EXPERT OPINION

Social Media Behavior Guidelines for Healthcare Professionals: An American Society of Pain and Neuroscience NEURON Project

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Purpose: The American Society of Pain and Neuroscience (ASPN) identified a significant gap in resources and guidelines that aim to educate healthcare providers for best practices when engaging on social media. As part of the broader initiatives on Spine and Nerve practice, the executive board of ASPN has decided it would be beneficial to include comprehensive guidance for healthcare providers when engaging on social media.

Methods: A panel of experts was chosen based on expertise, publications, diversity, and their social media presence. Along with expert guidance, the committee conducted an extensive analysis of peer-reviewed literature in communication and medical journals to determine best practices for healthcare practitioners on social media.

Results: Social media messages significantly impact patients' and colleagues' perceptions and actions regarding medical issues. As such, providers and their teams must be aware of legal and ethical considerations in healthcare while maintaining a consistent, educational, and digestible persona online.

Conclusion: The advancement of communication and medical technologies and systems necessitates continued education and resources to adapt to our rapidly changing media and medical landscape.

Keywords: digital communication, social networking sites, healthcare providers, best practices, physician communication, social media, medical marketing, spine

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Introduction

While the emergence of Web 1.0, better known as the Internet, facilitated more accessible and efficient information gathering through one-way publishing mechanisms like search engines, the emergence of Web 2.0 and social media introduced interactive platforms like Facebook, Instagram, X (formerly Twitter), which enable users to engage in the creation and dissemination of content, ideas, and mutual interests through virtual communities and networks.[1] While the coining of the term "social media" can be traced back to 1994 in Tokyo, Japan, its widespread adoption and recognition unfolded predominantly in the early 2000s, creating accessible opportunities for users to establish connections and engage in content-sharing activities anywhere, anytime.[2,3] Over the past two decades, social media platforms have become a constant communication element of contemporary society, with 2024 reports indicating nearly 63% of the world's population, over 5 billion people, engage on these platforms.[4] In addition, reports suggest steady increases in social media usage and project that there will be nearly 6 billion global users by 2027.[5] In addition, the number of platforms that users have profiles on and the time they spend on these sites are at all-time highs, with studies illustrating the average user has more than eight social media accounts, and spends 145 minutes engaging on these platforms daily.[5] Similarly, the healthcare industry has followed this analogous trend, with the National Institute of Health reporting that in 2024, 71.2% of physicians utilize social media.[6] Studies suggest physicians with a solid social media presence tend to have fewer negative reviews online and improved search optimization.[7,8] From a patient perspective, research notes that social media can mitigate challenges often faced with obtaining health information and improve health outcomes.[2,3]

The incorporation of social media into healthcare practice finds its roots in the emergence of platforms such as Facebook and X.[2] Social media offers a cost-effective and easily accessible avenue for healthcare businesses, physicians, and industry to establish connections with colleagues worldwide and also offers a cost effective avenue for direct-to-consumer targeted information. Physicians engage on social media in diverse ways but predominantly utilize platforms such as Facebook, X, Instagram, LinkedIn, and, more recently, TikTok. This online engagement allows physicians to accentuate their brands, gain a competitive advantage in offering information to patients, and enable easy dissemination of medical literature.[7,9] The consequential impacts of social media on the healthcare industry encompass significant aspects such as expanding professional networking, collaborative efforts, enhancement of medical education and research cooperation, facilitation of public health campaigns, awareness initiatives, and business marketing.[10] Moreover, social media serves as a conduit for the healthcare industry (pharmaceutical and medical device companies) to conduct product advertisements, share research studies, and foster online engagement with physicians.[7] From the standpoint of patients, integrating social media into healthcare may have both beneficial and harmful effects. Social media can augment communication opportunities, enable expression and interactivity with peers to enhance self-esteem and emotional well-being and empower an environment of social support.[10,11] However, inappropriate messages from peers or practitioners on social media can lead to the acceptance of misinformation, increase shame and stigma, and create cognitive overload, which in turn may discourage individuals from seeking care.[11]

