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## On the Road Again: Revisiting State Laws That Unreasonably Restrict Drivers with Epilepsy and Burden the Physicians Who Treat Them

Katrina E. Luffy

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## Comment

# On the Road Again: Revisiting State Laws That Unreasonably Restrict Drivers with Epilepsy and Burden the Physicians Who Treat Them

Katrina E. Lutfy\*

*When a driver with epilepsy experiences a seizure behind the wheel, she is more likely than not to cause an accident. Consequently, all fifty states and the District of Columbia have statutes, regulations, and policies governing drivers with epilepsy and the physicians who treat them. Although these laws aim to protect the states' interest in public safety, many of them are premised on the inaccurate assumption that drivers with epilepsy have higher crash rates than the general population. They provide blanket restrictions for a highly individualized disorder and ignore evidence that drivers with other disorders or diseases should be of similar or greater concern.*

*More Americans are living with epilepsy now than at any point in history. But with advances in medicine and technology, people with epilepsy can control their seizures better now than ever before. This renders many of these laws unnecessary or, at the very least, unreasonably restrictive. This Comment argues that a wave of reform is due. If legislators, administrators, and policymakers want their laws to be rooted in science, rather than stigma, they must revisit state laws that unreasonably restrict drivers with epilepsy and burden the physicians who treat them.*

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\* J.D. Candidate, Loyola University Chicago School of Law, 2021. I dedicate this Comment to my inspirational sister, Grace, and in loving memory of my high school English teacher, Mary Jane Samberg Barrett, who pushed her students to abandon mediocrity and taught me how to breathe life into words. I thank the members of Volume 51 of the *Loyola University Chicago Law Journal* for their thoughtful feedback and invaluable editorial assistance. I thank Professor John Bronsteen for his guidance and enthusiasm for the topic. Finally, I thank my family for their relentless encouragement and David for his steadfast, selfless support. All errors and omissions remain mine alone.

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## INTRODUCTION

Could you live with one, one-minute seizure per year? This is the question Dr. Charles Marcuccilli, Division Chief of Pediatric Neurology and Director of Pediatric Epilepsy at Rush University Medical Center in Chicago, Illinois, asks his new residents.<sup>1</sup> After a long shift spent treating patients who experience multiple debilitating seizures per day, most of his residents answer in the affirmative.<sup>2</sup> “But what if I [told you],” he counters, “for six months out of the year, in most states, [you] can’t drive. Now [you] can’t go to school. [You’re] going to have a difficult time

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1. This exchange is adapted from an interview with Dr. Marcuccilli on an episode of Citizens United for Research in Epilepsy’s podcast *Seizing Life*. See *Epilepsy . . . It’s Complicated*, CITIZENS UNITED FOR RES. EPILEPSY, [https://www.cureepilepsy.org/epilepsy-its-complicated/\[https://perma.cc/T4HP-89PT\]](https://www.cureepilepsy.org/epilepsy-its-complicated/[https://perma.cc/T4HP-89PT]) (interviewing Dr. Marcuccilli about the impact just one seizure can have on a person’s life).

2. *Id.*

getting or holding a job, and this may affect [your] relationships.”<sup>3</sup> He pauses. “Suddenly, one seizure a year isn’t so benign.”<sup>4</sup>

Today, 3.4 million Americans live with epilepsy,<sup>5</sup> a disorder<sup>6</sup> characterized by two or more unprovoked seizures.<sup>7</sup> The diagnosis is profoundly life-altering.<sup>8</sup> After experiencing a seizure, people with epilepsy<sup>9</sup> must find a neurologist, begin taking antiepileptic drugs, and

3. *Id.*

4. *Id.*

5. In 2015, 1.2 percent of Americans, including 3,000,000 adults and 470,000 children, had “active epilepsy.” *Epilepsy Data and Statistics*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/epilepsy/data/index.html> [<https://perma.cc/SUC6-PBGW>] (last updated Jan. 25, 2019). An adult has “active epilepsy” if the adult has been diagnosed by a physician and either: (i) takes medication to control the disorder; (ii) has experienced at least one seizure in the past year; or (iii) both (i) and (ii). *Id.* A child has “active epilepsy” if the child’s parent or guardian reports: (i) that a health care provider has told them that their child has epilepsy; and (ii) that their child currently has epilepsy. *Id.* See also Matthew M. Zack & Rosemarie Kobau, *National and State Estimates of the Numbers of Adults and Children with Active Epilepsy—United States, 2015*, 66 CTRS. FOR DISEASE CONTROL & PREVENTION: MORBIDITY & MORTALITY WKLY. REP. 821, 821 (2017) (providing the same data and definitions).

6. There is considerable debate whether epilepsy should be labeled as a “disorder” or as a “disease.” See generally A.J. Noble et al., *A Disease, Disorder, Illness or Condition: How to Label Epilepsy?*, 136 ACTA NEUROLOGICA SCANDINAVICA 536, 536 (2017). Because a “disease” is often understood to be contagious and curable, *id.*, and epilepsy is neither, this Comment will refer to epilepsy as a “disorder.” This choice conforms with the practices of the Centers for Disease Control and Prevention, the Epilepsy Foundation of America, and leading medical centers such as the Mayo Clinic. See, e.g., *What Is Epilepsy?*, EPILEPSY FOUND. (Jan. 21, 2014), <https://www.epilepsy.com/learn/about-epilepsy-basics/what-epilepsy> [<https://perma.cc/S9BL-LJSR>] (“Epilepsy is a chronic disorder . . .”).

7. “The most common cause of seizures is epilepsy. But not every person who has a seizure has epilepsy.” *Seizures: Symptoms & Causes*, MAYO CLINIC, <https://www.mayoclinic.org/diseases-conditions/seizure/symptoms-causes/syc-20365711> [<https://perma.cc/9U55-AYKQ>]. Seizures can also be caused by alcohol, drugs, traumatic brain injuries, strokes, low blood sugar, low blood sodium, brain tumors, and infections. *Id.* If a person’s seizure was not caused by a known catalyst, the seizure is deemed unprovoked. If a person experiences two or more unprovoked seizures, she may be diagnosed with epilepsy. *Epilepsy*, AM. ASS’N NEUROLOGICAL SURGEONS [hereinafter AANS], <https://www.aans.org/en/Patients/Neurosurgical-Conditions-and-Treatments/Epilepsy> [<https://perma.cc/628D-62FH>]. Her seizures are symptoms of her epilepsy. *Id.*

8. See *infra* notes 10–14 and accompanying text (discussing how people with epilepsy must adjust their lifestyles to prevent seizures); see also DAVID C. SPENCER, NAVIGATING LIFE WITH EPILEPSY, at x (2017) (“[Y]ou aren’t simply adjusting to something new—you will need to deal with this disorder for the foreseeable future. In certain ways, life has changed.”).

9. There is a tendency to identify people by their chronic diseases or disorders. For example, it is common to refer to people with diabetes as “diabetics” and to people with bipolar disorder as “bipolar.” Instead of referring to people with epilepsy as “epileptics,” this Comment will refer to people with epilepsy as “people with epilepsy,” “patients with epilepsy,” “applicants with epilepsy,” or “drivers with epilepsy.” This choice conforms with the movement to end this tendency and recognizes that a person is more than her disease or disorder. See, e.g., Amir Khan, *Why ‘Diabetic’ Is a Dirty Word*, U.S. NEWS & WORLD REP. (Dec. 10, 2014), <https://health.usnews.com/health-news/health-wellness/articles/2014/12/10/why-diabetic-is-a-dirty-word> [<https://perma.cc/5NR5-QHZJ>] (interviewing a medical school professor who advocates for using “people with

cope with the side effects.<sup>10</sup> To avoid common seizure triggers, they must drastically adjust their lifestyles, from what they eat to how much they sleep.<sup>11</sup> They must overcome stigma against the disorder<sup>12</sup> and educate their family and friends about how to respond if they have a seizure.<sup>13</sup> At work, they must decide whether to disclose their disorder to employers or seek disability benefits.<sup>14</sup> But above all these burdens, the majority of people with epilepsy report they are most concerned about losing their driving privileges.<sup>15</sup>

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diabetes” rather than “diabetics”); *Is it a Person with Diabetes or a Diabetic?* ASS’N DIABETES CARE & EDUC. SPECIALISTS (Mar. 12, 2013), <https://www.diabeteseducator.org/news/aade-blog/aade-blog-details/karen-kemmis-pt-dpt-ms-cde-faade/2013/03/12/is-it-a-person-with-diabetes-or-a-diabetic-> [https://perma.cc/QML3-GSRC] (featuring an experienced physical therapist who advocates for the same).

10. See Marvin M. Goldenberg, *Overview of Drugs Used for Epilepsy and Seizures*, 35 PHARMACY & THERAPEUTICS 392, 395 (2010) (describing antiepileptic drugs as the “mainstay of treatment for most patients”); *Epilepsy: Diagnosis & Treatment*, MAYO CLINIC (Aug. 10, 2019), <https://www.mayoclinic.org/diseases-conditions/epilepsy/diagnosis-treatment/drc-20350098> [https://perma.cc/2ZJD-MNRA] (“Doctors generally begin by treating epilepsy with medication.”). See also Chris Illiades, *Recognizing and Addressing Antiepileptic Drug Side Effects*, NEUROLOGY ADVISOR (Jan. 9, 2015), <https://www.neurologyadvisor.com/topics/epilepsy/recognizing-and-addressing-antiepileptic-drug-side-effects/> [https://perma.cc/MYX5-373N] (“For some people with epilepsy, side effects of antiepileptic drugs . . . may affect quality of life even more than seizures.”).

11. The most common seizure trigger is a missed dose of antiepileptic medication. *The Curious Case of Epileptic Seizures: What Triggers a Seizure?*, PA. MED.: NEUROSCIENCE BLOG (Aug. 19, 2019) [hereinafter *The Curious Case*], <https://www.pennmedicine.org/updates/blogs/neuroscience-blog/2019/august/surprising-epilepsy-seizure-triggers> [https://perma.cc/ED4N-QV4A]. Other common seizure triggers include sleep deprivation, excessive alcohol or caffeine consumption, flashing lights, illness, and stress. *Id.*; *Triggers of Seizures*, EPILEPSY FOUND., <https://www.epilepsy.com/learn/triggers-seizures> [https://perma.cc/7JDQ-43ES].

12. See discussion *infra* Section I.C (demonstrating that Americans continue to stigmatize people with epilepsy and spread misinformation about the disorder).

13. See *infra* note 109 (outlining how to properly respond if someone is experiencing a seizure).

14. See *EEOC v. Rite Aid Corp.*, 750 F. Supp. 2d 564, 569 (D. Md. 2010) (explaining that whether epilepsy is a “disability” pursuant to the Americans with Disabilities Act is determined on a case-by-case basis). But see *Questions & Answers About Epilepsy in the Workplace and the Americans with Disabilities Act (ADA)*, U.S. EQUAL EMP. OPPORTUNITY COMMISSION, <https://www.eeoc.gov/laws/types/epilepsy.cfm> [https://perma.cc/2CUI-EBLU] (advocating that “[a]s a result of changes made by the [Americans with Disabilities Act Amendments Act], individuals who have epilepsy should easily be found to have a disability within the meaning of the first part of the [Americans with Disabilities Act’s] definition of disability because they are substantially limited in neurological functions and other major life activities . . . when seizures occur. Additionally, because the determination of whether an impairment is a disability is made without regard to the ameliorative effects of mitigating measures, epilepsy is a disability even if medication or surgery limits the frequency or severity of seizures or eliminates them altogether.”).

15. See SPENCER, *supra* note 8, at 2 (“The most frequently reported concern was about driving.”). See also Vineet Punia et al., *Epileptic Auras and Their Role in Driving Safety in People with Epilepsy*, 56 EPILEPSIA e182, e182 (2015) (“Loss of driving privileges . . . is a chief concern among [people with epilepsy] when asked to rate their quality of life.”).

Driving is central to all aspects of modern life.<sup>16</sup> It is the primary mode of transportation in the United States<sup>17</sup> and the ultimate expression of the constitutional right to freedom of movement.<sup>18</sup> For most Americans, driving is not only necessary to maintain employment,<sup>19</sup> but also to access healthcare, education, childcare, sustenance, and socialization.<sup>20</sup>

All fifty states and the District of Columbia prohibit a person with epilepsy from driving for a certain period of time after she has experienced a seizure.<sup>21</sup> Suddenly, the person with epilepsy cannot drive

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16. See Allan Krumholz, *Driving Issues in Epilepsy: Past, Present, and Future*, 9 EPILEPSY CURRENTS 31, 31 (2009) (“Driving a car is so critical to employment, socialization, and self-esteem—all aspects central to modern life in the United States . . .”); see also Richard Florida, *America’s Ongoing Love Affair with the Car*, CITYLAB (Aug. 17, 2015), <https://www.citylab.com/transportation/2015/08/americas-continuing-love-affair-with-the-car/401474/> [<https://perma.cc/43PE-VU7N>] (“[T]he United States remains overwhelmingly an auto-dependent nation.”).

17. “The automobile has become almost indispensable to most people. It is the ultimate expression of the ‘liberty of mobility.’” JOHN H. REESE, POWER POLICY PEOPLE: A STUDY OF DRIVER LICENSING ADMINISTRATION, at v (1971). Eighty-seven percent of all Americans of driving age have a license. *Our Nation’s Highways: 2011*, OFFICE HIGHWAY POL’Y INFO., <https://www.fhwa.dot.gov/policyinformation/pubs/hf/pl11028/chapter4.cfm> [<https://perma.cc/4J2E-JLCV>] (last updated Apr. 1, 2019).

18. In *Shapiro v. Thompson*, the Supreme Court reinforced the constitutional right to freedom of movement:

This Court long ago recognized that the nature of our Federal Union and our constitutional concepts of personal liberty unite to require that all citizens be free to travel throughout the length and breadth of our land uninhibited by statutes, rules, or regulations which unreasonably burden or restrict this movement.

*Shapiro v. Thompson*, 394 U.S. 618, 629 (1969). The constitutional right to freedom of movement is also reflected in the motto of the National Committee on Uniform Traffic Laws and Ordinances: “*Salus, Libertas, Lex*,” which translates to “Safety with Freedom Through Law.” UNIF. VEHICLE CODE & MODEL TRAFFIC ORDINANCE, at vii (NAT’L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 1968); see also discussion *infra* Section II.A.

19. The majority of Americans—76 percent—drive to work every day. Adie Tomer, *America’s Commuting Choices: 5 Major Takeaways from 2016 Census Data*, BROOKINGS INST. (Oct. 3, 2017), <https://www.brookings.edu/blog/the-avenue/2017/10/03/americans-commuting-choices-5-major-takeaways-from-2016-census-data/> [<https://perma.cc/6G9P-TJAC>]. Another 9 percent participate in a carpool. *Id.*

20. “Access to just about everything associated with upward mobility and economic progress—jobs, quality food, and goods (at reasonable prices), healthcare, and schooling—relies on the ability to get around in an efficient way, and for an affordable price.” Gillian B. White, *Stranded: How America’s Failing Public Transportation Increases Inequality*, ATLANTIC (May 16, 2015), <https://www.theatlantic.com/business/archive/2015/05/stranded-how-americas-failing-public-transportation-increases-inequality/393419/> [<https://perma.cc/XM64-3ZC3>]. See also William C. Chen et al., *Epilepsy and Driving: Potential Impact of Transient Impaired Consciousness*, 30 EPILEPSY & BEHAV. 50, 50 (2014) (“For most adults, driving is a primary means of transportation and is necessary for employment, maintaining social ties, and performing other tasks essential to independent living.”).

21. See *State Driving Laws Database*, EPILEPSY FOUND., <https://www.epilepsy.com/driving-laws> [<https://perma.cc/BE3D-49VZ>] (last updated Aug. 2014) (“Every state regulates driver’s license eligibility of persons with certain medical conditions. The most common requirement for

herself to work or lead the carpool. And, unless she is one of the 55 percent of Americans who have access to public transportation,<sup>22</sup> she cannot affordably get to and from her neurologist appointments. She cannot pick up her cousin from the airport as promised or meet her friends for dinner. She cannot purchase more groceries than she can carry on her person. With the forfeiture of her ability to legally drive comes an upending loss of independence and control.<sup>23</sup>

Amid this turmoil, people with epilepsy must familiarize themselves with the dizzying variety of state statutes, regulations, and policies governing their ability to drive.<sup>24</sup> Take, for example, a driver who lives in and is licensed to drive in the District of Columbia. After experiencing his first seizure, he searches the internet to find out how long he must wait until he can legally drive again. On the Epilepsy Foundation's *State Driving Laws Database* website, he discovers that applicants for a driver license in the District of Columbia must be seizure-free for twelve months prior to obtaining a license.<sup>25</sup> Unfortunately, the website does not discuss drivers who already have a license.<sup>26</sup> Because he already has a license, he wonders if he, too, needs to be seizure-free for twelve months before he can legally resume driving. He makes a mental note to ask his doctor, a neurologist in Baltimore.

Meanwhile, his neurologist prepares for his visit.<sup>27</sup> She notices that the patient's chart does not specify where he is licensed to drive. Although the neurologist practices medicine in Maryland, her patients come from as far as Pennsylvania for care. She knows that if the patient is licensed

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people with epilepsy is that they be seizure free for a specific period of time and submit a physician's evaluation of their ability to drive safely.”).

