Literature Review

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Social Media & Technology Project Team

Analyzing the Effectiveness of Social Media Planning, Implementation and Evaluation at Health Units in Ontario
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INTRODUCTION

Tweet. Post. Blog. A new language has developed to communicate with our communities in a landscape that until recently was dominated by traditional avenues of delivering information to the public. Telephones, flyers, television, and radio were the primary means available for health units to communicate with the public. Now, social media (internet-based tools for developing and sharing content) allows for the dissemination of information quickly, increases the potential impact of messages, increases the ease of sharing information, allows diverse audiences to be reached, allows messages to be tailored to suit specific target groups, and ultimately empowers people to make the best decisions for themselves.¹ This has created new opportunities and challenges for conversations in public health, and for the possibilities of both engagement and impact.

1.0 OBJECTIVES

The body of knowledge relating to social media needs to be updated constantly.⁴ This review seeks to update the body of knowledge relating to social media use in the health field and lay the foundation for a toolkit for implementing, maintaining, and evaluating social media at Ontario public health units (PHUs).

Specifically, this review will address the following research questions:

1. What models and best practices for planning, implementing and evaluating social media have been identified in the literature?
2. What does the literature (since 2011) related to planning, implementing and evaluating social media for public health tell us?
3. What barriers, challenges and facilitators are health units faced with when they consider or actually implement social media as part of their programming?

It will be complemented by interviews with staff from all 36 Ontario public health units and three in-depth case studies, to be published in 2013.

2.0 METHODOLOGY

2.1 Peer-reviewed Literature

A search strategy was created to encompass peer-reviewed articles published in the time since the last literature review² was completed, July 27, 2011 to March 7, 2013. The search strategy was built on a preliminary search completed by Public Health Ontario for the LDCP initiative.
Four databases were identified as most relevant to the research questions: PubMed, Cochrane, PsycINFO and ProQuest. PubMed was selected over Medline to ensure that in-process and ahead-of-print citations were captured in the results.

Search terms were selected by the Wellington-Dufferin-Guelph Public Health librarian in consultation with other members of the Ontario Public Health Library Association (OPHLA).

Search terms are included as Appendix A.

2.2 Grey Literature
A grey literature search of material published between July 2012 and March 2013 was also conducted. The following databases/websites were searched: Bill and Melinda Gates Foundation, Burnet Institute, Clinton Foundation, College of Nurses of Ontario, Google News Alerts, Google, Ontario Public Health Library Association (OPHLA), Canadian Best Practices Portal for Health Promotion and Chronic Disease Prevention, Centers for Disease Control and Prevention (CDC), Harvard School of Public Health, London School of Hygiene and Tropical Medicine, Ragan, The Health Communication Unit (THCU), Wellesley Institute, World Health Organization (WHO), and the Obama campaign. Articles were included if they were guideline documents or models related to the implementation and evaluation of social media. The search was not limited to the public health sector. Due to time restraints, results were limited the first page of the Google searches; the only relevant result was the CDC.

3.0 FINDINGS

3.1 How Canadians Use Social Media

Social media refers to internet-based tools such as blogs, videos, podcasts and wikis that are used to develop and share content and engage with others. Social networking sites (SNS) are websites that host a social media tool and allow the formation of online communities where people with similar interests can interact. The most popular of these sites are Facebook, (86 percent of social networkers), Twitter (80 percent) and LinkedIn (73 percent). Social media also encompasses other participatory tools like YouTube or online video sharing, podcasting, wikis, and blogging.

