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POLICY ANALYSIS

Too Many Deaths, Too Many Left Behind: A People's External Review of the U.S. Centers for Disease Control and Prevention's COVID-19 Pandemic Response



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The U.S. population has suffered worse health consequences owing to COVID-19 than comparable wealthy nations. COVID-19 had caused more than 1.1 million deaths in the U.S. as of May 2023 and contributed to a 3-year decline in life expectancy. A coalition of public health workers and community activists launched an external review of the Centers for Disease Control and Prevention's pandemic management from January 2021 to May 2023. The authors used a modified Delphi process to identify core pandemic management areas, which formed the basis for a survey and literature review. Their analysis yields 3 overarching shortcomings of the Centers for Disease Control and Prevention's pandemic management: (1) Centers for Disease Control and Prevention leadership downplays the serious impacts and aerosol transmission risks of COVID-19, (2) Centers for Disease Control and Prevention leadership has aligned public guidance with commercial and political interests over scientific evidence, and (3) Centers for Disease Control and Prevention guidance focuses on individual choice rather than emphasizing prevention and equity. Instead, the agency must partner with communities most impacted by the pandemic and encourage people to protect one another using layered protections to decrease COVID-19 transmission. Because emerging variants can already evade existing vaccines and treatments and Long COVID can be disabling and lacks definitive treatment, multifaceted, sustainable approaches to the COVID-19 pandemic are essential to protect people, the economy, and future generations.

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INTRODUCTION

The consequences of coronavirus disease 2019 (COVID-19) in the U.S. have been much worse than in comparable wealthy, industrialized nations.¹ As of May 2023, COVID-19 had caused over 1.1 million deaths in the U.S.² COVID-19 was the third leading cause of death in 2020 and 2021³ (and among the top 10 causes of death in children⁴) and contributed to a nearly 3-year decline in U.S. life expectancy.⁵ Since the beginning of the pandemic, as many as 36 million people in the U.S. have

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experienced Long COVID, a chronic condition affecting as many as 1 in 5 people.^{6,7} In the third year of the pandemic alone, a year when political and medical leaders suggested that the pandemic was behind us,⁸ more than 250,000 people in the U.S. died from COVID-19.⁹

Amid widespread criticism of its pandemic response, the U.S. Centers for Disease Control and Prevention (CDC) announced an internal review of their work.^{10,11} A coalition of public health workers and community activists launched a parallel People's External Review of the CDC's management of the COVID-19 pandemic from January 2021 to May 2023 to bring an array of public health and community voices to the process.

METHODS

A modified Delphi approach was employed to engage a group of interdisciplinary medical and public health experts, including academics, medical and public health communications experts, and people from impacted communities, to create a list of core pandemic management domains.^{12–14} The Delphi approach is often used in the health sciences to gather expert judgments and identify consensus through successive rounds of discussion.¹⁵ Core themes were identified and reviewed by the expert panel. After 3 rounds of consolidation and review, 8 essential domains of pandemic management were identified: disease control and prevention, ethics, equity and justice, scientific integrity, public health infrastructure, communication, inclusion, and addressing root causes. These formed the basis for a survey, using a 5-point Likert scale ([Appendix A](#), available online), and an opportunity for respondents to provide open-ended written suggestions to assess and comment on the performance of the CDC in the identified domains.

Prior to dissemination, this survey was assessed for face validity and piloted by a small group of Delphi participants. Pilot participant feedback was discussed, and slight adjustments were made. The survey was translated into Spanish, and the authors used stratified purposive sampling techniques to disseminate the survey to key stakeholders,¹⁶ including public health and healthcare practitioners and researchers, individuals, and organizations from communities disproportionately impacted by the pandemic. The authors defined disproportionately impacted to include COVID-19–bereaved people; people with Long COVID; immunocompromised, chronically ill, and disabled people; in-person workers, including healthcare workers; people who live in congregate facilities or who are incarcerated; older adults; and structurally marginalized and minoritized communities, including low-income communities, immigrants, and Black, indigenous, and people of color.^{17–25} The authors

disseminated the survey by email lists of national and local networks of public health, social justice, and disability justice organizations as well as targeted email outreach to organizations and individuals from impacted communities. They also partnered with Marked by Covid, a national nonprofit organization, which disseminated the survey to their members by sharing the link to the survey through email and social media. Researchers met during the data collection process to review respondent demographic and geographic data to target recruitment to improve representation of impacted communities and geographic diversity. In all, 494 responses were obtained.

Analysis

Descriptive statistics for survey data were summarized by combining information from the demographic fields and by searching free text responses to open-ended questions using keywords to identify data on occupation, affiliations, and other descriptors ([Figure 1](#)). Two investigators completed and cross-validated respondent classification by profession and organizational affiliation. The authors summarized count data for survey responses regarding CDC's performance in the 8 essential pandemic domains in a stacked bar chart ([Figure 2](#)). Unsure responses were excluded.

