

# Healthcare on Social Media: A Longitudinal Study of Health-Related Support on Twitter

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## Abstract

Healthcare innovation has enabled patients to take a more central role in the management of their disease conditions. The innovative trend has not precluded the central role of primary care givers and experts yet. However, the increasing prominence of social media (SM), such as the Twitter microblogging platform has ensured that a parallel path has been created for people to seek for health-related assistance on SM platforms. For instance, research has shown that 70% of Canadians seek health information on the Internet, while about 33% of Internet users receive and share information via health-related blogging websites. The health information they seek is to help support and manage health conditions based on information disseminated on these networks.

Three main types of social support have been discussed in previous literature; Informational support, Instrumental support and Emotional support. *Emotional support* provides hope, affection, and empathy to participants. *Informational support* is in the form of advice and the sharing of personal life experiences. *Instrumental support* is in the form of statements yielding actual and practical assistance to other participants about issues pertaining to daily living and well-being. These types of support can be propagated through two main channels; a peer-to-peer channel or an expert-to-peer channel. A peer-to-peer channel represents a relationship between two non-expert SM users on a specific topic. An expert-to-peer channel represents a relationship between an expert, such a physician, and a non-expert SM user. Research shows that users who seek for health-related information on SM mostly seek for peer-to-peer health information. Hence we focus our study on communication that occurs within a peer-to-peer channel. Such information, is vital to complementing health information patients receive from their primary care givers.

In a different study, we have explored the dynamics and propagation of social support on SM by leveraging a large volume of SM posts on the Twitter microblogging platform. Specifically, we have identified how health-related support is disseminated on an SM platform and its impact on the well-being of network users. In this follow-up study, we seek to conduct a text analytics-based longitudinal analysis in order to understand the impact of health-related information on people's health outcome over a period of time.

Using an analytics methodology, our aim with this study is twofold. First, we identify and understand the types of support that is propagated on SM regarding disease management over a specified period of time. Next, we identify which of the types of support are paramount to the effective management of disease conditions on SM after a user has been exposed to relevant health information over a period of time. We believe such a study would support the efforts of professional health stakeholders in leveraging the ubiquitous SM platform to assist patients with the management of their health conditions.