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# Confronting the evolution and expansion of anti-vaccine activism in the USA in the COVID-19 era

Richard M Carpiano, Timothy Callaghan, Renee DiResta, Noel T Brewer, Chelsea Clinton, Alison P Galvani, Rekha Lakshmanan, Wendy E Parmet, Saad B Omer, Alison M Buttenheim, Regina M Benjamin, Arthur Caplan, Jad A Elhake, Lisa C Flowers, Yvonne A Maldonado, Michelle M Mello, Douglas J Opel, Daniel A Salmon, Jason L Schwartz, Joshua M Sharfstein, Peter J Hotez

## Introduction

Over the past two decades, anti-vaccine activism in the USA has evolved from a fringe subculture into an increasingly well organised, networked movement with important repercussions for public health. The COVID-19 pandemic has exacerbated this evolution and magnified the reach of vaccine misinformation. Anti-vaccine activists, who for many years spoke primarily to niche communities hesitant about childhood vaccinations, have used traditional and social media to amplify vaccine-related mistruths about COVID-19 vaccines while also targeting historically marginalised racial and ethnic communities. These efforts contributed to COVID-19 vaccine hesitancy and expanded the movement, with early indications suggesting that this hesitancy could now also be increasing hesitancy that existed pre-pandemic towards other vaccines. It is important to understand the implications of this recent evolution of anti-vaccine activism on vaccination uptake and the promotion of sound public health strategies. In this Viewpoint, we summarise the latest developments in US-based anti-vaccine activism and propose strategies for confronting them.

## The evolution of anti-vaccine activism

In the years preceding the COVID-19 pandemic, anti-vaccine activism became more visible in the USA. Three patterns are noteworthy, and are outlined below.

### Progression into right-wing identity and activism

Before the pandemic, anti-vaccine activism increasingly aligned with conservative political identity. Two developments were crucial to this conservative shift. One was California's 2015 legislative effort to eliminate personal-belief exemptions for school vaccinations (bill SB-277), during which anti-vaccine activists mobilised to broaden their following beyond its traditional natural-living, left-leaning base through deliberate activation of, and outreach to, potential Tea Party and libertarian allies.<sup>1,2</sup> The other was the formation of influential political action committees (eg, Texans for Vaccine Choice) that lobbied state legislatures and promoted conservative political candidates with anti-vaccine positions.<sup>3-5</sup> For anti-vaccine activists, this mutualism enabled access to money, political influence, and broader audiences. For the libertarian right, it provided a cohort of politically active Americans whose support could be directed towards other causes.<sup>6,7</sup>

Concurrently, anti-vaccine activists' pre-pandemic messaging increasingly shifted from expressions of

concern about health impacts and safety (eg, claims that vaccines cause autism) to a philosophical focus on liberty evidenced in arguments about health and medical freedom and parental rights.<sup>5,8,9</sup> This shift served to place the growing movement in terms more likely to draw the interests of conservatives and libertarians, for whom scientific consensus around the safety, efficacy, and benefit of vaccination was less salient than concerns about liberty and perceptions of unwelcome government interference.

### Networked activism

In activism, network building is key for recruiting and retaining participants and achieving strategic goals.

Pre-pandemic, anti-vaccine activists adeptly leveraged social media to shape opinion, gain allies, and influence policy. After California passed SB-277 in 2015, a collection of loosely federated health-freedom organisations with names such as Freedom Keepers emerged in other states, establishing active social media accounts.<sup>10</sup> These social media accounts shared common naming conventions and visual branding elements, maintained messaging discipline, and cross-promoted each other's local activism efforts—showing that the anti-vaccine movement was already nationally networked before the COVID-19 pandemic.<sup>6,11</sup>

### Harassing and threatening health-care and public health professionals

Reflecting broader, growing trends in anti-intellectual or anti-science populist discourse (especially in right-wing media outlets), clinicians and other health professionals who were publicly involved in pro-vaccine policy or commentary in advance of the pandemic were subject to harassment, physical threats, and violence by anti-vaccine activists. Media coverage documented numerous harassment campaigns, including those targeting vaccine scientist Peter Hotez, one of the members of this Viewpoint,<sup>12</sup> California State Senator and paediatrician Richard Pan for coauthoring California's 2020 law SB-276 that tightened standards for medical exemptions from vaccines,<sup>11</sup> and paediatrician Nicole Brown for her popular, vaccine-promoting TikTok content.<sup>13</sup>