22. *Public Transportation Facts*, AM. PUB. TRANSP. ASS'N, <https://www.apta.com/news-publications/public-transportation-facts/> [https://perma.cc/3H8R-JYND] (“45% of Americans have no access to public transportation.”).

23. *See supra* notes 16–20 and accompanying text (describing how driving is essential for most Americans to access employment, healthcare, education, childcare, sustenance, and socialization).

24. *See* SPENCER, *supra* note 8, at 39 (“[T]hese laws vary substantially from state to state in the United States . . .”).

25. *State Driving Laws Database: District of Columbia Driver Licensing Laws*, EPILEPSY FOUND., <https://www.epilepsy.com/driving-laws/2008681> [https://perma.cc/3VCF-NCXD] (last updated 2014) (“In order to obtain a license, a person with epilepsy, who is under a physician's care, must furnish the Department of Transportation with a physician's certificate indicating that the physician has knowledge of the seizure history, that the applicant is capable of driving safely, and that the applicant has been free of seizures for at least 12 months preceding the application”).

26. *See generally id.*

27. Wherever this Comment uses the terms “physician” or “neurologist,” it includes all health care providers that are bound by the statute, regulation, or policy being discussed. For example, when this Comment discusses Pennsylvania's statute mandating “physicians” to report their patients with epilepsy to the Department of Motor Vehicles, it includes the “physicians, podiatrists, chiropractors, physician assistants, certified registered nurse practitioners and other persons authorized to diagnose or treat disorders and disabilities defined by the Medical Advisory Board” who are bound by this statute. 75 PA. CONS. STAT. § 1518(b) (2020).

to drive in Maryland, he could legally resume driving in three months.<sup>28</sup> But if the patient is licensed to drive in Virginia, he could not legally resume driving for six months.<sup>29</sup> In addition, she would be required to submit periodic updates on his behalf to the commonwealth's Department of Motor Vehicles,<sup>30</sup> and she could be held liable for her recommendations therein.<sup>31</sup> Unfortunately, if the patient is licensed to drive in the District of Columbia, he could not legally resume driving for twelve months.<sup>32</sup> And if he is licensed to drive in Delaware, physicians are mandated to report the names, ages, and addresses of their patients with epilepsy to the state's Division of Motor Vehicles.<sup>33</sup> Because she does not practice medicine in Delaware, this regulation does not apply to her.<sup>34</sup> But she informs the patient that if he ever sees a physician who

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28. MD. CODE REGS. 11.17.03.04 (2020).

29. *DMV Seizure/Blackout Policy*, VA. DEP'T MOTOR VEHICLES, <https://www.dmv.virginia.gov/drivers/#medical/seizure.asp> [<https://perma.cc/5L4C-KZ39>].

30. *Id.*

31. Although there is a statutory provision granting physicians immunity from civil liability for reporting a patient is *unfit* to drive, there is no statutory provision granting physicians immunity from civil liability for recommending a patient is *fit* to drive. See VA. CODE ANN. § 54.1-2400.9 (2019) ("Any [physician] . . . who reports to the Department of Motor Vehicles the existence, or probable existence, of a mental or physical disability or infirmity of any person licensed to operate a motor vehicle which the reporting practitioner believes affects such person's ability to operate a motor vehicle safely shall not be subject to civil liability under § 32.1-127.1:03 resulting from such report or deemed to have violated the practitioner-patient privilege unless he has acted in bad faith or with malicious intent."). See also *State Driving Laws Database: Virginia Driver Licensing Laws*, EPILEPSY FOUND. (Aug. 2014), <https://www.epilepsy.com/driving-laws/2008871> [<https://perma.cc/J4CL-6669>] ("A physician who provides medical information about a patient does not have statutory immunity from liability for damages arising out of an accident caused by a seizure.").

32. "If you are currently licensed and experience a seizure or loss of consciousness, you must report the incident to [District of Columbia Department of Motor Vehicles] within 30 calendar days. Unless your physician indicates the seizure was due to a change in medication, or strictly nocturnal, [District of Columbia Department of Motor Vehicles] will suspend your driving privilege for 12 months from the date of the last episode." *Medical Requirements*, D.C. DEP'T MOTOR VEHICLES, <https://dmv.dc.gov/service/dmv-medical-requirements> [<https://perma.cc/BZ3W-R5MH>]; D.C. MUN. REGS. tit. 18, § 106.12(b) (2020).

33. See DEL. CODE ANN. tit. 24, § 1763 (2020) ("Every physician attending or treating persons who are subject to losses of consciousness due to disease of the central nervous system shall report within 1 week to the Division of Motor Vehicles the names, ages and addresses of all such persons unless such person's infirmity is under sufficient control to permit the person to operate a motor vehicle with safety to person and property.").

34. Physicians are bound by the laws of the state they practice in, not the laws of the state their patient is licensed to drive in. See Lee Black, *Physicians' Legal Responsibility to Report Impaired Drivers*, AM. MED. ASS'N J. ETHICS, June 2008, available at <https://journalofethics.ama-assn.org/article/physicians-legal-responsibility-report-impaired-drivers/2008-06> [<https://perma.cc/8CBY-QL37>] ("Physicians should be aware of their professional responsibilities and the legal requirements of the states in which they practice."). See also *Continuum Pearls: Driving and Epilepsy: Ethical, Legal, and Health Care Policy Challenges, pt. 1*, NEUROLOGY MINUTE (June 13, 2019) (downloaded using iTunes) ("Every neurologist should be aware of the laws in his or her state . . .").



practices medicine in Delaware, that physician would have to report his information to the state's Division of Motor Vehicles.

As illustrated in this fictional account, the incongruity of statutes, regulations, and policies among the states places heavy burdens on both drivers with epilepsy and the physicians who treat them.<sup>35</sup> Relevant provisions are difficult to find—scattered across legislative acts, administrative codes, and government websites.<sup>36</sup> Others are unpublished and not generally available to the public.<sup>37</sup> They provide blanket restrictions for a highly individualized disorder,<sup>38</sup> hampering drivers' independence and physicians' autonomy.<sup>39</sup>

State legislators, administrators, and policymakers justify these statutes, regulations, and policies for two reasons. First, people with epilepsy may experience seizures while driving, causing a temporary loss of consciousness or of bodily control.<sup>40</sup> When a driver with epilepsy

35. See SPENCER, *supra* note 8, at 39 (“Driving laws add another layer of complexity to the medical decision . . .”). See also Black, *supra* note 34 (“Although a number of states mandate or permit physician reporting of diseases or illness that may impair driving abilities, those that don’t address the physicians’ role in reporting put physicians in a peculiar position.”).

36. An applicant with epilepsy in North Carolina, for example, would have to consult the state’s statutes to find that

[i]f any applicant shall suffer from any physical or mental disability or disease that affects his or her operation of a motor vehicle, the Division may require to be filed with it a certificate of the applicant’s condition signed by a medical authority of the applicant’s community designated by the Division.

N.C. GEN. STAT. § 20-7(e) (2019). Then she would have to consult the state’s regulations to find a list of those disabilities and diseases, which includes “uncontrolled epilepsy.” 19A N.C. ADMIN. CODE 03B.0301 (2020). Finally, she would have to consult the state’s Division of Motor Vehicles’ website to find that North Carolina does not require applicants with epilepsy to have been seizure-free for a certain period of time. *Medical Review Program*, N.C. DIV. MOTOR VEHICLES (July 10, 2018), <https://www.ncdot.gov/dmv/license-id/license-suspension/medical-review-program/Pages/default.aspx> [https://perma.cc/GW4V-58W5]. Rather, her application will be submitted to the Medical Review Unit, which places individualized restrictions on each applicant. *Id.*

37. Gregory L. Krauss et al., *Individual State Driving Restrictions for People with Epilepsy in the US*, 57 NEUROLOGY 1780, 1781 (2001) [hereinafter *Individual State Driving Restrictions*] (“Many state [motor vehicle agencies] and [medical advisory boards] may also have less formal, unpublished restrictions on driving.”).

38. See *infra* notes 71–73 and accompanying text (explaining there are over twenty different types of epilepsy disorders and over a dozen different types of seizures).

39. See Kathryn Kramer, *Shifting and Seizing: A Call to Reform Ohio’s Outdated Restrictions on Drivers with Epilepsy*, 22 J.L. & HEALTH 343, 360 (2009) (“The current Ohio Revised Code provisions protect, to a limited extent, the public interest by preventing some individuals with epilepsy from driving; however, it [sic] does so at a significant expense of individual autonomy.”); see also Jeffrey T. Berger et al., *Reporting by Physicians of Impaired Drivers and Potentially Impaired Drivers*, 15 J. GEN. INTERNAL MED. 667, 668 (2000) (questioning laws that utilize “physicians-as-policer”). Kathryn Kramer, now Kathryn Kramer Gaydos, published her article as a law student at Cleveland State University. By her request, this Comment will refer to her by her new last name, Gaydos, rather than the name she used as a student author.

40. Chen et al., *supra* note 20, at 50. See also NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., DOT-

experiences a seizure behind the wheel, she is more likely than not to cause an accident.<sup>41</sup> Second, people with epilepsy may take antiepileptic drugs, whose side effects can impair cognition.<sup>42</sup> Both of these factors may affect the ability of people with epilepsy to safely operate a motor vehicle.<sup>43</sup> Therefore, according to the legislators, administrators, and policymakers, restrictions aim to protect the states' interest in public safety.<sup>44</sup>

But in reality, many of these statutes, regulations, and policies are rooted in stigma rather than science.<sup>45</sup> They were enacted at the beginning of the twentieth century, a time when many states already had laws on the books legalizing the marginalization, institutionalization, and sterilization of people with epilepsy.<sup>46</sup> By the 1970s, most of the laws discriminating against people with epilepsy had been amended or repealed.<sup>47</sup> But the restrictions on people with epilepsy's driving privileges still remain, relics of the past.<sup>48</sup>

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HS-809-683: DRIVING WHEN YOU HAVE HAD SEIZURES (Nov. 2003), <https://one.nhtsa.gov/people/injury/olddrive/seizures/index.html> [<https://perma.cc/GD4L-PJENNW8R-S7XE>] ("Having a seizure can cause you to lose control of your body, change the way you act and sense things, or make you pass out suddenly. If you have a seizure while you are driving, you could lose control of your car and cause a crash. You could hurt yourself and others.").

41. One study concluded that 55 percent of drivers with epilepsy who experienced a seizure behind the wheel caused accidents. *Individual State Driving Restrictions*, *supra* note 37, at 1780 (citing Henri Gastaut & Benjamin G. Zifkin, *The Risk of Automobile Accidents with Seizures Occurring While Driving: Relation to Seizure Type*, 37 NEUROLOGY 1613, 1613–16 (1987)). *See also* Punia et al., *supra* note 15, at e182 ("Previous studies report that at least half of seizures that occur during driving cause accidents.").

42. Chen et al., *supra* note 20, at 50. *See also* Illiades, *supra* note 10 ("Common side effects [of antiepileptic drugs] include depressed cognition, somnolence, distractibility, and dizziness.").

43. *Id.* at 51 (asserting that "any one or a combination of these symptoms potentially jeopardizes safe driving . . .").

44. *See* Sherrilene Classen et al., *Evidence-Based Review on Epilepsy and Driving*, 23 EPILEPSY & BEHAV. 103, 111 (2012) (concluding restrictions are "in the best interest of public health"); *see also* Kramer, *supra* note 39, at 370 (describing the "public interest in road safety").

45. In 1958, Dr. Irwin Perr controversially proclaimed, "the answers seem obvious—legislative control here is not scientifically justified." Irwin N. Perr, *Epilepsy and the Law*, 7 CLEV.-MARSHALL L. REV. 280, 291 (1958). Two generations later, Kathryn Kramer Gaydos echoed his pronouncement: "Despite an arguably well-meaning legislative intent based on public safety, the driving restrictions on individuals with epilepsy are discriminatory." Kramer, *supra* note 39, at 345.

46. *See* discussion *infra* Section I.D (summarizing the early twentieth-century laws governing people with epilepsy).

47. *See* discussion *infra* Section I.D (explaining that most statutes, regulations, and policies that discriminate against people with epilepsy have been repealed or amended).

48. *See* discussion *infra* Section II.B (discussing that all fifty states and the District of Columbia still restrict applicants and drivers with epilepsy in some way). *See also* Kramer, *supra* note 39, at 360–61 ("These laws have existed unchanged despite discrimination and medical advancements in treatment of the disorder.").

More Americans are living with epilepsy now than at any point in history.<sup>49</sup> But with advancements in medicine and technology, people with epilepsy can control their seizures better now than ever before.<sup>50</sup> This renders many of these laws unnecessary or, at the very least, unreasonably restrictive.<sup>51</sup> A wave of reform is due. It is time to revisit these laws that unreasonably restrict drivers with epilepsy and burden the physicians who treat them.

Part I of this Comment chronicles the disorder, from ancient beliefs to modern science.<sup>52</sup> It then traces how stigma against epilepsy became reflected in the law.<sup>53</sup> Part II provides an overview of the ten primary components of state laws affecting drivers with epilepsy and their physicians,<sup>54</sup> then it compares those laws to relevant provisions of the Uniform Vehicle Code.<sup>55</sup> Part III summarizes studies that compare the crash rates of drivers with epilepsy to the crash rates of the general population.<sup>56</sup> Then it contrasts state laws with the results of studies and the recommendations of medical professional organizations and advocacy groups.<sup>57</sup> Part IV calls for more research and recommends that

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49. See generally *More Americans Have Epilepsy Than Ever Before*, CTRS. DISEASE CONTROL & PREVENTION NEWSROOM (Aug. 10, 2017), <https://www.cdc.gov/media/releases/2017/p0810-epilepsy-prevalence.html> [<https://perma.cc/QP5F-83DK>].

50. See, e.g., SPENCER, *supra* note 8, at 7 (“More than 20 [antiepileptic drugs] have been approved for use by the US Food and Drug Administration . . . . This is good, because it means there are many more options. Treatment can be individualized. If the first medication does not work or causes unacceptable side effects, there are many other choices.”); Rosalind Picard, *An AI Smartwatch that Detects Seizures*, TED (Nov. 2018), [https://www.ted.com/talks/rosalind\\_picard\\_an\\_ai\\_smartwatch\\_that\\_detects\\_seizures\\_and\\_saves\\_lives?language=en#t-217845](https://www.ted.com/talks/rosalind_picard_an_ai_smartwatch_that_detects_seizures_and_saves_lives?language=en#t-217845) [<https://perma.cc/ZDE6-JCXF>] (showcasing the first Food and Drug Administration-approved smartwatch that uses artificial intelligence to detect a possible seizure twenty minutes before it occurs).

51. See discussion *infra* note 274 and accompanying text (explaining that many drivers with epilepsy are not at a higher risk of causing crashes than the general population, and therefore, as applied to them, these laws are unnecessary and unreasonably restrictive).

52. See discussion *infra* Section I.B (chronicling the history of the disorder from the Babylonian era through today).

53. See discussion *infra* Sections I.C–D (revealing how stigma against epilepsy and misinformation about the disorder permeated the law).

54. See discussion *infra* Section II.B (providing an overview of the ten primary components of state laws affecting drivers with epilepsy and their physicians).

55. See discussion *infra* Sections II.A–B (introducing the Uniform Vehicle Code and comparing state laws to its relevant provisions, respectively).

56. See discussion *infra* Section III.A (summarizing studies that concluded drivers with epilepsy have higher crash rates than the general population, studies that concluded drivers with epilepsy do *not* have higher crash rates than the general population or drivers with other medical conditions, and the studies’ limitations).

57. See discussion *infra* Section III.B (comparing state laws to the results of studies and the recommendations of medical professional organizations and advocacy groups).

state laws become uniform.<sup>58</sup> Finally, it proposes solutions that promote public safety without unreasonably restricting drivers with epilepsy or burdening the physicians who treat them.<sup>59</sup> It concludes with a few additional suggestions.<sup>60</sup>

## I. BACKGROUND

In order to revisit state laws governing drivers with epilepsy and their physicians, it is imperative to first understand the disorder.<sup>61</sup> This Part begins with an overview of epilepsy, from pathophysiology to prognosis.<sup>62</sup> The history of the disorder, from ancient beliefs to modern science, follows.<sup>63</sup> Subsequently, this Part illuminates the stigma against epilepsy and the spread of misinformation.<sup>64</sup> Finally, it summarizes the early twentieth-century laws that ushered in today's statutes, regulations, and policies governing drivers with epilepsy and their physicians.<sup>65</sup>

### A. *What is Epilepsy?*

Ostensibly, the human brain is a three-pound, wrinkly mass of water and fat.<sup>66</sup> Yet it is frequently characterized as the most complicated organ that we know the least about.<sup>67</sup> Beyond the surface, the brain is equipped

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58. See discussion *infra* Sections IV.A–B (calling for more research and illustrating the need for states' laws to become uniform).

59. See discussion *infra* Section IV.C (proposing solutions to each of the ten primary components of state laws affecting drivers with epilepsy and their physicians).

60. See discussion *infra* Section IV.D (providing additional suggestions).

61. See Classen et al., *supra* note 44, at 104 (“To help guide development of state policies . . . evidence-based research is essential.”). See also OWSEI TEMKIN, *THE FALLING SICKNESS: A HISTORY OF EPILEPSY FROM THE GREEKS TO THE BEGINNINGS OF MODERN NEUROLOGY*, at xi (2d ed. rev. 1971) (“[T]o understand the past . . . thereby help[s] to understand the setting of present problems.”); Fred H. Mackay, *The Falling Sickness: A History of Epilepsy from the Greeks to the Beginnings of Modern Neurology* by Owsei Temkin, 103 AM. J. PSYCHIATRY 574, 574 (1947) (book review) (“[T]he history of a disease process is essential to full understanding of that disease . . .”).

