

Exploring the Meanings of Collaborative Healthcare Portrayed in Social Media

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Abstract

This article aims to provide knowledge on how collaborative healthcare meanings are being portrayed in social media. Through a qualitative approach of visual and textual analysis, 750 posts were extracted from Instagram to examine the meanings of collaborative healthcare as perceived by healthcare providers and laypeople. Wellness centers and health-related professionals were the main Instagram users who contributed to constructing the meaning of collaborative healthcare (38% and 36%, respectively). The study reveals four main categories within the concept of collaborative healthcare, namely knowledge sharing, events, self-care, and advertising. Interestingly, we found that advertising has the highest frequency (314 posts) and that the term “collaborative” is used by wellness centers as a hallmark for advertising their services. Conclusion and Implications: This study has contributed to unveiling the multiple meanings of collaborative healthcare shared by social media users and to developing some theoretical reflections and practical implications to improve public health.

Keywords

collaborative healthcare, meanings, social media, Instagram, health informatics

Introduction

Health systems are facing a new era that claims collaboration to tackle more complex healthcare needs and increasing healthcare demands in an aging population (WHO, 2023). Collaboration across healthcare organizations refers to a transformation from fragmented traditional hierarchies to networked organizational forms (Ferlie et al., 2011). Collaboration in different healthcare settings, whether intra- or inter-organizational (e.g., multidisciplinary collaboration, academic or clinical partnerships, or interprofessional teamwork) has been acknowledged to improve health policy outcomes (D’Amour et al., 2005) in terms of both quality of care and financial performance (Schepman et al., 2018) and to tackle complex issues and complex healthcare needs more adequately (Ferlie et al., 2011; Matziou et al., 2014).

The literature on collaborative healthcare has mainly focused on what agents collaborate (e.g., Ahgren & Axelsson, 2011; Moncatar et al., 2021; Renedo et al., 2015), what are the advantages of collaboration in terms of patient satisfaction and quality of care (Reeves et al., 2017; van Weel, 1994), as well as in terms of cost-

effectiveness and increased job satisfaction (Schepman et al., 2018). Yet, there is still a lack of clarity about the definition and meanings of collaborative healthcare, in particular by non-healthcare professionals (Karam et al., 2018). Therefore, it seems critical to understand what laypeople mean by the term collaborative healthcare since they are either key actors or customers for the healthcare system. This study addresses this gap by highlighting the significance of social media on meaning-making of collaborative healthcare.

Under the principles of personal construct theory (PCT) (Kelly, 1995), meanings are seen as the units by which human beings construct their experiences. Individuals’ emotions, attitudes, and behaviors have their origin in the meanings they attach to their experiences. Therefore, if we want collaborative practices to increase in the healthcare context in order to improve health system efficiency and quality, then we first have

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to understand what people mean by collaborative healthcare. Since social media play a significant role in meaning-making collectively (Lomborg, 2015) and exert influence on user perceptions and intentions, which, in turn, may influence users' attitudes and practices, this study aims to explore the concept of collaborative healthcare through social media, and more specifically, among Instagram users. This is a rich contribution since, first, collaborative healthcare is a public concern, and a wide range of people is involved directly and indirectly as either an agent or a customer; second, despite digital health studies have developed knowledge on the role of social media for sharing information on health issues (e.g., Xu et al., 2015), the usefulness and experiences of online support groups, and digital apps (e.g., Javed et al., 2020; Maclean et al., 2022), little is known about the role of social media in collectively constructing meanings for collaborative healthcare; third, social media exerts influence on collective meanings and imaginaries. Thereby, exploring meanings of collaborative healthcare by laypeople on Instagram can expand our knowledge regarding what might constitute the visions (Taylor & Van Every, 2000) and consequently, their attitudes toward it and collaborative practices.

Against this backdrop and to the best of our knowledge this study is the first to explore the meanings of collaborative healthcare as constructed by users, whether laypeople or healthcare providers. In particular, it aims to respond to the following research question: What meanings of "collaborative healthcare" have been portrayed by Instagram users?

Literature Review

Collaboration refers to a coordinated team activity in which members share their knowledge, skills, resources, and capabilities and collaborate to meet the shared objectives (Patel et al., 2000). Organizations currently must collaborate with a far broader range of partners, both internally and externally, to pull together underlying expertise, knowledge, resources, and perspectives to solve challenges and thereby achieve success. When it comes to the healthcare system, collaboration should be stressed more extensively as the healthcare delivery system is multi-stakeholder in nature (Bauchner & Easley, 2020), and no single profession can meet all of a patient's expectations and needs in terms of health (Matziou et al., 2014).

Hence, a shift toward community-based and integrated healthcare delivery models has been emphasized in contrast to the traditional in-hospital model of care (van Hoof et al., 2016). The increased demands for healthcare coverage (Mascia et al., 2012), the limited resources, the aging population, chronic diseases, and the

pandemic (Barnett et al., 2012; El-Awaisi et al., 2020; van der Wees et al., 2015) are key challenges that underscore the significance of redesigning healthcare systems in a collaborative way to address more efficiently people's healthcare expectations and enhance healthcare organization performance (D'Amour et al., 2009; Schepman et al., 2018; Singh, 2019). Collaboration contemplates a multi-stakeholder scenario, which brings together a wide range of participants—medical or non-medical—to collaborate (Chong et al., 2013; Javed et al., 2020; Latten et al., 2018) at inter- or intra-organizational levels (D'Amour et al., 2009) through various practices, such as sharing information, knowledge, critical resources, patients, and specialists (Lomi et al., 2014; Okpala, 2018; Wald et al., 2018).

Despite the novelty of collaborative healthcare models, there has been ample discussion on their advantages. For instance, effective collaboration may reduce unnecessary treatments and help patients to shift from costly care to affordable and sustainable care (Frankowski, 2019; Schepman et al., 2018). Patient involvement in their treatment process and decision-making may result in greater patient satisfaction and higher care quality, especially in chronic care (Ahgren & Axelsson, 2011; Greenfield et al., 1985; Montori et al., 2006). Similarly, collaborative healthcare models may lead to higher satisfaction and engagement of health staff/professionals since they incorporate and facilitate knowledge transfer, major learning, and specialization (Fisher et al., 2017; Nair et al., 2012; Westra et al., 2016). Hence, the need of developing effective collaborative healthcare models has been recently brought to the forefront by policymakers, health organizations and healthcare providers (Kaiser et al., 2018; WHO, 2023).

