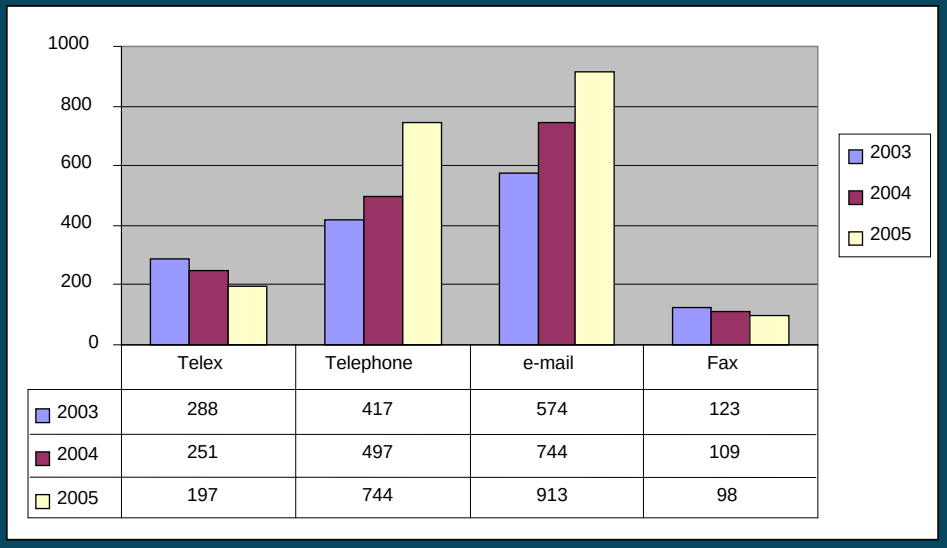
T.C. operators: **7 + supervisor**

Patients assisted: **52,000**

Pathologies assisted

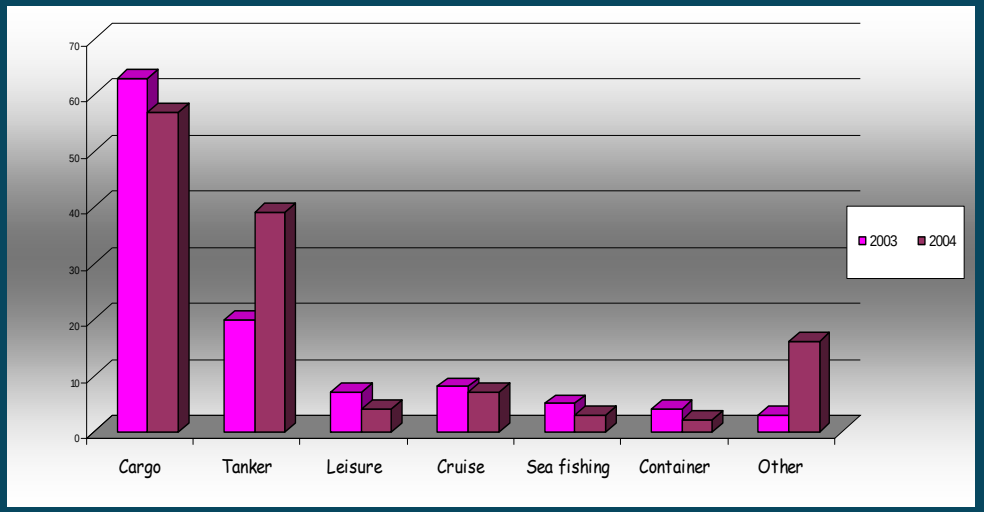


Telecommunication systems used

