NOTE
FOURTH AMENDMENT LIMITS ON EXTENSIVE QUARANTINE SURVEILLANCE

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INTRODUCTION

Travelers to South Korea during the height of the COVID-19 pandemic faced stringent requirements as they set foot in the sterile Seoul airport. Forced to self-quarantine for fourteen days, many travelers acquiesced to do so under the government's high-tech gaze—downloading a smartphone application called Self-Quarantine Safety Protection (English translation).[1] The app used GPS technology to track quarantined individuals' movements around the clock.[2] Individuals who strayed from their designated quarantine locations could be forced by law to wear tracking wristbands,[3] face heavy fines, or serve up to a year in jail.[4]

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1. Sally Shin, *How South Korea Has Eliminated Coronavirus Risk from Foreign Travelers*, NBC NEWS (Sept. 27, 2020, 4:30 AM), https://www.nbcnews.com/news/world/how-south-korea-has-eliminated-coronavirus-risk-foreign-travelers-n1240957.

2. Max S. Kim, *South Korea is Watching Quarantined Citizens with a Smartphone App*, MIT TECHNOLOGY REVIEW (Mar. 6, 2020), https://www.technologyreview.com/2020/03/06/905459/coronavirus-south-korea-smartphone-app-quarantine/.

3. Bill Bostock, *South Korea Launched Wristbands for those Breaking Quarantine because People were leaving their Phones at Home to Trick Government Tracking Apps*, BUSINESS INSIDER (Apr. 11, 2020, 4:28 AM), https://www.businessinsider.com/south-korea-wristbands-coronavirus-catch-people-dodging-tracking-app-2020-4.

4. Sukhyun Ryu, Youngsik Hwang, Hongbi Yoon, Byung Chul Chun, *Self-Quarantine Noncompliance During the COVID-19 Pandemic in South Korea*, DISASTER MED. AND PUB. HEALTH PREPAREDNESS, 1, 2 (Oct. 12, 2020) (published online by the Cambridge University Press) https://www.cambridge.org/core/journals/disaster-medicine-and-public-health-preparedness/article/selfquarantine-noncompliance-during-the-covid19-pandemic-in-south-

The COVID-19 pandemic will almost certainly not be the last.[5] When the next transmissible disease threatens the world, global leaders may look to the relative successes of countries that heavily monitored their citizens during the COVID-19 pandemic—like South Korea.[6] Officials in the U.S., which has never implemented a monitoring program similar to that of South Korea, may at some point consider instituting similar extensive surveillance measures. Therefore, potential constitutional issues posed by disease surveillance deserve ex ante examination.

This Note analyzes how the Fourth Amendment should apply to one subset of disease surveillance measures: digital surveillance designed to enforce quarantines. This analysis is framed by a hypothetical state-run quarantine surveillance program, presented in Section I. In the program, the government would track personal electronic devices to determine whether individuals left their homes in violation of a valid quarantine order, subjecting violators to legal penalties.

The modern Fourth Amendment doctrine and its historical underpinnings suggest that such a surveillance program would only pass constitutional muster if backed by probable cause.[7] The Fourth Amendment generally requires that before the government initiates a search it has probable cause.[8] To satisfy probable cause, the government must have individualized suspicion—meaning, generally, reasonable grounds to believe that searching *here* (say, this suspect's house) is more likely to be fruitful than searching *anywhere* (all other houses).[9] Because of the individualized suspicion requirement intrinsic to the

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korea/44485280CA49B6C2B7A15F289D4DEB8C.

5. Leading scientists have forecasted deadlier and more frequent disease outbreaks in the near future. INTERNATIONAL PLATFORM ON BIODIVERSITY AND ECOSYSTEM SERVICES, WORKSHOP ON BIODIVERSITY AND PANDEMICS, EXECUTIVE SUMMARY, https://ipbes.net/pandemics. Furthermore, three pandemics occurred in the twentieth century. Edwin D. Kilbourne, *Influenza Pandemics of the 20th Century*, 12 EMERGING INFECTIOUS DISEASES J. 9, 9 (2006).

6. *See* Henrik Pettersson, Byron Manley, Sergio Hernandez, *Tracking Covid-19's Global Spread*, CNN (May 6, 2021, 11:00 AM), https://www.cnn.com/interactive/2020/health/coronavirus-maps-and-cases/ (showing that South Korea and Israel, two counties that took digital surveillance measures to help stem COVID-19, at least initially fared far better than the United States in deaths per capita).

7. *See infra* Section IV and Section V.

8. *See Probable Cause*, BLACK'S LAW DICTIONARY (11th ed. 2019) (defining probable cause as "[a] reasonable ground to suspect that a person has committed or is committing a crime or that a place contains specific items connected with a crime").

9. *See* Maryland v. Pringle, 540 U.S. 366, 366 (2003) (noting that probable cause "must be particularized with respect to the person to be searched or seized").

probable cause standard,[10] broad concerns about disease spread—something common to all Americans, not particularized to a few—likely would not be sufficient to extensively surveil. Practically, this means the government likely could not implement en masse quarantine surveillance.[11]

Instead, absent significant doctrinal change,[12] the Fourth Amendment seems to permit only *targeted* quarantine surveillance.[13] Before tracking an individual's electronic device, the government would likely need reasonable grounds to believe a person is infected or reasonable grounds to believe that a person has committed or plans to commit a quarantine violation.[14] In practice, law enforcement would likely have to obtain a warrant before tracking individuals or, if obtaining a warrant was too burdensome, track individuals under the exigent circumstances doctrine.[15]

Section I of this Note presents a hypothetical state-run quarantine surveillance program. Section II explores the relevance of originalism and historical practice to this quarantine surveillance program. Section III explains the current Fourth Amendment doctrine pertinent to the program and concludes that the hypothetical program likely constitutes a Fourth Amendment "search." Section IV reasons that a suspicionless, penalty-backed quarantine surveillance program is likely unconstitutional, as the administrative search doctrine likely could not sustain the program. Section V contends that probable cause could support a quarantine surveillance program under certain circumstances. Section VI discusses what courts would likely consider when deciding whether a probable cause-based program is sufficiently "reasonable" under the Fourth Amendment.

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10. *Id.*

11. Of course, there may be epidemiological and efficiency benefits to tracking broad swaths of the population. But Fourth Amendment jurisprudence suggests that without individualized suspicion governmental interests in public health should give way to individual privacy interests.

