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Use of equity-informed social media COVID-19 risk communication tools: a scoping review protocol

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ABSTRACT

Introduction Health agencies and community organisations play a crucial role in disseminating information to the public about COVID-19 risks and events, providing instructions on how to change behaviour to mitigate those risks, motivating compliance with health directives and addressing false information. Social media platforms are a critical tool in risk communication, providing a medium for rapid transmission of messages as well as providing the opportunity for engagement and immediate feedback. Access to health information, services and support are especially important for marginalised and underserved ('equity-deserving') populations who are disproportionately affected by COVID-19. This scoping review aims to review the breadth and depth of the academic and grey literature on equity-informed social media risk communication tools to provide guidance on promising practices and principles for reaching equity-deserving populations through social media.

Methods and analysis Arksey and O'Malley's (2005) framework guided the identification of the research question; identification and selection of relevant studies from electronic databases and hand-searches of discipline-specific journals; extraction and charting of the data; and collating and reporting of findings. The results of the screening process will be reported using the Preferred Reporting Items for Systematic Review and Meta-Analysis-Scoping Review guidelines.

Findings We will identify reported facilitators and barriers to the development of risk communications that target equity-deserving communities. We will also identify recommendations for equity-informed risk communication for COVID-19.

Ethics and dissemination This study does not require ethics approval. We intend to disseminate the results through publication in an open-access peer-reviewed journal, conference presentations, lay summaries (eg, checklists) for health organisations and messages to be shared through social media.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ The proposed scoping review addresses the need for a comprehensive review of social media risk communication tools directed to equity-deserving populations who are disproportionately affected by COVID-19.

⇒ A comprehensive search strategy has been developed in consultation with a librarian to maximise heterogeneity of results, including forward and reverse citations and a grey literature search.

⇒ This scoping review will include a consultation phase with stakeholders from community organisations who work with equity-deserving communities.

⇒ This review will be limited to 2019 and beyond to capture specific references to COVID-19.

INTRODUCTION

Inequalities in access to the highest standard of physical and mental health between specific population groups have been well-documented.[1] Evidence shows that social factors such as education, employment status, income level, gender, race and ethnicity influence a person's health status.[2 3] Long-standing structural factors also have an effect on health disparities among some population groups due to differences in living conditions, education, health literacy, neighbourhood and built environments, socioeconomic status, discrimination, immigration status, cultural barriers, economic challenges, or risk perceptions.[3]

In this paper, we make the intentional choice to refer to communities who are experiencing marginalisation, stigma, discrimination, inequality, inequity and other barriers to participating in society due to their race, ethnicity, ability, gender, sexuality, economic status and/or migration status, as 'equity-deserving'. Due to persistent inequalities and unique barriers experienced by equity-deserving populations, there is evidence to suggest that certain groups are impacted by the COVID-19 pandemic more than other populations due to their occupational, social, economic and other health and life circumstances.[4] A current concern is the mortality and morbidity effects of the COVID-19 pandemic on marginalised and underserved populations over the long term.[4]

Some groups disproportionately affected by COVID-19 include, but are not exclusive

to, women,[5] Indigenous populations,[6] racial and ethnic minorities,[7] sexual and gender minorities,[8] people experiencing poverty and people experiencing homelessness.[5] These equity-deserving groups are at risk in a variety of ways. For women experiencing homelessness, lockdowns and closure of services have increased their risk of experiencing intimate partner violence and inability to seek supports.[5] Women engaging in sex work are at higher risk due to the physical proximity required for their occupation.[4] Some Indigenous populations' lack of access to running water on reserves and housing instability makes it difficult for community members to socially isolate, wash their hands and practise other COVID-19 preventative measures.[6] In 2020, The Innovative Research Group (INNOVATIVE) found that over half of households (53%) identifying as LGBTQIA+ (lesbian, gay, bisexual, transgender, questioning, intersex, asexual and more) were impacted by reduced employment hours or layoffs due to the pandemic compared with 39% of non-LGBTQIA+ households.[8] Racialised persons are also more likely to live in multigenerational and crowded households, which makes it difficult to practise social distancing and isolate from family members who are elderly or who may have underlying comorbidities.[7] Racialised persons are also at higher risk for being evicted and becoming homeless.[7] People experiencing homelessness are at increased risk of infection with COVID-19 due to their lack of safe housing and difficulties with physical distancing, isolation and quarantine.[5] In addition, equity-deserving populations can be more vulnerable in pandemic or emergency situations due to factors such as their lack of access to effective surveillance and early-warning systems, and health services.[9]