Three authors independently read all qualitative text comments and organized them by topic area, identifying themes and recurring concerns raised by respondents, which informed the narrative component of the report. The 3 authors selected salient quotes to include in the full report (2 of which have been included in this manuscript), which articulated recurrent themes. Stratified purposive sampling and reputational case selection were used to select quotes representing the perspectives of individuals disproportionately impacted by the pandemic or with specialized professional knowledge.¹⁶

Researchers used the 8 essential domains of pandemic management to frame a critical literature review and digital, ethnographic content analysis of CDC COVID-19 policy.²⁶ Ethnographic content analysis uses an ethnographic perspective to help delineate patterns of human action conceptualizing document analysis as fieldwork.²⁶ Critical reviews analyze material from diverse sources to create a new interpretation of data.²⁷ Content analysis has been widely used in qualitative work, including analyses of social media and Twitter.^{28–30} This study's literature search aimed to assess the degree to which CDC pandemic management approaches were aligned with the 8 Delphi consensus domains. As the CDC progressively removed COVID-19 mitigation measures, the authors reviewed relevant medical and public health literature, CDC statements, and news articles to examine

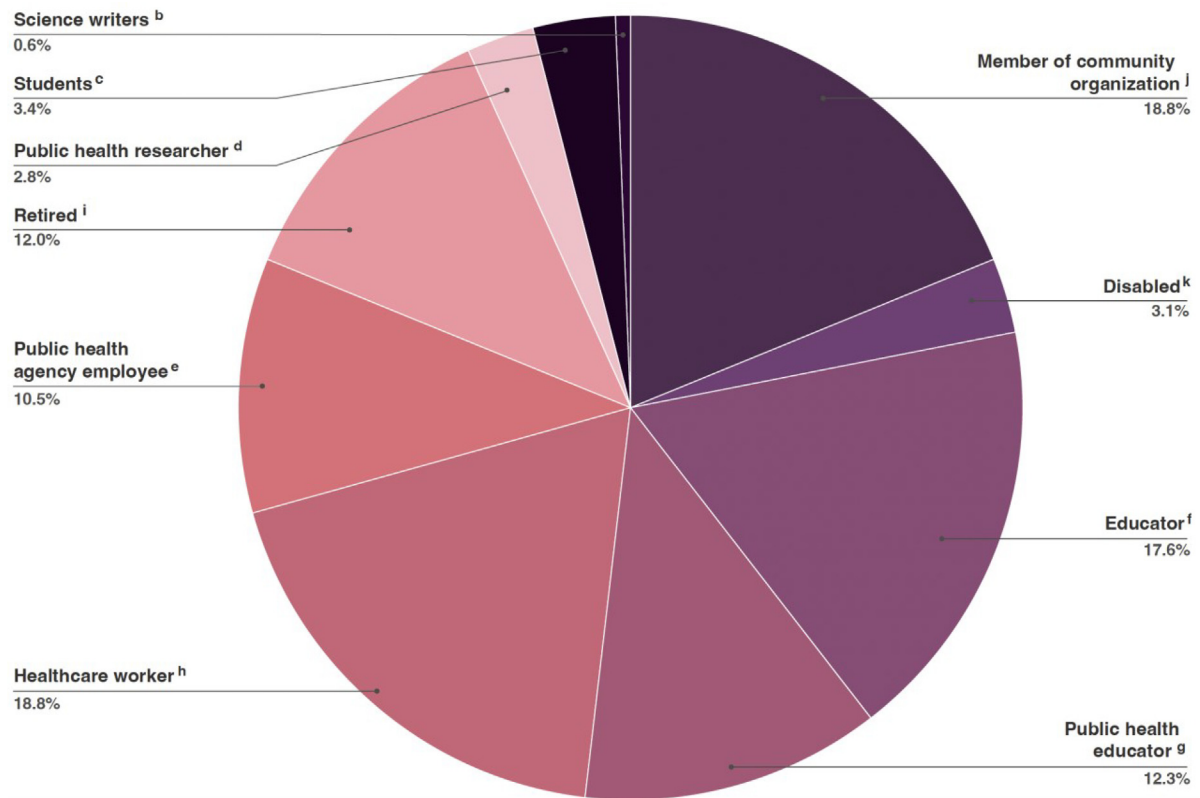


Figure 1. Occupation and affiliations of survey respondents^a for People's External Review of the CDC.

^aThe People's External Review collected responses from May to August 2022 through an online survey. Responses in this chart include 324 respondents for whom occupation/affiliation data were available.

^bScience writers self-identify as journalists who write about public health or science-related topics.

^cStudents include self-identified students at university and/or graduate levels.

^dPublic health researchers include self-identified public health researchers and epidemiologists working in academic institutions or other organizations.

^ePublic health agency employees include epidemiologists and other workers at local or state public health government agencies and retired agency employees.

^fEducators include professors at universities, K12 teachers, and other educators, who teach in fields other than public health, including retired educators.

^gPublic health educators include university professors in public health fields, including retired public health educators.

^hHealthcare workers include physicians, nurses, and medical technicians, including retired healthcare workers.

ⁱRetired includes individuals not otherwise classified who described themselves as retired.

^jMember of community organization includes individuals who noted affiliation with a community-based organization.

^kDisabled includes individuals who self-identified as disabled in questions about occupation/affiliation.