Risks and Rewards: Social Media Usage in the Digital Age

With the popularization of social media platforms comes increased access to content from online sources, which poses the threat of misinformation about health topics, as noted by the Office of the US Surgeon General.[12] Because of its interactive nature, social media allows various, possibly unverified, players to produce and rapidly disseminate inaccurate content– whether due to monetary or malicious goals or ignorance. The possibility of bias and lack of control of information and reliability is considered one of the main drawbacks to the use of social media.[13] For example, patients who have chronic pain or chronic diseases have noted both positive and adverse effects of social media usage. Social media can serve as a valuable tool in chronic disease management by improving information exchange and establishing supportive online communities. Social can have a positive impact on patients throughout their care. However, it is not without drawbacks, for example a study looking at HIV patients found that using Facebook would manipulate their virtual image and be untruthful by exaggerating their life experiences to seem more amicable and more appealing.[14] These types of issues can create problems with ongoing chronic disease management and further emphasize the need for providers to have a reliable and easily digestible online presence to counteract user-to-user harm. Rather than simply

combating misinformation with increased content, medical providers can harness the technology to build meaningful relationships with current and future patients. However, the online public forum does pose certain risks that warrant attention and mitigation. Most importantly, a provider's professional self-representation on social media carries a weight of trust with patients and other professionals. Social media can also be a place of inappropriate discourse and unproductive discussions, and as such, online disagreements, especially between physicians and industry, can be very unprofessional and damaging; we recommend taking these discussions to personal messaging or offline.

Studies have demonstrated that the perception of medical professionals' social media content may differ from that of the wider public.[15] This discrepancy should prompt providers to evaluate their social media presence and perhaps seek a review of their publicized communications from a non-medical reviewer. Clarification of intentions and representation of one's own opinion versus that of an employer or institution will help avoid mistrust and perceived conflicts of interest.[16] Crucially, all publicly accessible platforms are vulnerable to inadvertent violations of patient confidentiality.[17] Providers must be wary of responding to individual clinical concerns, which may be construed as patient-provider treatment relationships or using social media as an unsecured communication route for patient data. Providers must also be aware the information being disseminated may only reach a limited section of the population. The elderly population, those who are physically or cognitively disabled, and those without a reliable way to access online sources may not be able to benefit from this published information.[18]

However, those who can access this published information report increased knowledge after digital interactions with their providers and enhanced communication and feelings of empowerment.[19] Digital forums also supplement knowledge bases with peer interactions from friends, family, or other patients. When implemented correctly, these platforms will have a broader reach, greater efficiency, and increased patient advocacy at a reduced cost.[18] As such, studies suggest that social media platforms may facilitate scientific discussions that could benefit patients, industry partners, non-clinical researchers, and other providers through avenues like public scholarly journal clubs.[20,21] Social media could also provide an outlet for increased positive activity around professional societies and conferences, and these institutions and societies can highlight content creators with verified and credible accounts.[13] It can also serve as an outlet for creative media that are not always accessible in the confines of traditional peer-reviewed journals, such as with video content or short-form information to accelerate micro-learning rather than extensive reading through articles.[22]

For example, a national telephone survey was conducted in August and September 2010 of 3001 adults in the United States. Eighty percent of internet users within this surveyed group were found to use social media to research doctors, hospitals, and medical news and information.[23] On the social media platform X, there were 4,397,691 original posts with the hashtag #MedEd from 2012 to 2022, with the number of posts increasing yearly. Most recently, posts rose from 692,095 in 2021 to 1,178,647 in 2022, reflecting the increased use of social media in the medical field.

