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SYMPOSIUM: PANDEMICS AND THE CONSTITUTION
**PANDEMIC SURVEILLANCE – THE NEW PREDICTIVE
POLICING**

Michael Gentithes and Harold J. Krent***

Now that the first wave of the coronavirus is behind us, what will the future bring? As governments reopen society following lengthy stay-at-home orders, they must strike a difficult balance. If the return to normalcy is too abrupt, infections could spike again in just a few months, creating a death toll as high as it might have been with no quarantine at all.¹ An effective removal of quarantine orders, then, must ensure that the return to normalcy is appropriately paced. But how can we best plan to put our economy back together without jeopardizing public health?

Officials in New York state have echoed Italy's call for a staged return to normalcy by first allowing only those testing positive for the virus' antibodies (who presumably now are immune) to return to work and travel.² Would creation of such a two-class society comport with constitutional dictates? In other words, can the government in effect create classes of citizenship based on the greater or lesser likelihood that some will catch the disease?

In Part I, we examine the growth of predictive policing, which similarly treats some individuals differently based on the *likelihood* that they will either commit or be the victim of a crime. If such surveillance does not lead to detention, incursion on the right to travel, or other loss of freedom, we believe such efforts to be constitutional, even though not

* Assistant Professor, University of Akron School of Law. I dedicate this Article to the loving memory of Lula Gentithes, who would have encouraged me to write it.

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1. *The Coronavirus Outbreak: Trump says he's 'looking at a date' to begin easing restrictions*, N.Y. TIMES, (Apr. 17, 2020) <https://www.nytimes.com/2020/04/10/us/coronavirus-updates-usa.html?action=click&module=Spotlight&pgtype=Homepage#link-cfe0b1a> [<https://perma.cc/AK3H-6U89>].

2. See Jason Horowitz, *In Italy, Going Back to Work May Depend on Having the Right Antibodies*, N.Y. TIMES (Apr. 4, 2020), <https://www.nytimes.com/2020/04/04/world/europe/italy-coronavirus-antibodies.html> [<https://perma.cc/HTA6-RTS5>].

always wise. Use of data to prioritize law enforcement efforts poses no insuperable constitutional obstacles. But deployment of predictive analytics can result in infringement on the right to liberty, as we relate. In Part II, therefore, we apply the lessons from the predictive policing context to assess current and potential expansion of public health surveillance in the midst of the pandemic. As with predictive policing, if the government focuses its data collection efforts on those most likely to contract the virus, no constitutional issue arises. But, if the government imposes a quarantine on those with the virus, a detention has occurred, and if the government then restricts the freedoms of those who are likeliest to catch the virus thereafter, then the rights to work and travel have been undermined. Courts then must balance the government's public health interest against the constitutional infringement on the fundamental rights of work³ and travel.⁴ Based on the limited precedents to date, the government must demonstrate that any two-track system is highly critical to protect the community and also provide those in the lower class some limited opportunity to challenge the government's classification, which would leave them stripped of the right to travel and possibly their ability to pursue a livelihood. Given that the balance between governmental power and individual rights tips towards the government in times of crisis, we end in Part III by suggesting the constraints that the government should respect when casting such a wide surveillance net.

I. PREDICTIVE POLICING

Police departments around the country have experimented in using data to predict where crimes will be committed and who is likely to be involved, whether as a perpetrator or victim. For the most part, those efforts have raised few constitutional issues. But, when the predictions result in an incursion on liberty, Fourth Amendment and other constitutional problems arise. We will briefly canvas some of the emerging forms of predictive policing and then address where, in our view, such policing crosses the line into unconstitutionality. Subsequently, we will apply that baseline to the health surveillance that has already occurred in the past few months, and that which is likely to arise in the future.

Predictive policing embraces data analytics to identify where crime is likely to occur and identify likely perpetrators. There is an obvious

3. *Slaughter-House Cases*, 83 U.S. (16 Wall.) 36, 97 (1873).

4. *Saenz v. Roe*, 526 U.S. 489, 498 (1999).

correlation between past and future crimes.⁵ For instance, many police departments predict “hot” crime spots, and then assign extra personnel to patrol the area. Using data analytics, Sacramento police determined in 2012, that there were forty-two hot spots in the city and assigned extra personnel there accordingly.⁶ The Department reported a significant drop in serious crime. Police in Memphis, Shreveport, and Minneapolis similarly relied on data analytics to determine “hot” spots and thus allocate resources to mitigate the risk of crime.⁷ These methods are designed to help police departments operate more efficiently by allocating resources and personnel to areas where crimes are likely to occur. Such efforts to shift resources to protect particularly vulnerable geographic locations raise no appreciable constitutional issues.

Other communities, most notably Chicago, have also used data analytics to focus on individuals—as opposed to locations—most likely to be involved in violent crime. Based on a variety of factors including neighborhood, associations, and past involvement in crime, the Chicago Police Department decided to deliver notifications to those most at risk of being involved in violent crime, whether as the perpetrator or the victim.⁸ That strategy derived from the sociological “network approach,” which concluded that

victimization is not simply a function of spatial proximity or of individual risk factors such as age, race, gender, or gang affiliation, but also of how people are connected, the structure of the overall network, the types of behaviors occurring in the network, and an individual’s position in the overall structure.⁹

5. “[P]redictive policing entails the application of quantitative techniques to forecast where criminal activities might occur in the (near) future. The predictions based on these analytic tools can guide the decision-making of law enforcement agencies, especially with the deployment of its personnel.” Albert Meijer & Martijn Wessels, *Predictive Policing: Review of Benefits and Drawbacks*, 42 INT’L J. PUB. ADMIN. 1031, 1032 (2019) (citations omitted).

