



CMSS-NAM-WHO Collaboration:
*Phase 2: Identifying Credible Sources of
Health Information in Social Media*

Identifying Credible Sources of Health Information in Social Media

Phase 2: Considerations for Non-accredited Nonprofit Organizations, For-profit Entities, and Individual Sources

A collaboration of the Council of Medical Specialty Societies,
the National Academy of Medicine, and the World Health Organization

DRAFT FOR COMMENT – September 2022

Prepared by:
Sigma Health Consulting, LLC
DRAFT 9/9/22

Introduction

The global population is projected to reach 8 billion people towards the end of 2022 with more than half of the population in Asia (United Nations, 2022). The estimated population of sub-Saharan Africa reached 1.2 billion people and is comparable with the populations of North America and Europe combined (~1.1 billion) (United Nations, 2022). A recent overview of digital access suggests that 5.03 billion individuals use the Internet worldwide, with approximately 4.70 billion, or 59% of the global population, using some form of social media (DataReportal.com, 2022). While it is challenging to determine overlap across platforms, it has been reported elsewhere that worldwide exposure to information on either Facebook or YouTube¹ is in excess of 2 billion people each (Meta, 2022; YouTube, 2022), and the Pew Research Center (Pew Research, 2021) reported that approximately 72% of U.S. adults use at least one social media outlet. Of relevance to the present work, it is estimated that some 90% of Americans use social media sources for health information (Bishop, 2019). This includes searches related to serious conditions, general information searches, and searches for minor health problems. Research demonstrates that online information can influence health beliefs, health behaviors, and decisions about seeking healthcare.

In the context of such high utilization of the Internet and social media to inform health decisions by the public, stakeholders have raised serious concerns about the quality and reliability of health information on social media due to the lack of standards or regulations—these concerns were heightened during the COVID-19 pandemic. While mis- and disinformation about healthcare topics is neither new nor unique to social media, the viral nature of attention-grabbing posts, platform algorithms that elevate popular content, and limited resources to vet every item posted to social media amplifies the volume of misinformation that readers are exposed to on every social media channel. Because of the potential for harmful misinformation to spread quickly on social media, there has been worldwide outcry for action.

In response to this outcry and driven in part by the prevalence of misinformation during the COVID-19 pandemic, Google/YouTube² supported efforts to develop principles and attributes to guide social media companies and other digital platforms in identifying and elevating credible sources of health information.

In the first phase, an advisory panel convened by the National Academy of Medicine (NAM) developed a set of principles and attributes that could be used to determine credibility of health information sources.³ The scope of phase one was limited to U.S.-based entities, and the advisory committee concentrated on nonprofit and government entities with established vetting or accrediting procedures (e.g., federal government agencies, educational institutions, and academic journals). The goal was to determine whether the **source** of the information, if not the content itself, was likely to be credible according to a set of pre-defined attributes. The World Health Organization (WHO) convened an expert panel to vet this initial guidance for a global perspective. The NAM-WHO guidance informed new steps taken to highlight credible sources of health information on YouTube's platform (See: <https://www.youtube.com/howyoutubeworks/product-features/health-information/>).

¹ The administrative work for the present paper was supported by funding from YouTube. YouTube representatives were not involved in advisory committee deliberations, in drafting the principles and attributes, or in drafting the paper.

² YouTube is owned by Alphabet Inc., the parent company of Google (see <https://abc.xyz>).

³ For an overview of the NAM project, see <https://nam.edu/programs/principles-for-defining-and-verifying-the-authority-of-online-providers-of-health-information>. YouTube provided funding totaling \$100,000 to offset the NAM's operational expenses in facilitating the project. Karen DeSalvo, Chief Health Officer, Google Health, is an NAM member and serves on the NAM's governing Council. Garth Graham, Director and Global Head of Healthcare and Public Health Partnerships, is an NAM member (see <https://blog.youtube/news-and-events/new-health-content-coming-youtube>).

In the second phase of work, an advisory committee convened by the Council of Medical Specialty Societies (CMSS), in collaboration with NAM and WHO, has taken the principles and attributes established in the first phase as a foundation to evaluate an expanded set of health information sources, including other nonprofit entities, for-profit entities, and individuals, with an eye towards global applicability.

Foundational Principles and Attributes

In this section, we describe the output of the first phase (Phase 1) of the project, including the first set of principles and attributes that can support the assessment of health information sources and facilitate a determination of credibility. In Phase 1, the independent advisory group, convened by the NAM, developed a discussion paper entitled “Identifying Credible Sources of Health Information in Social Media: Principles and Attributes” (Kington et al, 2021). The Phase 1 discussion paper proposed three foundational principles to support assessment of credibility: 1) science-based; 2) objective; and 3) transparent and accountable. The authors also provided a selection of material attributes that can be used by social media companies and others, including consumers, to assess a source’s alignment with these principles. See Table 1 for an overview of these principles and attributes.