12. In his dissent in *Terminiello v. City of Chicago*, Justice Jackson quipped, "[t]here is danger that, if the Court does not temper its doctrinaire logic with a little practical wisdom, it will convert the Constitution into a suicide pact." 337 U.S. 1, 36 (1949) (Jackson, J., dissenting). If a pandemic deadlier than COVID-19 infected the global community, and if available surveillance technology could save thousands or even millions of lives, the Court would likely adapt—not sacrifice the nation for its probable cause doctrine. Courts might observe that the Fourth Amendment's "reasonableness" requirement seems designed for this adaptation. Therefore, this Note is limited in its scope; it does address doomsday scenarios or the potential for immense doctrinal change.

13. *See infra* Section V.

14. *Id.*

15. *Id.*

I. SETTING THE STAGE: THE HYPOTHETICAL STATE-RUN QUARANTINE SURVEILLANCE AND ENFORCEMENT PROGRAM

This section outlines how a state government might impose a valid quarantine order and an accompanying monitoring scheme.[16] The following sections examine the scheme's constitutionality.

This Note's hypothetical program is based loosely on South Korea's COVID-19 response. The hypothetical program would be entirely government-run[17] and would monitor individuals who are legally obliged to self-quarantine by tracking personal electronic devices, like cellphones or smart watches. The program would either mandate the installation of a tracking app or otherwise track the location of the device, such as through GPS technology. Furthermore, legal penalties for quarantine violators could include fines, small amounts of jail time, or other reasonable criminal penalties.

Additionally, states, not the federal government, would implement the hypothetical program. States have historically quarantined individuals with some frequency.[18] And, as the Supreme Court has

16. This framework is necessary to ground the analysis because quarantine surveillance could take the various forms. The framework is, admittedly, both too restrictive and too open-ended. By the time another pandemic surfaces, the notion of quarantine and the many complications associated with enforcing such quarantines may have changed. Moreover, technology may have improved enough to render this framework anachronistic. The framework also leaves open many important variables; for instance, as discussed in Section III, tweaking the extent of the tracking under the surveillance program might significantly alter the Fourth Amendment analysis. Still, the framework is a good estimate of current technological capabilities and provides a necessary analytical starting point.

17. This entirely government-run problem would avoid any issues posed by the third-party doctrine. The third-party doctrine provides that individuals have no reasonable expectation of privacy under the Fourth Amendment when they voluntarily hand over information to a third party, such as a bank or an email service provider. This means the government can generally obtain this information with no warrant and only the consent of the third party. Therefore, a quarantine surveillance program where the government partners with the private sector—a possibility not addressed by this Note—might be shielded by the third-party doctrine. Nonetheless, the Supreme Court in Carpenter v. United States 138 S. Ct. 2206 (2018) may have signaled a partial retreat of the doctrine, as the Court determined that a Fourth Amendment violation occurred when the government warrantlessly gathered an individual's historical cell phone location data from a cell service provider.

18. Josh Hicks, *A Brief History of Quarantines in the United States*, THE WASHINGTON POST (Oct. 7, 2014, 6:00 AM), https://www.washingtonpost.com/news/federal-eye/wp/2014/10/07/a-brief-history-of-quarantines-in-the-united-states/ (noting several instances of states quarantining individuals who were suspected to be infected with a dangerous disease); *see* HOWARD MARKEL, QUARANTINE: EAST EUROPEAN JEWISH IMMIGRANTS AND THE NEW YORK CITY EPIDEMICS OF 1892, 46–59 (1997) (explaining how during the 1892 outbreak of typhoid fever, New York City forcibly quarantined 1,200 people, mostly Eastern European Jewish Immigrants, when the vast majority of such people—approximately 1,100—were not infected); *see also* Givens v. Newsom, 459 F.Supp.3d 1302, 1310–17 (E.D. Cal. 2020), *aff'd*, 830 F. App'x 560 (9th Cir. 2020) (denying plaintiffs' motion for a temporary restraining order on the California

emphasized, states have police powers to design rational "quarantine laws" and "health laws."[19] The federal government, lacking these police powers, would face distinct constitutional issues in implementing quarantine surveillance.[20]

II. THE FOURTH AMENDMENT: TEXT AND RELEVANT HISTORY

Digital quarantine surveillance programs would likely face their most potent challenges under the Fourth Amendment. The amendment's text provides that the government may not initiate "unreasonable searches"[21] against "persons" or their "houses, papers, and effects."[22] The original understanding of the Fourth Amendment is notoriously vague, including what constitutes a "search" and what kinds of searches are "reasonable."[23] Yet history provides some clues about original intent, particularly because the Fourth Amendment was derived from similar provisions in several state constitutions.[24]

The Fourth Amendment is generally thought to have adopted the holdings of two mid-late eighteenth-century Anglo-American cases: *Wilkes v. Wood* and *Entick v. Carrington*.[25] Both cases involved so-

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Governor's executive order that, due to the COVID-19 pandemic, directed residents to "stay home or at their place of residence except as needed," with exceptions that permitted "necessary shopping and certain kinds of work").

19. Gibbons v. Ogden, 22 U.S. 1, 8 (1824); Jacobson v. Massachusetts, 197 U.S. 11, 25 (1905).

20. States may be owed special deference regarding public health matters, as suggested by the Court in Jacobson v. Massachusetts, 197 U.S. 11, 25 (1905). Also, quarantine surveillance could raise novel issues under the Commerce Clause, and the anti-commandeering doctrine may pose hurdles to federal implementation.

21. Quarantine monitoring likely does not invite a discussion of "seizures," the other kind of government activity contemplated in the Fourth Amendment.

22. *See* U.S. CONST. amend. IV ("The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated . . . .").

23. *See* Orin S. Kerr, *The Curious History of Fourth Amendment Searches*, 2012 SUP. CT. REV. 67, 71–72 (2013) (noting that the issue of what constitutes a search "rarely arose" in the Founding era, leaving us with "little evidence" besides the examples of "physical entries into homes, violent rummaging for incriminating items once inside, and then arrests and the taking away of evidence found"); David A. Sklansky, *The Fourth Amendment and Common Law*, 100 COLUM. L. REV. 1739, 1743–44 (2000) (arguing that the common law that supposedly underpins the Fourth Amendment is sparse, vague, and contradictory); *see also* Wyoming v. Houghton, 526 U.S. 295, 299–300 (1999) (Justice Scalia, writing for the majority, seemed to implicitly acknowledge that originalism is not decisive in many Fourth Amendment cases, noting that, "[w]here that inquiry [into the common law at the time the Fourth Amendment was adopted] yields no answer, we must evaluate the search or seizure under traditional standards of reasonableness by assessing, on the one hand, the degree to which it intrudes upon an individual's privacy and, on the other, the degree to which it is needed for the promotion of legitimate governmental interests.").