Risk communications and social media

Health agencies and organisations play a crucial role in the disseminating of information to the public about COVID-19 risks and events, providing instructions on how to change behaviour to mitigate those risks, motivating compliance with health directives and addressing false information. Risk communication is a critical tool in response to different pandemic consequences, as it aims to establish public and professional awareness and confidence.[10 11] Risk communication entails the systematic dissemination of information to diverse audiences (eg, individuals, communities and institutions), facilitating their informed, independent decision making about the existence, nature and/or severity of risks and hazards affecting health, safety and the environment.[12] Risk communication also involves the two-way exchange of information between interested parties to make decisions about how to best manage risks.[11]

Social media platforms are a critical tool in risk communication, providing an online medium for rapid transmission of messages as well as providing the opportunity for engagement and immediate feedback.[13] Social media sites come in a variety of forms which provide different features for users, such as social networking, professional networking, media sharing, content production and knowledge/information aggregation (see table 1).

Table 1 Social media sites used by healthcare organisations

Function	Description	Examples
Social network	'Web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection and (3) view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site.'[32]	Facebook, Myspace, Google Plus, Twitter, Snapchat
Professional network	Sites which provide the opportunity for professionals to participate in online communities, listen to experts and network and communicate with colleagues.	LinkedIn
Media sharing/Social network	Media-sharing sites offer a large selection of social media tools that are optimised for viewing, sharing and embedding digital media content on the web. They also include features such as profiles, connections, comments and private messaging.[33]	YouTube, Tik Tok
Knowledge/information aggregation	A collaborative website that can be directly edited by anyone with access to the site.[33]	Wikipedia
Content production—blogs and microblogs	Blogs are an open forum which provide the opportunity to publish large amounts of long-form information as well as video and audio material. Includes a comment function allowing for ongoing dialogue between the blogger and his or her audience.[34] Microblogs are web services that allows subscribers to send short messages to other subscribers.[33]	Tumblr, Blogger, Twitter

Social media is increasingly used for public health and health promotion due to its potential to engage with audiences for enhanced and quick communication and improved capacity to promote programmes, products and services.[14 15] Social media may also be used by health organisations to market insights, establish a brand and create brand awareness, disseminate critical information, expand reach to more diverse audiences and foster public engagement and partnerships.[15] Twitter is seen as especially popular in the context of public health crises due to its ability to promote rapid dissemination and results in the spread of user generated content.[16]

During the H1N1 pandemic of 2009, social media facilitated the monitoring and surveillance of disease levels and public concern.[17] Social media was also a key tool for risk communication during the Ebola outbreak, although researchers found a lack of understanding in the use of social media in routine health communication practices of public health agencies.[18] In the context of COVID-19, it is clear that social media continues to play an important role. For example, Resendes examined public health risk communication via social media by provincial and local health authorities in Ontario during the COVID-19 pandemic.[19] He noted that this group of governmental bodies focused on offering information, updates and resources to the public, but not on the impact of COVID-19 on vulnerable populations or on providing clarity on misinformation.[19] Anecdotally, Chesser et al demonstrated the importance of increased public health information through trusted information channels and sources and suggest that public health experts versus the 'government' are more trusted to develop solutions to the COVID-19 pandemic.[20] They further suggested that additional content about signs, symptoms and prevention strategies for COVID-19 should be consistently shared through community social media accounts.[20]