Nevertheless, despite there is a definition by the Institute of Medicine (IOM) of a "collaborative healthcare network" as one that is "designed to generate and apply the best evidence for the collaborative healthcare choices of each patient and provider; to drive the process of discovery as a natural outgrowth of patient care; and to ensure innovation, quality, safety, and value in healthcare" (Smith et al., 2012), the meanings of collaborative healthcare among the laypeople remain unexplored.

Developing a common understanding of collaborative healthcare, in terms of both agents and practices, is a core component of an effective healthcare system. Meanings are socially and collectively constructed (Weick, 1995). Web 2.0 tools in the healthcare context not only foster collaborative practices such as creating health awareness (Lapointe et al., 2014), knowledge sharing and translation (Eysenbach, 2008), social exchange and support among patients to improve public health through self-management or self-care (Lin & Kishore, 2021), communication, and collaboration between

primary healthcare professionals located in rural and remote areas (Anikeeva & Bywood, 2013) or developing professional networks (Shariff et al., 2013) but also contribute to constructing meanings in a collaborative way that might pave the way for creating new attitudes and behaviors. Hence collective meaning-making through social media is a fundamental piece to articulating and understanding effective collaboration (Jørgensen et al., 2012; Kelly, 1995; Ralston et al., 2018). Currently, the usage of social platforms to communicate, explore public understanding, and construct meanings collectively (El-Awaisi et al., 2020; Lomborg, 2015) is widespread. That is why we decided to explore the meanings of collaborative healthcare as constructed by users, whether laypeople or healthcare providers, on Instagram.

Methods

This study uses a qualitative approach of visual and textual analysis generated by individuals and organizations on Instagram. In this regard, the image of each post and its corresponding caption are analyzed together. Instagram is chosen as a data source since, as opposed to text-based social networking platforms such as Twitter or blogs, it is an image-driven social media platform—one that attracts over one billion active users each month (Statista, 2020). Social media studies have mainly been performed on text-based platforms (especially Twitter). People are, however, increasingly sharing visual narrations of their personal lives, so key information may be embedded in visual postings (Highfield & Leaver, 2014). Even if text and images are independent in storytelling, a combination of visual and textual imagery is worth more than a single format (Bateman, 2014), and provides a more holistic understanding of the phenomena in hand (Highfield & Leaver, 2014). In this regard, we applied both textual (captions) and visual (images) analysis to Instagram posts. Almost all posts affiliated with the hashtag #collaborativehealthcare contain both these dimensions, and we analyze them both.

Data Collection

The visual and textual data collection procedure was applied as follows. Visual data included images posted on Instagram tagged with the hashtag #collaborativehealthcare. Textual data included the caption attributed to a particular image.

This study used a web scraping technique to download posts through the Instagram API (Application Programming Interface) during June 2022. The extracted dataset contained 777 posts. The images were extracted by capturing screenshots and each was coded to link it to the relevant post. After removing posts which had at

least half of their hashtags in languages other than English, a total of 750 posts (including images and corresponding captions) containing the hashtag #collaborativehealthcare were collected and coded.

Textual and Visual Analysis

Due to the exploratory nature of this research, no a priori coding was conducted, so an inductive approach based on open coding and creating categories (Kyrngäs, 2020) was applied. To explore how social media users perceive collaborative healthcare, we examined posts containing the #collaborativehealthcare hashtag on the Instagram platform. Thus, we indirectly explored social media users' perceived meanings of collaborative healthcare as the unit of analysis, through their posts. Thematic analysis (Braun & Clarke, 2006) was then developed by analyzing both the images in each post and the captions attributed to a particular image, considering all 750 posts of this study. All captions were extracted through web scraping and were saved in an Excel file. Each caption was labeled with a number and the relevant captured image was also saved with the same number to link each caption to its image. We uploaded both the Excel file (for captions) and the images to NVivo 11. Braun and Clarke's six-step reflexive thematic analysis approach was followed (Braun et al., 2018; Braun & Clarke, 2006) to extract the key meanings of collaborative healthcare in Instagram.

In Step 1, the main researcher reviewed carefully the 230 early posts (i.e., 30% of the total posts) to become familiar with the data. In an iterative and reflexive process, frequently occurring features were identified as codes, and a consolidated coding strategy was developed. Step 2 consisted of the main researcher applying the coding strategy to all the posts according to the coding framework established in step 1. This initial codification was revised by the two co-authors and discussed until broad consensus was reached on the final codes and categories in an iterative and reflexive process of constant comparison of the meaningful codes (Steps 3, 4). In step 5, we jointly discussed and agreed the content of each category and refined them accordingly.

Results

To explore the groups of users that contributed to constructing the meaning of collaborative healthcare, we classified them based on the basic information shared on the profile of users and found that the majority were wellness centers and health-related professionals (38% and 36%, respectively). The remainder were laypeople, educational centers, healthcare product suppliers and

Table 1. Categories, Codes, and Keyword Exemplar, Frequency.

Categories	Codes	Definition	Exemplar	Frequency of both images and posts
Knowledge sharing	Health information, Health experience	Diffusing health-related news, tips, experience, and research through sharing information and experience	“journey,” “3 ways to turn good posture,” “share what I have really learned”	181
Events	Congress, Workshop, Lecture, Informal meetings	Containing different events associated with health issues such as congresses, workshops, lectures, and informal meetings.	“practitioner collaborative event,” “symposium”	77
Self-care	Healthy food, Fitness, Positiveness	Referring to activities aiming to improve one’s health on his/her behalf	“self-care,” “Self-love,” “yoga,” “meditation,” “Let food be the medicine”	226
Advertising	Inter-disciplinary collaboration, Collaboration with patients, Asking-answering, Promotion, Smiley photos from healthcare teams, Sharing blogs	Advertising health-related products, services, and centers	“25% off products,” “Book your free 15 minutes,” “Call 360-828-1429 to schedule,” “work WITH patients,” “inter-disciplinary collaboration”	314

medical centers (16%, 4.5%, 4.5%, and 1.1%, respectively).