6. See, e.g., WALTER L. PERRY ET AL., PREDICTIVE POLICING: THE ROLE OF CRIME FORECASTING IN LAW ENFORCEMENT OPERATIONS 61–62 (2013), https://www.rand.org/content/dam/rand/pubs/research_reports/RR200/RR233/RAND_RR233.pdf [<https://perma.cc/Y72H-SYVS>].

7. *Id.* at 64–76.

8. Jeremy Goner, *Chicago Police Use “Heat List” as Strategy to Prevent Violence*, CHI. TRIB. (Aug. 21, 2013), <https://www.chicagotribune.com/news/ct-xpm-2013-08-21-ct-met-heat-list-20130821-story.html> [<https://perma.cc/7UH6-6FAP>].

9. Andrew V. Papachristos & Christopher Wildeman, *Network Exposure and Homicide Victimization in an African American Community*, 104 AM. J. PUBLIC HEALTH 143, 143 (2014).

That approach mirrored efforts in the public health field.¹⁰ The closer individuals were to others who were victims or killers, the more likely that they would end up as a perpetrator or victim. Although Chicago never released its algorithm, it announced that the algorithm included: 1) criminal record; 2) record of violence among the subject's criminal associates; 3) gang membership; 4) degree to which the subject's criminal activities are on the rise; and 5) types and intensity of criminal history.¹¹ The Department also asserted that it continuously was modifying the factors. Notifications offered social services such as job training and anger management, but they also carried with them a threat.¹² Police warned that if those on the heat list ever committed a violent crime, prosecutors would seek an enhanced sentence. Although not binding on the court, police elicited prosecutors' support and intended the threat to coerce compliance.¹³

Chicago's predictive policing program raises two constitutional questions. First, to the extent that detectives used the list to investigate crimes, would that probabilistic use of data violate the Fourth Amendment? Second, would the threat to charge perpetrators with more serious crimes if they had been previously warned violate Due Process?

In response to incidents of violent crime, targeting those on the heat list is understandable, if perhaps unfortunate. Those individuals would be investigated not based on any conduct, but only on their propensity to be either perpetrators or victims of crime. And, if the algorithm's factors are correlated with race, which we discuss later, then the heat list would lead to discriminatory investigations by Chicago police. Officers might then uncover more crime committed by the targeted racial group, perpetuating a cycle of high criminality for individuals in that group.

Although the prospect of racial bias cannot be discounted, using the heat list for enhanced scrutiny is not unconstitutional *per se*. Investigations do not themselves curtail liberties. The individuals targeted for enhanced scrutiny are still free to travel and associate with whomever

10. See Andrew Guthrie Ferguson, *Policing Predictive Policing*, 94 WASH. U. L. REV. 1109, 1134–42 (2017).

11. CHICAGO POLICE DEPT., SPECIAL ORDER S09-11, SUBJECT ASSESSMENT AND INFORMATION DASHBOARD (2019), <http://directives.chicagopolice.org/directives/data/a7a57b85-155e9f4b-50c15-5e9f-7742e3ac8b0ab2d3.html> [https://perma.cc/FB5B-M9B4].

12. CHICAGO POLICE DEPT., SPECIAL ORDER S10-05, CUSTOM NOTIFICATIONS IN CHICAGO (2015), <http://directives.chicagopolice.org/directives/data/a7a57bf0-1456faf9-bfa14-570a-a2deebf33c56ae59.pdf?hl=true> [https://perma.cc/W87L-BRWX].

13. Chicago was by no means alone. See Ferguson, *supra* note 10, at 1146 (relaying that Kansas City police also succeeded in obtaining enhanced punishment for those offenders ignoring warnings).

they choose. The unwanted attention of course can be invidious, but police have free rein to investigate whom they please.

Would presence on the heat list justify a *Terry* stop?¹⁴ We believe that presence on the heat list does not come close to providing the reasonable suspicion requisite for a brief investigatory stop, but it might add to the reasonable suspicion if the investigating officers can point to objective factors individuating their suspicion that the individual is suspected of a particular offense. Reasonable suspicion cannot arise merely from probabilistic data that an individual will be involved in some type of violent crime in the future.¹⁵

Most profoundly, in our view, the threat of enhanced punishment violates Due Process. Punishment would be increased—assuming that prosecutors and courts agree¹⁶—in light of the refusal to heed a police warning.¹⁷ Two individuals committing the same crime, therefore, might be punished differently on that basis alone. To be sure, sentencing guidelines include a wide range of conduct justifying enhancements of sentences, such as refusal to show remorse or committing a crime in a particularly heinous manner. But the failure to heed a police warning to stay clear of danger differs in two principal respects. First, unlike with sentencing enhancements, it is the police department that has specified the condition warranting enhanced punishment, not the legislature. Sentencing policy is not made at the police level. Second, the punishment criterion is not sufficiently linked to commission of the crime to justify the enhancement. A state cannot enhance the crime of burglary based on indicia not directly related to the offense, such as on a finding that the individual has failed to hold down a job or failed to volunteer at a local community center.¹⁸ Failure to heed a generalized warning to obey the law does not justify enhanced punishment; all individuals are presumed

14. *Terry v. Ohio*, 392 U.S. 1 (1968).

15. See *United States v. Mendez*, 467 F.3d 1162, 1176 (9th Cir. 2007) (“[T]he fact of gang membership is not sufficient to generate a particularized, reasonable suspicion of criminal activity . . .”).

16. Most likely, the higher charges resulted in plea agreements of more years.

17. Punishments in fact have been enhanced. See Josh Kaplan, *Predictive Policing and the Long Road to Transparency*, *SOUTH SIDE WEEKLY* (July 12, 2017), <https://southsideweekly.com/predictive-policing-long-road-transparency/> [<https://perma.cc/9EX3-3XHC>].