One of the most extensive reviews on the use of social media in healthcare was conducted by Moorhead et al, who found that physicians (and patients alike) viewed social media as beneficial in disseminating information/dispelling misinformation, optimizing patient-to-physician interaction, and encouraging physician-to-physician learning. Following Moorhead et al, Chen et al published a comprehensive review of manuscripts dating from 2016 to 2020, noting a high number of manuscripts published within the timeframe, including 25 in 2016, 42 in 2017, 28 in 2018, 185 in 2019, and 264 in 2020, illustrating that social media use for health purposes is growing in interest among researchers. The application of social media in healthcare is growing.[24] Recent studies have begun to explore social media use beyond the scope of patients, the general public, and health professionals. New trends in healthcare-related social media include 1) increased use by health institutions and government agencies, 2) for professional development, including job searches and learning of new research, 3) social mobilization and promoting awareness of specific diseases (ie, COVID-19) or medical-related issues (ie, legislation), and 4) facilitating offline health-related services and events, such as making appointments.

Appropriate Use of Social Media in Healthcare

Understanding the leading social platforms is essential to selecting which platform(s) to enhance patient-provider relations. Factors to consider include user demographics, how content is disseminated, and goals of use. For example, LinkedIn is a professional network primarily used for career growth and network expansion with the medical industry and colleagues. This platform is less patient-facing than platforms such as Facebook or Instagram. Alternatively, Instagram and Facebook allow for sharing pictures and/or videos with text captions via a professional or personal

account. This emphasis on photo and video sharing can aid patient education and business growth but comes with additional privacy risks, which are discussed in further detail below. Facebook also builds communities via groups/pages that can be followed and can be of positive or negative value in patient education since there is no fact-checking available. X focuses on sharing real-time information via short and long-form posts. This platform is valuable for healthcare professionals to hold meaningful dialogue and engage with the public. TikTok offers short-form, creative videos that present a medium to capture attention and leverage popular trends quickly.

The appropriate use of social media in health care requires meticulous adherence to ethical, legal, and professional standards. This entails leveraging digital platforms for communication, content sharing, and community engagement. Fundamental considerations encompass preserving patient privacy and confidentiality, maintaining professional boundaries and respect, disseminating accurate and integral information, disclosing conflicts of interest, adhering to legal requirements, and cultivating respect and sensitivity towards cultural and ethical diversity.[7,25] ASPN supports key recommendations and offers best practice guidelines on social media and professional conduct within healthcare. The consensus encompasses several pertinent domains to ensure practitioners communicate professionally, clearly, and compassionately.[25] It is recommended that practitioners have separate personal and professional social media accounts and establish accounts solely dedicated to engaging in discourse related to the healthcare industry, as well as with colleagues, industry, and patients for marketing and educational purposes. As such, a well-defined distinction between personal and professional relationships with patients should be emphasized by physicians. In addition, healthcare practitioners are counseled to treat all disseminated content on social media platforms as inherently public, regardless of privacy settings, and prudence is advised when expressing potentially contentious viewpoints. The following sections provide an in-depth analysis of the critical ethical and legal considerations when engaging on social media within the health field and guidelines tailored to providers on creating an effective their social media presence.

Ethical and Legal Considerations for Social Media Use in Healthcare
Privacy and Security
Navigating patient privacy and data security is paramount in healthcare when incorporating social media into medical practices. Some security issues may vary based on the country of social media use, but in general, some things are universal. At a minimum, social media posts should not contain Protected Health Information (PHI) unless the patient gives explicit, written permission. PHI is "individually identifiable health information, held, or maintained by a covered entity transmitted or maintained in any form or medium". In addition, even with proper consent, the posts could be used in litigations in the event of any complications.

See Table 1. Individual PHI Identifiers: The Department of Health and Human Services (HHS)

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Identifier	Example
Geographical element	Street address, city, or zip code
Patient name	Legal, nicknames, monikers
Date	Date of discharge, date of death, or the exact age of a patient older than 89
Biometric element	Finger, retinal, and voiceprints, facial images
Number	Medical records, social security, phone, fax,
Digital	Email or IP address
Device	Device attributes or serial numbers

Note: Hhs.gov, privacyruleandresearchNIH.gov.

