

UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

----- X
CONEY ISLAND PREP; LESLIE-BERNARD :
JOSEPH; HOUSING WORKS, INC.; CHARLES :
KING; MARK LEVINE; and ALEXANDRA :
GREENBERG, :

Plaintiffs, : No. 1:20-cv-9144

-against- :

UNITED STATES DEPARTMENT OF HEALTH :
AND HUMAN SERVICES; ALEX M. AZAR II, *in* :
his official capacity as Secretary of Health and :
Human Services; DR. ROBERT KADLEC, *in his* :
official capacity as Assistant Secretary of Health and :
Human Services; CENTERS FOR DISEASE :
CONTROL AND PREVENTION; DR. ROBERT R. :
REDFIELD, *in his official capacity as Director for* :
the Centers for Disease Control and Prevention, :

Defendants. :

----- X

DECLARATION OF DR. EMILY OSTER
IN SUPPORT OF PLAINTIFFS’ MOTION FOR A PRELIMINARY INJUNCTION

I, Dr. Emily Oster, under penalty of perjury, state as follows:

1. I am an economist and the Royce Family Professor of Teaching Excellence and Professor of Economics and International and Public Affairs at Brown University (“Brown”). I am an affiliate of the National Bureau of Economic Research. Prior to Brown, I was an Associate Professor of Economics at the University of Chicago Booth School of Business and received my bachelor’s degree and PhD from Harvard University (“Harvard”) in 2002 and 2006, respectively. I serve as the Associate Editor of the *Quarterly Journal of Economics* and have written for various publications including *The New York Times*, *The Atlantic*, *The Washington Post*, *The*

Wall Street Journal, and *Slate*, as well as numerous academic journals. I am also the bestselling author of two books—*Cribsheet: A Data-Driven Guide to Better, More Relaxed Parenting, from Birth to Preschool* and *Expecting Better: Why the Conventional Pregnancy Wisdom Is Wrong—and What You Really Need to Know*.

2. My academic work focuses on health and development economics and statistical methods, and I pay a particular focus on issues related to parenting, childbirth, and the impact of gender on healthcare. Currently, my research examines how individuals seek out, and react to, health information. Within that framework, I have studied infant mortality in the United States, diet behavior among diabetics, and the resistance among at-risk populations to information about particular diseases. My earlier academic work included studies of HIV in Africa, which formed the basis of a TED Talk in 2007. My two books, *Cribsheet* and *Expecting Better*, both use economics and data-analysis to demystify complex questions at the intersection of medicine, behavioral sciences, and family decision-making.

3. As the SARS-Cov-19 (“Covid-19”) pandemic arrived in the United States, I, along with a number of colleagues, observed a gap between the information emerging from the scientific research and what was available in public reporting. This is, to a degree, always the case: scientists and journalists write for different audiences and the information in their written products cannot perfectly overlap. There is also always the challenge of distilling the detail of academic work into lessons for the general public. These issues were particularly pronounced in the case of COVID-19, given the novel nature of the coronavirus, the dearth of information originally available, and the speed with which research was emerging. Public awareness was going to be central to keeping people safe and combatting the pandemic, and this gap needed to be closed.

4. In response, I developed and manage a website called *Covid Explained*, <https://explaincovid.org>, launched in May 2020 with researchers and students from Brown, the Massachusetts Institute of Technology (“MIT”), Harvard, Massachusetts General Hospital (“Mass General”), and elsewhere. The team includes immunologists, mathematicians, historians, public health researchers, biochemists, and economists. We collect information from government databases, academic studies, and public reporting, in addition to performing our own research. We bring this information together, analyze the data and distill conclusions. From there, we post articles aimed at translating the emerging evidence, explaining expert guidance, dispelling misinformation, addressing common questions, and providing strategies for managing the risks and coping with the collateral consequences of the pandemic. So, for example, we have written about treatments like remdesivir and hydroxychloroquine, guidance from the US government and World Health Organization, as well as how to use gloves effectively, safe restaurant dining, and the role of pets in infection. We also offer risk assessment calculators and decision-making tools, and our raw data is made available, so that others can analyze it. There is no charge to access the website content or underlying data, and my colleagues and I run the website on a voluntary basis. Articles derived from our work at *Covid Explained* and related interviews have been published in *The New York Times*, *The Atlantic*, and *The Washington Post* and broadcast on NPR and MSNBC, among other outlets.

