



Chapter XIV

**Changing the Face of War
Through Telemedicine and
Mobile E-Commerce**

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INTRODUCTION

The general perspective of this chapter is designed to relate the rationale used by the Department of Defense (DoD) for the military to adapt the principles of e-commerce to Telemedicine to meet increasing global crises, and to find ways to more effectively manage manpower and time. A mobile telemedicine package has been developed by the Department of Defense to collect and transmit near-real-time, far-forward medical data and to assess how this Web-based capability enhances medical management of the battlespace. Telemedicine has been successful in resolving uncertain organizational and technological military deficiencies and in improving medical communications and information management. The deployable, mobile teams are the centerpieces of this telemedicine package. These teams have the capability of inserting essential networking and communications capabilities into austere theaters and establishing an immediate means for enhancing health protection, collaborative planning, situational awareness, and strategic decision-making through Web-based Internet applications.

This chapter is designed to relate the rationale used by the Department of Defense and the Test and Evaluation (T&E) Integrated Product Team, in order to determine the military utility of the Joint Medical Operations–Telemedicine Advanced Concept Technology Demonstration (JMO-T ACTD). In order to meet increasing global crises, the U.S. military must find ways to more effectively manage manpower and time. Joint Medical Operations–Telemedicine (JMO-T) was developed by the Department of Defense to collect and transmit near-real-time, far-forward medical data and to assess how this improved capability enhances

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medical management of the battlespace. JMO-T has been successful in resolving uncertain organizational and technological military deficiencies and in improving medical communications and information management. The deployable, mobile Telemedicine Teams are the centerpieces of JMO-T. These teams have the capability of inserting essential networking and communications capabilities into austere theaters and establishing an immediate means for enhancing health protection, collaborative planning, situational awareness, and strategic decision-making.

The objectives of the chapter are focused on developing a holistic model of transformation. The model synthesizes current thinking on transformation into a holistic model and also explains the integrative influence of vision on the other four model components—environment, people, methodology, and IT perspective. The model was tested by the testing and evaluating team of the JMO-T ACTD. JMO-T ACTD has developed a very successful training program and is very aware of the importance of planned change. Top military officials, such as the Commander-in-Chief (CINC) are actively involved in change and are committed to people development through learning. The model served an applied purpose by allowing us to see how well the military organization fit current theory. The model also fit a theoretical purpose by organizing a holistic, comprehensive framework. Accordingly, we have organized and synthesized the literature into five interrelated components that act as a fundamental guide for research. The model also helped us to identify a theoretical link and apply it to the internal operations of the military and its adaptation of mobile e-commerce principles to more effectively deliver telemedicine benefits to military personnel.

BACKGROUND OF TELEMEDICINE AND ISSUES

Telemedicine is an approach of providing care for patients that are geographically separated from a doctor. Telemedicine allows a doctor and a patient to interact with each other using computer networks. Telemedicine, when used in military, has the potential to treat patients in the war zone where doctors may not be readily available. The U.S. national strategy for military pre-eminence is based on technological superiority. Through new discoveries in advanced science and technology, the goal of the Department of Defense under Joint Vision 2010 (JV 2010) is to develop the ability to directly and decisively influence events ashore and at sea—anytime, anywhere—to meet current and future challenges.

To successfully meet these challenges, the DoD must continue to move forward in its effort to incorporate telemedicine into its prime mission—to keep every service member healthy and on the job, anywhere in the world, to support combat operations, as well as humanitarian, peacekeeping, and disaster relief missions.

Telemedicine supports the DoD's goal by electronically bringing the specialist to the primary provider who directly cares for service members in austere, remote, and isolated environments (Floro, Nelson, & Garshnek, 1998). Telemedicine also creates an opportunity to provide rapid, accurate diagnosis and therapeutic recommendations (Garshnek & Burkle, 1998). The end result is that telemedicine helps to maintain the health of service personnel and their ability to quickly return to duty, minimizing logistically burdensome, inconvenient, and expensive transportation to distant specialty care (Bangert, Doktor, & Warren, 1998).

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