Table 1. Foundational Principles and Attributes for Identification of Credible Sources of Health Information in Social Media

Principle	Attributes (Phase 1)
Science-based: Sources should provide information that is consistent with the best scientific evidence available at the time and should meet standards for the creation, review, and presentation of scientific content.	<ul style="list-style-type: none"> • Acknowledges the limitations and evolution of knowledge • Clearly labels information with the date it was last updated and strives to reassess and update content • Demonstrates subject-specific expertise • Links to and is linked to by other credible sources [a] • Provides citations for information shared and evidence to justify claims • Synthesizes information from multiple sources, rather than a single source • Uses a consensus process to develop the information shared [b] • Uses peer review or another form of content review to vet information before sharing [c]
Objective: Sources should take steps to reduce the influence of financial and other forms of conflict of interest or bias that might compromise or be perceived to compromise the quality of the information they provide.	<ul style="list-style-type: none"> • Keeps health information separate from financial, political, or ideological messages • Maintains independence from funders [d] • Separates lobbying activities from health information (or does not engage in lobbying) • Does not include advertisements with relevant health information (or does not host advertisements at all) [e]
Transparent and accountable: Sources should disclose the limitations of the information they provide, as well as conflicts of interest, content errors, or procedural missteps.	<ul style="list-style-type: none"> • Discloses financial and nonfinancial conflicts • Discloses relevant policy positions and lobbying activities • Follows FACA regulations or similar transparency policies [f] • Posts public corrections or retractions • Prioritizes accessibility and equitable access to information • Provides a mechanism for public feedback • Shares data, methods, or draft recommendations

From: Kington et al., 2021

[a] For example, an organization could seek public comments on an interim set of health guidelines before finalizing and sharing the information more broadly.

[b] A consensus process involves assembling a group of experts with diverse perspectives who assess a body of evidence and deliberate in order to arrive at an opinion or guidance that reflects the consensus of the group.

[c] A peer review process involves sharing the draft of a publication or other product with reviewers who have expertise or experience in the given topic and can provide feedback as to the product’s accuracy, balance, and appropriateness.

[d] For example, an academic journal could maintain editorial independence (i.e. sole authority over published content) from the organization that funds it.

[e] For example, an organization might host an advertisement for a cancer drug but keep this advertisement separate from the information it shares about cancer.

[f] FACA stands for the Federal Advisory Committee Act, which established requirements for committees that advise the federal government. These requirements include public access to meetings and meeting notes, as well as summaries of expenditures (<https://www.gsa.gov/policy-regulations/policy/federal-advisory-committee-management/advice-and-guidance/the-federal-advisory-committee-act-faca-brochure>)

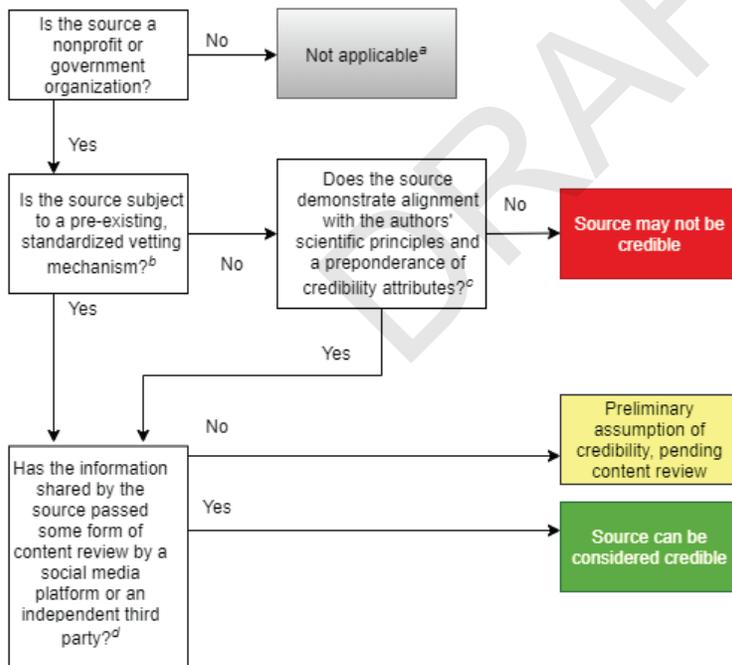
The following likely credible sources of information were included in Phase 1:

Nonprofit and government sources with pre-existing, standardized vetting mechanisms, including government organizations, academic journals, accredited healthcare organizations, educational institutions, and public health departments in the United States

As noted in the paper’s flowchart for credibility of sources of health information (Kington et al, 2021; See Figure 1), organizational sources could be afforded a preliminary assumption of credibility if they were subject to pre-existing, standardized vetting mechanisms, including government accountability, accreditation, and academic journal indexing.

Figure 1: Assessment Flowchart for Credibility of Sources of Health Information in Social Media (Kington et al, 2021)

FIGURE 1 | Assessment Flowchart for Credibility of Sources of Health Information in Social Media



[a] This chart is developed for credibility assessment of nonprofit and government organizations only. For-profit companies and individuals that serve as sources of health information should also undergo separate credibility assessment processes.

[b] Pre-existing, standardized vetting mechanisms that align with the authors’ principles and attributes include accreditation, academic journal indexing, and government accountability rules. Even sources subject to one of these mechanisms should strive to meet the authors’ stated credibility principles and attributes.

[c] See *Table 1* for a list of principles and credibility attributes.

[d] Ideally, a quality assurance system that includes content assessment should supplement assessment of source credibility.

Phase 1 Additional Findings

As outlined above, the output of Phase 1, including the principles and attributes in Table 1 and the flowchart for credibility of informational sources (Figure 1), provides important foundational work for assessing whether health information provided by organizations with existing vetting mechanisms could be deemed credible. However, in addition to identifying factors to assist in determining credibility, the advisory committee also identified key areas to be considered in the ongoing mission to elevate credible content.