### The impact of COVID-19 on the anti-vaccine movement

Although anti-vaccine activism was already increasing in the USA and internationally, the 2020 emergence of COVID-19 served as an accelerant, helping turn a niche movement into a more powerful force. Whereas earlier

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School of Public Policy,

University of California,

Riverside, CA, USA

(Prof R M Carpiano PhD);

Department of Health Law,

Policy & Management, Boston

University School of Public

Health, Boston, MA,

USA (Prof T Callaghan PhD);

Department of Health Policy

(Prof M M Mello PhD), and

Freeman Spogli Institute for

International Studies

(Prof M M Mello), Stanford

School of Medicine

(Prof Y A Maldonado MD),

Stanford Internet Observatory

(R DiResta BS), and Stanford Law

School (Prof M M Mello),

Stanford University, Stanford,

CA, USA; Department of Health

Behavior, Gillings School of

Global Public Health

(Prof N T Brewer PhD) and

Lineberger Comprehensive

Cancer Center, University of

North Carolina, Chapel Hill, NC,

USA (Prof N T Brewer); Clinton

Foundation, New York, NY, USA

(C Clinton DPhil); Mailman

School of Public Health,

Columbia University, New York,

NY, USA (C Clinton); Center for

Infectious Disease Modeling and

Analysis (Prof A P Galvani PhD),

Department of Epidemiology of

Microbial Diseases

(Prof A P Galvani,

Prof S B Omer PhD), and

Department of Health Policy

and Management

(Prof J L Schwartz PhD),

Yale School of Public Health,

Yale University, New Haven, CT,

USA; Yale School of Nursing

(Prof S B Omer), Yale University,

New Haven, CT, USA; Yale

Institute of Global Health

(Prof S B Omer, J A Elhake MPH),

and Department of Internal

Medicine (Infectious Diseases),

Yale School of Medicine

(Prof S B Omer), Yale University,

New Haven, CT, USA;

The Immunization

Partnership, Houston, TX, USA (Prof R Lakshmanan MHA); Center for Health Policy & Law, Northeastern University, Boston, MA, USA (Prof W E Parmet JD); Department of Family and Community Health, University of Pennsylvania School of Nursing, and Center for Health Incentives and Behavioral Economics, University of Pennsylvania, Philadelphia, PA, USA (Prof A M Buttenheim PhD); Gulf States Health Policy Center, Bayou La Batre, AL, USA (R M Benjamin MD); New York University Langone School of Medicine, New York University, New York, NY, USA (Prof A Caplan PhD); Department of Obstetrics & Gynecology, Emory University, Atlanta, GA, USA (Prof L C Flowers MD); Department of Pediatrics, University of Washington School of Medicine, Seattle, WA, USA (Prof D J Opel MD); Treuman Katz Center for Pediatric Bioethics, Seattle Children's Research Institute, Seattle, WA, USA (Prof D J Opel); Institute for Vaccine Safety, Department of International Health (Prof D A Salmon PhD) and Department of Health Policy and Management (Prof J M Sharfstein MD), Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA; Texas Children's Center for Vaccine Development, Departments of Pediatrics and Molecular Virology & Microbiology, National School of Tropical Medicine, Baylor College of Medicine, Houston, TX, USA (Prof P J Hotez MD); Department of Biology, Baylor University, Waco, TX, USA (Prof P J Hotez); Hagler Institute for Advanced Study (Prof P J Hotez) and Scowcroft Institute of International Affairs, Bush School of Government and Public Service (Prof P J Hotez), Texas A&M University, College Station, TX, USA; James A Baker III Institute for Public Policy, Rice University, Houston, TX, USA (Prof P J Hotez)

Correspondence to: Dr Richard M Carpiano, School of Public Policy, University of California, Riverside, CA 92521, USA  
richard.carpiano@ucr.edu

anti-vaccine activism focused primarily on parents and school immunisation requirements, the universal nature of the COVID-19 pandemic provided anti-vaccine activists with concerned audiences that were far larger and broader. As the pandemic unfolded, anti-vaccine activists capitalised on discontent over pandemic measures such as physical distancing, school closures, and vaccine and mask mandates, joining right-wing groups, some elected officials, and some Christian nationalist pastors in opposing public health interventions via appeals to health liberty, and downplaying the severity of COVID-19.<sup>14,15</sup>

