

overall necessary trust required to be able to complete humanitarian missions, especially at the international level: The disasters created by the military far outnumber the ones they have prevented or assisted in.

The term CIMIC could be described as a new, institutionalized approach to developing a permanent strategic and tactical system that will facilitate provision of joint functions in scenarios involving both civilian agencies (local authorities and voluntary organizations) and armed forces. The concept creates both opportunities and threats. The most imminent threat is the absence of an endorsed definition of what CIMIC is or should be. NATO (the largest military alliance) has one definition; the United Nations has another. In addition, some national military forces have chosen to use modified versions of the NATO definition.

This presentation will discuss how these discrepancies may prevent future fruitful collaboration, and how they affect the trustworthiness of the parties involved. NATO may face the biggest challenge, as its definition seems to be unsatisfying to other civilian counterparts in the field of humanitarian assistance (governmental and non-governmental).

Conclusion: Civilians and the military have had many different kinds of relationships. If CIMIC is to be a new, institutionalized, agreed-upon "regulation," all threats and weaknesses of such a collaboration must be revealed and discussed to optimize the benefits that can be achieved from the use of all of the potential strengths and opportunities implied by its definition. An internationally endorsed definition is a minimum requirement.

Keywords: barriers; civilian-military; cooperation; definitions; humanitarian assistance; missions; opportunities; threats

Prehosp Disast Med 2003;18:s(1)s28.

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Advanced Technologies in Support of Military Medicine

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This presentation will address technology advancements applicable to battlefield medical requirements. The introduction of technology to battlefield environments is not always welcome. Acceptance of technological advancements by line and medical commanders is prerequisite to their use and directly related to their effectiveness. It is necessary both to train personnel in the use of advanced technology and to integrate the technology into unit functions. Time and persistence are needed to demonstrate the value of technology advancements and to adapt them to performance of unit missions.

Our current challenge is to identify, explore, and demonstrate key technologies and biomedical principles required to overcome technology barriers that are both medically and militarily unique. Technology developers must apply physiological and medical knowledge, advanced diagnostics, simulations, and effector systems integrated with information and telecommunications for the purposes of enhancing operational and medical decision-making,

improving medical training, and delivering medical treatment across all barriers.

The introduction of hardware refinements brings a new set of challenges and requires creative solutions. These include adaptation of platforms, overcoming of power problems, ruggedization and mobility; all subjected to field testing. Similarly, refinements in software will yield a dramatic increase in usable medical data and ease of transmission to the right sources.

Various portfolios of managed research will be described and their role in support of battlefield medicine explained. Specific applications will be made for homeland defense. Some of the topics of collaborative research include 3-D ultrasound, enhanced digital radiography, medical simulation for training, the use of sensors and detectors, the concept of an operating room of the future, robotics and medical informatics. Technology breakthroughs related to enhanced battlefield medicine will be demonstrated.

Keywords: battlefield medicine; military medicine; technology
Prehosp Disast Med 2003;18:s(1)s28.

Advanced Technology and Medical Care

The Russian System for Disaster Telemedicine

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The national on-line advice-giving support system for disaster telemedicine was developed in Russia in the autumn of 2001. In the first half of 2002, the system was used by personnel from the pediatric field hospital who had worked in the zone of the anti-terror operation in the Chechen Republic for 64 sessions. Advice was given for 54 patients with a wide range of diseases and traumatic injuries who ranged in age from two weeks to 56 years. Due to the counseling received by doctors via the telemedicine system, 46.2% of the difficult cases that required medical actions were carried out directly in the field hospital. The quarterly experience of continual employment of this system in the conditions of the regional public health services network disorganization (typical for natural disasters), local shooting wars, and prolonged anti-terrorist operations has shown its high potency for rapidly dealing with problems of diagnostics, medical tactics selection, and evacuation of the patients and victims in the specialized medical hospitals.

The DVB/RCS channels of the Russian satellite system with combined access to HeliosNet created the communications environment. The high-speed DVB channel used in the direction from the Telemedicine Center in Moscow to the hospital and low-speed simplex, point-to-point reverse satellite channel were able to support on-line advising sessions by means of an asymmetric, duplex IP-connection.

Keywords: advice; Chechen Republic; consultation; diagnostics; disaster; evacuation; field hospital public health; Russian; tactics;

telemedicine
Prehosp Disast Med 2003;18:s(1).
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Thursday, 04 September 2003

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

Prehosp Disast Med 2003;18:s(1)s29.
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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 pre-hospital 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

Prehosp Disast Med 2003;18:s(1)s29.
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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