24. *See* Kerr, *The Curious History of Fourth Amendment Searches*, *supra* note 23, at 70–71.

25. *See* Wilkes v. Wood (1763) 98 Eng. 489 (KB); Entick v. Carrington (1765) 95 Eng. Rep.

called "general warrants," which gave English law enforcement broad authority to raid colonists' houses in search of anything related to anonymous pamphlets criticizing the King.[26] The courts in both cases disapproved of this practice.[27]

The Fourth Amendment is also generally viewed as having overturned certain English colonial practices. These practices include the frequent use of "writs of assistance," which gave British officials broad license to forcibly enter American homes, without specific warrants, whenever the homes were suspected to contain uncustomed goods.[28]

These origins provide little guidance for dealing with the nuances of many modern searches. The main historical takeaway—that searches into the home generally require specific warrants—has already been incorporated into Fourth Amendment jurisprudence.[29] Moreover, at the time of the founding, common law concerning privacy rights was sparse and vague, which complicates efforts to discern the Fourth Amendment's original meaning.[30]

Therefore, originalism has not played a central role in most of the Supreme Court's Fourth Amendment jurisprudence, [31] even as more conservative justices have occupied the Court.[32] The prevailing test for determining whether a "search" has occurred tracks contemporary, not originalist, intuitions about privacy.[33] And the Supreme Court's standard articulation of Fourth Amendment "reasonableness" is not

807 (KB).

26. *Wilkes* 98 Eng. at 498; *Entick* 95 Eng. at 817–18.

27. *Id.*

28. NELSON B. LASSON, THE HISTORY AND DEVELOPMENT OF THE FOURTH AMENDMENT TO THE UNITED STATES CONSTITUTION 55 (Da Capo Press 1970) (1937).

29. *See* Stanford v. Texas, 379 U.S. 476, 480 (1965) ("For we think it is clear that this warrant was of a kind which it was the purpose of the Fourth Amendment to forbid—a general warrant.").

30. *See* Sklansky, *supra* note 23, at 1743–44 (arguing that the common law that supposedly underpins the Fourth Amendment is sparse, vague, and contradictory).

31. Originalism, as traditionally understood by academics, suggests that a law's meaning should not change much over time. *See* Bernadette Meyler, Towards a Common Law Originalism, 59 STANFORD L. REV. 551, 551 (2010) (noting that originalists generally interpret the law as based on a relatively static view of common law at the time of a law's enactment, then suggesting a more adaptable "common law originalism"). As noted, some reconcile originalism with the Fourth Amendment by arguing that the amendment was intended to change over time.

32. *See* Lawrence Rosenthal, *An Empirical Inquiry into the Use of Originalism: Fourth Amendment Jurisprudence During the Career of Justice Scalia*, 70 HASTINGS L.J. 75, 75 (2018) (finding that less than 14 percent of the Court's opinions addressing a disputed question of the Fourth Amendment were decided on originalist grounds).

33. Sklansky, *supra* note 23, at 1739–40.

grounded in original intent.[34] Furthermore, prominent scholars have reasoned that the Founders intended the "reasonableness" and "search" elements of the Fourth Amendment to evolve over time, especially to accommodate new technological developments.[35] In short, Fourth Amendment jurisprudence has generally been flexible and context-based.

Still, the Fourth Amendment's historical background appears to have slight—but noteworthy—bearing on the issue of digital quarantine surveillance. First, judges could cite the famed "castle doctrine,"[36] which might justify heightened scrutiny of home surveillance programs. Second, judges could cite the 1905 case *Jacobson v. Massachusetts*, which might justify deference to state governments on public health matters.[37]

A. The Castle Doctrine's Relevance to Quarantine Surveillance

Though the Supreme Court has often disregarded history in interpreting the Fourth Amendment, the old English maxim that "a man's house is his castle" remains relevant. The maxim has been directly linked to the drafting of the Fourth Amendment.[38] And throughout American history courts have maintained a particularly acute focus on privacy rights in the home.[39] Before the emergence of the modern Fourth Amendment doctrine, the Supreme Court often

34. *See* Wyoming v. Houghton, 526 U.S. 295, 299–300 (1999) (noting that where an originalist inquiry into the common law "yields no answer, we must evaluate the search or seizure under traditional standards of reasonableness by assessing, on the one hand, the degree to which it intrudes upon an individual's privacy and, on the other, the degree to which it is needed for the promotion of legitimate governmental interests).

35. *See, e.g.*, Orin S. Kerr, *The Challenge of Fourth Amendment Originalism and the Positive Law Test*, THE VOLOKH CONSPIRACY (Jan. 19, 2018, 6:39 AM) (arguing that originalist materials are simply too sparse to devise a modern and operational Fourth Amendment doctrinal test).

36. D. Benjamin Barros, *Home as a Legal Concept*, 46 SANTA CLARA L. REV. 255, 257 (2006) (noting that the castle doctrine originated at common law, gives special rights to self-defense in one's home, and are given special treatment in Fourth Amendment jurisprudence).

37. Jacobson v. Massachusetts, 197 U.S. 11, 11 (1905).

38. First, the paradigmatic government searches that the Fourth Amendment is believed to have responded to, in *Wilkes* and *Entick*, both involved home intrusions. Second, in 1761 James Otis famously argued in court against the aforementioned "writs of assistance," emphasizing that such writs would remove the "freedom of one's own house" and derogate the principle that a "man's house is his castle"; a young John Adams was inspired by Otis's arguments and went on to draft the Massachusetts Constitution, which became a model for the Fourth Amendment. William Baude & James Y. Stern, *The Positive Law Model of the Fourth Amendment*, 129 HARV. L. REV. 1821, 1837–38 (2016).