Based on similarities among codes, we aggregated the codes into four main categories; knowledge sharing, events, self-care, and advertising (see Table 1 for exemplar keywords and frequency for each category).

Knowledge Sharing

In the Knowledge Economy era, it is not surprising that one of the meanings of collaborative healthcare is knowledge sharing. Our findings reveal that both laypeople and health-related professionals/centers used Instagram as a common platform to exchange health-related information, experience, questions, and answers, resulting in sharing information or knowledge relevant to health issues. In this regard, we explored two main sub-categories that imply sharing health information and health experience.

Health Information. In this code, we considered posts that disseminate healthcare research findings, health news, and health tips to promote health among population. They were posted by health-related professionals and centers. For example, Holistics Health, a health and wellness coach shown in Figure 1a, offered a visual image of eight dimensions of wellness. We found that information related to chiropractic care, pregnancy, and self-care were the most common issues shared (examples are shown in Table 2, No. 1). Additionally, information

on alternative medicines (e.g., the Graston Technique, naturopathic medicine) and their advantages are shared by healthcare professionals. In Figure 1b, the Movement Studio Melbourne offered an image of a patient being treated with the Graston Technique and attached a caption to detail how it helps with back pain (see Table 2, No. 2).

Health Experience. Collaborative healthcare means also sharing personal experience with health problems. We found that two groups of users, namely health-related professionals, and laypeople, shared their experiences and advice on Instagram. Patients share their personal experience as a health journey on Instagram, which includes selected information about their health problems, symptoms, and the treatments they apply. This can be a source of information for users whose family members, or they themselves, have the same problem. For instance, Kim Vopni, shown in Figure 1c, offered a photo containing “My Uterus End” to share what she learned from her health problem, which was heavy or prolonged menstrual bleeding. She explained the problem in detail and added the initiatives she had adopted in the caption (see Table 2, No. 3).

Additionally, health-related professionals/providers share their experience related to a health issue or process. For instance, the Movement Studio had encountered a common misunderstanding of patients regarding the role of healthcare providers (see Table 2, No. 4). Such sharing can enrich public understanding regarding the roles

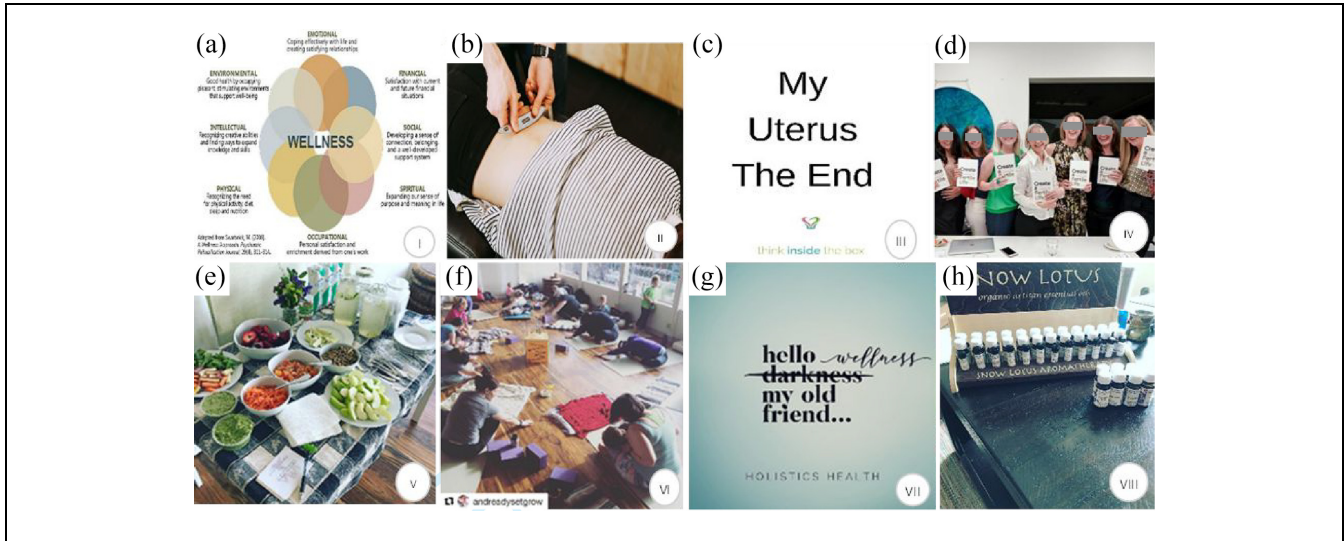


Figure 1. (a) an image of wellness' dimensions, (b) applying naturopathic medicine for back pain, (c) sharing health experience about Uterus, (d) group photo of participants in a collaborative event, (e) an image of a green table containing fruit and vegetables, (f) an image of mothers' Yoga while taking care of their babies, (g) a textual image including positive quotes, and (h) benefiting the lobby for selling products in a wellness center.

and specializations of different healthcare professionals or providers.

Events

Collaborative healthcare is also understood as a meaning for formal events such as congresses, workshops, lectures, and informal meetings (e.g., lunchtime and coffee time). Instagram users posted photos to show their attendance at healthcare events and to advertise these events on Instagram. Our findings show that these events can be for two main purposes; firstly, for sharing healthcare-related information, findings, and advances, and secondly, for social purposes, creating networks and having fun (e.g., lunchtime) and celebrating special events among healthcare professionals/providers (e.g., International Women's Day, Nurses Day). As regards participants, two main groups of people are interested in attending these events: healthcare providers/professionals and students who want to join the healthcare community.

For instance, the Fertile Ground Health Group shared a photo from a collaborative practitioner event (see Figure 1d) and indicated, in the caption, that their collaborative event involves “juicy conversation” concerning “shared care” and “future referrals” (see Table 2, No. 5). They also posted a photo from another event and highlighted learning opportunities in collaborative events (see Table 2, No. 6).

Oasis Chiropractic, a wellness center in Perth, shared a photo of a symposium and pointed out, in the caption,

that different leaders and doctors had presented their findings and shared them with other participants (see Table 2, No. 7). We see that, on the social media, events may contribute to building and developing networks for sharing knowledge and findings at different levels (i.e., inter/intra organizational), to learning, and to collaboration to develop specialties, skills, advances, and technologies related to healthcare.

