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Advanced Technology and Medical Care/Prehospital Care

Croatian Telemedicine Strategy Supports the Multilateral European Dynamic Partnership Work Program Through Cooperative Content Development

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Main Goal and Objectives

1. Promote partner and regional cooperation;
2. Assist in pre-planning for future TeleMED (telemedicine) coalitions; service to remote/small locations;
3. Contribute to NATO, and operate with NATO forces;
4. Become a respectable partner with NATO and other regional partners; and
5. "To improve dialogue between NATO and regional partners in issues and scenarios related to military emergency medicine, emergency planning".

Activities

1. Installation of TeleMED equipment in small, as well as expert medical centers (MCs);
2. Professional TeleMED Center responsible for all TeleMED activities has to be founded/inside VPN, based on the highest professional standards (rational, efficient, highly ethical, i.e., the Croatian Center for Telemedicine);
3. All "partners" are offered the possibility of contact with physicians from their settings, as needed, thus directly and significantly improving the Croatian TeleMED offer; and
4. Real-time application/various TeleMED activities; information provided at once, better decisions.

Benefits

1. "Tele-presence" of the worldwide well-known authorities in any MC of the Adriatic region/southeast Europe;
2. Emergency planning;
3. Intervention and momentary consultation available 24 hours a day in remote MCs;
4. Protection and successful emergency response;
5. Application of the latest technologies are followed closely and implemented in the health/telehealth care of both domicile population and foreign guests;
6. Supervision of TeleMED activities will be performed nationally; and
7. International agreements of the supervision should be developed, and the possible need for international registration of doctors practicing TeleMED internationally shall be evaluated/developed.

Technical Details

1. The equipment (which is going to be purchased during the project), is capable of simple transition from ISDN technology to the next generation network technologies such as IP and ATM; and
2. The next generation networks (NGN) concept brings inevitable switch to data-oriented package networks based on fiber optic medium, DWDM systems, and dominant IP technology; these networks will provide for integrated turnover of data, speech, and video; through unique infrastructure all TeleMED data will be stored in the medical imaging high-performance support system (CfTeleMED-WMC Digital) / 2 x 43 TB.

Keywords: consultation; cooperation; Croatia; medical centers; NATO; partnerships; planning; technology; TeleMED; telemedicine
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Defense Technology to Improve Civilian Prehospital Care: The E-Medics Project

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Developed healthcare systems aspire to be "paperless." Central to this is the implementation of an integrated electronic health record (EHR). This EHR must begin with prehospital care; but to encourage the prehospital care provider to record findings and actions contemporaneously the EHR must be more than just a computerized report form. "E-medics" is an electronic patient management system, developed for the National Health Service market using defense technology. It is a novel, icon-based, clinical treatment system that allows the user to consider trauma, medical, toxicological, and environmental priorities simultaneously. National ambulance service guidelines have been developed within the project, and underpin the management system. Voice-activated and touch-sensitive treatment screens give the medic, paramedic, or doctor clinical support together with real-time data recording. A situation report with digital images and automatic vital sign recording can be forwarded to the chosen hospital's emergency department. The system can provide management support to the medical commander at the scene of a multiple casualty incident. The military applications of this system currently are being exploited.

Keywords: data; electronic health record; "E-medics"; guidelines; management, system for; medical records; military; multiple casualty incident; prehospital
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NATO Telemedicine Interoperability Study

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Military operations increasingly rely on multi-national medical support and, to date, no studies have been carried out analysing the clinical use of telemedicine in a deployed field setting across national lines. This presentation will

give an overview of a proposed NATO study of this issue, and to invite national participation for the attendees.
The aims of this study will be:

a. To demonstrate that formatted email with attached images, sent to an internet server, is a valid means of interoperable teleconsultation in a multinational operational environment.
b. To determine the concordance and clinical relevance of specialist opinions between specialists from different countries in:
   i. Diagnosis;
   ii. Proposed treatment modalities; and
   iii. Proposed patient disposition.
c. To demonstrate that clinical advice from another nation is acceptable to, and usable by, a field medical unit.

