



Chapter XVI

A Case Study of the Military Utility of Telemedicine

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INTRODUCTION

In order to meet the medical management challenges presented by increasing global crises, the U.S. military must find ways to more effectively manage manpower and time. In response, Joint Medical Operations–Telemedicine (JMO-T) has been developed by the Department of Defense (DOD) to collect and transmit near-real-time, far-forward medical data and to assess how this improved capability enhances 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. 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. One objective of this chapter is to relate the rationale used by the DOD to determine the military utility of the Joint Medical Operations–Telemedicine Advanced Concept Technology Demonstration (JMO-T ACTD) or ACTD for short. ACTD is a JMO-T initiative developed for the purpose of improving joint medical planning capabilities, access and timeliness of medical care, and integration of medical situational awareness. The chapter discusses in detail the complexities involved in the ACTD

initiative. A second objective of the chapter is to articulate the development of Critical Operational Issues (COIS) and Measures of Effectiveness (MOE) as methodologies for investigating the military utility of telemedicine.

BACKGROUND

In November 1997, several town hall meetings were held between the Army, Navy and Air Force to discuss the feasibility and practicality of telemedicine. These meetings served to identify customer requirements and service positions on the delivery of health care to combatants in future military operations. The goal was to reach a balance between technology push and requirements pull. In other words, do we let the technology or the requirements drive the reengineering project? Can there be a happy medium between the two?

In December 1997, a meeting was held at Camp Smith, Hawaii. At this meeting an understanding of the Commander in Chiefs (CINCS) operational requirements and the beginnings of a Concept of Operations (CONOPS) was developed. Every branch of the military must have a CONOPS before they undertake an exercise. CONOPS is somewhat analogous to a strategic plan with step-by-step documentation of what will occur along the process path. From the meeting emerged a proposal to the Deputy Secretary of Defense presented on January 15, 1998. The proposal articulated four critical issues for early planning in the ACTD.

- 1. Enhance force medical protection through early, far-forward (future planning) diagnosis and treatment.** The ACTD initiative is charged with evaluating the utility of early and far-forward detection and mitigation of diseases and injuries to minimize their operational impacts.
- 2. Enhance capability to keep combatants on station whenever possible.** The ACTD is charged with evaluating emerging capabilities in order to minimize evacuation and the resulting need for personnel replacements and personnel movements.
- 3. Enhance medical capabilities to employ the minimum assets required to meet operational needs.** The ACTD is charged with evaluating novel modeling capabilities for tailoring medical support to a variety of battlespace situations. A Joint Operational Scenario was established to enhance medical capability. From this scenario, it was determined that smaller, more mobile, flexible medical units better support tactical operations.
- 4. Enhance deployment planning and realization of telemedicine capabilities in tactical operations.** The ACTD is charged with evaluating emerging Army, Navy and Air Force concepts that provide enhanced organizational capabilities to the tactical operations of telemedicine.

These critical issues are all well grounded in terms of enhanced force medical protection and within the vision of the armed forces (for more detailed information, please consult: www.actd.tatrc.org and www.odusa-or.army.mil/TEMA/ref.htm). The initial CONOPS is also detailed in this proposal, and assumes that this ACTD

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