62. See discussion *infra* Section I.A (describing the pathophysiology, diagnosis, treatment, and prognosis of epilepsy).

63. See discussion *infra* Section I.B (chronicling the history of the disorder, from the Babylonian era to the turn of the twentieth century).

64. See discussion *infra* Section I.C (illuminating the proliferation of stigma against epilepsy and the continued spread of misinformation).

65. See discussion *infra* Section I.D (summarizing laws that marginalized, institutionalized, and even sterilized people with epilepsy).

66. See Catherine Zuckerman, *The Human Brain, Explained*, NAT'L GEOGRAPHIC (Oct. 15, 2009), [https://www.nationalgeographic.com/science/health-and-human-body/human-body/brain/\[https://perma.cc/98FC-BACK\]](https://www.nationalgeographic.com/science/health-and-human-body/human-body/brain/[https://perma.cc/98FC-BACK]) (noting the brain is a “three pound[] . . . spongy mass of fat and protein”); see also Chia-Yu Chang et al., *Essential Fatty Acids and Human Brain*, 18 ACTA NEUROLOGICA TAIWANICA 231, 231 (2009) (“The human brain is nearly 60 percent fat.”).

67. See, e.g., Zuckerman, *supra* note 66 (“The human brain is more complex than any other known structure in the universe.”); James Gorman, *Learning How Little We Know About the Brain*, N.Y. TIMES (Nov. 10, 2014), <https://www.nytimes.com/2014/11/11/science/learning-how-little->

with chemical and electrical networks.<sup>68</sup> These networks generate chemical and electrical signals in orderly patterns to communicate with the rest of the body.<sup>69</sup> Epilepsy is a disorder that causes surges of electrical signals that outwardly manifest as seizures.<sup>70</sup>

While some seizures go unnoticed, others cause sudden alterations in behavior, ranging from seconds of staring blankly to minutes of unconsciousness, rigidity, and convulsions.<sup>71</sup> For many people with epilepsy, seizures are unpredictable and unprovoked.<sup>72</sup> For others, seizures are consistently preceded by symptoms called auras.<sup>73</sup> When a person with epilepsy notices her aura, she may have enough time to get herself into a position of relative safety before her seizure begins.<sup>74</sup> She might, for example, have enough time to reposition herself from standing

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we-know-about-the-brain.html [https://perma.cc/QHB2-AX9A] (“So many large and small questions remain unanswered.”).

68. See SPENCER, *supra* note 8, at 11 (analogizing the brain’s white matter to “cables that connect the neurons to each other across different brain regions”); see also Zuckerman, *supra* note 66 (describing the anatomy of the brain as a “complex network of cells”).

69. See SPENCER, *supra* note 8, at 66 (“Communication occurs across established pathways via tiny chemical and electrical signals.”); see also Zuckerman, *supra* note 66 (“The thalamus acts as a relay station for incoming nerve impulses from around the body that are then forwarded to the appropriate brain region for processing.”).

70. See AANS, *supra* note 7 (“In patients with seizures, the normal electrical pattern is disrupted by sudden and synchronized bursts of electrical energy that may briefly affect their consciousness, movements or sensations.”); see also SPENCER, *supra* note 8, at 12 (“Some think of a seizure as an electrical ‘storm’ in the brain.”).

71. See AANS, *supra* note 7 (“A seizure is usually defined as a sudden alteration of behavior due to a temporary change in the electrical functioning of the brain.”). See also *What Happens During a Seizure?*, EPILEPSY FOUND., <https://www.epilepsy.com/learn/about-epilepsy-basics/what-happens-during-seizure> [https://perma.cc/FGF3-6ULR] (“Seizures can take on many different forms, and seizures affect different people in different ways.”). There are over twenty different types of epilepsy disorders. *Types of Epilepsy Syndromes*, EPILEPSY FOUND. (Sept. 3, 2013), <https://www.epilepsy.com/learn/types-epilepsy-syndromes> [https://perma.cc/BN34-TVZL]. And there are over a dozen different types of seizures. *Types of Seizures*, EPILEPSY FOUND. (Mar. 20, 2017), <https://www.epilepsy.com/learn/types-seizures> [https://perma.cc/4R75-BBTW]. See also Kramer, *supra* note 39, at 347 (quoting ROSCOE L. BARROW & HOWARD D. FABING, *EPILEPSY AND THE LAW* 11 (1966)) (describing seizures as “almost infinite in variety as viewed by any observer”).

72. See *Epilepsy . . . It’s Complicated*, *supra* note 1 (“That person now has to deal with epilepsy, which is this ability, unfortunately, to seize spontaneously and unpredictably.”); Anna L. Devlin et al., *Epilepsy and Driving: Current Status of Research*, 102 EPILEPSY RES. 135, 137 (2012) (“the unpredictability of seizures”). See also *What Happens During a Seizure?*, *supra* note 71 (“Yet, many people have no aura or warning; the seizure starts with a loss of consciousness or awareness.”).

73. *Aura and Seizures*, U. MICH. HEALTH, <https://www.uofmhealth.org/health-library/tm6354> [https://perma.cc/E498-GSSF] (last updated June 26, 2019). Common auras include visual changes, nausea, tingling, and smells. *Id.*

74. A 2015 study found that almost 40 percent of subjects “reported that the duration of their auras was ‘nearly always’ long enough for them to protect themselves if their seizures led to loss of consciousness.” Punia et al., *supra* note 15, at e184.

up to lying down or from driving to pulling over onto the side of the road.<sup>75</sup>

The gold standard of diagnosing epilepsy is the electroencephalogram, or EEG.<sup>76</sup> A physician, typically a neurologist, observes the electrical pattern of the brain for surges of electricity that may manifest as seizures.<sup>77</sup> After diagnosis, the first-line treatment for most people with epilepsy is antiepileptic drug therapy.<sup>78</sup> While some people with epilepsy can safely discontinue drug therapy after being seizure-free for a certain number of years, other people with epilepsy must remain on drug therapy for the rest of their lives.<sup>79</sup> Other treatment modalities include implanting a vagus nerve stimulator, following the ketogenic diet, or undergoing surgery to remove the part of the brain that is causing the seizures.<sup>80</sup> There is no cure for epilepsy, but with treatment, most people with epilepsy can get their seizures under control.<sup>81</sup>

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75. See *infra* notes 291–97 and accompanying text (highlighting how drivers with epilepsy who experience auras take steps to protect themselves before their seizures begin).

76. See Felix Rosenow, Karl Martin Klein & Hajo M. Hamer, *Non-Invasive EEG Evaluation in Epilepsy Diagnosis*, 15 EXPERT REV. NEUROTHEAPEUTICS 425, 425 (2015) (“The EEG is an invaluable tool in the diagnosis of epilepsy which guides clinical management. It helps to determine if attacks are of epileptic origin, . . . aids in the diagnosis of the epilepsy syndrome and represents the gold standard in the presurgical evaluation of epilepsy.”). See also AANS, *supra* note 7 (“This is the initial test performed in every patient . . .”).

77. *Epilepsy: Diagnosis & Treatment*, *supra* note 10. See also AANS, *supra* note 7 (“Although most patients do not have seizures when the EEG is being recorded, they often have abnormal brain activity in the EEG (spikes or sharp waves) that indicates they have a tendency to have seizures. The location of this activity allows the physician to determine whether patients have partial or generalized seizures.”).

78. See *supra* note 10 (explaining that the primary treatment of epilepsy is antiepileptic drug therapy).

79. See John D. Hixson, *Stopping Antiepileptic Drugs: When and Why?*, 12 CURRENT TREATMENT OPTIONS NEUROLOGY 434, 434 (2010) (highlighting that after discontinuing drug therapy, there is a significant risk of relapse); see also Ana M. Sanchez & Allan Krumholz, *Driving and Epilepsy: Issues to Discuss With Your Patients: Page 2 of 3*, NEUROLOGY TIMES (Oct. 8, 2018), <https://www.neurologytimes.com/epilepsy-and-seizure/driving-and-epilepsy-issues-discuss-your-patients/page/0/1> [<https://perma.cc/55VN-N6Y2>] (explaining that during the first year after discontinuing antiepileptic drug therapy, there is an approximately 30 percent risk of relapse, and patients should consider this when deciding whether to drive).

80. Classen et al., *supra* note 44, at 103; Goldenberg, *supra* note 10, at 395. The ketogenic diet, recently gaining popularity among Americans attempting to lose weight, has been prescribed to children with refractory epilepsy since the 1920s. Isabella D’Andrea Meira et al., *Ketogenic Diet and Epilepsy: What We Know So Far*, FRONTIERS IN NEUROSCIENCE (Jan. 29, 2019), <https://www.frontiersin.org/articles/10.3389/fnins.2019.00005/full> [<https://perma.cc/Z72B-6U9N>]. See also *infra* note 95 (defining refractory epilepsy).

81. See Patrick Kwan & Martin J. Brodie, *Early Identification of Refractory Epilepsy*, 342 N. ENG. J. MED. 314, 317 (2000) (concluding that 63 percent of people with epileptic seizures went into remission with drug therapy); Kramer, *supra* note 39, at 348, 351 (“There is no cure for epilepsy, but it can often be controlled and treated. . . . [B]y one estimate, at least fifty percent of patients with epilepsy can effectively control their disorder with anti-seizure medication, while

### B. Epilepsy Throughout History

The first recorded account of epilepsy comes from Mesopotamia, where the Babylonians inscribed a tablet with the diagnosis.<sup>82</sup> Centuries later, the Greeks labeled epilepsy as “the sacred disease.”<sup>83</sup> Some believed that a deity had bestowed the disease on the person.<sup>84</sup> Others believed that a deity had punished the person for having sinned against it.<sup>85</sup> Yet others believed that a demon had possessed the person.<sup>86</sup> But all agreed that the origin was supernatural and the cure was spiritual.<sup>87</sup>

Hippocrates, the preeminent physician of Classical Greece, rebuked the notion that epilepsy was divine in nature.<sup>88</sup> Rather, he and his disciples advocated that the cause of epilepsy lied in the brain.<sup>89</sup> We derive our modern word for the disorder—epilepsy—from the Greek *epilambanein*, meaning “to attack or seize.”<sup>90</sup>

The Greeks’ appreciation of epilepsy as a neurological disorder would not be widely accepted for another two millennia.<sup>91</sup> In medieval times,

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nearly thirty percent experience a significant decrease in the frequency of seizures.”). *But see* Niu Tian et al., *Active Epilepsy and Seizure Control in Adults—United States, 2013 and 2015*, 67 CTRS. FOR DISEASE CONTROL & PREVENTION: MORBIDITY & MORTALITY WKLY. REP. 437, 438 (2018) (“Although 90% of adults with active epilepsy were taking epilepsy medication, less than half (44%) of those taking medications were seizure-free in the past year.”).

82. TEMKIN, *supra* note 61, at 3–4; *History of Epilepsy*, EPILEPSY CAN., <https://www.epilepsy.ca/history-of-epilepsy.html> [<https://perma.cc/F7FH-KNE6>].

83. TEMKIN, *supra* note 61, at 4–5 (explaining that Hippocrates’s book *On the Sacred Disease*, published around the year 400 B.C., attacked the label that was commonly used by Greek “magicians, wizards, and charlatans”); *History of Epilepsy*, *supra* note 82 (“The Babylonian view was the forerunner of the Greek concept (5th century BC) of ‘The Sacred Disease’ . . .”).

84. TEMKIN, *supra* note 61, at 7. *See also* Orrin Devinsky & George Lai, *Spirituality and Religion in Epilepsy*, 12 EPILEPSY & BEHAV. 636, 636 (2008) (“Revered in some cultures but persecuted by most others, epilepsy patients have, throughout history, been linked with the divine, demonic, and supernatural.”).

85. TEMKIN, *supra* note 61, at 7. *See also* Thomas V. DiBacco, *The Mystery of Epilepsy*, WASH. POST (Nov. 28, 1995), <https://www.washingtonpost.com/archive/lifestyle/wellness/1995/11/28/the-mystery-of-epilepsy/da56eb08-8dcc-4e32-8494-21382f6e52fb/> [<https://perma.cc/R6YE-M25C>] (“[T]he malady was linked to attacks from the gods as punishment for waywardness.”).

86. TEMKIN, *supra* note 61, at 7. *See also* discussion *infra* notes 94–95 and accompanying text (recounting the widely held belief that people with epilepsy were possessed by evil spirits).

87. TEMKIN, *supra* note 61, at 7. *See also* *History of Epilepsy*, *supra* note 82 (“Treatment was, therefore, largely a spiritual matter.”).

88. TEMKIN, *supra* note 61, at 4–5. *See also* *History of Epilepsy*, *supra* note 82 (describing Hippocrates’s view as “revolutionary”).

89. TEMKIN, *supra* note 61, at 5; *History of Epilepsy*, *supra* note 82. The physicians hypothesized that the brain was full of a liquid they called phlegm, and when the brain contained too much phlegm, it overflowed into the blood vessels, causing seizures. TEMKIN, *supra* note 61, at 4.

90. Goldenberg, *supra* note 10, at 392. *But see* *History of Epilepsy*, *supra* note 82 (deriving a different translation, “to take hold of” or “to seize,” from the Greek *epilepsia*).

91. “In fact, the whole long history of epilepsy is bound up in the controversial wranglings of

beliefs regressed to those of antiquity.<sup>92</sup> Across the Western World, the disorder came to be known as “the falling sickness,” because during a tonic-clonic seizure, people with epilepsy may lose consciousness and fall.<sup>93</sup> People with epilepsy were believed to be instruments of their possessors and could only be freed by exorcism.<sup>94</sup> The Gospels of Matthew, Mark, and Luke justified this conviction. These Gospels offer parallel accounts of Jesus exorcising a demon from a boy experiencing seizures.<sup>95</sup>

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the Theologians who insisted upon the divine or demoniacal basis of the disease and the physicians who, with varying success, upheld the natural causes of the disease.” Mackay, *supra* note 61, at 574. *See also History of Epilepsy*, *supra* note 82 (“Hippocrates’ view of epilepsy as a brain disorder did not begin to take root until the 18th and 19th centuries. The intervening 2000 years were dominated by the earlier supernatural views.”).

92. *See, e.g., Kramer, supra* note 39, at 351 n.41 (“For example, in Scotland during the Middle Ages, men were castrated and pregnant women were buried alive for having epilepsy.”).

93. TEMKIN, *supra* note 61, at 85; DiBacco, *supra* note 85.

94. TEMKIN, *supra* note 61, at 87; DiBacco, *supra* note 85 (“They were believed to be so possessed by demons that even their breath could infect an innocent bystander.”).

95. *See generally Matthew* 17:14–21; *Mark* 9:17–29; *Luke* 9:37–44. According to Mark’s account:

And one of the crowd answered him, “Teacher, I brought my son to you, for he has a dumb spirit; and wherever it seizes him, it dashes him down; and he foams and grinds his teeth and becomes rigid; and I asked your disciples to cast it out, and they were not able.” . . . And they brought the boy to him; and when the spirit saw him, immediately it convulsed the boy, and he fell on the ground and rolled about, foaming at the mouth. And Jesus asked his father, “How long has he had this?” And he said, “From childhood.” . . . Jesus . . . rebuked the unclean spirit, saying to it, “You dumb and deaf spirit, I command you, come out of him, and never enter him again.” And after crying out and convulsing him terribly, it came out, and the boy was like a corpse. . . . But Jesus took him by the hand and lifted him up, and he arose. And when he had entered the house, his disciples asked him privately, “Why could we not cast it out?” And he said to them, “This kind cannot be driven out by anything but prayer and fasting.”

*Mark* 9:17–29 (emphasis added). Today, the boy would be diagnosed with juvenile myoclonic epilepsy, the most common generalized epilepsy disorder. *Juvenile Myoclonic Epilepsy*, EPILEPSY FOUND., <https://www.epilepsy.com/learn/types-epilepsy-syndromes/juvenile-myoclonic-epilepsy> [<https://perma.cc/2K82-B7KL>] (last updated Mar. 12, 2019). The boy was exhibiting the classic signs of a generalized tonic-clonic seizure. *Tonic-Clonic Seizures*, EPILEPSY FOUND., <https://www.epilepsy.com/learn/types-seizures/tonic-clonic-seizures> [<https://perma.cc/KLA8-X7EX>] (last updated Mar. 15, 2017). During the tonic phase, the person loses consciousness and the muscles stiffen. *Id.* During the clonic phase, the muscles jerk. *Id.* Until recently, this type of seizure was classified as a “grand mal” seizure, French for “great illness” and reminiscent of the ancient label of “sacred disease.” *Grand Mal*, MERRIAM-WEBSTER, <https://www.merriam-webster.com/dictionary/grand%20mal> [<https://perma.cc/2VZA-HZUH>]. The seizure “dashes him down” because he has lost consciousness and fallen. During the tonic phase, his body “becomes rigid,” forcing his mouth shut. Consequently, he “grinds his teeth.” This, in turn, stimulates his salivary glands, causing him to “foam[] at the mouth.” *Foaming at the Mouth*, HEALTHLINE, <https://www.healthline.com/health/foaming-at-the-mouth#treatment> [<https://perma.cc/66E6-NSTJ>] (last updated Oct. 30, 2017). Ravaged by recurrent seizures, the boy was “like a corpse.” He was resting in the postictal phase, the period of time between the end of the person’s seizure and the return to the person’s baseline. *What Happens During a Seizure?*, *supra* note 71; Robert S.



