Congressional Testimony by Tracy Beth Høeg, MD, PhD
Committee on Energy and Commerce
"Looking Back Before Moving Forward: Assessing CDC's Failures in Fulfilling its Mission"
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My name is Tracy Beth Høeg. I am a practicing MD and a PhD epidemiologist working in the Department of Epidemiology and Biostatistics at University of California-San Francisco. I am a Danish American dual citizen who moved back to the US from Denmark in 2015. I have co-authored 14 scientific publications related to epidemiology and medical evidence during the COVID-19 pandemic, 13 where I was first or senior author (see accompanying CV).

My own research and publication experiences during the COVID-19 pandemic have led me to numerous eye-opening and disappointing revelations about the US Centers for Disease Control and Prevention (CDC) which I will outline today.

One of the most important questions, if not the most important question, as we look back on the COVID-19 pandemic is why, under the CDC's guidance, many K-12 schools in the United States remained closed to in person learning longer than any other high-income nations, with almost a third of US students out of full time in person learning for 15 months (1).

In the Fall of 2020, I was the senior author of a landmark study (2) published in the CDC's journal MMWR on COVID-19 transmission in schools. My co-authors and I expected the findings of our study would be used by the CDC to recommend the swift reopening schools in the winter of 2021 as our peer nations had done, most many months earlier. In line with research out of Europe (3,4, 5) and our own country (6,7,8) we found remarkably limited transmission between students and none to teachers during a time of high community disease prevalence – among 5530 students & staff over a 14-week period.

Unthinkable to me at the time, the CDC under Rochelle Walensky, provided updated guidance to schools that, doubled down (9) on the need for closures at times of high community transmission levels and for the unproven need for 6 feet of distance and screening testing (10,11). When the February 2021 school reopening guidelines were released, >90% (12) of the country was in the "high" transmission level meaning the CDC recommended virtual learning for secondary schools that did not have access to a screening testing program and hybrid learning with 6 feet of distancing for elementary students. This guidance would keep as many as 90% of students in the US out of either full time school or any in-person learning.

I thought the current administration believed in a progressive ideology which valued the education of the most vulnerable and disadvantaged in our society. So why were they putting up so many unproven barriers to getting children back into school? Why did they not consult with us, the authors of the study published on this very topic in their own journal? We could have told them we did not have a screening testing program and >90% of elementary students in our study were < 6 feet apart in classrooms and kids ate lunch without masks indoors (!)(13). In fact, out of

desperation to communicate with the CDC, we rapidly released a preprint (13) outlining the simple circumstances under which the schools in our study stayed open.

I eventually learned what was happening -- the CDC was consulting with the leaders of the US's two largest teachers unions, including Randi Weingarten and Becky Pringle over text messages (up to the day before the release) about the language of their reopening guidelines (13). It is not that I feel that teachers should have been excluded from the discussion but that the scientific evidence and anticipated harms of continued school closures (15,16) should have been the utmost priority.

This was my first major personal experience with what I have come to recognize as an unacceptable and, ultimately harmful, political bias within the CDC.

My second experience involved the downplaying and lack of sense of urgency about the post-vaccination myocarditis signal in young people about which I have published two harm-benefit analyses (17[preprint], 18, 19) and one additional scientific publication (20). Briefly, the CDC's unwillingness to properly communicate and address this adverse effect, particularly among young healthy people who had already been infected with COVID-19, for whom the benefit of vaccination remains entirely unclear, demonstrated a greater commitment to partisanship than the health of our nation's youth.

My third example speaks to the publication bias within the CDC's flagship journal, MMWR. Historically this is a highly respected journal; I believe it has the potential to be again. However, during the COVID-19 pandemic a litany of poor-quality studies often with results consistent with the current administration's views (21=Arizona mask study, 22=hairstylist mask study, 23=telephone masking survey 24=Post-COVID conditions 25=myocarditis) but inconsistent with higher quality research and publications (26, 27, 28, 29, 30), were published – and without external peer review. My own research group's experience is illustrative of the inner workings of the journal's dubious scientific review process. We replicated the methods of a study published in MMWR (31) which was used to justify school mask recommendations for the 2021-2022 academic year. This study by Budzyn et al (21) included a very short 2-week study period and found a association between school mask mandates and the rise in county pediatric cases. When we expanded the study out to 6 weeks and were able to include a larger, more nationally representative group of counties, we failed to find any significant association between school mask mandates and pediatric cases. MMWR however refused to publish this follow-up analysis, which scientific journals with integrity would have readily published. They did not not cite issues with our methods but rather that our findings were "rife with polemics" and would "be more suitable for publication in another journal where more space could be afforded."

