Chapter XXIII
A Care Informatics Approach to Telehomecare Applications

Anthony P. Glascock
Drexel University, USA

David M. Kutzik
Drexel University, USA

ABSTRACT

The authors argue in this chapter that telehomecare is comprised of three separate components: 1) the technology that collects and transfers the data; 2) the informatics that transforms the data into information and then stores and displays it; and 3) the care component that actually delivers the care. Furthermore, the authors maintain that, for telehomecare to be successful, emphasis must shift from developing new technologies to determining the best means of integrating information into sustainable care models. The authors conclude that the future success of telehomecare is largely based on making the care needs of individuals the starting point, rather than an afterthought, and viewing the technology and informatics as tools not solutions.

INTRODUCTION

What exactly is TeleCare? This deceptively simple question actually encompasses a series of unstated and often ignored subsidiary questions; some relatively trivial while others so significant that a failure to answer them could lead to long delays in TeleCare becoming a major force within health care or even to its complete demise. The goal of this chapter is to list and then offer answers to these hidden questions by drawing on experience gained through a succession of research projects spanning the better part of a decade and involving care provision organizations in the United States, England and the Netherlands. These organizations, which included home health care companies, assisted/sheltered housing, care management teams and visiting nurse agencies, were all attempting to turn the promising idea of TeleCare into an actual care giving tool in the real

world. In other words, these attempts involved the delivery of care to clients who had real needs because they had real health care problems. In addition, these companies and agencies had to figure out how to pay for the TeleCare with the result being that in many cases, they had to persuade their clients to pay for something that was largely untried and still in development. Thus, the research on which this chapter is based was complicated. There were no focus groups to analyze, no controlled experiments in the laboratory and no matched-pair control groups. And therefore there are some serious limitations from a methodological perspective (Barlow, 2006), but as a means of determining the important questions to ask about TeleCare and generating answers, there were no better research settings.

TERMINOLOGY

One of the main difficulties with answering the question, what is TeleCare, is what does one mean by TeleCare? It obviously means different things to different people in different contexts. As early as 2000, the editor-in-chief of the Journal of Telemedicine (Bashshur 2000) concluded that "The fact that we have yet to settle on a single definition reflects the dynamic and continuing evolution of the field." Apparently, the field is still dynamic, as in late 2007, Steve Hards (2007), the editor of the website TeleCare Aware offered a series of definitions in an article titled "What is TeleCare? That's a Good Question". While admitting that the definitions of terms such as TeleCare, Telemedicine and TeleHealth "are, at the moment, up to debate", Hards (2007) concluded that "procedures for delivering an appropriate response from an external person (carer, neighbor or statutory service, etc.) are vital to the **whole system**." (emphasis added) His position that TeleCare is a holistic system is the key to both defining and understanding its role in health care delivery.

Thus, TeleCare is a system that integrates three separate components: 1) the technology component that collects and transfers the data; 2) the informatics component that transforms the data into information and then stores and displays it; and 3) the care component that actually delivers the care that is based on the information that is derived from the data collected by the technology. The defining of TeleCare, therefore, is complicated by the fact that people focus on one of the three components rather than viewing it as a system. The result are definitions that reflect the interests of the definer, e.g., engineers developing definitions that emphasize the technology, care providers that emphasize actions taken and health outcomes. On one level, this clash over definitions is trivial, it is all semantics, but on a practical level a definition that people have for something influences the way they think and behave, especially when encountering something new.

This point was emphasized repeatedly in our research projects as the "techies" had trouble understanding the needs of the care providers, the care providers did not appreciate the role of informatics and the providers of information placed unreasonable demands on the technology. Some of this conflict was the lack of experience with the other fields, but much of it was over perceptions of reality brought about by different definitions of TeleCare. Therefore, it became clear that it was impossible to proffer a one-sentence definition of TeleCare that pleased everyone. Instead, the only reasonable way to proceed was to recognize that TeleCare is a complex system comprised of three components each of which had to be separately defined. Below is the resultant definition of TeleCare: a compilation of separate, but interconnected definitions of the three components.

TeleCare or Health Telematics

Any health related activities, services, and systems carried over a distance by means of information and communication technology:

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