5. Of particular concern to *Covid Explained* has been not just the dearth of data on basic questions about the virus’ prevalence and transmission, but also the quality of the data that has been collected. Testing for infections and tracing the spread of the virus depends largely on local authorities and local guidance. Testing regimes vary widely among states and local communities. Different entities use different tests with different accuracy rates. *See Covid*

Explained, Testing, Oct. 7, 2020, available at <https://explaincovid.org/basics/testing>, and *Covid: Explained, Understanding “False Positives”: Serology Testing*, Aug. 28, 2020, available at <https://explaincovid.org/other/understanding-false-positives>. Throughout but especially in the pandemic’s early months, testing materials have been in short supply. This means that in hot spots where the tests—and the data—are needed most, they are rationed. Patients have to wait or forgo testing altogether, the results from overwhelmed labs can take longer than expected, and the delays lead to unrecorded cases and unnecessary asymptomatic spread. There has been, all along, the dual problems of not enough testing for low-risk populations to track asymptomatic spread and not enough testing of high-risk populations to mitigate their exposure. All these variables compound to produce data that is difficult to make useful, even for a team of data scientists.

6. Add to this the fact that states and localities are using different standards to categorize Covid exposures, infections, hospitalizations and deaths. For example, certain states have chosen to include “likely” Covid-19 deaths, people who were never tested or who died at home, while others have not. Additionally, Covid-19 is rarely in and of itself a cause of death, and instead it leads to other potentially fatal outcomes, such as pneumonia and organ failure; health agencies can choose whether to categorize those deaths as Covid-related or not, even when patients have tested Covid positive, and there has been evidence that certain jurisdictions have consequently underreported their official count. The result is a hodgepodge of data that challenges comparison across jurisdictions and sources.

7. Particularly lacking is the kind of health surveillance necessary to help us interpret the context in which cases are arising or being averted. While we can typically count on health agencies and providers to report information with respect to the age and gender of Covid

cases, we know little about the homes from which they emerge: whether patients live with parents or children; what kind of housing they live in; whether work from home, work outside the home, or work at all; whether they rely on care or support from others; whether they have certain underlying conditions or comorbidities. There remain critical questions with respect to, for example, the risks presented by certain workplaces, certain modes of transit, and certain kinds of recreation and exercise. Information on the race and ethnicity of Covid cases continues to be underreported, as does information regarding the socioeconomic background of each case.

8. The gaps in race and ethnicity data are a useful example as to why context matters. As explained in a recent article in the *New England Journal of Medicine*, we need comprehensive data with respect these disparities and also *contextual* data allowing us to understand the impact of other factors. Incomplete and unnuanced data about race and Covid-19 can perpetuate wrongful stereotypes: 1) that there are inherent biological differences between races; 2) that communities of color engage in irresponsible or unhygienic behavior; and 3) that the pandemic is only a problem for marginalized communities. *See* Merlin Chowkanyun *et al*, *Racial Health Disparities and Covid-19 — Caution and Context*, NEW ENGLAND J. OF MED., Jul. 16, 2020. These conclusions are totally unsupported by the evidence, and the lack of contextual data can lead people to further stigma and lower rates of investment and engagement in already underfunded communities. *Id.* Many states and municipalities on their own are struggling to systematically collect relevant medical data, let alone racial and socioeconomic information that might shed light on structural forces shaping health disparities. All the more reason for federal leadership and standardization of Covid data collection to ensure the nation is armed with sufficient information from which it can draw accurate and useful conclusions.

9. Especially suffering from the lack of robust data, I noticed, were educators, childcare providers, and parents. As the pandemic stretched into the summer of 2020, schools faced the incredible task of planning for a new school year in a vacuum of reliable information about Covid-19 and what the future of the pandemic would bring. There was no national testing and tracing program to adequately monitor community spread. And, more problematic, there was little information about the effectiveness of mitigation strategies in schools and childcare settings. Officials and parents understandably are concerned that sending children back to school could lead to a ballooning Covid-19 caseload within a community. They face unenviable choices: for example, some states kept schools or childcare facilities open for those who could not afford to work from home, on the one hand protecting their livelihoods and on the other exposing those already bearing the brunt of the pandemic to greater health risks. While there are some laudable arguments in favor of opening schools—from the impact on children’s development to the livelihoods of parents—it is impossible to weigh these equities successfully in an information vacuum.

