Chapter 45
Use Cases and Application Purposes of Social Media in Healthcare

Kerstin Denecke
Innovation Center for Computer Assisted Surgery, Germany

ABSTRACT

This chapter presents the current state and outlines future directions in the possibilities of applying and exploiting social media in supporting healthcare processes. Starting from the abstracts of the Medicine 2.0 conference in 2012, the authors identify categories of application purposes for social media-based healthcare applications. The applications of social media tools and data are categorized into five groups: 1) supporting the treatment process, 2) for information gathering and prevention, 3) for networking and information exchange, 4) for knowledge management, and 5) for research and monitoring. Use of social media for information gathering and disease prevention is most prevalent. Existing applications mainly concentrate on supporting treatment of chronic and mental diseases. Technology is ready for supporting such applications. To go further in that direction, organizational and legal issues need to be addressed, including developing concepts for integrating with clinical information settings, establishing financing models, and ensuring security and trust.

INTRODUCTION

Advances in Internet and mobile technologies changed the way how people access, use and share information. New ways of communicating came up, enabling for timeless and location-independent information exchange. These new media comprise instant messaging, blogs, social networking (e.g. Facebook) or video sharing (e.g. YouTube). While younger populations were fast in adopting these new technologies, the number of older adults using these tools is also growing fast. What does social media has to do with healthcare?

Social media can be both - tool and information source for healthcare applications in various perspectives. Tools are enabling communication, networking or information exchange. Social media is also an information source for patients and health carers. Hospitals and physicians are providing information on offered healthcare services;

physicians are further presenting information on latest biomedical research results and treatments and patients provide information on their experiences, but also seek help through social media. In particular people suffering from chronic conditions or from rare diseases use these new media. They can learn what others have to say about quality of care, or learn important issues regarding treatment and diagnosis. Social media leads to empowered patients equipped with sophisticated technological tools.

In fact, patients increasingly rely on the Internet when looking for medical information and advice which increases their ability to share personal experiences and opinions on health concerns (Lau, Siek & Fernandez-Luque, 2011). In a survey performed by the Pew Research Center and California Healthcare foundation it has been found out that 66% of internet users look online for information about a specific disease or medical problem and 56% search for information on a particular treatment (Fox, 2011). This shows that patients take over the responsibility on healthcare treatment decisions via actively seeking information and options on the web. Mayo Clinic researchers have opined that social media has begun a process of "revolutionizing healthcare" by improving healthcare and quality of life (Aase, Goldman, 2012). The Mayo Clinic Center for Social Media compiled a list of health-related organizations[1] that are actively using social networking sites. It shows that healthcare providers are also interested in using the social media for informing patients and to communicate with them. For example, medical centers inform in their YouTube channels on latest research achievements in clinical therapy (e.g. the YouTube channel of the Mayo clinic, http://www.youtube.com/user/mayoclinic). Advertising healthcare services via the internet is nowadays practiced by many healthcare providers[2].

Beyond, through social-media tools, new possibilities for collaboration and information exchange in healthcare come up. Further, applications are coming up that make use of this new information source; they analyze and interpret the social-media data for example for disease surveillance purposes. Beyond, social-media tools can be applied to support healthcare processes. Bringing social-media tools into healthcare becomes more and more an issue.

The objective of this chapter is to categorize existing approaches and tools of making use of social media in healthcare, to present existing and future use case scenarios and to describe open issues including strengths and weaknesses. We will investigate how social-media data and tools can be used in the treatment process including therapy, diagnosis, and prevention. Existing application areas will be categorised. The following questions will be addressed:

- How can social-media data and tools be used in healthcare?
- Which application purposes can be distinguished?
- Which open research questions do exist?

The chapter will start with a scenario showing the potential use of social media in a treatment process. Then, social media will be defined and opportunities that social media provide for healthcare purposes will be collected. To study the research and current state in that field, we performed a review of abstracts accepted for the Medicine 2.0 conference in 2012. Review methodology and the identified categories of applications will be described. The last section presents future issues and discusses general questions related to the use of social media in healthcare.

SCENARIO: SOCIAL MEDIA USAGE IN HEALTHCARE TREATMENT

To motivate the application of social media in healthcare, consider the following scenario:

Tom, 48 years old, is suffering from Parkinson's disease (PD) since one year. He is working as an

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