Scoping Review Protocol

Title

Social Media as a Dissemination and Knowledge Translation Strategy among Health Professions Educators: A Scoping Review Protocol

Protocol Information

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Background/Rationale

COVID-19 has arguably affected health professions education (HPE).¹⁻³ Educators have rapidly transitioned to delivering educational sessions remotely while clinical training opportunities have been canceled, postponed or modified; this has left students with few opportunities to interact with patients and develop the intrinsic skills required for compassionate and relational care.²⁻⁵ Recent commentaries and reports have recommended leveraging existing online educational resources like pre-recorded lectures, blogs, and podcasts to facilitate health professions remote learning.^{1, 6, 7} However, the feasibility of doing so remains uncertain^{8, 9} and the impacts thereof are also a matter for concern. For instance, education, like healthcare, is a caring profession;¹⁰ the shift to remote learning on a large scale has the potential to change the ethic of care in HPE. The quality of online learning has also been questioned as reflected in a recent survey by the Canadian Association of University Teachers (CAUT) that found that postsecondary students might reconsider their 2020 enrolment due to the perceived lower quality of learning associated with remote instructional approaches as compared to face-to-face instruction.¹¹

Educators – in collaboration with other such stakeholders as program directors, deans, and accrediting councils – are responsible for ensuring that current best evidence informs educational decision-making while maintaining an ethic of care in their teaching.^{10, 12, 13} While anecdotal accounts support the effectiveness of using social media to rapidly disseminate educational resources in HPE, little is known about how knowledge shared via social media aligns with educational research and what impact this method of knowledge sharing may have on HPE broadly, and compassionate and relational practice in particular.¹⁴

The term ‘social media’ refers to any web-based service that allows individuals to construct a public or semi-public profile and interact with other users within a bounded

system.¹⁵⁻¹⁸ Prior to COVID-19, health professions educators used social media to simulate patient encounters, prepare students for examinations through interactive videos, deliver curricula through Twitter push notifications, and hold Twitter chats for continuing professional development.¹⁹⁻²² Since the pandemic, social media have facilitated the distribution of new information to frontline healthcare professionals (HCPs) who may not have institutional access to journals, facilitating just-in-time learning.^{23, 24} Social media have also created spaces for HCPs to give and receive peer support.²⁵⁻²⁷ Organizations like the Harvard Macy Institute (@HarvardMacy) used their Twitter platform to share online teaching resources while other Twitter profiles, like Pivot MedEd (@pivotmeded), emerged to curate open-access instructional and curriculum resources to facilitate the transition to remote instruction in HPE.

Though social media may increase the accessibility of educational content for public use and flatten hierarchies between patients, learners, and experts,^{5, 28-32} technology is rarely ‘neutral’; that is, technology has been designed to serve particular sociocultural and economic interests.³³ Algorithms curate content based on past digital behaviours and serve to select and shape the information, knowledge, and modes of interaction made available.³³ Social media may also carry a hidden curriculum – defined as a series of unplanned interactions between patients, caregivers, learners, educators, and the technologies themselves – which can have unintended consequences for professional development, socialization, and patient care.³⁴⁻³⁷

In this work, we aim to explore whether and how health professions educators have used social media as a mechanism of dissemination and knowledge translation to support evidence informed HPE approaches in the peer-reviewed and grey literature. We will use a critical scoping review methodology. Scoping reviews are typically used to: 1) identify the types of available evidence in a given field; 2) clarify key concepts/definitions in the literature; 3) examine how research is conducted on a certain topic or field; 4) to identify key characteristics or factors related to a concept; 5) as a precursor to a systematic review; and/or 6) to identify and analyse knowledge gaps.³⁸⁻⁴¹ We will adopt a critical perspective when conducting the review to facilitate the process of challenging commonly held beliefs, perspectives, routines, and processes related to social media use in HPE.⁴² This critical lens will encourage exploration of why and how health professions educators interact with social media while also contextualizing this study in the complexities of knowledge sharing highlighted by COVID-19, notably digital equity, algorithms and the hidden curriculum, and compassionate and relational care. We intend to map the breadth and depth of the literature to establish a clearer understanding of how dissemination and knowledge translation are conceptualized within health professions education and how social media are used for these purposes by health professions educators.

