

CORONAVIRUS LIABILITY: LESSONS FROM THE H1N1, EBOLA, AND ZIKA CRISES

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I. INTRODUCTION

The novel coronavirus COVID–19 pandemic continues to infect thousands of individuals a day.¹ Despite the arrival of much-anticipated vaccines,² thousands of deaths are likely still to occur as there is a delay between the onset of infections and the mass availability of the vaccine.³

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1. See Berkeley Lovelace Jr., *Biden Warns Covid Vaccine Won't Stop Deaths of 'Tens of Thousands' Americans in the Months to Come*, CNBC (Dec. 22, 2020, 4:37 PM), <https://www.cnbc.com/2020/12/22/biden-warns-covid-vaccine-wont-stop-deaths-of-tens-of-thousands-americans-in-the-months-to-come.html> [<https://web.archive.org/web/20210101141740/https://www.cnbc.com/2020/12/22/biden-warns-covid-vaccine-wont-stop-deaths-of-tens-of-thousands-americans-in-the-months-to-come.html>].

2. See Denise Grady et al., *F.D.A. Authorizes Moderna Vaccine, Adding Millions of Doses to U.S. Supply*, N.Y. TIMES (Dec. 18, 2020), <https://www.nytimes.com/2020/12/18/health/covid-vaccine-fda-moderna.html> [<https://web.archive.org/web/20210317164222/https://www.nytimes.com/2020/12/18/health/covid-vaccine-fda-moderna.html>].

3. See Victoria Bekiempis, *Hundreds of Thousands More US Covid Deaths Possible Amid Vaccine Chaos*, GUARDIAN (Jan. 2, 2021, 2:00 PM), <https://www.theguardian.com/>

As the United States recovers from a terrifying pandemic, a wave of coronavirus-related liability lawsuits is emerging.⁴

Scholars have already addressed a number of legal issues relating to the pandemic in law reviews, examining the coronavirus and force majeure contractual provisions,⁵ rationing of medical care,⁶ constitutional concerns with governmental regulation during the pandemic,⁷ pretrial detention during the pandemic,⁸ the CARES Act,⁹ vaccine approval,¹⁰ domestic travel restrictions,¹¹ liability waivers,¹² “terroristic threats and COVID-19,”¹³ and sports during the pandemic.¹⁴

As courts throughout the country decide coronavirus-related liability issues, judges can look to claims that arose out of three recent health crises:

world/2021/jan/02/hundreds-thousands-more-us-covid-deaths-likely-vaccine-delay [https://www.theguardian.com/world/2021/jan/02/hundreds-thousands-more-us-covid-deaths-likely-vaccine-delay].

4. See Associated Press, *Businesses, Lacking Legal Immunity, Fear COVID-19 Lawsuits*, DALL. MORNING NEWS (Dec. 21, 2020), <https://www.dallasnews.com/business/2020/12/21/businesses-lacking-legal-immunity-fear-covid-19-lawsuits/> [https://web.archive.org/web/20210320203657/https://www.dallasnews.com/business/2020/12/21/businesses-lacking-legal-immunity-fear-covid-19-lawsuits/].

5. See Bodhisattwa Majumder & Devashish Giri, *Coronavirus & Force Majeure: A Critical Study (Liability of a Party Affected by the Coronavirus Outbreak in a Commercial Transaction)*, 51 J. MAR. L. & COM. 51 (2020).

6. See Samuel D. Hodge Jr. & Jack Hubbard, *COVID-19: The Ethical and Legal Implications of Medical Rationing*, 56 GONZ. L. REV. 159 (2020).

7. See Craig Konnoth, *Narrowly Tailoring the COVID-19 Response*, 11 CALIF. L. REV. ONLINE 193 (2020); Lindsey F. Wiley & Stephen I. Vladeck, *Coronavirus, Civil Liberties, and the Courts: The Case Against “Suspending” Judicial Review*, 133 HARV. L. REV. F. 179 (2020).

8. See Jenny E. Carroll, *Pretrial Detention in the Time of COVID-19*, NW. U.L. REV. ONLINE 59 (2020).

9. See Pamela Foohey et al., *CARES Act Gimmicks: How Not to Give People Money During a Pandemic and What to Do Instead*, 2020 U. ILL. L. REV. ONLINE 81 (2020).

10. See Daniel Ganz, *Reconsidering Discretion in Expedited Vaccine Approval in Light of the Novel Coronavirus*, 2020 U. ILL. L. REV. ONLINE 203 (2020).

11. See Katherine Florey, *COVID-19 and Domestic Travel Restrictions*, 96 NOTRE DAME L. REV. REFLECTION 1 (2020).

12. See Zahra Takhshid, *Nonessential Businesses and Liability Waivers in the Time of COVID-19*, 105 MINN. L. REV. HEADNOTES 42 (2020).

13. See Chad Flanders et al., *“Terroristic Threats” and COVID-19: A Guide for the Perplexed*, 169 U. PA. L. REV. ONLINE 63 (2020).

14. See Thomas Baker III et al., *College Football in the Time of COVID-19*, 2020 WIS. L. REV. FORWARD 101 (2020).

the H1N1 pandemic,¹⁵ the Ebola crisis,¹⁶ and the Zika crisis.¹⁷ This Article makes a novel contribution to this emerging legal literature on the coronavirus pandemic by analyzing the cases that arose out of these crises and how these past decisions may apply to fact patterns that arise out of the current coronavirus pandemic.

II. THE H1N1 PANDEMIC

A. An Overview of the 2009–2010 H1N1 Pandemic

The H1N1 “swine flu” pandemic of 2009–2010 originated from a group of pigs located in central Mexico.¹⁸ For approximately a decade, the parent virus which caused the swine flu pandemic circulated among pigs until the virus mutated to infect humans.¹⁹ Once the pig-to-human barrier was crossed, the virus spread quickly throughout the world.²⁰

By June 2009, the swine flu outbreak was declared a pandemic by the World Health Organization (WHO).²¹ In approximately a one-year period, from April 12, 2009 until April 10, 2010, according to CDC estimates, just over 60 million individuals in the United States became ill with the H1N1

15. See *2009 H1N1 Pandemic (H1N1pdm09 Virus)*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html> [<https://web.archive.org/web/20210320024316/https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html>] (last visited Jan. 31, 2021) [hereinafter *2009 H1N1 Pandemic*].