18. For an argument that the heat scores violate the right to association, see THOMAS Q. FORD, *PITFALLS OF PREDICTIVE POLICING: LEGAL AND ETHICAL ISSUES ARISING FROM THE CHICAGO POLICE DEPARTMENT’S PREDICTIVE POLICING INITIATIVES* (2018) (unpublished manuscript on file with the authors).

to understand that they must obey the law.¹⁹ Even if encapsulated in a legislative directive, therefore, enhanced punishment predicated on ignoring the special warning violates Due Process.

The danger of conditioning liberty on probabilistic data in sentencing is highlighted by the evidence-based sentencing adopted by over twenty states.²⁰ Those states use predictive analytics to predict the likelihood of recidivism. The algorithm relies on factors such as the offender's socioeconomic status and level of education. Predicating liberty on statistics, particularly when the statistics derive from individual characteristics beyond the offender's control, departs from fundamental notions of moral desert. Even supporters of such risk-based sentencing call for limits on the use of static factors beyond an individual's control within the assessments in order to ensure fundamental fairness.²¹

To be sure, the length of punishment often is tied to predictions about the amount of time needed for deterrence, the likelihood of recidivism, and so forth. But reliance on such factors can also result in racial discrimination. ProPublica released a study of risk assessment for recidivism—like those used by the states above for sentencing—assigned to 7,000 people in Broward County, Florida for the purpose of determining whether to release those individuals on bail.²² The data revealed that race played a substantial factor in the recidivism projection, which then led to greater jail time for African Americans who committed similar offenses to whites. ProPublica tentatively concluded that the questions Florida law enforcement authorities asked about socioeconomic status and demographic conditions, such as whether a parent had been in jail or the number of people known to have used illegal drugs, played a substantial role in the bond decisions. These examples demonstrate that, when sentencing algorithms are driven by underlying data, that data may be linked to race.

19. See, e.g., *State v. Cerritos-Valdez*, 889 N.W.2d 605 (Neb. 2017) (holding that punishment cannot be enhanced solely because an offender is undocumented, because that status is unconnected to the conduct underlying the offense); see also *State v. Avalos Valdez*, 934 N.W.2d 585 (Iowa 2019) (holding that a defendant's undocumented status may be considered in sentencing only to the extent it relates to an otherwise relevant factor).

20. Sonja B. Starr, *Evidence-Based Sentencing and the Scientific Rationalization of Discrimination*, 66 STAN. L. REV. 803, 805 (2014).

21. See Christopher Slobogin, *A Defense of Modern Risk-Based Sentencing*, in RISK AND RETRIBUTION: THE ETHICS AND CONSEQUENCES OF PREDICTIVE SENTENCING (J. de Keijser, et al. eds., forthcoming), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3242257 [<https://perma.cc/B3DW-6KT4>].

22. Julia Angwin et al., *Machine Bias*, PROPUBLICA (May 23, 2016), <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing> [<https://perma.cc/SY9M-CY8S>].

In short, predicating liberty on predictive analytics risks injustice. Just deserts should be based (to the extent possible) on the offender's conduct, as well as on the related risk that the offender will commit serious crimes in the near term.²³ Algorithms that consider individual characteristics in addition to broader societal interests should rely upon characteristics that are both pertinent to the offender's future conduct and fair to consider because they fall within the offender's control. Any algorithm risks including factors that are correlated with race or other invidious distinction. Chicago's use of its heat list to increase punishment should not survive constitutional scrutiny.

II. APPLICATION TO PANDEMIC SURVEILLANCE

The predictive policing and sentencing examples frame at least some of the risks of reliance on pandemic surveillance. We first inquire about the probabilistic decision to isolate an individual whom the state believes may be sick and then turn to the quarantine decision for someone who was exposed. Afterwards, we speculate about the use of such probabilities to determine, after the first wave of the pandemic has subsided, who can return to work, school, and travel.

A. *Temperature Capture Policies and the Constitution*

Consider the possible constitutional issues if the government were to adopt China's extreme steps to use body temperature as a crucial datapoint in determining who can safely work and travel through society.²⁴ Chinese officials have deployed so-called "thermometer guns," which take an individual's temperature through a scan of his or her forehead to check for possible coronavirus infections near airports, apartment buildings, and shopping malls.²⁵ They have also begun using infrared thermal scanners that detect the body heat of each passenger entering railway stations.²⁶ In America, private employers have begun monitoring employee temperatures with traditional thermometers in order to ensure their

23. Slobogin, *supra* note 21.

24. Shawn Yuan, *How China is Using AI and Big Data to Fight the Coronavirus*, AL JAZEERA (Mar. 1, 2020), <https://www.aljazeera.com/news/2020/03/china-ai-big-data-combat-coronavirus-outbreak-200301063901951.html> [https://perma.cc/HTY2-VFGC].

25. Emily Rauhala, *Some Countries Use Temperature Checks for Coronavirus. Others Don't Bother. Here's Why.*, WASH. POST (Mar. 14, 2020), https://www.washingtonpost.com/world/coronavirus-temperature-screening/2020/03/14/24185be0-6563-11ea-912d-d98032ec8e25_story.html [https://perma.cc/3P54-DGGV].

26. Yuan, *supra* note 24.

workforce's safety.²⁷ Though that private action does not raise Fourth Amendment concerns, such concerns will be raised if the government adopts similar measures in the weeks and months ahead.