In its 2012 report, Ipsos Reid identified that 95 percent of Canadians under the age of 55 and 68 percent of Canadians over 55 have access to the Internet. Eighty percent of those with access have access from home. Sixty-two percent
have engaged in some form of social networking\textsuperscript{63} and 30 percent visit the site at least once a day.\textsuperscript{3} In addition, 64 percent of those online have used the Internet to search for medical- or health-related information.\textsuperscript{4}

The development of the smartphone – a mobile phone with computer-like capabilities – has further increased both the reach and the diversity of those who use social media.\textsuperscript{5} In 2012, 62 percent of all Canadians owned a smartphone and of these, 60.7 percent access some form of social media at least once a month on their phones.\textsuperscript{5}

The resulting changes to our relationships with both people and knowledge are significant. Forty-one percent of Canadians who use social media networks describe themselves as “communicating more with people online than offline”.\textsuperscript{4}

\subsection*{3.2 How Health Organizations are Using Social Media}

Social media is being used by health agencies worldwide as an “effective way to expand our reach, foster engagement and increase access to credible, science-based health messages”.\textsuperscript{1} Inherent value of social media is that people can be actively engaged and connected to information, organizations and people. The “added value” is the opportunity to create ongoing dialogue and knowledge exchange.\textsuperscript{6} Organizationally, most social media strategies emphasize reach, message reinforcement, tailoring messages, and facilitating an open exchange of information with the public.\textsuperscript{7}

Social media can be seen as one way healthcare agencies can increase access to health information.\textsuperscript{6} Yet despite this widespread use, there has been little studied on the reach of health-based social media campaigns, facilitating behaviour change; the extent of message recall; engagement measures; feasibility and cost measures; and targeting of vulnerable populations. Without this research, health units lack the “compass” they need to navigate this new media environment and social media is used more as “broadcast media” than as a facilitator of engagement.

\textbf{Worldwide}

On a global scale, social media can play a critical role in informing people when disaster strikes.\textsuperscript{8} A real-time disease surveillance architecture developed by Sofeian and Smith tracks diseases related postings in social networks using Twitter and performs with 88 percent accuracy.\textsuperscript{9} Quicker detection allows more time to prepare resources and respond.\textsuperscript{10,11,12} In 2011, a communications officer with the World Health Organization (WHO) monitored twitter during the earthquake that hit
Japan and was able to dismiss health misconceptions, including the suggestion that “drinking iodized wound cleaner and consuming large quantities of iodized table salt would reduce the effects of radiation (rather than potassium iodine tablets taken before exposure, which is recommended)”. During this same disaster, physicians employed Twitter when faced with the inaccessibility to other methods of communication and used it to inform their chronically ill patients where to obtain essential medications.

European countries are drawing on social media to address public health and yield successful outcomes. For example, in Turkey, a campaign to increase condom use through a Facebook page, Facebook advertisements, photo- and video-sharing, and blogging increased online condom sales by eight percent.

Although health organizations are concerned with the possibility their messages will be changed by the audience, they are also perceiving that part of their role becomes responding to message distortion. And although disease surveillance through diagnostic information from laboratories and physicians has a high level of accuracy, disease experts are weighing this against the time needed when outbreak detection is needed swiftly.

One example of facilitating this is HealthMap, a software program which curates various sources of health information, including social media sites such as blogs, for clues to emerging threats to public health. Social media sites are also being used to disseminate information on where to get more information, share emergency plans and where to get services such as vaccines.

**United States**

In the United States, 60 percent of health departments use social media, though use is still considered to be at the early adoption stage. One of the recognized leaders in social media in the health field is the Centers for Disease Control and Prevention (CDC). Its platform-specific advice has been a guide for multiple organizations and its success has been a catalyst for the use of social media by public health units across Ontario.

In 2009, the CDC ran an extensive H1N1 communications campaign using Twitter, MySpace and YouTube. By tailoring messages to each channel, it was able to engage in dialogue with the public and build trust. There was a notable increase in public satisfaction ratings during the time of this campaign.
Ontario

As of July, 2011, most (33 of 36) public health units (PHUs) in Ontario were using social media, with Twitter and Facebook being the sites used most often. Health units are drawing on social media for health promotion campaigns, tweeting about local events, developing YouTube channels and blogging about current issues (e.g., alcohol consumption, parenting). Most PHUs are using social media as an additional “broadcast” medium rather than leveraging its unique attributes for interaction.

Three comprehensive reviews of social media use at Ontario PHUs have been completed.