The modern conception of epilepsy would not emerge until the nineteenth century, when Dr. John Hughlings Jackson revolutionized neurology by connecting parts of the body to their corresponding regions of the brain.<sup>96</sup> He would ask each patient: In which part of your body did you feel your seizure begin?<sup>97</sup> Then he would trace the “march of the fit” to determine the corresponding region of the brain where the seizure originated.<sup>98</sup> Over two thousand years after Hippocrates first questioned its supernatural underpinnings, Jackson finally convinced the world that epilepsy was, in fact, a neurological disorder.<sup>99</sup>

### C. Stigma and Misinformation

Although epilepsy had finally been divorced from demons and deities, throughout the twentieth century Americans continued to stigmatize people with epilepsy and spread misinformation about the disorder. Stigma against people with epilepsy was embroiled with stigma against people with mental illness.<sup>100</sup> People with epilepsy were routinely

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Fisher & Jerome J. Engel, Jr., *Definition of the Postictal State: When Does it Start and End?*, 19 EPILEPSY & BEHAV. 100, 100 (2010). During the postictal phase, people may experience confusion, exhaustion, memory loss, difficulty speaking, and loss of bowel or bladder control. *What Happens During a Seizure?*, *supra* note 71. The disciples could “not cast it out” because, in today’s parlance, the boy suffered from refractory epilepsy. Refractory epilepsy is characterized by seizures that cannot be controlled by antiepileptic drugs. *Refractory Epilepsy*, JOHNS HOPKINS MED., <https://www.hopkinsmedicine.org/health/conditions-and-diseases/epilepsy/refractory-epilepsy> [https://perma.cc/LKC5-MMFT].

96. See MACDONALD CRITCHLEY & EILEEN A. CRITCHLEY, JOHN HUGHLINGS JACKSON: FATHER OF ENGLISH NEUROLOGY 76 (1998) (“Jackson’s great lecture of 1870 contains the essence of nearly all our modern ideas concerning the nature of epilepsy.”); Mackay, *supra* note 61, at 575 (“The Falling Sickness, with its theological trappings of mysticism and religious conjuration gave way before the overwhelming forces of logic and reason, as propounded in the teachings of Brown-Sequard, Claude Bernard, Bright, Charcot and Hughlings Jackson, of whom the latter is given his preeminent place in the history of this disease.”); George K. York & David A. Steinberg, *An Introduction to the Life and Work of John Hughlings Jackson with a Catalogue Raisonné of His Writings*, 26 MED. HIST. SUPPLEMENT 3, 13 (2007) (attributing the origin of “somatotopic representation,” the practice of connecting parts of the body to their corresponding regions of the brain, to Jackson).

97. York & Steinberg, *supra* note 96, at 14.

98. *Id.* For decades, this type of seizure was called a Jacksonian seizure. *Jacksonian Seizures*, CEDARS SINAI, <https://www.cedars-sinai.edu/Patients/Health-Conditions/Jacksonian-Seizures.aspx> [https://perma.cc/US22-SCDS] (“Now, a Jacksonian seizure is . . . known as a simple partial seizure.”).

99. See CRITCHLEY & CRITCHLEY, *supra* note 96, at 76 (“Jackson’s observations are on par with those of Hippocrates . . .”); York & Steinberg, *supra* note 96, at 15 (“Hughlings Jackson produced a simple, flexible scheme of cerebral localization based on evolutionary neurophysiology that is the foundation of bedside diagnosis and modern neuroscience more generally.”).

100. *Epilepsy and Psychiatric Disorders*, HARVARD MED. SCH.: HARV. MENTAL HEALTH LETTER (May 2006), [https://www.health.harvard.edu/newsletter\\_article/Epilepsy\\_and\\_psychiatric\\_disorders](https://www.health.harvard.edu/newsletter_article/Epilepsy_and_psychiatric_disorders) [https://perma.cc/V9KL-KLZJ] (“It may seem strange, but there was a time when epilepsy was not clearly distinguished from psychiatric disorders. Psychiatry

institutionalized in homes for the insane.<sup>101</sup> Novels and films depicted people with epilepsy as prone to violence.<sup>102</sup> In 1987, a landmark Gallup poll confirmed that one in six American adults still believed epilepsy was a mental illness.<sup>103</sup>

In the twenty-first century, stigma persists and misinformation abounds.<sup>104</sup> In the developing world, the most common cause of epilepsy is *T. solium*, an endemic tapeworm that can cause the brain to swell.<sup>105</sup>

and neurology were not distinct professions, and the nature of epileptic symptoms was not well understood. Eventually the origins of epilepsy in the brain were clarified, while psychiatry and neurology went their separate ways. People with epilepsy and their physicians were happy to have an explanation (or partial explanation) that combated the social stigma still attached, in the minds of some, to psychiatric disorders.”).

101. People with epilepsy were institutionalized across the country in asylums including, but not limited to the Virginia State Colony for Epileptics and Feeble-minded. ‘*Imbeciles*’ *Explores Legacy of Eugenics in America*, ALL THINGS CONSIDERED (Feb. 26, 2016), <https://www.npr.org/2016/02/26/468297940/imbeciles-explores-legacy-of-eugenics-in-america> [https://perma.cc/E27H-K4L3]. For example, then-Governor William McKinley authorized the opening of The Ohio Hospital for Epileptics in Gallipolis, Ohio, in 1893. Djem Kissiov et al., *The Ohio Hospital for Epileptics—The First “Epilepsy Colony” in America*, 54 *EPILEPSIA* 1524, 1524 (2013). The Florida Farm Colony for the Epileptic and Feeble-minded opened near Gainesville, Florida, in 1921. Kim Curry, *The Sunland Training Centers: Florida’s Institutes for Children with Intellectual Disabilities*, 10 *FLA. PUB. HEALTH REV.* 14, 15 (2013). Additionally, the Georgia Lunatic Asylum, previously named the Lunatic, Idiot, and Epileptic Asylum, opened in Milledgeville, Georgia, in 1842. Doug Monroe, *Asylum: Inside Central State Hospital, Once the World’s Largest Mental Institution*, ATLANTA MAG. (Feb. 18, 2015), <https://www.atlantamagazine.com/great-reads/asylum-inside-central-state-hospital-worlds-largest-mental-institution/> [https://perma.cc/ZJ4F-P7YC].

102. For example, Michael Crichton’s *The Terminal Man* perpetuated this hurtful trope. See generally MICHAEL CRICHTON, *THE TERMINAL MAN* (1972). In the novel and its subsequent film adaptation, the protagonist murders victims while he experiences seizures. Jeffrey M. Jones, ‘*The Falling Sickness*’ in *Literature*, 93 *S. MED. J.* 1169, 1172 (2000). After outcry from the neurology community, the author added a postscript to the novel, clarifying that people with epilepsy are not more prone to criminal behavior than people without epilepsy. *Id.*

103. *Epilepsy . . . It’s Complicated*, *supra* note 1 (“In 1987, Gallup, curious about what the public actually knew about epilepsy and its cause, conducted a poll of United States citizens. . . . 19% of those respondents thought it was a brain disorder, and one in six thought it was a mental health issue.”); COMM. ON PUB. HEALTH DIMENSIONS EPILEPSIES, *EPILEPSY ACROSS THE SPECTRUM* 386 (Mary Jane England et al. eds., 2012).

104. Allan Krumholz et al., *Counseling Epilepsy Patients on Driving and Employment*, 34 *NEUROLOGIC CLINICS* 427, 427 (2016) (“Epilepsy is more than just a medical condition; it is also a serious social disorder.”); see also Lynn K. Herrmann et al., *Epilepsy Misconceptions and Stigma Reduction: Current Status in Western Countries*, 60 *EPILEPSY & BEHAV.* 165, 165 (2016) (“[Y]et a significant proportion of the population remains uninformed, and stigma is still a major source of stress and limitations for [people with epilepsy].”).

105. See *Taeniasis/Cysticercosis*, WORLD HEALTH ORG. (June 18, 2019) [hereinafter WORLD HEALTH ORG.], <https://www.who.int/news-room/fact-sheets/detail/taeniasis-cysticercosis> [https://perma.cc/5QS9-VADP] (“Neurocysticercosis is the most frequent preventable cause of epilepsy worldwide, and is estimated to cause 30% of all epilepsy cases in countries where the parasite is endemic.”); see also *Epilepsy . . . It’s Complicated*, *supra* note 1 (“We talk about 65 million people worldwide having epilepsy, but 80% of those are due to infectious causes. Typically, the infection is neurocysticercosis, which is endemic in many parts of the world, particularly developing countries.”).

Because people mistakenly think *T. solium* is contagious, they ostracize people with epilepsy.<sup>106</sup> Stateside, a study by the Centers for Disease Control and Prevention found that Americans' attitudes toward people with epilepsy barely improved from 2005 to 2013, and, in some aspects, they worsened.<sup>107</sup> Disturbingly, a high percentage of Americans do not intervene when they see a person experiencing a seizure.<sup>108</sup> Of the few that do intervene, most do so inappropriately.<sup>109</sup> Despite monumental

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106. *Epilepsy . . . It's Complicated*, *supra* note 1 (“If a person had a seizure due to an infection, of course the concern was that, ‘I could catch this somehow.’ From that perspective, [people] would tend to stay away from people with epilepsy.”). Humans become infected with the tapeworm when they eat undercooked pork. *Id.* Tapeworm cannot be transmitted human to human, unless an uninfected human comes into contact with an infected human’s feces. WORLD HEALTH ORG., *supra* note 105 (“Human tapeworm carriers excrete tapeworm eggs in their faeces and contaminate the environment when they defecate in open areas. Humans can also become infected with *T. solium* eggs by ingesting contaminated food or water or because of poor hygiene via the fecal-oral route. Ingested *T. solium* eggs develop to larvae (called cysticerci) in various organs of the human body. When they enter the central nervous system they can cause neurological symptoms (neurocysticercosis), including epileptic seizures.”).

107. See Wanjun Cui et al., *Recent Changes in Attitudes of US Adults Toward People with Epilepsy—Results From the 2005 SummerStyles and 2013 FallStyles Surveys*, 52 EPILEPSY & BEHAV. 108, 117 (2015) (concluding that more adults were uncomfortable being around a person with epilepsy in 2013 than in 2005). See also Patricia O. Shafer, *Changes in Attitudes of US Adults Toward People with Epilepsy*, EPILEPSY FOUND., <https://www.epilepsy.com/learn/seizure-and-epilepsy-news/epilepsy-behavior-journal/select-journal-abstracts/changes-attitudes> [<https://perma.cc/TNE7-L474>] (“More negative attitudes were seen in 2013 than in 2005 on issues such as being ‘nervous around a person with epilepsy because they might have a seizure’ or avoiding people with frequent seizures”).

108. In their oft-cited 1970 study, Darley and Latané found that 85 percent of bystanders who were alone when they saw a person experiencing a seizure intervened, but only 31 percent of bystanders who were in a group when they saw a person experiencing a seizure did so. John M. Darley & Bibb Latané, *Bystander Intervention in Emergencies: Diffusion of Responsibility*, 8 J. PERSONALITY & SOC. PSYCHOL. 377, 379 (1968). See also Mark Faul et al., *Bystander Intervention Prior to The Arrival of Emergency Medical Services: Comparing Assistance Across Types of Medical Emergencies*, 20 PREHOSP. EMERGENCY CARE 317, 321 (2016) (finding that bystanders are less likely to intervene when a person is experiencing a seizure than when a person is experiencing chest pain, allergic reaction, hypothermia, stroke, or respiratory distress).

109. See INST. MED., EPILEPSY ACROSS THE SPECTRUM: PROMOTING HEALTH AND UNDERSTANDING 408 (2012), [https://www.ncbi.nlm.nih.gov/books/NBK91506/pdf/Bookshelf\\_NBK91506.pdf](https://www.ncbi.nlm.nih.gov/books/NBK91506/pdf/Bookshelf_NBK91506.pdf) [<https://perma.cc/M3CK-AEY4>] (“Among those who said they knew what to do, 59 percent said they would put something in the person’s mouth, an action that is not appropriate.”). If you witness a person having a seizure, the Epilepsy Foundation recommends taking the following six steps: (1) stay with the person and start timing the seizure; (2) keep the person safe by preventing him or her from falling or, if the person is on the ground, cushioning his or her head; (3) turn the person to his or her side; (4) do not put anything in the person’s mouth; (5) do not restrain the person; and (6) stay with the person until the seizure has passed and he or she becomes awake and alert. *First Aid for Seizures—Stay, Safe, Side*, EPILEPSY FOUND., <https://www.epilepsy.com/learn/seizure-first-aid-and-safety/first-aid-seizures-stay-safe-side> [<https://perma.cc/AQZ5-BAW3>]. Call 9-1-1 if the seizure lasts more than five minutes, if the person experiences a second seizure, if the person has difficulty breathing, if the seizure occurred in water, if the person is injured, if the person is pregnant, if the person has never had a seizure before, if the person does not return to his or her usual state, or if the person requests medical help. *Id.*

efforts to destigmatize and educate,<sup>110</sup> the public's attitude towards people with epilepsy is reminiscent of bygone eras.

#### *D. Epilepsy in the Law*

Oliver Wendell Holmes Sr. wrote in his 1891 *Medical Essays*, “If I wished to show a student the difficulties of getting at truth from medical experience, I would give him the history of epilepsy to read.”<sup>111</sup> Although Holmes Sr., a physician, understood that stigma influenced how people with epilepsy have been treated throughout history, this observation was apparently lost on his son, Holmes Jr., the revered Supreme Court Justice.<sup>112</sup> Thirty-six years later, in *Buck v. Bell*, Holmes Jr. upheld a Virginia statute that authorized commonwealth officials to sterilize people with epilepsy against their will.<sup>113</sup> The Buck women—grandmother Emma, daughter Carrie, and granddaughter Vivian—had all been institutionalized at the Virginia State Colony for Epileptics and Feeble-minded.<sup>114</sup> Writing for the eight-justice majority, Holmes Jr. endorsed Carrie's sterilization, infamously declaring: “Three generations of imbeciles are enough.”<sup>115</sup> The forced sterilization of people with epilepsy in the name of public health continued through the 1970s.<sup>116</sup> In

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110. See, e.g., Cui et al., *supra* note 107, at 109 (“A long-standing priority of the Centers for Disease Control and Prevention's (CDC) Epilepsy Program is to improve public awareness about epilepsy and combat epilepsy stigma. Over the past 15 years, CDC has partnered with organizations such as the Epilepsy Foundation to support yearly campaigns and education and awareness programs to promote social inclusion and to foster empowerment for [people with epilepsy].”); Herrmann et al., *supra* note 104, at 171 (“[T]here has been extensive work, most notably conducted by advocacy groups such as the Epilepsy Foundation (EF) and government agencies such as the Centers for Disease Control and Prevention (CDC), to implement public awareness campaigns that broadly address epilepsy awareness and which are intended to improve understanding, promote social inclusion, and reduce stigma.”).

111. TEMKIN, *supra* note 61, at ix (quoting OLIVER WENDELL HOLMES, *MEDICAL ESSAYS* 192 (1892)).

112. Edmund Fuller, *Oliver Wendell Holmes, Jr.*, *ENCYCLOPEDIA BRITANNICA*, <https://www.britannica.com/biography/Oliver-Wendell-Holmes-Jr> [<https://perma.cc/Q7PJ-YY8H>] (last updated Mar. 4, 2020) (“Oliver Wendell Holmes, Jr., was the first child of the celebrated writer and physician Oliver Wendell Holmes.”).

113. *Buck v. Bell*, 274 U.S. 200, 207 (1927). See also Trevor Burrus, *The United States Once Sterilized Tens of Thousands—Here's How the Supreme Court Allowed It*, *CATO INST.* (Jan. 27, 2016), <https://www.cato.org/publications/commentary/united-states-once-sterilized-tens-of-thousands-heres-how-supreme-court-allowed> [<https://perma.cc/8FCG-GEJT>] (explaining that Virginia's law authorized commonwealth agents to forcibly sterilize people determined to be idiots, imbeciles, feeble-minded, or epileptic).

114. Burrus, *supra* note 113.

115. *Buck*, 274 U.S. at 207. For the haunting history of Virginia's forced sterilization of 8,300 Americans at the Virginia State Colony for Epileptics and Feeble-minded, and the greater eugenics movement throughout America, see the documentary *THE LYNCHBURG STORY: EUGENIC STERILIZATION IN AMERICA* (Filmmakers Library 1993).

116. See Burrus, *supra* note 113 (“The United States forcibly sterilized people through the

1974, the Virginia General Assembly repealed the statute,<sup>117</sup> but *Buck* has never been overruled.<sup>118</sup>

Out of an inflated fear that a person with epilepsy could pass the disorder to his or her children,<sup>119</sup> several states enacted statutes prohibiting people with epilepsy from marrying.<sup>120</sup> In addition, people with epilepsy were categorically banned from many types of employment.<sup>121</sup> For example, they were prohibited from serving in the

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1970s.”). *See also* ALL THINGS CONSIDERED, *supra* note 101 (approximating that seventy thousand Americans were involuntarily sterilized by state governments as a result of the decision in *Buck* and the burgeoning eugenics movement).