39. *See* Barros, *Home as a Legal Concept supra* note 36, at 257 ("Homes also are given favored treatment in search and seizure law, and their importance to the Founders is reflected in the language of the Fourth Amendment.").

determined what constituted a "search" by analogizing the activity at hand to home searches.[40] And in 1914, the Supreme Court recognized that "a man's house was his castle," though not in the Fourth Amendment's text, was "enacted into the fundamental law in the 4th Amendment."[41] In modern times, justices continue to cite the common law maxim favorably.[42]

Therefore, some judges may be inclined to heavily scrutinize quarantine surveillance programs that track individuals' locations within their homes. Although in the hypothetical program the government would technically search electronic devices, the function of the search would be to track whether an individual stays in or leaves their home. History and original intent suggest such a program should face greater judicial scrutiny than searches entirely outside of the home.[43]

B. Historical Deference to Elected Officials on Public Health Issues

Nonetheless, some precedent suggests that courts should defer to the decisions of elected officials on public health matters. In *Jacobson v. Massachusetts*, the Supreme Court upheld a Massachusetts law that imposed a five-dollar fine on adults who refused to get vaccinated during a smallpox outbreak.[44] In reaching its conclusion, the Court emphasized the principle of deference to the "police power[s] of a state," especially if states are acting to protect the "public health" or passing "quarantine laws."[45] Additionally, the Court underscored that sometimes individual liberties must give way to the "common good."[46]

Although *Jacobson*'s holding has never been overturned, the reasoning in *Jacobson* likely is not decisive on the issue of quarantine surveillance. The opinion only briefly mentioned "quarantine laws" in dictum. And the Court decided *Jacobson* sixty years before the incorporation of the Fourth Amendment against the states,[47] when the

40. Kerr, *The Curious History of Fourth Amendment Searches*, *supra* note 23, at 68–69.

41. Weeks v. United States, 232 U.S. 383, 390 (1914).

42. *See, e.g.*, Minnesota v. Carter, 525 U.S. 83, 94 (1998) (Scalia, J., concurring) ("The people's protection against unreasonable search and seizure in their 'houses' was drawn from the English common-law maxim, 'A man's home is *his* castle.'").

43. For instance, digital contact tracing programs—tracking the spread of disease between people largely outside of the home—might be less scrutinized.

44. Jacobson v. Massachusetts, 197 U.S. 11, 39 (1905).

45. *Id.* at 25.

46. *Id.* at 26.

47. *See* Mapp v. Ohio, 367 U.S. 643 (1961) (applying the Fourth Amendment against the states for the first time).

Court had not yet developed modern tiers of scrutiny.

Jacobson's legacy has, additionally, been tarnished. In the 1927 case *Buck v. Bell*, the Supreme Court infamously invoked *Jacobson* to uphold a Virginia law that provided for the forced sterilization of certain individuals, including those who were intellectually disabled.[48] The Court reasoned that "[t]he principle that sustains compulsory vaccination is broad enough to cover cutting the fallopian tubes."[49]

More recently, the Supreme Court has suggested that *Jacobson* should be strictly limited to its holding regarding compulsory vaccinations. In particular, when the Supreme Court struck down COVID-19 precautions that the Court said unfairly singled out religious gatherings, it declined to apply the deferential standard of *Jacobson* and instead applied strict scrutiny to the state-implemented public health measures.[50] In that decision, Justice Gorsuch declared that *Jacobson*'s deferential standard should not apply when a "fundamental right" is at stake.[51] In another case, Justice Alito, joined in dissent by Justice Thomas and Justice Kavanaugh, reasoned that "*Jacobson* must be read in context" as deciding a "challenge to a local ordinance requiring residents to be vaccinated for small pox."[52] The trio argued that "[i]t is a considerable stretch to read the decision as establishing the test to be applied . . . [to] other provisions not at issue in that case."[53] Notably, the Fourth Amendment was not explicitly at issue in *Jacobson*.[54]

Because of the recent souring towards *Jacobson*, courts seem unlikely to apply *Jacobson*-style deference in lieu of the standard Fourth Amendment analysis. Nonetheless, the case may still hold some sway: modern courts may take into account the central components of the 1905 Court's reasoning—that states have traditionally had wide discretion over public health, and that courts should be hesitant to interfere with public health policy—as considerations for determining

48. Buck v. Bell, 274 U.S. 200, 207 (1927).

49. *Id.*

50. *See* Roman Catholic Diocese of Brooklyn v. Cuomo, 141 S. Ct. 63, 67 (2020) (concluding that the challenged restrictions were neither "neutral" nor of "general applicability" because of their effect on churches and synagogues).

51. *Id.* at 70 (Gorsuch, J., concurring).

52. Calvary Chapel Dayton Valley v. Sisolak, 140 S.Ct. 2603, 2608 (2020) (Alito, J., dissenting).

53. *Id.*

54. *See generally* Jacobson v. Massachusetts, 197 U.S. 11 (1905) (not discussing the Fourth Amendment and instead addressing other constitutional provisions like the Fourteenth Amendment).

whether a search is sufficiently "reasonable" under Fourth Amendment.[55]

In sum, two pieces of historical evidence point in opposite directions. The common law mantra that "a man's house is his castle" suggests that surveillance related to an individual's home is particularly suspect, whereas the reasoning in *Jacobson*—although constricted in more recent years—suggests some judicial deference to state lawmakers on public health matters.

III. FOURTH AMENDMENT DOCTRINE AND SURVEILLANCE AS A "SEARCH"

A. The Modern Fourth Amendment Doctrine and its Pertinent Exceptions

The government violates the Fourth Amendment if it performs a "search" that is "unreasonable." Both elements, under the modern doctrine, involve an inquiry into reasonableness—the "touchstone of the Fourth Amendment."[56]

First, government intrusions constitute Fourth Amendment "searches" if they either violate "reasonable expectation[s] of privacy" under *Katz v. United States*, the *Katz* test,[57] or constitute a trespass at common law under *United States v. Jones*, the *Jones* test.[58] In general, the Supreme Court has broadly defined the array of government intrusions that constitute "searches," which range from rifling through a suspect's car to unlocking a suspect's cell phone.[59]

Second, searches must be "reasonable." Warrantless searches tend to be unreasonable.[60] Courts grant warrant requests only upon a showing of probable cause and a determination that the proposed search is otherwise reasonable.[61]

Still, the Supreme Court has declared that warrantless searches are sometimes permissible if they fall within "a few specifically established

55. The interplay between *Jacobson* and the Fourth Amendment's "reasonableness" requirement is discussed in Section VII.

56. Ohio v. Robinette, 519 U.S. 33, 39 (1996).

57. Katz v. United States, 389 U.S. 347, 360 (1967) (Harlan, J., concurring).

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

59. *See* Riley v. California, 573 U.S. 373, 386 (2014) (applying the search incident to arrest doctrine to modern cell phones).