First, consider whether various government actions to capture individual temperatures would amount to a search. The Fourth Amendment typically requires the government to obtain a warrant based upon probable cause to believe that an individual has committed a crime before conducting any activity that amounts to a "search." But that term is notoriously amorphous. The Supreme Court has held that the government conducts a search when its actions violate an individual's reasonable expectations of privacy,²⁸ or when the government trespasses upon an individual's property.²⁹

Although thermometer guns do reveal some limited health information, government use of them may not amount to searches. They appear more akin to warrantless breathalyzer tests at the scene of an arrest, which the Court has found limited enough not to be considered searches under the Fourth Amendment.³⁰ Thermometer guns are even less invasive than a breathalyzer, as they do not require the subject to actively partake in the investigator's measurement. Thermometer guns can also take measurements even more rapidly than a breathalyzer, again making them less constitutionally suspect.

Use of infrared thermal scanners, however, present a closer question. First, it is unclear exactly what images of an individual the scanners reveal. The Supreme Court has held that when the government deploys investigative technologies that are not in general public use to reveal details from inside one's home, they have conducted a search.³¹ That doctrine's applicability in places of public accommodation is less clear,

27. Melissa Repko, *As Coronavirus Cases Grow, Some of the Largest US Employers Including Walmart and Amazon Turn to Thermometers as Detection Tool*, CNBC (Apr. 4, 2020, 9:50 AM), <https://www.cnbc.com/2020/04/04/coronavirus-walmart-amazon-turn-to-thermometers-as-detection-tool.html> [<https://perma.cc/H52A-G9YE>]; David Yaffe-Bellany, *'Thermometer Guns' on Coronavirus Front Lines Are 'Notoriously Not Accurate'*, N.Y. TIMES (Feb. 14, 2020), <https://www.nytimes.com/2020/02/14/business/coronavirus-temperature-sensor-guns.html> [<https://perma.cc/AF4R-MNUV>].

28. *Katz v. United States*, 389 U.S. 347, 361 (1967) (Harlan, J., concurring).

29. *United States v. Jones*, 565 U.S. 400, 405 (2012).

30. *Birchfield v. North Dakota*, 136 S. Ct. 2160, 2184 (2016). In contrast, blood tests are "significantly more intrusive" and less likely to be reasonable under the Fourth Amendment, depending upon the circumstances. *Id.*

31. *Kyllo v. United States*, 533 U.S. 27, 34 (2001) ("[O]btaining by sense-enhancing technology any information regarding the interior of the home that could not otherwise have been obtained without physical 'intrusion into a constitutionally protected area,' constitutes a search—at least where (as here) the technology in question is not in general public use.") (quoting *Silverman v. United States*, 365 U.S. 505, 512 (1961)).

but if the government were to attach such scanners in private buildings without consent, its actions likely would amount to a Fourth Amendment search.

Temperature grab technology, however, may be constitutionally deployed under an exception to the warrant requirement. Even if the government conducts a search, if its actions are reasonable, they may not require a warrant based upon probable cause. For instance, the government may not need a warrant based upon probable cause if “special needs” make obtaining a warrant impracticable and the government’s primary purpose is not general crime control.³² The special needs doctrine seems likely to apply. Obtaining individual warrants for temperature readings on hundreds of millions of citizens is extremely impracticable, and the government need to pace the lifting of quarantine orders is highly critical. So long as the government’s primary purpose in grabbing temperatures remains to control the spread of COVID-19, rather than bring criminal charges against quarantine violators, these policies likely would satisfy the Fourth Amendment’s strictures.³³

Even if Fourth Amendment hurdles can be overcome, governments should be wary of the ability of temperature grabbing technologies to provide useful data for processing. Some temperature reading technologies in this area are notoriously inaccurate.³⁴ The equipment can be deployed incorrectly by inexperienced operators, be misallocated for human core temperature readings, or can measure surface skin temperatures in inaccurate environments (such as extreme summer heat) that will vary readings significantly.³⁵ Thus, checkpoints based upon thermometers can be both over- and under-inclusive. First, they can under-inclusively screen for fevers, allowing travelers carrying COVID-19 to pass through the checkpoint and infect many others. Second, they can generate false positives, finding higher temperature readings for individuals who have recently exercised or stood near an ambient heat

32. *Chandler v. Miller*, 520 U.S. 305, 313–14 (1997).

33. The government might also argue that the exigent circumstances exception applies. Warrantless searches taken under exigent circumstances—such as the needs to provide urgent aid to a citizen, continue hot pursuit of a suspect, or prevent the imminent destruction of evidence—do not amount to a search triggering the warrant requirement. *Kentucky v. King*, 563 U.S. 452, 460 (2011). But that exception does not fit comfortably to COVID-related surveillance. Exigent circumstances usually encompass a single case or potential danger, such as where the residents behind a closed door are either in harm’s way or likely to destroy evidence of wrongdoing. The potentially massive scale of temperature grabs, all conducted without any suspicion of wrongdoing, is of a different order from usual exigent circumstances.

34. Yaffe-Bellany, *supra* note 27.

35. Repko, *supra* note 27; Yaffe-Bellany, *supra* note 27.

source.³⁶ Conditioning travel and work rights on such readings is highly troublesome. It may be akin to using gang affiliation information as a proxy for likely crime commission, a practice that can perpetuate underlying racial and socio-economic biases in the predictive policing context. And just as individual sentencing factors must be pertinent and within an individual's control, temperature readings must be pertinent (meaning taken accurately) and based upon the actual body temperature of citizens, rather than external factors like the weather that may influence the results. Thus, the government must deploy the right temperature-grabbing technologies using proper techniques, thereby accurately measuring core body temperature to control citizens' movements.

