Chapter 13
Health Care Virtual Communities:
Challenges and Opportunities

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ABSTRACT

Virtual Communities (VCs) emerged in the beginning of the 1990's due to the proliferation of the World Wide Web. Researchers explored the potentials of virtual communities in health and created different types of Health VCs. There is growing evidence that health virtual communities can empower patients with knowledge, facilitate health information dissemination, and provide social and psychological support. Although Health VCs present several advantages, many challenges are still ahead and opportunities as well. This chapter will provide an overview of non-mobile and mobile VCs; it will then provide an overview of Health VCs research and applications as well as their advantages and challenges. The chapter ends with an outline of the main future opportunities and perspectives in Health VCs.

INTRODUCTION

Virtual communities (VCs) have drawn attention of researchers since the inception of the web. Health Virtual Communities (Health VCs) started to take shape in the mid of 1990's. Nevertheless, even though Health VCs share advantages and challenges with other types of VCs some of the advantages they present and the challenges they face are health care specific. Therefore, there is a need to conduct a *Health VCs assessment*.

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Currently, health informatics is going through fundamental changes due to several developments such as large scale projects to implement Electronic Health Records, the challenges related to the integration of different health care providers/facilities (Hospitals, GPs, community centers, etc.). This state of affairs means that the success of health informatics initiatives and of health care delivery relies on the *cooperation* of several health caregivers and their exchange of patient information at the right time, in the format, and at the right place.

Furthermore, nowadays *mobility* is a fact of life; mobile devices and new communication technolo-

gies have injected a significant added value to health informatics and a significant challenge as well. On the other hand, health care systems are supposed to provide a *continuity of care*, providing means for patient to be taken care of while they are away from hospitals. The adoption of this paradigm is promoted by governments worldwide that try to control an ever increasing health care cost (Canadian Institute for Health Information, 2007; Reinhardt, Hussey, & Anderson, 2004) and by the rise of chronic diseases in populations around the world (Institute of Aging-University of British Columbia, 2007; World Health Organization, 2005) that puts young and elderly in fragile situations while they need to continue their day-to-day activities. Consequently, patients are more and more expected to be *mobile* and *self managing* their health.

In such environment, we can see virtual communities, and especially mobile ones, as an opportunity and a challenge for health care; indeed, they can be used for *cooperation* in situation of *mobility* in order to provide *continuity of care* using *self managed care* tools.

This chapter aims to explore the above concerns, opportunities, and challenges related to virtual communities and mobility in the health care domain. We will particularly provide a detailed overview of Non-mobile and Mobile Virtual Communities and present a model of VCs; then we will discuss non-mobile and mobile Health Virtual Communities and assess their advantages and challenges. Finally, we will discuss future Health VCs trends.

BACKGROUND

Non-Mobile Virtual Communities

Humans gather to form groups or communities in order to accomplish certain objectives. At the beginning of the 1990's., the Internet provided the infrastructure for the formation similar communities, the difference being that the meeting place is not physical but virtual. Such communities are online or virtual communities (VCs). People form virtual communities in order to achieve a certain aim, e.g. playing, chatting, discussing, researching, collaborating, etc. Chat rooms, bulletin boards, and email groups can be considered as virtual communities that allow people to gather and bond. VCs received a visible level of attention from the research community in many disciplines: Computer Science, Sociology, Psychology, and other disciplines (Preece, 2000).

Preece (Preece, 2000) suggests that a virtual community is shaped of: (a) socially interacting *people*, performing special roles or satisfying their needs, (b) a *purpose*, which is the reason behind the community, (c) ***policies*** to govern people interaction, and (d) a *Computer Systems* that support social interaction. David Weissman (Weissman, 2000) identifies two types of systems that form when humans get together. The *organization* type is designed for a specific aim and the *association* type is formed out of the individuals' dedication for shared objectives or beliefs. Had a system been of the former or latter type, they all share all or some of the characteristics that are outlined by Weissman; he argues that these are mainly: causal reciprocity, purpose, design, roles, circumstances, needs, loyalty, passion, and access. C*ausal reciprocity* is the mutual "give and take" that drives people to stick together. The *purpose* is a collection of the community members' objectives. Members assume different *roles* in the community. The *design* of the virtual community should facilitate the fulfillment of the purpose by coordinating the roles of the members. The purpose of the social system is formed by the *circumstances*. The system is formed based on the *needs* of its members, whose *loyalty* is essential for the success of the community. Many communities are driven a *passion* to achieve a shared goal.