117. *See* Burrus, *supra* note 113 (“The 1924 law was altered over the years, for example by removing ‘epileptics’ from the list in 1968, and then finally repealed in 1974.”); *see also* 33 Va. Reg. Regs. 1882 (Mar. 20, 2017) (“In 1974, the Virginia Eugenical Sterilization Act was repealed and in 1979, other statutory language that contained authorization for most involuntary sterilization was also repealed.”).

118. *Compare* Burrus, *supra* note 113 (“*Buck v. Bell* has never been explicitly overruled.”), with *Fieger v. Thomas*, 74 F.3d 740, 750 (6th Cir. 1996) (noting that the only part of *Buck v. Bell* that remains “unrepudiated” is the holding on selective enforcement under the Fourteenth Amendment).

119. *See* Perr, *supra* note 45, at 289 (“Epilepsy is a disease with a strong hereditary element. Around the turn of the century, over-recognition of this fact plus the interest in eugenics resulted in the passage of many laws regarding the marriage and sterilization of epileptics.”). *But see Causes of Epilepsy*, UNIV. CHI. MED., <https://www.uchicagomedicine.org/conditions-services/neurology-neurosurgery/epilepsy-seizures/causes> [<https://perma.cc/4KY6-7FWE>] (“About 30 to 40 percent of epilepsy is caused by genetic predisposition. First-degree relatives of people with inherited epilepsy have a two- to four-fold increased risk for epilepsy.”); *accord* N.Y. Univ. Langone Med. Ctr. & N.Y. Univ. Sch. of Med., *Largest Study of Epilepsy Patients Ever Conducted Reveals New and Surprising Genetic Risk Factors*, SCIENCE DAILY (Aug. 12, 2013), <https://www.sciencedaily.com/releases/2013/08/130812103004.htm> [<https://perma.cc/V6ZC-X3ER>] (“The risk of epilepsy among people who have parents or siblings with the disorder is about 4 to 8 percent, whereas the risk in the general population is 1 to 2 percent.”).

120. In *Gould v. Gould*, the Supreme Court of Connecticut reasoned “[o]ne mode of guarding against the perpetuation of epilepsy obviously is to forbid sexual intercourse with those affected by it, and to preclude such opportunities for sexual intercourse as marriage furnishes.” 61 A. 604, 605 (Conn. 1905). An Ohio statute read “no marriage license shall be granted when either of the applicants is . . . epileptic . . . .” Perr, *supra* note 45, at 289. Additionally, in Connecticut and Wisconsin, if the state discovered one spouse had epilepsy, the state would annul the marriage and deem the children illegitimate, the consequences reverberating for generations. *Id.* at 290.

121. “Regardless of control, if a person mentions that he has had epilepsy, he usually cannot find work. . . . He is so stigmatized that all that he might find is sympathy, despite the fact that there are innumerable desk jobs or jobs involving manual labor of the fine variety in which he can perform as well as anybody.” Perr, *supra* note 45, at 296. *See also* Kramer, *supra* note 39, at 351–52 (“Until the 1950s, individuals with epilepsy were legally denied the right to . . . obtain employment.”).

armed forces<sup>122</sup> or from following a vocation to the priesthood.<sup>123</sup> State laws affecting drivers with epilepsy and their physicians were enacted during this dark period in American legal history.<sup>124</sup> In Germany in 1906, a driver experienced a seizure behind the wheel which caused a fatal crash.<sup>125</sup> After the news traveled across the Atlantic, all fifty states and the District of Columbia prohibited people with epilepsy from obtaining a driver license.<sup>126</sup>

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122. Tony Coelho, *Could We Pass the ADA Today? Disability Rights in an Age of Partisan Polarization*, 12 ST. LOUIS U. J. HEALTH L. & POL'Y 265, 266 (2019). Today, "any atraumatic seizure occurring after the 6th birthday" bars an applicant from admission into the Army, Air Force, Marine Corps, or Navy "unless the applicant has been free of seizures for a period of 5 years while taking no medication for seizure control, and has a normal sleep-deprived electroencephalogram and normal neurology evaluation while taking no medications for seizure control." DEP'T DEF., DODI 6130.03: MEDICAL STANDARDS FOR APPOINTMENT, ENLISTMENT, OR INDUCTION INTO THE MILITARY SERVICE, at 43 (Mar. 30, 2018), <https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/613003p.pdf?ver=2018-05-04-113917-883> [<https://perma.cc/EMU9-FFWN>]. The standards are identical for admission into the Coast Guard. DEP'T HOMELAND SEC., U.S. COAST GUARD, COMDTINST M6000.1F: COAST GUARD MEDICAL MANUAL, ch. 3, § D, at 37 (June 2018), [https://media.defense.gov/2018/Jul/05/2001939216/-1/-1/0/CIM\\_6000\\_1F.PDF](https://media.defense.gov/2018/Jul/05/2001939216/-1/-1/0/CIM_6000_1F.PDF) [<https://perma.cc/7FDT-566K>].

123. See Coelho, *supra* note 122, at 266 ("The bad news is that Cannon [sic] Law established in 400 A.D. stated that if you had epilepsy or possessed by the devil—you can't be a priest.' So, I was denied entry to the priesthood."); see also Krzysztof Owczarek & Joanna Jędrzejczak, *Christianity and Epilepsy*, 47 NEUROLOGIA I NEUROCHIRURGIA POLSKA 271, 273 (2013) ("Epileptic men were forbidden to be priests, rabbis or judges."). This ban was lifted in 1983. *Id.* at 274. However, many Catholic dioceses still entertain epilepsy as grounds for a marriage annulment. See W. BECKET SOULE, PRESERVING THE SANCTITY OF MARRIAGE 11 (2009), available at <https://www.kofc.org/un/en/resources/cis/cis301.pdf> [<https://perma.cc/5UA2-6V63>] ("If a person is incapable of the logical thought necessary to enter into marriage (such as in epileptic seizures), then that marriage is invalid."); see also DIOCESE OF MANCHESTER, OFFICE OF CANONICAL SERVS. & TRIBUNAL, THE ANNULMENT PROCESS: PASTORAL CARE TO THE DIVORCED 14 (2016), available at <https://www.catholicnh.org/assets/Documents/About/Tribunal/AnnulmentProcess.pdf> [<https://perma.cc/TQ2K-D9F7>] (asking annulment applicants: "Did either you or your former spouse suffer from epilepsy and grand mal seizures? If so, did a seizure occur just before or during the wedding ceremony?").

124. Compare BARROW & FABING, *supra* note 71, at 11 ("[I]n 1895 the first eugenic marriage law in the United States applicable to epileptics was enacted"), and Burrus, *supra* note 113 ("The first U.S. sterilization law was passed in Indiana in 1907."), with Kramer, *supra* note 39, at 345 ("Driving restrictions upon individuals with epilepsy date back as far as 1906.").

125. Allan Krumholz et al., *Driving and Epilepsy: A Review and Reappraisal*, 265 J. AM. MED. ASS'N 622, 622 (1991) [hereinafter *Review and Reappraisal*]. See also Bernd Pohlmann-Eden, Nina Hynick & Karen Legg, *First Seizure While Driving (FSWD)—An Underestimated Phenomenon?*, 40 CAN. J. NEUROLOGICAL SCI. 540, 540 (2013) ("The coincidence of driving and a seizure leading to an accident was first reported more than 100 years ago in 1906.").

126. Allan Krumholz, *To Drive or Not to Drive: The 3-Month Seizure-Free Interval for People with Epilepsy*, 78 MAYO CLINIC PROC. 817, 817 (2003) [hereinafter *To Drive or Not to Drive*]; Pohlmann-Eden et al., *supra* note 125, at 540 ("This observation resulted in a general prohibition against driving with epilepsy.").

Over the past century, these statutes, regulations, and policies have all been repealed or amended. People with epilepsy can marry freely.<sup>127</sup> They can decide if, when, and how to have children.<sup>128</sup> They can obtain and maintain meaningful employment.<sup>129</sup> And they are protected against discrimination.<sup>130</sup> In 1949, Wisconsin became the first state to permit people with epilepsy who had been seizure-free for a certain amount of time to obtain a driver license.<sup>131</sup> Today, all fifty states and the District of Columbia permit people with epilepsy who meet certain criteria to drive.<sup>132</sup> The next Part discusses how that criteria varies state-to-state.<sup>133</sup>

## II. DISCUSSION

Efforts to standardize the array of state laws affecting drivers with epilepsy and their physicians began as early as 1926, when a nonprofit organization published the Uniform Vehicle Code.<sup>134</sup> In 1992, after years of stagnation, an alliance between the American Academy of Neurology, the American Epilepsy Society, and the Epilepsy Foundation of America proposed amendments to modernize these laws.<sup>135</sup> In the twenty-eight years since, the medical and traffic safety communities have published

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127. Laws prohibiting people with epilepsy from marrying were repealed by the early 1980s. See Kramer, *supra* note 39, at 352 ("It was not until 1982 that the last state repealed its law precluding individuals with epilepsy from marrying."); but see *The History and Stigma of Epilepsy*, 44 EPILEPSIA (SUPPL. 6) 12, 13 (2003) ("In the United States, for instance, people with epilepsy were forbidden to marry in 17 states, until 1956. The last state to repeal this law did so only in 1980.").

128. Sterilization in the United States laws were repealed by the late 1970s. See Burrus, *supra* note 113 ("The United States forcibly sterilized people through the 1970s.").

129. See *The History and Stigma of Epilepsy*, *supra* note 127, at 13 ("Unemployment and underemployment among persons with epilepsy exists worldwide. In the United States, the first law to prohibit discrimination against people with physical disabilities was passed in 1973; however, this had limited scope, and it was not until 1990 that the passage of the Americans with Disabilities Act provided a more uniform remedy to persistent discrimination."). See also EPILEPSY FOUND. AM., THE LEGAL RIGHTS OF PERSONS WITH EPILEPSY: AN OVERVIEW OF LEGAL ISSUES AND LAWS 32 (1992) ("Until 1990, there was no comprehensive federal law prohibiting employers from discriminating on the basis of disability. Finally, in July of 1990, people with disabilities got their 'emancipation proclamation' in the form of the Americans with Disabilities Act (ADA).").

130. Many other discriminatory laws were repealed by the 1970s. See, e.g., *The History and Stigma of Epilepsy*, *supra* note 127, at 13 ("Until the 1970s, for instance, it was still legal in the United States to deny persons with seizures entry to restaurants, theatres, recreational centres and other public places.").

131. *To Drive or Not to Drive*, *supra* note 126, at 817.

132. See discussion *infra* Section II.B (summarizing state laws permitting people with epilepsy who meet certain criteria to drive).

133. See discussion *infra* Section II.B (summarizing the differences among states' statutes, regulations, and policies affecting drivers with epilepsy and their physicians).

134. See discussion *infra* notes 141–42 and accompanying text (introducing the Uniform Vehicle Code and its purpose).

135. See discussion *infra* Section III.B (profiling the American Academy of Neurology's, American Epilepsy Society's, and Epilepsy Foundation of America's *Consensus Statements*).

dozens of papers urging legislators, administrators, and policymakers to revisit restrictions on drivers with epilepsy.<sup>136</sup> A response from the legal community is long overdue.<sup>137</sup> This Part begins with an introduction to the Uniform Vehicle Code of 1926 and its subsequent amendments.<sup>138</sup> Then this Part provides an overview of the ten primary components of laws affecting drivers with epilepsy and their physicians.<sup>139</sup> For each component, it highlights the relevant provisions of state statutes, regulations, and policies and the relevant provisions of the Uniform Vehicle Code that are operative today.<sup>140</sup>

#### A. *Uniform Vehicle Code*

In 1926, the National Committee on Uniform Traffic Laws and Ordinances (NCUTLO), a nonprofit organization, published the Uniform Vehicle Code and Model Traffic Ordinance (UVC).<sup>141</sup> “It reflects the need for uniformity in traffic regulation throughout the United States and, to this end, serves as a reliable, contemporary guide for use by state legislatures.”<sup>142</sup> Pursuant to US Department of Transportation policy, states have a duty to review their statutes, regulations, and policies on a regular basis to ensure conformance with the UVC’s provisions on driver licensing.<sup>143</sup> The UVC was last updated in 2000.<sup>144</sup>

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136. This Comment alone cites to over two dozen papers from the medical and traffic safety communities that were published between 2000–2019.

137. There have been only two legal papers calling to reform state laws affecting drivers with epilepsy and their physicians from 2000–2019: Attorney June M. Sullivan’s note published in *Health Lawyer* in 2003, calling for “states to revisit their [physician] reporting statutes;” and Attorney Kathryn Kramer Gaydos’s note published in the *Cleveland State Law Review* in 2009. June M. Sullivan, *Physicians as Gatekeepers for Society: Confidentiality of Protected Health Information Versus Duty to Disclose At-Risk Drivers*, 16 HEALTH LAW., no. 1, 2003, at 20, 20; Kramer, *supra* note 39. Kramer’s note calls for a reform of Ohio’s laws. Kramer, *supra* note 39. This Comment attempts to build on her excellent work and calls for all states to revisit and reform their laws.

138. See discussion *infra* Section II.A (introducing the Uniform Vehicle Code).

139. See discussion *infra* Section II.B (providing an overview of the ten primary components of laws affecting drivers with epilepsy and their physicians).

140. See discussion *infra* Section II.B (highlighting provisions of state statutes, regulations, and policies and comparing them to provisions of the Uniform Vehicle Code).

141. UNIF. VEHICLE CODE & MODEL TRAFFIC ORDINANCE, at v n.1 (NAT’L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 1968).

142. *Id.* at v.

143. *Id.* at x.

144. See generally UNIF. VEHICLE CODE & MODEL TRAFFIC ORDINANCE (NAT’L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 2000).



*B. Overview of the Ten Primary Components of Laws Affecting Drivers with Epilepsy and Their Physicians*

For applicants and drivers with epilepsy, the laws of the state where they are licensed to drive—not the laws of the state where they are driving—control.<sup>145</sup> For physicians, however, the laws of the state where they practice medicine—not the laws of the state where their patient is licensed to drive—control.<sup>146</sup> Consequently, a physician must know the laws of the state where she practices medicine to determine whether she is mandated to report her patient with epilepsy to the Department of Motor Vehicles (DMV).<sup>147</sup> But she must also know the laws of the state where her patient is licensed to drive to determine whether her patient is able to legally resume driving.

1. Language and Location of Laws

State laws affecting drivers with epilepsy and their physicians are not in the form of stand-alone statutes. Rather, provisions implicating applicants, licensed drivers, and physicians are scattered throughout statutes, regulations, and policies.<sup>148</sup> Some states' statutes explicitly mention epilepsy,<sup>149</sup> some states do not. Of the states whose statutes do not explicitly mention epilepsy, epilepsy is included in catchall provisions pertaining to physical or mental disorders that may affect the person's ability to exercise reasonable and ordinary control over a motor vehicle.<sup>150</sup> Regardless of whether a state's statutes explicitly mention

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145. See NEUROLOGY MINUTE, *supra* note 34 (“Every neurologist should be aware of the laws in his or her state and if you practice in an area where multiple states converge, then the laws that govern the patient will be the laws of the state where his or her license is issued.”).

146. See Black, *supra* note 34 (“Physicians should be aware of their professional responsibilities and the legal requirements of the states in which they practice.”). See also G.L. Krauss et al., *Risk Factors for Seizure-Related Motor Vehicle Crashes in Patients with Epilepsy*, 52 NEUROLOGY 1324, 1324 (1999) [hereinafter *Risk Factors*] (explaining that Maryland law does not mandate physicians to report their patients to the Department of Motor Vehicles). So even if a patient is licensed to drive in a state that mandates physicians to report, if that patient is seen by a physician in Maryland, the other state's law does not apply to the physician in Maryland. *Id.*

147. This Comment will hereinafter refer to the states' licensing agencies (sometimes named the “Department of Motor Vehicles,” the “Motor Vehicle Division,” or the “Secretary of State”), individually as “DMV” and collectively as “DMVs.”

148. See discussion *supra* note 36 and accompanying text (illustrating how an applicant with epilepsy in North Carolina would have to consult the state's statutes, regulations, and DMV website in order to understand her rights and obligations).

149. See, e.g., IND. CODE § 9-24-2-3 (2019) (“An individual subject to epileptic seizures”).

150. See REESE, *supra* note 17, at 78 (“Where is it not mentioned in the statutes, epilepsy is included in this category.”); See, e.g., ALA. CODE § 32-6-7 (2019) (“A driver's license shall not be issued to the following persons: . . . [a]ny person afflicted with or suffering from a physical or mental disability which, in the opinion of the Director of Public Safety or examining officer will prevent a person from exercising reasonable and ordinary control over a motor vehicle.”); ARIZ.

epilepsy, the majority of states' regulations address the disorder.<sup>151</sup> Usually, these regulations are broad, delegating policymaking to the DMVs.<sup>152</sup> Consequently, applicants, licensed drivers, and physicians will find the most germane information in policies published on DMVs' websites rather than in statutes or regulations.<sup>153</sup>

Like the majority of states' statutes, the UVC does not explicitly mention epilepsy.<sup>154</sup> Instead, epilepsy is encompassed by catchall provisions disqualifying any person "who has previously been adjudged to be afflicted with or suffering from any mental disability or disease and who has not at the time of application been restored to competency by the methods provided by law," as well as any person "the commissioner has good cause to believe . . . by reason of physical or mental disability would not be able to operate a motor vehicle safely."<sup>155</sup>

## 2. Seizure-Free Period

Thirty-seven states and the District of Columbia require applicants for driver licenses to have been seizure-free for a certain period of time prior to licensure.<sup>156</sup> Of these, ten states require applicants to have been

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REV. STAT. ANN. § 28-3005 (2019) ("a condition that could affect a person's functional ability to safely operate a motor vehicle."); VA. CODE ANN. § 46.2-315 (2019) ("a physical or mental disability or disease which will prevent his exercising reasonable and ordinary control over a motor vehicle while driving it on the highways. . .").

