Engaging Health:
Health Research and Policymaking in the Social Media Sphere

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Executive Summary

Introduction

Digital media such as social networking sites and smart phone apps have led to unparalleled opportunity for public involvement in health issues and health-related organizations. Central to this phenomenon is the concept of engagement, which represents individuals' inter-activity with online messages and content through activities such as friending, sharing, following, and commenting. While information on health information seeking is well established, insights into engagement with health policy and research online are nearly nonexistent. The purpose of this paper is to fill the gap in understanding by applying the tenets of social media engagement to health policy and research online in order to answer the following question: How can health communicators and policymakers engender online engagement with health policy and research online? This paper is one of eight papers commissioned by AcademyHealth to explore best practices from outside health care for the translation and dissemination of health services research.

Key Findings

While many Americans turn to the Internet for health information, vulnerable populations are less likely than other publics to seek health information online.

For more than half of U.S. adults, the Internet is a primary channel for seeking health information.[1] This active health-seeking behavior is a targeted activity focused on gathering specific information on healthy lifestyles, health symptoms, and treatment options. However, some groups continue to face significant challenges in accessing health information, including people of lower socioeconomic status, racial and ethnic minorities, and senior citizens.[2] Low levels of health engagement online among vulnerable publics lead to low levels of health literacy, which in turn correlate with health outcomes and lifestyle.[3] Even though significant research has focused on these and other trends related to information seeking on health and lifestyle behaviors, little research has considered the ways that health publics seek out and process health research and policy information, much less the extent to which they do so online.

Social media engagement is a powerful tool for fostering discussion, learning, and collaboration among individuals and communities.

Social media engagement is a seemingly continuous activity of information seeking, processing, and distributing based on an individual's interactivity with online content. Social media engagement is similar to civic, organizational, and stakeholder engagement in that it represents individuals' motivated and affective commitment to interacting and fulfilling roles within their communities. The difference is that social media engagement involves attachment to online content as well as contributions to online communities in which the message

communicated by an individual plays a central role in motivating behavior. As a content-based phenomenon, social media engagement comprises four salient characteristics:

- *Absorption* in the experience, which is contingent on the extent to which online content and the online experience fulfills personal needs and wants

- *Self-expression and representation,* which stems from individuals' development of a public image used in their online communication

- *Empowerment*, which is derived from a social media user's ability to navigate online networks as well as from confidence that his or her communicated message will make a difference

- *Interactivity*, which takes the form of meaningful and intimate conversations with fellow users

Efforts to engage vulnerable populations and other publics online in health research and policy should include messaging that is conversational, collaborative, socialized, and decentralized.

Social media engagement offers the potential to improve societal and global health by involving individuals in the health policy and research process. To realize this potential, online efforts to engage the public in health policy and research should include messaging with the following characteristics:

- *Conversational messaging* uses a conversational human voice and language that is accessible to lay audiences. In health messaging, the conversational human voice replaces inaccessible policy and research speak with efforts to be open to dialogue, responsive, transparent, and even humorous.[4,5] For publics that may not seek health information online, conversational messaging involves the attachment of health messaging to broader social issues of interest to the general public. Conversational messaging may also be effective when developed around specific health contexts reflecting the concerns of the target audience.

- *Collaborative messaging* helps promote trusting relationships among health consumers, researchers, policymakers, and others, paving the way for informed, consensus-driven decision-making. Collaborative messaging through social media involves the communication of credible and transparent content with the dual goal of informing publics and encouraging their participation in policy development. Central to collaborative messaging is an openness to learning and self-reflection and a willingness to engage in "back and forth" dialogue with other stakeholders.[6]

- *Socialized messaging* reflects the community nature of the social media sphere and the assumption that messages transmitted from a trusted source such as a friend or family member are more valued than messages conveyed by nonpersonal sources. As such, the successful engagement of the public in health policy and research requires

the translation of research and data into social content that reflects a community's interests and reaches influential communicators. Among groups characterized by low socioeconomic status, "health mavens"–or individuals considered "in the know" within their communities–are critical resources for reaching new audiences.[7] Identifying and targeting health mavens through relevant health content is one strategy for positively influencing communities' engagement and, consequently, expanding the reach of online health messaging.

- *Decentralized messaging* operates on the principle that engagement proceeds from an individual's ability to have his or her voice heard, with no one voice dominating.[8] In health messaging, decentralized messaging welcomes frank, honest, and potentially unpopular messaging regarding a health policy or issue. It takes into account different levels of health literacy and engages vulnerable populations on their own terms, empowering them to understand and apply important health information.

Improving health among societies requires policymakers and researchers to engage in e-health and digital media efforts.

Despite the opportunities for engaging online publics around health issues, those in the private and public health sectors have been slow to embrace public-focused approaches.[9] Barriers to online engagement include the hierarchical, top-down structure of health organizations as well as the slow integration of e-health technology into health communication.[10] Culturally, accepting a bottom-up, consumer-focused model of communication–wherein health professionals and decision-makers tap outside perspectives and seek engagement–represents a compromise of the autonomy to which health care professionals and researchers are long accustomed. Yet engaging health publics through social media can play an important role in informing health policymaking:

- *Engagement for knowledge creation*. Publics engage in health topics online to seek solutions for their own health issues, with social media users often serving as "citizen journalists" who report on and critique health content and discuss the views of others.[11]Thus, digital social media is a veritable database of con-

sumer opinion and experience in health, providing a valuable look into the perspectives of health publics.

- *Engagement as evidence for policy and research impact*. User content on social media can be a useful resource for evidence on the impact of health research and policy. In the same way that focus groups and in-depth interviews reveal depth of experience and sentiment, the primary value of social media engagement may lie in the depth, rather than the breadth, of information available to help inform evidence-based policymaking. As an alternative source of evidence, social media should be considered a resource for qualitative content and a base for quantitative investigation.