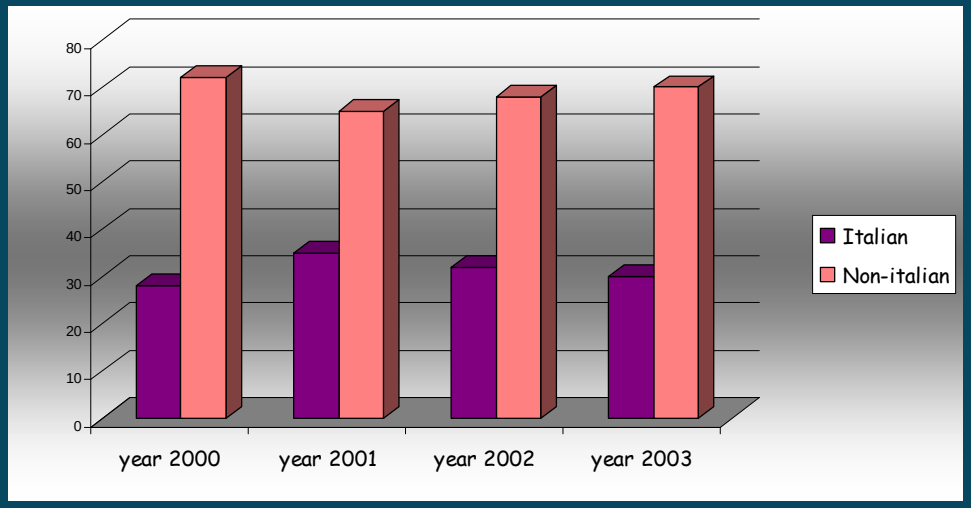


	Telex	Telephone	e-mail	Fax
2003	288	417	574	123
2004	251	497	744	109
2005	197	744	913	98

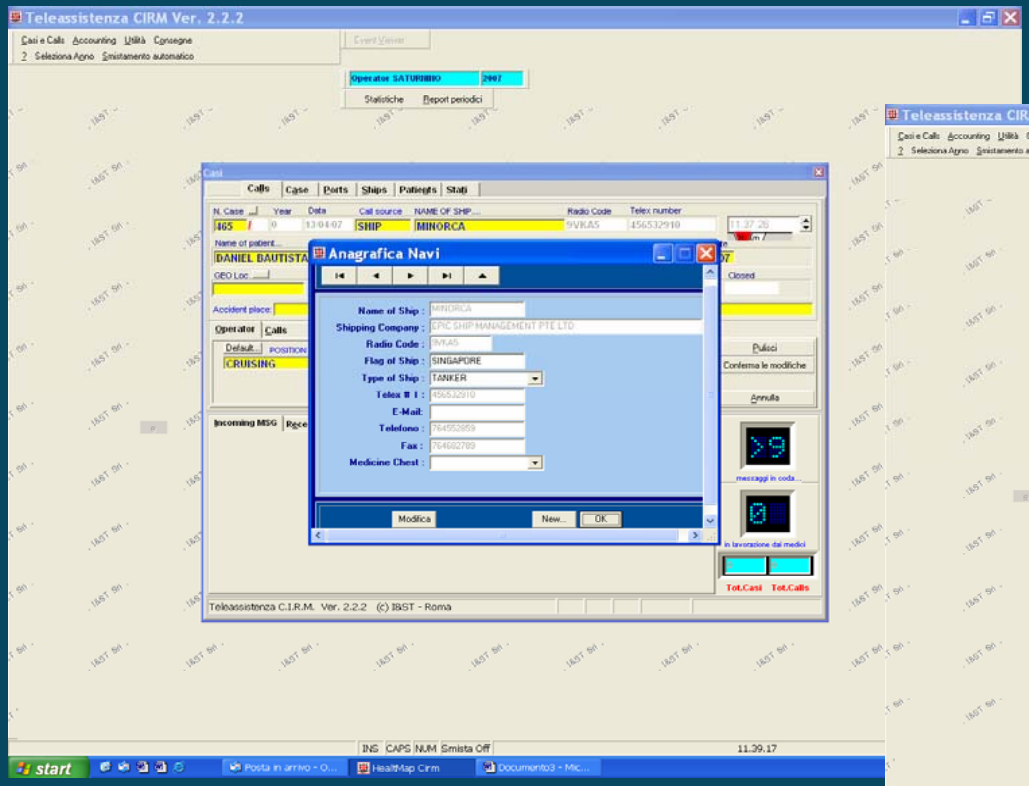
Types of ships asking for medical advice