B. Technological Surveillance Tools and Constitutional Strictures.

Second, we also agree that the government can use its traditional technological tools of surveillance to chart the path of anyone whom they have reason to believe is carrying the virus. Such technologies may be critical in limiting the virus' spread through "contact and trace" approaches that many jurisdictions are considering.³⁷ Just as in the predictive policing context, extra scrutiny, whether based on observation or cell phone metadata records,³⁸ does not by itself transcend Fourth Amendment limits³⁹ although, as we discuss, constraints should be placed on use of the information after the contact tracing has come to an end. In Europe, many countries have relied upon aggregation of data that has been anonymized to avoid revealing any individual's locations, movements, or behaviors. Mobile phone companies in Italy, Germany, and Austria have begun sharing such aggregated data with governments to broadly map patterns in citizens' movements that might reveal trends in compliance with government quarantine orders.⁴⁰ Other governments have chosen a

36. Repko, *supra* note 27.

37. See, e.g., Erin Sampson & Adam Conner, Digital Contact Tracing to Contain the Coronavirus, Center for American Progress, April 22, 2020; Dennis Thompson, As States Reopen, What is "Contact Tracing" and How Does it Work, U.S. News, May 4, 2020.

38. This "third-party doctrine" allows government investigators to warrantlessly access broad financial information or metadata about phone calls made to others. *United States v. Miller*, 425 U.S. 435, 442–43 (1976); *Smith v. Maryland*, 442 U.S. 735, 743–46 (1979).

39. We believe that both the federal and state governments have critical roles to play in reacting to the crisis. The constitutional questions we address do not depend on the identity of the governmental actor.

40. Elvira Pollina & Douglas Busvine, *European Mobile Operators Share Data for Coronavirus Fight*, REUTERS (Mar. 18, 2020, 9:55 AM), <https://www.reuters.com/article/us-health-coronavirus-europe-telecoms/european-mobile-operators-share-data-for-coronavirus-fight-idUSKBN2152C2> [<https://perma.cc/LN3J-C3F8>].

more authoritarian approach that tracks individuals' locations and contacts in order to enforce quarantine orders.⁴¹ Governments have also aggregated financial transactional data as a means of tracking citizens' movements and associations during the pandemic, though it is unclear whether individual citizens' data remains anonymous or encrypted.

Anonymization of data is an important first step to protecting individual data privacy and constitutional rights.⁴² It ensures that any pandemic surveillance is generalized and programmatic, which is less constitutionally troubling.⁴³ Generalized, programmatic government intrusions on personal privacy can be conducted without focusing the weight of the state on an individual suspect, potentially introducing biases based upon ethnic, racial, or socioeconomic backgrounds.⁴⁴ By focusing pandemic surveillance on anonymized and aggregated data, governments can avoid highly intrusive access to individual information that might generate more social anxiety or be used to deny other rights or benefits to those individuals. As we suggest in Part III, however, governments must take additional protective measures beyond anonymization and aggregation to ensure that sensitive personal data is not later revealed and utilized without a warrant or probable cause. These measures could include sunseting the data collection, housing the data with trustworthy third parties, and timely destroying data that might be nefariously repurposed once the pandemic passes.

Moreover, we agree that isolation is appropriate for anyone whom the government believes, based on data, is very likely to be suffering from the coronavirus. The loss of liberty is palpable, but the public interest in sequestration is strong as well. In the related context of mental illness, the

41. *Id.*; Gabriel Leung, *Lockdown Can't Last Forever. Here's How to Lift It*, N.Y. TIMES (Apr. 6, 2020), <https://www.nytimes.com/2020/04/06/opinion/coronavirus-end-social-distancing.html> [<https://perma.cc/ED6G-5SGL>] ("In China, the location-based functions of the online payment platforms of Alibaba, Baidu and Tencent could be used to track people's activity.").

42. European Data Protection Board, *Statement on the Processing of Personal Data in the Context of the COVID-19 Outbreak*, at 2 (Mar. 19, 2020), https://edpb.europa.eu/sites/edpb/files/file1/edpb_statement_2020_processingpersonaldataandcovid-19_en.pdf [<https://perma.cc/H9HW-FZ7C>] ("Public authorities should first seek to process location data in an anonymous way (ie. processing data aggregated in a way that individuals cannot be re-identified), which could enable generating reports on the concentration of mobile devices at a certain location ('cartography').").

43. See Michael Gentithes, *Suspicionless Witness Stops: The New Racial Profiling*, 55 HARV. C.R.-C.L. L. REV. (forthcoming 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3420816 [<https://perma.cc/KRW5-WGH4>].

44. See *id.* For a discussion of the distinction between programmatic searches and targeted searches, see Barry Friedman and Cynthia Benin Stein, *Redefining What's "Reasonable": The Protections for Policing*, 84 GEO. WASH. L. REV. 281, 286–87 (2016) and BARRY FRIEDMAN, UNWARRANTED: POLICING WITHOUT PERMISSION 177–78 (2017).

Supreme Court in *Addington v. Texas*⁴⁵ held that the state had to prove by clear and convincing evidence that preventative detention was justified to prevent an individual from doing harm to self or others. Although some early testing for the virus may have been inexact, the tests have improved to the point that the state may justifiably order isolation for anyone who tests positive—the risk to others has been all too plainly demonstrated.⁴⁶ The possibility that the test is accurate is high and the risk of release so great that isolation is warranted. Although state courts have articulated somewhat different standards of review for assessing isolation directives and quarantine, a number have analogized to the involuntary commitment context addressed in *Addington*.⁴⁷ We presume that all state isolation and quarantine determinations will be subject to a comparable form of heightened review.

Quarantining all those who have been in contact with someone infected poses a more difficult question. As in the predictive policing context, public health authorities must have *particularized* information that an individual has been exposed. Even then, such individuals have a modest chance of catching the disease, which undermines the potential relevance of that data and the fairness of using it to condition travel and work rights. China forced such individuals, and even those not exposed, into quarantine.⁴⁸ Would that be constitutional here? The probabilities of infection are unclear—how direct must the exposure be, what are the odds of infection, and so on. On the one hand, the public interest in quarantine is strong but, on the other, the odds that any individual exposed will catch the disease are more modest.