151. See, e.g., ALA. ADMIN. CODE r. 760-X-20-.10(1)(h) (2019) ("With respect to conditions affecting neurological or neuromuscular function, the review boards when making recommendations, and the department when taking licensing action, may consider disorders including, but not limited to, the following . . . [s]eizure disorders."); ARIZ. ADMIN. CODE § R17-4-506(A)(1) (2019) ("A person who has a seizure in the three months before applying for a driver license shall undergo a medical examination . . .").

152. See *Individual State Driving Restrictions*, *supra* note 37, at 1781 ("Legislatures sometimes enact specific state laws regarding drivers with epilepsy but, more often, those state rules are determined administratively by each [motor vehicle agency] and documented in published agency standards and procedures."). See also EDWARD C. FISHER & ROBERT H. REEDER, *VEHICLE TRAFFIC LAW* 37 (rev. ed. 1974) ("[I]t is common to find many of the actual details of traffic laws and their enforcement entrusted to the discretion of administrative agencies and officers, such as the state department of public safety, the motor vehicle department, the secretary of state and the like . . .").

153. See, e.g., *supra* note 36 and accompanying text (illustrating how applicant with epilepsy in North Carolina would have to consult the state's statutes, regulations, and DMV website in order to understand her rights and obligations).

154. See generally UNIF. VEHICLE CODE & MODEL TRAFFIC ORDINANCE (NAT'L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 1968); UNIF. VEHICLE CODE & MODEL TRAFFIC ORDINANCE (NAT'L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 2000).

155. UNIF. VEHICLE CODE & MODEL TRAFFIC ORDINANCE § 6-104(b)(4) (NAT'L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 1968); UNIF. VEHICLE CODE & MODEL TRAFFIC ORDINANCE § 6-103(b)(6) (NAT'L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 2000).

156. To determine which states have each type of law, this Comment relied on three sources from the past decade that each conducted a survey of state laws: Charuta N. Joshi et al., "*Chance*

seizure-free for three months,<sup>157</sup> nineteen states require applicants to have been seizure-free for six months,<sup>158</sup> and six states require applicants to have been seizure-free for twelve months.<sup>159</sup> Three states require applicants to have been seizure-free for a range of three to six months, depending on how well an applicant's seizures are controlled.<sup>160</sup> The remaining thirteen states do not require applicants to have been seizure-free for a certain period of time prior to licensure. Instead, these states require applicants to disclose their most recent seizure and provide a

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*Takers Are Accident Makers”: Are Patients with Epilepsy Really Taking a Chance When They Drive?*, 19 EPILEPSY CURRENTS 221, 223 (2019) (citing Gavin P. Winston & Stephan R. Jaiser, *Western Driving Regulations for Unprovoked First Seizures and Epilepsy*, 21 SEIZURE 371, 372 (2012) (providing a survey of state laws as of 2012)), *State Driving Laws Database*, *supra* note 21 (providing a survey of state laws as of 2014), and Brandy B. Ma et al., *Regulating Drivers with Epilepsy in Maryland: Results of the Application of a United States Consensus Guideline*, 58 EPILEPSIA 1389, 1391 (2017) (providing a survey of state laws as of 2017). Where any of the three sources contained conflicting information, this Comment deferred to the paper written by Ma et al. because it contains the most recent survey of state laws. A summary of these laws can be found in the appendix. *See infra* Appendix, Table 1.

157. *See, e.g.*, NEV. ADMIN. CODE § 483.370(1) (2019) (“A person suffering from lapses of consciousness or any other disorder as specified above will not be issued a license until the person submits to the Department a letter signed by his or her physician which states that: (a) [t]he person has been free of seizures . . . for a period of 3 months . . .”). Arizona, Kentucky, Maryland, Minnesota, Nevada, Oregon, Utah, Wisconsin, Texas, and Wyoming require applicants to have been seizure-free for three months prior to licensure. *See supra* note 156 (explaining how this Comment determined how many states have each type of law).

158. *See, e.g.*, HAW. CODE R. § 19-122-362(1)(A) (2020) (“Applicant has been free of seizures . . . for a period of six months.”). Alabama, Alaska, Georgia, Hawaii, Iowa, Kansas, Massachusetts, Michigan, Mississippi, Missouri, New Jersey, New Mexico, North Carolina, Oklahoma, Pennsylvania, South Carolina, Virginia, Washington, and West Virginia require applicants to have been seizure-free for six months prior to licensure. *See supra* note 156 (explaining how this Comment determined which states have each type of law).

159. *See, e.g.*, D.C. MUN. REGS. tit. 18, § 106.7(c) (2020) (“An applicant receiving treatment for episodes of altered consciousness or seizures may be issued a driver’s license if . . . the applicant has not experienced an altered state of consciousness within the preceding twelve (12) months.”). Arkansas, the District of Columbia, New Hampshire, New York, South Dakota, and Tennessee require applicants to have been seizure-free for twelve months prior to licensure. *See supra* note 156 (explaining how this Comment determined which states have each type of law).

160. *See, e.g.*, *Seizures and Epilepsy*, ME. BUREAU MOTOR VEHICLES, <https://www.maine.gov/sos/bmv/licenses/SEIZURES.pdf> [https://perma.cc/952E-HT7E] (determining there “will be no driving for 6 months off medication or no driving until a minimum of 3 months seizure free on medication”). California, Maine, and North Dakota require applicants to have been seizure-free for a range of three to six months prior to licensure, depending on how well an applicant’s seizures are controlled. *See supra* note 157 (explaining how this Comment determined which states have each type of law).

physician's statement recommending they are fit to drive.<sup>161</sup> These states then evaluate each applicant individually.<sup>162</sup>

### 3. Seizure-Free Period for Licensed Drivers with Epilepsy

As illustrated in the fictional account in the Introduction, although laws governing applicants with epilepsy are relatively clear, those governing already-licensed drivers with epilepsy are more obscure.<sup>163</sup> After experiencing a seizure, the majority of states require licensed drivers to immediately cease driving and disclose the seizure to the DMV.<sup>164</sup> Some states require licensed drivers to be seizure-free for the same amount of time applicants are required to be seizure-free before they can resume driving.<sup>165</sup> Other states do not require licensed drivers to be seizure-free for a certain period of time before they can resume driving. Instead, these states require licensed drivers to provide a physician's statement recommending they are fit to drive.<sup>166</sup>

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161. See, e.g., COLO. REV. STAT. § 42-2-112 (1) (2020) ("In order to determine whether any licensed driver or any applicant for a driver's license is physically or mentally able to operate a motor vehicle safely upon the highways of this state, the department is authorized . . . to seek and receive a written medical opinion from any physician, physician assistant, or optometrist licensed in this state."). Colorado, Connecticut, Delaware, Florida, Idaho, Illinois, Indiana, Louisiana, Montana, Ohio, Vermont, Nebraska, and Rhode Island do not require applicants to have been seizure-free for a certain period of time prior to licensure. See *supra* note 156 (explaining how this Comment determined which states have each type of law); see also *infra* Appendix, Table 1 (summarizing state laws).

162. See, e.g., CONN. AGENCIES REGS. § 14-45a-6(c) (2020) ("If a person has experienced an episode within the previous six (6) month period, the commissioner shall request the opinion of the Medical Advisory Board prior to making a decision with regard to licensing action.").

163. See *Review and Reappraisal*, *supra* note 125, at 624 ("In general, drivers with epilepsy or seizures are required to report their condition at the time of driver's license application or renewal. Requirements for further reporting are variable, often poorly defined, and a potential source of confusion."). See also *supra* notes 25–32 and accompanying text (providing an example of a policy in the District of Columbia that cannot be found on the Epilepsy Foundation's *State Driving Laws Database*, the District's statutes, or the District's regulations, but only on the District's DMV's website).

164. See, e.g., ALASKA ADMIN. CODE tit. 2, § 90.440(a) (2020) ("A person who has a driver's license and who has had an uncontrolled seizure or an episode of loss of conscious control as a result of a medical condition must surrender that person's driver's license to the department.").

165. See, e.g., *id.* ("The department may grant a new driver's license or reissue a license to a person who has had a seizure or an episode of loss of conscious control after receiving a statement from a physician licensed to practice medicine. The physician must state, in writing, that the (1) physician is aware of the circumstances that led to the cancellation or denial of the applicant's driver's license; and (2) applicant (A) has been seizure or episode-free for six months; (B) has the condition under control; and (C) can safely operate a motor vehicle.").

166. See, e.g., ARIZ. ADMIN. CODE § 17-4-506(B)(1) (2020) ("A person with a driver license or non-resident driving privileges who experiences a seizure shall cease driving and: a. Undergo a medical examination as provided in R17-4-502; b. Submit the medical examination report to the Division . . .").

#### 4. Consideration of Mitigating and Aggravating Factors

To determine whether an applicant should be licensed or a licensed driver should be able to resume driving, approximately half of states consider mitigating and aggravating factors.<sup>167</sup> Mitigating factors make it *more* likely the DMV will permit the applicant to obtain a license or permit the licensed driver to resume driving prior to the expiration of the required seizure-free period.<sup>168</sup> Aggravating factors make it *less* likely the DMV will permit the applicant to obtain a license or permit the licensed driver to resume driving prior to the expiration of the required seizure-free period.<sup>169</sup> Certain aggravating factors may actually incline the DMV to extend the applicant's or licensed driver's seizure-free period beyond what is required.<sup>170</sup> The other half of states never consider mitigating or aggravating factors, rigidly adhering to their required seizure-free periods.<sup>171</sup>

#### 5. Mandating Physicians to Report Their Patients to the DMV

Regardless of whether physicians think their patients are fit to drive, six states mandate they report the names, ages, and addresses of their patients with epilepsy to the DMV: California, Delaware, Nevada, New

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167. See, e.g., ARIZ. ADMIN. CODE § 17-4-506(D) (2020) (“A neurological disorder does not affect a person’s ability to operate a motor vehicle safely if a physician concludes with reasonable medical certainty that: 1. Any seizure that occurred within the last three months was due to a change in anticonvulsant medication ordered by a physician and that seizures are under control after the change in medication; 2. Any seizure that occurred within the last three months was a single event that will not recur in the future; 3. Any seizure is likely to occur but has an established pattern of occurring only during sleep; or 4. There is an established pattern of an aura of sufficient duration to allow the person to cease operating a motor vehicle immediately at the onset of the aura.”).

168. See *Individual State Restrictions*, *supra* note 37, at 1782 (defining mitigating factors as “[r]are exceptions to seizure-free interval[s]”).

169. See *infra* note 299 and accompanying text (defining aggravating factors as those that increase an applicant’s or driver’s risk of experiencing a seizure while driving).

170. See, e.g., *Physical and Mental Conditions Guidelines: Lapse of Consciousness Consolidation Table*, CA. DEP’T MOTOR VEHICLES, [https://www.dmv.ca.gov/portal/wcm/connect/55336c41-1a88-4791-9d96-b254f121b84a/laps\\_table.pdf?MOD=AJPERES&CVID=\[https://perma.cc/T4VP-FW4Q\]](https://www.dmv.ca.gov/portal/wcm/connect/55336c41-1a88-4791-9d96-b254f121b84a/laps_table.pdf?MOD=AJPERES&CVID=[https://perma.cc/T4VP-FW4Q]) (charting the “range of actions” the DMV may take based on “contributing factors”).

171. See, e.g., KY. REV. STAT. ANN. § 186.411(1) (2019) (“If a person with a seizure condition applies for an original . . . or renewal operator’s license, . . . he shall be required by the cabinet to present to the Division of Driver Licensing certification by a physician or advanced practice registered nurse that his condition is controlled by drugs, details of the drugs, dosages which the person takes, and that the person has been free of any seizures for ninety (90) days; his own statement that he has been free of any seizures for ninety (90) days before the date of the application, and that he is taking the medication prescribed by his physician or advanced practice registered nurse. The division shall upon receipt of the required documentation issue him a letter of authorization to present to the circuit clerk. The circuit clerk shall not issue an operator’s license to a person with a seizure condition who does not present the letter of authorization.”).

Jersey, Oregon, and Pennsylvania.<sup>172</sup> The remaining states that do not *mandate* physicians to report *encourage* physicians to report their patients with epilepsy, especially those whose seizures are not controlled or who are not compliant with treatment, to the DMV.<sup>173</sup> Similarly, some states encourage members of the public to report people who may be unable to operate a motor vehicle safely to the DMV.<sup>174</sup>

Like California, Delaware, Nevada, New Jersey, Oregon, and Pennsylvania, the UVC mandates that physicians report their patients with epilepsy. The UVC first requires each state's department of health to define disorders "characterized by lapses of consciousness or other mental or physical disabilities affecting the ability of a person to drive safely."<sup>175</sup> Then it requires each physician to report the full name, date of birth, and address of every patient over fifteen years of age diagnosed with those disorders or disabilities to her state's department of health within ten days.<sup>176</sup> The state's department of health shall, in turn, report that information to the state's DMV.<sup>177</sup>

## 6. Granting Immunity from Liability

Whereas the UVC and most states provide physicians with immunity from civil liability for choosing *to* report their patients with epilepsy to the DMV;<sup>178</sup> fewer states provide physicians with immunity from civil

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172. *Review and Reappraisal, supra* note 125, at 624; Wally Lee, Tim Wolfe, & Scott Shreeve, *Reporting Epileptic Drivers to Licensing Authorities Is Unnecessary and Counterproductive*, 39 ANNALS EMERGENCY MED. 656, 657 (2002).

173. *See, e.g.*, R.I. GEN. LAWS ANN. § 31-10-44(d) (2020) ("Any physician or optometrist who diagnoses a physical or mental condition which in the physician's or optometrist's judgment will significantly impair the person's ability to operate safely a motor vehicle may voluntarily report the person's name and other information relevant to the condition to the medical advisory board within the division of motor vehicles."). *See also* Ma et al., *supra* note 157, at 1394 ("[T]he Maryland [medical advisory board], as is the case in most states, does recommend that physicians report patients who may represent a high public safety risk.").

174. *Compare Driver Safety Information Medical Conditions and Traffic Safety*, CAL. DEP'T OF MOTOR VEHICLES, [https://www.dmv.ca.gov/portal/dmv/?1dmy&urile=wcm:path:/dmv\\_content\\_en/dmv/dl/driversafety/dsmedcontraffice](https://www.dmv.ca.gov/portal/dmv/?1dmy&urile=wcm:path:/dmv_content_en/dmv/dl/driversafety/dsmedcontraffice) [https://perma.cc/2FK4-98N6] (encouraging "law enforcement, physicians and surgeons, judges, family members and acquaintances" to report), *with* MO. DEP'T REVENUE, DRIVER LICENSE BUREAU, FORM 4319A: HOW TO REPORT AN UNSAFE DRIVER (Nov. 2017), <https://dor.mo.gov/forms/4319A.pdf> [https://perma.cc/WYB6-63NX] (only permitting "physicians, chiropractors, registered nurses, psychologists, law enforcement personnel, social workers, professional counselors, optometrists, physical or occupational therapists, emergency medical technicians, and immediate family of the driver" to report).

175. UNIF. VEHICLE CODE & MODEL TRAFFIC ORDINANCE § 6-119(a) (NAT'L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 2000)

176. *Id.* § 6-119(b).

177. *Id.* § 6-119(c).

178. *See, e.g.*, IOWA CODE § 321.186(4) (2019) ("A physician . . . may report to the department

liability for choosing *not* to report their patients with epilepsy to the DMV.<sup>179</sup> Some states additionally provide DMV employees<sup>180</sup> and members of medical advisory boards<sup>181</sup> with immunity from civil liability for their recommendations.

### 7. Requiring Periodic Updates

Some states require physicians to submit periodic updates about their patients with epilepsy to the DMV.<sup>182</sup> Other states only require physicians to submit updates at the DMV's request or when their patients' licenses are up for renewal.<sup>183</sup> The UVC does not address the topic of periodic updates.<sup>184</sup> Presumably, it defers that topic to administrators and policymakers.

### 8. Utilizing a Medical Advisory Board

The UVC requires states to appoint a medical advisory board comprised of healthcare professionals, and the majority of states do.<sup>185</sup> The UVA promulgates that states should utilize their medical advisory boards to formulate medical criteria for DMVs to utilize in licensing

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the identity of a person who has been diagnosed as having a physical or mental condition which would render the person physically or mentally incompetent to operate a motor vehicle in a safe manner. . . . A physician . . . making a report under this section shall be immune from any liability, civil or criminal, which might otherwise be incurred or imposed as a result of the report.”). *See also* UNIF. VEHICLE CODE & MODEL TRAFFIC ORDINANCE § 6-119(d) (NAT’L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 2000) (“No civil or criminal action may be brought against any person or agency who provides the required information.”).

