



PRISM Health Symposium

Promoting Research in Social Media and Health

Co-Hosted by Hopelab

2019 Poster Abstracts

Presenter: Adetutu Sadiq, BA

Title: A Research Project Analysing User Perceptions of Text4baby amongst Pregnant Women and New Mothers in Berkeley, California.

Unmet Needs: This research project has already been undertaken.

Aims: The aim was to better understand user perceptions of usefulness of the Text4Baby app among women and children in Berkeley, CA

Significance or Benefit if project is successful: The significance of this project was that it enabled us realize that digital health applications aimed at helping promote good health practices need to be sending information that can be reinforced by doctors during traditional doctor visits in order to maximize effectiveness.

Feedback you seek from the audience: Feedback on how we can further use social media to promote community and better mental health among youth would be appreciated.



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Presenter: Timothy Mackey, MAS, PhD

Title: Leveraging Machine Learning to Detect Suicide and Self-Harm Discussions via Social Media

Unmet Needs: Suicide is a critical public health challenge, with recent studies estimating that it is the second-leading cause of death among teenagers in the United States. Social media platforms offer an alternative method of conducting surveillance for suicide-related behavior, though challenges remain from a methods and intervention perspective.

Aims: The aims of our study were to use big data, NLP and machine learning to detect suicide-related and self-harm conversations via Twitter and Instagram. Our Instagram dataset specifically examined a subset of data we identified as users discussing substance abuse behavior and examined these same users for discussion about mental health topics, including suicide and self-harm. A separate dataset we collected on Twitter focused on conducting surveillance on hashtags associated with suicide and self-harm in languages of Japanese, Chinese and Korean. We examined this dataset to identify what cultural-specific suicide and self-harm issues arose in these populations.

Significance or Benefit: We were able to identify over 100 messages related to substance abuse and suicide for Instagram and specific Twitter hashtags in Japanese related to self-harm and suicide. This preliminary data can provide important insights on the comorbidities associated with mental health and substance abuse and cultural-specific suicide ideation in East Asia.

Feedback from Audience: We would like to solicit feedback on our preliminary results and primary findings for our Instagram dataset and explore the thematic results we were able to identify. This includes next steps of how the data should be used from an interventional, ethical, and health behavior and communication perspective. We are also specifically interested in gleaning more insights on the connection between other mental health issues and substance abuse that we can conduct targeted surveillance for and any other culturally relevant topics in East Asian languages that would be important.

Additional Information: We also look forward to a discussion about the ethical components of this research.



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Presenter: Carolyn Rennels, BA

Title: Behavioral Health and Burnout Among Physician Mothers Who Care for a Person With a Serious Health Problem, Long-term Illness, or Disability

Unmet Needs: This is the first large-scale study to examine burnout in a group of physician mothers who are members of an online social media group (Physician Moms Group online community).

Aims: To determine the prevalence of informal caregiving responsibilities among physician mothers, to examine how caregiving responsibilities affect their health and jobs.

Significance or Benefit if project is successful: First large-scale study to find a prevalence of burnout in physician mothers (n = 5613) of 16.4%. Additionally, found that compared to non-caregiving physician mothers, those with caregiving responsibilities had higher rates and aRRs of mood or anxiety disorders and burnout.

Feedback you seek from the audience: Do these findings change your understanding of burnout and how we can use online communities to characterize and support populations vulnerable to burnout?

Any additional information: This article was published in JAMA IM as a Research Letter

(https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2721035?guestAccessKey=58de6d04-b6cd-472f-9899-7be0ff1c466c&utm_source=jps&utm_medium=email&utm_campaign=author_alert-jamanetwork&utm_content=author-author_engagement&utm_term=1m&fbclid=IwAR0016sqCv7uw8txcjsEXXxVggckIdFvodYWNf8aGKJs02-0ZpalbuHGbw).



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Presenter: Alicia Nobles, PhD, MS

Title: Using Social Media to Obtain a Crowd-Diagnosis

Unmet Needs: Many people use social media to share and request information on specific health conditions, including stigmatized, rare, and chronic health conditions. However, little is known about how patients turn to online communities to receive diagnoses outside of traditional brick-and-mortar health care.

Aims: I aim to examine how people leverage existing communities on social media to provide care in the form of crowd-diagnoses. A crowd-diagnosis, akin to a self-diagnosis, is when someone turns to social media to converge with peers to crowd-source a diagnosis. In doing so, I focus on five primary questions: (1) How do we locate these communities? (2) Who uses the platforms? (3) What health topics are common subjects of a crowd-diagnosis? (4) Do people receive adequate support and accurate diagnoses? and (5) What are the benefits and harms of crowd-diagnosis?

Significance/Benefits: Is crowd-diagnosis a public health dilemma or triumph? On one hand, crowd-diagnosis may serve a vital role in the larger context of health care. It can normalize experiences so that people feel more comfortable discussing with their physicians. It can also serve as a triage to evaluate the urgency of people's concerns. On the other hand, social media was not designed to deliver health care and the underlying accuracy of the diagnosis is unknown. Misdiagnoses may have a ripple effect because others who view the post may wrongly self-diagnose their own concerns.

