Social Media and Healthcare Technology

Beth C. Bock
Brown University Medical School
Beth_Bock@Brown.edu

Rochelle K. Rosen
Brown School of Public Health
Rochelle_Rosen@Brown.edu

Abstract

Social media is changing the way individuals approach healthcare and offers opportunities to understand health-related interactions at all levels, from the micro to the macro. The Social Media and Healthcare Technology mini-track presents research papers addressing a broad range of social media use within healthcare and healthcare research; including macro analytics, the use of text and data mining and the role of “social influencers” in promoting both positive and negative health behaviors.

1. Introduction

The reach of social media is staggering. For example, Facebook has over 2.4 billion users – nearly 1/3 of the total world population [1], and over half a billion tweets are sent daily by over 330 million active Twitter users [2].

The papers presented in the 2021 HICSS Social Media and Health Care mini-track focus on the use of social media for gaining insight into public health. Three papers focus on analysis of social media posts on diverse platforms for understanding substance use. These papers encompass a variety of substances from natural supplements (kratom) to commercially available products (tobacco) and prescription drugs (opiates). The fourth paper in our session addresses vaccine misinformation and resistance to vaccination – a particularly timely topic given the Covid-19 pandemic and recent development of potential vaccines.

Worldwide, tobacco use is an underlying cause of over 7 million deaths annually [3], an annual mortality rate that is estimated to increase to more than 8 million people per year by 2030 [4]. Despite decades of public health prevention interventions and research, tobacco addiction is still a widespread health concern. Social networks are becoming increasingly popular and represent a novel approach for people to find community support. However, little is known about how social media and social networks affect smoking behavior. The paper by De Santo, Moro, Kocher and Holzer tackles this issue by investigating attitudes, motivations, and behaviors of 169 users of the Reddit digital community.

The over prescription of opiate medications has led to significant public health problems in the United States [5] and other countries [6]. While awareness of the opioid epidemic and the role of over prescribing in fostering this epidemic has grown, identification of medical practices that engage in over prescribing is challenging. The paper by Stanislav Mamonov examines the utility of physician rating websites as data sources that help identify medical providers that have problematic opiate prescribing practices. By using text mining techniques this research identified linguistic cues associated with over prescription and demonstrated that patient reviews are useful in flagging potentially problematic medical practices.

The paper by Wahbeh and colleagues investigates the use of machine learning to uncover adverse health effects of kratom, a natural substance that can produce altered mental states and may have potential for alleviating opioid withdrawal symptoms [7]. These investigators analyzed over 36 thousand social media posts of kratom users demonstrating that social media can be an important tool for gaining insight into common and uncommon adverse events associated with substance use.

Vaccine hesitancy, the reluctance of some people and populations to accept vaccination [8] is an urgent problem given the scope of the current Covid-19 pandemic and the need to widespread vaccination. Ruiz, Featherstone and Barnett present an especially timely paper examining the role of social media influencers in promoting vaccine acceptance and hesitancy. Their research examined twitter posts from 420 Twitter influencers and analyzed over thirteen thousand tweets and over seven thousand connections within that social network. Results shows that locating social media influencers may be an efficient way to identify and target vaccine-hesitant communities online.

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