16. See *2014–2016 Ebola Outbreak in West Africa*, Ctrs. for Disease Control & Prevention (2019), <https://www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/index.html> [<https://web.archive.org/web/20210318074604/https://www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/index.html>] (last visited Feb. 1, 2021) [hereinafter *2014–2016 Ebola Outbreak in West Africa*].

17. See Donald G. McNeil Jr., *How the Response to Zika Failed Millions*, N. Y. TIMES (Jan. 16, 2017), <https://www.nytimes.com/2017/01/16/health/zika-virus-response.html> [<https://web.archive.org/web/20210204192716/https://www.nytimes.com/2017/01/16/health/zika-virus-response.html>].

18. See Press Release, *Researchers Discover the 2009 Swine Flu Pandemic Originated in Mexico*, MOUNT SINAI (June 27, 2016), <https://www.mountsinai.org/about/newsroom/2016/researchers-discover-the-2009-swine-flu-pandemic-originated-in-mexico> [<https://web.archive.org/web/20210318001509/https://www.mountsinai.org/about/newsroom/2016/researchers-discover-the-2009-swine-flu-pandemic-originated-in-mexico>].

19. *Id.*

20. *Id.*

21. See Mackenzie Bean, *A Look Back at Swine Flu: 8 Facts About the World’s Last Pandemic in 2009*, BECKER’S HOSP. REV. (Mar. 12, 2020), <https://www.beckershospitalreview.com/public-health/swine-flu-8-facts-about-the-world-s-last-pandemic-in-2009.html> [<https://web.archive.org/web/20201206224503/https://www.beckershospitalreview.com/public-health/swine-flu-8-facts-about-the-world-s-last-pandemic-in-2009.html>].

virus, over 270,000 were hospitalized, and over 12,000 individuals lost their lives.²²

Within several months of the official start of the pandemic, a vaccine was developed.²³ By December 2009, the vaccine was more widely available in the United States.²⁴ On August 10, 2010, the H1N1 pandemic was declared to be at an end by the WHO.²⁵

Approximately .001 percent to .007 percent of the world's population died of the virus during the first twelve months of its circulation.²⁶ The mortality rate of the virus among infections in the United States was about .02% overall.²⁷ Even to this day, the H1N1 strain still circulates as a seasonal strain of the influenza virus.²⁸

B. Court Cases

One of the keys to defeating the COVID-19 pandemic is vaccinating a significant percentage of the population.²⁹ The 2009-2010 H1N1 pandemic abated after the distribution of a vaccine to help thwart the virus as well as the end of the 2009-2010 flu season.³⁰ It is still unclear as to whether many businesses, as well as schools, will mandate receipt of the COVID-19 vaccine.³¹

22. See 2009 H1N1 Pandemic, *supra* note 15.

23. See Bean, *supra* note 21.

24. See 2009 H1N1 Pandemic, *supra* note 15.

25. *Id.*

26. See *id.*

27. See Ian Richardson, *Fact Check: 2009 Swine Flu Spread Rapidly, But COVID-19 is More Deadly*, USA TODAY (Aug. 13, 2020, 2:01 PM), <https://www.usatoday.com/story/news/factcheck/2020/08/13/fact-check-swine-flu-spread-rapidly-but-not-deadly-covid-19/5577001002/> [<https://web.archive.org/web/20210314160751/https://www.usatoday.com/story/news/factcheck/2020/08/13/fact-check-swine-flu-spread-rapidly-but-not-deadly-covid-19/5577001002/>].

28. See 2009 H1N1 Pandemic, *supra* note 15.

29. See Deidre McPhillips, *This is How Long it Could Take to Vaccinate All the Adults in the U.S. Against COVID-19*, CNN (Jan. 21, 2021, 4:34 PM), <https://www.cnn.com/2021/01/21/health/us-vaccination-timeline-analysis/index.html> [<https://web.archive.org/web/20210305202523/https://www.cnn.com/2021/01/21/health/us-vaccination-timeline-analysis/index.html>].

30. See Rebekah H. Borse et al., *Effects of Vaccine Program Against Pandemic Influenza A(H1N1) Virus, United States, 2009-2010*, 19 EMERGING INFECTIOUS DISEASES 439, 439-40 (2013), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3647645/pdf/12-0394.pdf> [<https://web.archive.org/web/20210327002506/https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3647645/pdf/12-0394.pdf>].

31. See Binghui Huang, *Businesses Want Their Workers to Receive the Coronavirus Vaccine. But Will They Require It?*, INDIANAPOLIS STAR (Jan. 8, 2021, 5:00 AM), <https://www.indystar.com/story/news/health/2021/01/08/employers-deciding-whether-mandate-coronavirus-vaccines/6555371002/> [<https://web.archive.org/web/>].

The inoculation of a kindergartner with the H1N1 influenza vaccine without the parents' informed consent occurred in the New York case of *Parker v. St. Lawrence County Public Health Department*.³² In the *Parker* case, the Governor of New York issued an executive order permitting state and local health departments to establish vaccination clinics to distribute the H1N1 vaccine.³³ It was at a vaccination clinic at a school where a nurse administered a vaccine to a kindergartner without the parents' consent.³⁴ The parents filed suit against the St. Lawrence County Public Health Department ("public health department") in state court, alleging that the administration of the vaccine without their consent constituted negligence and battery.³⁵

At the trial court level, the public health department argued the case should be dismissed on the basis that the Public Readiness and Emergency Preparedness Act preempted the state law negligence and battery claims.³⁶ The Public Readiness and Emergency Preparedness Act authorizes the United States Secretary of Health and Human Services to take necessary countermeasures to curb a public health emergency.³⁷ The law provides for liability protections for "covered persons" from federal and state law claims "resulting from the administration to . . . an individual of a covered countermeasure" during a public health emergency.³⁸ The only exception to the liability protection is a federal claim for a "death" or "serious physical injury" due to "willful misconduct."³⁹ The trial court denied the public health department's motion to dismiss.⁴⁰

On appeal, the New York Supreme Court Appellate Division reversed the trial court and held that through the Public Readiness and Emergency Preparedness Act, Congress intended to preempt claims "arising from the administration of covered countermeasures," including a claim based upon the failure to obtain consent.⁴¹ The *Parker* court reasoned that Congress' likely reason to limit tort liability for administration of vaccines was to promote a prompt and efficient response to pandemics and public health emergencies.⁴²

20210325004335/https://www.indystar.com/story/news/health/2021/01/08/employers-deciding-whether-mandate-coronavirus-vaccines/6555371002/].