60. City of Ontario v. Quon, 560 U.S. 746, 760 (2010).

61. *See* U.S. CONST. amend. IV (requiring that warrants may only be issued upon "probable cause" and that all searches not be "unreasonable").

and well-delineated exceptions to that general rule."[62] These so-called "exceptions" have proliferated,[63] sometimes with vague doctrinal tests and uncertain applicability.[64] Of the many exceptions, two would likely be relevant in a court's analysis of quarantine surveillance: the exigent circumstances doctrine and the administrative search doctrine.[65]

The exigent circumstances doctrine applies when "the exigencies of the situation make the needs of law enforcement so compelling that a warrantless search is objectively reasonable under the Fourth Amendment."[66] Such exigencies include pursuing a fleeing suspect, rendering emergency aid to an individual suffering from a serious injury, and intervening to prevent imminent destruction of evidence.[67]

For a warrantless search to satisfy the exigent circumstances doctrine, it must be responsive to an "emergency"[68] in which it is not practical to secure a warrant.[69] Courts will then assess the reasonableness of the search, which is often determined by weighing "the degree to which [the search] intrudes upon an individual's privacy [against] the degree to which it is needed for the promotion of legitimate governmental interests," such that the party with the overriding interests will prevail.[70]

The second relevant exception to the warrant requirement, the administrative search doctrine or "special needs" doctrine, generally applies when the government searches large numbers of individuals without having prior evidence that the individuals are guilty of any wrongdoing.[71] Administrative searches include screenings of travelers by airport security, drug testing for public employment, and vehicle

62. *Quon*, 560 U.S. at 760.

63. Phyllis T. Bookspan, *Reworking the Warrant Requirement: Resuscitating the Fourth Amendment*, 44 VAND L. REV. 473, 481 n.43 (1991) ("There are no fewer than 12 (and perhaps more than 15) exceptions to the warrant requirement.").

64. Eve Brensike Primus, *Bringing Clarity to the Administrative Search Doctrine: Distinguishing Dragnets from Special Subpopulation Searches*, 39 SEARCH AND SEIZURE L. REP. 61, 61 (2012) (noting the current incoherence of the administrative search exception to the Fourth Amendment's general warrant requirement).

65. The third-party doctrine, *supra* note 17, would be relevant in a surveillance scheme that involved both the government and the private sector, which is not discussed here.

66. Kentucky v. King, 563 U.S. 452, 460 (2011).

67. *Id.*

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

69. *Id.*

70. Birchfield v. North Dakota, 136 S. Ct. 2160, 2176 (2016) (quoting Riley v. California, 573 U.S. 373, 385 (2014)).

71. *See* Primus, *supra* note 64, at 61 (noting the large scale of administrative searches and that "the government conducts thousands of administrative searches every day").

checkpoints designed to curtail drunk driving.[72]

For a warrantless search to satisfy the administrative search doctrine, it must serve "special governmental needs, beyond the normal need for law enforcement."[73] Much like under the exigent circumstances doctrine, courts will also assess reasonableness by weighing the governmental interest in the search against individual privacy interests.[74]

B. Quarantine Surveillance Likely Constitutes a Fourth Amendment "Search"

The modern Fourth Amendment doctrine suggests that digital disease surveillance, as contemplated by this Note, likely constitutes a "search"—meaning it must be reasonable to be constitutional.

The *Jones* test provides that searches include "trespass[es] at common law."[75] Forced installation of an app or other program on an electronic device likely qualifies as an offense at common law called "trespass to chattels." The offense involves "direct physical interference with a chattel possessed by another."[76] It initially only applied to physical property, but courts have since applied it to cyberspace.[77]

Furthermore, under the *Katz* "reasonable expectation of privacy" test, any location tracking to enforce quarantine—with or without an app—likely constitutes a "search." The Supreme Court held in *Carpenter v. United States* that a "search" occurred when law enforcement agents inspected cell-site location information records, which allowed the agents to track the past movements of a suspect based on location data.[78] Location data gathered in quarantine surveillance would likely be more precise and may track current, not historical, movements—making an even more compelling case than

72. *Id.*

73. Nat'l Treasury Emps. Union v. Von Raab, 489 U.S. 656, 665–66 (1989).

74. *See* Bd. of Educ. of Indep. Sch. Dist. No. 92 v. Earls, 536 U.S. 822, 829–34 (2002) (in a case involving a search in the public school context—a context where the Court has previously held that "special needs" doctrine applies—weighing individual interests in privacy against governmental interests).

75. *See* United States v. Jones, 565 U.S. 400, 411 (2012) (demonstrating that trespasses at common law often constitute Fourth Amendment searches).

76. *Trespass*, BLACK'S LAW DICTIONARY (11th ed. 2019).

77. Laura Quilter, *The Continuing Expansion of Cyberspace Trespass to Chattels*, 17 BERKELEY TECH. L.J. 421, 421 (2002) (noting that trespass to chattels has been applied by courts to, among other things, spam emails and "spiders" searching internet databases).

78. Carpenter v. United States, 138 S. Ct. 2206, 2223 (2018).

Carpenter for a violation of reasonable expectations of privacy.

Nonetheless, state governments could ostensibly design tracking programs that would strain the notion of a "search." For instance, state governments might develop an "extruder alert" that would notify authorities when individuals left their property boundaries, yet somehow prevented all other tracking information from reaching the government. This would seem considerably less invasive than the tracking at issue in *Carpenter*.

This hypothetical extruder alert turns on tighter constitutional margins, but it still likely constitutes a Fourth Amendment search. Such a program would be far from non-invasive, as it would precisely track around the clock whether and when individuals left their homes. Courts might also hesitate to rule that such an invasive use of technology is non-justiciable under the Constitution, especially because courts have been particularly sensitive to privacy invasions that involve the home.[79]

IV. THE ADMINISTRATIVE SEARCH DOCTRINE: A POOR FIT FOR QUARANTINE SURVEILLANCE

The administrative search doctrine may seem like an attractive foothold for government officials seeking to implement a quarantine surveillance program. After all, the doctrine does not require the government to obtain a warrant or make a showing of probable cause.[80] And at least one scholar has argued that the administrative search doctrine could likely accommodate a wide array of high-tech disease surveillance programs.[81] Nonetheless, the doctrine likely does not support the quarantine surveillance program posited by this paper—mainly because penalty-backed searches aimed at public health issues likely fall within "the normal need for law enforcement."

A. Quarantine Surveillance Primarily Serves a Law Enforcement Purpose

The administrative search doctrine only applies in cases in which the "primary purpose" of a search is "distinguishable from the general

79. *See, e.g.*, *Jones*, 565 U.S. at 411 (noting that it matters that the trespass was upon the "curtilage of a home," not an "open field," because the former category is specifically enumerated in the Fourth Amendment).

80. *See* Nat'l Treasury Emps. Union v. Von Raab, 489 U.S. 656, 665 (1989) (establishing that warrants and probable cause are not indispensable components of reasonableness).

