EMARITIME MEDICINE PARADIGM

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REZUMAT. UMC a stabilit un cadru larg pentru utilizarea noilor tehnologii de teleasistenţă medicală pentru studenţii navigatori atât în Marea Neagră cât şi la nivel global. Platforma virtuală eMaritime Medicine va oferi asistenţă tuturor navigatorilor, universităţilor maritime şi partenerilor acestora precum şi medicilor interesaţi în ridicarea nivelului de cunoştinţe prevăzute în noile reglementări STCW în domeniul primului ajutor medical şi al noilor tehnologii în domeniul telemedicinii maritime.

Cuvinte cheie: medicină maritimă navigator stcw emm.

ABSTRACT. CMU set a consensus for the use of new technology for providing tele medical assistance to seafarers students in Black Sea and worldwide. eMartime Medicine virtual platform will give assistance to all seafarers, Maritime Universities and their partners and also to medicine doctors (physicians) who are interesting to improve their knowledge on new STCW regulations related to first aid and new technologies such as telemedicine in maritime medicine.

Keywords: martime medicine seafarers stcw emm.

1. PREAMBLE

The complex information in medicine domain and accelerated emergence of information and new communication technologies in telemedicine is shaping the seafarer professional lives.

Constanta Maritime University search new ways to realize the full benefits for health of Maritime Universities students and physicians, for training them and develop new methods for given first aid on seafarers and to take the competitive advantage and sustainability using the emerging technologies such e-Maritime Medicine portal which was developed last year as an International Association of Maritime Universities (IAMU) project.

2. EMARITIME MEDICINE STCW COMMITMENTS

Gráinne Lynch in his presentation „e-Maritime Overview" [2] say's that „maritime medicine administrative procedures are complex and time-consuming". The interoperability between maritime medicine information systems is practically non-existent in different sea navigation area like Black Sea, and this limiting the potential for new first aid services. There are also small ports that did not have specific devices for data transmission.

In this days the Internet changing the way to how we use different social networks tools and how we find information.

For the new seafarers students that are considering being very familiarly with Internet tools, they access easily the cyberspace of web and also for them is new mode of their life.

In the future of worldwide society we will need skillful and experienced operators for future seafarers. This will be possible only if future seafarers have new possibilities to learn lessons offered from the maritime universities.

The e-Maritime Medicine envisages promoting interoperability in its broader sense. It aims to stimulate coherent, transparent, efficient and simplified solutions in support of cooperation, interoperability and consistency between IAMU members and his partners and transport operators.

Regarding the new „Manila Amendments" of STCW, the medical certificate must be in accordance with current requirements until 2017.

3. THEORETICAL FRAMEWORK

In the early of 1990, pilot projects regarding telemedicine demonstrated their limitations, either for technical reasons (network performance and medical devices), affirmation made by Gerard Comyn – Vice-President CATEL [3].

In these days, telemedicine is making a big comeback, and seems to offer solutions that are credible which have been tested in real medical situations, to the main challenges facing our society, such as:

– the growing need for patients to become actors in monitoring their own health;

– the necessity of controlling health care costs whilst maintaining high quality care;

– the lack of availability of qualified personnel in certain branches of professional healthcare;

A lot of pilot projects, regarding telemedicine, there are now in all EU member states, but telemedicine is not yet entitled to be cited at national level in any one of them.

The aim of the project is to help you take stock of the development of new environment to made telemedicine for seafarers, and the necessity of challenge from maritime environment.

It also aims to clarify the problems which are still holding back the development of telemedicine for cadets students and seafarers, and to outline a sketch of what the medicine of tomorrow might look like for the student cadets of Maritime Universities. Maritime states with a maritime or joint rescue coordination centre (JRCC) are obliged to provide Telemedical Assistance Services (TMAS). This kind of medical assistance have some difficulties like:

- the seafarer patient has not consulted by the doctor who assist him;
- the doctor usually discusses with the officer of the watch, not directly with the seafarer patient;
- there is no standardized system for patient ID (and hence lack medical history, no possibility of tracking etc.)

The ability to have visual pictures of the crew man makes an enormous difference when doctors it comes to deciding whether to treat the illness or injury on board or to recommend a diversion or evacuation

Affordable, high-quality video conferencing would seem to be the final link in the chain of medical care between ship and shore.

The greatest benefit of telemedicine is its ability to prevent the escalation of medical cases.

Ship operators can get the most out of telemedicine by using their subscriptions for non-emergency consultations, trial calls, and every day medical questions.