CDC, Centers for Disease Control and Prevention.

the scientific, ethical, and political reasoning behind these policy shifts. The authors synthesized data from 221 unique sources for the purposes of triangulation, including journal articles, CDC Morbidity and Mortality Weekly Report, nongovernmental organization reports, news articles, CDC websites and social media communications, and CDC pandemic policies (Appendix B [available online] presents a bibliography from the full report). After a critical review within the framework of the 8 domains was completed, 2 coauthors reviewed the analysis and identified 3 cross-cutting themes, which were presented to Delphi consensus participants for informant feedback. The 3 themes (the 3 overarching

shortcomings of the CDC pandemic management response) were used as scaffolding for this policy analysis manuscript, which provides an abridged overview of the full report. The full report can be found in its entirety at <https://peoplescdc.org/externalreview/>.

In addition, 1 coauthor reviewed all posts from the @CDCgov Twitter account from September 1, 2022 until May 11, 2023 and identified themes, using an ethnographic content analysis approach.³¹ The researcher then used the themes to conduct a manual, quantitative content analysis.²⁸ @CDCgov frequently retweets content from @CDCFlu, and the CDC has no dedicated Twitter account for COVID-19. The researcher

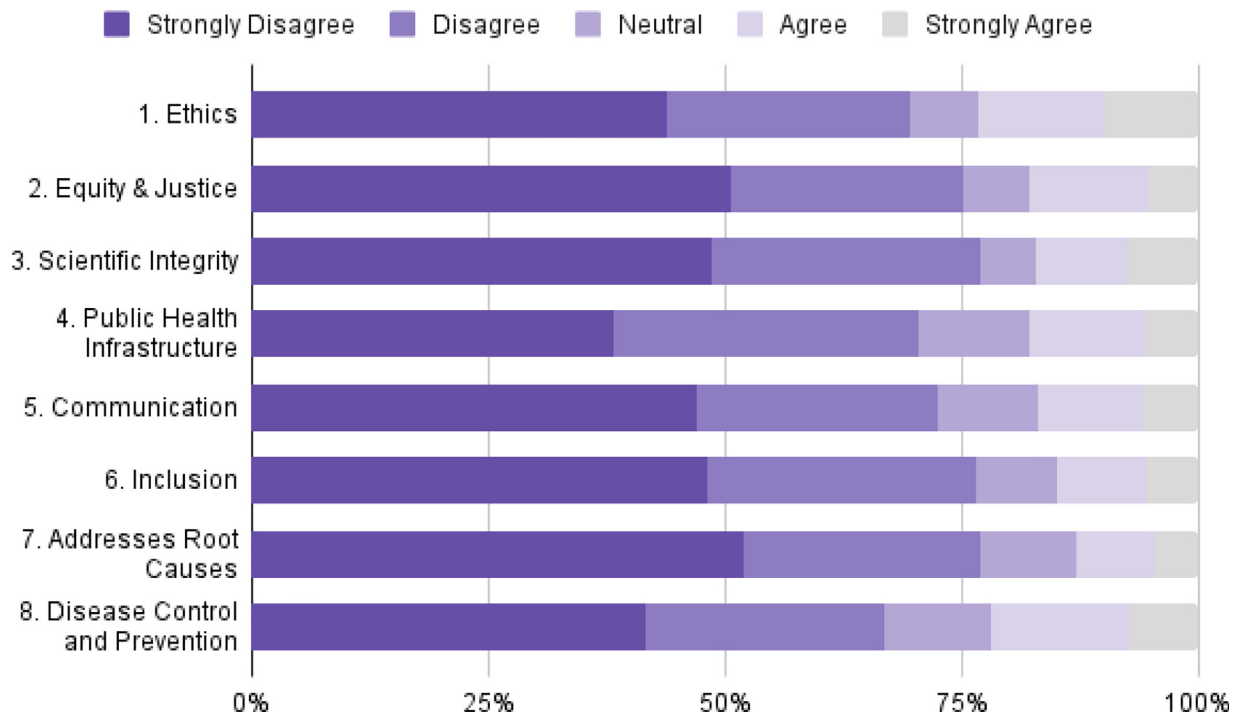


Figure 2. Survey responses for people's external review of the CDC management of the COVID-19 pandemic from January 2021 to August 2022.

Note: The People's External Review collected 494 responses from May to August 2022 through an online survey. Respondents were asked to assess the CDC's management of the COVID-19 pandemic since January 2021 in 8 essential areas (ethics, equity and justice, scientific integrity, public health infrastructure, communication, inclusion, addresses root causes, and disease control and prevention) using a 5-point Likert scale from strongly disagree to strongly agree.

CDC, Centers for Disease Control and Prevention.

manually counted the number of times different mitigation measures (such as vaccines, masks, and tests) were mentioned as well as the risks of infections with COVID-19 and flu (e.g., hospitalizations, deaths, Long COVID, and deaths among children) (Table 1). Quoted individuals and participants in the initial Delphi process were also invited to review the full report, which offered the opportunity for in-depth respondent validation.³² Twenty-six people participated in the resultant internal peer-review process, including experts in epidemiology, experts in infectious disease, experts in industrial hygiene, experts in occupational health, experts in public health nursing, patients with Long COVID, and respondents who reported having been disproportionately impacted by the pandemic, among others. One author incorporated and responded to reviewer suggestions.