Perhaps the greatest impediment to online engagement among policymakers is the grandiose nature of social media opportunities and tasks and the ambiguity of associated buzzwords. Thus, an important first step in encouraging online engagement among policymakers, researchers, health professionals, and others is training and education that provides technical know-how for navigating the social media spectrum. In addition, developing a plan or set of guidelines for social media engagement can help organizations minimize risk and manage potential conflicts associated with social media use.

Conclusion

While many Americans rely on the Internet for health information, the potential for the public's online engagement in health research and policy remains unrealized, particularly among vulnerable populations. Social media offer the opportunity to engage these audiences through messaging that is conversational, transparent, relevant, and empowering. For their part, policymakers, researchers, health professionals, and others must develop their technical know-how and confidence as it relates to social media so that they may use such communication channels more effectively to engage public audiences. Increasing publics' emotional attachment, expression, interactivity, and empowerment in health issues via social media will lead to healthier and more-informed communities.

Introduction

The new currency in communication is engagement. More than a buzzword for online promotion, engagement represents individuals' newfound interactivity and communication power through digital social media. As a phenomenon, engagement is driven by the empowering effect of communication technology, which affords individuals access to and a voice in mainstream media channels. Engagement is often equated with terms such as friending, sharing, following, commenting, blogging, and others—all of which represent individuals' interactivity with online messages and content.

Digital media (including social networking sites and smart phone apps), permit the integration of information seeking, processing, and self-expression into one integrated activity, leading to unparalleled opportunity for public involvement in the issues afloat in society. The problem, however, is that, for how little we know about why people seek, process, and become involved with information online, we know even less about why people engage with online information in health research and policy. As individuals flock to the Internet and social media for health solutions, it is critically important to understand public engagement with online health information (and health organizations).

Even though research on health information seeking is well established, insight into online engagement with health policy and research is nearly nonexistent. The purpose of this paper is to fill the gap by applying the tenets of social media engagement to online health policy and research. The paper answers the question, How can health communicators and policymakers engender online engagement with health policy and research? The paper is written for health researchers; health communicators in both the public and private health care sectors with responsibility for communicating health research and policy information; and health policymakers, including those in federal, state, and healthcare organizations charged with writing and disseminating policy.

Health Information–Seeking Behaviors Online

Before we can outline the potential of digital and social media engagement in online health policy and research, we must first understand online health information behaviors. Given that the Internet is one of the primary channels for seeking health information,[12] it is not surprising that research in health communication has focused primary on the most active health-seeking behaviors. More than half of the U.S. adult population goes online to find health information for themselves or for others.[13] Such active health-seeking behavior is a contextual and targeted information-seeking activity as individuals seek specific information on healthy lifestyles and health symptom and treatment information. Those who use the Internet for health information tend to be "health-conscious, health-information oriented individuals with strong health beliefs, and commitment to healthy activities."[14] In addition, health-active publics are more likely to use the

Internet and social media than health-passive publics,[15] fostering high levels of attention to and absorption in social media to health topics. In fact, health information-seeking behavior is strongly associated with attention to health information across a range of media, with media attention a strong predictor of health knowledge.[16]

Health-seeking behaviors online tend to be a social activity, originating offline through interpersonal interactions and networks.[17] In-person conversations tend to carry over online, spilling into active health-seeking and expression behaviors.[18] Health behavior online mirrors health behavior offline, with publics using social media as an online extension of their health problem-solving efforts. As such, interaction is a significant part of engagement regarding health topics online. Furthermore, the interpersonal connections in health information–seeking activities also strengthen online engagement. Individuals who glean health information from interpersonal networks have a stronger health orientation or willingness to look for health information.[19]

Despite the value in evaluating online health behavior as an active (as opposed to passive) information-seeking activity, evaluations of such behavior leave blind spots for researchers, communicators, and policymakers. Active health-seeking activities are only one of three recognized health behaviors in health communication research (the other two are health scanning and health avoiding behaviors). Furthermore, a focus on the most active health seekers overshadows important health publics that do not demonstrate high levels of health information– seeking behavior, including vulnerable populations. Finally, the focus on active health- seeking behavior means that topics beyond the reach of the most popular health topics—including health research and policy information—remain largely unexamined. Each of these blind spots is discussed below.

The "Other" Health Behaviors. The implications of daily contact with information and individuals beyond one's traditional, offline context mean that active health-seeking activities may not be the only way individuals receive and process health information. Research identifies three behaviors that individuals demonstrate toward health information. Health seeking, as already discussed, represents the active search and retrieval of specific health information. The other two behaviors are health scanning and health avoidance.

Health scanning is a passive activity whereby individuals gain health information through their daily interactions and activities.[20] The passive reception of health information renders health scanners "nonseekers" because they come across information incidentally rather than purposefully.[21] Evidence in the literature shows that nonseekers may have a broader knowledge of health information than active seekers because of extensive reception opportunities through their various information sources

Health avoiders are people who avoid health information whether or not they have had a diagnosis.[22] Though they may appear not to have a need for health information or not care about seeking it, their posture toward health information might be an oversimplification. Health avoiders' relationship to health information presents an interesting dynamic in that avoiding health information may be a coping mechanism. In other words, it may be easier to avoid the information than to deal with it,[23] particularly among those who have been diagnosed with a chronic or serious illness. Health avoidance behaviors may also be an indication of avoiders' level of trust (or lack thereof) in health information sources or their own clinicians.[24, 25, 26]

Social Media and Vulnerable Populations. Though social media represent an unrivaled opportunity to reach various diverse publics, some groups face significant challenges to accessing health information and communication, including people of lower-socioeconomic position, racial and ethnic minorities, and senior populations.[27] Others who display low levels of health information–seeking behavior include those diagnosed with a terminal disease who rely solely on their health providers for information.[28] Dutta-Bergman refers to the difference between publics as information-rich and information-poor and argues that individuals with a relatively lower health orientation tend to be information-poor and depend on broadcast outlets for their health information.[29]

The primary problem with vulnerable populations' low health engagement online lies in the characteristics of the populations' associated health-seeking behaviors. Socioeconomic status is a significant correlate of information seeking—those with higher education and higher incomes are much more likely to be health information seekers compared to those with less education and lower incomes.[30] To complicate matters further, research shows that nonseekers of health information tend to score lowest on attention to media.[31] Low levels of health information–seeking behavior may result from low levels of media access and health education.