Data security must be maintained by implementing robust measures to safeguard personal and sensitive data from unauthorized access, disclosure, or alteration. Social media users should create protocols to protect PHI, limit access to platforms to authorized individuals only, have all accounts protected by two-factor authentication (2FA), and create well-defined plans to mitigate data breaches.

Potential Ethical Dilemmas

Ethical dilemmas are present in the landscape of social media in pain medicine. One such example involves the promotion of pharmaceuticals and medical devices. A paid consulting endorsement of a specific product should also come with a disclosure of conflict of interest. When discussing a case or procedure, the disclosure is at the judgment of the posting party but should be considered. When talking about a procedure that may be regarded as promotional, the physician finds a discussion of alternatives and risks to avoid patient harm and maintain integrity or directs the viewer to resources such as a website or article to review these issues. Healthcare providers should adhere to professional standards regarding informed consent and transparency when acting professionally on social media.

Another ethical dilemma arises when a consumer seeks medical advice through social media. Well-meaning clinicians may respond as best they can, but doing so without a complete assessment can lead to inaccurate diagnoses and treatment plans. Clinicians should educate and guide patients toward appropriate consultations and be clear about the limitations of social media interactions regarding individuals' healthcare. Generally, the best practice is to refer the patient to an official medical evaluation and avoid practicing medicine online in any media outlet, including messenger apps. By adopting professional and responsible social media practices, clinicians can contribute to the safe and constructive use of social media within the healthcare system.

Navigating the Legal and Ethical Landscape of Online Reviews

In the modern digital era, online reviews have become ubiquitous for consumers to make informed decisions about products, services, and businesses, including nearly all available healthcare offerings. However, the proliferation of online reviews also raises significant legal and ethical considerations that must be carefully navigated by both patients and businesses alike. This discussion explores the complex terrain of online reviews, examining the legal frameworks and ethical principles that govern the creation, dissemination, and interpretation of these reviews.

See Table 2. Legal Considerations and Online Reviews

See Table 3. Ethical Considerations and Online Reviews

Navigating online reviews' legal and ethical landscape requires a comprehensive understanding of the relevant laws, regulations, and moral principles. Organizations and healthcare consumers can mitigate legal risks associated with online reviews by adhering to truth in advertising laws, consumer protection regulations, and intellectual property rights. Moreover, upholding ethical standards such as authenticity, fairness, transparency, and respect for diverse perspectives is crucial for fostering trust, credibility, and integrity in the online review ecosystem. As online reviews continue to shape patient and healthcare consumer behaviors and influence organizational reputations, stakeholders must remain vigilant in upholding legal compliance and ethical conduct to ensure a fair and transparent environment.

Picking the Platform

As previously mentioned, selecting an appropriate social media platform may be challenging, compounded by the limited empirical data available to guide the reasonable types of activities across platforms and the diverse goals of healthcare practitioners. Healthcare practitioners aspiring to establish a social media presence confront pivotal considerations, including identifying the target audience and which platform may be more appropriate for their brand. For instance, X may serve as a conduit for healthcare practitioners and scientists to foster connectivity, disseminate scholarly activities, and advocate for real-time change with immediate reactions. LinkedIn may provide an avenue for expanding professional networks within the worldwide colleagues and the medical industry in a refined professional manner. Concurrently, adopting a professional or business-oriented Facebook/Instagram account may potentially optimize social media visibility among a younger demographic, facilitate business development, and expand brand awareness through audiovisual capabilities. In addition to the target audience and platform affordances, practitioners must also be aware of platform

