Pediatric Infectious Disease Specialists – An Answer to Social Media Misinformation on COVID-19

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KEYWORDS: COVID-19, pediatric, social media

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SUMMARY: N/A.

The current severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic has spawned an "infodemic" of inaccurate information in traditional and social media such as the rapid spread of conspiracy theories like drinking bleach or alcohol for COVID-19 prophylaxis with occasionally fatal results [1]. Social media is a powerful tool that can promote fringe concepts [2] either inadvertently via *misinformation*, or deliberately with malicious intent via *disinformation*. Limited available evidence and possibly purposeful misdirection may foster fear and uncertainty among patients and their families. To counter the tendency away from truth, pediatric infectious disease providers can change this by engaging in social media platforms directly and reaching parents and children through the resources with which they interact frequently. Disseminating accurate information can strengthen trust in reliable sources, and enable families to make important decisions that affect their children's health.

Beyond proliferation of misinformation and disinformation through social media, the scales are unbalanced, because anti-science groups have a larger social media reach than pro-science groups [3]. Internet bots and trolls may promote disinformation in order to affect personal or political agendas. Such confusion can impact disease spread by influencing communities' behaviors [4]. Hate-based communities have weaponized their social media platforms during the pandemic as well by promoting online racist (predominantly anti-Asian) rhetoric and offline violent behaviors [5]. Public health officials have been harassed through social media posts and doxing (public sharing of private information with malicious intent), receiving death threats, and facing armed protestors outside their families' homes.

Pediatric infectious disease specialists can play an important role in responding to the problem of misinformation spread by social media. Research suggests that people who distrust the scientific community still accept their providers' recommendations if their concerns are heard and addressed in

one-on-one interactions [6]. In a world of "alternative facts," clinicians can share personal anecdotes on how they have approached COVID-19 prevention for their own families, masks for young children, social distancing, and return to school. This strategy may be more successful in convincing families to alter behaviors than general arguments about obligations to society at large or a recitation of data. When physicians are perceived as informers and trusted individuals who can clarify confusing information through one-on-one conversations, parental acceptance of essential aspects of pediatric care significantly improves, including those that face anti-science sentiment such as vaccination [7]. Other techniques used in vaccine-hesitant families that pediatric infectious disease subspecialists are familiar with can also be applied to the pandemic such as countering inaccuracies with up-to-date information in a non-confrontational dialogue. Transparency on one's own knowledge gaps and the lack of complete data in the context of a novel pathogen may reassure families that providers are not pretending to be all-knowing at a time when social media communicates messages in absolutes that are often wrong and frightening.

We propose that pediatric infectious disease providers should take active steps to express the truth about COVID-19 on social media in order to combat misinformation [8, 9]. Although up to 19% of pediatricians in 2018 interacted with social media professionally, the top physician influencers reported by Medscape in 2019 do not include a pediatric infectious disease physician [10]. However, pediatric infectious disease subspecialist advocacy through social media can significantly impact public opinion. Dr. Peter Hoetz, a pediatrician scientist who focuses on neglected tropical diseases at Baylor College of Medicine, has used Twitter to defend vaccines in the context of his experience as a parent of a child with autism that resulted in widespread attention from the lay community.

Opening a social media account, representing an individual or a group, would allow clinicians to answer questions from families about common infectious issues (including COVID-19), report malicious content, and direct readers towards trustworthy sources. Physicians who may feel less tech-savvy than some of their patients or colleagues can start with a social media platform that meets their

needs and comforts (Table 1A). Toolkits through the American Academy of Pediatrics and Centers for Disease Control are available to help the medical community be proactive on social media. These resources give step-by-step guidance on how to use specific platforms such as Twitter and Facebook, and provide boilerplate messages for those who are uncomfortable formulating their own (Table 1B). Some institutions may offer media training that can increase new social media users' confidence as well. Once a physician makes a profile for a particular platform, he or she can form networks through colleagues both locally and abroad as well as with the general public. Targeted messaging on desired topics such as research related to COVID-19 can build the user's audience base further. Providers need not generate content themselves; amplifying other users' posts by liking or retweeting can be an effective form of messaging, and can help increase visibility of accurate information. In order to reach audiences outside of his or her immediate circle, using existing hashtags on platforms such as Twitter or posting in Facebook groups dedicated to certain subjects can increase views for trending topics. Experienced social media users may choose to make videos set to popular music that can be both fun and non-confrontational. For example, the Disney parody to "Be Our Guest" from Beauty and the Beast was transformed to "Wear A Mask" with more than 2 million views on YouTube within 7 days of posting [11]. As with any form of media, however, it is important to verify the source of the information being shared and avoid publicizing private health information. If a social media user becomes a target of cyberbullying by the anti-science community, support groups such as Shots Heard Round The World (which focuses primarily on anti-vaccine attacks) and the Facebook group C.I.CA.D.A. (Community Immunity Champions and Defenders Association) can help defend the individual and counter misinformation.

Pro-science voices in the wake of COVID-19, especially in the context of growing anti-science beliefs with rampant disinformation and misinformation on multiple social media platforms, are imperative. Many parents and youth turn to social media as a source of knowledge and it is the responsibility of physicians to combat misinformation in forums that the public access. Pediatric infectious disease physicians are a key community involved in the COVID-19 pandemic efforts based on our training,

interactions with a diverse range of patients across our institutions, and hands-on-expertise. Few subspecialties are more qualified to address the inaccuracies propagated on social media and provide truth. Instead of viewing social media as a distraction from other academic endeavors, leaders should advocate for metrics related to community outreach through social media as a part of promotion pathways to incentivize physician engagement [12]. Without significant mitigation, these untruths may become the primary narrative which will make optimal care of children and the ongoing public health efforts even more challenging than they are today [3].

FUNDING:

Not applicable.

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TABLES/FIGURES:

Table 1. Common Social Media Platforms and Toolkits for Use

A. Common Social Media Platforms				
Platform	*Description*	*Link*	*Access*	*Computer skill level*
Facebook	Users create profiles and form networks of "friends" Content created through text posts although photos, videos, and messages are commonly utilized Amplify others' content by "sharing" or "liking"	www.facebook.com	Computer or smart device application	Basic
Instagram	Users create profiles and form networks of "followers" Content created with photos and videos with brief text captions Amplify others' content by "liking" or adding comments	Not applicable	Smart device application only	Basic
Twitter	Users create profiles and form networks of "followers" Content created through posts of 280 characters called "tweets" Amplify others' content by "retweeting"	www.twitter.com	Computer or smart device application	Intermediate
Tik Tok	Users share 15 second videos of lip syncing, dancing, comedy, etc. often set to popular music with background captions Amplify others' content by "sharing" and "liking"	Not applicable	Smart device application only	Intermediate/ Advanced
Note: Can often share posts, videos, or images from one platform on another. Inappropriate content reported directly to platform. Many platforms designate topics of interests with "#" sign and users can reply to or include another user by using "@" sign.				
B. Resources on Social Media Platforms for Medical Professionals				
Platform	*Description*	*Link*		
CDC Social Media Toolkit	Shares guidelines, tools, and best practices on appropriate	www.cdc.gov/socialmedia/tools/guidelines/index.html www.cdc.gov/coronavirus/2019-ncov/communication/social-media-toolkit.html		

General COVID-19	use of social media Provides sample messaging with links to educational resources on common COVID-19 topics such as masks, contact tracing, and handwashing	
American Academy of Pediatrics Campaigns & Toolkits	Offers videos, images, policies, and sample social media posts on multiple pediatric health issues.	www.aap.org/en-us/about-the-aap/aap-press-room/campaigns/Pages/default.aspx