Low levels of health information–seeking behavior online among vulnerable populations may also be a matter of trust. Nonhealth information seekers report more positive experiences with their providers and place their trust in doctors as a source of information.[32] They also report lower levels of trust in and higher levels of anxiety with online sources.[33]

Low levels of health engagement among vulnerable publics online lead to low levels of health literacy, and health literacy correlates with health outcomes and lifestyle.[34] Research has shown that populations of low socioeconomic status and those with chronic illness demonstrate the lowest levels of health literacy. Health literacy develops through engagement with "both written and human information sources towards a number of milestones that include greater knowledge, improved self-management, and participation in decision-making."[35] Inasmuch as health literacy helps individuals cope with and manage their health conditions, the research appoints to a need for new strategies and interventions for increasing health literacy among certain populations.[36]

Rather than seeking information on their health conditions via online media, health nonseekers rely heavily on interpersonal sources and, in particular, on health mavens who are considered "in the know" among groups of low socioeconomic status.[37] Research shows health mavens accumulate their health information incidentally though sources that include the Internet rather than by purposively seeking out health information.[38] Perhaps most crucially, health mavens are "no more likely than non-mavens to maintain general health beliefs that are concordant with national health recommendations."[39]

One vulnerable population that has used social media for health information is youth. Adolescents seek sources other than their parents and guardians to establish their own sense of identity. For adolescents, the Internet is a place where they can find diverse opinions and personally relevant information with relative ease.[40] Though they often feel overwhelmed, young adults search for information online and use that information to help them with their care.[41] Sexual health information is a particular topic of online engagement for young adults because searching for such information online reduces stigma in looking for answers to personally sensitive and embarrassing questions while maintaining anonymity.[42]

Health Research– and Policy-Information Seeking. Generally, health information seeking refers to the search for information on health and lifestyle behaviors, including information about treatment and symptom diagnosis as well as about the health implications of lifestyle choices. Most research on health information seeking focuses on consumer health, leaving a significant blind spot in the area of health policy– and research-seeking behaviors. The World Health Organization defines "health policy" as the "decisions, plans, and actions that are undertaken to achieve specific health care goals within a society."[43] Health policy aims to establish standards for health in society and to build consensus among citizens.[44] Distinct from health information, health policy includes the priorities and roles of groups in establishing a healthy society rather than treatment and health condition diagnosis. The term health research refers to the empirical knowledge of health issues in a community and comprises both the quantitative and qualitative data that are used to support health policy decision-making. Health research and policy information are connected in their purpose to improve health among communities and societies.

Despite the importance of analyzing the role of health research and policy in public health, researchers have made little effort to consider the way health publics seek out and process research and policy information, much less the extent to which they do so online. Instead, research focuses on the "dance" (as it has been termed)[45] between/among health research, policy, and politics. Policymaking is an inter-dependent process influenced by social issues, infrastructures, politics, and current events.[46] Scholars debate the role of evidence as "one piece in the policy puzzle"[47] and the extent to which the nature of the research, its distribution, and the relationship between policymakers and researchers either hinders or facilitates evidence-based policy-making.[48] Though such discussions may seem beyond the reach of this paper's argument for a greater focus on health public involvement via digital social media, the connection between researcher and policy-maker may, despite its challenges, be essential for deriving the need for public engagement in health policy.

Health researchers point policymakers toward public concerns. Scholars report that researchers often consider themselves and their research a connection between health issues and public understanding.[49] Researchers target disparities in health policy and "real world" health issues and "engage with community groups to monitor those emerging needs."[50] Covering hot-button health topics, exploring opposing stakeholder viewpoints, and producing publicly accessible studies tend to be priorities in health research.[51]

The interdependence between/among research, policy, and public un-derstanding necessitates a focus on social media engagement around health research and policy. Research up until this point—minimal as it is—has explored the Internet as a source of public opinion about and evidence for health policy impact[52,53] but has paid little attention to involving community members and health consumers in the research and policymaking process.[54] Scholarship that suggests networking with stakeholders in order to develop a mutually beneficial policy agenda[55] signals the importance of considering social media engage-ment around health research and policy issues. Furthermore, consum-er choice and control in health decisions[56] necessitates a greater focus on public engagement in research and policy online.

In the following sections, we outline the principles of social media engagement and apply them to online health research and policy engagement.

What Is Social Media Engagement?

Most agree that engagement involves some degree of emotionally motivated behavior. Oh, Bellur, and Sundar have defined engage-ment as "a multi-faceted concept that captures the process of a media user's progression from interacting with the interface physi-cally to becoming cognitively immersed in the content offered by it and then onto proactively spreading the outcomes of this involve-ment."[57] As such, social media engagement is based on interactivity with content online, rendering engagement a phenomenon of infor-mation seeking, processing, and distributing that is integrated into one seemingly continuous activity.

The basis of engagement is motivated involvement leading to self-ex-pression and community contribution. The concept has its origins in several literatures, including research on organizations, civic behav-ior, and public relations. Organizational scholars define engagement as employee motivation to fulfill responsibilities as organizational citizens[58,59] and to express themselves "physically, cognitively, and emotionally during role performance."[60] From a civic perspective, engagement comprises activities in social interaction and delibera-tion regarding a social issue. Philips and Orsini define engagement as "the interactive and iterative processes of deliberation among citizens and between citizens and government officials with the purpose of contributing meaningfully to specific public policy decisions in a transparent and accountable way." [61,62] From a corporate and public relations perspective, researchers have applied engagement's concepts of passion, emotion, and commitment to the stakeholder-organization connection, defining engagement as the online interaction of indi-viduals and organizations based on stakeholder roles.[63,64] Bruce and Shelley define the stakeholder concept of engagement as "an umbrella term that covers the full range of an organization's efforts to under-stand and involve stakeholders in its activities and decisions."[65]