81. Alan Z. Rozenshtein, *Digital Disease Surveillance*, 70 AM. U. L. REV. 101, 106 (2021).

interest in crime control"[82] or serves a governmental need "beyond the normal need for law enforcement."[83]

In determining what constitutes a "normal need for law enforcement," certain holdings are clear. The doctrine permits otherwise reasonable searches with no law enforcement involvement. For instance, public schools can routinely drug test students who participate in extracurricular activities so long as schools do not provide the test results to law enforcement.[84] But the doctrine does not permit searches that are inseparable from standard police activities. For instance, police may not initiate suspicionless searches of every house in a neighborhood for drug paraphernalia.

The Supreme Court has largely declined to elaborate on this doctrinal test. It remains unclear how the doctrine applies when there is *some* police involvement. For instance, sometimes the doctrine permits collateral prosecutions, meaning prosecutions based on what was uncovered in the search. The Court has allowed collateral prosecutions of routinely drug-tested public employees,[85] but it has disallowed collateral prosecutions in other cases.[86] As such, it is most informative to focus on recent case law and trends in Supreme Court jurisprudence.

In 2001, the Court signaled that the administrative search doctrine does not permit collateral prosecutions to serve as "means to an end" if the "end" is a public health purpose.[87] The Court in *Ferguson v. City of Charleston* reviewed a local policy that authorized hospitals to provide law enforcement with the results of drug tests, such as tests for cocaine, performed on pregnant women. The hospital would, without these pregnant women's consent, send the drug tests to local law enforcement, upon which prosecutors could charge the women with

82. City of Indianapolis v. Edmond, 531 U.S. 32, 40 (2000).

83. *Von Raab*, 489 U.S. at 665.

84. Bd. of Educ. of Indep. Sch. Dist. No. 92 v. Earls, 536 U.S. 822, 825, 833 (2002); *see also* Ontario v. Quon, 560 U.S. 746, 760 (2010) (holding that a valid administrative search occurred where the government monitored a police officer's text messages, subjecting the officer to internal discipline but not prosecution).

85. Skinner v. Ry. Lab. Executives' Ass'n, 489 U.S. 602, 634 (1989) (holding that public rail employees could be routinely drug tested by their employer and subject to prosecution based on that evidence).

86. *See* City of Los Angeles v. Patel, 576 U.S. 409, 412–13 (2015) (holding that certain searches of hotel records were unconstitutional, and not protected under the administrative search doctrine, because the search scheme permitted prosecution of a misdemeanor record-keeping violation).

87. Ferguson v. City of Charleston, 532 U.S. 67, 84 (2001).

drug crimes.[88] The Court struck down the program because although "the ultimate goal of the program may well have been to get the women in question into substance abuse treatment and off of drugs, the immediate objective of the searches was to generate evidence for law enforcement purposes in order to reach that goal."[89]

Any potential quarantine surveillance program would also purportedly serve an ultimate public health goal. Penalty-backed quarantine laws would, like the program in *Ferguson*, be a "means" to an end; the "immediate objective" would be to penalize individuals who broke quarantine.

Furthermore, the Court in *Ferguson* noted a difficult line-drawing problem. Because enforcement of nearly every law serves a broader public purpose, accepting the argument that public health justifies a penalty-backed search would seem to immunize "virtually any nonconsensual suspicionless search."[90] Every law—from homicide statutes to jaywalking ordinances—can be framed as a "means" of promoting public health and safety. By that token, categorizing quarantine surveillance as an administrative search risks including an unwieldy number of searches in that category.

Finally, the administrative search doctrine is in flux, and—perhaps with an eye to the *Ferguson* court's line-drawing argument—the prevailing trend seems to be to narrow the scope of the searches the doctrine covers. Early Supreme Court cases applied the administrative search doctrine expansively, permitting collateral prosecutions in several schemes.[91] But since 2001[92] the Supreme Court has not issued a single opinion upholding an administrative search scheme. Moreover, in line with the *Ferguson* case, the Supreme Court again recently cut back on the administrative search doctrine—declining to apply the traditionally "more relaxed" review of administrative searches of heavily regulated businesses to a law permitting certain hotel inspections.[93]

88. *Id.* at 70–73.

89. *Id.* at 82–83.

90. *Id.* at 84.

91. *See* United States v. Martinez-Fuerte, 428 U.S. 543, 566–67 (1976) (holding that suspicionless searches at checkpoints for undocumented immigrants were constitutional); *see also* Skinner v. Ry. Lab. Executives' Ass'n, 489 U.S. 602, 634 (1989) (holding that employee drug testing without a warrant or reasonable suspicion was constitutional).

92. *See* Bd. of Educ. of Indep. Sch. Dist. No. 92 v. Earls, 536 U.S. 822, 825 (2002) (holding that suspicionless drug testing of some students in extracurricular activities was constitutional).

93. *See* City of Los Angelos v. Patel, 576 U.S. 409, 412–13 (2015) (holding that certain searches of hotel records were unconstitutional because noncompliance was considered a

B. Administrative Searches Tend to Be Routine Responses to Non-Emergency Scenarios

Administrative searches are aptly named: they tend to be routine, mundane, "administrative" responses to persistent problems. These searches include drug testing of public employees, routine firearm inspections, and airport security checks.[94] Such searches have become regular responses to the ever-present societal problems posed by drugs, guns, and terrorism. Furthermore, administrative searches tend to continue perpetually rather than respond temporarily to time-bound emergencies.

Quarantine surveillance, by contrast, would likely address the unusual and fleeting emergency of disease spread. It would seem "unreasonable" to permit perpetual government location tracking; everyday Americans and courts alike would likely balk at quarantine surveillance that amounted to more than a temporary fix.

C. The Administrative Search Doctrine is Too Vague and Inconsistent to Justify Quarantine Surveillance

Furthermore, the administrative search doctrine is too vague and contradictory for courts to apply it consistently to quarantine surveillance. The Supreme Court has not elaborated much on the "normal need for law enforcement" test. And the Court has applied the test disparately: for instance, it has authorized suspicionless searches of vehicles at checkpoints for undocumented immigrants,[95] but it did not allow suspicionless searches at highway checkpoints for drugs in vehicles.[96] Scholars, too, have repeatedly criticized the doctrine—bemoaning its variability,[97] incoherence,[98] and lack of limiting principles.[99]

The administrative search doctrine's origins help explain its current contradictions. The doctrine stemmed from two distinct strains of suspicionless searches: searches involving "minimally intrusive

misdemeanor).