During the first phase, the panel limited their deliberations and efforts to principles and attributes that could be applied to U.S.-based organizations, and they recommended further work be done to extend the principles to make them more generalizable to international guidance—which is one of the charges of the committee convened for Phase 2. While the foundational principles of science-based, objective, and transparent should be applicable globally, it was felt that closer examination and rumination on the initial attributes was merited. The committee also identified health equity, diversity, and inclusion as critical components to be included in any system used to elevate credible sources. The committee convened for Phase 2 took up this charge and developed a new, fourth principle with associated attributes intended to inform social media’s assessment of potentially credible informational sources. Finally, while outside of the scope of work for both Phase 1 and 2, the areas of *content review*, *implementation*, and *research on the impact of credibility designations* are important themes that will be discussed in the final paper, following feedback on this initial, draft paper. The panels convened in both Phase 1 and Phase 2 are in agreement that research undertaken by social media platforms will be most valuable and useful if the research data and processes are shared externally in a transparent manner. The guidance presented in Phase 1 was an incremental first step towards the goal of identifying credible sources of health information. In the following sections we describe the next steps developed and proposed during Phase 2.

Phase 2 Advisory Committee Charge and Scope

Phase 2 updates and extends the attributes associated with credible sources of health information in social media beyond those defined in Phase 1 (Box 1).

Box 1: Phase 2 Project Objective

Construct a globally relevant, expanded set of principles, attributes, and definitions applicable to a wider group of potential sources of credible information

The advisory committee recognizes that in addition to identifying credible sources of health information, social media companies can investigate parallel strategies such as content assessment, management of misinformation, addressing health literacy and culturally competent communication, and developing avenues for sources to self-regulate to meet the bar of becoming a credible source and maintaining that status. These strategies, while important components to foster an environment of credible content creation, are beyond the scope of these committee deliberations which focuses exclusively on the source of health information.

Phase 2 considers:

Nonprofit organizations without pre-existing standardized vetting mechanisms

For-profit entities

Individuals

The Phase 2 advisory committee reviewed the Phase 1 NAM Perspectives paper and the World Health Organization (WHO) Report (WHO, 2022). Upon review, there was agreement among committee members that the findings of the Phase 1 advisory group were an appropriate starting point for launching Phase 2. Committee members therefore used the principles and attributes of those publications as the foundation for their analysis. In light of Phase 2's charge of identifying credibility among a wider variety of informational sources, the committee explicitly considered how to create guidance that would be inclusive of globally and culturally diverse credible sources.

Methods

For consistency and transparency, the methods and processes employed during Phase 2 were substantively similar to Phase 1. Additionally, the committee adopted the definitions from Phase 1 regarding the terms 'credible' and 'high-quality information' (Box 2). Below, we describe the sponsorship and organizational structure of the program, the advisory committee and disclosure and management of potential conflicts of interest (COI), the conduct of the deliberative sessions, and project

Box 2: Key Terms

The following are definitions and discussions of the key terms used in Phase 1 and in the present paper (refer to Kington, 2021 for full discussion).

Credible

For the purposes of this paper, the authors present their own definition of credible in the context of sources of online health information: "offering information that is consistent with the best scientific evidence available at the time and employing processes to reduce conflict of interest and promote transparency and accountability."

High-Quality Information

High-quality information is that which is "science-based" or consistent with the best scientific evidence available at the time. The state of science and knowledge is always evolving, so the marker of time is an important component of this definition. The evolution of knowledge is also the reason that more absolute terms, such as accurate, are less appropriate. Although this paper does not consider information quality directly, increasing access to high-quality information is the goal of the approach under discussion.

timeline.

Sponsorship and Organizing Bodies

The project was funded by YouTube, which is owned by Alphabet Inc., through a grant to the Council of Medical Specialty Societies (CMSS). CMSS worked in collaboration with the National Academy of

Medicine (NAM) and the World Health Organization (WHO) to convene an advisory committee to guide Phase 2 with the goal of objectively constructing a globally relevant, expanded set of principles, attributes, and definitions to develop a framework for elevating potentially credible sources of health information on social media platforms.

CMSS is a U.S. coalition of 48 specialty societies representing more than 800,000 physicians across the house of medicine. Their mission is to improve patient care, equity, and education through convening, collaborating, and collective action. The function of the body is to assess and address critical issues across specialty societies that influence the future of healthcare and patients under their care.

The NAM was originally founded in 1970 as the Institute of Medicine (IOM) and is one of three academies that make up the National Academies of Sciences, Engineering, and Medicine in the United States. Operating under an 1863 Congressional charter, the National Academies are private, nonprofit institutions that work outside of government to provide objective advice on matters of science, technology, and health. NAM works to address critical issues in health, medicine, and related policy and inspire positive action across sectors.

The WHO was founded in 1948 as the United Nations agency to connect nations, partners, and people to promote health, keep the world safe and serve the vulnerable – so everyone, everywhere can attain the highest level of health.

Composition and Selection of the Advisory Committee

The advisory committee was composed of independent volunteers who were nominated by CMSS, WHO and NAM based on their subject matter expertise (Appendix A). Individuals were not eligible to participate on the committee if they were currently employed by social media companies. The committee included authors of the Phase 1 paper and new members from multiple disciplines including information governance, health information development, public health and health equity, social media and misinformation, and science communication.

Managing Conflict of Interest

Similar to the process in Phase 1 (Kington et al, 2021), to minimize COI, CMSS took steps to ensure the independence and objectivity of the advisory group and this paper. This paper represents the opinions of the authors and does not reflect a consensus position of CMSS, NAM, NASEM, WHO, or the authors' organizations. The advisory committee did not receive payment for their contributions to this paper. This draft paper will be revised in response to scientific peer review by individuals who will be chosen for their expertise in social media, ethics, health literacy, law, communications, and policy but are unknown to the authors.