The proposed technical implementation of this study will be reported, with details as to the desired participation on the part of nations.

Keywords: advice, clinical; diagnosis; disposition; e-mail; field medical unit; military; operation; relevance; support, medical; teleconsultation; treatment
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Vision for Coalition Health Service Support, 2020 Time Frame

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This concept paper proposes future, fully networked, coalition medical support of the North Atlantic Treaty Organization (NATO) operations. By the 2020 time frame, the military health systems of the expanded NATO member states will have been transformed. Fully integrated, coherent coalition capabilities will provide quality medical care across the range of NATO operations, from conflict to humanitarian relief. Through shared research and development, integrated cross-training, and coordinated combat developments (from concepts to force structure), dedicated, highly skilled providers of all of the member states will integrate their activities collaboratively. This will markedly improve both effectiveness and efficiency. Ideas, prototypes, and solutions will derive from, and will be shared among, all members and multiple industries and fields (logistics, healthcare, information science, communications, etc.). The transformed NATO health system will enhance force health protection for all, reduce logistics requirements, and enable improved NATO operational capabilities. Specifically, the historic perspective in which medical matters within NATO were regarded strictly as a national responsibility will have been changed. By 2020, medical operations will be fully inter-operable, with medical personnel regularly training and deploying on the basis of requirements and capabilities, not nationality.

In addition to new concepts and doctrine, new technologies will fundamentally change NATO medical operations. Casualty rates can become the lowest in history with the use of synthetic blood and fibrin bandages significantly reducing trauma fatalities. With secure signaling devices, calls for "Medic!" will be nearly automatic, and "friendly fire" casualties will no longer be a problem. The next generation of personal protective devices will prevent or reduce the severity of wounds, while agent detectors and alarms will be individual, not area-based. Hands-free satellite phones and tele-medicine will connect deployed medical personnel with major trauma centers in every NATO member state. Response capabilities will rapidly sense and respond to movement and treatment requirements. Patients will no longer be "held" at staging facilities, and patient evacuation, both tactical and strategic, will be fully integrated. Medical care will be provided by a NATO coalition force, not a service or national responsibility.

Keywords: 2020; battlefield medicine; casualties, rates of; coalition; concept; doctrine; future; integration; medical care; military medicine; NATO; responses; technologies; telemedicine
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The Swedish National Air Medevac (SNAM)

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The purpose of the project is to transform the present Scandinavian Airlines (SAS) organization for national crisis and war into a modern air ambulance organization. It will be able to tender and care for 35 patients in one aircraft, any Boeing 737-800 in the SAS fleet, with six patients in intensive care and another six on stretchers. The organization will be used not only in wartime, but also when society is under heavy stress and the normal resources are not sufficient. It also can be used for international humanitarian missions, and will be mission-ready from Stockholm-Arlanda within six hours after a call is received.

A general demand for maximum utility flexibility, the SAS Boeing 737-800 fleet will not need any prior technical modifications. The intensive care unit, the MICU, will be portable and mobile with a maximum weight not to exceed 70 kg. It will be self-contained with power for four hours, and also will contain 1,800 liters of oxygen, a ventilator, a supervision monitor, syringe-and volume infusion pumps, a defibrillator, suction, and blood gas and blood chemistry analysis. The unit will also meet all formal authority demands concerning flight and patient safety.

The MICU will also be adaptable to Swedish road ambulances, smaller air ambulances, and Medevac helicopters used in Sweden.

There will be four medical crews available: Each crew consists of six doctors, 11 nurses, and a medical technician, all specially trained in flight medicine. The project was launched in 2001, and will have the transformed organization operative by the end of 2004.

Keywords: air ambulance; crisis; equipment; helicopters; medevac; mobile intensive care units; staff; Sweden; war
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