Table 2 Legal Considerations and Online Reviews

Legal Considerations	
Truth in Advertising[26]	Truth in advertising laws, such as the Federal Trade Commission's (FTC) regulations in the United States, require that online reviews accurately represent consumers' experiences, including patients. Businesses engaging in deceptive practices, such as paying for fake reviews or fabricating positive feedback, risk violating these laws and facing legal consequences.
Consumer Protection Laws[27]	Various consumer protection laws aim to safeguard individuals from misleading or fraudulent medical business practices, extending to online reviews. Businesses must ensure that their management practices comply with these laws to avoid allegations of deceptive conduct and potential legal action.
Intellectual Property Rights[28]	Legal issues can arise concerning using copyrighted materials within online reviews, such as images, logos, or proprietary information. Review platforms and users must respect intellectual property rights by obtaining appropriate permissions to use copyrighted content, including images, tables, and charts, to avoid infringement claims.
Defamation and Libel[29]	Online reviews can lead to defamation lawsuits if they contain false statements that harm an organization's reputation. Individuals posting reviews must exercise caution to avoid making defamatory statements and ensure that their reviews are based on correct information and their personal experiences.
Privacy Laws[30]	Reviewers must adhere to privacy laws when sharing personal information or details about specific individuals in their reviews. Review platforms should implement measures to protect users' privacy and ensure compliance with applicable privacy regulations, such as the Health Insurance Portability and Accountability Act in the United States or the General Data Protection Regulation (GDPR) in the European Union.

Table 3 Ethical Considerations and Online Reviews

Ethical Considerations	
Authenticity and Transparency[31]	Ethical review practices demand authenticity and transparency from patient reviewers, medical businesses, and non-medical businesses. Reviewers should provide honest and unbiased assessments based on their genuine experiences, while businesses should refrain from manipulating or censoring reviews to maintain credibility.
Fairness and Equality[31–34]	Ethical considerations necessitate fair treatment of all organizations irrespective of their size or influence. Review platforms should strive to mitigate biases and prevent preferential treatment toward specific organizations, fostering an equal-opportunity environment for all.
Disclosure of Relationships[17,35]	Reviewers with affiliations or incentives related to the organizations they review should fully disclose such relationships transparently. Failure to disclose conflicts of interest undermines the credibility of reviews and erodes trust among patients and colleagues.
Respect for Diverse Perspectives[36,37]	Ethical review practices entail respecting diverse perspectives and acknowledging that individual experiences may vary considerably. Reviewers should refrain from dismissing or disparaging differing opinions, fostering a constructive dialogue that accommodates a range of viewpoints.
Responsibility of Review Platforms[12,38,39]	Review platforms bear ethical responsibility for ensuring the integrity and reliability of the reviews hosted on their platforms. Implementing robust verification mechanisms and moderation policies can help combat fake reviews and maintain users' trust.

privacy policies, the threat of data mining, which can make practitioners and patients vulnerable to scams, and public discussions regarding such topics to maintain a positive online persona.

Regardless of the chosen social media platform, establishing a professional online brand requires a meticulous identification of clinical or professional interests and highlights the criticality of maintaining brand consistency across all social media platforms.[7]

When utilizing audiovisual capabilities for marketing that involves patients, it is of paramount importance to secure written consent before publishing content. Practitioners are reminded to meticulously adhere to patient confidentiality and Health Insurance Portability and Accountability Act (HIPAA) considerations. Furthermore, healthcare practitioners are advised to exercise caution in endorsing products or brands with limited research, and transparency is advocated by disclosing financial conflicts of interest. Patient education information should be focused on disseminating honest and ethically sound advertising content. Practitioners are advised to exercise restraint in publicizing anecdotal experiences and establish realistic expectations during promotional endeavors, safeguarding patient trust. Sourcing data from peer-reviewed literature is encouraged, providing a comprehensive educational approach that includes a balanced risk-benefit analysis.[7,25]

Putting Together the Profiles: A Comprehensive Guideline for Providers Social Media Use

The profile setup on social media requires a balance between professionalism and personalization. Physicians should craft profiles that are informative for patients and providers and instill a human touch through sensible, generic personal details. Striking this balance humanizes the physician without compromising privacy and, for instance, sharing interests in traveling without divulging specific information that could jeopardize personal security. Additionally, physicians must prioritize using secure devices, safeguarding their personal information, and reinforcing the protection of patient-related content. Ensuring the security of social media engagement involves implementing essential measures, such as two-factor authentication (2FA), to fortify access controls. Physicians utilizing social media platforms can proactively manage their online presence by leveraging privacy settings offered by most social networking sites.[40] For instance, by selectively hiding personal life-related posts or tagged photos, physicians can maintain a focused and professional online presence, ensuring that specific details remain within their intended professional network.[40]