Deliberative Sessions

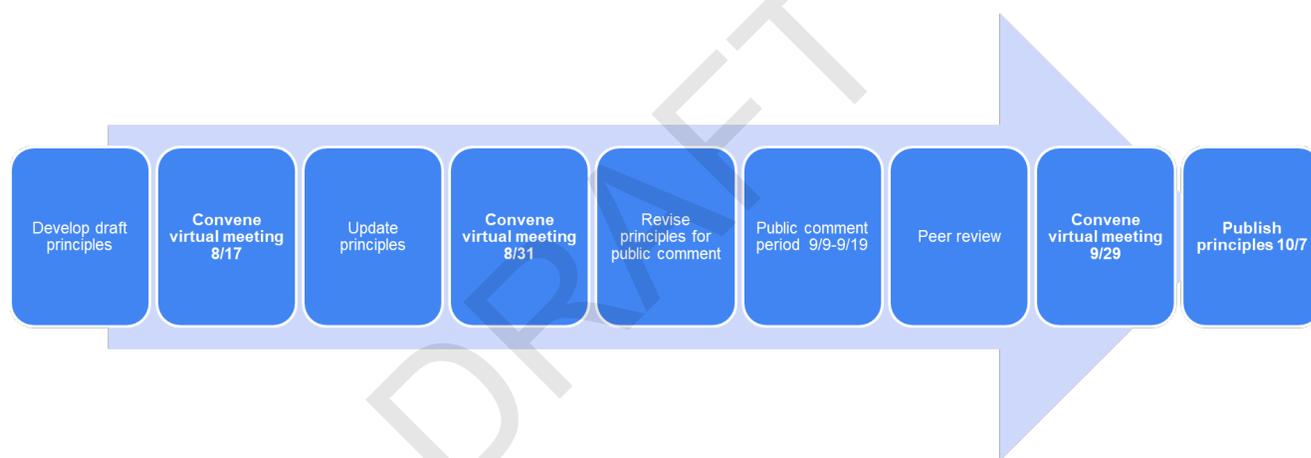
The authors participated in one recorded orientation session, which was asynchronously viewed by the group, and three virtual, interactive closed, deliberative sessions between July and October 2022 (See Figure 1). Representatives from YouTube attended the initial virtual session to explain the company's current policies, initial experiences with implementing Phase 1, and future goals regarding elevating high-quality health information from difference sources, and to answer questions from the authors. Representatives from YouTube did not attend any part of the subsequent deliberative sessions, and were not involved in committee discussions, in drafting the principles and attributes, or in drafting or reviewing the advisory committee's report.

Approach and Timeline

On 17 August 2022, the committee examined and deliberated upon the three principles and their defining attributes in individual breakout groups on sources of health information: for-profit, non-accredited nonprofit, and individuals. Each breakout group outlined attributes of each principle that were relevant to the Phase 2 Source. Each group aimed to identify the key attributes and focused on attributes that were important to credibility, identifiable, practical. Next, the entire committee discussed and then prioritized the suggested attributes from each breakout group, stating whether they agreed or disagreed with each change and rating the changes as Very Important, Important, or Not Very Important. Items ranked as Not Very Important for a source would be deleted, and items ranked as Important or Very Important for a source potentially would be incorporated. At the next meeting on 31 August 2022, the groups reconvened to discuss and critically assess the suggested attributes for each source of information.

A draft of the proposed new and changed attributes was posted for comment on 9 September 2022 and a final meeting was convened on 29 September 2022 to discuss and incorporate feedback from the review process with the goal of publication on 7 October 2022.

Figure 2: Project Timeline



Findings of the Advisory Committee

During the virtual meetings, the advisory committee accepted the foundational principles and attributes developed during Phase 1 and discussed the relevance and applicability of the attributes to their new sources of information. Across the board, it was agreed that all information, independent of source, should be held to the standards of science-based, objective, and transparent and accountable. In addition, the topic of incorporating principles of diversity, equity, and inclusion arose throughout all principles and across all information sources. As a result, a new principle targeting inclusiveness was drafted. To address some of the challenges of implementing the proposed principles and attributes, the committee suggested some modifications to the original attributes to make them more applicable to the various information sources (Table 2) and discussed a number of factors to consider regarding credibility.

Principle: Inclusive and Equitable

The committee identified diversity, equity, and inclusion (DEI) as a cross-cutting theme of sufficient importance to elevate it as a new principle and drafted attributes that could help in the evaluation of adherence to DEI standards for *all potential sources* of credible information in a global context, including

those considered in Phase 1. The advisory committee elevated this principle to ensure that the suggested attributes do not inadvertently suppress credible information from more diverse sources and voices (Box 3 and Table 2)

Box 3: Fourth Principle: Inclusive and Equitable

Principle

Inclusive and Equitable:

Sources should prioritize inclusion of diverse, equitable, and trusted voices for health information that reflect the demographics of the audience

Attributes

- Uses accessible and culturally appropriate language for intended population
- Avoid stigmatizing language about specific groups of people
- Prioritize equitable access to health information
- Contextualize and make relevant research for the intended population

Credibility Factors

While the overarching principles that each potential source of information remained foundational for the committee's work, it became apparent through discussion of each of the new sources considered that individual attributes for each principle would not apply equally across the sources. Phase 1 focused on U.S. government, accredited nonprofit organizations, and academic journals, and the language of the original attributes aligned well with the original source type. Phase 2 attempted to extend the principles and attributes to for-profit organizations, nonprofit organizations without external accreditation, and individuals. Additionally, the goal was to broaden the applicability of the initial attributes to allow them to be applied across the globe. When considering the original principles, the group discussed how or whether each new source could be held accountable to these same attributes laid out in Phase 1, and what modifications could be made to broaden the applicability and utility of the attributes. Draft changes to these attributes across the different sources of content can be found in Table 2.