RESULTS

Respondent Demographics and Survey Data

Four hundred and ninety-four individuals completed the survey from 152 organizations or institutions, including over 130 public health and medical professionals from

40 different U.S. states and territories. Three hundred and twenty-four individuals provided information on affiliation, employment, and/or area of expertise in the demographics section of the survey. The largest occupational categories included 97 educators, 61 healthcare workers, 61 members of community-based organizations, 40 public health educators, and 34 public health agency employees. In addition, 67 (20.7%) of the 324 participants who provided demographic data described themselves as retired. Fifty-four respondents also disclosed in written comments that they or a family member were immunocompromised, chronically ill, or otherwise personally at high risk of severe illness due to COVID-19. One hundred and seventy people did not provide any demographic information because this was not a required field in the survey. Figure 1 demonstrates categories of occupation/affiliation for the 324 respondents for whom occupational/affiliation data were available.

Four hundred and ninety-four respondents also answered the Likert survey questions. Unsure responses were excluded and ranged from 5 to 22 of the total 494 responses. Over 65% of all respondents disagreed or

Table 1. Analysis of CDC Twitter Communications From October 1, 2022 to May 11, 2023 Regarding COVID-19 Versus Flu in Comparison With COVID-19 and Flu Burden

Topic	COVID-19	Row %	Flu	Row %
Total number of tweets including COVID-19 versus flu	101		401	
Mitigation measures^a				
Vaccines	62	61.4%	186	46.4%
Tests	7	6.9%	7	1.7%
Ventilation	4	4.0%	1	0.2%
Isolate/stay home when sick	3	3.0%	4	1.0%
Masks	2	2.0%	2	0.5%
Hand hygiene	1	1.0%	5	1.2%
Cover your cough	1	1.0%	1	0.2%
Treatment	2	2.00%	25	6.20%
Risks of infection				
Older adults can become severely ill	12	11.9%	12	3.0%
Immunocompromised can become severely ill	7	6.9%	0	0.0%
Pregnant women	1	1.0%	29	7.2%
Deaths	3	3.0%	47	11.7%
Child deaths	0	0.0%	25	6.2%
Children: severe illness/hospitalization	1	1.0%	13	3.2%
Long COVID	7	6.9%	—	—
Long COVID in children	2	2.0%	—	—
Individual children’s stories who were harmed by virus	0	0.0%	2	0.5%
It is important to prevent infection	0	0.0%	4	1.0%
Healthy people can become sick from virus	0	0.0%	3	0.7%
Current transmission rates	2	2.0%	26	6.5%
Cumulative disease burden update	0	0.0%	19	4.7%
COVID-19 and flu burden (10/1/2022–5/11/2023)				
Total deaths	70,774 ^a		19,000–58,000 ^b	
Child deaths	158 ^c		150 ^d	
Hospitalizations	785,596 ^a		300,000–650,000 ^b	

Note: A manual review of tweets from @CDCgov, which included the word COVID and from @CDCgov or @CDCFlu, which included the word flu from October 1, 2022 until May 11, 2023.

^aEach time a concept occurs, the tweet is counted, meaning that an individual tweet may be counted more than once if it mentions, for example, masks and vaccines. Therefore, number of times each topic is mentioned will not sum to the total number of tweets. Source: CDC. COVID Data Tracker. Published March 28, 2020. Accessed May 31, 2023. <https://covid.cdc.gov/covid-data-tracker>.

^bSource: CDC. Preliminary In-Season 2021-2022 Flu Burden Estimates. CDC. Published May 26, 2023. Accessed May 31, 2023. <https://t.cdc.gov/L9PG4>

^cSource: CDC. COVID-19 Provisional Counts - Weekly Updates by Select Demographic and Geographic Characteristics. Published May 24, 2023. Accessed May 31, 2023. https://www.cdc.gov/nchs/nvss/vsrr/covid_weekly/index.htm

^dSource: @CDCFlu. Sadly, a total of 150 flu-related deaths in children have been reported to CDC for the 2022-2023 flu season. One of them was reported in the latest #FluView. Flu can be serious in kids and getting your child an annual #FluVax can be lifesaving. More at <https://bit.ly/2AfIS02> <https://t.co/jEiJFDp7d>. Twitter. Published May 12, 2023. Accessed May 25, 2023. <https://twitter.com/CDCFlu/status/1657088273930412038>. CDC, Centers for Disease Control and Prevention.

strongly disagreed that the CDC had met expectations in the 8 areas of pandemic management (Figure 2). These data can also be found in tabulated form for accessibility in Appendix Table 1 (available online).

The Twitter analysis found 101 tweets from @CDCgov that included the word COVID and 401 tweets containing the word flu from @CDCFlu or @CDCgov from October 1, 2022 until May 11, 2023. Twitter communications emphasized vaccines over other mitigation measures, devoting 62 tweets (61.4% of all COVID-19 tweets in the time period) to COVID-19

vaccines, compared with 2 tweets about masks, 7 tweets about COVID-19 tests, 4 tweets about ventilation, and 3 tweets about staying home when sick. A substantive proportion of tweets about flu (186 flu tweets, 46.4%) also emphasized the flu vaccine. One hundred fifty tweets (37.4% of total flu tweets) warned the public about the serious risks of flu, compared with 32 tweets (31.7% of COVID-19 tweets) about the risks of COVID-19 infection. Nineteen of 32 tweets about the risks of COVID-19 infection emphasized the risk COVID-19 poses for older and immunocompromised adults only compared with

12 tweets warning older adults about the risk of flu, of a total of 150 tweets addressing the serious risks of flu infection. No tweets from October 1, 2022 until May 11, 2023 mentioned COVID-19 deaths in children compared with 25 tweets (6.2%) about children who died from flu. One tweet mentioned the risks COVID-19 infection poses to pregnant people compared with 29 tweets about the risks of flu in pregnancy. Nineteen tweets (4.7%) shared seasonal flu burden updates, including the total flu cases and hospitalizations and among adults and children during flu season compared with zero tweets about COVID-19 burden. Three tweets (3.0%) warned the public about the risk of death from COVID-19 compared with 57 tweets (11.7%) about flu deaths. Numbers of tweets tabulated by topic area can be found in [Table 1](#).