179. *See, e.g.*, R.I. GEN. LAWS ANN. § 31-10-44(e) (2020) (“No cause of action may be brought against any physician or optometrist for not making a report pursuant to this section.”).

180. *See, e.g.*, IND. CODE § 9-14-9-7 (2019) (“Tort claim immunity . . . applies to a claim or suit in tort against any of the following: . . . (2) An employee of the commission.”).

181. *See, e.g., id.* § 9-14-11-7 (“A member of the [medical advisory] board is exempt from a civil action arising or thought to arise from an action taken in good faith as a member of the board.”).

182. *See, e.g.*, D.C. MUN. REGS. tit. 18, § 106.8 (2020) (“The annual physician’s certificate shall no longer be required after a five (5) year period of freedom from seizures.”).

183. *See, e.g.*, GA. COMP. R. & REGS. 375-3-5-.09(2) (2019) (“The Department, upon receipt of a report that a driver may be physically or mentally incapacitated or otherwise not qualified to drive, may at any time upon written notice to the licensee require the licensee to submit medical reports regarding his physical or mental condition to the Department for individual consideration by the Driver’s License Advisory Board. The submission of such reports shall be without expense to the State or the Department.”).

184. *See generally* UNIF. VEHICLE CODE & MODEL TRAFFIC ORDINANCE (NAT’L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 2000).

185. *Id.* § 6-119(a) n.47 (“It is suggested that the board have members whose medical and other specialties are known to relate to driving abilities, such as an internist, vision specialist (ophthalmologist and optometrist), orthopedic surgeon, neurologist, and other medical authorities.”); Ma et al., *supra* note 157, at 1391 (demonstrating that thirty-three states have medical advisory boards).

decisions.<sup>186</sup> Some states also utilize their medical advisory boards to evaluate complicated cases that cannot be decided by first-level DMV staff based on the information provided on application and renewal forms.<sup>187</sup> This practice is permitted by the UVC.<sup>188</sup> After evaluating a case, the medical advisory board makes a recommendation to the DMV head as to whether to grant or renew the license.<sup>189</sup>

#### 9. Who Makes the Ultimate Licensing Decision?

In some states, the DMV heads make the ultimate licensing decision.<sup>190</sup> In other states, the DMV heads rely on the recommendations of the medical advisory boards alone.<sup>191</sup> Yet in other states, the DMV heads rely on both the recommendations of the medical advisory boards and the recommendations of the applicants' or licensed drivers' personal physicians.<sup>192</sup> In about a dozen states, however, the DMV heads rely on the recommendations of the applicants' or licensed drivers' personal physicians alone,<sup>193</sup> and in some of those states, those physicians are not provided with immunity from civil liability for those decisions.<sup>194</sup>

#### 10. Providing the Right to Appeal Licensing Decisions to the Courts

The UVC provides almost all applicants who have been denied licensure and almost all drivers whose licenses have been canceled, suspended, or revoked the right to appeal the decision to a court of

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186. § 6-119(a)–(c).

187. See discussion *infra* note 343 and accompanying text (reporting that most states utilize medical advisory boards to evaluate individual cases rather than to formulate criteria to be applied to all cases).

188. § 6-119.

189. See discussion *infra* notes 342–44 and accompanying text (discussing how medical advisory boards make recommendations to DMV heads). In 1975, the NCUTLO changed the name of the medical advisory board to the health advisory board. VEHICLE CODE & MODEL TRAFFIC ORDINANCE suppl. III § 6-115(d) (NAT'L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 1979).

190. See, e.g., CONN. AGENCIES REGS. § 14-145a-6(b) (2020) (“[U]pon receipt and review of the medical report under subsection (a) of this section, the commissioner shall make a decision with regard to licensing action.”).

191. See Ma et al., *supra* note 157, at 1391 (charting that in some states, the DMV heads rely on the recommendations of the medical advisory boards alone).

192. *Id.* (charting that in some states, the DMV heads rely on both the recommendations of the medical advisory boards and the recommendations of the applicants' or licensed drivers' personal physicians).

193. See *id.* at 1389 (“10 states . . . rely solely on physician recommendations”). But see *Individual State Driving Restrictions*, *supra* note 37, at 1785 (“[There are] 13 states in which treating physicians are principally responsible for determining the restrictions on drivers with epilepsy . . .”).

194. See *Individual State Driving Restrictions*, *supra* note 37, at 1785 (“However, in six of the 13 states in which treating physicians are principally responsible for determining the restrictions on drivers with epilepsy, those physicians are not provided with explicit immunity from legal responsibility for their actions.”).



competent jurisdiction.<sup>195</sup> All states and the District of Columbia have similar statutes.<sup>196</sup>

Building on this overview, Part III compares these provisions of state laws and the UVC to the results of studies and the recommendations of medical professional organizations and advocacy groups.<sup>197</sup>

### III. ANALYSIS

Constituents are more likely to follow data-driven, evidence-based laws.<sup>198</sup> Accordingly, in order for statutes, regulations, and policies to actually work, it is imperative for legislators, administrators, and policymakers to become familiar with the vast amount of data concerning driving with epilepsy.<sup>199</sup> This is a critical step towards ensuring state laws achieve the goal of promoting public safety without unreasonably restricting drivers with epilepsy or burdening the physicians who treat them.

Therefore, this Part begins with an overview of studies that concluded drivers with epilepsy have higher crash rates than the general population.<sup>200</sup> It argues that most of these studies had damning limitations.<sup>201</sup> Then this Part provides an overview of studies that concluded drivers with epilepsy do *not* have higher crash rates than the general population.<sup>202</sup> After, this Part argues that drivers with other disorders or diseases should be of similar or greater concern than drivers with epilepsy.<sup>203</sup> This Part then profiles medical professional organizations and advocacy groups that have a stake in maintaining or

195. UNIF. VEHICLE CODE & MODEL TRAFFIC ORDINANCE § 6-215(a) (NAT'L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 2000).

196. *See, e.g.*, ME. REV. STAT. ANN. tit. 29-A, § 2485(5) (2020) ("The person whose license is suspended or other party may, within 30 days after receipt of the decision, appeal to the Superior Court . . . . If the court rescinds the suspension, it shall also order the Secretary of State to delete any record of the suspension.").

197. *See* discussion *infra* Section III.B (comparing state laws to the results of studies and the recommendations of medical professional organizations and advocacy groups).

198. Anne Seidman & Robert B. Seidman, *ILTAM: Drafting Evidence-Based Legislation for Democratic Social Change*, 89 B.U. L. REV. 435, 461 (2009) ("An evidence-based law will more likely induce its addressees to behave as prescribed and the resulting behaviors will more likely help to resolve the targeted social problem.").

199. *Id.* at 457 ("[T]o produce a law that *works* a drafter should design evidence-based legislation.").

200. *See* discussion *infra* Section III.A.1 (providing an overview of studies that concluded drivers with epilepsy have higher crash rates than the general population).

201. *See* discussion *infra* Section III.A.1 (demonstrating these studies' damning limitations).

202. *See* discussion *infra* Section III.A.2 (providing an overview of studies that concluded drivers with epilepsy do *not* have higher crash rates than the general population).

203. *See* discussion *infra* Section III.A.3 (arguing that drivers with other disorders or diseases should be of similar or greater concern than drivers with epilepsy).

reforming these laws.<sup>204</sup> Finally, this Part compares the provisions of state laws and the UVC discussed in Part II to the results of studies and the recommendations of medical professional organizations and advocacy groups.<sup>205</sup>

### A. Crash Rates of Drivers with Epilepsy

Because these laws purport to decrease the number of accidents caused by drivers with epilepsy,<sup>206</sup> an overview of studies that calculated crash rates of drivers with epilepsy will help determine if current statutes, regulations, and policies are data-driven and evidence-based.

#### 1. Studies that Concluded Drivers with Epilepsy Have Higher Crash Rates Than the General Population

Several studies have concluded that drivers with epilepsy have higher crash rates than the general population.<sup>207</sup> Most of these studies, however, had damning limitations.<sup>208</sup> First, some of the studies did not specifically evaluate drivers with epilepsy.<sup>209</sup> Rather, they evaluated all drivers who experienced “lapses of consciousness” or all drivers with “neurological conditions.”<sup>210</sup> In other words, they lumped drivers with epilepsy

204. See discussion *infra* Section III.B (profiling medical professional organizations and advocacy groups that have a stake in maintaining or reforming these laws).

205. See discussion *infra* Part III.B (comparing the provision of state laws and the Uniform Vehicle Code discussed in Part II to the results of studies and the recommendations of medical professional organizations and advocacy groups).

206. See discussion *supra* notes 41–45 and accompanying text (explaining the states’ statutes “were enacted to protect the general public from the perceived high risk of accidents caused by individuals with epilepsy”).

207. For example, a 2017 report by the California Department of Motor Vehicles found that drivers who experienced “lapses of consciousness” have a higher rate of crashes (nineteen crashes per one hundred drivers) than the general population (seven crashes per one hundred drivers) and males under the age of twenty-five (ten crashes per one hundred drivers). STACY L. RILEA, CAL. DEP’T MOTOR VEHICLES, CAL-DMV-RSS-17-252: CRASH RISKS OF DRIVERS WITH PHYSICAL AND MENTAL (P&M) CONDITIONS AND CHANGES IN CRASH RATES OVER TIME, at v–vi, 15 (2017). Another study found that drivers with epilepsy have 1.33 relative risk of causing an accident. Winston & Jaiser, *supra* note 157, at 372. Another study found that drivers with epilepsy have an accident rate of 29 percent compared to 20 percent in the control group. Joan Taylor, David Chadwick, & Tony Johnson, *Risk of Accidents in Drivers with Epilepsy*, 60 J. NEUROLOGY, NEUROSURGERY & PSYCHIATRY 621, 625 (1996).

208. See, e.g., *Review and Reappraisal*, *supra* note 125, at 622 (“Even the few studies that have addressed this issue more scientifically have been hampered by methodological problems, such as identifying an unbiased study population.”).

209. See, e.g., RILEA, *supra* note 207, at vii (footnotes omitted) (“[D]esignation codes are broad categories which encompass multiple medical conditions, which may also explain the difference in the current findings relative to other research studies. As such, the effects of a specific medical condition cannot be evaluated using this method.”).

210. Even the National Highway Traffic Safety Administration’s database has not isolated drivers with epilepsy. Lee et al., *supra* note 172, at 657. Rather, it has provided data about fatalities

together with drivers with dementia, Alzheimer's, syncope, diabetes, narcolepsy, and brain tumors.<sup>211</sup> Therefore, the studies did not definitely conclude that *drivers with epilepsy* have higher crash rates than the general population; they merely concluded that *drivers with conditions that cause lapses of consciousness* or *drivers with neurological conditions* have higher crash rates than the general population.<sup>212</sup> The higher crash rates in these groups may have been caused by the drivers with the other conditions rather than by the drivers with epilepsy.<sup>213</sup>

One study that actually isolated drivers with epilepsy from drivers with other conditions found that drivers with epilepsy have only a slightly higher crash rate than the general population.<sup>214</sup> The authors identified the limitations of the studies that concluded drivers with epilepsy have higher crash rates than the general population and corrected for them.<sup>215</sup> The authors concluded that the slightly higher rate was not sufficient to further restrict driving privileges.<sup>216</sup>

The second limitation of these studies is that they may have overestimated the crash rates of drivers with epilepsy relative to drivers

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caused by "passed out/blackout," which encompasses a range of medical disorders and diseases. *Id.* See also RILEA, *supra* note 207, at v–vi, 15 (evaluating all drivers who experienced "lapses of consciousness").

211. For example, the 2017 report by the California DMV, *supra* note 207, defined drivers who experienced "lapses of consciousness" as drivers who had been diagnosed with epilepsy or syncope, RILEA, *supra* note 207, at 1. The report evaluated drivers who experienced "lapses of consciousness" as a whole. *Id.* It did not generate separate data for drivers with epilepsy and drivers with syncope. *Id.*

212. "Thus, applying conclusions to all medical conditions within a [lapses of consciousness] designation code may be inappropriate." *Id.* at vii. Therefore, applying the conclusions about all drivers who experience "lapses of consciousness" to only drivers with epilepsy "may lead to unsubstantiated conclusions." *Id.* at 26. "Thus, the current study is unable to independently determine the crash rates of individuals with epilepsy." *Id.*

213. *Id.* at vii (explaining that the higher rate of crashes in drivers with "lapses of consciousness" than drivers from the general population "may be the result of the inclusion of individuals with syncope, which prior research has shown is associated with an increase in crash rates"). See also Huagui Li et al., *Potential Risk of Vasovagal Syncope for Motor Vehicle Driving*, 85 AM. J. CARDIOLOGY 184, 184 (2000) (evaluating 245 patients with syncope and finding that 23 (9 percent) of them had experienced an episode of syncope behind the wheel that caused a driving "incident").

214. Phiroze Hansotia & Steven K. Broste, *The Effect of Epilepsy or Diabetes Mellitus on the Risk of Automobile Accidents*, 324 NEW ENG. J. MED. 22, 22 (1991).

215. *Id.* at 25 ("Uncertainty about the completeness of medical reporting, conflicting results from other studies, and suspicion that subjects identified to the state represented the most severe end of the disease spectrum have made application of the results of [studies that concluded drivers with epilepsy have higher crash rates than the general population] controversial. In restricting our study to an area in which nearly complete case ascertainment could be assured, we intended that comparisons between affected and unaffected cohorts would be fairly representative of differences within the population at large.").

216. *Id.* at 26.

with other conditions because of mandated reporting.<sup>217</sup> For example, in California, physicians are mandated by statute to report their patients who experience “lapses of consciousness” to the DMV.<sup>218</sup> Physicians are not, however, mandated to report their patients with other conditions to the DMV, even if those conditions may render them unable to safely operate a motor vehicle.<sup>219</sup> Therefore, many drivers with other medical conditions have not been reported to the DMV. Consequently, any crashes they may have caused were not accounted for in these studies.

These studies may also have overestimated crash rates of drivers with epilepsy because the studies only account for some, not all, drivers with epilepsy. This is because DMVs only know about drivers with epilepsy who have disclosed their diagnosis to the DMV, whose physicians have reported them to the DMV, or who have caused a crash. DMVs do not know about the “potentially large” number of drivers with epilepsy who have not disclosed their diagnosis to the DMV, whose physicians have not reported them to the DMV, and who have not caused a crash.<sup>220</sup> If the studies accounted for these evasive drivers with epilepsy who have not caused a crash, the crash rates for all drivers with epilepsy would be lower.

The third limitation of these studies is that they did not distinguish whether the driver with epilepsy caused an accident because she experienced a seizure behind the wheel or because of another factor.<sup>221</sup> One study that did make this distinction concluded that of all accidents

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217. See RILEA, *supra* note 207, at vi (“The crash rates observed in the current study are likely an overestimation of the relative crash risk for drivers with these . . . conditions”); *id.* at 26 (“There is ample evidence to suggest that crash rates for individuals diagnosed with epilepsy are overestimated and may not be higher than the general population of drivers.”).

218. See, e.g., *id.* at 1 (“Among these medical conditions, those who have lapses of consciousness (e.g., epilepsy and syncope) have historically had the highest rates of contact with the California Department of Motor Vehicles . . . . This is likely, in part, a result of the mandatory reporting law in place since 1939 requiring physicians to report patients who have experienced a lapse in consciousness.”). See also CAL. HEALTH & SAFETY CODE § 103900(a) (2019) (“Every physician and surgeon shall report immediately to the local health officer in writing, the name, date of birth, and address of every patient at least 14 years of age or older whom the physician and surgeon has diagnosed as having a case of a disorder characterized by lapses of consciousness.”).

219. Whereas California mandates physicians report their patients with epilepsy, syncope, dementia, or Alzheimer’s disease to the DMV, RILEA, *supra* note 207, at 1, the state does not mandate physicians to report their patients with heart disease, alcoholism, or other conditions that may render them unable to safely operate a motor vehicle, CAL. HEALTH & SAFETY CODE § 103900(a), (d) (2019).

220. See, e.g., RILEA, *supra* note 207, at 25 (“The number of drivers monitored by Driver Safety is only a proportion of the number of individuals in the state with these medical conditions. Other drivers not being monitored have not come to the attention of DMV because they have not crashed, nor has anyone reported them as being potentially unsafe. In short, P&M referrals may not be ‘representative’ of the population of drivers with these conditions.”).

221. One study “revealed a very low percentage of accidents believed to be caused by a medical episode of the medical condition studied.” REESE, *supra* note 17, at 79.

caused by drivers with epilepsy, only 11 percent were because the driver experienced a seizure behind the wheel.<sup>222</sup> Another study found that less than 20 percent of all accidents caused by drivers with epilepsy were because the driver experienced a seizure behind the wheel.<sup>223</sup> Nonmedical factors, such as alcohol consumption or driver error, caused the majority of accidents.<sup>224</sup> Therefore, the mere diagnosis of epilepsy is a poor predictor of future crashes.

## 2. Studies that Concluded Drivers with Epilepsy Do *Not* Have Higher Crash Rates Than the General Population

On the contrary, there are several studies that concluded drivers with epilepsy do *not* have higher crash rates than the general population. One study found that only 0.25 percent of all accidents are caused by drivers experiencing a seizure behind the wheel.<sup>225</sup> Another found that only 0.04 percent of all crashes are caused by drivers experiencing a seizure behind the wheel.<sup>226</sup> For context, more accidents are caused by drivers experiencing natural death behind the wheel,<sup>227</sup> up to 3 percent of all accidents are caused by drivers experiencing sleepiness behind the wheel,<sup>228</sup> and 29 percent of all fatalities are caused by drivers who are intoxicated behind the wheel.<sup>229</sup> Yet another study found that female drivers *with* epilepsy have lower accident rates than male drivers *without*

222. See *Risk Factors*, *supra* note 146, at 1328 (“Moreover, only 11% of epilepsy patients’ crashes are attributed to seizures”).