Each of the potential sources of health information considered in Phase 2 brings different challenges to 1. Establishing credibility, and 2. Avoiding inadvertently diminishing the ability of diverse voices to be heard. For example, when considering information released by for-profit organizations, such as a pharmaceutical manufacturer, the underlying motive behind increasing brand awareness and recognition is, ultimately, to drive customers to the business. While nonprofit organizations may similarly desire expanding their organizational mission and influence, as organizations recognized for their charitable, religious, educational, scientific, public safety, and national or international services, they may be perceived as having a higher level of transparency and credibility. However, for-profit businesses may provide highly useful and credible information for patients—including patient education and patient resources. Further, there is a concern around the risk of setting the bar of credibility at a level where it is never attainable by a given source. Finally, across source types, the committee agreed that there should be some means of assessing credibility at scale, and an iterative process to off-ramp or on-ramp entities based on how well they meet criteria.

Table 2: Phase 2: Proposed Modifications to Attributes of Foundational Principles for Identification of Credible Sources of Health Information in Social Media

Note: Text that is **bold** represents the additions, changes, and proposed deletions generated by the advisory committee in Phase 2

Principle: <u>Science-Based</u>			
<i>Sources should provide information that is consistent with the best scientific evidence available at the time and meet standards for the creation, review, and presentation of scientific content.</i>			
Nonprofits	For-profits	Individuals	
S1a. Acknowledges the limitations and evolution of science (e.g., early or incomplete knowledge, as seen in emerging diseases; small sample size; correlation versus causation, etc.); indicates when there is debate and limited clarity	S1b. Acknowledges the limitations and evolution of science (e.g., early or incomplete knowledge, as seen in emerging diseases; small sample size; correlation versus causation, etc.); indicates when there is debate and limited clarity	S1c. Acknowledges the limitations and evolution of science (e.g., early or incomplete knowledge, as seen in emerging diseases; small sample size; correlation versus causation, etc.); indicates when there is debate and limited clarity	
S2a. Clearly labels information with the date it was last updated and strives to reassess and update content; includes attestation that this represents up-to-date information which may change over time	S2b. Clearly labels information with the date it was last updated and strives to reassess and update content; includes attestation that this represents up-to-date information which may change over time.	S2c. Clearly labels information with the date it was last updated and strives to reassess and update content; includes attestation that this represents up-to-date information which may change over time.	
S3a. Demonstrates subject-specific expertise (i.e., consistent and well-regarded contributions in a given field); indicates original content vs. re-purposing from a credible source.	S3b. Demonstrates subject-specific expertise (i.e., consistent and well-regarded contributions in a given field); indicates original content vs. re-purposing from a credible source.	S3c. Discloses licensure, education, training, and scientific expertise to platform	
S4a. Links to and is linked to by other credible sources	S4b. Links to and is linked to by other credible sources	S4c. Links to other credible sources.	
S5a. Provides accurate citations from high quality scientific sources, including peer review and validated data sources, to justify claims	S5b. Provides accurate citations from high quality scientific sources, including peer review and validated data sources, to justify claims	S5c. Provides accurate citations from high quality scientific sources, including peer review and validated data sources, to justify claims	
S6a. Synthesizes information from multiple sources, rather than a single source	S6b. Synthesizes information from multiple sources, rather than a single source	S6c. Synthesizes information from multiple sources, rather than a single source	
S7a. Uses a consensus process to develop the information shared	S7b. Uses a consensus process to develop the information shared	S7c. Not applicable	
S8a. Uses peer review or another form of content review to vet information before sharing.	S8b. Uses peer review or another form of content review to vet information before sharing	S8c. Not applicable	

Attributes	<p>Principle: Objective</p> <p><i>Sources should take steps to reduce the influence of financial and other forms of conflict of interest (COI) or bias that might compromise or be perceived to compromise the quality of the information they provide.</i></p>		
	Nonprofits	For-profits	Individuals
	O1a. Keeps health information separate from financial, political, or advocacy messages.	O1b. Keeps health information separate from financial, political, or commercial messages; information accessible outside of paywall and authors not likely to profit from this product	O1c. Keeps health information separate from financial, political, or commercial messages
	O2a. Maintains independence from funders; has a policy about maintaining scientific independence	O2b. Maintains independence from funders; has a policy about maintaining scientific independence	O2c. Maintains independence from funders
	O3a. Separates lobbying activities from health information (or does not engage in lobbying)	O3b. Separates lobbying activities from health information (or does not engage in lobbying)	O3c. Separates lobbying activities from health information (or does not engage in lobbying)
O4a. Does not include advertisements with relevant health information (or does not host advertisements at all); clearly identifies sponsored posts, paid partnerships, or advertising for fundraising purposes	O4b. Does not include advertisements with relevant health information (or does not host advertisements at all); identifies education/information versus marketing sources of health information	O4c. Does not include advertisements with relevant health information (or does not host advertisements at all); clearly identifies sponsored posts and paid partnerships	
Attributes	<p>Principle: Transparent and Accountable</p> <p><i>Sources should disclose the limitations of the information they provide, as well as conflicts of interest, content errors, or procedural missteps.</i></p>		
	Nonprofits	For-profits	Individuals
	T1a. Discloses financial and nonfinancial conflicts as well as mission statements on their website	T1b. Discloses financial and nonfinancial conflicts; discloses resulting organizational revenue	T1c. Discloses financial and nonfinancial conflicts; discloses resulting personal revenue
	T2a. Discloses relevant advocacy and policy positions and lobbying activities	T2b. Discloses relevant policy positions and lobbying activities	T2c. Discloses relevant advocacy and lobbying activities
	T3a. Adheres to healthcare ethics and transparency principles	T3b. Adheres to healthcare ethics and transparency principles	T3c. Adheres to healthcare ethics and transparency principles
	T4a. Posts public corrections or retractions; updates are posted on a scheduled periodic basis	T4b. Posts public corrections or retractions; updates are posted on a scheduled periodic basis	T4c. Posts public corrections or retractions; updates are posted on a scheduled periodic basis
	T5a. Provides a mechanism for public feedback	T5b. Provides a mechanism for public feedback	T5c. Provides a mechanism for public feedback
T6a. Shares data, methods, or draft recommendations. Discloses efforts made to be balanced and inclusive in development of evidence-based health information	T6b. Shares data, methods, or draft recommendations. Discloses efforts made to be balanced and inclusive in developing evidence-based health information	T6c. Shares data, methods, or draft recommendations. Discloses efforts made to be balanced and inclusive in development of evidence-based health information	