In 2010, Schein et al. compiled a comprehensive report on social media use by Ontario PHUs. The authors concluded there is potential utility for social media in public health (as well as potential pitfalls), especially in improving reach and promoting messages. Engaging users to co-create content and provide feedback improves audience trust, loyalty and confidence in the information. In addition to management recommendations (discussed below), they recommend coordination of materials and collaboration at municipal, provincial and federal levels of government.

Newbold and Campos completed a systematic review of media and social media in public health messages. Their search strategy mirrored that of Schein et al. They investigated where consumers get their health information; whether traditional and social media outlets are able to effect change in peoples’ health; and which types of media outlets are most effective at delivering these health messages. The authors found “considerable reach” by health units to the public through social media; however, they identified the need for controlled studies and the need for the body of knowledge relating to social media in public health to be “constantly updated”.

Simcoe Muskoka District Health Unit commissioned a review in 2011 that introduced a potential model for further research. It included in-depth interviews with organizations currently using social media. Organizations were targeted based on their successful use of social media, relevance to the study goals, size, location or access to resources, whether they were considered leaders in their field, and whether they had a social media policy or guidelines in place or in development. The authors concluded social media can be used to achieve communication goals and provided recommendations to reach audiences, develop content, monitor, respond, and evaluate effectively. They also provide recommendations for implementing social media strategies at health units.
Ultimately, there are multiple potential uses of social media that are specific to the public health field: to inform, educate, and empower people about health issues; to provide speedier communications during health emergencies (such as outbreaks); to mobilize community partnerships and actions; to facilitate behaviour change; to collect surveillance data; and to understand how the public perceives an issue.  

### 3.3 Social Media Management: Managing the Workflow

At Ontario PHUs, social media is most often managed by communications, marketing, or media relations personnel, followed by public health nurses or program staff, graphic designers, and health promoters.  

Details about how organizations manage their social media presence are scarce, especially when it comes to health organizations. Newbold and Campos found that content is most often created by a team and posted by one person. Generally, communications staff collaborate with program staff on the content. Most messages are pre-approved because they are already part of existing campaigns. Emergent messages (for example, a news release) are generally released “on the spot”. Some public health units have corporate accounts; others use social media tools at the campaign level only. Which approach is most effective is unknown.  

Social media management can be centralized or decentralized. The CDC uses social media to disseminate information from the CDC (as an organization) but also allows channels that are controlled by specific departments and heads of departments.  

Outside of PHUs, using peer leaders to manage social media channels is one strategy used to elicit behaviour change. In a campaign related to sexual health, peer leaders were trained in epidemiology/public health, how to communicate sensitive topics, and how to use social media for communications, plus logistical training. Others have used program manager who spent one to two hours per day engaged online. The manager was “native” to the social media sites used and able to project an “authentic and trustworthy persona”. In a study conducted by Rice et al., peer leaders were recruited and went through one week of training, one week of the website development training, and nine weeks of peer engagement and message dissemination training. These peer leaders recruited their peers to participate and engage in the intervention.  

Hefler et al. indicate that a social media position could be integrated into existing roles for more organizations. Others note the need for health professionals to keep
their professional and private accounts separate. Familiarity with social networking sites from personal experience is not enough to build an organizational presence. As of 2011, most Ontario health units updated their social media between two and four times per week, with no additional updates on weekends.

### 3.4 Benefits of Using Social Media

The nature of social media means messages have the potential to spread quickly and widely, also known as “going viral”. Because people have personal connections through social media, information and evidence have the potential to be disseminated in ways not traditionally possible. In a professional healthcare relationship, chat or instant message could expedite care.

When it comes to health campaigns, social media has been used to successfully encourage support-seeking and follow-up, encourage charitable giving, improve the well-being of new moms, decrease participants’ isolation, empower patients, and connect with celebrities to further a cause.

Benefits to the organizations using social media can mainly be grouped into four categories: reach, listening, cost, and accessibility.

**Reach**

Social media can be used to share targeted health information and increase awareness of public health issues. It can also provide a platform for internal communication, relationship-building, and collaboration.

**Listening**

A presence on social media could help staff track current issues the public is interested in, as well as gauge reaction about health topics. It could be used to address rumours or track information “from the ground” during an emergency.