Despite the advantages of social media for communicating risk during a health crisis, social media also has the potential to increase health inequities, as differences in access to technology, culture and preferences might affect the uptake of risk communications.[14] Furthermore, the influence of social media and other digital platforms on the unfolding of the COVID-19 pandemic has demonstrated how the spread of misinformation is proving to be as much a threat to global public health as the virus itself.[21]

Tools and frameworks are an essential component for creating and engaging in risk communications. There have been several tools identified in the literature that guide social media for use during a health crisis (see table 2).[22]

It is clear that there is a wide variety of options available to risk communicators to strategically develop communication plans in the face of COVID-19. However, it is less clear how these frameworks may be relevant and applied to communications to equity-deserving populations.

As the impact of COVID-19 amplifies existing health inequalities, the importance of equity-informed social media responses to the COVID-19 pandemic is elevated. The effectiveness of social media risk communication depends partly on meeting the specific communication needs of those most vulnerable to the risks and most likely to experience communication gaps. A previously conducted national survey from the Harvard School of Public Health and the CDC about beliefs about public health interventions for a hypothetical pandemic influenza revealed that beliefs about pandemics varied by socioeconomic circumstances, cultural background

Table 2 Tools and frameworks for creating and engaging in risk communications through social media

Tool or framework	Description
The Rand Public Health Disaster Trust Scale Measurement tool	Helps to identify communities where there is a low amount of trust; can indicate communities for targeted communications and inclusion in community partnership.[35]
The Crisis and Emergency Risk Communication (CERC) Toolkit	Published by the Centers for Disease Control and Prevention; includes 12 modules which outline elements of a crisis, as well as the message development and audience research required to create public health risk communication plans.[36]
The Theoretical Domains Framework (TDF)	Focuses on implementation; preserves theory throughout the process of creating communication plans which targets specific health behaviour change.[37]
The Risk Communication on Social Media (RCSM) Model	Created to help risk communicators in identifying factors that facilitate message passing in social networks in their specific context.[38]
The Social Media and Public Health Epidemic Response (SPHERE) Continuum	Characterises the functions of social media across the epidemic-response continuum (ie, first level is labelled social media as contagion, which refers to misinformation that can contribute to harm in the same way the disease can).[39]
Health Communication at a Glance	A 12-step process for communicators to develop health communication initiatives; based on project management approach; includes sample worksheets and fillable documents.[40]

and health status.[23] Employment security also impacts the level of adherence to risk reduction guidelines. For example, low-income, African American and Hispanic individuals were more likely to believe that salary or job loss would result if they or a family member adhered to public health recommendations to stay at home during influenza pandemic.[24] The additional health risks faced by equity-deserving populations demand effective risk communications to help equity-deserving populations recognise and minimise risks and more effectively prevent and respond to COVID-19 infection and spread. Risk values and perspectives on risk influence how individuals interpret health risk communications and how they behave in response,[14] not to mention circumstances and opportunities to enact public health measures in one's environment.

In Canada, the National Collaborating Centre for Methods and Tools conducted a rapid review to identify the best practices for risk communication and strategies to mitigate risk behaviours.[25] They sought to identify, appraise and summarise emerging research evidence to support evidence-informed decision making in response to the COVID-19 pandemic.[25] This rapid review identified that evidence is lacking for the experiences of many populations who live with social and structural inequities, such as Indigenous or other non-Caucasian people.[25] They called for further research to ensure representation of these populations in decision making of risk communications.[25] Other studies have supported this call for targeting equity-deserving communities in COVID-19 risk communications, suggesting that the top-down (authority-imposed decision-making) risk communication process often fails to include low-income and marginalised populations.[26] This current study was initiated to address the traditional neglect of marginalised and other equity-deserving populations in COVID-19 risk communication.