Social media engagement is not unlike civic, organizational, and stakeholder engagement in that it represents individuals' moti-vated and affective commitment to interacting and fulfilling roles within their communities. The point of difference for social media engagement is that such engagement represents individuals' affec-tive attachment to online content and their roles in contributing to their online communities. In other words, the central point of engagement in social media is the message. Smith describes en-gagement as "how publics interact with the organization and with each other vis-à-vis the message."[66] As a content-based phenom-enon, social media engagement comprises four particularly salient characteristics:

1. **Absorption**
   Engagement is an immersive activity in which individuals form an emotional connection to the content retrieval and distribu-tion process. Kang uses the terms "affective commitment" and "emotional bonding" to characterize the absorption underlying social media engagement.[67] The emotional connection is driven by the personal enjoyment of engagement activities, otherwise referred to as positive affectivity.[68] Engagement is marked by feel-ings of "persistence, vigor, energy, dedication, enthusiasm, alert-ness, and pride,"[69] all of which lead individuals to feel immersed in the experience.

Absorption in the experience is built on the extent to which the online content and online experience fulfill personal needs and wants. Research has already classified engagement as a process of personalizing information, including contextualizing news, events, and issues around personal needs.[70,71,72] Persistent engagement behaviors are based on an individual's ongoing assessment of the personal fulfillment of the digital content and experience. In this way, engagement is self-directed. The open-endedness of digital media as a channel also makes engagement behaviors fluid, dynamic, and unpredictable.

2. **Self-Expression and Representation**

Engagement is a process whereby individuals publicly align themselves with online content. In this way, engagement is what individuals *do* with information online.[73] Engagement is commonly associated with self-expression or the ways that individuals "express themselves physically, cognitively, and emotionally."[74] Social media enable individuals to pledge themselves publicly to a cause, issue, or area of interest,[75,76,77] and engagement involves individuals' activities in responding, creating, and distributing personally relevant information via social media.[78,79]

As a self-expressive activity, engagement reflects on personal identity. Through personally created and distributed online content, individuals develop a public image that they use in their communication efforts online.[80,81,82] As such, engagement is often considered a nondirected self-disclosure activity[83] in which individuals "define themselves through the messages they transmit to others."[84] The ability to consider messages before sharing them enhances efforts to construct a positive self-image.[85]

3. **Empowerment**

Digital social media grant individuals unparalleled access to media channels, allowing them to make their voices heard. As such, engagement depends on social media users' confidence that their communicated message will make a difference. Accordingly, engagement is based on the concept of self-efficacy, which, according to Bandura, means that individuals engage in activities that they believe they can perform successfully.[86] Self-efficacy suggests that one's persistence in seeking and distributing information online is based on one's perception of the effectiveness of his or her messages and ability to communicate online. Self-efficacy in turn leads to a sense of empowerment.[87] As applied to social media involvement, a user's sense of empowerment derives from his or her ability to navigate social media networks successfully, receive confirmation from others that his or her online activity is favorable, participate successfully in others' online interactions, and experience emotional arousal around an issue online.

Social media users also derive power from a perceived strength in numbers, relying on their online network as a resource for accomplishing their engagement objectives. In this way, social capital—or "the good will engendered by the fabric of social relations mobilized to facilitate action"[88]—is a considerable influence on social media engagement. Stefanone et al. argue that the extent of social capital built online "contributes to instrumental action on- and offline" through the perception of the value of relational connections.[89] The strength of social capital is particularly influential in situations driven by negatively originated motives, in which individuals seek to air their complaints, add their voices to debates, and advocate for (or against) a cause.

4. **Interactivity**

Engagement is also a social support mechanism, and research has shown that perceived online support is a driving force behind individuals' digital and online activities.[90,91,92] As a social endeavor, engagement is inherently two-way and relational[93,94,95] as individuals "seek fulfillment of their relational needs through socializing with others in the community."[96]

Social networking sites facilitate relational communication, including meaningful and intimate conversations with fellow users.[97,98,99] Individuals use social media to improve and increase relational ties.[100,101,102] Research identifies two types of relational ties via social media: strong or bonding ties and weak or bridging ties.[103] Bonding ties are those between closely related individuals in a relationship outside the social media sphere. Bridging ties, on the other hand, are those between diverse and disparate groups. Social media's connective capacity facilitates bridging ties. Stefanone et al. argue that bridging ties are the connections between people based on "novel, non-redundant social resources" built by the "information flow between groups that may be otherwise limited in homogenous networks."[104] The benefits of bridging ties stems from "network diversity."

Social Media Engagement In Health Research and Policy

Health researchers have argued that "engagement of average citizens and civic leaders is leading to a grassroots restructuring of local environments to be conducive to health and well-being."[105] Social media engagement offers the potential to improve societal and global health by involving individuals in the health research and policymaking process. Researcher and policymaker involvement in digital social media is the tipping point for improving community, regional, and global health. Efforts to engage publics should focus squarely on health content, with an emphasis on engaging social media users through conversational, collaborative, socialized, and decentralized messaging.

Conversational Messaging. Online messages should elicit a response. The consensus among social media researchers is that messages should be conversational and echo a human tone in what has been referred to as conversational human voice.[106,107] So far unproven in research, the assumption is that conversing in a style similar to that used by online publics will spur natural discussion between organizations and publics and thus increase engagement. Social media's potential for online engagement in health research and policy remains unrealized. Part of the problem may be that health research and policy are neither generally conversational nor accessible or personally relevant to the social media masses. Given the overwhelming need for "citizens and consumers to become actively engaged in shaping, planning, and monitoring the health services they use,"[108] the immediate task calls for translating inaccessible health research data into dialogic and conversational, human tones.