Attributes	<u>Principle: Inclusive and Equitable</u> <i>Sources should prioritize inclusion of diverse, equitable, and trusted voices for health information that reflect the demographics of the audience</i>		
	Nonprofits	For Profits	Individuals
	E1a. Uses accessible and culturally appropriate language for intended population	E1b. Uses accessible and culturally appropriate language for intended population	E1c. Uses accessible and culturally appropriate language for intended population
	E2a. Avoid stigmatizing language about specific groups of people	E2b. Avoid stigmatizing language about specific groups of people	E2c. Avoid stigmatizing language about specific groups of people
	E3a. Prioritize equitable access to health information	E3b. Prioritize equitable access to health information	E3c. Prioritize equitable access to health information
	E4a. Contextualize and make relevant research for the intended population	E4b. Contextualize and make relevant research for the intended population	E4c. Contextualize and make relevant research for the intended population

Source-specific Considerations

Building upon the seminal work completed in Phase 1, the advisory committee considered three additional potential sources for health information found on various social medial platforms. This covered a wide-ranging group of sources with various issues around feasibility of assessment and varying levels of transparency into how health information was collected and how content was generated. Nonprofit organizations without pre-existing standardized vetting mechanisms included foundations, patient disease organizations, community health organizations, and think tanks, for-profit entities included drug or device manufacturers, and individuals included scientists and clinicians, other professionals, and patients.

The advisory committee met initially in breakout groups to consider each informational source, deliberate upon how well the initial principles and attributes mapped to the new sources, and how each source could be assessed on these attributes globally. Next, the findings of each breakout group were discussed in a plenary session and the proposed changes to the attributes were edited further to ensure consistency of wording, as needed, and alignment with the intent and charge of the committee as a whole. It was proposed that the attributes within each principle could be prioritized to allow social media platforms to focus on some of the most essential attributes. Pragmatically, it was proposed that the various informational sources could be held to meeting a preponderance of the attributes, rather than demonstrating adherence to each and every attribute. We outline below some of the important points raised during discussion of each informational source and some suggestions to address concerns in assessing each individual source.

Non-accredited nonprofits

There was some discussion around the special nature of a non-accredited nonprofit organization. For example, accreditation can be a fluid state, whereby an organization may enter into and fall out of accredited status. It would be necessary, therefore, to re-vet an organization periodically to determine its status and also where they might fall within the scope of defined attributes. Because there is no pre-existing vetting mechanism for these sources, social media companies should develop a standardized process for assessing alignment with the principles and attributes.

Organizations with nonprofit status tend to be viewed with a halo of credibility or impartiality. However, it should be recognized that nonprofit organizations, which are typically mission-driven, can be sources of mis- or disinformation. While one of the attributes considered important for underpinning the principle of 'science-based' is providing citations and a synthesis of information from various sources, the group was concerned with the potential for citing pseudoscience or selectively choosing references that support a particular viewpoint without identifying and discussing conflicting evidence. They also advised examining the currency of citations, where older information may be cited, and newer citations demonstrating the progression of science on a particular subject may be ignored or not updated in a timely manner.

Many nonprofits create information to facilitate fundraising efforts, which raises the question of whether using content for fundraising delegitimizes the content. Such an approach could be needlessly punitive. Another consideration is that many nonprofits are often beholden to a very few or even a single funder. So even if they attempt to maintain independence, it may not be possible to completely remove the bias of what the funder would want to see or not see represented. [transparency] Finally, some nonprofits obtain most of their funding from revenue streams such as subscriptions (to journals or products), membership dues, or from annual society meetings, which can include income from vendors renting booths or taking out advertising in journals. As these are all valid revenue streams, a potential approach would be for the organization to clearly describe their process for segregating the views of their funding sources and the health information presented.

For-profits

A number of themes arose during discussion of for-profit organizations, with the committee expressing many similar points as in the discussion non-accredited nonprofit organizations. In many cases the overlap between the two different sources of content was sufficiently similar that there is potential for the attributes for the different entities to be condensed and applied across the two source types. For the present review period, they are presented separately for public comment, to ensure that reviewers have clear visibility into the attributes for each organizational type. The committee discussed the tension between clarity for each potentially credible source and the pragmatic need for ultimately ensuring that implementation of these criteria is practical on a global scale across a variety of social media platforms.