Content creation represents a critical aspect, demanding unwavering adherence to HIPAA guidelines. Securing patient consent remains essential in conjunction with de-identifying patient information. Despite the anonymization process, obtaining signed consent from the patient is recommended, mainly when the case involves potentially identifiable images.[29] This is sometimes done in the surgical consent documents or patient intake forms. In non-original images or artwork, attribution for the artwork should be given. Disclosing conflicts of interest, such as any financial or professional affiliations, ensures that patients and the public can assess information with the necessary context, fostering informed decision-making. In content creation, it is also essential to avoid post-dilution and ensure content provides value to the audience. Sharing content that solves a problem, answers a question, or prompts discussion helps promote audience engagement.[29,40] In principle, one should aim to provide quality over quantity. However, it is essential to maintain consistency in content creation, as this allows for continued engagement and reinforces your social media presence. Finally, we recommend adhering to the employer's guidelines when working in an employed-physician model. This could be accomplished by running content through a marketing director or brand manager. In some cases, it may be appropriate to disclaim that personal opinions do not reflect the views of your employer.

Using social media provides an opportunity to develop patient and business relationships. The core principles of respect and professionalism are crucial for fostering positive interactions. Balancing empathy with direction to seek a formal evaluation is essential when responding to patients. Offering simple, easily understood advice contributes to solidifying relationships with the audience. Engagement with professional colleagues may involve further discussions, possibly in person or by phone, requiring a nuanced approach that may include sharing additional information. This approach underscores the pivotal role of engagement etiquette in shaping the physician's online presence and navigating the balance between professional boundaries and relationship-building.

Engagement and Education via Social Media

At the crux, providers' engagement on social media centers on healthcare knowledge acquisition and sharing. While providers' exact target audiences may vary based on time and campaign, patient interaction and patient education should be critical components of most providers' social media strategy, as 56% of patients have noted they would like their providers to use social media.[41] Prudent's incorporation of social media in healthcare practice holds the potential to enhance patient-provider relationships. However, this necessitates a conscientious approach. To enhance patients' health literacy, using both language and visuals through social media is helpful. Using visuals to describe the outcomes of a clinical trial may be more beneficial to patients and other physicians than written explanations. A recent systematic analysis showed that online videos are a more effective way of sharing health information than written text. The authors also reported that it was easier for patients to describe their experiences and firsthand impressions of their disease using YouTube.[42] This is a very engaging way to improve health literacy. Using a variety of multimedia formats is essential to improve literacy as well. Videos, podcasts, and images are perfect ways to improve literacy on disease processes.

Evaluating the Impact of Social Media on Engagement

Key metrics, including likes, shares, and comments, serve as quantitative engagement indicators. As with any quantitative indicator, it is essential to realize that individual results are difficult to examine using population-based metrics. However, likes, shares, and overall engagement can have a cumulative effect on engagement. Qualitative measures such as patient feedback and observed behavioral changes also point to social media's impact. An example of this feedback is subjective; 81% of patients have reported that their hospital or provider is cutting edge if they have a social media presence.[43] This speaks to the importance of your digital footprint on patient perception and qualitative measures of engagement. Involving other clinicians in your field can be extremely helpful to improve engagement further. Involving others from different fields can be especially helpful in further engagement because you can reach various audiences and groups.

The integration of social media in patient education holds significant promise. Understanding its role in health literacy and chronic disease management allows healthcare providers to combine these platforms effectively, promoting patient engagement. As mentioned, patients expect and enjoy when clinicians and hospitals are available on social media. It is exciting to have a real-time way to communicate with patients and engage while receiving feedback. As with any new technology or communication tool, we should continue researching different platforms and their best use in clinical practice.