32. 954 N.Y.S.2d 259 (N.Y. App. Div. 2012).

33. *Id.* at 261.

34. *Id.*

35. *Id.*

36. *Id.*

37. *See* 42 U.S.C. § 247(d)(a) (2019).

38. 42 U.S.C. §§ 247d–6d(a)(1)–(2).

39. 42 U.S.C. §§ 247d–6d(d)(1).

40. *Parker*, 954 N.Y.S.2d at 261.

41. *Id.* at 262.

42. *Id.* at 263.

Informed consent also arose as a significant legal issue in *Flyte v. Summit View Clinic*.⁴³ This litigation resulted from the death of a woman and her infant daughter following complications from the woman suffering from the H1N1 influenza virus.⁴⁴ In June 2009, the decedent had started feeling ill after being seven months pregnant and she thus visited the defendant's clinic.⁴⁵ The clinic did not provide informed consent or advice to the patient regarding the pandemic or the availability of the drug Tamiflu to counteract influenza symptoms.⁴⁶

The patient's condition worsened over a period of several weeks, and she received treatment from a number of medical providers during this time while she was in a medically induced coma.⁴⁷ The patient delivered her daughter while in the coma, but tragically the patient died in August 2009.⁴⁸ Her daughter died several months later in February 2010.⁴⁹

The clinic was sued by the spouse of the decedent (representative of the estate of his deceased spouse and daughter, as well as guardian of his living son) for failure to test his spouse for the H1N1 virus, failure to administer Tamiflu, as well as failure to provide informed consent regarding the H1N1 pandemic and available treatment options.⁵⁰ During the course of the litigation, the spouse had settled with one other medical provider for \$3.5 million.⁵¹

During trial, the court issued an instruction to the jury that the clinic had no duty to provide informed consent until a positive diagnosis of H1N1 had been made.⁵² However, the *Flyte* court noted that under Washington law the duty of a medical provider to provide informed consent is not confined solely to situations after a positive diagnosis of a condition is made,⁵³ but rather also encompasses situations where an "intelligent and informed choice" regarding a diagnostic procedure can be presented to a patient.⁵⁴ At trial, the jury issued a verdict for the defendants.⁵⁵ On appeal, the Washington Court of Appeals reversed the trial court on the basis that the court committed error in allowing admission of evidence regarding the \$3.5 million settlement with the other

43. 333 P.3d 566 (Wash. Ct. App. 2014).

44. *Id.* at 568.

45. *Id.*

46. *Id.*

47. *Id.*

48. *Id.* at 568–69.

49. *Id.* at 569.

50. *Id.*

51. *Id.*

52. *Id.*

53. *Id.* at 577.

54. *Id.* at 576.

55. *Id.* at 569.

provider before the jury and that the court utilized an improper instruction on informed consent that misstated the law.⁵⁶ Thus, the case was reversed and remanded for a new trial.⁵⁷

After the new trial, the jury awarded \$16.7 million in damages after finding the defendant failed to provide informed consent to the decedent.⁵⁸ The trial court also reduced the award by \$3.5 million, the amount of the settlement with the other medical provider.⁵⁹

On appeal for the second time, the Washington Court of Appeals in *Flyte* reversed the trial court regarding the reduction in the award.⁶⁰ The court held that the other medical provider was not a jointly and severally liable defendant and thus the defendant was not entitled to an offset for \$3.5 million.⁶¹ The plaintiff was therefore entitled to the full \$16.7 million award.⁶²

A nurse's alleged exposure to the H1N1 virus during a shift at a pediatric intensive care unit in a hospital in McAllen, Texas, in May 2009 served as the primary underlying facts of *Ebaseh-Onofa v. McAllen Hospitals, L.P.*⁶³ After working a shift on May 29, 2009, the nurse did not feel well.⁶⁴ After several days, on June 3, 2009, the nurse was admitted to the emergency room.⁶⁵ Two days later, on June 5, 2009, the nurse died.⁶⁶ It was later determined the nurse died from the H1N1 virus.⁶⁷

In 2011, the spouse of the decedent filed a wrongful death lawsuit against the hospital and alleged that the hospital failed to provide his spouse with an N95 respirator mask to wear during her shifts, despite the hospital's knowledge of her caring for patients in the pediatric intensive care unit who had either confirmed or suspected H1N1 infections.⁶⁸

The defendant hospital filed a motion for summary judgment.⁶⁹ The plaintiff's expert, an epidemiologist, submitted an affidavit that he reviewed the redacted records of a patient in the pediatric intensive care unit who was being treated at the same time the decedent nurse worked

56. *Id.* at 577.

57. *Id.*

58. *See Flyte v. Summit View Clinic*, 199 Wash. App. 1058, No. 48278-9-II, 2017 WL 3034638 at *3 (Wash. Ct. App. July 18, 2017).

59. *Id.*

60. *Id.* at *14.

61. *Id.*

62. *Id.*

63. No. 13-14-00319-CV, 2015 WL 2452701 (Tx. Ct. App. May 21, 2015).

64. *Id.* at *1.

65. *Id.*

66. *Id.*

67. *Id.*

68. *Id.*

69. *Id.*

there.⁷⁰ The epidemiologist opined that the patient's symptoms were consistent with H1N1 and that this patient was the source of the nurse's infection with H1N1.⁷¹ In response, the hospital countered with an affidavit of the patient whose medical records the epidemiologist relied upon and the patient affirmed she never tested positive for H1N1.⁷²

The Texas Court of Appeals in the *Ebaseh-Onofa* case affirmed the trial court's granting of summary judgment.⁷³ In particular, the court in *Ebaseh-Onofa* emphasized that the only evidence produced by the plaintiff on the issue of causation was the epidemiologist's affidavit and even that affidavit was countered by the evidence that the patient who supposedly infected the nurse had in fact tested negative for influenza.⁷⁴ With these facts, no evidence existed which proved the nurse contracted H1N1 in the pediatric intensive care unit rather than "the community at large."⁷⁵ The *Ebaseh-Onofa* court thus concluded that the plaintiff only produced "speculation" on causation and the defendant hospital prevailed on summary judgment.⁷⁶

C. Application to the COVID-19 Pandemic

The *Parker*, *Flyte*, and *Ebaseh-Onofa* cases all provide insight into potential COVID-19 liability claims against either public health departments or medical providers. The *Parker* case, where a public health department administered a vaccine to a minor without the parents' informed consent,⁷⁷ illustrates that public health departments and medical providers will have substantial discretion and liability protection when it comes to COVID-19 vaccine distribution. Since the COVID-19 pandemic constitutes a "public health emergency,"⁷⁸ under the Public Readiness and Emergency Preparedness Act there would be liability against the public health department or medical provider only in cases involving *death* or *serious physical injury* involving *willful misconduct* regarding the

70. *Id.* at *2.