The committee recognized that all groups presenting health information, inclusive of nonprofits and individuals, would potentially earn financial or non-financial gain should they be deemed a credible source and elevated as such. Additionally, they recognized that deeming one source as credible may potentially confer a significant commercial advantage over another source that was not deemed credible. However, for-profits face a further challenge in that they are, by definition, seeking financial gain and have an explicit conflict of interest. With that understood, for-profit organizations can mitigate these concerns by demonstrating adherence to the principles of being science-based, objective, and transparent and meeting the related attributes.

Individuals

Identifying credibility attributes of individuals, while encouraging diversity, equity, and inclusion, was identified by the advisory committee as their most challenging task. Consideration of this final group covers both individuals on their own and individuals within the context of an organization. As an example, if an individual is the chief medical officer of a health system, how is their individual credibility related to the credibility of the organization? This would, necessarily, be informed by the status and the attributes for credibility of the organization as a whole. There was consensus that it may not be possible to hold individual sources to the same attributes as not for profit or for-profit organizations with large

staffs—particularly in labor-intensive attributes such as the use of a consensus process to develop the information that the individual is sharing. Another attribute that posed a potential untenable burden on the individual was the criterion of updating content as the science evolves. It was felt that it was unrealistic to expect to continue to update every topic but was agreed that having an initial date of posting was an important criterion to keep. Another example included the thought that it was reasonable for individuals to link out to high-quality information sources, but that it did not seem practical to expect that an individual would need to have other organizations or individuals linking to them.

It was thought that clarity around funding, advertising, and paid partnerships would be particularly important for individuals to disclose. Additionally, it would be important to delineate between content for which an individual is paid versus content that is strictly advertising, sponsored content, or lobbying. Some social media platforms have requirements for clearly labeling advertising, but not all platforms have this requirement. Moreover, in the US, Federal Trade Commission (FTC) regulations require disclosures on social media posts (FTC, 2022) but this is not applicable globally. From a practical standpoint, it was felt that it could be sufficient for individuals to provide attestations about independence of funding, and this is an issue to be considered in implementation.

Another challenge identified is establishing credibility of an individual and their lived experience, and distinguishing “health stories” from “health information.” More specifically, information about various facets of healthcare from patients with lived experience is considered important for peer support and even essential for clinical guideline development and patient-centered research. Online peer support in self-management of health concerns is a valued and valuable source of information for individuals living with illness. However, anecdotal health information is not scientifically reliable and cannot be used for evidence-based decision-making.

The advisory committee discussed various mechanisms to identify the scientific or medical credentials of individuals because they could be considered potentially important attributes for credibility. However, it poses a barrier when trying to find a single credential that is used across nations and the world. While U.S. healthcare professionals may carry board certification and other credentials, these are not universally available in the global community, and other credible lay individual sources may not have such credentials. The committee proposed that individuals could provide disclosures of regionally appropriate licensure, education, training, and scientific expertise to social media platforms, but it was also recognized that at present, not all social media platforms provide the means for an individual to disclose such information.

There was discussion around consideration of who might be credible to the end user, and how to structure the attributes to ensure that there is diversity and inclusiveness in the source material, and to ensure that those with lived experience would be considered credible to share their experiences. There were also concerns that individuals with licensure or credentials would still have the potential to provide inaccurate information, and that credentials or licensing alone would not be sufficient to elevate credibility. However, it is important to underscore that individuals should be held accountable to the same principles as the other sources described in Phase 1 and 2, although the specific attributes may be modified to make the bar more achievable for an individual.

Implementation

Global Attributes

The advisory committee members were from North America and felt that it was important to receive input from the global community that will be impacted when social media companies implement the principles and attributes that have been identified. We will solicit feedback during the public comment period.

Applicability Across Multiple Social Media Platforms

We will solicit feedback on this topic during the public comment period.

Testing

- Social media platforms should conduct initial and ongoing testing to ensure that implementation of these principles and use of these attributes functions as intended
 - Are *sources* flagged as credible meeting the bar
 - Are *sources* that should be deemed credible being inadvertently suppressed
 - Are use of these credibility attributes affecting diversity, equity, and inclusion of sources in unanticipated ways
 - Artificial Intelligence (AI) algorithms might be used an initial test but should be checked by humans with sufficient scientific and local cultural literacy to efficiently determine accuracy of the AI results
 - Important that testing be collaborative, transparent, and non-proprietary

Additional Implementation and Discussion content to be added following the public comment period.