94. Primus, *supra* note 64, at 61, 63.

95. United States v. Martinez-Fuerte, 428 U.S. 543, 566–67 (1976).

96. City of Indianapolis v. Edmond, 531 U.S. 32, 44 (2000).

97. Primus, *supra* note 64, at 61.

98. *See* Stephen J. Schulhofer, *On the Fourth Amendment Rights of the Law-Abiding Public*, 1989 SUP. CT. REV. 87, 89 (noting the administrative search doctrine's "doctrinal incoherence").

99. *See* Scott E. Sundby, *A Return to Fourth Amendment Basics: Undoing the Mischief of Camara and Terry*, 72 MINN. L. REV. 383, 407 n.76 (1988) (arguing that all searches outside of a street crime setting could be justified under the Fourth Amendment).

government actions" like checkpoint inspections for drunk driving, and "searches of special subpopulations" like drug tests of probationers.[100] Case law has commingled these two strains, leading to murky doctrine and unpredictable results.[101] Therefore, the administrative search doctrine offers unsteady grounds on which lawmakers can justify a quarantine surveillance program. Courts are likely to reason that such an extensive search program merits a consistent approach, not grounding in an unpredictable doctrine.

D. When the Administrative Search Doctrine May Apply

The administrative search doctrine may still justify quarantine surveillance programs that do not subject violators to legal penalties. This could conceivably take many forms. For instance, epidemiologists might surveil quarantine breaches to predict where disease outbreaks will occur, then design responsive public health programs. Or, more colorfully, the government might institute a sort of name-and-shame program by publishing the identities of quarantine violators on a public forum. These surveillance programs without penalties could be administrative searches, under the strict language of the doctrine, because they are not in any way entangled with law enforcement.

Nonetheless, these quarantine surveillance programs might still violate the Fourth Amendment. Courts would subject them to a generalized "reasonableness" inquiry, balancing individual interests against governmental interests.[102] In the above-mentioned programs, the individual privacy interests at stake in a would still be quite high, as individuals would be constantly and invasively monitored. Moreover, the governmental interest would be minimal in a program that does not work, and enforcement-less programs might likely lack the coercive power to be effective.

V. EXIGENT CIRCUMSTANCES, WARRANTS, AND PROBABLE CAUSE: JUSTIFYING TARGETED QUARANTINE SURVEILLANCE

Authorities could likely use a warrant program or the exigent circumstances doctrine to justify quarantine surveillance. Importantly,

100. Primus, *supra* note 64, at 62–65.

101. *Id.* at 61.

102. *See* Bd. of Educ. of Indep. Sch. Dist. No. 92 v. Earls, 536 U.S. 822, 829–34 (2002) (in a case involving a search in the public school context—a context where the Court has previously held that "special needs" doctrine applies—weighing individual interests in privacy against governmental interests).

both exigent circumstances and warrants require probable cause—meaning that before initiating quarantine surveillance authorities would need some sort of evidence pertinent to the quarantined individual. These searches would still be subject to a generalized determination of whether the search program is "reasonable."[103]

A. Emergency Disease Spread Can Rise to The Level of an "Exigent Circumstance"

The exigent circumstances doctrine applies in urgent situations when obtaining a warrant is impractical.[104] Courts determine the existence of a sufficient emergency by a loose, "totality of the circumstances" test.[105] Classic examples of exigent circumstances include burning buildings and fleeing suspects.[106]

To make use of the exigent circumstances doctrine, it must be impractical to obtain a warrant. For instance, the Supreme Court has held that suspected drunk driving does not constitute a "per se exigency" that permits police officers to require drivers to submit to a blood test.[107] In that case, the Court reasoned that it may be practical for law enforcement officers to secure a warrant—especially over the telephone—because alcohol in the bloodstream "naturally dissipates over time in a gradual and relatively predictable manner."[108]

Instances of rapid and dangerous disease spread, such as the COVID-19 pandemic, are most naturally framed as emergencies. The more difficult question is when it would become impractical for police to obtain a warrant before initiating quarantine surveillance. In many circumstances, especially if the number of infections is low, obtaining a timely warrant may be possible. Perhaps there would be an expedited process to approve quarantine surveillance warrants.

Still, obtaining warrants may become nearly impossible. If a disease becomes widespread, the judicial system could become overrun with warrant requests that would delay processing. Moreover, mere hours-long delays in issuing warrants could prove deadly, as individuals could break quarantine and infect others in a short time. Therefore, if the judicial system is unable to issue prompt warrants, the exigent

103. *See infra* Section VII.
104. *See* Missouri v. McNeely, 569 U.S. 141, 153 (2013).
105. *Id.* at 145.
106. *Id.* at 149.
107. *Id.* at 145.
108. *Id.* at 153.

circumstances doctrine should be available to fill in the gaps.

B. Probable Cause: A Requirement for Warrants and Exigent Circumstances

Searches authorized by warrants or the exigent circumstances doctrine require probable cause. Probable cause generally means reasonable grounds—or "more than a bare suspicion"—"to suspect that a person has committed or is committing a crime or that a place contains specific items connected with a crime."[109] This standard requires individualized suspicion—or evidence particular to an individual—to initiate a search,[110] not merely a generalized suspicion that all Americans will violate quarantine restrictions.

Evidence that an individual has broken quarantine would likely satisfy probable cause. Reasonable grounds to believe a past crime has occurred, such as previously violating a quarantine law, fits squarely within the definition of probable cause.[111]

Evidence of plans to violate quarantine is likely sufficient too. The Supreme Court has held that reasonable suspicion of a future crime can constitute probable cause—approving of "anticipatory" warrants based on "probable cause that at some future time (but not presently) certain evidence of a crime will be located at a specified place.'"[112] This evidence could potentially take a few different forms, such as evidence that an individual has communicated plans to break quarantine.

Moreover, reasonable suspicion that an individual is infected with the disease at issue would likely satisfy probable cause. Courts have repeatedly upheld governmental quarantines of individuals where there was evidence that the individual was infected, though these cases tend to include a sovereign immunity element.[113] Because being infected is not criminal activity, it admittedly does not fit neatly within the above definition of probable cause. But, in practice, government

109. *Probable Cause*, BLACK'S LAW DICTIONARY (11th ed. 2019).

110. Maryland v. Pringle, 540 U.S. 366, 366 (2003) (noting that probable cause "must be particularized with respect to the person to be searched or seized").

111. *See Probable Cause*, BLACK'S LAW DICTIONARY (11th ed. 2019) (reasonable suspicion that an individual "has committed" a past crime constitutes probable cause).