**Cost**

The benefits of using social media as a communication channel include technical and fiscal feasibility: costs are modest. Cost for recruitment to programs is low when you leverage the target population’s existing networks.
Accessibility

Social media is accessible\textsuperscript{29} and opens new channels for learning.\textsuperscript{30} It can help organizations reach rural and underserved populations.\textsuperscript{27}

In disasters, social media facilitate locating victims, improving preparedness, decreasing wait time, pushing information out and gleaning information from bystanders.\textsuperscript{10} In a cholera outbreak in Haiti, information gathered through social media (specifically Facebook and Twitter) mirrored official data from the Health Department but was available two weeks sooner.\textsuperscript{10} Geo-locating may enhance disease reporting and make it more accessible to healthcare providers and the public.\textsuperscript{9}

Social media may be useful in fast-paced profession of nursing by providing real-time communication; it can also help compliance with quality measures, and update staff on policy/procedure changes.\textsuperscript{31}

3.5 Barriers and Challenges to Implementing Social Media

The barriers common to health-related organizations are a lack of time or resources to devote to social media\textsuperscript{17,32,33,34,22,36}, issues with technology\textsuperscript{37,33,32,35}, limitations of the platform (e.g., Twitter “tweets” are limited to 140 characters)\textsuperscript{34,38,39,29,20}, a shortage of knowledgeable staff and concerns about privacy\textsuperscript{40,32,35,22,36,41,25,29} and a lack of an evidence base to guide best practices.\textsuperscript{6}

Organizational Thinking

The “social” component of social media can be a barrier for administrators because it requires a new way for public health to think about and promote health.\textsuperscript{42} Instead of the traditional one-way information-giving approach, social media allows for two-way conversation. Barriers to the implementation of social media at PHUs could also stem from hesitations about professional conduct where there may be a blur between professional and private identities\textsuperscript{22,21}. Social media also requires health professionals to adopt a renewed way of engaging with the community and staying abreast of new developments in their communication to clients. Re-thinking the way activities are organized and the standards for assessing impact is required.\textsuperscript{42} Social media can be perceived as time-consuming and easily distorted, potentially jeopardizing organizational reputations and causing agencies to lose credibility.\textsuperscript{71}
Resource Availability

From a technical and organizational standpoint, social media is easy to implement; however, ongoing resources (both human and technological) are needed to sustain a vibrant/engaging and useful social media platform.\(^6\)

Time

As social media is an interactive medium, monitoring the exchange of information may present a challenge, especially if a potential for misinformation exists within public discussions, or where there is new information that the moderator is not yet familiar with. Social media tools and practices change rapidly.\(^6,2\) The body of knowledge relating to social media use in public health needs to be constantly updated. In a study by Sielbeck et al., patients were found to be a step ahead of health practitioners in discussing new USDA nutritional guidelines on a blog; however, information gaps and misperceptions were found in their discussion. The implication for healthcare providers (and for public health) is the need to stay current or ahead of the public with respect to the latest recommendations.\(^43\)

Privacy

In Public Health, there is concern over privacy because of the potential to spread information virally, which may pose a risk to patients.\(^44\) This concern is further influenced by national legislation such as the Personal Health Information Protection Act (PHIPA) which requires confidential client or patient information to remain private and secure.\(^28\) When a social media tool is used in disease surveillance, the user is generally identified through this tool and there may be a lack of anonymity and consent to participate. Furthermore, standardized data cannot be collected (when information is shared through tweets, for example).\(^45\)

Evaluation

Social media applications may be difficult to evaluate and there is a lag in publishing evaluation reports.\(^2\)

Client Access

From an accessibility standpoint, some clients may not have access to the internet and have limited financial resources to acquire technology.\(^31\) In these cases, social media may not be able to reach the entire population in a given geographical area.
3.6 Facilitators to Implementing Social Media

Previous reviews have identified factors that facilitate the use of social media by organizations: Newbold & Campos\(^2\) capture factors such as hiring a recent graduate already familiar with social media; employing a carefully designed strategic plan to implement social media, and developing/following policies and procedures. In addition, for Ontario public health units specifically, H1N1 was the driving force to actually create a social media presence.\(^2\)