Based on the "markets as conversations" approach proposed by Searls and Weinberger, the "conversational human voice" represents a move away from targeting audiences to conversing and collaborating with them.[109] In corporate messaging, the conversational human voice is the antithesis of the corporate voice, which is innately one-way, promotional, and "sounds more like profit-driven machinery than real people engaged in two-way conversations."[110] In health messaging, the conversational human voice replaces inaccessible research and policy speak with efforts to be open to dialogue, responsive, transparent, and even humorous.[111,112] The conversational human voice should "mimic one-to-one communication."[113]

Collaborative Messaging. Social media provide enhanced opportunities for shared and informed decision-making between/among health consumers and health providers, communicators, and policymakers.[114] Perhaps the most innovative use of social media in health involves publics in health research and policy-making initiatives. Such initiatives encompass information dissemination and policy improvement through consensus building and involvement with consumers, scientists, and stakeholders. Interviews with e-health policy leaders revealed that engagement with health publics "in a collaborative and consensus-driven way can help realize common goals.[115]

Collaboration through social media begins with the educational nature of transmitted content and recognizes that "a more informed and engaged public will stimulate policy dialogues, promote inputs into policy development, and benefit policymaking."[116] Yet, the effective use of social media to promote policy information depends on the quality and credibility of information. Perceptions of content quality affect health consumers' trust, confidence, and intentions to engage in online health content.[117] In fact, research has shown "a significant direct relationship between perceived credibility and the intention to adopt pervasive e-health solutions."[118] To provide

open and credible content, policymakers should be cognizant of consumer concerns that "information might be incomplete, incorrect, biased or even misleading since the sites that offer it often rely heavily on sponsorship and advertising revenues and sponsoring organizations such as pharmaceutical companies or even private hospitals."[119] Studies have shown that some of the strategies for establishing the credibility of online content include the use of "certified health information, a professional layout, and conforming to socio-cultural and country-specific aspects."[120]

The purpose of online educational efforts is to involve publics in policy development. Tapping health publics for input into policy is a hurdle for policymakers who often "would rather make uninformed decisions than admit knowledge gaps that could reduce support for their programs."[121] Still, the open access of the online sphere necessitates policymaker involvement with publics via social media, thereby fulfilling the mandate that "government decision-making processes should be open and transparent—both to stakeholders and the public at large."[122] Ragaban et al. have argued, "Although national e-health initiatives originate from governmental directives, policy development is shaped by individuals from all levels, no one entity can supply the knowledge and solutions to address the complexities of healthcare and e-health."[123] The diverse levels of knowledge and resources required for successful e-health policy and solutions "cannot be found within individual organizations" but rather "involve several heterogeneous stakeholders that are often embedded in various social settings."[124] The need to understand the point of view of diverse customer and stakeholder segments is "more important [in health] than in other sectors."[125]

Social media permit the development and evaluation of policies through "open dialogue among diverse voices that represent targets of health policy."[126] This approach to policy development requires "openness towards learning, as well as self-reflection and taking into account [the problems and challenges] of local contexts."[127] It also involves "back and forth" dialogue between policy, research communities, and other stakeholders because "a focus on human interactions is essential."[128] Global health experts argue that such cooperation is critical.[129]

Socialized Messaging. One assumption underlying social media as a personal medium of communication is that messages transmitted from a trusted source (i.e., friend or family) are more valued than messages transmitted from a nonpersonal source (i.e., an organization). The commercial sector has therefore incentivized social media users to create, share, and forward messages that promote an organization or its products and services. Messages thus transmitted both fulfill an organization's communication needs and elicit engagement because the content is perceived as inherently social. As such, the translation of health research and

policy into social content is critical for engagement. For health policy to succeed, health stakeholders "must interact with each other"[130] as policymakers "work towards forming community for policymaking."[131] Dutta-Bergman has argued that health issue communication is best communicated online via health-active consumers.[132] Socialized messaging taps the tendency for online health consumers to "seize the reins of their own health"[133] by engaging health publics through online communities in which messaging may be distributed among community members.

Socially distributed messaging is a phenomenon of the social media sphere's community nature. Distribution occurs when messages reach key communicators and reflect key issues within a community. Tapping and building online communities around a primary point of interest (in this case, health research and policy) is a function of the joint consumption effect of social media. It may occur through bonding or bridging processes online. In the bonding process, health messages are distributed between individuals who are connected in real life (i.e. friends, family, coworkers, and so forth) and trust one another. In the bridging process, health messages are distributed between individuals connected online by a point of shared interest, in this case a health topic. Distribution is a function of the credibility and relevance of the message to the community interest. Both bonding and bridging are based on the third-party endorsement effect, which has found application in communication research to understand the value of promotional messaging.[134,135] In communication research, the impact of the endorsement depends on factors such as the nature of the message, the integration of messaging with other material, and the frequency of message exposure.[136]

Communicating health research and policy online leads to the opportunity to build online forums and communities of interest. Interactive sites featuring expert advice represent an emerging arena that is starting to alleviate some of the pitfalls in the field of online consumer health.[137] The communities, composed of health consumers, stakeholders, and health experts, thrive on a combination of community advice and the involvement of expert moderators.[138] In addition, the discussion value of information, including its relevance to other community messages, and the credibility of health-based messages (and message sources) are critical factors for building online community engagement. The opportunity for researchers and policymakers to query these online communities on issues of health is an additional advantage.[139] Research has shown that the creation of successful online communities requires an accurate portrayal of "a community's collective intelligence, rather than the biased expression of fringe members' hyperbole the sites that will dynamically outperform all others are those that use data from the crowd judiciously to improve their own quality and performance over time."[140]

Crowdsourcing is another area of promise for tapping social media engagement in health policy and research. Crowdsourcing is based on the leveraging effect of networks—the more people who participate, the more valuable the service becomes for publics.[141] Through crowdsourcing, policymakers engage online users in creating a "vibrant community [in which] users access information and interact with fellow sufferers"[142] as they build support for a health policy decision.