112. United States v. Grubbs, 547 U.S. 90, 94 (2006).

113. *See, e.g.*, Hickox v. Christie, 205 F. Supp. 3d 579, 596 (D.N.J. 2016) (upholding the forced quarantine of a nurse suspected to be infected with Ebola because the judge "fail[ed] to see a lack of probable cause so clear as to overcome the [state] officials' qualified immunity"); Liberian Ass'n of Conn. v. Lamont, 970 F.3d 174, 193 (2d Cir. 2020) (upholding a quarantine because there was no clearly established case law cited by appellants in which in which "a court has invalidated a quarantine order under the Fourth Amendment").

searches need not always be justified by criminal activity. For instance, accidental house fires are non-criminal events, yet they certainly justify "searches."[114] Accordingly, several circuit courts have adopted broader definitions of probable cause to encompass non-criminal situations.[115]

Evidence that an individual is infected would almost certainly include positive test results and could, depending on the circumstances, include a display of symptoms. Additionally, probable cause might be satisfied by evidence that an individual came into contact with an infected individual, depending on the transmissibility of the disease.

VI. "REASONABLENESS": THE FINAL HURDLE FOR IMPLEMENTING QUARANTINE SURVEILLANCE

Under either the exigent circumstances doctrine or a warrant program, probable cause is not enough: Courts are still empowered to strike down any search that is "unreasonable." This inquiry can be broken down into two sets of considerations: "the degree to which [the search] is needed for the promotion of legitimate governmental interests," and "the degree to which [the search] intrudes upon an individual's privacy."[116]

This inquiry, which can be conceptualized as a backstop to the analysis in the prior sections, is virtually unbounded.[117] This section presents some judicial considerations that would likely be pivotal in determining the constitutionality of quarantine surveillance.

A. Weighing the Governmental Interest in Stemming Disease Spread

The extent of the governmental interest in quarantine surveillance is, in large part, a function of the danger posed by a given disease. For instance, the common cold, COVID-19, and the Black Plague pose different degrees of threats and therefore merit different governmental

114. Michigan v. Tyler, 436 U. S. 499, 509 (1978) (holding that "[a] burning building clearly presents an exigency of sufficient proportions to render a warrantless entry 'reasonable'").

115. Cantrell v. City of Murphy, 666 F.3d 911, 923 (5th Cir. 2012) ("[P]robable cause exists where the facts and circumstances within the officer's knowledge at the time of the seizure are sufficient for a reasonable person to conclude that an individual is mentally ill and poses a substantial risk of serious harm."); *see also* Monday v. Oullette, 118 F.3d 1099, 1102 (6th Cir. 1997) ("The Fourth Amendment requires an official seizing and detaining a person for psychiatric evaluation to have probable cause to believe that the person is dangerous to himself or others.").

116. Birchfield v. North Dakota, 136 S. Ct. 2160, 2176 (2016).

117. *See id.* at 2177–78 (weighing a number of factors in the balancing-of-interests analysis, including the degree to which a search—a blood alcohol test—physically intruded on an individual, the degree of intimate information captured in the test, the degree of embarrassment and anxiety caused by the test, and the government's interest in preventing drunk driving).

responses. Quite clearly, a disease's characteristics—including deadliness and transmissibility—impact the government's interest in combatting that disease.

Time and location also likely influence this risk calculus. If a disease is exceptionally dangerous, quarantine surveillance could be justified when cases begin to emerge in the United States. But the governmental interest may diminish as time passes and the threat begins to subside, especially if vaccinations become widespread or herd immunity occurs.

Furthermore, courts will likely defer to government authorities on the technical aspects of responding to an outbreak. Judges would be apt to recognize the judiciary's relative lack of institutional competence in dealing with disease spread. And *Jacobson*'s deference to state governments on health issues likely still holds some weight in the Fourth Amendment analysis—though likely not enough to formally alter the doctrinal test.[118]

Judges are also likely to take a more active role in policing civil liberty violations the longer a disease lingers. In part, courts will probably more intensely scrutinize government policies when time has passed because scientific data about the disease and effective responses should be more widely known and accessible to the courts. As a practical matter, too, the government should be held to a higher standard when acting on a more informed basis, as opposed to reacting hurriedly when a disease first threatens U.S. citizens.

Additionally, the governmental interest in quarantine surveillance is inherently tied to alternatives; if less-invasive means can adequately address disease spread, then quarantine surveillance becomes less reasonable. Mask mandates and vaccinations, for instance, might be sufficiently effective. Furthermore, widely held freedom-loving sentiments in the U.S. may prevent quarantines from being effective in the first place.

B. Weighing the Privacy Intrusions of Quarantine Surveillance

To determine the degree to which a quarantine surveillance program "intrudes upon an individual's privacy,"[119] courts are likely to evaluate the extent of the location tracking and the length of time during which an individual is surveilled. As discussed, quarantine

118. *See supra* Section II (discussing why *Jacobson* likely has some bearing, but not much, on the issue of quarantine surveillance).

119. *Birchfield*, 136 S. Ct. at 2176.

surveillance programs can track an individual's every move over the quarantine period, or, conceivably, limit the information gathered by the government to the mere fact of exiting one's designated quarantine location.[120] The latter would be less invasive and therefore more reasonable.

Some courts may also place weight on the "castle doctrine,"[121] which, as discussed, permits judges to heavily scrutinize searches of the home. Quarantine surveillance that tracks individuals in and around the home likely conflicts with this doctrine.

Finally, courts are likely to consider guardrails—measures the government took, or could have taken, to decrease the intrusion on privacy. One measure might be safeguards to prevent location data hacking, especially from hostile foreign governments. Another privacy-promoting measure might be supplemental legislation that limited how the government could use location data or mandated a time by which the government must delete the data.

CONCLUSION

Fourth Amendment jurisprudence disfavors en masse quarantine surveillance. Courts would likely strike down sweeping quarantine surveillance programs that tracked large swaths of individuals. But courts might uphold programs that only targeted individuals for whom the government established probable cause—including establishing some form of individualized suspicion. This means the government, before surveilling an individual, would likely have to obtain evidence that the individual is infected with the disease or evidence that an individual has violated or plans to violate a quarantine order. Even if the government gathered this evidence, probable cause is likely a *minimum* requirement; courts would likely retain vast discretion to determine that a probable cause-backed surveillance program is "unreasonable."

120. *See supra* Section III (discussing the various forms that location tracking could take).

121. *See supra* Section II (discussing the castle doctrine and heightened judicial focus on privacy rights in the home).