Feedback from Audience: This research has many open questions and challenges. How can we measure the accuracy of a crowd-diagnosis? Are these communities serving a role in health care (i.e., do they serve as a triage or alleviate disparities in access to health care)? If so, how can we facilitate these interactions while minimizing harm? How do vulnerable or at-risk populations use social media to diagnose their health concerns?

Additional Information: Crowd-diagnosis was first discovered on a platform (subreddit r/STD [sexually transmitted diseases] designed for people seeking support for STDs) where users inquired about their STD status often supplementing their inquiries with images of physical signs. The research was expanded to examine the health topics that are asked and response bias among self-reported demographics on a more general platform (r/AskDocs). r/AskDocs facilitates interactions between the public, peers, and physicians. In future work, I will apply these questions to platforms that cater specifically to substance use to examine the quality of suggested treatments and referrals to treatment services.



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Presenter: Zubaida Qamar, PhD, RD

Title: Assessment of Reach and Engagement of a Student Food Security campaign on Instagram

Unmet Needs: One of the action steps identified by the California State University (CSU) Basic Needs Report is to promote food and housing security among students as these issues are prevalent at CSU campuses and tend to negatively impact academic performance and retention. Particularly, efforts should be undertaken to increase awareness, access, and utilization of on-campus resources for students.

Aims: There are three aims of the campaign: 1) to raise awareness on the prevalent issue of food insecurity among students at San Francisco State University (SFSU), 2) to promote the utilization of available on-campus resources, 3) gather and analyze the utilization data for resources such as CalFresh and Food Pantry in pre-post manner.

Significance or Benefit if project is successful: The project aims to benefit the 46.8% food insecure SFSU students and to inform others who would like to be educated on this issue and learn about the available resources. The campaign is also targeting individuals who are informed of these resources but are unsure on how to apply for and utilize these services.

Feedback you seek from the audience: I would like to request the audience for general feedback on best practices for analyzing social media data for research purposes and to assess reach and engagement with the posted content particularly on Instagram for a professional account. Additionally, it will be useful for our understanding to learn about insights, accounts reached, actions taken from the post, impressions, followers data and usage of hashtags from Instagram to target current students and faculty/staff/organizations at SFSU.

Any additional information: According to needs assessment data collected from the students, Instagram has been found to be widely used social media tool among students. Hence, it was chosen as the tool to develop awareness content with specific hashtags. Additionally, there is a lack of research-driven social media campaigns on a particularly unique campus of commuter students where such efforts can be specially beneficial in targeting the commuting student population.



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Presenter: Rachelle Schneider, BS

Title: Studying Expressions of Loneliness in Individuals using Twitter: An Observational Study

Unmet Needs: Loneliness is a major public health problem where it has found to be associated with chronic mental health conditions and physician visits in some populations. With people increasingly using social media platforms to inform others about their mental states and solicit social support, social media has emerged as a potentially relevant tool to passively measure health states and behaviors of people.

Aims: We sought to characterize the (online) lives of people who mention the words 'lonely' or 'alone' in their Twitter timeline and correlate their posts with predictors of mental health. We collected approximately 400 million tweets from in Pennsylvania, USA. We identified users whose posts contained the words 'lonely' or 'alone' and compared them to a control group matched by age, gender, and period of posting. Through natural-language processing, we were able to identify specific contexts, themes, and traits in the posts of individuals mentioning loneliness on Twitter.

Significance or Benefit if the project is successful: As loneliness is a public health challenge, a better understanding of how loneliness is described online can inform tracking of loneliness and interventions targeted at addressing this important public health problem in regards to the behavior of lonely individuals that may be at risk of developing a severe mental health condition.



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Presenter: Danna Ethan, EdD, MSW

Title: Using Torch: A mission-driven platform to analyze public health social media posts

Unmet Needs: For this poster, a description of the innovative new platform, Torch, will be discussed as a tool for analyzing real-time social media posts from an under-studied sector, namely non-profit, mission-driven organizations and political officials.

Aims: The aim of this presentation is to report on the potential uses of Torch, a platform used to search content from over 1.6 million mission-driven organizations as well as more than 50,000 US elected officials. Torch allows a user to search millions of posts from varied social media outlets including Instagram, Facebook, YouTube and Twitter. Moreover, this tool allows for inclusion of public emails in real-time with additional unique and customized monitoring features. This presentation will focus on the role that such a tool can play in public health research, with a specific focus on leading health problems.

Significance or Benefit if project is successful: Given the extent to which consumers depend on the Internet and social media for many aspects of life, including health information, it is important that public health professionals be aware of the nature of messages distributed on different social media platforms, messaging trends over time, and geographic distribution of messaging.

Feedback you seek from the audience: There is a paucity of research related to the role that non-profits and political officials play in disseminating public health messages. Moreover, there is little known about the nature of the messages that are distributed (e.g. such as the focal point of the health issue being addressed and tone of overall content). The role that both non-profits and political officials can play in effective public health messaging will be explored as well as the benefits and disadvantages of using a platform like Torch.

Any additional information: One of the limiting factors in social media research is the vast array of messages and the constant, fluctuating state of messaging. Torch provides a unique opportunity to harness this information from two under-studied sources of information. As this tool has been launched only recently, it is not widely used for public health research. Presenting at this conference and soliciting feedback from peers with similar interests will be pivotal in informing future studies.