**Governance**

The United States Centers for Disease Control (CDC) suggests that health organizations would benefit from establishing a governing body and designating those that would manage the social media model.\(^{46}\)

**Planning**

Planning is essential to the effective use of social media in public health. The planning phase should include researching the topic, target audience, and social media platform\(^{46}\), as well as addressing project goals, objectives, duration\(^{47}\), what the organization can offer the audience, and what the organization hopes the audience will do.\(^{48}\)

**Human resources**

In numerous health interventions, a coordinator or facilitator was designated to engage or prompt participants\(^{47,49,50,51,52,53,54,55,29,33,,30,43,34}\). At least two studies indicated that additional facilitators and additional training would have improved participant satisfaction and engagement\(^{30,35}\). Establishing evidence-based guidelines as to how often facilitators should post on a social media platform could be beneficial; the norm seems to be one daily engagement.\(^{47}\) Wooley & Peterson\(^{57}\) recommend posting more than four-and-a-half times per week on a Facebook page.

3.7 Best Practices for Planning, Implementing and Using Social Media

3.7.1 Planning

Organizations should consider the amount of resources and expertise required before “getting their feet wet” with social media. For example, posting a “badge” widget (small graphic image that includes a message and link) is considered low in staff time and in cost.\(^{46}\) Having a social media strategy and accompanying policies, as well as integrating social media strategy into broader communication plans and
activities is recommended.\textsuperscript{38} It is important to consider that social media is not appropriate for every audience and topic.\textsuperscript{58}

Thackeray et. al.\textsuperscript{5} developed a four-step process for use as a template when considering social media as part of an overall social marketing strategy. The model is for use when the organization is interested in engaging with the audience and making them active participants rather than receivers of passive information. It includes using knowledge about the target audience their social media use to inform the purpose behind engaging them, establishing a strategy to meet this purpose and selecting needed technology to support this goal.

Health interventions implemented via social media have used various platforms in pursuit of behaviour change, including chat rooms/blackboards\textsuperscript{37,54,22,66,67}, mobile apps\textsuperscript{18} websites created for specifically for the intervention\textsuperscript{52,64,68,53,61,27,56,39,69}, blogs\textsuperscript{24,25}, and social networking sites such as Facebook and Twitter\textsuperscript{47,49,50,40,38,55,18,29,70,57}. For the interventions that developed their own social media platform, a tutorial was developed to allow the participants to learn how to navigate the site and use it to its full potential.\textsuperscript{64}

3.7.2 Developing Content

While the ability to tailor messages to target audiences is one advantage of social media, very few efforts to do so are described in the literature.\textsuperscript{5} Information should be consistent, factual and accurate.\textsuperscript{1}

3.7.3 Monitoring and Interacting

Providing correct information is only one part of social media; another is following up and responding, replying and monitoring the message to ensure it doesn’t get distorted.\textsuperscript{12} Some social media models boast designated leaders that manage social media interventions. A strategy for responding, especially to negative “inflammatory, disruptive or inaccurate postings” reactions, is also prudent.\textsuperscript{59}

Monitoring and responding on social media is recommended once a day; a monitoring or management tool (such as HootSuite) is recommended.\textsuperscript{1} Routine checks should also be carried out to ensure the accounts continue to follow established guidelines.\textsuperscript{1}

3.8 Evaluation Strategies for Health Organizations

As of the latest review of Ontario PHU practices, 52 percent had ongoing evaluation efforts; 13 percent had ongoing efforts and more planned; 22 percent
were in the planning stage; and 13 percent did not evaluate.\textsuperscript{2} Of the PHUs that did evaluate, most used quantitative measures.\textsuperscript{3} Newbold and Campos\textsuperscript{2} cite the need for more primary research studies on the efficacy of social media in public health. Specifically, they indicate evaluations from public health organizations using social media should be conducted and published. They also recommend comparing traditional media to social media campaigns. In general, even for common metrics such as presence, reach and interactivity, there are no standard established measures.\textsuperscript{5}