Decentralized Messaging. Social media are unique in their equalizing capacity, granting users a voice in debates about personally relevant issues. Social media users relish the freedom to engage in an activity in which individuals "call the shots."[143] Decentralized messaging operates on the principle that engagement proceeds from an individual's ability to have his or her voice heard, "without any voice dominating the dialogue."[144] Organizations' efforts to cede control in messaging may seem fraught with risks, but consumer-focused organizations have begun to demonstrate a willingness to relinquish control by involving publics in their activities and decisions.[145] The trade-off is that, as organizations rein in control over their messaging, they enable health publics to "cultivate a powerful voice that can feed into the policy process."[146]

Decentralized messaging infers limited organizational control over messages and gives rise to the perception that an organization does not maintain tight control over its portrayal in social media or the responses of social media users. In health messaging, decentralized messaging welcomes honest and potentially negative messaging regarding a health policy or issue. Decentralized health messages, however, enable health publics to monitor and plan their own health issues on their own terms as an active participant in the debate over health issues that affect them.[147,148] As such, decentralized health messages may also raise the general public's level of health literacy, empowering publics to become autonomous decision-makers for their own health.[149]

Overcoming Challenges among Vulnerable Populations. Successfully employing social media for engaging vulnerable populations requires a targeted approach. Vulnerable populations' online behaviors vary by health context. In fact, such populations may not actively seek health information, but may be more effectively described as health scanners or even health avoiders. The engagement approaches described above offer guidance for health communicators and policymakers seeking to engage vulnerable populations online. First, conversational messaging involves direct interactions with online publics on topics related to their health experiences. For publics that may not seek health information online, conversational messaging involves the attachment of health messages to messages about broader social issues that the general public may view. For

health publics likely to seek information online, communicators and policymakers should engage in direct conversation focused on individual health experiences and issues. For example, to gain valuable feedback for the development of higher-quality online resources, Magee et al. suggest that researchers and communicators function as a sounding board for LGBT youth regarding their sexual health information–seeking experiences.[150]

In addition, conversational messaging should be developed for specific health contexts. Rather than simply spreading factual information about health conditions and research, communicators may find it valuable to engage in conversation with health publics. In particular, discussion of emotional issues arising from health concerns has proven to be engaging. One recent study showed that conversation focused on emotional issues via online forums built strong connections between people.[151]

Communicators and policymakers may also reach vulnerable populations via socially distributed communication. Previously discussed "health mavens" or those considered "in the know" among groups of low socioeconomic status[152] are a critical resource for reaching vulnerable publics. Identifying and targeting vulnerable publics through relevant health content will positively influence their engagement and, consequently, expand the reach of health messaging online. In addition, communicators and policymakers should generally be involved in social networking sites to increase the likelihood that vulnerable populations will be exposed to and share specific health messages. Researchers have suggested that efforts to improve health literacy among specific groups (i.e., publics with a long-term condition) could "help raise health literacy at a public level. . .[which] could contribute to reducing health inequalities."[153] In doing so, health literacy is "distributed through groups" of publics based on health condition, successfully employing social capital.[154]

Finally, decentralized messaging implies the need to allow vulnerable populations to share and respond to health research and policy content on their own terms and to take into consideration of low literacy levels. When communicating with vulnerable populations, some have noted the importance of producing messages that cater to individuals with limited health literacy and limited access to information.[155] In doing so, the primary objective is to engage vulnerable populations on their own terms and empower them to understand and apply important health information. Development of health literacy based on context is critical because health literacy evolves through a range of health experiences and encounters. [156]

The Evolving Role Of Content In Engagement

Not uncommon in discussions among communication scholars and practitioners is the role of content in digital media engagement. During the early phases of the Internet, content was considered "king"; that is, involvement in the digital medium centered primarily on the value of the available content.[157,158] However, over the last several years, digital media engagement has moved from content-based to social- and interactive-based involvement. The common terms for characterizing the shift refer to the content-heavy online model as Web 1.0 and to the social and interpersonal focus in online activities as Web 2.0. Some have argued that Web 3.0 will be even more personal, shifting from content that is text-based to content that is personal identity–based.[159] Regardless of the next development in digital media, the trend is clear: engagement is trending social. The question, then, is, Where does that leave the value of content in digital media? If content is no longer "king," then what is it? The answer is that content is a resource for engagement. Content is the point around which social media users become engaged in the online experience. It is the resource for interpersonal interactions online. In other words, interaction is king, and content is, more appropriately, the pawn. And a good pawn is one that is decentralized, socialized, conversational, and collaborative.

The pawn concept may be demonstrated in the notion of a viral video. Many online users refer to a video that has been seen by thousands of people as a viral video. However, the video itself is not inherently viral—it is simply a video that has been placed in an online venue. It does not become a viral video until users have deemed it worthy of sharing with and recommending to friends. Engagement, then, proceeds from sociability with the content, and a video becomes viral through sociability.

When applied to health policy and communication, the content-as-pawn-rather-than-king metaphor gives health communication a strategic orientation. Health information posted online—whether research-specific or policy-specific—is posted for more than just general public consumption. Rather, it also serves as a gateway for stimulating interaction between important health publics, including opinion leaders and health mavens, researchers and scholars, and health-active patient publics that will use the health information in debates and discussions based on the quality of the information. In turn, discussions may lead to involvement in health initiatives and issues, including involvement in health research, debates, information sharing, community development (both online and offline), and policy advocacy, all made possible by a combination of the online content's quality and the online medium's interactive capacity.

Engaging Communicators And Policymakers

Despite the opportunities for engaging online publics around health issues, communicators and policymakers may not be convinced of the potential impacts arising from a sea change in communication and how publics seek their own understanding of health issues. Research has shown that those in both the private and public health sectors have been slow to embrace a public-focused approach needed for engaging health publics.[160] The result has been "poorly developed health information policies, a lack of a clear business plan, and ineffective leadership [leading to] a failure of information communication technology implementation in healthcare,"[161] even amid observations that creating engaged health publics "is exactly what the country needs to improve quality of life, extend life expectancy, and to reduce health care costs."[162] Clearly, engaging policymakers and researchers in e-health and digital media efforts is critical for improving health among societies. Desmond Tutu, in his capacity as chair of the Global eHealth Ambassadors Program, stated:

> Governments set the rules of the game. . . the right policies and strategies for development of e-health, with proper emphasis on reducing inequalities can play a big role in promoting adoption of e-health technologies and thereby extend their benefits.[163]

Despite the need for change in health policymaking and practice, both the models and assumptions associated with the health sector pose barriers to the use of social media as a resource for improving health. Lluch cites the hierarchical, top-down structure of health organizations and, as a result, the slow integration of e-health technology into health communication.[164] The hierarchical structure stifles the teamwork needed for e-health implementation while the effect of digital media on health generates the need for interdependence, cooperation, and teamwork, all of which require "modifying information and decision processes as a whole."[165]

For many researchers and policymakers, the problem may be cultural or even personal. Changes in health information technology lead to heavier workloads for researchers and policymakers, creating resistance to the adoption of new modes of communication.[166] Culturally, acceptance of a bottom-up, consumer-focused model of communication, wherein professionals and decision-makers tap outside perspectives and seek engagement, undercuts the autonomy to which health care professionals and researchers are accustomed. At worst, collaboration via digital media, which may include yielding to others' judgment, represents a threat to the professional's expertise.

