Tapping the Wisdom of Crowd Phenomenon in Healthcare Social Networks

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ABSTRACT

Online social networks are increasing in popularity. Among teens, they are fast becoming synonymous with being online, i.e., using the Internet (Lenhart et al., 2011). As online social networks became widespread, it is found that people are using it for various purposes including work, leisure, entertainment, as well as healthcare. In this paper, the authors share their viewpoint and insights on the use of online social networks for healthcare related purposes which are sometimes also referred to as Health 2.0, or as Health Social Networks (HSNs). The authors examine the potential of HSNs in empowering patients and health information seekers towards wellbeing and healthy living. They also discuss the various potential uses of HSNs by healthcare providers and healthcare organizations. A three-dimensional framework is developed by analyzing 37 best-known commercial HSN sites to help categorize HSNs that can aid in their design process. More importantly, we provide an in-depth discussion on the future role of social networks within Healthcare.

Keywords: Crowd Phenomenon, Health 2.0, Health Social Networks (HSNs), Patient Empowerment, Social Networks

INTRODUCTION AND BACKGROUND

Information and Communications (ICT) technologies are changing the way people communicate and share information. ICT is also changing healthcare delivery and access. A variety of technologies are used to inform physicians, patients, and their families. We are seeing the adoption of online social networks that are being innovatively used to prevent risky health behaviors, to manage diseases, to provide remote treatments, to provide a supportive network and more traditionally to provide a convenient means of communication between the professional care provider and the patient such as using e-mail. Patients are highly involved and empowered by the use of ICTs that enable them to make informed decisions regarding their health. On top of consuming information, users now can also create and share information as well. User generated health content is uniquely referred to as Health 2.0. This term extends the concept of Web 2.0 technologies but used within healthcare (O’Reilly, 2006). The content within Health 2.0 is information and tools that can be

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utilized by individuals and groups. This includes health related blogs, wiki’s, social networks, and special interest online groups (Health 2.0 Conference, 2012).

This research study primarily focuses on online social networks used in healthcare, known as health social networks (HSNs). These HSNs are quickly becoming pervasive and many of them can now be accessed from mobile or smartphones. Online social networks are electronic communities that are based on peer-to-peer communication, where users can share information, support one another, and join interest group discussions (Eysenbach, Powell, Englesakis, Rizo, & Stern, 2004). Among such popular social networks are: Facebook with nearly 845 million subscribers, LinkedIn with nearly 135 million subscribers, and Twitter with more than 100 million active users in 2011 (Parr, 2011). With regards to HSNs, dominant and popular social networks include: PatientsLikeMe for patients with about 100,000 members and Sermo for physicians which had over 10,000 registered physicians within just six months of going live (Sermo Inc., 2007).

Over the years, social networks have been notably acknowledged as useful tools to be utilized for health prevention programs (Orizio et al., 2010). Half a decade ago, social networks shifted to an electronic setting driven by the Internet accompanied by a sharp increase in users every year. A study published in 1998 reflected on the potential of using the Internet to promote healthy behaviors and to be used as a persuasive intervention to change unhealthy behaviors. The unique value of using the Internet by healthcare professional is the high accessibility to a global audience at a low cost.

Despite the growing interest in social network sites, not much research has been conducted on their impact on users and the overall optimal design of such networks for health application purposes (Garton, Haythornthwaite, & Wellman, 1997). While there is rapid increase in social network use, the actual benefits and opportunities are yet to be seen. In particular their potential use in the healthcare domain by patients, physicians and healthcare organizations remains poorly understood. Powell, Darvell, and Gray (2003) discuss the various opportunities and benefits that virtual communities provide to their users. Users may be willing to participate and discuss their medical conditions more within online social networks as they allow for anonymous communication. In addition, users access HSNs from all around the world which is valuable to patients with rare conditions, as such HSNs can bring together people that share the same rare symptoms allowing them to support each other and share experiences, thereby eliminating the physical distance barrier. Patients that share personal health data within online HSNs are more likely to better manage their disease, as they are personally involved in collecting and analyzing their personal health data. This reflects on their behavior as a result of such empowerment. The process of sharing, reviewing and providing some sort of assessment of the content improves the user’s knowledge and utilization of such data. Patients are also able to provide valuable advice to their peers. Most importantly HSNs provide users with awareness and education that can lead towards positive behavioral change (Frost & Massagli, 2008).

In contrast, Eysenbach et al. (2004) reports no significant effects of computer based peer-to-peer communities on health, including both positive and negative effects. However, Eysenbach et al. (2004) does acknowledge the fact that such absence of effects does not conclude that HSNs have no effects. They suggest that this may be due to other reasons such as the difficulty of studying natural settings in a more controlled environment (Eysenbach et al., 2004). Another important note is that this study was conducted in 2004, before Facebook, the most dominant social network was open to the public. Although there is no scientifically proven positive or negative effects reported in the literature, it is clear that online HSNs are changing medicine by empowering information seekers, both patients and caregivers, by providing them with highly connective tools and
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