Pitfalls and challenges such as organizational agility and responsiveness; the expense of staff capacity to manage and monitor the tools; making choices such as how to host or respond to discourse and the sheer challenge of maneuvering unfamiliar territory prove challenging for public health units. Evaluation techniques have not been perfected and thus evaluation practices for existing campaigns have been limited or nonexistent.\textsuperscript{2}

Social media metrics may be available, but there is little or no evaluation on the effectiveness of the audience’s increase in knowledge, or behavior change.\textsuperscript{60} In public health agencies, social media use is relatively new, and currently social media is more of a channel to distribute information rather than an interactive feature that engages with the audience.\textsuperscript{5}

A structure or model for evaluation that compares inputs, resources, outputs, and outcomes has been recommended.\textsuperscript{3}

Neiger et al.\textsuperscript{48} present a model; five purposes of using social media for health promotion and the metrics associated with each; they recommend process evaluation as an overarching evaluation strategy for social media. These purposes include: communicating with consumer for market insight; establishing and promoting a brand; disseminating critical information; extending reach to include broader, more diverse audiences; and fostering public engagement/partnerships. The key performance indicators (KPIs) associated with each are insights (consumer feedback, sentiment analysis and data mining); exposure (impressions, views), reach (number of people in contact), engagement (acknowledge/agree vs. creating/sharing vs. offline participation).\textsuperscript{48}

**Evaluation Metrics**

Metrics can be quantitative (e.g., page views, page visits, time spent, inbound links, how often a post is re-posted, friend/followers) or qualitative (e.g., engagement, participation, awareness, behaviour change).\textsuperscript{3} The CDC provides a social media evaluation worksheet on developing the social media model by
predetermining the inputs, activities, outputs and outcomes in the short- and long-term.

Qualitative assessments were also unearthed in the literature in the form of questionnaires to assess user satisfaction, engagement and compliance, efficacy, and behavior change. Mixed method evaluation (qualitative and quantitative) was used in several studies, including focus group discussions, usage statistics, and creative/development workshops to measure reach, engagement, and interaction.\textsuperscript{61,29}

Site usage statistics, interaction, questionnaires, and focus group discussions were used in others\textsuperscript{29,62}. Using mixed methods evaluation, the intervention was considered a success if the response from participants was positive and they reported behaviour change.

**Evaluating Cost**

Evaluating the cost of using social media may be difficult because most agencies used pooled resources and existing overhead costs.\textsuperscript{63}

**Evaluating Behaviour Change**

There is weak overall coverage of the role of social media in public health initiatives. No studies have yet compared the efficacy of social media to other interventions or to relative controls.\textsuperscript{2}

Schein et al.\textsuperscript{6} note that preliminary data suggests social media campaigns are successful in that they reach and engage users; however, evidence relating social media campaigns to behaviour change is anecdotal. In the public health field, most studies comparing traditional to social media have been evaluated on reach or cost-effectiveness rather than outcomes. Most studies have drawn conclusions about media campaign effectiveness based on correlational data (e.g., how often ads were run compared to health outcomes).\textsuperscript{2} In the few studies that actually looked at behaviour change, all reported positive results but lacked appropriate controls.\textsuperscript{2}

Results from a campaign or intervention delivered through social media might not be generalizable, as current social media case studies have complex and multi-faceted interactions, making it difficult to identify the boundaries of specific interventions.\textsuperscript{6} There is uncertainty related to whether outcomes can be generalized for interventions with different health objectives (e.g., different outcomes for opinion and outcomes during epidemics vs. chronic disease prevention).\textsuperscript{6}
Many studies focused on behavioural change used monitoring tools (insight statistics) such as Google Analytics to monitor the length of time individuals are on the social media site and/or the number of times they log on prior to the intervention\textsuperscript{47,64, 40,29,19,48,13}. One study\textsuperscript{40} used the CDC’s Youth Risk Behavior Surveillance System (YRBSS) instrument.\textsuperscript{40} Metrics like retention and self-reported behaviour change have also been used.\textsuperscript{47}