71. *Id.*

72. *Id.*

73. *Id.* at *7.

74. *Id.* at *6.

75. *Id.*

76. *Id.* at *7.

77. See *Parker v. St. Lawrence Cnty. Pub. Health Dep't*, 954 N.Y.S.2d 259, 261 (N.Y. App. Div. 2012).

78. See *President Trump Declares State of Emergency for COVID-19*, NAT'L CONF. OF STATE LEGISLATURES (Mar. 25, 2020), <https://www.ncsl.org/ncsl-in-dc/publications-and-resources/president-trump-declares-state-of-emergency-for-covid-19.aspx> [<https://web.archive.org/web/20210325185758/https://www.ncsl.org/ncsl-in-dc/publications-and-resources/president-trump-declares-state-of-emergency-for-covid-19.aspx>].

distribution of the COVID-19 vaccine.⁷⁹ To date, there have been very few cases of serious side effects or allergic reactions due to the administration of the COVID-19 vaccine.⁸⁰ It thus appears likely that there may be no significant liability claims due to serious physical injuries from the COVID-19 vaccine, and even assuming a serious physical injury occurred, a public health department or medical provider would have to engage in “willful misconduct,” which is a very high bar for recovery.

Both the *Parker* and *Flyte* cases highlight the necessity of informed consent for patients who are suspected or do have a diagnosis of COVID-19, and in particular a major lesson of the *Flyte* litigation is that medical providers should immediately test for COVID-19 if a patient appears with symptoms of the virus.

Finally, the case of *Ebaseh-Onofa* underscores a significant hurdle in any COVID-19 liability claim: the hurdle of causation. In a negligence case, the plaintiff must establish cause-in-fact as well as proximate cause.⁸¹ In a virus as mercurial and nebulous as COVID-19, it is often difficult for one to pinpoint exactly one where one was infected with the disease.⁸² In *Ebaseh-Onofa*, the hurdle the plaintiff was unable to overcome was causation—and even with an epidemiologist’s report, contradictory evidence was proffered.⁸³ Many COVID-19 liability claims are likely to fall well short of this hurdle, and if so, the fact of where one was infected would remain mere conjecture or speculation.

79. See 42 U.S.C. §§ 247d–6d(d)(1) (2019).

80. See Helen Branswell, *CDC Reports Rare Allergic Reactions to Moderna’s COVID-19 Vaccine*, STAT (Jan. 22, 2021), <https://www.statnews.com/2021/01/22/cdc-reports-rare-allergic-reactions-to-modernas-covid-19-vaccine/> [<https://web.archive.org/web/20210318070551/https://www.statnews.com/2021/01/22/cdc-reports-rare-allergic-reactions-to-modernas-covid-19-vaccine/>].

81. See *Van Deese v. McKinnonville Hunting Club, Inc.*, 874 So.2d 1282, 1287 (Fla. 1st Dist. Ct. App. 2004) (“Proximate causation consists of both cause in fact and foreseeability”).

82. See Adrianna Rodriguez, *Most COVID-19 Patients Don’t Know Who Infected Them, CDC Survey Finds*, USA TODAY (Jul. 1, 2020, 3:00 PM), <https://www.usatoday.com/story/news/health/2020/07/01/most-covid-19-patients-dont-know-who-infected-them-cdc-survey-finds/5354603002/> [https://web.archive.org/web/20210325191058if_/https://www.usatoday.com/story/news/health/2020/07/01/most-covid-19-patients-dont-know-who-infected-them-cdc-survey-finds/5354603002/].

83. See *Ebaseh-Onofa v. McAllen Hosps., L.P.*, No. 13-14-00319-CV, 2015 WL 2452701 at *6 (Tx. App. May 21, 2015).

III. THE EBOLA CRISIS (2014–2016)

A. An Overview of the 2014–2016 Ebola Crisis

The Ebola virus was first discovered in 1976 within the modern-day Democratic Republic of the Congo.⁸⁴ It is transmitted when the body fluids of one who is infected or has died from Ebola come into contact with the mucous membranes of another person's eyes, nose, and/or mouth.⁸⁵ Symptoms of the disease are often severe and the disease can lead to internal and external bleeding.⁸⁶ The average fatality rate of the disease is 50%.⁸⁷

A major outbreak of Ebola occurred throughout West Africa between 2014 and 2016.⁸⁸ The outbreak started in Guinea and cases started appearing in Liberia as well as Sierra Leone.⁸⁹ On August 8, 2014, the outbreak was designated a Public Health Emergency of International Concern by the WHO.⁹⁰

The following month, in September 2014, a Liberian national was diagnosed with Ebola in the United States.⁹¹ He died in October 2014.⁹² A total of eleven people with Ebola were treated on United States soil and only two individuals (two nurses) contracted the virus within the United States.⁹³

By the middle of 2016, the outbreak in west Africa abated.⁹⁴ The outbreak resulted in approximately 28,600 cases and 11,325 total deaths.⁹⁵

84. See *What is Ebola Virus Disease?*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/vhf/ebola/about.html> [<https://web.archive.org/web/20210322024636/https://www.cdc.gov/vhf/ebola/about.html>] (last visited Feb. 1, 2021).

85. *Id.*

86. See *Ebola Virus Disease*, WORLD HEALTH ORG. (Feb. 23, 2021), <https://www.who.int/news-room/fact-sheets/detail/ebola-virus-disease> [<https://web.archive.org/web/20210325192138/https://www.who.int/news-room/fact-sheets/detail/ebola-virus-disease>].

87. *Id.*

88. See *2014–2016 Ebola Outbreak in West Africa*, *supra* note 16.

89. *Id.*

90. *Id.*

91. See Manny Fernandez & Dave Philipps, *Death of Thomas Eric Duncan in Dallas Fuels Alarm Over Ebola*, N.Y. TIMES (Oct. 8, 2014), <https://www.nytimes.com/2014/10/09/us/ebola-us-thomas-eric-duncan.html> [<https://web.archive.org/web/20210119145850/https://www.nytimes.com/2014/10/09/us/ebola-us-thomas-eric-duncan.html>].