10. From the start of the pandemic, the information has existed, but it has not been adequately collected: some states kept their schools open in the early months of the pandemic, others had permitted day care and other such facilities to remain open through much of the summer, and others had provided facilities for essential workers or those who could not afford to work from home. From these examples, we could have collected data regarding Covid exposure and infections and learned which mitigation strategies were effective (or the costs of their absence). Again, context matters, and understanding more about the socioeconomic circumstances and policy ecosystem can help us differentiate between school and community

spread. Because there was no nation-wide, comprehensive effort to collect any of this available data, the opportunity for learning those lessons early in the pandemic was lost.

11. To address this informational gap, as part of *Covid Explained*, I created the National Covid-19 School Response Dashboard (“Dashboard”). The Dashboard is partnership between myself, Qualtrics, an experience management company expert in surveys and data collection, and a number of organizations of school administrators, including the American Association of School Administrators (“AASA”), the School Superintendents’ Association; the National Association of Secondary School Principals (“NASSP”); and the National Association of Elementary School Principals (“NAESP”), and it is the first nationwide database that systematically maps schools’ responses to the COVID-19 pandemic across the United States. To address the uncertainty school leaders face, the Dashboard tracks confirmed and suspected coronavirus cases voluntarily and anonymously reported by schools, as well as other contextual information. Data collection began in early September and the Dashboard’s data went live one week later. At present, the dashboard incorporated responses from approximately 1,400 public, private, and charter schools in all 50 states, serving approximately 700,000 students both in person and online.

12. Participating schools provide a range of data at enrollment in the Dashboard, such as: their state, their regional density (urban, suburban, rural), their type of school (public, private, parochial, charter), and the ages they teach (pre-k, elementary, middle and high schools). They importantly also provide information as to their pandemic response and mitigation strategies, including but not limited to: whether they are operating fully remote, fully in-person or a hybrid; whether staff or students wear masks; how students are screened at home and at school for symptoms; ventilation quality and improvements; smaller and/or fixed class and cohort sizes;

whether students maintain social distance; efforts to teach class outdoors; how and whether materials and spaces are shared. This information, as well as the infection and exposure data the schools provide, are kept anonymous, then aggregated and analyzed. The Dashboard enables users to visualize the data through a number of charts, graphs and other tools.

13. The Dashboard, we feel, makes two important contributions to the information school administrators and families need in order to navigate this pandemic safely and effectively. First, it provides a denominator to the case reports, the likes of which are frequently reported in the press. If there is an outbreak of five cases in a school, it matters whether it is school of 50 students, 150 or 1,500. It matters whether similar schools in the state are seeing a similar number of cases. Such reports in the news can be alarming, and they can be especially so if we do not have sufficient data to understand whether these cases represent a relatively small or large proportion of the student body, whether the outbreak represents a trend or an isolated incident.

14. Second, the Dashboard gives users important information as to the context in which these cases may arise: states have employed different mitigation policies, different schools reside in neighborhoods of different density, and schools themselves have been able to employ different mitigation strategies. This overall context is critical to gauging the effectiveness of various strategies, across diverse communities and kinds of schools. For example, comparing schools where staff and students *both* are remote with schools where staff are on site and *only* students are remote, our data shows similar infection rates, suggesting that staff are as likely to transmit the coronavirus to each other as they are to contract it from students. Private schools' mitigation efforts, by and large, have been more effective than non-private schools, which speaks in part to the resources they can direct to such efforts as well as the exposure of the underlying population they serve. Our data also suggests limiting group sizes to under 25 appears to be the

practice linked most strongly to low infection rates. Our data also allows schools and districts to connect school rates to community rates and understand how these intersect. Parents and administrators can use this data to assess “best practices” by state, by regional density, and student population, including information as to the socioeconomic background of the student body. Such data can also help policymakers understand how to best design regulation and guidance to protect those schools most vulnerable to adverse outcomes. At present, the data usefully suggests that there may be means of mitigating spread and operating schools safely—requiring disciplined interventions by schools and families in collaboration.