DISCUSSION

The external review identified 3 overarching shortcomings of the CDC's pandemic management: (1) CDC leadership downplays the ongoing threats of COVID-19 and of aerosol transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2); (2) CDC leadership has aligned public guidance with commercial interests³³ and political agendas³⁴ over scientific evidence; and (3) CDC guidance focuses on individual choice rather than emphasizing equity, prevention, and protecting population health.³⁵

The Centers for Disease Control and Prevention Has Downplayed the Threat Posed by COVID-19

The CDC's communications about the pandemic have been problematic in several areas. First, the CDC has downplayed the risk of COVID-19 and compared COVID-19 with the flu,³⁶ an analogy that hides serious differences, including the uncertainty inherent in a new pandemic, the potential for Long COVID, and the threats to many organ systems.^{37,38} As one of the survey respondents noted, "The vast majority of Americans do not know what Long COVID is or that everyone is at risk of developing it. This should be one of the top priorities of a public health agency aimed at preventing disease."

CDC communications downplay the risk of COVID-19 to an imagined general public, which is healthy and nondisabled, despite the fact that 4 in 10 U.S. adults are at increased risk of developing serious illness from COVID-19,³⁹ including the 6.2% of U.S. adults who are immunocompromised⁴⁰ and the 17% who are aged >65 years.⁴¹ A quantitative content analysis of tweets from the @CDCGov and @CDCFlu Twitter accounts from October 1, 2022 through May 11, 2023

demonstrates that CDC Twitter accounts communicate disproportionate warnings about the risks of flu, as opposed to COVID-19, in spite of the fact that COVID-19 caused more deaths in adults and children than influenza during the same time frame. Over half (19 of 32) of the tweets warning the public of the risks of COVID-19 infection during this period exclusively targeted older adults and immunocompromised people. Only 7 tweets mentioned Long COVID, 3 tweets warned of the risk of death from COVID-19, and none mentioned COVID-19 deaths in children. In comparison, 57 tweets warned the public about flu deaths, including multiple tweets with an infographic of seasonal flu burden estimates, including influenza flu case numbers, hospitalizations, and deaths.⁴² In contrast, no such infographics were shared with annual or seasonal COVID-19 deaths or hospitalizations. @CDCFlu also sent 25 tweets about child deaths from flu, with weekly updates tallying new child flu deaths, at times tweeting to report the new death of a single child from the flu in the previous week.^{43,44} @CDCFlu tweets warned, "Anyone can get sick with #flu, even healthy people."⁴⁵ Two @CDCFlu tweets told compelling stories of otherwise healthy children who had become seriously ill or died from the flu,^{46,47} although no such stories were shared about COVID-19. Review of CDC data from the same time period as the tweets showed that COVID-19 caused approximately 1.2–3.7 times more deaths than influenza (70,770 COVID-19 deaths vs 19,000–58,000 estimated flu deaths during the 2022–2023 flu season)⁹ and 1.2–2.6 more hospitalizations than influenza (785,596 COVID-19 hospitalizations vs 300,000–650,000 estimated flu hospitalizations).⁴⁸ Slightly more children died from COVID-19 (158 children)⁴⁹ than from flu (150 children) during the same time period, in spite of disproportionate messaging warning the public of the risk of flu.⁴³ Communications, which downplay the risk of serious illness and death from COVID-19, discourage people from taking precautions to prevent infections, which can promote increased COVID-19 transmission and emergence of new and potentially worse variants,⁵⁰ and may ultimately prolong the pandemic.

Second, the CDC public communications inadequately publicize the nature of airborne or aerosol COVID-19 transmission and the consequent importance of using layered mitigation measures, that is, masks, ventilation, testing, and vaccines, in combination to prevent transmission. The CDC has only used the words COVID and airborne together in 1 tweet in October 2020, which mentioned the potential for airborne spread.⁵¹ The CDC websites *How COVID-19 Spreads*⁵² and *How to Protect Yourself and Others*⁵³ do not explicitly state that SARS-

CoV-2 particles can remain suspended in the air for hours in indoor spaces or that an unmasked individual can be exposed to an infectious dose of COVID-19 in <2 minutes.⁵⁴ This is important to help the public understand why layered mitigation measures should be used simultaneously to effectively mitigate airborne transmission, as the U.S. Environmental Protection Agency Indoor Air and Coronavirus website does. Even prior to the pandemic, the National Institute for Occupational Safety and Health, which is part of the CDC, had recommended a layered approach to hazard control, emphasizing that individual personal protective equipment should be used in conjunction with other measures.^{55,56} Instead, prevention measures are presented as a menu of options rather than emphasizing the simultaneous implementation of layers of protection. Masks and respirators were listed at the bottom of the CDC How to Protect Yourself and Others website, under the header Prevention Actions to Add as Needed, and only advised individuals to consider wearing masks when community levels were medium or high or in certain circumstances.⁵³ The How to Protect Yourself and Others was updated in July 2023, and masks remain at the bottom of the webpage, recommended to be added as needed at medium or high COVID-19 hospital admission levels.⁵³