Scoping reviews are ideal in identifying the available evidence in a field and the key characteristics or factors related to a concept, that is, social media risk communications.[27] Furthermore, a scoping review supports our aim of identifying gaps in the literature.[27] This proposed scoping review aims to review the breadth and depth of the academic and grey literature on equity-informed social media risk communication tools to provide guidance on promising practices and principles for reaching equity-deserving populations through social media. This review specifically focuses on social media due to its ease and reach as a communication method along with the threat it poses to global public health due to misinformation and credibility issues. The objectives of this scoping review are as follows:

1. To review the breadth and depth of the academic and grey literature on equity-informed social media risk communication tools in response to COVID-19.
2. To explore how evidence-based recommendations about COVID-19 risk have been tailored for equity-deserving populations including facilitators and barriers to the development of tailored messaging.
3. To provide guidance on promising practices and principles for reaching equity-deserving populations through social media.
4. To identify gaps in the literature.

METHODS AND ANALYSIS

This scoping review follows the methodological framework described by Arksey and O'Malley which comprises five stages: (1) identifying the research question, (2) identifying relevant studies, (3) study selection, (4) charting the data, (5) collating, summarising and reporting the results and (6) consultation.[28 29] The database search of this review began in January 2022 with an expected completion of study selection in June 2022 and a completed review in October 2022.

Stage 1: identifying the research question
The scoping review is guided by the following research question:

1. How did health agencies and community organisations produce social media risk communications and strategies regarding COVID-19 to equity-deserving populations?
2. What are effective practices and principles for providing equity-informed social media risk communications?

Stage 2: identifying relevant literature
We had ongoing consultations with a scoping review specialist librarian, who assisted in developing the search strategy including the key words and identifying relevant databases. The search strategy included pertinent and comprehensive search terms that represent the primary concepts of this scoping review's objectives. These consist of keywords and MeSH terms, as well as combinations of these terms using Boolean operators. The search strategy and keywords have been adjusted for each database and website (see online supplemental file 1). An electronic search was conducted using the following databases which were selected in consultation with a librarian:

1. CINAHL Complete
2. MEDLINE (OVID)
3. Business Source Complete
4. EMBASE database OVID
5. Scopus
6. PubMed's curated COVID-19 literature hub: Lit COVID-19

Grey literature from health organisations with relevance to the focus of our research (eg, risk communications, equity) was included. A list of relevant grey literature sources has been informed by a rapid review focusing on risk communication.[24] These websites include:

► WHO's Global literature on coronavirus disease
► NCCDH Equity-informed Responses to COVID-19
► Public Health +
► COVID-19 Living Overview of the Evidence (L·OVE)
► NCCEH Environmental Health Resources for the COVID-19 Pandemic
► NCCIH Updates on COVID-19

Table 3 Inclusion and exclusion criteria

	Inclusion criteria	Exclusion criteria
Population	Equity-deserving populations (marginalised populations, vulnerable populations, minorities, at-risk populations, communities experiencing stigma, discrimination, inequality, inequity).	General population
Concept	Risk communication through social media (eg, communication about COVID-19 risks and events, instructions on how to change behaviour to mitigate risks, motivating compliance and addressing false information).	Risk communication through non-social media such as broadcast news (TV, radio) and print media (newspapers, magazines)
Context	COVID-19	Other infectious diseases such as HIV and Ebola
Type of study	All study types will be included: peer-reviewed journal articles, non-governmental organisation reports and academic dissertations.	No criteria
Study design	All study designs will be considered including cross-sectional qualitative and quantitative studies, randomised controlled trials and quasi-experimental designs editorials, commentaries and pilot studies.	No criteria
Language	Evidence published in English	Non-English sources
Time	After 2019 to 2022	Before 2019

The search terms used to search the academic literature were used to identify relevant documents from these national organisational websites and national evidence hubs. Links to potentially relevant publications were extracted for further screening by two researchers.