92. *Id.*

93. See *Ebola Facts*, INFECTIOUS DISEASES SOCIETY OF AMERICA (2021), <https://www.idsociety.org/public-health/ebola/ebola-resources/ebola-facts/> [<https://web.archive.org/web/20210330000320/https://www.idsociety.org/public-health/ebola/ebola-resources/ebola-facts/>] (last visited Feb. 1, 2021).

94. See *2014–2016 Ebola Outbreak in West Africa*, *supra* note 16.

95. *Id.*

Since this major outbreak, the virus has periodically returned in smaller outbreaks in the Democratic Republic of the Congo.⁹⁶

B. Court Cases

The Ebola virus was mentioned in the case of *Allen v. Lincare, Inc.*, which involved allegations of racial discrimination and retaliation.⁹⁷ In the *Allen* case, an African-American female filed a discrimination and retaliation lawsuit under Title VII of the Civil Rights Act of 1964, as well as under the Michigan Elliott-Larsen Civil Rights Act, following her termination from employment.⁹⁸ Title VII of the Civil Rights Act and the Elliott-Larsen Civil Rights Act protect an employee who engages in protected activities from adverse actions in employment.⁹⁹ The employer in the case contended that the employee's absences were the reason for the termination.¹⁰⁰ The district court granted summary judgment to the employer.¹⁰¹

The plaintiff provided circumstantial evidence, including an allegation that her supervisor verbally connected her to the virus.¹⁰² In a footnote, the court noted that this particular allegation was closest to not requiring an inferential step but that "even though the step from the virus" zone of occurrence to a clear racial reference is a short one, that step does involve an inference from geography and epidemiology to race, and therefore qualifies as indirect evidence."¹⁰³

The court noted that claims of circumstantial evidence of discrimination and retaliation are governed by the *McDonnell Douglas Corp. v. Green*¹⁰⁴ framework.¹⁰⁵ This framework first requires a plaintiff to provide a prima facie case of discrimination, then the burden shifts to

96. See *History of Ebola Virus Disease (EVD) Outbreaks*, CTRS. FOR DISEASE CONTROL AND PREVENTION, <https://www.cdc.gov/vhf/ebola/history/chronology.html> [<https://web.archive.org/web/20210330001551/https://www.cdc.gov/vhf/ebola/history/chronology.html>] (Last visited Mar. 18, 2021).

97. See *Allen v. Lincare, Inc.*, No. 18-1154, 2018 WL 7347775 (6th Cir. 2018).

98. *Id.* at *1.

99. See 42 U.S.C. § 2000e-2(a)(1). This statute provides that it is an unlawful employment practice "to fail or refuse to hire or to discharge any individual, or otherwise to discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, sex, or national origin" *Id.* See also MICH. COMP. LAWS § 37.2701(a); MICH. COMP. LAWS § 37.2202(a).

100. See *Allen*, 2018 WL 7347775 at *2.

101. *Id.*

102. *Id.* at *1.

103. *Id.* at *2, n. 1.

104. 411 U.S. 792 (1973).

105. See *Allen*, 2018 WL 7347775, at *2.

the employer to establish a legitimate, nondiscriminatory reason for the adverse action to the employee.¹⁰⁶ If a legitimate, nondiscriminatory reason is established, then the burden shifts back to the employee to prove that it was simply a pretext for discrimination or retaliation.¹⁰⁷

In analyzing the evidentiary record in the case, the court in *Allen* noted that the plaintiff did not prove that the employer's reason for firing her (her absences) was a pretextual reason.¹⁰⁸ The grant of summary judgment to the employer was thus affirmed.¹⁰⁹

Ebola also was addressed in the United States District Court for the Southern District of Florida case of *Negron v. Celebrity Cruises*.¹¹⁰ In the *Negron* case, a woman ("plaintiff") started feeling ill while aboard a cruise ship docked in Barbados called the *Celebrity Summit*.¹¹¹ While on the ship, the plaintiff was misdiagnosed with a heart attack and she was transported to a local hospital in Barbados.¹¹² At the hospital, plaintiff underwent a CT scan which had a normal result.¹¹³ After the hospital visit, the ship refused to allow plaintiff and several of her family members the opportunity to reboard the ship.¹¹⁴

The plaintiff and several family members filed suit against the cruise company, and submitted an intentional infliction of emotional distress claim amongst other claims.¹¹⁵ In essence, the plaintiff alleged she was left in a hospital with little food or drink, with discomfort, and in areas contaminated with Ebola.¹¹⁶ In addition, the plaintiff and her family members alleged they were left stranded in a country without proper travel documents or required medications and thus were left unable to enjoy the rest of the cruise they had paid for.¹¹⁷

The cruise ship company filed a motion to dismiss the intentional infliction of emotional distress claim.¹¹⁸ In examining the plaintiffs' claims for intentional infliction of emotional distress, the *Negron* court remarked that it is a claim that is rarely recognized in Florida.¹¹⁹ In Florida, a plaintiff must meet the requirements of four elements of an intentional infliction of

106. *Id.*

107. *Id.*

108. *Id.*

109. *Id.*

110. No. 18-21797-Civ-Scola, 2018 WL 3369671 (S.D. Fla. July 10, 2018).

111. *Id.* at *1.

112. *Id.*

113. *Id.*

114. *Id.*

115. *Id.*

116. *Id.*

117. *Id.*

118. *Id.*

119. *Id.* at *2.

emotional distress claim. A plaintiff must demonstrate that the defendant's conduct was either intentional or reckless, that the conduct is outrageous in nature, that the outrageous conduct caused emotional distress, and finally that the emotional distress is severe.¹²⁰ The *Negron* court cited several cases demonstrating the high burden to establish an intentional infliction of emotional distress claim,¹²¹ including a case where crew members of a cruise ship stood outside of a guest's cabin door for a period of time following the guest having a disagreement with a bartender on the ship.¹²² In the *Garcia* case, the United States District Court for the Southern District of Florida found that under those facts the conduct was not "outrageous" in nature.¹²³ Similarly, in the *Negron* case, the United States District Court for the Southern District of Florida dismissed the plaintiffs' claims notwithstanding the fact the court remarked that they were "distressing."¹²⁴