Furthermore, CDC communications have overstated the efficacy of vaccines to prevent COVID-19 infections and emphasized vaccines to the near exclusion of other mitigation measures. In 2021, CDC Director Walensky announced that vaccinated people could not transmit COVID-19, a statement which she retracted a week later after widespread critique.^{57,58} A December 2022 @CDCGov tweet advised people to protect older family members by getting vaccinated, without mentioning wearing masks or testing prior to visiting older or medically vulnerable relatives.⁵⁹ However, COVID-19 vaccines do not effectively prevent COVID-19 infections, although they may slightly diminish transmission. This analysis of 101 COVID-19–related tweets from @CDCgov from October 2022 through May 11, 2023 included 62 tweets about COVID-19 vaccines, compared with 2 tweets referencing masks, 7 about COVID-19 tests, 3 tweets about staying home when sick or avoiding sick people, and 4 about ventilation. When patients with respiratory syncytial virus, flu, and COVID-19 filled hospital beds in fall 2022, CDC and Biden administration messaging noticeably failed to emphasize masks or ventilation.⁶⁰ One notable @CDCDirector tweet urged readers to get vaccinated, stay home when sick, and practice good hand hygiene³⁵ but failed to mention masks or ventilation, which are essential to prevent aerosol transmission. Two @CDCgov tweets from fall/winter

2022 similarly said, “Practicing good cough & sneeze etiquette is one way to help prevent the spread of respiratory viruses like the common cold & #COVID19,” failing to note that covering a cough or sneeze is inadequate to prevent spread of aerosolized SARS-CoV-2 viral particles.⁶¹

Finally, the CDC changed the maps that inform the public of its risk. The community transmission map was shifted to the community levels map on the basis of the premise that COVID-19 transmission is not problematic unless the health system is strained.⁶² Although the community levels map included the incidence of COVID in a community over the past 7 days, case numbers >200 had to be accompanied by high rates of new COVID-19 hospital admissions and/or a percentage of hospitalized patients with COVID-19 to trigger a high community level.⁶² The newer map signaled that previously high rates of COVID-19 transmission suddenly became low risk ([Appendix Figure 1](#), available online). It also communicated that high rates of COVID-19 transmission were acceptable unless the hospital system was strained, even though the risk of being infected with COVID-19 is related to the number of cases, not hospitalizations, in the community. With the end of the state of emergency, the COVID-19 transmission data have ceased to be available, leaving hospitalizations, emergency department visits diagnosed with COVID-19, and wastewater (in the 40% of jurisdictions where it is available) as the remaining indicators.⁶³

Centers for Disease Control and Prevention Scientific Interpretations Appear to Have Been Influenced by Commercial and Political Interests

In its Pledge to the American People, the CDC pledges to “Base all public health decisions on the highest quality scientific data that is derived openly and objectively.”⁶⁴ However, the CDC has shifted recommendations after pressure from influential business interests³³ and aligned public health guidance with political agendas³⁴ over scientific evidence. After industry pressure, notably including a letter from Delta Airlines Chief Executive Officer to CDC Director Walensky,³³ the CDC shortened the COVID-19 isolation period from 10 days to 5 days.^{65,66} The decision was broadly criticized, including by American Medical Association President Dr. Gerald Harmon, who noted that, “according to the CDC’s own rationale... an estimated 31% of patients remain infectious 5 days after a positive COVID-19 test,” and cautioned that the strategy would likely result in “tens of thousands—potentially hundreds of thousands of people” returning to work and school infectious.^{67,68} In spite of later evidence, including a CDC report, which showed that people infected with Omicron remain contagious for at least

10 days,^{69–72} the CDC did not update the 5-day recommendation, instead it further entrenched it by recommending that COVID-19–positive school children isolate for only 5 days.³⁵ The 31% figure cited by Dr. Harmon was never shared on the CDC Isolation and Precautions for People with COVID-19 website.⁷³ As of September 2023, the CDC isolation guidelines website continues to lack a detailed discussion of the ethical tradeoffs involved in this policy decision, references to supporting scientific evidence, or engagement with more recent scientific articles that support a longer isolation period.⁷³ This lack of transparency limits the ability of individuals and institutions to review scientific evidence to make decisions that align with their own values, risk tolerance, and health status and impairs informed consent.