Self-Care

Self-care posts relate to an individual's health and wellness. We found that Instagram users see self-care as both self-initiated activities and self-control. For instance, setting and sharing goals and plans for personal health and a healthy lifestyle are commonly shared. Themes such as herbal caring alternatives, having a fitness trainer, and proper nutrition are often used on Instagram in relation to self-caring and the development of a healthy lifestyle. This leads to a high co-occurrence of the #collaborative-healthcare and #selfcare hashtags.

This meaning of collaborative health is in line with two perspectives on the concept of self-care. First, self-care is defined as activities that individuals initiate or perform on their own behalf (such as activity, food, water and rest), in order to improve health and well-being (Anna et al., 1978). For example, Dr. Cheslsey shared a textual image containing “your choices = your health” and attached the caption “You are in charge of your health. Whether you want to believe it or not, every decision you make impacts your well (or sick) being. If

Table 2. Exemplar of Captions.

Codes	No.	Exemplar of captions	Concept	User
Health information	1	"....Chiropractic care during pregnancy is a safe, drug-free way to reduce many types of pain that may occur during pregnancy such as: <input type="checkbox"/> Low back pain, <input type="checkbox"/> Neck pain, <input type="checkbox"/> Headaches, <input type="checkbox"/> Sciatic nerve pain, <input type="checkbox"/> Pubic pain...."	Sharing health information mainly for chiropractic care, pregnancy, and self-care.	Wellness center
	2	"How does the Graston Technique® help with back pain? If you have back pain and reduced mobility. In your body, an Instrument Assisted Soft Tissue Modality (IASTM) method called Graston Technique® may be something to explore. The technique uses specialised tools to break down scar tissue and restrictions in your connective tissue that have resulted from trauma..."	Sharing information related to alternative medicines.	Wellness center
Health experience	3	"I explained the ups and downs and where I am now but didn't get a chance to share what I have really learned and what my advice is. IT'S BEEN A JOURNEY. I love my uterus...but there have been some ups and downs. I was bleeding a lot and was starting to notice clots. I went to my doctor and had my hormones tested. They came back normal but my iron was extremely low..."	Sharing experience of a health problem such as the Uterus.	Lay people
	4	"Patients come into our office for care of their musculoskeletal pain. As with any health office, we take a detailed medical history to better understand what brought them to our office. During this process, it is incredibly common for patients to ask us questions about their prescriptions. While chiropractors are educated on the foundations of pharmacology, IT'S NOT OUR SPECIALTY!"	Sharing experience relating to patient misunderstandings.	Wellness center
Events	5	"We got the pics from our practitioner collaborative event... It was wonderful to hear so many juicy conversations about shared care, different perspectives and potential for future referrals..."	Conversation on shared care in collaborative events.	Wellness center
	6	"We had the opportunity to learn the latest updates on immune mediated food reactions, appropriate, most effective testing methods and treatment considerations"	Learning opportunity in collaborative events.	Wellness center
	7	"This is a great symposium on metabolic, immunological, neurological and digestive disorders. The focus this year is on brain-immune-gut health in women and children, with presenters who are leaders in the field, ranging from naturopathic doctors, GPs, and chiropractors. So great to hear GP Dr Yeow this morning state in her presentation on the gut-immune connection..."	Sharing findings and information in collaborative events.	Wellness center
Healthy food	8	"Let food be thy medicine, thy medicine shall be thy food ..."	Food is offered as a key factor in health improvement and as a part of medicine.	Lay people
Fitness	9	"Tonight we have our new yoga class starting. Rest & Digest-Yoga and mindfulness for digestive healing..."	Yoga is introduced as a caring method.	Wellness center

(continued)

Table 2. (continued)

Codes	No.	Exemplar of captions	Concept	User
Positiveness	10	<p>“...I see people cooking and crafting, and walking and baking, and painting and singing and picking up that old guitar. They are playing boards games and old videos, they are laughing and talking and thinking. They are thinking. For themselves. About themselves. They are thinking about what they like, what makes them feel happy, what connects them to others. They are taking care of themselves...”</p> <p>“How will you choose to live from here on out? This wellness thing. It’s a choice. Years ago I chose to stop being at odds with my body. To settle my mind. To find the everyday peace I seemed to have searched a lifetime for. To invite gratitude into every moment, and to celebrate the little things.... I am thankful every single day that I am here. And I am elated to share the process of understanding, living, and choosing wellness in your life with you!...”</p>	<p>Sharing inspirational and motivational expressions to support mental/emotional wellbeing.</p>	Healthcare professional
	11	<p>“We are ready to support you in 2019! Our Healthcare Team From left front around the table □□□□ Ron Bryan, Fitness Trainer • Lemecia Lindsey, EMDR Trauma Therapist • Haley Vilhauer, Dietitian + Nutritionist + High Performance Coach • Megan Burns, Acupuncturist + Herbalist • Krystal Meyer, Massage Therapist • Kendall Hagensen, Somatic Mental Health Therapist + Clinical Director • Maral Zarandi, Naturopathic Doctor □□□□”</p>	<p>Encouraging self-loving.</p>	Healthcare professional
Collaboration	12	<p>“We love that Dr. Zarandi, our ND offers Saturday appointments for your convenience! Call 360-828-1429 to schedule ...”</p>	<p>Advertising through introducing collaborative team and specialties.</p>	Wellness center
	13	<p>“I recognize that you know your body best and when it comes to your health, you’re the authority and ultimately the one deciding on treatment. I simply get to act as your guide and interpreter. A big part of why I pursued naturopathic medicine is because I wanted to work WITH patients to improve their health..... Ultimately, we work together to restore balance and #vitality to your life using the most #natural and effective treatments possible”</p>	<p>Advertising through highlighting the presence of special specialties. Advertising through highlighting involving patients in caring process.</p>	Wellness center Healthcare professional
	14	<p>“...I firmly believe in maintaining an inter-disciplinary approach to health care (and sports optimisation!). There’s so much value in collecting perspectives from a range of sources and professionals to establish a really comprehensive view of what’s going on. <input type="checkbox"/> Whether it’s a GP, osteopath, physiotherapist, herbalist, or personal trainer, we all see the field in a slightly different way depending on our areas of expertise. <input type="checkbox"/> That’s why I’ll never hesitate to be in communication and collaboration with any other health care professionals you may be working with. <input type="checkbox"/> It’s all about integrating as much information as possible to design the best plan we can to support your goals.”</p>	<p>Advertising through using an “inter-disciplinary approach” as a leitmotiv.</p>	Healthcare professional