To satisfy the clear and convincing or similar standard, the means used by the government also must be reasonably tailored. The condition of confinement, whether in one's home or in a prison, should be considered, as should the length of confinement. Is fourteen days

45. 441 U.S. 418 (1979).

46. Laurie McGinley, *FDA steps up scrutiny of coronavirus antibody tests to ensure accuracy*, WASH. POST, (May 4, 2020), <https://www.washingtonpost.com/health/2020/05/04/fda-steps-up-scrutiny-coronavirus-antibody-tests-ensure-accuracy/> [<https://perma.cc/ZVM6-PUBJ>] (“The tougher requirements will make it harder to buy questionable tests, but officials say there should still be enough reliable options for hospitals, doctors and consumers.”)

47. See, e.g., *Greene v. Edwards*, 263 S.E.2d 661, 663 (W. Va. 1980); *Newark v. J.S.*, 652 A.2d 265 (N.J. Super. 1993); *Best v. St. Vincent's Hospital*, No. 03 CV.0365, 2003 WL 21518829 (S.D.N.Y. July 2, 2003); *State v. Snow*, 324 S.W.2d 532, 534 (Ark. 1959).

48. Nectar Gan, Lily Lee & David Culver, *Healthy Wuhan Residents Say They Were Forced Into Mass Coronavirus Quarantine, Risking Infection*, CNN (Feb. 23, 2020, 7:16 PM), <https://www.cnn.com/2020/02/22/asia/china-coronavirus-roundup-intl-hnk/index.html> [<https://perma.cc/2XNN-NTTF>].

reasonable? Ten?⁴⁹ The Model State Emergency Health Powers Act, written at the behest of the Center for Disease Control in the wake of 9/11, recognized that governmental public health measures should utilize the least restrictive means available and permit judicial review.⁵⁰ Although a close question, we believe that the government would be able to meet the clear and convincing standard as long as those quarantined have at least an informal right to contest the evidence that they have been exposed to the virus—was it a case of mistaken identity, did the person who allegedly expose them end up not contracting the virus, and so on.

C. Antibody Testing: Constitutional Limitations for a Staggered Return to Normalcy.

Italy,⁵¹ Great Britain,⁵² and New York⁵³ have considered allowing those who have developed antibodies to return to work and travel. They can look to the Chinese government's example, for it instituted software in common chatting and payment apps that require citizens to fill out a health survey, and then issued individuals a colored health code that dictates their ability to travel past checkpoints in subway stations, restaurants, hotels, and apartment blocks.⁵⁴ Researchers remain uncertain if antibodies will indicate a lasting immunity to COVID-19, and whether that immunity might also apply to future mutations or strains of the virus, for which those with antibodies may still act as carriers.⁵⁵ And not everyone without the antibodies is susceptible of catching the virus.⁵⁶ The

49. Cf. *Jennings v. Rodriguez*, 138 S. Ct. 830 (2018) (explaining how government must show under clear and convincing evidence that reasonable conditions would not have ensured the continued presence of an individual subject to a deportation order).

50. See Lawrence O. Gostin, *The Model State Emergency Health Powers Act: Public Health and Civil Liberties in a Time of Terrorism*, 13 *Health Matrix* 1, 19 (2003) (providing that officials "must use the least restrictive means available" in pursuing isolation and quarantines).

51. See Horowitz, *supra* note 2.

52. Mark Landler & Stephen Castle, *After Lost Months, Britain Vows to Catch Up on Virus Testing*, N.Y. TIMES (Apr. 2, 2020), <https://www.nytimes.com/2020/04/02/world/europe/uk-coronavirus-testing.html> [<https://perma.cc/TJ6Y-2P69>].

53. See Horowitz, *supra* note 2.

54. Sophia Ankel, *As China Lifts Its Coronavirus Lockdowns, Authorities Are Using a Color-Coded Health System to Dictate Where Citizens Can Go. Here's How It Works*, BUSINESS INSIDER (Apr. 7, 2020), <https://www.businessinsider.com/coronavirus-china-health-software-color-coded-how-it-works-2020-4> [<https://perma.cc/9PAM-EDXM>].

55. Horowitz, *supra* note 2.

56. See Stacey McKenna, *What Immunity to COVID-19 Really Means*, SCIENTIFIC AMERICAN (Apr. 10, 2020), <https://www.scientificamerican.com/article/what-immunity-to-covid-19-really-means/> [<https://perma.cc/7ZSE-UPAS>].

test for antibodies itself, so far, is inexact.⁵⁷ Predicating such critical liberty interests as the right to work and travel on such probabilities challenges our notion of fundamental rights. We would be embracing two classes of citizenship, which may be both under- and over-inclusive. Without sufficient scientific support for the number and type of antibodies that effectively shield an individual from infection, using antibody tests as a guide to reentry will likely allow some unsafe individuals to return to normal life while denying basic rights to work and travel to others who are perfectly healthy. Under the demanding clear and convincing standard of review, courts could decide the constitutionality of these antibody-based reentry programs either way, likely depending upon the strength of the presentation by health experts.

The general quarantine carries with it the process protection that everyone is affected—there is no danger that the government is picking and choosing whom to elevate into the first rung.⁵⁸ A police checkpoint that focuses on everyone passing by poses less danger to civil liberties than a roving power to stop anyone at will.⁵⁹ In contrast, the antibody scenario would change that, and at high stakes.