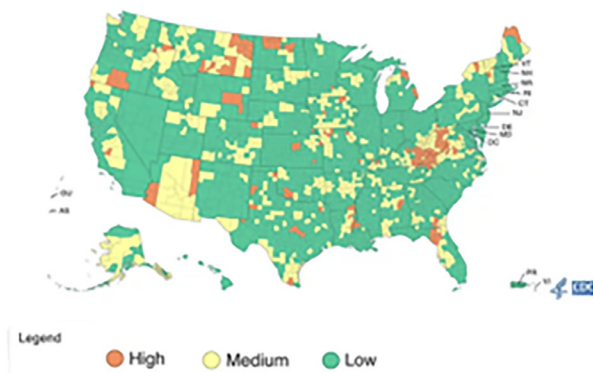
The Title 42 order represents another example of public health guidance based on political rather than scientific objectives. Under the order, people arriving at the U.S. border seeking asylum were automatically turned away without any hearing, under the pretext that they threatened public health. The order explicitly restricted only the entry of undocumented, noncitizens arriving by land, while exempting permanent residents, U.S. citizens, and tourists arriving by plane or ship, which as congregate settings, carry a higher risk of disease transmission than land travel. Public health and medical experts condemned the policy as a thinly disguised attempt to restrict migration, particularly because immigrants are no more likely than other travelers to bring COVID-19 into the U.S. and because domestic transmission of COVID-19 was well established before the order went into effect.⁷⁴ Although the order was issued by the

CDC during the Trump Administration, CDC Director Walensky extended it 5 times and only ended it in May 2022, at which point a federal judge reinstated the order. Over 1.7 million expulsions were carried out during President Biden's first 18 months in office under Title 42.⁷⁵

CDC leadership has referenced public opinion as a reason for removing COVID-19 mitigation measures, without acknowledging the role the agency plays in shaping public opinion. For example, in a May 2022 lecture, Dr. Robbie Goldstein, then Senior Advisor to CDC Director Walensky, lamented that public health policy was “limited by what Americans are willing to do.”⁷⁶ However, CDC guidance has also shifted after politicized representations of public opinion. In mid-February 2022, a polling firm memo circulated in Democratic campaigns, recommending that Democrats should “Declare the crisis phase of COVID-19 over and push for feeling and acting more normal.”³⁴ However, polls from February/March 2022 showed that most Americans believed that the pandemic was not under control and supported pandemic mitigation measures, including masking.^{77,78} Even polls from November/December 2022 showed that a majority of U.S. residents continued to support indoor mask wearing in airports and to prevent surges.^{79,80} On February 25th, shortly after the political memo circulated, the CDC lifted the federal school mask mandate and shifted its map from community transmission rates to community levels, signaling that high rates of community transmission were considered “low or moderate” community levels (Figure 3)^{81,82} and thereby declaring that indoor masks were no longer needed.⁸³ This drastic reversal of

U.S. COVID-19 Community Levels by County Map

Maps, charts, and data provided by CDC, updates every Thursday by 8 pm ET
Updated: March 10, 2022



Level of Community Transmission of All Counties in US

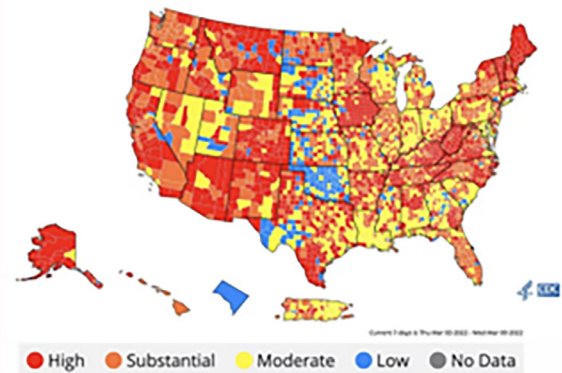


Figure 3. The new community levels map made the U.S. COVID-19 risk level switch from red to green with the same data on the same day in early March 2022, shown beside original community transmission map, from March 2022. CDC, Centers for Disease Control and Prevention.

pandemic management came only weeks after U.S. hospitals were overwhelmed with COVID-19 patients, in mid-January 2022.^{84–86} As [Appendix Figure 1](#) (available online) shows, when the CDC changed its COVID-19 guidance in February 2022, employers stopped requiring masks, and public opinion shifted after the change in CDC guidance.⁸⁷

Centers for Disease Control and Prevention Guidance Favors Individual Choice Over Prevention and Equity

The CDC has emphasized vaccines and medical treatments above comprehensive public health measures to mitigate transmission and promote equity and population health. Intersecting vulnerabilities of race, class, occupation, and health status, among others, significantly impact a person or community's ability to protect themselves from harm due to COVID-19. Individualistic messaging, such as the CDC director's tweet "Your health is in your hands..." and an emphasis on individual actions rather than on institution-level precautionary guidance⁸⁸ foster a society where individuals at high risk cannot meet their basic needs without risking COVID-19 exposure and potentially life-threatening consequences. A CDC report demonstrated that vaccination did not significantly mitigate the risk of intensive care unit admission or death for immunocompromised patients admitted to the hospital for COVID-19.²² Although the authors noted that multilayered prevention measures can prevent hospitalization, the CDC leadership does not emphasize this approach. Evusheld (the monoclonal antibody containing tixagevimab and cilgavimab) was a prophylactic treatment to prevent COVID-19 infection in immunocompromised people. However, when Evusheld lost its efficacy against circulating variants in January 2023, the CDC advised people with weakened immune systems and their household members to create individual COVID-19 action plan(s) to protect themselves.⁸⁹

Because SARS-CoV-2 mutates to evade existing vaccines and treatments, nonpharmaceutical interventions, such as masks and testing, are increasingly important to prevent infection. One-way masking even with face fitting respirators does not provide 100% protection for the wearer,⁵⁴ especially in crowded-indoor settings, and people cannot wear masks at all times. Thus, individual precautions are inadequate when not implemented universally at an institutional and community level. Many survey respondents explained the burdens that the lack of COVID-19 mitigation strategies placed on them:

I am a disabled person who has been mostly housebound throughout the pandemic, and I live with a fellow immunocompromised person. We have both been exposed to COVID several times. . . We ration N95s, because they are expensive—the local businesses that supply free masks have said they were out of stock every single time I have called. I have had to postpone medical appointments during surges because many healthcare settings are not actually following COVID precautions, and I hardly ever socialize with friends and family. As tracing has ended and local transmission is harder to gauge, I feel less safe than ever.