(continued)

Table 2. (continued)

Codes	No.	Exemplar of captions	Concept	User
Asking -Answering	16	“ <input type="checkbox"/> Do you have a need for needling? <input type="checkbox"/> WHAT IS DRY NEEDLING? Dry needling, also called trigger point dry needling or myofascial trigger point dry needling, is done by physical therapists to treat myofascial pain. Interested in learning more? Ask your practitioner when you're next in the studio.”	Advertising a service by giving information in “asking-answering” format	Wellness center
	17	“In each foot we have over 200,000 nerve endings and 26 bones. With all that going on in a relatively small space, it's no wonder that the foot is the most commonly injured part of the human body - even more than the back! You'll be relieved to know that the Chiros at Movement Studio deal with foot and ankle issues every day and have an entire toolkit of treatments to get you back up and running. Have you ever had your feet adjusted? Talk about getting off on the right foot <input type="checkbox"/> Comment your answer below <input type="checkbox"/> ”	Advertising chiropractic services by giving information, then asking viewers a question to share their experience.	Wellness center
	18	“Ask our Healthcare Team questions about Self-Love as it relates to your health! What do you want to know from us that can support you on your self-love journey? Each month, we'll be answering your questions in discussion as a team and sharing the voice recording with you! ... Leave your question in the comments or send us a private Message. ... Some ideas might be: How does self-esteem affect my health and wellness?”	Advertising through invitation for asking questions relating to a service.	Wellness center
Promotion	19	“25% off products in our lobby when you book a massage from now until January 1st! <input type="checkbox"/> Call 360-828-1429 to book and get your discount code” <input type="checkbox"/>	Advertising products in the lobby and offer discount	Wellness center
	20	“FREE 15 MIN COSULTATION! ... Margot Pic, our osteopath offers free 15 min consultation! Book it online”	Advertising by offering free 15 min consultation.	Wellness center
	21	“Have you checked out my blog series on Herbal Medicine for Beginners? I know a lot of people are curious about how herbs can work as medicine... Follow the link in bio to read the blog”	Advertising blog.	Lay people

you always feel like crap, then maybe it's time to re-evaluate your daily habits. Are you drinking enough (if any) water? Are you eating healthful REAL food?" The expressions "drinking enough," "real food," and "daily habits" refer to individual health-sustaining activities.

Second, self-care is seen as self-control, which involves processes, such as health monitoring, preventive activities, seeking care as required and participating in treatment, by an individual who takes initiatives and responsibilities to develop their own potential health (Norris, 1979). For instance, Avery Knechtel (an Acupuncture student) offered an image of vegetables and added the caption "I'm taking time for self-care by booking in with other practitioners and signing up for workshops that I'm interested in...." The quotes "booking in with other practitioners" and "signing up for workshops" refer to primary activities applied to control and manage health or prevent diseases to improve health.

Our study identified healthy food, fitness, and positiveness as three main sub-categories for self-care. Previous theoretical and empirical studies have also pointed out these three activities as related to self-care undertaken by Instagram users to promote or restore their health and wellness (Nguyen et al., 2020).

Healthy Food. Our findings reveal that Instagram users included the #collaborativehealthcare hashtag in their posts to label images such as a meal dish, herbs, veggies, fruits, and healthy food recipes. "Food porn," as a visual presentation of cooking or eating, is widely popular and common among social media users, particularly on Instagram (e.g., Cavusoglu & Demirbag-Kaplan, 2017; Dawkins, 2020). The former, for instance, clustered Instagram posts containing the #health hashtag, and explored the concept of food as the primary health representation.

Healthy eating and food allergy topics are highlighted by lay people and nutritionists. We found that Instagram posts were mainly dominated by green eating (i.e., vegetables and fruit) to develop a healthy lifestyle (see, e.g., Figure 1e). Along these lines, we also found that Instagram users viewed food as a medicine or complement to treatment (Table 2, No. 8); for instance: "Let food be thy medicine, thy medicine shall be thy food ..." (with an image of vegetables) was shared in the captions by Avery Knechtel.

Fitness. Fitness appears to be another meaning of collaborative healthcare. Photographs from the gym, fitness equipment, people exercising, and fitness trainers are the main visuals in this category. Also, yoga and meditation are the most common training methods posted on Instagram. This shows that mental and emotional

wellness was critical for Instagram users in our study. Photos of active individuals in the gym during meditation, Pilates, or yoga training occasionally appear with a view to motivating viewers and followers. For instance, when Figure 1f, an image of mothers during exercise while taking care of their children, was posted by Vancouver Wellness Studio they captioned it "Multitasking Mama." This shows the significance of exercising for a healthy lifestyle and motivating viewers with motherhood responsibilities.

In our study, fitness is mainly communicated as an ideal way for health improvement. Expressions such as "mental clarity," "mood balance," "stress reduction," "chronic pain," "headaches," and "mental peace" were commonly used by both healthcare providers and lay people as the benefits of, or reason for, fitness. This shows that Instagram posts affiliated with #collaborativehealthcare are more applied to fitness for self-caring through mental and emotional well-being, healing benefits, pain relief, and self-defense, than to the improvement of physical appearance. For instance, the Vancouver Wellness Studio posted an image of a yoga class and attached a caption to highlight yoga as a way for "digestive healings" (see Table 2, No. 9).

Positiveness. Positiveness mainly involves motivational quotes for improving health and portrays positive feelings of love, self-love, and inner peace as greatly developing a healthy lifestyle. These posts were mainly shared by Holistics Health. For instance, in Figure 1g a photo containing a motivational and positive phrase was shared and followed by motivational quotes in the caption (see Table 2, No. 10).

Additionally, healthcare providers mainly share photos from Nature and of themselves and insert a caption to inspire positive feelings in followers or viewers. Holistics Health, for instance, posted a photo of a snowy day and attached a caption containing positive and inspiring messages for wellness and self-loving, such as "stop being at odds with my body," "celebrate the little things," and "thankful every single day" (see Table 2, No. 11).