Theoretical Framework

The use of a theoretical framework within a scoping review can help to guide the search strategy, structure and clarify the results, identify knowledge gaps, and indicate areas for future research.⁴³ We will use Engeström’s Activity Theory concepts within this scoping review to explore social media as a dissemination and knowledge translation strategy. These concepts will inform our scoping review research questions, data extraction, coding scheme, and interpretations.

According to Engeström, human activity makes its own context, which is in constant movement historically and interactionally. The activity system is the unit of analysis used to explore relationships in complex settings, as is the case with technology-mediated HPE during

periods of disruption like during the COVID-19 pandemic.⁴⁴⁻⁴⁶ Figure 1 depicts the hypothesized activity system developed for this review. It illustrates how social media platforms are likely to influence – and be influenced by – the actors who use them, the overt and tacit rules, the audiences reached, and the content shared. We hypothesize that the interaction between elements within this activity system influences how and when health professions educators disseminate and take up evidence informed HPE through social media. Findings from this scoping review are expected to further clarify the components of this activity system (i.e., the specific subjects, the specific rules, the division of labour, etc.).

Figure 1

Proposed Activity System Reflecting Social Media Use for Dissemination and Knowledge Translation

Methods

We will follow Arksey and O'Malley's framework for scoping reviews³⁸, taking into consideration the updates proposed by Levac et al.⁴⁷ We will adhere to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews guidelines (PRISMA-ScR).⁴⁸ As we are using a critical approach to this scoping review, rather than focusing on the conventional approach of mapping the literature and identifying gaps^{38, 49} we intend to integrate concepts using a defined theoretical framework alongside a qualitative content analysis to develop a contextual understanding of the extant literature.^{49, 50} Specifically, we will consider and critique the data based on concepts embedded within the proposed framework in Figure 1 by using Activity Theory.

Step 1: Identify the Research Question(s)

This study aims to investigate how health professions educators use social media as a dissemination and knowledge translation strategy to support evidence informed HPE approaches. The questions guiding this review are:

1. How and when have health professions educators used social media as a dissemination strategy?
2. How and when have health professions educators taken up evidence disseminated through social media into practice?

Step 2: Identify Relevant Studies and Other Important Information

Database Searching. We will identify primary studies (published and unpublished) and reviews suitable for answering our research questions.³⁸ To that end, we will seek evidence from electronic databases, key journals, and grey literature (i.e., organizational publications). The Research Librarian on our team (LS) developed the search strategy in collaboration with the Principal Investigator (CG) who was supported by a team of experts in Activity Theory and knowledge translation (refer to Appendix). We piloted the search strategy in Medline, using the search terms ‘Social Media’, ‘Knowledge Translation’, ‘Dissemination’, and ‘Health Professions Education’. The pilot was intended to ensure that our search strategy yielded the types of articles required for this review. The search strategy was also peer reviewed by another librarian using the Peer Review of Electronic Search Strategies (PRESS) tool.⁵¹

Once finalized, the search strategy will be translated to the following databases: Medline via Ovid, Embase via Ovid, Cochrane Library databases including CENTRAL via Ovid, Cochrane Database of Systematic Reviews via Ovid and DARE via Ovid, Best Evidence in Medical Education (BEME) database, CINAHL via EBSCO, PEDro, OT Seeker, APA PsycINFO via Ovid, Education Source via EBSCO and ERIC via Ovid for our full formal search. Due to the multidisciplinary nature of HPE, we included a number of profession-specific databases to add to the richness and relevance of our search results. The PRISMA-Search checklist will be used to help guide the reporting of all search elements for database and supplemental searching.⁵²

Supplemental Searching. We will hand search the reference lists of key papers to identify additional sources. Moreover, we will explore dissertations, theses, and conference proceedings for relevant items. Finally, we will search for reports from professional organizations that oversee the undergraduate and/or postgraduate education of health professionals (e.g., the Royal College of Physicians and Surgeons, the Canadian Association of Schools of Nursing, Canadian Association of Occupational Therapists, etc.).