Finally, in *Coming Attractions Bridal and Formal, Inc. v. Texas Health Resources*, a bridal shop from Akron, Ohio filed a negligence lawsuit against a Texas hospital for a failure to prevent transmission of the Ebola virus that eventually allegedly led to the permanent closure of the bridal shop due to Ebola contamination concerns.¹²⁵ In September 2014, a nurse who cared for a patient with Ebola in a Dallas, Texas hospital took a trip to a bridal shop in Akron, Ohio after hospital officials allegedly cleared her to travel.¹²⁶ After the trip, the nurse tested positive for Ebola.¹²⁷ Since the nurse visited the bridal store, health officials in Ohio required the bridal shop to be temporarily closed.¹²⁸ The bridal store alleged that fear of Ebola eventually caused its permanent closure.¹²⁹

The bridal store sued the Texas hospital for negligence, primarily claiming that its failure to train the nurse regarding proper precautions with the Ebola virus were a proximate cause of its damages.¹³⁰

The hospital filed a motion to dismiss the lawsuit, arguing that the bridal store failed to produce an expert report as required for health care

120. See *De La Campa v. Grifols Am., Inc.*, 819 So.2d 940, 943 (Fla. Dist. Ct. App. 2002).

121. See *Negron*, 2018 WL 3369671, at *2.

122. See *Garcia v. Carnival Corp.*, 838 F. Supp. 2d 1334, 1336 (S.D. Fla. 2012).

123. *Id.* at 1339.

124. See *Negron*, 2018 WL 3369671, at *3.

125. *Coming Attractions Bridal & Formal, Inc. v. Tex. Health Res.*, 595 S.W.3d 659 (Tex. 2020).

126. *Id.* at 661.

127. *Id.*

128. *Id.*

129. *Id.*

130. *Id.*

liability claims under Texas law.¹³¹ While the trial court denied the motion to dismiss,¹³² the Texas Court of Appeals dismissed the lawsuit on the basis that the plaintiff did not produce an expert report.¹³³

The Texas Supreme Court examined the legislative history of the Texas Medical Liability Act and emphasized that the legislature had previously defined a “health care liability claim” as a claim brought forward by a “patient.”¹³⁴ The word “patient” was replaced to “claimant” in 2003.¹³⁵ With this change, the Texas Supreme Court held that the bridal shop fell under the definition of a “claimant” pursuant to the Texas Medical Liability Act.¹³⁶ The Texas Supreme Court also remarked that “the causal link that an expert must supply is the link between the hospital’s negligence and the contamination of the store—and the corresponding risk that the disease will spread—not to the loss of business that allegedly stemmed from this contamination.”¹³⁷ Since an expert was not produced by the plaintiff, the case was properly dismissed.¹³⁸

C. Application to the COVID–19 Pandemic

As the COVID–19 pandemic began to unfold in early 2020, some of the earliest mass outbreaks of the virus took place on cruise ships.¹³⁹ There was much fear with these early outbreaks within the cruise line industry.¹⁴⁰ The *Negron* case, involving fear of Ebola contamination, is an exemplar of the very high hurdles plaintiffs face with any litigation against a cruise

131. *Id.* at 662.

132. *Id.*

133. See *Tex. Health Res. v. Coming Attractions Bridal & Formal, Inc.*, 552 S.W.3d 335 (Tex. Ct. App. 2018).

134. See *Coming Attractions*, 595 S.W.3d at 662.

135. *Id.*

136. *Id.*

137. *Id.* at 667.

138. *Id.*

139. See Smitri Mallapaty, *What the Cruise Ship Outbreaks Reveal About COVID–19*, NATURE (Mar. 26, 2020), <https://www.nature.com/articles/d41586-020-00885-w> [<http://web.archive.org/web/20210330002351/https://www.nature.com/articles/d41586-020-00885-w>].

140. See Will Ripley et al., *‘A Contaminated Prison’: Scared, Angry Passengers are Trapped on Three Cruise Ships Amid Coronavirus Outbreak*, CNN (Feb. 7, 2020, 7:25 AM), <https://www.cnn.com/2020/02/07/asia/us-coronavirus-victim-cruise-ship-intl-hnk/index.html> [<http://web.archive.org/web/20210330002701/https://www.cnn.com/2020/02/07/asia/us-coronavirus-victim-cruise-ship-intl-hnk/index.html>] (last visited Feb. 17, 2021).

line company. In essence, a rule of *caveat emptor*¹⁴¹ exists with regard to passengers traveling on a cruise ship during a time of a health crisis.

Early litigation involving fear of COVID-19 exposure on cruise ships has affirmed practical immunity for the cruise line industry. An excellent example of this is the *Weissberger v. Princess Cruise Lines, Ltd.* case where the United States District Court for the Central District of California dismissed the negligent infliction of emotional distress claims of passengers who were quarantined on the cruise ship *Grand Princess* and who also had fear of contracting COVID-19 while on the ship.¹⁴² As the pandemic unfolds and abates, a lesson from cases such as the *Negron* case and *Weissberger* case is that the cruise line industry apparently has little to fear practically when it comes to legal liability during the COVID-19 pandemic.

IV. THE ZIKA CRISIS

A. An Overview of the 2015–2017 Zika Crisis

In 2015, a large outbreak of Zika virus infections emerged in Brazil.¹⁴³ Zika, a virus transmitted primarily by *Aedes* mosquitoes, can result in some asymptomatic infections but also others with fever, rash, headache, and general malaise.¹⁴⁴ While most infections are mild, the Zika virus can be particularly dangerous in that it has been linked with Guillain-Barré syndrome,¹⁴⁵ and it increases the risk in pregnant women of microcephaly in a developing fetus and newborn.¹⁴⁶

141. Caveat emptor means “buyer beware.” See, e.g., Craig W. Dallon, *Theories of Real Estate Broker Liability and the Effect of the “As Is” Clause*, 54 FLA. L. REV. 395, 398–99 (2002).

142. *Weissberger v. Princess Cruise Lines, Ltd.*, Case No. 2:20-cv-02267-RGK-SK, 2020 WL 3977938 (C.D. Cal. Jul. 14, 2020).

143. See *Zika Virus*, WORLD HEALTH ORG. (Jul. 20, 2018), <https://www.who.int/news-room/fact-sheets/detail/zika-virus> [<http://web.archive.org/web/20210318060929/https://www.who.int/news-room/fact-sheets/detail/zika-virus>].