Overcoming barriers to health engagement via social media depends particularly on policy. Research has shown that, for e-health to proceed beyond the pilot stages of implementation, "support at the policy-making level is required."[167] To gather support for researchers' and policymakers' engagement in social media, it may be essential to identify the potential roles and process of social media engagement in health, including opportunities for collaboration, evidence-based policy development, and social media training and planning initiatives among researchers and policymakers.

Engagement for Knowledge Creation. Digital social media offer a veritable knowledge database of consumer opinion and experience in health, providing an unequivocal look into the otherwise difficult-to-discern health experiences and opinions of health publics. As such, social media content fills a knowledge gap in health policymaking. Rutten et al. argue that consumer content online helps policymakers and communicators move beyond personal wants to the "wants of organizations, interest groups and publics," thereby improving the "health promotion impact of existing projects. . .and optimiz[ing] our efforts in the area of knowledge translation."[168] They further argue that social media provide insight into "public opportunities…changes in public awareness, engagement of the population, and mass media interest."

Using social media for health policy development is particularly important because publics engage in health topics online to seek solutions for their own health issues. The proactive nature of social media users in their own health maintenance necessitates a focus on the content they produce. Often referred to as citizen journalists, social media users fill traditional journalist roles by reporting on and critiquing health content (including research and policy) as well as forwarding and discussing others' views on health matters.[169] However, social media users are less objective than traditional journalists—their opinions are personalized and nuanced.

If health research and policy are to be considered a "therapeutic agent. . . or a systematic means of influencing the health of individuals,"[170] then social media engagement of affected publics around health issues must undergo evaluation to determine its effects. Campbell argues that any evaluation of social media should focus on "the actual physical, psychological, and emotional impact on individuals and populations of policies whose effects are hypothesized and then empirically tested."[171] Social media, then, provide a lens into health users, allowing communicators and policymakers to address the impacts of health policy and research on behavior and opinion.

Engagement as Evidence for Policy and Research Impact
For policymakers, the demand for evidence-based policymaking, which is defined as research that classifies evidence-based policies as "better informed, more effective, and less expensive,"[172] heightens the importance of social media engagement. Health researchers commonly bemoan the state of evidence in health policy. Eric Goosby, Global AIDS Coordinator with the U.S .Department of State, argued, "Policy-making and investment decisions are limited because there is insufficient evidence of the impact of health tools."[173] Evidence for policy impact vests policymakers with confidence in their decisions.[174] Ariel Pablos-Mendez, an administrator for global health at the U.S. Agency for International Development, argued, "Solid evidence of effectiveness, efficiency, and cost-effectiveness is essential for e-health adoption and scale-up by governments and donors."[175]

The nature of the evidence needed for policymaking may transform social media engagement into a strategic resource for assessing policy needs and impact. In fact, research has demonstrated that social media networks have been "powerful tools for developing evidence, practice and policy."[176] User content posted on social media includes the attitudinal, behavioral, and anecdotal evidence that, according to researchers, is critical for assessing policy impact.[177] In fact, Strydom et al. argued that the type of content available via social media may be a good substitute for scientific evidence, which is, "by nature, slow, and not reactive."[178]

However, until this point, policymakers may have been slow to recognize the value of social media engagement in the policymaking process. Part of the problem is that it is scientifically difficult to establish the validity of opinions expressed via social media. As is the case in most media, opinions expressed in social media tend to embody the most positive and most negative sentiments. Consumers are more likely to share their best and worst experiences instead of their average experiences. Yet, the tendency to question the rigorously developed and tested content of social media for policymaking purposes may be short-sighted. Strydom et al. argued that evidence of policy impact "can be made up of a range of components, not only scientific."[179] They further argued, "If non-scientists are brought on board to enhance legitimacy or salience, this can undermine credibility. . . nonetheless, policymakers should aim to expand on the number and variety of participants, as well as be willing to take risks and admit errors."

As an alternative source of evidence, social media should be considered both a resource for qualitative content and a base for quantitative investigation. In the same way that focus groups and in-depth interviews reveal depth of experience and sentiment, social media engagement may enhance an investigation of issues by adding to the depth, rather than the breadth, of available information. Such depth includes the context, local knowledge, and cultural cues of anecdotal, attitudinal, and perceptual experience.

The consequences of policymaking are visible in health publics' engagement activities on social media. As such, engagement becomes a tool for evidence-guided policymaking. The basis of social media as evidence is reflected in Campbell's definition of evidence:

> *"Evidence is not objective fact; rather, evidence obtains meaning based on context, purpose for use, user or creator beliefs and interests, and theories of policymaking. In policy, evidence is not simply introduced and applied; it is interpreted."180*

The value of social media in gathering evidence for research and policy impacts lies in the diversity of voices, values, beliefs, personal experiences, and arguments regarding health that are openly available in social media networks.[181] These forms of evidence hold research and policy against the sociopolitical, moral, and cultural context of decision-making and reveal the "psychological impacts from behavioral resistance to change."[182] Overall, the use of social media fulfills the need for "more weight on narrative, cultural, qualitative, and relational experiences" in policy decisions.[183]