Advertising

We found a significant amount of advertising content under the #collaborativehealthcare hashtag. This included advertising for wellness centers, healthcare teams, and health-related products and services. Healthcare providers used collaborations (in the form of inter-disciplinary collaboration and collaboration with patients), an "asking-answering" advertising style and promotions, as the main three advertising approaches under #collaborativehealthcare.

Collaboration. Collaboration was mainly applied as a “leitmotiv” by wellness centers or health-related professionals to advertise a center/service/product. Wellness centers highlight “inter-disciplinary collaboration” and “collaboration with patients” when advertising their centers, collaborative teams, services and facilities on Instagram. They share photos from their team or centers and attach information relating to their professional members and their specialties in the captions. For instance, the Vancouver Wellness Studio shared a photograph of their collaborative teams captioned with their specialties such as “Herbalist,” “Fitness Trainer,” and “Somatic Mental Health Therapist” (see Table 2, No. 12). This also highlights the broadening of the concept of collaborative healthcare and the wide range of experts from various fields, such as alternative medicine (e.g., “naturopathic doctor”), who can collaborate to develop effective collaborative healthcare.

Furthermore, from shared photos containing the friendly and smiley face of healthcare teams, it seems that members of a network are happy and satisfied because of their involvement in a collaborative network to achieve health goals or deliver quality care within a collaborative team. Sharing such smiley and friendly photos from collaborative teams can attract customers and patients. In addition to sharing the information on team members, the presence of special experts in the center is advertised on Instagram posts to engage viewers to make a call and appointment. Vancouver Wellness Studio highlighted the presence of “Dr. Zarandi,” a naturopathic doctor, and then encouraged viewers to make an appointment (see Table 2, No. 13).

Interestingly, collaboration or working with patients is often portrayed by alternative healthcare professionals when motivating customer engagement. For instance, in Table 2, No. 14, Dr. Nicole van Poelgeest (a naturopathic doctor) advances “working together,” “work with patients,” and “collaboration” as a reason “why I pursued naturopathic medicine.” This highlights respect for and collaboration with patients. The quotes “collaboration on decision making,” “you’re the authority and ultimately the one deciding on treatment” and “effective treatment” show that joint decision-making is a collaborative practice for a network among professionals and patients to reach the effective and possible treatment. Patient involvement is a recurring point in advertisements for centers and services when attempting to engage users/patients/customers.

Likewise, inter-disciplinary collaboration is commonly cited by healthcare providers (both professionals and wellness centers) when attempting to attract more customers. Swell Health, nutritional therapist, inspires viewers by offering the expression “inter-disciplinary approach,” then emphasizing communication and

collaboration with different health-related professionals such as “GP,” “osteopath,” “physiotherapist,” “herbalist,” or “personal trainer,” resulting in “comprehensive view,” and finally indicating this approach as a “best plan” for treatment or prescription (see Table 2, No. 15).

Asking-Answering. “Asking-answering” is another technique used by healthcare providers to advertise centers, products, or services. In this regard, wellness centers or healthcare professionals shared posts in the style of “asking-answering” to introduce a service or product and then engage users or even create a demand among them. We found two different formats for “asking-answering.” The first format was a question-answer format where a question is posed in order to engage viewers and is then answered immediately in order to advertise a service/product by highlighting its features and possible health benefits. This format of “asking-answering” was more common and mainly employed by wellness centers, for instance, Movement Studio, a user active in advertising its center and services. An example is when it shared an image of a patient being treated by a needling service with attached information in the caption (see Table 2, No. 16). The caption started by asking questions like “Do you have a need for needling?,” “WHAT IS DRY NEEDLING?,” and “WHAT TYPES OF PAIN CAN DRY NEEDLING HELP?,” then immediately answered each question to highlight the service and finally encouraged the users with “Ask your practitioner when you’re next in the studio.”

In the second format, some information about a service/product is shared; then, some questions are given, and viewers are asked to share their answers (experience or ideas) by adding comments. Similarly, this type of “asking-answering” is mainly shared by wellness centers and aimed at advertising their services. The same user, for example, shared a post containing an image of a patient being treated, with advertising context in the caption (see Table 2, No. 17); the foot, as “the most commonly injured part of the human body,” was highlighted to advertise Movement Studio’s chiropractic services.

Additionally, “asking-answering” includes a call/invitation for question and answer—these were mainly posted by healthcare teams/centers. Viewers were asked to share their questions regarding a specific health-related issue through comments or private messages. Then, the healthcare team would answer their questions through a voice recording or a live session. This style of “asking-answering” also follows business and advertising objectives. For instance, Vancouver Wellness Studio posted a textual image containing an invitation “Ask us a Question!” and attached a caption to ask viewers to share their questions regarding “Self-Love” which relates to the main services of this center (see Table 2, No. 18).

Promotion. Some posts also included advertising for the health and beauty products within the wellness center (e.g., in the lobby). As shown in Figure 1h, Vancouver Wellness Studio advertised its new “goodies” in the lobby. Offering a promotion is another advertising approach used by wellness centers to engage viewers. People are more interested in buying their health and beauty products in wellness centers rather than shopping centers as they feel they can trust them more. For instance, Vancouver Wellness Studio shared an image of its massage room and attached a caption to advertise its products in the lobby and offer a discount (see Table 2, No. 19). Similarly, Body Mind Clinic shared an image of its osteopath accompanied by an advertising message “FREE 15 MIN CONSULTATION!” and added in the caption: “Free 15 minutes consultation! Book it online” (see Table 2, No. 20).

Healthcare providers also used Instagram to advertise their blogs, Facebook, and other web-based channels, containing health-related information such as herbal medicines or digestive plans (see Table 2, No. 21).

Discussion

This study uses Instagram as a data source to explore how social media users, in particular laypeople, healthcare-related professionals, and wellness centers, construct the meaning of collaborative healthcare. Based on our empirical findings, our contribution is four-fold. First, in accordance with previous studies concerning how health or self-care is shared on social media, in particular Instagram and Twitter (e.g., Xu et al., 2015), our findings reveal that collaborative healthcare is portrayed and used by social media users who post about #collaborativehealthcare hashtag, as for: knowledge sharing, events, self-caring, and advertising. Hence, we have clarified what is meant on Instagram by “collaborative healthcare.”

