

Chapter 18

Twitter and Its Role in Health Information Dissemination: Analysis of the Micro-Blog Posts of Health-Related Organisations

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ABSTRACT

The utilization of micro-blog-based systems for the dissemination of health-related information offers a number of potential benefits. In this chapter, the authors describe a study of such micro-blog-based dissemination of health information by Australian health-related organisations through the manual categorization of over 4,700 tweets posted during a defined sample period. These tweets were analysed in relation to the sector of the tweeting organisation, health condition area, type of information in the micro-blog post, and level of retweeting. The particular category of public health-related tweets is also analysed in greater detail. This chapter differs from previous health and Twitter-related studies in that it: 1) seeks to characterize the overall and relative Twitter activity of health-related organisations for the sector across a whole nation, rather than collecting a sample matching a specific keyword or health condition; and 2) carries out a more semantically deep analysis of the content of those tweets, hence the manual analysis-based methodology adopted.

INTRODUCTION

Health information dissemination has undergone significant changes due to various technological advances. From originally being delivered through the use of posters, bulletin boards and newspaper articles as public health announcements, to dissemination via current traditional mass media (e.g. television, radio) and increasingly now by online means with the rapid uptake of the Internet. Contemporarily, with

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the introduction and mass-adoption of social networking services (SNSs) by a significant proportion of online users, there are now additional and potentially powerful means of health information dissemination (Steele, 2011).

Twitter, a micro-blogging-based SNS with approximately 240 million active global users, contains useful features and characteristics such as: one-to-many interactions, 'up-to-the-minute' information dissemination, the ability of users to select accounts relevant for them to follow, and the capability of users to generate, receive and share information amongst themselves. This provides an efficient platform for potential Web-based information sharing and retrieval and Twitter can thus potentially aid in achieving the dissemination of health information. Recent reports by social media and marketing-based companies have found that Twitter currently has approximately 2.5 million monthly unique Australian visitors, and this number is rising rapidly (SocialMediaNews.com.au, 2014). The growing proportion of Internet users adopting Twitter, as well as the already widespread uptake of SNSs in Australia, indicates the significance of exploring this medium as a potential tool for health information dissemination.

This chapter will present a detailed overview of how Twitter is currently being used by health-related organisations in Australia, and the health conditions and types of health-related information that are being posted by different organisational sectors. Categorised health information mined from the sample of tweets is also further analysed for the purpose of exploring relationships between the types of disseminators and receivers of health information. The study aims to provide initial empirical data relevant to health organisation utilisation of social media for the health sector on a national scale, rather than necessarily across the entire 'Twittersphere'.

RELATED WORK

Due to the relatively recent introduction of health information-related micro-blogging, and the recent widespread national and global uptake of Twitter in general, the exploration of health and Twitter is still an emerging area of research. A previous health organisation-related study had found that of those public health department accounts within the US using social media, 86.7% had Twitter accounts (Thackeray, Neiger, Smith & Wagenen, 2012). The researchers of the study categorised tweets based on information presented, however they did not follow any links embedded within the tweets and thus did not analyse the information provided in the linked-to Web pages. This chapter will attempt to provide a deeper semantic analysis whereby micro-blog posts and the specific health conditions and types of information being conveyed will be explored and categorised according to both information presented in the tweet and the linked-to page indicated by any embedded URLs.

The tweeting and sharing of information on specific health conditions has also been explored in a number of works. Sullivan et al. (2012) analysed concussion-related tweets to investigate different themes (e.g. 'news', 'personal situation', 'inferred management') as well as to whom these types of information were being disseminated. Epilepsy-related information dissemination via Twitter has also been studied (Mcneil, Gordon & Brna, 2012), where researchers analysed and coded tweets into specific categories to describe the types of epilepsy-related information that was being tweeted. These studies added support that health information could be effectively disseminated via Twitter, but also found a minority of tweets sampled were actually informative in terms of health information. Other research articles have also examined Twitter and smoking cessation (Prochaska, Pechmann, Kim & Leonhardt, 2011), dental pain (Heavilin, Gerbert, Page & Gibbs, 2011) and pharmaco-surveillance (Bian, Topaloglu & Yu,

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