Stage 3: literature selection
Eligibility criteria
We will include articles that meet all the inclusion criteria as listed in table 3. In addition to excluding publications that do not meet the inclusion criteria, we will exclude any articles that focus solely on risk communication without consideration of equity. We will also exclude articles that do not discuss social media within the context of a public health response to COVID-19. Articles before 2019 will be excluded as COVID-19 was declared a pandemic in early 2020, and it is unlikely that there were any publications on the topic of concern before 2019 . Due to resource limitations, we will only be including articles written in English.

All references will be exported to reference manager software, COVIDENCE, to organise citations and remove duplicates. Title and abstract review will be conducted by two researchers. The full text of the selected article will be further screened against the inclusion criteria by two researchers. After a pilot screening process, any discrepancies will be discussed among the researchers until consensus is reached. Where necessary, discrepancies will be resolved through consultation with a third reviewer. The reference lists of included articles will be searched (reverse citation), along with a forward citation search in the Scopus database. The results of the screening process will be reported using the Preferred Reporting Items for Systematic Review and Meta-Analysis-Scoping Review guidelines.[25]

Stage 4: charting the data
A data charting table will be used to extract data systematically from the included articles. This data extraction table was developed in accordance with the objectives of our scoping review, as well as discussions among members of our research team to ensure that we identify all relevant information. The data extracted from all included documents will include the following: (1) title, (2) author(s), (3) year of publication, (4) type of document, (5) countries or regions studied, (6) aim or study purpose, (7) methodology, (8) type(s) of social media discussed, (9) target population, (10) key findings (process, principles, practices), (11) frameworks discussed, (12) recommendations, (13) limitations of study. Two researchers will complete the data extraction and a third researcher will review the ongoing data extraction to determine if adjustments need to be made. The data extraction table will be changed and adapted during the process of gathering information from the included articles as necessary, and all modifications made will be explained fully in the final review.

Stage 5: collating, summarising and reporting of results
Results from this scoping review will be presented as a descriptive summary of the results from all included papers. This summary will describe the breadth and depth of the academic and grey literature on equity-informed social media risk communication tools in response to COVID-19. We will also conduct a thematic analysis using the phased process delineated by Braun and Clark[29 30] by inductively organising the charted data

into descriptive themes which closely reflect the content from the selected studies. Phase one involves familiarisation of the entire dataset to identify appropriate information that may be relevant to the research questions.[30] In phase two, initial codes which will include shorthand descriptive labels for pieces of information that may be of relevance to the research questions will be generated.[30] In phase three, themes will be generated by combining codes with shared meanings.[30] At phase four, all authors will meet to discuss the themes and whether they provide meaningful interpretations of the data.[30 31] In phase five, themes will be named and defined.

Stage 6: consultation

This review is part of a project titled Depending on the Third Sector for Effective and Just Pandemic Prevention Communication to Vulnerable Populations. Results will be discussed with representatives from health agencies and community organisations with a mandate to service equity-deserving individuals and families.

Patient and public involvement

Patients and public were not involved in the design and conduct of this study. Health agencies and community organisations will be involved by informing plans for dissemination of the study results to equity-deserving communities as part of the consultation phase of this scoping review.

ETHICS AND DISSEMINATION

As the scoping review methodology consists of reviewing and collecting data from publicly available materials, this study does not require ethics approval.

We intend to disseminate the results through publication in an open-access peer-reviewed journal, conference presentations, lay summaries for health organisations and messages to be shared through social media. We will publish the results of this review in a public health or health services research journal to maximise knowledge translation to social scientists and health services researchers pursuing research on health equity.

DISCUSSION

This scoping review will map the breadth and depth of the academic and grey literature on equity-informed social media risk communication tools, practices and principles to provide guidance on promising practices for social media COVID-19 risk communications to mitigate risk behaviours in equity-deserving populations during a pandemic. We anticipate that this scoping review will also aid organisations in determining how to tailor risk communications to target populations during non-emergency times. Failure to communicate risks and risk mitigating interventions/behaviours might perpetuate existing inequities experienced by some populations.

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