144. *Id.*

145. See Timothy Huzar, *Zika and Other Arboviruses Linked to Neurological Issues*, MED. NEWS TODAY (Sept. 26, 2020), <https://www.medicalnewstoday.com/articles/zika-and-other-arboviruses-linked-to-neurological-issues#Arthropods-and-arboviruses> [<http://web.archive.org/web/20210330003147/https://www.medicalnewstoday.com/articles/zika-and-other-arboviruses-linked-to-neurological-issues>].

146. See Pien Huang, *Zika: Researchers Are Learning More about the Long-Term Consequences for Children*, NPR (Oct. 9, 2019, 5:06 PM), <https://www.npr.org/sections/goatsandsoda/2019/10/09/768629177/zika-researchers-are-learning-more-about-the-long-term-consequences-for-children> [<http://web.archive.org/web/20210205065332/https://www.npr.org/sections/goatsandsoda/2019/10/09/768629177/zika-researchers-are-learning-more-about-the-long-term-consequences-for-children>].

In 2016 and 2017, there were cases of local transmission of the virus in Texas as well as Florida.¹⁴⁷ In 2015, 62 symptomatic Zika cases were reported in the United States, all from travelers, and none through local transmission;¹⁴⁸ in 2016, 5,168 cases were reported, with 224 cases through mosquito-borne transmission;¹⁴⁹ and in 2017, 452 cases were reported, with only 7 cases through mosquito-borne transmission.¹⁵⁰

Since 2018 no cases of Zika transmission from mosquitoes have been reported in the continental United States.¹⁵¹ While the future threat of Zika remains as the *Aedes* mosquito can be found in a number of states during the summer, mosquito control efforts in the United States are likely to hinder any major outbreaks in the future.¹⁵² Even in the current year of the COVID-19 pandemic, millions of genetically modified mosquitoes are set to be released into the Florida Keys in 2021 and 2022 with the goal of producing offspring that will die before turning into adults.¹⁵³ In addition, researchers are working on developing genetically modified mosquitoes that are completely resistant to the virus.¹⁵⁴

B. The Yawn v. Dorchester County Litigation

In *Yawn v. Dorchester County*, county officials in Dorchester County, South Carolina, took aggressive measures to attempt to mitigate a potential

147. See *Zika in the U.S.*, CTRS. FOR DISEASE CONTROL & PREVENTION (Nov. 7, 2019), <https://www.cdc.gov/zika/geo/index.html> [<http://web.archive.org/web/20210330004134/https://www.cdc.gov/zika/geo/index.html>] [hereinafter *Zika in the US*].

148. See *2015 Case Counts in the US, Zika Virus*, CTRS. FOR DISEASE CONTROL & PREVENTION (April 24, 2019), <https://www.cdc.gov/zika/reporting/2015-case-counts.html> [<http://web.archive.org/web/20210330004609/https://www.cdc.gov/zika/reporting/2015-case-counts.html>].

149. See *2016 Case Counts in the US, Zika Virus*, CTRS. FOR DISEASE CONTROL & PREVENTION (April 24, 2019), <https://www.cdc.gov/zika/reporting/2016-case-counts.html> [<http://web.archive.org/web/20210330005051/https://www.cdc.gov/zika/reporting/2016-case-counts.html>].

150. See *2017 Case Counts in the US, Zika Virus*, CTRS. FOR DISEASE CONTROL & PREVENTION (April 24, 2019), <https://www.cdc.gov/zika/reporting/2017-case-counts.html> [<http://web.archive.org/web/20210320112930/https://www.cdc.gov/zika/reporting/2017-case-counts.html>].

151. See *Zika in the US*, *supra* note 147.

152. See Andrew Jacobs, *The Zika Virus Is Still a Threat. Here's What the Experts Know.*, N.Y. TIMES (Jul. 2, 2019), <https://www.nytimes.com/2019/07/02/health/zika-virus.html> [<http://web.archive.org/web/20210330005436/https://www.nytimes.com/2019/07/02/health/zika-virus.html>].

153. See Brian Consiglio, *Modified Mosquitoes Could Stop Zika Virus Spread*, FUTURITY (Jan. 27, 2021), <https://www.futurity.org/genetically-modified-mosquitoes-zika-virus-2507642/> [<http://web.archive.org/web/20210330005623/https://www.futurity.org/genetically-modified-mosquitoes-zika-virus-2507642/>].

154. *Id.*

outbreak of the Zika virus within the county.¹⁵⁵ County officials approved aerial spraying within the county to kill mosquitoes.¹⁵⁶ The spraying took place on August 28, 2016, which unfortunately led to the unintentional killing of millions of bees on a bee farm within the county.¹⁵⁷

The owners of the bee farm filed a lawsuit in state court, which was removed to the United States District Court for the District of South Carolina.¹⁵⁸ Among the claims the owners made was that the spraying and death of the bees constituted a “taking” under the Fifth Amendment of the United States Constitution.¹⁵⁹ The Fifth Amendment of the United States Constitution provides that public property shall not be taken for public use unless just compensation is given.¹⁶⁰ The county in the case contended that it exercised its power to spray the mosquitoes as part of its police power and that they did not take the plaintiff’s bees for “public use.”¹⁶¹

The United States District Court for the District of South Carolina in *Yawn* concluded, “It is undisputed that the spray was conducted to prevent the spread of disease, a matter that would affect public health. Such an action fits squarely within the state’s police power.”¹⁶² The court also mentioned it was an “unfortunate consequence” and thus the plaintiffs were not entitled to just compensation pursuant to the Fifth Amendment.¹⁶³

C. Application to the COVID–19 Pandemic

A major distinction between Zika and COVID–19 is that Zika is primarily transmitted by mosquitoes¹⁶⁴ and COVID–19, primarily by aerosols.¹⁶⁵ Despite this difference, for some time a number of very aggressive measures were taken in other parts of the world to attempt to

155. See *Yawn v. Dorchester Cty.*, 446 F. Supp. 3d 41 (D.S.C. 2020), *aff’d*, No. 20-1584, 2021 WL 2385404 (4th Cir. June 11, 2021).

156. *Id.* at 43.

157. *Id.* at 43–44.

158. *Id.* at 43.

159. *Id.*

160. See U.S. CONST. amend. V.

161. See *Yawn*, 446 F. Supp. 3d at 43.

162. *Id.* at 46.

163. *Id.*

164. See CNN Editorial Research, *Zika Virus Infection Fast Facts*, CNN (Jul. 2, 2020), <https://www.cnn.com/2016/07/18/health/zika-virus-infection-fast-facts/index.html> [<http://web.archive.org/web/20210330010107/https://www.cnn.com/2016/07/18/health/zika-virus-infection-fast-facts/index.html>].