Step 3: Select Studies and Relevant Information

Inclusion Criteria. Studies will be considered for inclusion if they meet the following criteria:

- *Types of participants:* This scoping review will consider any manuscript that addresses health professions educators, where ‘educator’ is defined as those involved in the education of health professionals (e.g., health professionals, trainees, educators, and patients/caregivers).⁵³

- *Concept:* We will focus on peer-reviewed and grey literature that describes whether and how social media is used for dissemination or knowledge translation by health professions educators. Relevant social media platforms may include Facebook, Twitter, Instagram, WhatsApp, TikTok, YouTube, LinkedIn, Blogs, Podcasts, Wikis, Discussion Boards, Snapchat, Reddit, Pinterest, Clubhouse, Discord, and WeChat, among others.
- *Context:* We will consider evidence informed HPE from across the regulated health professions (e.g., medicine, nursing, physiotherapy, occupational therapy), focusing on undergraduate and postgraduate education. We will also consider the purposes for which social media are used (i.e., for dissemination, for knowledge translation).
- *Types of sources:* All English- and French-language peer-reviewed and grey literature published since 2011 will be considered. Given the rapid change in social media platforms, limiting searches to the last 10 years will likely yield the most relevant results.

Exclusion Criteria. Studies will be excluded if:

- They are published in languages other than English or French
- They are older than 2011
- They do not clearly define social media as a mechanism of dissemination or knowledge translation
- They do not relate to health professions education
- They discuss non-interactive platforms or private institutional learning management systems

Two reviewers will test the inclusion criteria on a 20% subset of titles and abstracts. We will seek to achieve a minimum of 90% agreement between reviewers. In the case of disagreement, the reviewers will meet to discuss the abstract, their perspectives, and attempt to come to a consensus. If no consensus can be reached, a third reviewer will make the final decision to include or exclude.³⁸ Once both reviewers have achieved 90% agreement, they will divide the remaining papers between them and screen the titles and abstracts separately.

Step 4: Charting the Data

The first author (CG) will develop a data extraction form with input from the research team, based on each component outlined in our theoretical framework (Figure 1, above) and her expertise in social media use in HPE. We will extract information from the sources identified in Step 3 to facilitate answering our research questions. The extraction form will include the following components:

- The mediating entities (i.e., types of social media platforms used);
- The subjects involved (i.e., types of health professions educators);
- The objects involved (i.e., types of publicly available and evidence-informed knowledge on social media);
- The rules identified (i.e., digital equity, digital literacies, hidden curriculum, relational/compassionate ethos);
- The community targeted (i.e., health professionals, educators, trainees, patients, public);
- The division of labour/roles (i.e., how is knowledge shared and consumed on social media; who contributes knowledge to social media);
- The mechanisms identified (i.e., dissemination, knowledge translation); and

- The stated outcomes (i.e., diffusion, knowledge uptake, practice change).

Additionally, the data extraction form will chart data related to the author, the year of publication, the country of origin, the discipline, the study aim/objective, and the methods.

Two reviewers will extract the data from a subset of 5% of the total number of papers to pilot test the initial extraction form. This initial data extraction form will be reviewed and modified as necessary. Once the form is finalized and mounted in Covidence, two reviewers will extract the data from an additional 10% of papers as a calibration exercise. As with Step 3, we aim to achieve 90% agreement between reviewers. Disagreements will be resolved through discussion. Once both reviewers achieve 90% agreement, they will extract data from the remaining articles separately.