By accurately assessing and managing a situation via telemedicine, ship operators can prevent costly and avoidable evacuations.

Video has clear advantages in enhancing communication between doctor, patient, and assisting seafarers.

We consider that only an effort on the part of all actors in medical care will be necessary in order for telemedicine to be accepted by all, and that it will be the role of the IMO decision makers to ensure that such mechanisms are developed in such a way as to take into account its multidisciplinary nature.

4. ACTUAL TRENDS AND REGULATIONS

As Neelie Kroes, VicePresident of the EC and Commissionner in charge of the Digital Agenda for Europe endorse [3]: „The European Commission will be active in supporting the deployment of projects that provide Europeans with secure online access to their own health data and enable online health services" we think that the same vision can be apply on maritime sector, and first step can be made by Maritime Universities together with Medicine Faculty from each country.

EU vision is that e-Health services [3], using secure and practical ICT based tools and services european citizens can take greater control of their health: whether it be making an appointment online with their doctor, or getting a second opinion on test results, or learning how to take preventive measures to stay healthy.

This is a feasible step and can make a real difference for the efficiency of health systems, and for patients' lives.

"The health of seafarers is not only a major concern of seafarers themselves but also a primary concern of the shipowner/operator/manager. With approximately 80% of maritime accidents caused by human error, sickness and injury benefits represent a growing proportion of the shipping industry's third party liability insurance claims" (see [4] International Labour Organization).

Also from C 164 - Health Protection and Medical Care (Seafarers) Convention, 1987 (No. 164) can found on article 4 that:

"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."

And at article 7 from the same convention, are stipulated that:

"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.

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."

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5. EMARITIME MEDICINE PORTAL AIMS AND GOALS

Our main objective was to develop an E- Maritime Medicine portal system for IAMU members and their partners in order to share maritime medicine form point of view regarding educational activities for seafarers students and medicine doctors also. The virtual platform developed by the team, will help IAMU member institutions to improve the knowledge's of seafarers students and also for medical instructors and exchange know-how by sharing their experience through e-activity platform in maritime medicine.

The second objective was to develop in each maritime university, member of IAMU association, a working groups (engineers, IT specialists and medicine doctors) for improve STCW standards regarding first aid and develop a training programme for physicians' and students interesting in maritime medicine.

Also, Constanta Maritime University (CMU), develop a working group at Black Sea together with the partners for the use of new technology for providing telemedical assistance to seafarers students for CMU in Black Sea area in particular.

The third objective was to create a network between these working groups from IAMU members that have experience in providing maritime telemedical assistance for their students and offers their know how about the use of different telemedical equipment and how to approach the implementation of new telemedical solutions for our physicians and students seafarers in all the Maritime Universities.

6. EMARITIME MEDICINE PORTAL AIMS AND GOALS

The e-Maritime Medicine envisages promoting interoperability in its broader sense. It aims to stimulate coherent, transparent, efficient and simplified solutions in support of cooperation, interoperability and consistency between IAMU members and its partners and transport operators.

The e-Maritime Medicine platform was developed at www.emaritimemedicine.net

The main menu in the landing page (see Fig. 6.1), has different submenus with important sector's demonstrators to improve the knowledge of the cadets, students and medicine doctors who want to learn more, to be trained or to be informed regarding the maritime medicine concept, with six main sections: Project Workshop, eMM Workshop Announcement, Internet Era & eMaritime Medicine, regional Testing, Project Scheduled Tasks and eMM Objectives.