Governments would also need to ensure that licenses to travel are distributed without bias that might trace traditional racial, ethnic, or socio-economic divides. This may be especially difficult if the tests for antibodies are particularly expensive and the costs are borne even partially by individuals. Poorer citizens may have been more likely to face infection in the first place,⁶⁰ making them strong candidates to have developed antibodies as a result of those infections. But if they cannot afford the tests, their antibodies will go undetected and they will remain quarantined indefinitely. Thus, the government must provide such

57. See Sheila Kaplan, *FDA Orders Companies to Submit Antibody Test Data*, N.Y. Times, May 4, 2020; Camilla Hodgson & George Parker, *UK Government Admits Covid-19 Antibody Tests Don't Work* (Apr. 6, 2020), <https://www.ft.com/content/f28e26a0-bf64-4fac-acfb-b3a618ca659d> [<https://perma.cc/U6PN-YPPE>].

58. There has been a trickle of litigation about whether a particular business constitutes an “essential” service, but that has been the exception. The vast majority of citizens have been impacted by the shelter orders. See, e.g., Christian McPhate, *Why McKinney's Mayor Ordered Nonessential Businesses to Close—And Why He Was Sued For It*, LOCAL PROFILE (Collin County, Texas) (Mar. 31, 2020), <https://localprofile.com/2020/03/31/why-mckinneys-mayor-ordered-nonessential-businesses-to-close-and-why-he-was-sued-for-it/> [<https://perma.cc/7YW4-6QDK>]; Erica Orden, *NRA Suing New York for Deeming Gun Stores Non-Essential Businesses During Coronavirus Pandemic*, CNN, (Apr. 4, 2020, 1:39 PM), <https://www.cnn.com/2020/04/03/politics/nra-new-york-gun-store-non-essential/index.html> [<https://perma.cc/H7LR-AZW4>].

59. See Gentithes, *supra* note 43.

60. See, e.g., Sam Baker, Alison Snyder, *Coronavirus hits poor, minority communities harder*, AXIOS, (April 4, 2020) <https://www.axios.com/coronavirus-cases-deaths-race-income-disparities-unequal-f6fb6977-56a1-4be9-8fdd-844604c677ec.html> [<https://perma.cc/6CSD-E78F>].

antibody tests at no charge, in addition to ensuring that those in rural as well as urban areas have comparable access.

Moreover, in light of the liberty interests at stake, the government must permit individuals in the second class an opportunity to contest their placement. Those individuals might assert a right to be retested or argue that the test, although effective for most, is not indicative given their specific biological makeup. In light of the need for speed and the huge number of individuals in the second grouping, the hearings would be streamlined. Although the state need not provide a hearing before the classification, a reasonably prompt hearing after the classification should be required. Any such balancing calls to mind the Due Process framework of *Mathews v. Eldridge*⁶¹—the individual's interests in travel and work are of course substantial, but so is the government's goal of preventing too many people from travelling and congregating together. In short, if the government pursues the antibody approach, it must afford individuals a limited right to contest public health authorities' determination that they lack the antibodies necessary for resumption of normal social activities.

The nature of the government test for antibodies also raises constitutional hurdles. Assume that governments can only determine whether an individual possesses the antibodies in question through a blood draw. If the government hinges the rights to work and travel upon the results of such blood draws, it will effectively coerce all citizens to submit to those blood draws. Citizens' desires to be released from quarantine may be so strong as to compel them to accept a government blood draw as a condition for that release.⁶²

Such coerced blood draws, taken without suspicion that an individual has committed any crime or run afoul of any quarantine orders, could violate the Fourth Amendment. The Supreme Court has previously held that blood draws, even conducted after a lawful arrest, are considered Fourth Amendment searches for which a warrant is normally required.⁶³ The mere fact that the contents of one's blood may change quickly through normal metabolic processes is not a sufficiently exigent circumstance to fit an exception to the warrant requirement.⁶⁴ Although

61. 424 U.S. 319 (1976).

62. In a related context, some authors have argued that prisoners' desire for release from incarceration is so strong that they cannot meaningfully agree to conditions attached to their probation or even pardon. See Harold J. Krent, *Conditioning the President's Conditional Pardon Power*, 89 CAL. L. REV. 1665, 1684–85 (2001).

63. *Missouri v. McNeely*, 569 U.S. 141, 148 (2013).

64. *Id.* at 152 (“In those drunk-driving investigations where police officers can reasonably obtain a warrant before a blood sample can be drawn without significantly undermining the efficacy of the search, the Fourth Amendment mandates that they do so.”).

the Court has recently permitted warrantless blood draws from unconscious vehicle operators suspected of driving under the influence,⁶⁵ that ruling considered blood draws from an individual driver found unconscious at the scene of an accident, where there was strong reason to believe the driver committed a crime, the driver's blood would likely be tested at a hospital shortly in any event, and the officer's duties in responding to the accident itself make obtaining a warrant impracticable.⁶⁶ None of those criteria fits mandatory blood draws on a massive scale without any individualized suspicion of wrongdoing. Perhaps the government's strongest argument again relies upon the special needs doctrine, including the impracticability of obtaining individual warrants for antibody tests and the government interest in restarting economic activity rather than controlling crime.

Given the sympathy for the government's power during a pandemic, courts might well uphold any plan to allow those who test positive for antibodies to return to work first, as well as to attend school, travel and so forth. The government's highly critical need to limit the pandemic's spread arguably justifies the sharp distinction drawn between those who are less and more likely to contract the disease. But the government must accompany any such determination with scientific evidence of the test's efficacy, and the government must afford those relegated to their homes a measure of Due Process. Just as algorithms used in sentencing must ensure that the individual characteristics considered are pertinent and fair, government use of antibody tests to condition the rights to travel and work must be proven to have a scientifically valid connection to the likelihood of infecting others.