We were able to promptly get this published (32) in the highly respected *Journal of Infection*, our findings a valuable example of the limitations and pitfalls of using highly-likely-to-be confounded observational data to set public health policy. If you look at enough periods of time and places, you will most certainly be able to generate results that support your preferred policies and narratives. Meanwhile, a systematic review of randomized studies (26)- the highest level evidence we have found "Wearing masks in the community probably makes little or no difference to the outcome of laboratory-confirmed influenza/SARS-CoV-2."(26)

There is a desperate need for more scientific rigor from their studies and MWWR and a transparent review process including external peer review is essential for the integrity of the journal that helps set public health guidelines.

Finally, as further evidence of bias within the agency, my research group recently published an analysis (33) of the CDC's errors in data reporting between 2021 and spring of 2023. We found, disturbingly, that basic errors reported by the agency systematically overestimated the risks of COVID-19 to the public, particularly in children, 94% of the time.

Whatever our political beliefs, we should all be deeply concerned about a national public health agency that chooses to publish, promote & develop guidelines around politically favorable policies instead of producing and/or utilizing the highest quality data or admitting uncertainty.

Reforms to the agency may include separating the researchers responsible for generating and publishing scientific data in MMWR from political influence from the current administration or a bipartisan effort, a commitment to transparency, external peer review in the MMWR scientific publication process, as well as more opportunity for public involvement and debate in the development of public health guidelines.

Thank you.

References

1. Burbio. Burbio's K-12 School Reopening Tracker. Accessed 5/28/2023. https://about.burbio.com/school-opening-tracker
2. Falk A, Benda A, Falk P, Steffen S, Wallace Z, Høeg TB. COVID-19 Cases and Transmission in 17 K-12 Schools - Wood County, Wisconsin, August 31-November 29, 2020. MMWR Morb Mortal Wkly Rep. 2021 Jan 29;70(4):136-140. doi: 10.15585/mmwr.mm7004e3. PMID: 33507890; PMCID: PMC7842817.
3. Public Health Agency of Sweden. COVID-19 in schoolchildren: A comparison between Sweden and Finland. Published 6/14/2020. Accessed 5/27/2023 https://www.folkhalsomyndigheten.se/contentassets/c1b78bffbfde4a7899eb0d8ffdb57b09/covid-19-school-aged-children.pdf
4. Center for Global Development. Back to School: An Update on COVID Cases as Schools Reopen. Published 6/12/2020. Accessed 5/27/2023. https://www.cgdev.org/blog/back-school-update-covid-cases-schools-reopen
5. Brandal LT, Ofitserova TS, Meijerink H, Rykkvin R, Lund HM, Hungnes O, Greve-Isdahl M, Bragstad K, Nygård K, Winje BA. Minimal transmission of SARS-CoV-2 from paediatric COVID-19 cases in primary schools, Norway, August to November 2020. Euro Surveill. 2021 Jan;26(1):2002011. doi: 10.2807/1560-7917.ES.2020.26.1.2002011. PMID: 33413743; PMCID: PMC7791599.
6. Zimmerman KO, Akinboyo IC, Brookhart MA, Boutzoukas AE, McGann KA, Smith MJ, Maradiaga Panayotti G, Armstrong SC, Bristow H, Parker D, Zadrozny S, Weber DJ, Benjamin DK Jr; ABC SCIENCE COLLABORATIVE. Incidence and Secondary Transmission of SARS-CoV-2 Infections in Schools. Pediatrics. 2021