The start of COVID-19 vaccine trials provided opportunities for anti-vaccine activists to discredit the vaccine development and evaluation process.<sup>16</sup> Anti-vaccine advocacy groups worked to call the trials into question and spread doubt among Americans who either lacked familiarity with the process, or lacked trust in the health-care system. As the national roll-out of vaccinations began, they highlighted stories of purported side-effects (and conspiracy theories) and worked to undermine public confidence in vaccine safety and efficacy among a broader public audience who were searching for information about whether to vaccinate.<sup>17,18</sup> Notably, the activists treated the identification of adverse effects (such as myocarditis) by scientific authorities as more evidence of conspiracy rather than a demonstration of how vaccine safety systems operate. They shaped their messaging to resonate with particular audiences,<sup>19</sup> including supporters of former US President Donald Trump, for whom anti-vaccine rhetoric resonated,<sup>20</sup> and historically marginalised racial and ethnic groups they had targeted pre-pandemic. Examples include promoting messaging that tied COVID-19 vaccines to past medical abuses such as the Tuskegee syphilis study when targeting Black communities,<sup>21</sup> or intensifying existing mistrust in health-care and government institutions for Latino people,<sup>22</sup> and fuelling concerns of fertility-related COVID-19 vaccine side-effects that resonate with women.<sup>23</sup> Starting in 2021, anti-vaccine activists have challenged COVID-19 vaccine policies in court.<sup>24,25</sup>

Much of the anti-vaccine information on social media moved through networks of so-called influencers.<sup>26</sup> Some were long-time anti-vaccine activists and others had established their audiences in wellness, politics, parenting, or other spheres. Many of these influencers are ideologically motivated, but some, including several prominent anti-vaccine influencers, profit from their audiences by selling anti-vaccine books and products (eg, alternative treatments), and monetising websites with advertising revenue or affiliate links to anti-vaccine groups.<sup>26</sup> In at least one case, influencers selling anti-vaccine products founded a medical freedom-focused super political action committee.<sup>27</sup>

On social media, sensationalism, outrage, and controversy are often effective tools for generating audience attention and growing, engaging, or monetising a following. The rancorous, partisan tone of much of the

conversation surrounding public health response to the pandemic led to new actors—including partisan pundits, politicians, wellness influencers, sport figures, celebrities, and even clinicians, scientists, and academics—taking visible roles in arguing the health-freedom perspective, while often spreading false and misleading claims about COVID-19 vaccine efficacy or safety. In this way, the pandemic has served to greatly increase the number of voices with larger audiences shaping the public conversation about vaccines. The growing group of influencers use simple and disciplined messaging to question vaccines. This directness presents challenges to government authorities that have often issued variable, difficult-to-interpret guidance on COVID-19 vaccinations.<sup>10</sup>

Although intensive media attention over COVID-19 immunisation and mitigation campaigns has decreased, influencers and audiences who found COVID-19 misinformation compelling have not dispersed. Rather, building on their successes, anti-vaccine activists have attacked vaccination efforts at the state and local levels with new vigour, and new allies. At the state level, anti-COVID-19 vaccine mandate efforts have expanded to undermine existing vaccination requirements for schools and the health-care workforce. For example, with anti-vaccine activist encouragement, Texas lawmakers introduced legislation to remove routine vaccination school requirements during the 2021 legislative session,<sup>28</sup> and the 2022 Texas Republican Party platform now includes natural and unalienable rights not to be vaccinated.<sup>29</sup> During the start of the 2022 state legislative sessions, states such as Kansas<sup>30</sup> and Oklahoma<sup>31</sup> introduced legislation to prohibit COVID-19 vaccine school-entry requirements. Although none of this legislation has passed, many of these bills will probably be reintroduced in future sessions. Anti-vaccine activism has also increased at the local level, emphasising the importance of having a presence and building on momentum to influence vaccination policies via activism directed towards school boards, unions, and county governments.<sup>32,33</sup>

## Recommendations for action

Immediate action is needed to counter these dynamics and respond to this movement. Fundamentally, the public health, scientific, and policy communities must recognise that anti-vaccine campaigns are networked. Within the USA, anti-vaccine messaging and political activism is franchised with health-freedom communities established in each state to rapidly activate for legislative or protest purposes.<sup>10</sup> Despite being distinct entities, these groups or individuals amplify each other's social media content and calls-to-action, sharing unified messaging and their views that vaccine mandates violate liberty, nationally. In contrast, public health networks and communications can be minimally coordinated because they remain largely siloed by their state and institution. Even public health professionals active in

communicating on social media individually are often doing so in an ad hoc, grassroots manner, with public officials often having limited ability to speak out (eg, due to institutional restrictions).<sup>34</sup> National vaccine groups promote much-needed pro-vaccine messages but are often underfunded and overwhelmed by further-reaching anti-vaccine activists. Relevant community influencers or individuals with large social media followings are rarely incorporated into pro-public-health communication efforts. Although physicians are key messengers of vaccination promotion, some (notably in academic or government-appointed positions) have engaged in media efforts to create public distrust in COVID-19 vaccines.<sup>10,35</sup>