In the healthcare literature, “collaborative” refers to collective actions of multi-professional teams, mainly clinical professionals (Mervyn et al., 2019) to collaborate within the same organization or across organizations through various practices such as communication, sharing knowledge, experience, resources, problem solving, and joint decision making (Maghsoudi et al., 2020). Our findings reaffirm that collaborative healthcare is also portrayed by Instagram users as knowledge sharing, this being a crucial and nuclear aspect of this concept. Nevertheless, Instagram users also portray collaborative healthcare as self-caring, joint events, and as a “hallmark” for advertising their services and products. So, the definition can be broadened by these new categories. In accord with our data, we suggest the new broadened definition of *collaborative healthcare as the interdisciplinary*

collaborative practices of different healthcare professionals and organizations committed to the shared objective of improving individuals’ health, such as: sharing knowledge that promotes self-caring and participating in health-related events. According to the findings, private healthcare centers were the primary users who shared posts including the hashtag #collaborativehealthcare by nearly 75%. Previous healthcare studies have mainly investigated “collaborative healthcare” among public healthcare centers and healthcare professionals, while our findings show how private healthcare centers, as one of the main groups of Instagram users, portray “collaborative healthcare.” This finding can be in the interest of future studies to compare the use of this term by public and private healthcare centers.

Secondly, our study shows that most (314 out of 750) of the Instagram posts affiliated with the #collaborativehealthcare hashtag, use this term for advertising purposes since this platform is widely employed for business and advertising purposes. Interestingly, we discover that wellness centers use collaborative healthcare as a hallmark to advertise their centers and services on social media. Bermúdez-Tamayo et al. (2013), in a cross-sectional survey among hospital managers in Spain, reported similar findings. They found that their primary motives for using social media applications were publishing news items and advertisements, reaching a larger audience, and modernizing the hospital’s image rather than promoting healthy behavior changes. The advertising revenue of social media is continually increasing; the healthcare and pharmaceutical industry in the United States spent 15.84 billion US dollars on online advertising in 2019, and this is expected to increase to 19.66 billion dollars by the end of 2024 (Statista, 2023). Our findings support this trend by evidencing that Instagram is much used by private healthcare centers for advertising purposes. Collaborative healthcare conveyed as multi-disciplinary collaboration and working with patients offers appealing messages to influence customers wishing to choose a center or service. Previous studies have pointed out that patients show more engagement and satisfaction when they are provided with collaborative healthcare and are involved in the treatment and decision-making process (Doyle et al., 2013; Greenfield et al., 1985). In addition, “asking-answering” was an advertising approach applied by wellness centers. Posing questions and discussion topics, and then adding informational content to underscore the functional attributes (such as product features, performance, and properties) of products and services (Swani et al., 2017) relate to rational appeals (Campbell et al., 2011). Rational appeals exert an effect over social media users in terms of active and passive engagement (Dolan et al., 2019). In the healthcare context, informational and educational

content strategies are crucial in both building an effective impression of products/services and advertising them, since an individual's health and life are the target topics, and customers prefer to make informed purchasing decisions. Consequently, "asking-answering" seems to be an effective strategy that is applied by healthcare providers. Promotion is another common approach in advertising, one which wellness centers also exploit. In accordance with our findings, previous studies have found social media influencers play a significant role in shaping collective imaginaries and consequently creating brand credibility, especially in the context of health-related products or services (e.g., Aguilar & Arbaiza, 2021; Bermúdez-Tamayo et al., 2013; MacKay et al., 2022). Hence, it seems that private healthcare organizations use the term "collaborative healthcare" and social media to create demands rather than address the public healthcare demands as the main concern for healthcare organizations. However, future empirical studies need to investigate whether all healthcare organizations employ "collaborative healthcare" and social media to influence collective social imaginaries to sell products and services by creating a demand or just the private ones.

Thirdly, and counterintuitively, self-care has taken on a meaning for collaborative healthcare. The finding is consistent with previous studies examining the meanings of health shared on Instagram (Cavusoglu & Demirbag-Kaplan, 2017; Holmberg et al., 2016; Inan-Eroglu & Buyuktuncer, 2018). However, unlike previous studies that found physical fitness, fit bodies, or sexy bodies as the meanings of health shared on social media (Cavusoglu & Demirbag-Kaplan, 2017; Park et al., 2016; Villiard & Moreno, 2012), wellness centers use "collaborative healthcare" to equip laypeople with self-care tools to better their physical and mental health. Self-care implies self-responsibility achieving health and wellbeing and consequently enhancing public health (Broom et al., 2014), while collaborative healthcare refers to collaboration between two or more agents. Sharing self-care as a new dimension of collaborative healthcare is in line with neoliberal objectives to shift care responsibility to individuals and understand self-care as a part of collective care (Ward, 2015). Accordingly, this meaning of collaborative healthcare shows a major shift of the healthcare system toward being customer/person-centered and patient-centered, which is known as the Triple Aim of healthcare (better health for individuals, better health for the population, and reduced costs) (Berwick et al., 2008; Renzaho et al., 2013). Patients have historically been portrayed as important actors in the healthcare system and their self-caring actions have been proved to have an impact on healthcare results; for instance, in chronic conditions (e.g., Barnes et al., 2018; Glasgow, 2012; van Puffelen et al., 2020), heart failure (e.g., Davidson et al.,

2013), and cancer (e.g., Berry et al., 2018). Our findings showed self-care posts as evidence of putting both patients and people without special health issues at the center of the collaborative healthcare model with a view to developing the general public's health awareness. Current healthcare strategies have mainly relied on collaboration among health-associated actors such as healthcare providers, patients, and policy-makers (e.g., Maghsoudi et al., 2020; Wang et al., 2018), while this study contributes to the healthcare literature by highlighting self-care as a collaborative practice for laypeople. For instance, previous studies have offered digital health technologies that can be adopted by people for self-monitoring and self-care (Or et al., 2020; Yoo & Suh, 2021). A network of health providers can support and educate the public, particularly patients with long-term conditions, with self-caring activities through social media (Hunt et al., 2015). Future empirical studies might explore self-caring further as an important dimension of collaborative healthcare.