Apr;147(4):e2020048090. doi: 10.1542/peds.2020-048090. Epub 2021 Jan 8. PMID: 33419869; PMCID: PMC8015158.
7. Kamenetz, A. What parents can learn from childcare centers that stayed open during lockdown. NPR. Published 6/24/2020. Accessed 5/28/2023. https://www.npr.org/2020/06/24/882316641/what-parents-can-learn-from-child-care-centers-that-stayed-open-during-lockdowns
8. Link-Gelles R, DellaGrotta AL, Molina C, et al. Limited Secondary Transmission of SARS-CoV-2 in Child Care Programs — Rhode Island, June 1–July 31, 2020. MMWR Morb Mortal Wkly Rep 2020;69:1170–1172.
9. Centers for Disease Control and Prevention. Operational Strategy for K-12 Schools through Phased Mitigation. Updated Feb. 12, 2021. Access via Wayback Machine 6/5/2023.https://web.archive.org/web/20210213045212/https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/operation-strategy.html
10. van den Berg P, Schechter-Perkins EM, Jack RS, Epshtein I, Nelson R, Oster E, Branch-Elliman W. Effectiveness of 3 Versus 6 ft of Physical Distancing for Controlling Spread of Coronavirus Disease 2019 Among Primary and Secondary Students and Staff: A Retrospective, Statewide Cohort Study. Clin Infect Dis. 2021 Nov 16;73(10):1871-1878. doi: 10.1093/cid/ciab230. Erratum in: Clin Infect Dis. 2022 Mar 23;74(6):1127-1129. PMID: 33704422; PMCID: PMC7989511.
11. Falk A, Decoster M, Wallace Z, Falk P, Steffen S, Benda A, Høeg TB. COVID-19 Surveillance Testing in Secondary Schools: Findings and Barriers to Implementation. WMJ. 2022 Apr;121(1):13-17. PMID: 35442573.
12. Kogan V & Prasad V. New CDC school opening guidelines fail to 'follow the science'. STAT. Published 2/20/2021. Accessed 6/5/2023. https://www.statnews.com/2021/02/20/new-cdc-school-opening-guidelines-dont-follow-the-science/
13. Falk A, Benda B, Falk P, Steffen S, DeCoster M, Gandhi M, Høeg TB. Details of COVID-19 Disease Mitigation Strategies in 17 K-12 Schools in Wood County, Wisconsin. MedRxiv 3/16/2021.
14. DeAngelis, CA [@DeAngelisCorey]. (2023, June 2nd). BREAKING: Fairfax County Parents Association obtained text messages between the CDC Director and the presidents of the nation's two largest teachers unions (Randi Weingarten and Becky Pringle) with a FOIA request.. [Tweet]. Twitter. https://twitter.com/DeAngelisCorey/status/1664666644889706497?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1664666644889706497%7Ctwgr%5E98a018f128c898b121417196925f1572bc964c59%7Ctwcon%5Es1_&ref_url=https%3A%2F%2Fwww.schoolinfosystem.org%2F2023%2F06%2F02%2Ftaxpayer-funded-cdc-and-covid-policy-teacher-union-emails%2F
15. Christakis DA, Van Cleve W, Zimmerman FJ. Estimation of US Children's Educational Attainment and Years of Life Lost Associated With Primary School Closures During the Coronavirus Disease 2019 Pandemic. JAMA Netw Open. 2020;3(11):e2028786.
16. https://credo.stanford.edu/wp-content/uploads/2021/08/online_press_release.pdf
17. Høeg TB, Krug A, Stevenson J, Mandrola J. SARS-CoV-2 mRNA Vaccination-Associated Myocarditis in Children Ages 12-17: A Stratified National Database Analysis. MedRxiv. 8/30/2021.

