DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control and Prevention
Health Systems and Worker Safety Task Force
COVID-19 Emergency Response
1600 Clifton Road
Atlanta, GA 30333

December 19, 2022

To Elias Ruiz:

We reviewed your information quality request for correction (December 27, 2021) related to the Centers for Disease Control and Prevention's (CDC's) interim guidance, entitled:

Interim Clinical Considerations for Use of COVID-19 Vaccines | CDC

Specifically, you have asked that CDC acknowledge that natural immunity to SARS-CoV-2, the virus that causes coronavirus disease 2019 (COVID-19) is at least as effective as vaccine-induced immunity to reduce the risk of subsequent infection especially if "there is neither any FDA-authorized or FDA-approved test nor any other scientifically validated strategy that providers or the public can use to reliably determine whether a person is protected from infection". Secondly, you assert that CDC contradicts itself by stating that there is no scientifically validated strategy that providers or the public can use to reliably determine whether a person is protected from infection and refers to the presence of antibodies as a sign of protection from SARS-CoV-2 infection.

A summary of recent updates to the Interim Clinical Considerations for Use of COVID-19 Vaccines | CDC website (as of December 2022) are described therein and include new recommendations for children 6 months of age and above. After careful review and consideration, we believe that the evidence **does not support** the further revisions to the website you requested.

Request 1:
The CDC needs to acknowledge that natural immunity to SARS-CoV-2 is at least as effective as vaccine-induced immunity to reduce the risk of subsequent infection especially if "there is neither any FDA-authorized or FDA-approved test nor any other scientifically validated strategy that providers or the public can use to reliably determine whether a person is protected from infection".

On October 29, 2021, CDC published online a Science Brief: SARS-CoV-2 Infection-induced and Vaccine-induced Immunity. This brief provides an overview of the scientific evidence regarding infection-induced and vaccine-induced immunity, available at the time of release,

including both peer-reviewed and preprint publications, as well as unpublished CDC data. Although a comprehensive overview, it was neither a formal systematic review nor meta-analysis.

As noted in the Science Brief, recovery from many viral infectious diseases is followed by a period of infection-induced immunologic protection against reinfection. This phenomenon is widely observed with many respiratory viral infections, including both influenza and the endemic coronaviruses, for which acquired immunity also wanes over time making individuals susceptible to reinfection. The conclusion of the review for the Science Brief was that multiple studies in different settings have consistently shown that infection with SARS-CoV-2 and vaccination each result in a low risk of subsequent infection with antigenically similar variants for at least 6 months. Further, the conclusion was that numerous immunologic studies and a growing number of epidemiologic studies have shown that vaccinating previously infected individuals significantly enhances their immune response and effectively reduces the risk of subsequent infection, including in the setting of increased circulation of more infectious variants.

At the time of the release of the Science Brief, although the Delta variant and some other variants had shown increased resistance to neutralization by both post-infection and post-vaccination sera in laboratory studies, observed reduction in vaccine effectiveness was modest, with continued strong protection against hospitalization, severe disease, and death. CDC will continue to follow and evaluate evolving scientific evidence in these areas and update recommendations accordingly.

Data are limited regarding the risks for SARS-CoV-2 infection and hospitalization after COVID-19 vaccination and previous infection. On January 19, 2022, CDC posted a *Morbidity and Mortality Weekly Report* (MMWR) of a study that found that during the Delta wave of COVID-19, both vaccination and a prior infection provided protection against infection and hospitalization from COVID-19. Scientists reviewed data from New York and California between May and November 2021 to determine the level of protection offered by COVID-19 vaccines, previous infection, and both. Before the Delta variant became predominant in each state, COVID-19 vaccination offered greater protection than previous infection. By early October, when the Delta variant was predominant in each state and additional time had passed since many peoples' primary vaccination series, this study observed that previous infection offered greater protection from severe illness than did vaccination alone. While the findings show that during this time period a history of infection reduced the risk of reinfection, vaccinating people who were previously infected further reduced the risk of COVID-19 and related hospitalization. Furthermore, compared with infection, vaccination is a far safer way to protect oneself from COVID-19 and reduce its impact on our communities. Viruses are constantly changing, including the virus that causes COVID-19. Such changes to the virus can lead to the emergence of new variants that have new characteristics, including how protective immunity from vaccines and prior infection can be. As the California and New York analysis was conducted before the emergence of the Omicron variant, these findings cannot be generalized to the Omicron wave.