Appendix A: Advisory Committee Roster

Name	Position and Institution
Helen Burstin, MD, MPH, MACP Co-Chair (ex officio)	Chief Executive Officer, Council of Medical Specialty Societies; Clinical Professor, George Washington University School of Medicine
Susan Curry, PhD, Co-Chair	Emeritus Dean and Distinguished Professor of Health Management and Policy, University of Iowa
Megan Ranney, MD, MPH, Co-Chair	Academic Dean, School of Public Health; Director, Brown-Lifespan Center for Digital Health; Warren Alpert Foundation Professor of Emergency Medicine
Vineet Arora, MD	Herbert T. Abelson Professor of Medicine; Dean for Medical Education, The University of Chicago Medicine, Pritzker School of Medicine
Wen-Ying Sylvia Chou, PhD, MPH	Program Director, Health Communication and Informatics Research Branch, Behavioral Research Program, National Cancer Institute
Ricardo Correa, MD, EdD	Director, Endocrinology, Diabetes and Metabolism Fellowship; Director for Diversity in Graduate Medical Education, The University of Arizona College of Medicine
Donna Cryer, JD	Founder and Chief Executive Officer, Global Liver Institute; Public Member, CMSS Board of Directors
Don Dizon, MD, FACP, FASCO	Professor of Medicine and Professor of Surgery, Brown University, Lifespan Cancer Institute
Efren Flores, MD	Associate Chair, Equity, Inclusion & Community Health, Mass General Brigham Radiology Enterprise; Assistant Professor of Radiology, Massachusetts General Hospital
Gerald Harmon, MD	Vice President of Medical Affairs, Tidelands Health; Immediate Past President, American Medical Association
Anjali Jain, MD	Physician/ Medical Officer, Agency for Healthcare Research and Quality, US Department of Health and Human Services
Kevin Johnson, MD, MS, FAAP, FAMIA, FACMI	David L. Cohen University Professor, Perelman School of Medicine and School of Engineering and Applied Science, University of Pennsylvania
Christine Laine, MD, MPH	Editor, Annals of Internal Medicine, Senior Vice President, American College of Physicians
Lindsey Leininger, PhD	Clinical Professor and Faculty Director, Center for Health Care, Tuck School of Business at Dartmouth College
Graham McMahon, MD, MMSc	Chief Executive Officer, Accreditation Council for Continuing Medical Education
Laura Michaelis, MD	Associate Professor, Interim Chief, Division of Hematology and Oncology, Froedtert Hospital Cancer Center, Medical College of Wisconsin
Ripudaman Minhas, MD, MPH, FRCPC, FAAP	Developmental Pediatrician, Women's and Children's Health Program, St. Michael's Hospital, Assistant Professor, Department of Pediatrics, University of Toronto
Richard Mularski, MD, MSHS, MCR, ATSF, FCCP, FACP	Senior Physician and Distinguished Investigator, Northwest Permanente and Kaiser Permanente Center for Health Research
John Oldham, MD, MS	Distinguished Emeritus Professor, Menninger Department of Psychiatry and Behavioral Sciences, Baylor College of Medicine
Rema Padman, PhD	Trustees Professor of Management Science & Healthcare Informatics, Carnegie Mellon University
Claude Pinnock, MD MPH	Chief Medical Officer, Wider Circle
Jessica Rivera, MS	Infectious Disease Epidemiologist and Science Communicator, The Pandemic Prevention Institute, Rockefeller Foundation
Brian Southwell, PhD	Senior Director, Science in the Public Sphere, RTI International
Antonia Villarruel, PhD	Professor and Dean of Penn School of Nursing, University of Pennsylvania
Brian Boxer Wachler, MD	Author and Director, Boxer Wachler Vision Institute
Katrine Wallace, PhD, CPH	Epidemiologist & Adjunct Professor, University of Illinois at Chicago

Appendix B: Project Team

Council of Medical Specialty Societies (CMSS)

Julia Peterson, CAE
Operations Manager

Suzanne Pope, MBA
Project Manager

National Academy of Medicine (NAM)

Laura DeStefano
Director of Strategic Communications & Engagement

World Health Organization (WHO)

Andrew Pattison, MS
Team Lead Digital Channels

Monta Reinfelde, MS
Technical Officer
Digital Communications

Sigma Health Consulting, LLC

Kristen E D'Anci, PhD
Science Writer
Senior Manager, Sigma Health Consulting, LLC

Frances M Murphy, MD, MPH
Expert Advisor
President & CEO, Sigma Health Consulting, LLC

References

United Nations Department of Economic and Social Affairs, Population Division (2022). World Population Prospects 2022: Summary of Results. UN DESA/POP/2022/TR/NO. 3. Available at:

<https://www.un.org/development/desa/pd/>

DataReportal. Digital 2022: July global statshot report. Available at:

<https://datareportal.com/reports/digital-2022-july-global-statshot>

Pew Research. Social Media Fact Sheet. April 7, 2021 Available at:

<https://www.pewresearch.org/internet/fact-sheet/social-media/>

Meta 2022. Meta Reports Second Quarter 2022 Results. Available at: <https://investor.fb.com/investor-news/press-release-details/2022/Meta-Reports-Second-Quarter-2022-Results/default.aspx>

YouTube. 2022. YouTube for Press Official Blog. Available at: <https://blog.youtube/press/>

Bishop M. (2019) Healthcare Social Media for Consumer Informatics. In: Edmunds M., Hass C., Holve E. (eds) Consumer Informatics and Digital Health. Springer, Cham. https://doi.org/10.1007/978-3-319-96906-0_4

Kington RS, Arnesen S, Chou WS, Curry SJ, Lazer D, Villarruel AM. Identifying Credible Sources of Health Information in Social Media: Principles and Attributes. NAM Perspect. 2021 Jul 16;2021:10.31478/202107a. doi: 10.31478/202107a. PMID: 34611600

World Health Organization. Meeting Report: WHO online consultation meeting to discuss global principles for identifying credible sources of health information on social media. July 1, 2022. Available at: <https://www.who.int/publications/m/item/who-online-consultation-meeting-to-discuss-global-principles-for-identifying-credible-sources-of-health-information-on-social-media>

Federal Trade Commission. FTC regulations: PART 255 - Guides concerning use of endorsements and testimonials in advertising. 38 Stat. 717, as amended; [15 U.S.C. 41](#) - 58. Source: 74 FR 53138, Oct. 15, 2009, unless otherwise noted. Available at: <https://www.ecfr.gov/current/title-16/chapter-1/subchapter-B/part-255>