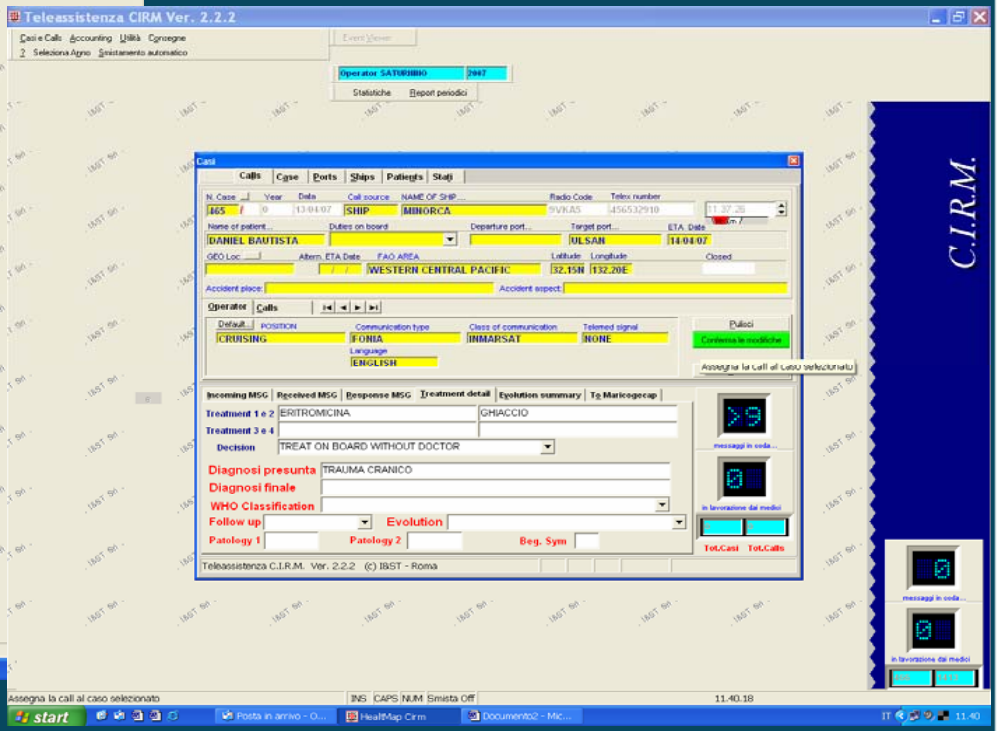


Nationality of ships assisted



Patient data





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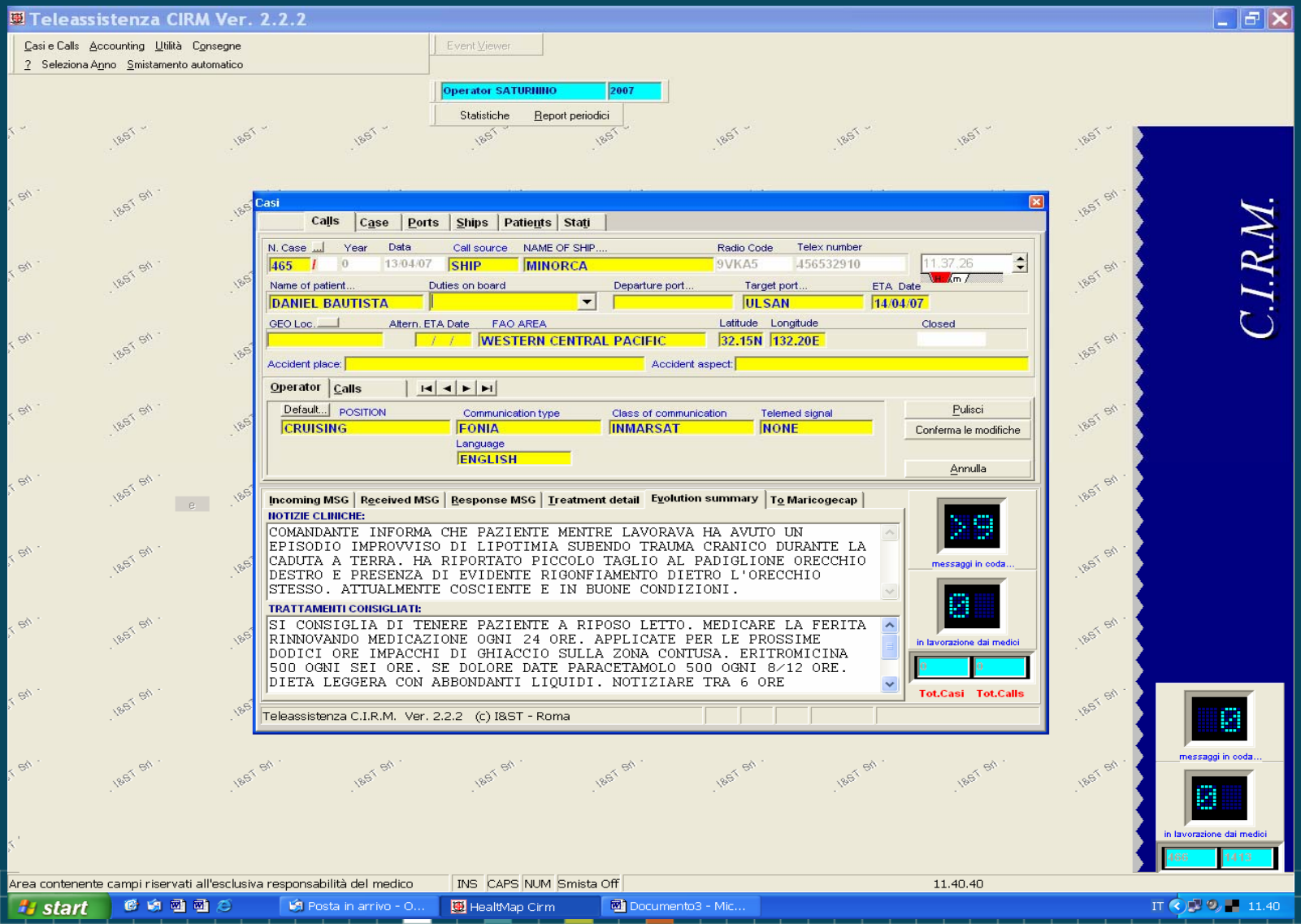
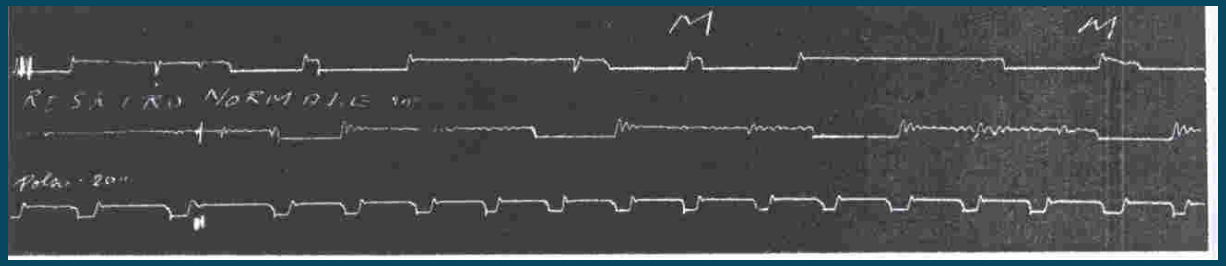
Patient data