An MMWR article published January 28, 2022 found that when Delta was the dominant variant, and in the initial days of Omicron, people who were fully vaccinated and boosted had the highest protection against COVID-19 associated hospitalizations and emergency department/urgent care visits. Another MMWR article published the same day found that protection against infection and death during the Delta-predominant period and against infection during Omicron emergence were higher among booster vaccine dose recipients, especially among persons aged 50–64 and ≥65 years. Vaccine recommendations, such as adding booster doses, change as more is learned about how vaccines work in real-world conditions. More information about CDC's COVID-19 vaccine-effectiveness research is available at CDC.gov.

In summary, CDC will not change the Science Brief; it represents the science at the time it was written. As the evidence discussed above helps demonstrate, CDC will continue to review our and others' published evidence in an objective manner and update the CDC website as warranted.

Request 2: ***The CDC contradicts itself. It claims that there is no scientifically validated strategy that providers or the public can use to reliably determine whether a person is protected from infection. Yet the CDC keeps referring to the presence of antibodies as a sign of protection from SARS-CoV-2 infection.***

We believe CDC websites and messaging are consistent in stating that antibody testing is not recommended for use to assess level of immunity (i.e., "protection") against SARS-CoV-2 infection. The Interim Guidance for COVID-19 Antibody Testing in Clinical and Public Health Settings explains the rationale that it remains uncertain to what degree and for how long persons with detectable antibodies are protected against reinfection with SARS-CoV-2 or what concentration of antibodies is needed to provide such protection. This website prominently states "*Antibody testing is not currently recommended to assess for immunity to SARS-CoV-2 following COVID-19 vaccination, to assess the need for vaccination in an unvaccinated person, or to determine the need to quarantine after a close contact with someone who has COVID-19.*" If there are examples from CDC materials that you wish to bring to our attention to document how CDC refers to "***the presence of antibodies as a sign of protection from SARS-CoV-2 infection,"*** please see information below about an appeal to this response.

Additionally, the antibody tests permitted for use under an emergency use authorization (EUA) and available for clinicians to use vary in whether they are qualitative, semi-quantitative, or quantitative, the units in which the results are reported, and their sensitivities. Therefore, interpretation and comparison to published correlates data is rarely possible. As noted on the website in question, longitudinal patient follow-up studies are ongoing to measure antibody levels before and after vaccination or infection to identify an association between responses below a certain threshold and vaccine failure or reinfection. These longitudinal patient follow-up studies are expected to elucidate the relationship between antibodies and protection from reinfection. Antibody test manufacturers that wish to add immunity claims to their tests would need authorization from the Food and Drug Administration (FDA) to update the labeling, and such claims may not apply to new variants that emerge.

Claims made in the document you provided supporting natural immunity have not been peer reviewed in a scientific journal or otherwise evaluated by any independent scientists. Independent peer review is an important first step in presenting new scientific conclusions. Pursuant to HHS's Information Quality Guidelines, HHS recognizes that if data and analytic results have been subjected to formal, independent, external peer review, the information may generally be presumed to be of acceptable objectivity. The Office of Management and Budget's Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, 67 Fed. Reg. 8452 (Feb. 22, 2002) states that the review process used by scientific journals is an example of the type of independent review contemplated.

Concluding remarks:

CDC is committed to providing information that is evidence-based and meets the criteria of scientific rigor. We are actively assessing the weight of the current scientific evidence and will make an update when the evidence supports an update.

If you wish to appeal this response to your request to add to or correct information on the CDC website, you may send a written hard copy or electronic request for reconsideration within 30 days of receipt of the agency's decision. The appeal must state the reasons why the agency response is insufficient or inadequate. You must attach a copy of the original request and the agency's response to it. Clearly mark the appeal with the words, "Information Quality Appeal," and send the appeal by mail to CDC/ATSDR, Attn: Mailstop D-72 (attn.: Office of Science Quality); 1600 Clifton Road, N.E., Atlanta, GA 30333 or by e-mail to InfoQuality@cdc.gov.

Sincerely,

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