The CDC's pandemic management approach has inadequately addressed the needs of marginalized and minoritized communities. Communities of color continue to experience disproportionate rates of COVID-19 mortality,⁹⁰ and low-income and socioeconomically vulnerable communities are less likely to access COVID-19 vaccines^{91–93} and antiviral treatments.⁹⁴ Although the federal government expanded access to COVID vaccines, tests, and treatments, most resources were disseminated through retail pharmacies and existing health systems, which are inequitably distributed,⁹⁵ rather than broadening and strengthening public health infrastructure. When federal officials elected to end the COVID-19 public health emergency, they also further shifted costs of vaccines, tests, and treatments to the public. As the federal government ends pandemic benefit programs, an estimated 15 million U.S. residents may lose health insurance,⁹⁶ nutrition benefits have decreased,⁹⁷ and pandemic inequities will likely worsen.⁹⁸ Communities of color and low-income communities have also borne the brunt of the pandemic-related economic downturn, being more likely to have lost income and to have difficulty in making rent and mortgage payments.⁹⁹ Low-wage workers are the least likely to have paid sick days and the most likely to miss work and report food insecurity after missing work due to COVID-19.¹⁰⁰ To fulfill the CDC's mission of "equitably protecting health, safety and security,"⁶⁴ the agency must emphasize a population health approach to give everyone, including the most vulnerable, a chance for a healthy life.

Limitations

A principal limitation of the study is that all respondent recruitment was through email or social media. Many impacted communities may have less access to digital communication. The authors made repeated attempts to share the survey with participants from rural and urban areas, reaching out to organizations and communities

directly impacted by the pandemic; however, they were unable to obtain representation from some groups, such as incarcerated populations, in the survey. The brevity of the survey also may have limited participants' ability to offer more nuanced feedback. Although the survey included 2 spaces for free-text open responses, not all participants used this feature.

Respondent classification by profession and organizational affiliation was completed and cross-validated by 2 investigators, but vague or incomplete responses limited the accuracy of counts in these categories. The survey also solicited little demographic data and did not require occupational data or data to assess whether respondents self-identified as being at high risk for serious illness due to COVID-19, to protect participant privacy. Future research with a longer and more detailed survey instrument, which solicits and requires more detailed demographic data, would allow better reporting regarding the stakeholders whose opinions are represented.

Likert scale answer choices limit the scope of possible responses, and respondents may differ in their interpretation of differences between response levels. Likert scales are also subject to response bias, social desirability bias, and demand characteristics. Response bias may have biased responses toward extremes of the Likert scale.

Another limitation is that the literature on COVID-19 is massive. The authors were only able to review a subset of the articles on this topic, which may have affected the analysis.

Finally, analysis of Twitter communications may fail to include content targeted at populations lacking digital access. For this reason, the authors used multiple sources to triangulate CDC communications, including news articles, media transcripts and press statements (21 cited sources in article), Twitter (11 sources), CDC webpages (9 sources), and CDC Morbidity and Mortality Weekly Reports (7 sources). Organizations typically repeat social media content on various platforms, as part of a global communications strategy. The authors' review confirmed consistent messaging in simultaneously occurring content on CDC websites, social media accounts, and newspaper articles quoting CDC leadership. The only exception to this rule were the CDC Morbidity and Mortality Weekly Report reports, which at times emphasized the importance of mitigation measures more than concurrent social media communications or CDC web content.^{22,101}

CONCLUSIONS

Amid announcements of reorganization at the CDC,¹⁰² the authors argue that the CDC must recenter its

approach to partner with and protect the communities most heavily burdened by the ongoing COVID-19 pandemic. The agency should share accurate, evidence-based information, despite political and economic pressures, and encourage people to protect one another using layered protections to decrease COVID-19 transmission.

If we fail to address the COVID-19 pandemic, we are accepting a worse quality of life, shorter life expectancy, and a greater degree of suffering for vast numbers of people. In January 2023, White House COVID-19 Response Coordinator Ashish Jha warned that the U.S. health system will likely be dysfunctional owing to COVID-19 for years.¹⁰³ The CDC has a duty to provide policy makers and the public with high-quality evidence to promote public health. A CDC report showed that when people know that COVID-19 infections are increasing, they are more likely to protect themselves.¹⁰¹ If the CDC actively publicized the ongoing, serious short- and long-term risks of unmitigated COVID-19 transmission and worked with institutions and communities to create conditions that enable people to protect one another, public spaces could be made safer for all. As the numbers of COVID-19 deaths and people disabled by Long COVID increase and emerging variants evade vaccines and treatments, a multifaceted, sustainable approach to the COVID-19 pandemic becomes ever more essential. A plan to protect everyone, especially the most vulnerable, will be better in the long term, for people, the economy, and future generations.

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SUPPLEMENTARY MATERIALS

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