18. Krug A, Stevenson J, Høeg TB. SARS-CoV-2 mRNA Vaccine-Associated Myo/Pericarditis in Adolescents: Stratified Risk-Benefit Analysis. European Journal of Clinical Investigation. 2022. 14.2. https://doi.org/10.1111/eci.13759
19. Bardosh K, Krug A, Jamrozik E, Lemmens T, Keshavjee S, Prasad F, Makary M, Baral S & Høeg TB. COVID-19 vaccine boosters for young adults: a risk benefit assessment and ethical analysis of mandate policies at universities *Journal of Medical Ethics* Published Online First: 05 December 2022. doi: 10.1136/jme-2022-108449
20. Høeg TB, Krug A, Baral S, Jamrozik E, Keshavjee S, Lemmens T, Prasad V, Makary MA, Bardosh K. University-age vaccine mandates: reply to Lam and Nichols. J Med Ethics. 2023 May 24:jme-2023-109163. doi: 10.1136/jme-2023-109163. Epub ahead of print. PMID: 37225414.
21. Jehn M, Mac McCullough J, Dale AP, Gue M, Eller B, Cullen T, Scott SE. Association between K–12 school mask policies and school-associated COVID-19 outbreaks—Maricopa and Pima Counties, Arizona, July–August 2021. *Morbidity and Mortality Weekly Report*. 2021 Oct 1;70(39):1372.
22. Hendrix MJ, Walde C, Findley K, Trotman R. Absence of Apparent Transmission of SARS-CoV-2 from Two Stylists After Exposure at a Hair Salon with a Universal Face Covering Policy - Springfield, Missouri, May 2020. MMWR Morb Mortal Wkly Rep. 2020 Jul 17;69(28):930-932. doi: 10.15585/mmwr.mm6928e2. PMID: 32673300.
23. Telephone mask survey
24. Bull-Otterson L, Baca S, Saydah S et al. Post-COVID conditions among adult COVID-19 Survivors Aged 18-64 and >65 years – United States, March 2020-November 2021. MMWR Morb Mortal Wkly Rep. 2022;71:713-717
25. Block JP, Boehmer TK, Forrest CB, Carton TW, Lee GM, Ajani UA, Christakis DA, Cowell LG, Draper C, Ghildayal N, Harris AM, Kappelman MD, Ko JY, Mayer KH, Nagavedu K, Oster ME, Paranjape A, Puro J, Ritchey MD, Shay DK, Thacker D, Gundlapalli AV. Cardiac Complications After SARS-CoV-2 Infection and mRNA COVID-19 Vaccination - PCORnet, United States, January 2021-January 2022. MMWR Morb Mortal Wkly Rep. 2022 Apr 8;71(14):517-523. doi: 10.15585/mmwr.mm7114e1. PMID: 35389977; PMCID: PMC8989373.
26. Jefferson T, Dooley L, Ferroni E, Al-Ansary LA, van Driel ML, Bawazeer GA, Jones MA, Hoffmann TC, Clark J, Beller EM, Glasziou PP, Conly JM. Physical interventions to interrupt or reduce the spread of respiratory viruses. Cochrane Database Syst Rev. 2023 Jan 30;1(1):CD006207. doi: 10.1002/14651858.CD006207.pub6. PMID: 36715243; PMCID: PMC9885521.
27. Coma E, Català M, Méndez-Boo L, Alonso S, Hermosilla E, Alvarez-Lacalle E, Pino D, Medina M, Asso L, Gatell A, Bassat Q, Mas A, Soriano-Arandes A, Fina Avilés F, Prats C. Unravelling the role of the mandatory use of face covering masks for the control of SARS-CoV-2 in schools: a quasi-experimental study nested in a population-based cohort in Catalonia (Spain). Arch Dis Child. 2023 Feb;108(2):131-136. doi: 10.1136/archdischild-2022-324172. Epub 2022 Aug 23. PMID: 35999036.
28. Office of National Statistics. Technical article: Updated estimates of the prevalence of postacute symptoms among people with coronavirus (COVID-19 in the UK: 26 April 2020 to 1 August 2021. Accessed 15 December 2022. https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditi

onsanddiseases/articles/technicalarticleupdatedestimatesoftheprevalenceofpostacutesymptomsamongpeoplewithcoronaviruscovid19intheuk/26april2020to1august2021.
29. Karlstad Ø, Hovi P, Husby A, Härkänen T, Selmer RM, Pihlström N, Hansen JV, Nohynek H, Gunnes N, Sundström A, Wohlfahrt J, Nieminen TA, Grünewald M, Gulseth HL, Hviid A, Ljung R. SARS-CoV-2 Vaccination and Myocarditis in a Nordic Cohort Study of 23 Million Residents. JAMA Cardiol. 2022 Jun 1;7(6):600-612. doi: 10.1001/jamacardio.2022.0583. PMID: 35442390; PMCID: PMC9021987.Budzyn SE, Panaggio MJ, Parks SE, Papazian M, Magid J, Eng M, Barrios LC. Pediatric COVID-19 cases in counties with and without school mask requirements—United States, July 1–September 4, 2021. *Morbidity and Mortality Weekly Report*. 2021 Oct 1;70(39):1377.
30. Swiss school post covid study
31. Budzyn SE, Panaggio MJ, Parks SE, Papazian M, Magid J, Eng M, Barrios LC. Pediatric COVID-19 cases in counties with and without school mask requirements—United States, July 1–September 4, 2021. *Morbidity and Mortality Weekly Report*. 2021 Oct 1;70(39):1377.
32. Chandra A & Høeg TB. Lack of correlation between school mask mandates and paediatric COVID-19 cases in a large cohort. Journal of Infection. 29 Sept 2022.
33. Krohnert K, Haslam A, Høeg TB, Prasad V. Statistical and Numerical Errors Made by the US Centers for Disease Control and Prevention During the COVID-19 Pandemic (March 7, 2023). Available at SSRN http://dx.doi.org/10.2139/ssrn.4381627