Future Directions and Emerging Trends

Social media is an effective platform for healthcare systems and providers to bolster brand marketing, educate communities on health issues and offered services, and foster healthier behaviors. Every interaction made online, as well as voluntarily shared patient information and demographic data, can generate vast amounts of data. Artificial Intelligence (AI) and Machine Learning (ML) can be valuable tools for analyzing trends and engagement metrics and providing sentiment analysis to evaluate how content is perceived, enabling creators to tailor their social media strategies.[44] AI can also ensure the appropriate content is reaching the targeted demographics. Active efforts must be made to prioritize user privacy and maintain ethical standards.[45] The rapid development of AI and natural language processing tools, such as ChatGPT, has exploded in popularity in 2023 and beyond. These powerful, AI-driven tools may assist in text and visual generation, allowing for more streamlined and efficient content creation. Despite these advantages, AI-generated content has several flaws. There needs to be more transparency in understanding how conclusions are derived, and AI may be prone to inaccuracies and inherent bias. Furthermore, content may seem robotic and need more creativity.[46]

The integration of social media into healthcare is abundantly evident in numerous examples and studies, offering patients more information and resources while also serving as a platform for public forum discussions, outcome tracking, and policy influence. As social media's role in healthcare expands, anticipating emerging trends becomes imperative.[47] Physicians' use of social media presents opportunities, such as medical information dissemination, and challenges like credibility and misinformation. Recent studies highlight four key factors contributing to physicians' success as influencers: board certification, affiliation with research-sharing groups, strategic hashtag usage, and presence across multiple platforms.[48]

Establishing credibility on social media raises questions about physicians' use of their following. Geospatial Social Media (GSM) data emerges as a valuable healthcare tool despite its underutilization. GSM data enables outbreak monitoring, population trend tracking, and prediction of disease epidemiology. AI-driven analysis of GSM data can enhance patient care, address disparities, and optimize medical practice. As healthcare evolves, embracing innovative approaches like GSM data utilization will be crucial for optimizing patient care, addressing inequalities, and advancing medical practice.

Reflecting on the Potential Long-Term Impacts on Provider-Patient Relationships Utilizing Social Media

It is well established that low levels of health literacy are linked to increased adverse health behaviors and inconsistent treatment adherence, leading to worse outcomes and higher healthcare utilization rates.[49] As patients' reliance on technology and online content increases, the internet and social media become first-line health information sources. Even so, healthcare professionals are still the most trusted sources of information, and their contributions to online media are invaluable.[50] As we identify critical gaps in health education, patient advocacy, and access to health resources, we must focus on our long-term opportunities to create a positive impact with consistent and deliberate actions.

Social networks allow healthcare professionals to share reliable, high-quality information and health messages that are more likely to resonate with and be adopted by patients.[25] We can promote health education by disseminating clear yet accurate medical information. We can help patients identify reliable, trustworthy sources such as unbiased peer-reviewed articles or society-endorsed online details. The long-term outcome of continued health education is a better-informed patient population, leading to more efficient in-office visits focusing on shared decision-making.

Healthcare professionals can engage in patient advocacy online in a myriad of ways. Some examples include raising awareness of legislation that impacts patient care, encouraging and teaching patients to advocate for themselves individually, and supporting peer-to-peer healthcare. While time constraints may not make all these feasible, focusing on any of these consistently can have a lasting impact on a more significant number of patients. Many patients turn to social media and the internet to seek other patients' perspectives. As Peer-to-Peer healthcare continues to grow as a source of patient information and support, we are uniquely positioned to help guide positive patient interactions through interactive communication.[51] Holding discussions with patients via posts, blogs, or live streams can foster open communication, build supportive online communities, and give individuals the confidence to discuss disease management options.