15. While I believe that the Dashboard provides a useful snapshot of Covid-19 infection rates and potential guidance as to the effectiveness of different mitigation strategies, its insights are limited by the relatively small number of schools that participate. The roughly 1,400 schools contributing to this network do not represent even 1% of the total number of schools in the nation, nor does 400,000 represent but a similar sliver of the overall school-age population. At present, we work with more than 200 schools from some states whereas as few as one school has volunteered from others. The schools and districts participating are disproportionately better resourced, with fewer low-income students. As data-scientists, we have ways to interpret the data set despite some of these attributes, but those tools extend only so far. As much as we have accomplished, there are obvious limits to an uneven dataset that depends entirely on the voluntary contributions of school administrators and the voluntary management of a handful of academics and engineers. Despite the efforts of our team, there remains an absence of a national, systematic testing and tracing program that can provide the timely and comprehensive insights that schools need to track the spread of Covid-19 and implement effective mitigation strategies.

16. *Covid Explained*, in collaboration with winnie.com, the YMCA and the American Camp Association, also crowdsourced Covid-19 data arising in various childcare settings and camps over the summer—an effort that served as a pilot for the Dashboard. Initially, we focused on childcare centers that were open throughout most, if not all, of the pandemic, and these primarily offered care for very young children. As the pandemic progressed, our current efforts focused on a specific sample of facilities. As with the Dashboard, all participation was voluntary. The childcare data, like the Dashboard, had its limitations. Universal, random sampling of centers and, even better, random testing of children and staff would have allowed us to track symptomatic *and* asymptomatic cases—without which we risk underrepresenting the true case count. More information on precautions taken by centers would serve to better understand what worked and what did not. Again, our data suggested that there may be safe ways to operate non-school childcare settings, but to be confident in such results, more data would be needed. Without complete information, we cannot rationally assess the tradeoffs facing us.

17. It is my understanding that the federal government has failed to perform a number of duties to collect and disseminate information to the public that would be relevant to our ability to prepare for and respond to the pandemic. I also understand that, specifically, the federal government is charged with performing health and epidemiological surveillance, including “biosurveillance,” which, as a health economist, means widespread diagnostic testing and contact tracing to produce real-time information to the public during a pandemic or other such public health emergency. We need systematic data collection and reporting — the sort that lets us evaluate risks in all kinds of situations, not just in schools but also in driving cars, flying on planes, going to gyms, and spending a full workday in an office.

18. Additionally, I understand that the federal government is obligated to provide opportunities for stakeholders and experts to offer input into the design of the biosurveillance network and other aspects of federal emergency preparedness and response. As someone who, through the Dashboard, effectively designed a volunteer health surveillance tool, I can attest to how essential it is for schools and school administrators to be given a seat at the table, so that their needs and experience is factored into how public health policy is implemented.

19. At heart, the problem facing schools and families is one only the federal government is positioned to alleviate. The federal government's neglected statutory duties, if performed, would alleviate the burden of individual schools and researchers trying in vain to collect data that the government should be proactively providing to the public. No other entity has the breadth of access to national health data; the staff of epidemiologists and health surveillance experts, such as the career officials at the Centers for Disease Control and Prevention ("CDC"); or the powers to compel or incentivize compliance from the state, local, and private sectors. The combination of the federal government's unique capacity to address these problems and its failure to live up to its explicit responsibilities to the people it serves is unconscionable. That private entities and schools are volunteering their energy and time to fill the void speaks both to the character of the American people and the federal government that is failing them.

20. This task is not impossible, and it is already in our reach. For example, as schools open, districts have counts of detected Covid-19 cases, as well as information on the overall enrolled population. This data could be combined with other publicly available information to create public databases with user-friendly dashboards and maps. Our Dashboard serves as one example. A handful of states—from New York and California to New Hampshire and

Tennessee—have launched their own, but these patchwork projects vary widely in the kinds of information they make available and challenge the ability of users to analyze the experience of different states. A national dashboard would empower families, school administrators, and policymakers to take the kind of responsibility for local innovation that some federal leaders have endorsed but have done little to encourage or enable. The fact that we are still missing these tools is not a reflection of our imagination or ability, but a function of federal political will.

21. My colleagues and I are a small team attempting to fill the void left by federal agencies that have neglected their legal duties—agencies staffed by thousands of health experts and data-scientists. Until those agencies rise to their responsibilities, we will all be denied the information we need to respond to the pandemic effectively and efficiently.

I swear under penalty of perjury pursuant to 28 U.S.C. § 1746 that the foregoing is true and correct.

Dated: November 4, 2020


DR. EMILY OSTER