**Evaluating Engagement**

Engagement can be measured both qualitatively and quantitatively. Neiger et al.\textsuperscript{7} propose three levels of engagement and associated measurements/ metrics. Low engagement is considered one-way messaging; this is the start of a relationship of organization to audience. Evaluation is simple (number of tweets, number of followers) and the goal is reach a critical mass of followers. Medium engagement is a dialogue between the participants and the organization with the organization asking questions. Evaluation should include the number of mentions. High engagement involves the participant’s involvement with health promotion content both online and offline, and is evaluated by helping to achieve health unit goals.\textsuperscript{7}
2.0 DISCUSSION: CONSIDERATIONS FOR CREATING A SOCIAL MEDIA TOOLKIT FOR PUBLIC HEALTH UNITS

Collectively, the articles reviewed provide insight into the potential use of social media in health units.

Canadians are increasingly moving online to seek health information and engage with social networking sites. Most PHUs in Ontario have created a presence on at least one of these sites; however, there remain significant gaps relating to the best ways to leverage this presence.

With the need for a best practices guide to social media for public health organizations being “crucial”\(^2\), this literature review seeks to update the current body of knowledge and become one of three inputs into such a toolkit.

To that end, existing toolkits and guides were reviewed. In the United States, the CDC created a comprehensive health communicator’s social media toolkit in 2010, and updated it in 2011. It focuses on the details of implementation, however, and does not offer evidence-based evaluation advice. It is used often and remains an authority on social media in public health. In Canada, the Change Foundation\(^44\) developed an e-toolkit for implementing social media; however, this document focuses on patient-practitioner relationships and lacks the general guidance needed.

What is perhaps most starkly lacking is the development of evaluation techniques and indicators specific to social media in public health; this is likely a function of being both a new and constantly evolving media environment. There is a plethora of both quantitative and qualitative data on audience interaction with the message/channel (e.g., number of Facebook “fans”, number of clicks, interaction patterns of followers), but creation and evaluation of key indicators is ultimately needed to provide an accurate picture of the effectiveness of a campaign.

Based on the information gathered through this review, the following actions should be considered when constructing the toolkit:

- Identifying the goals of using social media during the planning phase
- Investigating existing frameworks for planning\(^5\) and evaluation\(^48,7\)
- Building evaluation into the planning stage, as it can provide ongoing feedback and can help to identify underserved and underrepresented populations\(^65\). Evaluation can help organizations assess and improve their efforts, and fill the knowledge gap that accompanies social media use in general.
• Developing key performance indicators specific to public health units, the Ontario Public Health Standards and program goals

Evidence of best practices for planning, implementing and evaluating social media are limited in the current review as well as the previous reviews. Further research directions could include evaluating the effectiveness of social media management models, developing and testing evaluation methods, and building the evidence base around affecting behaviour change. It has been said that social media may be more effective at targeting priority populations18, 64, 56; however more study is needed, especially with Canadian populations.

3.0 CONCLUSION

This literature review provides insight into social media implementation, management, and evaluation practices specific to public health. Although there has been some coordination among Ontario PHUs (through the provincial communicators’ association, for example), they are still working largely in isolation, without a coordinated method of analyzing data or best practices at a provincial level. Given the similar demographic, geographic and regulatory environments, PHUs could benefit from a coordinated approach to social media; a conclusion shared by earlier researchers6.

These findings will be meshed with the forthcoming results from an environmental scan and set of case studies with a final goal of creating an easy-to-use social media toolkit for all Ontario public health units.
REFERENCES


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Appendix A

Search Terms
The search strategy for PubMed included the following terms:

Social media terms


Public health terms

“public health”, public health[mesh], “health promotion”, “health promotion”, health promotion[mesh], “health communication”, “community health”, “program development”, “preventive medicine”, “child health services”, “family planning services”, “maternal health services”, “perinatal care”, “preconception care”, “prenatal care”, “immunization programs”, “needle-exchange programs”, “sex counseling”, “school health services”, “Preventive Health Services”[Mesh:NoEXP]