Chronic disease can be challenging. Proper treatment often requires multi-disciplinary support, which patients may find difficult to navigate and, therefore, lose motivation to seek treatment. By providing patients with information about which health services are appropriate and available (locally or online), we can help increase their awareness of resources and access to healthcare. The immediate benefits of this can be extensive and trigger a cascade of positive long-term outcomes. Short-term benefits include increased patient motivation, improved coping strategies, the ability to address important issues promptly, and an increased sense of support. These changes lead to more treatment adherence, better outcomes, and reduced inappropriate healthcare resource usage.[52] Although the time needed to assimilate these practices into our routine clinical practice may initially be a limiting factor, the exponential long-term benefits vastly merit integrating social media into our healthcare practices.

Identifying Unmet Research Needs and Proposing New Studies

Interventional Pain has witnessed notable scientific advancements, from the neurophysiologic and biochemical underpinnings of pain to developing novel treatments and outcome measures. By accessing and assessing raw unsolicited patient viewpoints, social media research presents a unique opportunity to address a critical unmet need in this burgeoning field: understanding our patients' motivations, goals, and expectations.[53,54]

We have all had the experience of modulating the expectations of the grieving, socially isolated, and alienated patient gripped by the realization that life will never be the same as it was. To enable our patients to realign their sense of volition and authenticity, our very raison d'etre, it is imperative we utilize social media to help develop the tools and skills necessary to evaluate, educate, and enhance their inner frameworks as we guide them forward through their Hero's

Journeys.[55,56] While this is an overreaching and challenging goal, to simplify when presenting new goals, studies, and inventions, it is helpful to be honest and give hope, but also reduce the urge to present any new idea or novel approach as a panacea.

Call to Action for Healthcare Providers and Organizations

Social media engagement has become a central communication method with fellow physicians and patients. It is essential to maintain professionalism through social media engagement. This can be difficult to navigate, given the diversity of people engaging with posts. The guidelines above help set a baseline for these professional standards; however, personal judgment is also central to the appropriate use of social media. The opportunities to advance the field of interventional pain through social media are endless, and utilizing at least some aspect of this in a physician's practice is encouraged. This consensus paper aims to maximize the positive impact of social media posting while minimizing negative interactions, although these are unlikely to be avoided entirely. Sharing information with current and potential patients regarding treatment options and opening a dialog with other physicians regarding innovations in the field and important outcomes for current procedures can help attract new patients for potential life-altering procedures and spark new research and novel interventions. We encourage interventional pain physicians to utilize these guidelines and maximize their interaction with social media to help propel the field of interventional pain forward.

Conclusion

Social media has become a powerful tool for communication, education, and engagement within healthcare. However, even more so than the average user, healthcare professionals must be aware of the dynamic media and medical landscape to harness and not abuse the power of these platforms effectively, ethically, legally, and professionally. The guidelines provided within this paper emphasize the importance of maintaining brand consistency, separating personal and professional lives, upholding professional ethics, ensuring patient safety, and practicing truthfulness in all social media interactions. Leveraging social media provides limitless potential to enhance patient education, patient-provider relationships, as well as opens new avenues for professional development and collaboration among those within the profession. However, these advantages do come with a plethora of challenges, including the threat of misinformation, ethical dilemmas, and the need for increased privacy and security measures to protect patients.

The emergence of social media and advanced technologies like AI and GLMs continue to shape and open up new possibilities in the field of healthcare communication. Much like these technologies continue to evolve, healthcare providers must constantly adapt and learn how to utilize these tools to enhance their communication and practice, all while maintaining patient trust and confidentiality. In addition, much like the technologies and physicians, these guidelines must continue to evolve to keep up with the rapidly changing nature of digital communication. The guidelines within this paper serve as a foundational roadmap for healthcare professionals to engage responsibly and effectively on social media. We believe that by following these best practices, providers can maximize the pro-social impact of their online presence, cultivate more meaningful interactions, and contribute to the expansion and advancement of healthcare in the digital age. We believe that embracing these guidelines and fostering ethical and thoughtful engagement by healthcare professionals on social media can transform patient care and education, ultimately improving health outcomes over time.

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