Fourthly, previous studies have mainly explored the collaborative concept in the clinical environment and therefore have indicated clinical professionals (e.g., Wald et al., 2018), patients (e.g., Doyle et al., 2013), and policy-makers (e.g., Wang et al., 2018) as the three members of a collaborative healthcare network. Likewise, nurses and physicians are mainly portrayed as members of a healthcare team in print and other media (El-Awaisi et al., 2020; Mitchell, 2019) and in previous empirical studies (Caricati et al., 2015). This study contributes to the literature by highlighting the under-emphasized role of non-clinical professionals in improving public health. Our findings, for instance, show that wellness centers and health-related professionals including fitness trainers, nutritionists, herbalists, and self-care coaches integrate collaborative healthcare teams and therefore might also be key contributors to improve public health. Future empirical and experimental studies may explore the degree of contribution of such centers and health-related professionals to the improvement of public health indicators.

Conclusion

This study has contributed to unveiling the meanings of the collaborative healthcare term shared by Instagram users. It added a new dimension named self-caring practices that broadened the definition of collaborative healthcare. Finally, we conclude that based on our findings collaborative healthcare has been utilized on social media platforms as a hallmark to sell products and services, primarily by private healthcare organizations. These findings involve important implications for improving the health system based on the meanings of collaborative healthcare.

Implications

As to the practical implications of this study, we consider it of interest, especially to policymakers, healthcare providers, and healthcare professionals. An important implication derives from our findings for healthcare providers and researchers, that is of sharing knowledge (Maheshwari et al., 2021) through social media as a collaborative practice (Tunnecliff et al., 2015). Social media can also enhance public health awareness by disseminating information (Al-Dmour et al., 2020, 2022) on issues such as cancer awareness (Lyson et al., 2019), mental health awareness (Saha et al., 2019), and health protection against COVID-19 (Al-Dmour et al., 2020).

This study unveiled self-care as a new dimension of collaborative healthcare. Including the self-care concept in collaborative healthcare can add value for both users and healthcare providers through, for instance, improvements in the health status of people who live in an area with limited access to care (King, 1980), through supporting/educating patients with a chronic condition in their adoption of a lower risk healthy lifestyle (Hunt et al., 2015; van Puffelen et al., 2020), and through reducing the unnecessary intervention of physicians and cutting costs (King, 1980) through preventive medicine based on self-care. Since Web-based media play a significant role in meaning-making (Lomborg, 2015), healthcare providers can use social media platforms to change or develop a public understanding regarding specific healthcare issues and healthcare practices. These collaborative practices that promote public self-care might represent important cost reductions for the public health system.

Nevertheless, based on our findings, there is a risk of this information being “clinically” misleading. Applying the “collaborative healthcare” term to advertise products/services by private healthcare centers requires the supervision of this information by healthcare professionals to guarantee that it is evidence-based practice and does not entail any risk for users. Although social media platforms are increasingly being used as a significant source of health-related information (Xu et al., 2015) and a health intervention (Shaw et al., 2015) which can influence the decisions of patients (Lee et al., 2012), the dissemination of inaccurate and misleading information for advertising purposes is a common concern (Aagaard, 2020). For instance, advertising the misleading and unreliable claims concerning the efficiency of herbal supplements or herbal remedies (Ismail et al., 2019). Hence, to avoid the possible risks of dissemination of misleading information for purely commercial purposes there is, in addition to jurisdictions’ legislation for the marketing of healthcare services (Schenker et al., 2014), a need to audit the collaborative networks of different professionals and providers so that they share reliable information through

their social media accounts (MacKay et al., 2022). The public can also be allowed to post their health-related information or experience under the control of healthcare professionals/providers to avoid dissemination of misleading information. Hence, a more active role of policymakers to regulate these issues is required.

Limitations and Further Studies

Health views are socio-cultural products and, accordingly, vary cross-culturally, so health worldviews should be seen in a specific cultural context (Hughner & Kleine, 2004). The first limitation of this study is that it includes multiple socio-demographic and socio-cultural groups of people when exploring the meanings of collaborative healthcare portrayed in digital media. This lack of focus on a particular group of people at a specific time and place could be addressed by conducting future cross-cultural, cross-professional and cross-generational research to compare meanings of collaborative healthcare.

Related with the former, the lack of in-depth biographical information on Instagram users is another limitation of our study. Instagram is a social media platform for both lay and professional audiences from different professional and educational backgrounds, so there are no definite standards for biographical information from users, and even providing this information is not mandatory. This limits our analysis, particularly on classifying health-related professionals based on their specialties. It would be necessary to address this limitation with future research through comparing the meanings of collaborative healthcare portrayed among different groups of health-related professionals such as nurses, physicians and alternative health-related professionals, and lay people on social media platforms, such as Twitter, which do provide such information.

The transferability of findings is another limitation of this study as it relies on the perceptions of the members who have publicly shared posts on Instagram. These posts may, therefore, not be entirely representative of the perceptions of a wider population. In addition, since social media users are not required to share sociodemographic information such as age and gender, extracting these data is a common limitation for social media studies. Consequently, we were unable to obtain the sociodemographic characteristics of the individuals who shared the posts, which restricted our ability to transmit our findings. Future research may employ traditional techniques, such as interviews and surveys, to collect sociodemographic information from users and then investigate differences in age or gender perceptions of collaborative healthcare.

It is also the case that the content of public posts is more likely to be significantly close to the content of the entirety (public and non-public) of posts (Fiesler et al., 2017). In

this context, future research could explore other global or specific hashtags on Instagram or other social media platforms to explore the meaning of collaborative healthcare.

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Author Contributions

All authors contributed to study conception and design, analysis and interpretation of data, and critical revision of the manuscript. Acquisition of data and drafting of manuscript were done by first author (T.M.). A.B.H.L. and R.C.P. provided supervision. All authors contributed to and agreed on the final version.

Declaration of Conflicting Interests

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Ethical Approval

This research did not pass any ethical approval committee since it was not necessary. We used secondary data which is public (this study is conducted based on public Instagram's posts).

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Data Availability Statement

Data sharing not applicable to this article as no datasets were generated or analyzed during the current study.

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