Advantages offered by telemedicine



1938: Transmission of breathing and pulse rate by radiotelegraphy

2000: Dermatological lesion

2002: Store-and-forward picture of an ankle injury used for guiding medication

Medical issues (present/future perspectives for improvement)

- Availability of basic telemedical devices on board (blood pressure, pulse rate, ECG, hematochemistry, oxymetry)
- Possibility of videoconsultation and of written dialogue between ship and TMAS
- Virtual smart card with main sanitary data of potential users of the service

Medical issues (present/future perspectives for improvement)

Application of a dedicated telemedical system for seafares including:

- **Health education**
- **Training**
- **Improvement of lifestyles**
  - **Exercise**
  - **Eating**
  - **Encouragement to keep life style on land**

The need for a smart card

- The doctor may be able to give better advice if the patient medical history is available
- Further follow-up of the incident will be aided by relevant medical information
- The content must be universal for all Radio Medical Centres

Critical success factors for a smart card solution

- A unique patient ID (i.e. passport number)
- A critical mass of seafarers that are enrolled
- A common understanding between the Radio Medical centres of what information is needed and on what format
- A large scale trial

Organisational issues

Teleassistance
↓
Teleconsultation
↓
Second opinion

Prevention

Handling of emergencies

SEAFARERS **SHIP OWNERS** **PHYSICIANS**

Health Card

On-line medical data

Informatic systems

Tele-training

Continuing education

Training for specific rules on board

First aid training

Conclusions

- Telemedicine has a place in maritime medicine
- The funding mechanism is a problem
  - Ship owners are entitled to free services
  - Government funding at a minimum
- The number of systems available at one centre must be limited BUT
- International standards for secure communication are lacking, making universal systems difficult
- Still need for large scale pilot projects in the field

Road ahead

- CIRM would like to invite partners to join this venture that could represent an updated system for providing high quality medical assistance to seafarers in this century