Social Media Education and Training Initiatives. Despite the social media's promises for policymakers, perhaps the largest impediment to social media's use is the grandiose nature social media's opportunities and tasks. Buzzwords associated with social media (i.e., engagement, big data, and so forth) tend to defy description, leaving policymakers with amorphous and ambiguous concepts. The first step may be to translate engagement concepts so that they are "comprehensible for 'ordinary healthcare professionals.'"[184] Troshani et al. argue, "The creation of technical business knowledge underlying the development of pervasive health content and services is essential for the success of emerging areas such as e-health."[185] Knowledge includes technical know-how for navigating the social media spectrum.
Research also underscores the importance of training. Lluch's literature review of e-health found that training policymakers and health communicators as "end-users" in specific applications of information technology is "a key factor in health information technology adoption."[186] Training promotes user involvement.[187] Desmond Tutu has argued that training programs in communication technology (including on-the-job training for all health professionals) are "the mechanisms through which governments and international agencies can help provide an enabling environment for the growth of e-health."[188] A recent study demonstrates the need for training. When Shariff et al. found a lack of powerful connections between the American Society of Nephrology and its members on Twitter, they surmised that the problem was a technical one—that society members lacked the technical skill to engage members online.[189] They concluded that "understanding the mechanisms to develop connections [online]" would lead to stronger society networks.

Overall, communicators and policymakers may find the economic value of digital media enticing, but long-term value comes from the "perception of consumers' wants and needs in order to achieve long-term economic and social sustainability."[190] In short, the critical question associated with the use of technology in health policy and research asks, How do social media improve health? One expert argued, "A lot of people in the field flock to e-health because of the technology, hype, bells and whistles and money. It is essential that health people keep the focus on health priorities [rather than technological wizardry]."[191]

One initiative that may facilitate social media immersion among health communicators and policymakers is the development of a plan or set of guidelines for engagement. Often, organizations seek to minimize internal risk and potential conflict by implementing policies for social media use that include a risk management program. More specifically, the aim of such programs is "to identify, measure, monitor, and control the risks related to social media," with roles for senior management and risk assessment activities spelled out, including "methodologies to address risks from online postings, edits, replies, and retention."[192] In addition, social media planning extends to policies and procedures for monitoring social media for reputational risks.[193] Once policies are developed and publicized, organizations should develop an employee training program that covers institutional policies for work-related use of social media and discusses how to manage risk and potential conflict.[194]

Concluding Thoughts: From Engagement To Relationship

This paper has focused on the engagement of publics via social media, but engagement is not an end in and of itself. Rather, engagement is a relationship vehicle, serving both relationship cultivation and maintenance purposes. Some think that social media personalizes organizations to such an extent that building functional and emotional relationships between organizations and publics is a reality.[195] However, the link between social media engagement and relationships is relatively underdeveloped and remains a blind spot in research, leaving researchers, policymakers, and communicators with the question, Where is the overlap between engagement and relationships?

Engagement exhibits markedly relational qualities and has often been described through the use of relationship concepts such as dialogue, social interaction, mutual trust, commitment, and satisfaction.[196,197] From a public relations point of view, relationships are mutually beneficial interactions that result in trust, commitment, and mutually recognized roles and influence between parties.[198] Whereas engagement may be considered a channel for relationship building, engagement behaviors also reflect the outcomes associated with relationships. Therefore, the next critical conversation in research must address the connection between engagement and the organization-public relationship. An examination of the interrelationship between the two concepts points to at least three possible connections as described below.

First, engagement may be an outcome of a relationship. Grunig and Hung argue that satisfaction, trust, mutuality, and commitment are the primary outcomes of a relationship.[199] To be considered an additional outcome, engagement must be delineated as mutually exclusive from the other four outcomes and may be considered the behavioral outcome of a relationship. Kang hypothesized that a positive relational connection precedes engagement activities and showed that engagement correlates positively with relationship outcomes.[200] As such, engagement may be an outcome of relationship outcomes. The primary limitation in Kang's research, however, was her focus on positive relationships—engagement is a natural correlate of relationships between parties who maintain favorable perceptions of each other.

Another possible connection between engagement and relationships is one in which engagement serves as an antecedent. A few studies explore engagement behaviors as a precursor to, or an initiator of, the organization-public relationship. Yet, it would be short-sighted to ignore online engagement's role in relationship cultivation. In many cases, social media engagement in general leads to awareness of organizations and issues, potentially leading to further engagement and an eventual relational connection. Such a scenario suggests different types of engagement and indicates that engagement with online tools should be delineated from engagement with an organization, with an issue, or with an individual.

It is also possible that engagement may precede a relationship in a trial-and-response experience. Individuals who are aware of an organization or issue may engage or participate in engagement activities based on the desire to learn more. In this case, there may be degrees of engagement, starting with superficial trial activities (i.e., reading or "liking" content online) and culminating in relationship-oriented activities (i.e., advocacy and other loyalty activities). In this case, engagement may lead to what may be termed a public-organization relationship rather than to an organization-public relationship because the relationship is public-initiated and led.

Of course, in other cases, engagement and relationships may not be connected at all. In particular, an individual may be engaged online with an organization based on negative-originated motives (i.e., to argue, complain, or criticize) without any intention to build a relationship. In such cases, it is possible that the other types of engagement mentioned above (i.e., issue or technological engagement) may be preeminent over an organization-based engagement.

The solution to the original conundrum—the connection between engagement and the organization-public relationships—is that it may be situational. Varying types and phases of engagement proceed from different phases of a relationship. The need, then, is to identify the qualities and nuances of each situation. For example, engagement that precedes a relationship may be marked by exploration and higher levels of information consumption, whereas engagement that proceeds from a relationship may be marked by higher levels of self-expression, advocacy, and social interaction. When engagement neither proceeds from nor precedes a relationship, self-expression and social interaction may be core drivers.

In conclusion, as digital social media technology bridges communities with health issues and solutions, we as researchers, communicators, and policymakers must partner to develop innovative strategies for activating these communities in health engagement. An increase in publics' emotional attachment, expression, interactivity, and empowerment in health issues online will lead to healthier and more informed communities.

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