The antibody approach comes with risks. Once more people are working outside of home and travelling, enforcement of the quarantine becomes more difficult. Moreover, those without the antibodies and desperate to work may be tempted to become infected so as thereafter to reenter the workforce.⁶⁷ This potential moral hazard risks undermining the effectiveness of the quarantines themselves. Nonetheless, the two-class citizenship plan presents an option to the government in the recovery period if it tailors the program narrowly; permits individuals adversely affected to question their placement in the stay-at-home category; ensures that information gathered is not used for later crime control purposes; and

65. *Mitchell v. Wisconsin*, 139 S. Ct. 2525, 2531 (2019).

66. *Id.*

67. *Restarting America Means People Will Die. So When Do We Do It?*, N.Y. TIMES MAGAZINE (Apr. 10, 2020), <https://www.nytimes.com/2020/04/10/magazine/coronavirus-economy-debate.html> [https://perma.cc/V29T-BU3Y].

deploys such policies based upon sound scientific data about antibody development and immunity.

III. BAKING IN PROTECTIONS

The government should protect privacy in any pandemic surveillance plan as much as possible. First, any pandemic surveillance program that analyzes personal data must come with clear sunset provisions ensuring that the program does not continue in perpetuity once the pandemic has passed. As the European Data Protection Board noted in its recent statement on processing personal data during the pandemic, emergency conditions might legitimize processing of personal data only if limited to the emergency period and not turned into a permanent program.⁶⁸ Only clear sunset provisions can ensure that governments resist the temptation to turn pandemic surveillance techniques into a new normal for society.⁶⁹

Second, quarantine surveillance programs should ensure that data accessed during the outbreak is in safe hands and is destroyed once the crisis passes. Even if data has been anonymized and aggregated during the pandemic, there is no guarantee against future technological advantages that might allow the re-identification of individuals within the set. Furthermore, government investigators might develop new algorithms with aims entirely unrelated to the pandemic in future years, repurposing the data set in ways that could again focus on individuals rather than groups or otherwise curtail individual rights. If governments maintain the data well into the future, they create the potential for gross invasions of personal privacy.⁷⁰ And if the data at issue includes information such as cell-site location data or highly sensitive medical records, such invasions might also run afoul of the Fourth Amendment. A proposal from the Center for American Progress suggests housing such data in a non-governmental, non-profit entity, which would routinely destroy any data collected every 45 days.⁷¹ Such plans would helpfully reduce the long-term privacy risks inherent in these surveillance programs.

68. European Data Protection Board, *supra* note 42.

69. After 9/11, Congress included a sunset provision in the Patriot Act, although it was renewed after a prolonged debate, and subsequently amended. Martin Matishak, *Surveillance Authorities Set to Lapse*, Politico (Mar. 12, 2020, 7:58 PM), <https://www.politico.com/news/2020/03/12/rand-paul-to-oppose-surveillance-bill-127128> [<https://perma.cc/T2L5-TRBM>].

70. See Harold J. Krent, *Of Diaries and Data Banks: Use Restrictions under the Fourth Amendment*, 74 TEX. L. REV. 49, 81 (1995) (making comparable argument about the risk of retaining information in DNA databanks).

71. Zeke Emanuel et al., *A National and State Plan to End the Coronavirus Crisis*, CENTER FOR AMERICAN PROGRESS (Apr. 3, 2020, 7:00 AM), <https://www.americanprogress.org/>

Third, pandemic surveillance must avoid creating a kind of “new normal” for citizens that lowers Fourth Amendment protections into the future. The restrictions that the Fourth Amendment places upon government investigators are based in large part upon society’s reasonable expectations of privacy.⁷² But the government itself shapes those expectations in part through new, highly-public programs that invade spheres of life previously considered private.⁷³ Society’s view of what types and volumes of personal data should be kept away from peering governmental eyes can change as a result of such public programs that seem acceptable in times of short-term distress like the current pandemic. As citizens become inured to new and broader invasions of privacy, “reasonable expectations” of privacy under the Fourth Amendment decline. Publicizing the temporary nature of pandemic surveillance programs, along with providing clear explanations of their scientific validity and the process by which the data will later be destroyed, will keep pandemic surveillance under extreme circumstances from becoming standard government procedure for years into the future.

CONCLUSION

The pandemic swirling around us is unprecedented. Accordingly, unprecedented measures are needed to combat its spread. Although the Fourth Amendment may bend in such times, concerns for privacy should not be thrust aside in a rush to return to normalcy. Government decisions to isolate, quarantine, and (possibly) allow only one stratum of society to return to work must proceed only after reasonable scientific certainty is reached, and then only if those adversely affected can contest their placement in the disfavored group. Differentiating groups of citizens based on predictive analytics has proven dangerous in the past and may well prove so again in the coming months.

issues/healthcare/news/2020/04/03/482613/national-state-plan-end-coronavirus-crisis/
[<https://perma.cc/WF24-DT2S>].

72. *Katz v. United States*, 389 U.S. 347, 361 (1967) (Harlan, J., concurring).

73. See Daniel J. Solove, *Fourth Amendment Pragmatism*, 51 B.C. L. REV. 1511, 1524 (2010) (“[T]he government could condition the populace into expecting less privacy. For example . . . the government could diminish expectations of privacy by announcing on television each night that we could all be subject to electronic surveillance.”); Rachel Levinson-Waldman, *Hiding in Plain Sight: A Fourth Amendment Framework for Analyzing Government Surveillance in Public*, 66 EMORY L. J. 527, 552 (2015) (“*Katz*’s approach can also put the government in an enviable position: when a technology is first introduced, it is new, it is experimental By the time the technology is in place and publicly revealed, and society has begun to grasp its true implications, it is too late; only an out-of-touch Luddite could be said not to understand, and implicitly consent to, all its potential uses. For the government, it is heads, we win; tails, you lose.”).