Chapter 6.13
Healthcare Network Centric Operations:
The Confluence of E-Health and E-Government

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ABSTRACT

Healthcare has yet to realize the true potential afforded by e-health. To date, technology-based healthcare operations are conducted chaotically, at a wide variety of nonintegrated fronts, with little or no long-term strategy, and at a tremendous and ever increasing cost. This chapter proposes that in order for healthcare to ever reap the full benefits from e-health, it is imperative for the development of a doctrine of healthcare network centric operations. Otherwise, millions if not billions of dollars will be spent on a futile chase of the definitions of how and when the computer, healthcare provider, and healthcare administrator interact most efficiently and at least expense. The concept of a doctrine, "conceptual platform," that outlines the consequent, goal-oriented way forward, and integrates all constituent elements into a smoothly operating whole, is utilized to great effect in the military. Drawing upon the strategies and techniques employed by the military to develop a network centric doctrine, the chapter outlines the essential components necessary for the establishment of the doctrine for healthcare network centric operations (HNCO), and in so doing not only highlights the integral role played by information computer and communication technologies (IC²T) but also the pivotal role of policy makers and governments. In fact, HNCO underscores the important yet rarely acknowledged confluence of e-health and e-government.

INTRODUCTION

The rules of competition are changing as a result of the growth of global markets, the increased

speed of business transactions, the technological revolution, and continued change in customer expectations. The growth, integration, and sophistication of information computer and communication technologies (IC^2T) are changing our society and economy. Consumers and businesses have been particularly quick to recognize the potential and realize the benefits of the Internet and Internet-facilitated computer networks. The resultant "e-revolution" changed many aspects of the traditional "way of doing business," facilitated substantial changes in internal and external management styles, enabled increased efficacy of virtually all production stages and operations, and helped to extend the customer reach. As e-commerce or the application of IC^2T to business matures, more attention is being placed on maximising its potential benefits to all areas of society. Two areas where much focus is now being placed regarding the use of IC^2T to improve access to information and provide better access to services include public institutions and governments and healthcare.

E-government is defined as the use of IC^2T to provide citizens and organizations with more convenient access to government services and embrace interactions within governments (government-to-government), between governments and citizens (government-to-citizen), and between governments and businesses (government-to-business) (Turban, King, Lee, & Viehland, 2004). An analogous definition holds for e-health, which involves the use of IC^2T to provide all participants within the healthcare domain with better access to information and services (Wickramasinghe, Geisler, & Schaffer, 2005).

IC^2T are without doubt the source and the platform of one of the greatest transformations of society since the invention of print and permit-free flow, access, and exchange of information, and the development of universal means of contact among humans. In practical terms, these technologies offer the possibilities for vast improvement of efficiency and cost reduction in business, provide a platform for dissemination of high quality education, facilitate healthcare delivery, and limit the potential for conflict. Already today, the impact of the increasingly more intensive IC^2T use can be measured in the way local, national, and global political, economical, or social transactions are conducted. Yet, with the growing employment of IC^2T in daily operations, it is also apparent that neither the optimal pattern of use has been developed (we need look no further, for example, than the productivity paradox (Haag, Cummings, & McCubbrey, 2004; Jessup & Valacich, 2005; Laudon & Laudon, 2004; O'Brien, 2005), nor a philosophy guiding such use has been contemplated despite the emerging chaos that threatens the future growth of the field. The impeding state of chaos is exemplified by the collapse of e-businesses in the 1990s (Affuah & Tucci, 2001; Kalakota & Robinson, 1999; Stiglitz, 2003; Wickramasinghe & Sharma, 2004). The need for optimization and doctrine development is most evident in the arena of healthcare that, at the moment, is the most costly budgetary item in the world's economy (McGown, Overhag, Barnes, & McDonald, 2004; Reinhardt, Hussey, & Anderson, 2002; Stats & Facts, 2002; von Lubitz & Wickramasinghe, 2005a; Wickramasinghe & Ginzberg, 2001; Wickramasinghe & Mills, 2002).

Irrespective of the particular healthcare system adopted by a country, governments will always be one of the major influencing forces and key actors of the healthcare stage. It should therefore be a logical extrapolation that e-government and e-health should share a significant overlap. One might even go to the extreme and suggest that e-health, especially for countries which only have a public healthcare system, is in fact a subset of e-government. And yet, the two are rarely if ever discussed together. This confluence between e-health and e-government is best highlighted in the doctrine of healthcare network centric operations (HNCO). We believe that by acknowledging this confluence, more effective policies and protocols can be developed which will facilitate the adoption

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