To address this expanded threat to US public health and security, we recommend three measures consistent with a so-called whole of society approach,<sup>36</sup> in which public health agencies collaborate with diverse (eg, academic, civic, and private sector) stakeholders.

First, we suggest the development of networked communities capable of reaching the public at the right time, at the right place, and with the right messenger about vaccine-related information—especially to pre-empt and pre-bunk<sup>37</sup> well funded and amplified messages disseminated by the anti-vaccine movement. This action entails a shift in approach for the US public health communication model, from the use of one credible messenger (that is vulnerable to discrediting attacks), to a broad, diverse, and coordinated network of expert messengers and influencers. These stakeholders—including leaders of local, historically marginalised, or faith communities<sup>38,39</sup>—can simultaneously share similar messages of factual information to their specific audiences.<sup>40</sup> Such an aggregated, coordinated approach makes it difficult for anti-vaccine activist efforts to undermine public trust in messages and lone experts.

Second, we suggest input is solicited from outside the usual public health agencies. Countering the array of expanded efforts by anti-vaccine activists and groups or individuals who influence or monetise disinformation efforts necessitates a wide breadth of expertise. Thus, interdisciplinary and intersectoral collaborations (eg, the Virality Project<sup>40</sup>) are essential for developing effective responses.<sup>41</sup>

Third, we suggest these networked and coordinated communities are leveraged to counter relevant trends in anti-vaccine efforts. This action will include separating narratives about liberty from anti-vaccine attitudes and mitigating anti-vaccine activist harassment of public health communicators. Separating these narratives requires diverse, trusted voices to stress the value of collective action to secure public health gain and economic security, while being mindful of public concerns for personal liberties that vary in form and intensity across social groups and locations. Activating networks to publicly aid individuals facing harassment will provide victims with valuable credibility and support

from professionals and the general population (eg, the Shots Heard Round the World initiative<sup>42</sup>).

Building networked, coordinated initiatives will be challenging, but the stakes are too high to ignore. Without concerted efforts to counter the anti-vaccine movement, the USA faces an ever-growing burden of morbidity and mortality from an increasingly undervaccinated, vaccine-hesitant society.

#### Contributors

RMC led the conceptualisation and writing of the first draft of the Viewpoint with TC and RD as collaborators and input from a writing group comprised of NTB, CC, APG, PJH, SBO, RL, and WEP. All authors provided critical intellectual content for revising the draft manuscript. All authors had full access to the information described in the manuscript.

#### Declaration of interests

The *Lancet* Commission on Vaccine Refusal, Acceptance, and Demand in the USA is cohosted by the Yale Institute for Global Health and the Baylor College of Medicine. All authors are Commissioners. PJH is a developer of a COVID-19 vaccine construct, which was licensed by Baylor College of Medicine to Biological E, a commercial vaccine manufacturer for scale-up, production, testing, and licensure. NTB reports personal fees from WHO, Centers for Disease Control and Prevention, Sanofi, and Merck outside of the submitted work. RMC reports receiving research grant funding from Novo Nordisk Foundation (Denmark), outside of the submitted work. RL reports grants from Pfizer, GlaxoSmithKline, Sanofi Pasteur, and Merck, and personal fees from BIO, outside of the submitted work. YAM is a member of a Data Safety Monitoring Board for Pfizer and is a site Principal Investigator for a Pfizer vaccine trial, outside the submitted work. MMM reports personal fees from law firms representing retail pharmacies, generic drug companies, and a health insurer that have sued branded drug companies for marketing and antitrust law violations, outside of the submitted work, and serves as an adviser to Verily Life Sciences on a mobile app designed to facilitate safe return to work and school during COVID-19. DJO reports grants from the US National Institutes of Health, outside the submitted work. DAS reports personal fees from Pfizer, Janssen, and Moderna, is on advisory boards and receives compensation from these companies for time attending meetings, and reports grants from Merck, outside of the submitted work. All other authors declare no competing interests.

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