



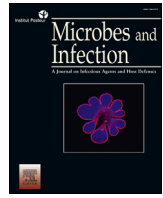
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## Editorial

## COVID19 meets the antivaccine movement



The CDC just reported steep declines in the number of American children receiving their routine immunizations. Data from the Vaccines for Children Program (which provides one-half of federally purchased vaccines) and the Vaccine Safety Datalink, find that the US national COVID19 emergency declaration on March 13, 2020 triggered a sudden drop in childhood vaccinations. Within weeks, parents ceased bringing their children in to see their pediatrician or family healthcare provider [1] (Fig. 1). The steepest declines included measles-containing vaccines.

We already know that an accelerated antivaccine movement caused the return of measles to the United States in 2019 [2], resulting in multiple epidemics and more than 1200 cases [3]. It then strengthened during the first months of 2020 as evidenced by protests against vaccines on state capitals in New Jersey, Connecticut, and elsewhere [4,5].

Is this temporary, or can we expect measles or other vaccine-preventable diseases to continue rising? The CDC trends show that vaccinations among young children less than 24 months are beginning to rebound, although they remain suppressed among older children. This means that this year's cohort of preschool children may not receive their second dose of measles vaccine making outbreaks more likely.

In the meantime, there are further indications measles will remain a significant health threat, due to a confluence of antivaccine activities and new social forces set into motion because of COVID19. Possibly, the antivaccine movement has grown stronger from the COVID19 pandemic, fueled with fresh conspiracies and new alliances.

In the conspiracy category, the antivaccine movement builds outrageous claims that Bill Gates or others created COVID19 as a means to create mandatory vaccines [6]. In turn, it alleges COVID19 vaccines are devices to promote the establishment of a global surveillance network, in which each of us would receive an “electronic tattoo” through injection of a vaccine data chip under the skin [7]. Or that the launch of a 5G network in Wuhan, China, created the virus or damaged the immune systems of the population to make them susceptible to the SARS-CoV2 virus [8].

Alternatively, the antivax lobby falsely claims the National Institute of Allergy and Infectious Diseases of the US National Institutes of Health, headed by Dr. Anthony Fauci, is behind COVID19 and funded the Wuhan Institute of Virology to perform gain-of-function research to transform an innocuous coronavirus into the lethal and transmissible SARS CoV2 virus [9]. They say Fauci and Gates profit financially from future COVID19 vaccines [10], but that even “OG (original gangster) villains” like me or Paul Offit, “the world's top vaccine promoters” are “frantically warning us about the unique and frightening dangers inherent in developing a coronavirus vaccine” [11].

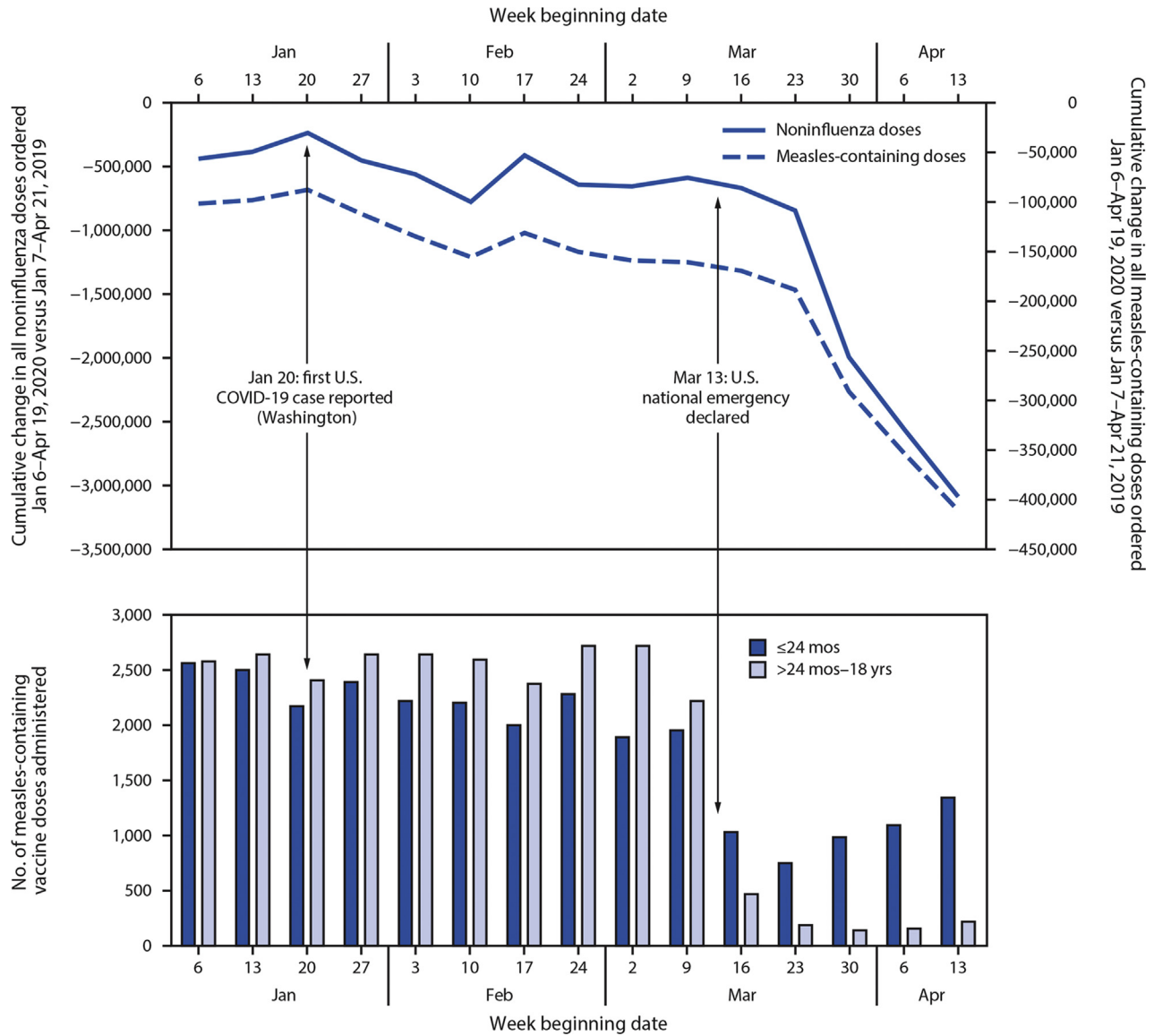
In the new alliance category, the antivaccine movement has started connecting with groups and individuals protesting against government interference and social distancing, working to add childhood vaccination mandates to their list of grievances [12]. This is an extension of the antivaccine movement's earlier pivot to the political far right based on “choice” or “health freedom” [13]. New 2020 simultaneous protests against social distancing and vaccines have begun in multiple states, including California and Texas [14]. Some, like the one on the Michigan state capital, include protestors in camouflage and carrying firearms [15]. This imbues a menacing element.