Step 5: Collate, Summarize, and Report the Results

Our search strategy results will be presented using a PRISMA flowchart. We will present descriptive and numerical summaries of the findings from Step 4. Firstly, we will conduct a numerical analysis to describe the year of publication, location, discipline, aim/objective, methods, and types of social media reported in each study. Secondly, we will conduct a directed content analysis⁵⁴ on our data extraction form to present a qualitative descriptive synthesis of the literature on how and when health professions educators use social media as a dissemination strategy and how and when they have taken up knowledge disseminated through social media into practice. The codebook for this analysis will be derived from our theoretical framework and we will conduct multiple cycles of deductive, followed by inductive coding.⁵⁵ We will critically explore the types of health professions educators who use social media for dissemination and knowledge translation; the rules identified as they relate to equity, digital literacies, hidden curriculum, and compassion; the target audiences; and how social media use for dissemination and knowledge translation has influenced outcomes like knowledge uptake or practice change.

Based on this critical scoping review, we expect to update our theoretical framework and present a revised activity system for social media use in the dissemination and knowledge translation of evidence informed HPE. Additionally, we will identify any overlaps or gaps in the literature and discuss any implications for future research and practice.

Competing Interests

The authors declare that they have no competing interests.

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Appendix

Medline Search Strategy

Search for: 8 and 15 and 23

Results: 100

Database: Ovid MEDLINE(R) ALL <1946 to October 05, 2021> Search Strategy:

-
- 1 Social Media/ (11377)
  - 2 Blogging/ (1040)
  - 3 Webcasts as Topic/ (393)
  - 4 Webcasts/ (1044)
  - 5 (social adj1 media*).tw,kf. (19031)
  - 6 (facebook or twitter or tweet or tweets or instagram* or reddit or blog or blogs or blogging* or vlog or vlogs or vlogging* or youtube or discord or whatsapp or tiktok or linkedin or snapchat or clubhouse or wiki* or pinterest or wechat).tw,kf. (17356)
  - 7 (discussion adj1 board*).tw,kf. (421)
  - 8 or/1-7 (34469)
  - 9 exp Education, Professional/ (313877)
  - 10 exp Curriculum/ (91060)
  - 11 nursing/ or exp specialties, nursing/ (208358)
  - 12 exp medicine/ (1183765)
  - 13 health personnel/ or exp anesthetists/ or audiologists/ or exp dentists/ or health educators/ or hospitalists/ or exp nurses/ or nutritionists/ or occupational therapists/ or optometrists/ or pharmacists/ or physical therapists/ or exp physicians/ or psychotherapists/ or chiropractic/ (334684)
  - 14 (doctor* or physician* or nurs* or physiotherap* or (physical adj1 therap*) or (occupational adj1 therap*) or medical or medicine or (speech adj1 language adj1 patholog*) or dentist* or pharmac* or audiolog* or residency or residencies or intern* or (medical adj1 education) or (health adj1 profession*) or midwifery or midwiv* or surg* or psychologist* or therapist* or chiropract*).tw,kf. (5999530)
  - 15 or/9-14 (6944502)
  - 16 Translational Medical Research/ (12116)
  - 17 Information Dissemination/ (18229)
  - 18 exp "diffusion of innovation"/ (20869)
  - 19 (knowledge adj2 (translat* or disseminat* or utiliz* or integrat* or engag* or distribut* or mobil* or implement*).tw,kf. (12890)
  - 20 (information adj2 (distribut* or share or sharing or shares or shared or sharings or mobil* or implement*).tw,kf. (13184)
  - 21 (translation* adj2 (medicine or research*).tw,kf. (17816)
  - 22 (diffusion adj2 innovation*).tw,kf. (1262)
  - 23 or/16-22 (87191)
  - 24 8 and 15 and 23 (1536)