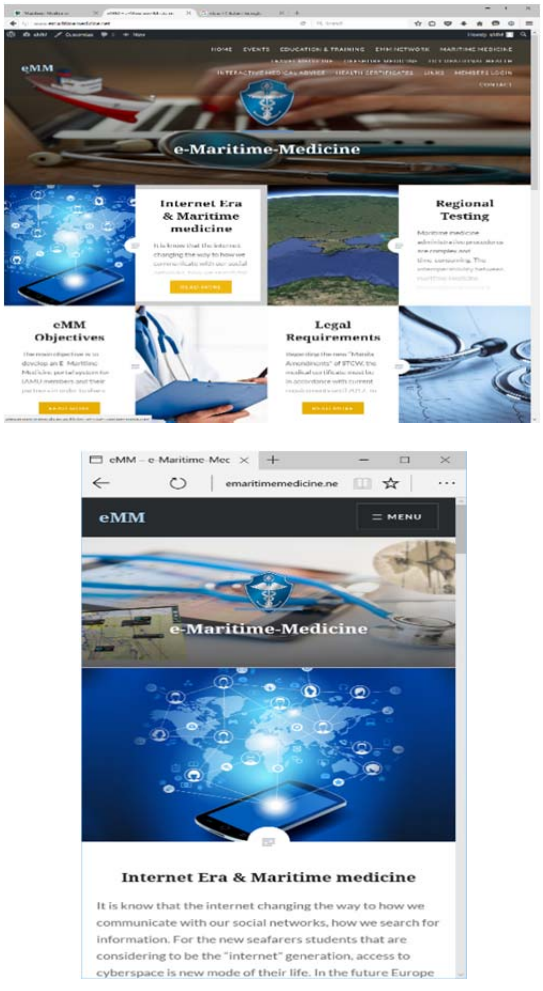

Fig. 6.1. The landing page for the virtual platform eMaritime Medicine. The eMM Portal is reachable from every Internet platform, from desktops to mobile terminals.

In Fig. 6.2 on submenu Interactive Medical Advice, users can find useful information regarding self-evaluation of their symptoms of illness for receive some advices for treatment, using „Evaluate your Symptoms" submenu, that lead to the link of Free Online services [6], provided by www. freemd.com. Also using Equipments & Medevac submenu, users can become familiarly with the specific medical devices and equipment's use in helicopter rescue or cruise ship.

From Macleod's Clinical Examination submenu, students and seafarers can watch a lot a video files with demonstration on clinical examination techniques. Also there is a link to the textbook with access to the full set of videos that is available at www.elsevierhealth.co.uk/macleod

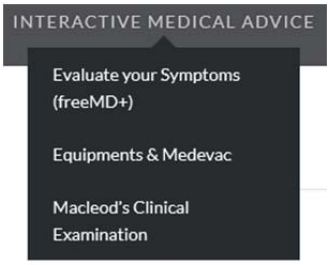

Fig. 6.2. The eMaritime Portal interactive medical advice.

In Fig. 6.3 on submenu *Interactive Medical Advice,* the team prepare a specific part of eMM Interactive Area, where every medicine doctors from the world can organize meeting with and cadets students for training or can provide telemedicine services for theirs cadets students or seafarers.

The virtual platform offers for different kind of medical clinical specialty enrolment for the users of e-maritimemedicine platform, like:

- ✓ eMM Gastroentherology
- ✓ eMM General Medicine
- ✓ eMM Infectious Diseases
- ✓ eMM Medical Treatment
- ✓ eMM Musculoscheletal
- ✓ eMM OnBoard Emergency Medicine
- ✓ eMM OnBoard Medical Assistance
- ✓ eMM OnBoard Medical Training
- ✓ eMM OnBoard Remote Assistance

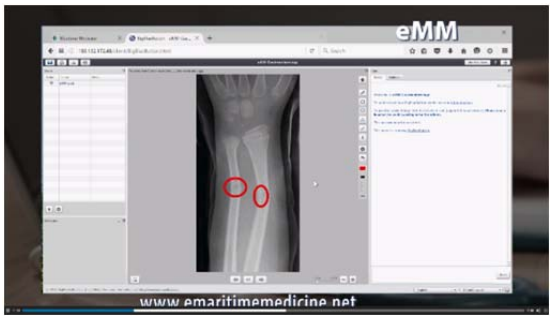

Fig. 6.3. The eMaritime Portal remote assistance Musculoscheletal

The team from CMU establish the working groups in E-Maritime Medicine for the first time in the Black Sea basin. Such working groups of doctors and engineers from the two partner universities (Nikola Y. Vaptsarov Naval Academy (NYVNA), Bulgaria and Istanbul Technical University (ITU)), conducted meetings and collaborated in order to develop the network with new members.

Also the networking group collaborated in order to create specific materials to be upload on the virtual platform for training cadets students.

5. CONCLUSIONS

For the new seafarers students that are considering to be the "Internet" generation, access to cyberspace is new mode of their life.

In the future Europe will need skilful and experienced European seafarers. This will be possible only if future mariners are offered the same possibilities to keep in touch and to learn as other professions on land.

The e-Maritime Medicine envisages promoting interoperability in its broader sense. It aims to stimulate coherent, transparent, efficient and simplified solutions in support of cooperation, interoperability and consistency between IAMU members, partners and transport operators.

Regarding the new STCW „Manila Amendments", the medical certificate must be in accordance with current requirements until 2017. To prepare our future seafarers and physicians regarding new standards, it was very useful to develop eMM platform for training and information exchange in maritime medicine for all IAMU members till 2015.

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