The messaging around the rollout of COVID19 vaccines has furthered cemented antivax links. The White House national vaccine program has the new name of “Operation Warp Speed” [16]. Such science fiction imagery, together with press releases from some of the biotech and pharma companies making aggressive claims that a vaccine could be made or released within weeks or months [17] raise concerns that the first COVID19 vaccines would be released far ahead of the traditional timeframe. We can take comfort in the fact that regulators in the US and elsewhere will not release any unsafe product, especially given the US Food and Drug Administration's extraordinary track record for vaccine safety combined with a detailed system of safety monitoring by the FDA and CDC [18].

As both a vaccine scientist and parent of adult daughter with autism, I have confronted the antivaccine movement for many years. Among their major false assertions is that vaccines cause autism [13]. However, a second one is that vaccines are not adequately tested for safety [19]. The communications and missteps around the rollout of COVID19 vaccines may require a period of damage control.

In the US, COVID19 is predicted to return on an annual and seasonal basis in the postpandemic period [20]. The coming months and years could become a turbulent time in America as protestors step up demands to resist social distancing and find new allies in a growing antivaccine movement. Prominent supporters of vaccines such as Bill Gates, Anthony Fauci, Paul Offit, and myself, among others should expect attacks.

Will scientists in general become increasingly targeted? The good news is that more than ever before in recent US history the American public is eager to learn from scientists speak about COVID19 in the mainstream media. This increased visibility is making America comfortable with hearing from scientists, and this in itself is essential in combating antisience movements [21]. However, the protests and their links with extremist groups in camouflage, give us pause to realize that things could also go very wrong. The weeks before the 2020 US Presidential election could become a time of extreme instability in America, especially if COVID19 resurges. Should this happen, poll numbers will drop for many elected leaders. They might react by turning on



**Fig. 1.** Weekly changes in Vaccines for Children Program (VFC) provider orders\* and Vaccine Safety Datalink (VSD) doses administered† for routine pediatric vaccines — United States, January 6–April 19, 2020. [https://www.cdc.gov/mmwr/volumes/69/wr/mm6919e2.htm?s\\_cid=mm6919e2\\_x](https://www.cdc.gov/mmwr/volumes/69/wr/mm6919e2.htm?s_cid=mm6919e2_x).

scientists as a deflection mechanism, possibly with damaging consequences.

To mitigate the consequences of a reinvigorated antivaccine movement in America it will be essential for the White House, together with the NIH and other elements of our science infrastructure, to shape a well-crafted vaccine communication plan. They must also designate a trusted spokesperson who can articulate and carry the message.

As COVID19 spread in the spring of 2020 my prediction was the American public would recognize the urgency of developing and administering a COVID19 vaccine, causing the antivaccine movement to dissipate. Tragically, the opposite has happened, and there is risk we might see yet again a surge in America’s antivaccine movement.

**Declaration of Competing Interest**

The author is involved in the development of vaccines against coronaviruses including COVID19.

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