165. See Apoorva Mandavilli, *Scientists Call on C.D.C. to Set Air Standards for Workplaces*, *Now*, N.Y. TIMES (Feb. 17, 2021), <https://www.nytimes.com/2021/02/17/health/coronavirus-aerosols-workplaces.html> [<http://web.archive.org/web/20210330010305/https://www.nytimes.com/2021/02/17/health/coronavirus-aerosols-workplaces.html>].

stop the spread of the coronavirus—for example, aerial spraying was done in Spain.¹⁶⁶ Large scale aerial spraying did not occur in the United States to fight COVID–19.¹⁶⁷

For future pandemics, the key insight from *Yawn* is that public health authorities have considerable discretion under a state’s police powers to utilize aerial spraying to control a mosquito population in order to control the spread of a disease, even if there are unintentional, harmful effects incident to the exercise of that power.

V. CONCLUSION

The COVID–19 pandemic has changed the world, from social distancing¹⁶⁸ and regular mask wearing,¹⁶⁹ to lockdowns,¹⁷⁰ and even the jailing of individuals who have broken quarantine rules.¹⁷¹ Much uncertainty and questions have followed the virus: why some individuals infected are asymptomatic and others infected become seriously ill,¹⁷² why

166. See Michelle Lewis, *Spain is the First European Country to Use Agricultural Drones to Fight COVID–19*, DRONE DJ (Apr. 1, 2020, 3:13 PM), <https://dronedj.com/2020/04/01/spain-first-in-europe-agricultural-drones-covid-19/> [http://web.archive.org/web/20210330010709/https://dronedj.com/2020/04/01/spain-first-in-europe-agricultural-drones-covid-19/].

167. See Oriana Pawlyk, *Disinfecting Drones to Fight COVID–19? No Thanks, Says Defense Department*, MILITARY.COM (Mar. 18, 2020), <https://www.military.com/daily-news/2020/03/18/disinfecting-drones-fight-covid-19-no-thanks-says-defense-department.html> [http://web.archive.org/web/20210330010920/https://www.military.com/daily-news/2020/03/18/disinfecting-drones-fight-covid-19-no-thanks-says-defense-department.html].

168. See Kristen Rogers & Max Pepper, *Social Distancing Means Standing 6 Feet Apart. Here’s What That Actually Looks Like*, CNN (Mar. 24, 2020, 3:27 PM), <https://www.cnn.com/2020/03/24/health/six-feet-social-distance-explainer-coronavirus-wellness/index.html> [http://web.archive.org/web/20201224201210/https://edition.cnn.com/2020/03/24/health/six-feet-social-distance-explainer-coronavirus-wellness/index.html].

169. See Apoorva Mandavilli, *Confused About Masks? Here’s What Scientists Know*, N.Y. TIMES (Jan. 12, 2021), <https://www.nytimes.com/article/coronavirus-masks.html> [http://web.archive.org/web/20210330011433/https://www.nytimes.com/article/coronavirus-masks.html].

170. See Daniella Genovese, *Coronavirus Lockdowns by State: What You Need to Know*, FOX NEWS (Dec. 30, 2020), <https://www.foxnews.com/us/here-are-your-state-by-state-restrictions> [http://web.archive.org/web/20210330011450/https://www.foxnews.com/us/here-are-your-state-by-state-restrictions] (last visited Jan. 13, 2021).

171. See Leah Asmelash & Jennifer Deaton, *Georgia College Student Who Broke Cayman Islands’ Quarantine Receives Reduced Sentence*, CNN (Dec. 22, 2020), <https://www.cnn.com/2020/12/22/us/cayman-islands-georgia-teen-sentence-trnd/index.html> [http://web.archive.org/web/20210330011500/https://www.cnn.com/2020/12/22/us/cayman-islands-georgia-teen-sentence-trnd/index.html] (last visited Jan. 13, 2021).

172. See Quentin Fottrell, *Why Are Some People With Coronavirus Asymptomatic—Are They as Contagious as Those Who Display Symptoms?*, MARKET WATCH (Aug. 10, 2020,

the illness is so deadly to some younger patients,¹⁷³ the timing of when vaccines will be widely available,¹⁷⁴ to when the horrors of this pandemic will finally end.¹⁷⁵ Until then, the trajectory of the pandemic seems unpredictable.

Thankfully, the adherence to precedent in the law provides for stability and at least some predictability when it comes to judicial outcomes. Cases arising out of the H1N1 pandemic, Ebola crisis, and Zika crisis can provide a guide to judges throughout the country facing COVID-19 liability claims. With the experiences of the H1N1 pandemic, Ebola crisis, Zika crisis, and coronavirus pandemic in our memories, it is my sincere hope that the lessons of these pandemics will inspire all to learn from the lessons of the past to create a safer and more healthy future.

7:02 PM), <https://www.marketwatch.com/story/why-are-some-people-with-coronavirus-asymptomatic-and-why-are-they-so-contagious-2020-08-08> [<http://web.archive.org/web/20210330011559/https://www.marketwatch.com/story/why-are-some-people-with-coronavirus-asymptomatic-and-why-are-they-so-contagious-2020-08-08>] (last visited Jan. 13, 2021).

173. See Lianna Matt McLernon, *Data Reveal Deadliness of COVID-19, Even in Young Adults*, CIDRAP (Dec. 17, 2020), <https://www.cidrap.umn.edu/news-perspective/2020/12/data-reveal-deadliness-covid-19-even-young-adults> [<http://web.archive.org/web/20210317071749/https://www.cidrap.umn.edu/news-perspective/2020/12/data-reveal-deadliness-covid-19-even-young-adults>] (last visited Jan. 13, 2021).

174. See Stephen Gandel, *When Will You Get the COVID-19 Vaccine?*, CBS NEWS (Jan. 13, 2021, 8:23 AM), <https://www.cbsnews.com/news/covid-vaccine-when-can-you-get/> [<http://web.archive.org/web/20210330011704/https://www.cbsnews.com/news/covid-vaccine-when-can-you-get/>].

175. See Megan Scudellari, *How the Pandemic Might Play Out in 2021 and Beyond*, NATURE (Aug. 5, 2020), <https://www.nature.com/articles/d41586-020-02278-5> [<http://web.archive.org/web/20210313184425/https://www.nature.com/articles/d41586-020-02278-5>].