223. REESE, *supra* note 17, at 79–80 (citing ARTHUR D. LITTLE, INC., THE STATE OF THE ART OF TRAFFIC SAFETY: CRITICAL REVIEW & ANALYSIS OF THE TECHNICAL INFORMATION ON FACTORS AFFECTING TRAFFIC SAFETY, 65–71 (1966)) (“For epilepsy, . . . an episode of the medical condition contributed to less than 20 percent of the accidents in which [the] diagnostic group was involved.”).

224. See *Risk Factors*, *supra* note 146, at 1328 (“Moreover, only 11% of epilepsy patients’ crashes are attributed to seizures; the rest are due to carelessness, alcohol intoxication, and other factors, which are similar to those in drivers without epilepsy.”). See also Winston & Jaiser, *supra* note 157, at 372 (“The majority are due to driver error, the same major cause as in the general population.”).

225. Elinor Ben-Menachem, *Toward a More Pragmatic View of Driving and Epilepsy*, 4 EPILEPSY CURRENTS 133, 133 (2004) (“The annual risk of being in an accident for an average driver in a private car is 10%, and 0.25% of all accidents are related to seizures.”).

226. Joseph F. Drazkowski et al., *Seizure-Related Motor Vehicle Crashes in Arizona Before and After Reducing the Driving Restriction from 12 to 3 Months*, 78 MAYO CLINIC PROC. 819, 821 (2003) (“Approximately 0.04% of crashes were associated with seizures.”).

227. Winston & Jaiser, *supra* note 157, at 372.

228. RILEA, *supra* note 207, at 6 (“Driver sleepiness accounts for 1%–3% of all automobile crashes . . .” (citation omitted)).

229. NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., DOT-HS-812-630: TRAFFIC SAFETY FACTS: ALCOHOL-IMPAIRED DRIVING 1 (Nov. 2018), <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812630> [<https://perma.cc/29JZ-W55R>]. Another study determined that drivers with epilepsy only cause 0.0001 percent of accidents, compared to drivers who consumed alcohol, who caused 5–10 percent of accidents. See generally Anne Berg & Jerome Engel, *Restricted Driving for People with Epilepsy*, 52 NEUROLOGY 1306 (1999).

epilepsy.<sup>230</sup> One researcher estimated that an average driver would be involved in an accident with a driver experiencing a seizure behind the wheel once every four thousand years.<sup>231</sup> As the next section illustrates, drivers with other disorders or diseases should be of similar or greater concern, rendering restrictions on drivers with epilepsy unreasonable, and maybe even unnecessary.

### 3. Drivers with Other Disorders or Diseases Should Be of Similar or Greater Concern

Attorney Kathryn Kramer Gaydos has argued that statutes, regulations, and policies affecting drivers with epilepsy are facially discriminatory.<sup>232</sup> First, the laws discriminate on their face because their language singles out applicants or licensed drivers with epilepsy.<sup>233</sup> Second, the laws are also enforced in a discriminatory way because DMVs take stronger actions against drivers with epilepsy than they take against drivers with other disorders or diseases.<sup>234</sup> And third, the laws are arbitrary because they are both under-inclusive and over-inclusive.<sup>235</sup>

Ms. Gaydos argues the laws are under-inclusive because they restrict applicants and licensed drivers with epilepsy but do not restrict applicants and licensed drivers with other medical disorders or diseases that pose a similar or greater risk of causing a crash.<sup>236</sup> Drivers with cardiovascular

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230. *Review and Reappraisal*, *supra* note 125, at 622–23; Winston & Jaiser, *supra* note 157, at 372.

231. Ben-Menachem, *supra* note 225, at 133–34 (“Sonnen . . . estimated that the chances of the average driver . . . being involved in an accident with someone having a seizure would occur once in every 4000 years!”); Winston & Jaiser, *supra* note 157, at 372.

232. See Kramer, *supra* note 39, at 345 (“Despite an arguably well-meaning legislative intent based on public safety, the driving restrictions on individuals with epilepsy are discriminatory.”).

233. *Id.* at 373 (“[T]he restrictions expressly targeting individuals with epilepsy are facially discriminatory”).

234. See *id.* at 365–66 (describing the “disparate impact” these statutes have on applicants and licensed drivers with epilepsy compared to applicants and licensed drivers with other medical conditions). See also Julian A. Waller, *Chronic Medical Conditions and Traffic Safety: Review of the California Experience*, 273 NEW ENG. J. MED. 1413, 1418 (1965) (explaining that drivers with epilepsy or drug usage were much more likely to have their licenses revoked as an initial DMV action than drivers with cardiovascular disease, diabetes, alcoholism, and mental illness).

235. Kramer, *supra* note 39, at 363 (“[R]estrictions on individual drivers with epilepsy are an abuse of the police power because the provisions are both over- and under-inclusive, and create an undue burden upon the individual with epilepsy which does not sufficiently protect the ostensible state interest”). See also *Review and Reappraisal*, *supra* note 125, at 623 (“Such wide variability illustrates the rather arbitrary nature of the seizure-free interval.”).

236. Dr. Julian A. Waller made a similar argument fifty-five years ago:

It is also apparent that the current emphasis primarily on epilepsy as a handicap to driving is much too narrow an outlook. Other medical conditions should be of equal concern. National Health Survey data and a recent report . . . suggest that as much as 20 per cent

disease,<sup>237</sup> diabetes,<sup>238</sup> mental illness,<sup>239</sup> narcolepsy,<sup>240</sup> and alcoholism<sup>241</sup> have similar or higher crash rates than drivers with epilepsy. But in many states, neither drivers nor their physicians are required to report these conditions to the DMVs. Mandating physicians to report their patients with epilepsy, but not their patients with other disorders, discriminatorily imposes “unnecessary and unreasonable restrictions” on drivers with epilepsy.<sup>242</sup>

Gaydos argues the laws are over-inclusive because they restrict all applicants and licensed drivers with epilepsy, even those whose disorder does not increase their risk of crashing.<sup>243</sup> There are over twenty different

of the population of driving age (and, presumably, of the comparison sample) may have a medical condition of significance to driving.

Waller, *supra* note 234, at 1419. *See also Risk Factors*, *supra* note 146, at 1328 (“These overall risks of crashes in patients with epilepsy are similar to other groups who are permitted to drive without special restrictions (e.g., young adults and patients with cardiac disease).”).

237. One study by Dr. Waller found that drivers with epilepsy have a 1.95 times greater risk of causing an accident than the general population and drivers with cardiovascular disease have a 1.62 times greater risk. John A. Devereux, *Epilepsy and Driving Licenses*, 21 MED. & L. 121, 126–27 (2002) (citing Waller, *supra* note 234, at 1413). The same study also found that 62 percent of patients with cardiovascular disease experience episodes of alterations in consciousness or loss of bodily control. Waller, *supra* note 234, at 1416.

238. The Waller study found that drivers with diabetes have a 1.78 times greater risk of causing an accident than the general population. Devereux, *supra* note 237, at 126–27 (citing Waller, *supra* note 234, at 1413). It also found that 76 percent of patients with diabetes experience episodes of alterations in consciousness or loss of bodily control. Waller, *supra* note 234, at 1416.

239. The Waller study found that drivers with certain mental illnesses have a 2.12 times greater risk of causing an accident than the general population, higher than drivers with epilepsy. Devereux, *supra* note 237, at 126–27 (citing Waller, *supra* note 234, at 1413). It also found that 25 percent of patients with certain mental illnesses experience episodes of alterations in consciousness or loss of bodily control. Waller, *supra* note 234, at 1416.

240. “Driver sleepiness accounts for 1%–3% of all automobile crashes, and individuals with narcolepsy are at an even greater risk. . . .” RILEA, *supra* note 207, at 6 (citation omitted).

241. The crash rates of drivers with alcoholism are astronomically higher than the crash rates of people with epilepsy. “Alcoholics are responsible for hundreds of times as many automobile accidents as epileptics; yet alcoholics do not have to put alcoholism on their license applications nor are they reported to state authorities merely because of alcoholism.” Perr, *supra* note 45, at 294. One study concluded that drivers who experienced “lapses of consciousness” (which included drivers with epilepsy) had a crash rate 2.70 times that of the general population. RILEA, *supra* note 207, at 17. Driver with alcoholism, however, had a crash rate 4.73 times that of the general population. *Id.* Moreover, the Waller study found that one-third of patients with alcoholism experience episodes of alterations in consciousness or loss of bodily control. Waller, *supra* note 234, at 1416.

242. *See* UNIF. VEHICLE CODE & MODEL TRAFFIC ORDINANCE, at vii (NAT’L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 1968) (“The proper purpose of all traffic legislation is not to impose *unnecessary or unreasonable restrictions* on highway traffic, but to insure, as far as this can be done by law and its application, that traffic shall move smoothly, expeditiously and safely; that no legitimate user of the highway, whether in a vehicle or on foot, shall be killed, injured or frustrates in such use by the improper behavior of others.” (emphasis added)).

243. Kramer, *supra* note 39, at 345 (“Not all individuals with epilepsy are at risk of causing accidents, but the restrictions exhibit overbreadth by restricting the driving rights of all such individuals . . .”).

types of epilepsy and over a dozen different types of seizures.<sup>244</sup> Laws are drafted with the most dangerous types of epilepsy and seizures in mind, but they simultaneously and unnecessarily restrict people with the least dangerous types of epilepsy and seizures.<sup>245</sup>

A review of the evidence has led generation after generation of scholars to conclude that “the information reviewed on epilepsy . . . is insufficient to allow unequivocal statements concerning the role of [epilepsy] . . . in the initiation of automobile accidents.”<sup>246</sup> As a whole, drivers with epilepsy pose less risk than other categories of drivers.<sup>247</sup> Take, for example, drivers over the age of sixty-five or male drivers. Both of these groups have higher crash rates than the general population.<sup>248</sup> But society has accepted the risk that these drivers pose.<sup>249</sup> States do not restrict people from driving for six months after they turn sixty-five or require physicians to submit periodic updates on all their male patients. Society has not yet accepted the small risk that drivers with epilepsy pose. Because of centuries of stigma and the spread of misinformation, state laws continue to unreasonably restrict drivers with epilepsy and burden the physicians who treat them.

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244. See discussion *supra* notes 71–74 and accompanying text (explaining there are over twenty different types of epilepsy disorders and over a dozen different types of seizures that cause a range of symptoms from staring to convulsing).

245. Kramer, *supra* note 39, at 345–46 (“[T]he restrictions exhibit overbreadth by restricting the driving rights of all such individuals according to the most serious cases of epilepsy.”). See also *infra* note 286 and accompanying text (providing an example of one type of seizure that does not cause alteration in consciousness or loss of bodily control).

246. ARTHUR D. LITTLE, INC., *supra* note 223, at 71. In 1958, Dr. Irwin Perr controversially proclaimed, “the answers seem obvious—legislative control here is not scientifically justified.” Perr, *supra* note 45, at 291. Eight years later, the consulting firm Arthur D. Little, Inc., on behalf of the Automobile Manufacturers Association, concluded that the evidence was “insufficient” to support restrictions on drivers with epilepsy. ARTHUR D. LITTLE, INC., *supra* note 223, at 71. Two generations later, Kramer echoed these pronouncements: “Despite an arguably well-meaning legislative intent based on public safety, the driving restrictions on individuals with epilepsy are discriminatory.” Kramer, *supra* note 39, at 345.

247. See discussion *supra* Sections III.A.2–.3 (identifying drivers with other disease or disorders, such as alcoholism and narcolepsy, that have higher crash rates than drivers with epilepsy).

248. See David S. Loughran, Seth A. Seabury & Laura Zakaras, *What Risks Do Older Drivers Pose to Traffic Safety?*, RAND CORP. (2007), [https://www.rand.org/pubs/research\\_briefs/RB9272.html](https://www.rand.org/pubs/research_briefs/RB9272.html) [<https://perma.cc/BC6R-5PRA>] (“The study finds that, on the whole, drivers 65 and older are just 16 percent likelier than adult drivers to cause an accident.”). See also *supra* notes 207, 230 (discussing crash rates of male drivers without epilepsy).

249. See Devereux, *supra* note 237, at 126 (“Perhaps the most interesting studies into epilepsy and driving have been those which compare the risk of accidents by epilepsy, compared with risks ‘accepted by society in other areas.’”).



*B. Comparison of Laws to the Results of Studies and Recommendations of Medical Professional Organizations and Advocacy Groups*

This section will compare the provisions of the UVC and state laws discussed in Part II<sup>250</sup> and the results of studies discussed in Section III.A<sup>251</sup> with the recommendations of medical professional organizations and advocacy groups. In 1992, the American Academy of Neurology (AAN), the American Epilepsy Society, and the Epilepsy Foundation of America (Epilepsy Foundation) (collectively, the alliance) issued *Consensus Statements on Driver Licensing (Consensus Statements)*.<sup>252</sup> The alliance also published model statutory and regulatory language for the states to implement.<sup>253</sup> In the years since their publication, dozens of scholars have cited the *Consensus Statements* and many states have implemented their recommendations.<sup>254</sup> To ensure state laws are data-driven and evidence-based, an overview of the alliance's recommendations and analysis of the states that implemented them is necessary.<sup>255</sup> This section will also highlight the recommendations of the preeminent medical professional organization, the American Medical Association (AMA).

1. Language and Location of Laws

The alliance urged the repeal of statutes that explicitly mention epilepsy or losses of consciousness.<sup>256</sup> Instead, it insisted on using the language "person who is unable to exercise reasonable control over a motor vehicle."<sup>257</sup> This acknowledges that people without epilepsy can experience seizures<sup>258</sup> and recognizes the studies that concluded people

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250. See discussion *supra* Section II.B (highlighting relevant provisions of the UVC and state statutes, regulations, and policies).

251. See discussion *supra* Section III.A (summarizing studies about crash rates of drivers with epilepsy).

252. See generally Am. Acad. Neurology, Am. Epilepsy Soc'y & Epilepsy Found. Am., *Consensus Statements, Sample Statutory Provisions, and Model Regulations Regarding Driver Licensing and Epilepsy*, 35 EPILEPSIA 696, 696 (1994) [hereinafter *Consensus Statements*].

253. *Id.*

254. See *Individual State Driving Restrictions*, *supra* note 37, at 1783 (explaining that between 1988–2000, twenty-eight states revised their laws, thirteen of which adopted recommendation of the *Consensus Statements*); Ma et al., *supra* note 157, at 1390 (explaining that between 2002–15, eighteen states revised their laws to generally reflect the *Consensus Statements*).

255. See *supra* notes 198–99 and accompanying text (reasoning constituents are more likely to follow data-driven, evidence-based laws).

256. *Consensus Statements*, *supra* note 252, at 698 ("For example, the following type of language should be repealed: 'A drivers license shall not be issued to: any person adjudged insane or an idiot, imbecile, epileptic, or feeble-minded' . . . [or any] '[p]erson who is subject to losses of consciousness due to disease of the central nervous system . . . .'").

257. *Id.*

258. See *supra* note 7 and accompanying text (explaining that people without epilepsy can experience seizures).

with other disorders or diseases are of similar or greater concern than drivers with epilepsy.<sup>259</sup> Consequently, the alliance advocated that epilepsy should appear in regulations and medical criteria for licensure should appear in policies.<sup>260</sup> The UVC comports with the alliance's recommendations,<sup>261</sup> but some states do not, retaining explicit mention of epilepsy or losses of consciousness in their statutes instead of in their regulations and policies.<sup>262</sup>

## 2. Seizure-Free Period for Applicants with Epilepsy

### i. Research in Favor of a Six-Month Seizure-Free Period

The best predictor of whether a person with epilepsy will have a seizure is how well her seizures are controlled.<sup>263</sup> One of the factors that contribute to whether a person with epilepsy's seizures are controlled is how long the person with epilepsy has been seizure-free.<sup>264</sup> One study found that once people with epilepsy have been seizure-free for three months, 85 percent remain seizure-free for one year and 75 percent remain seizure-free for three years.<sup>265</sup>

Similarly, the longer an applicant or licensed driver with epilepsy has been seizure-free, the less likely she is to cause an accident. A 1999 study found that once a driver with epilepsy has been seizure-free for six months, her risk of causing an accident was reduced by 85 percent;<sup>266</sup> once a driver with epilepsy has been seizure-free for twelve months, her risk of causing an accident was reduced by 93 percent.<sup>267</sup> The study

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259. See discussion *supra* Section III.A.2–3 (arguing that drivers with other disorders or diseases should be of similar or greater concern than drivers with epilepsy because they have similar or greater crash rates).

260. *Consensus Statements*, *supra* note 252, at 696.

261. See *supra* notes 154–55 and accompanying text (showcasing that the UVC does not explicitly mention epilepsy).

262. See, e.g., IND. CODE § 9-24-2-3 (2019) (“An individual subject to epileptic seizures”); KY. REV. STAT. ANN. § 186.411(1) (2019) (“If a person with a seizure condition applies”).

263. *Review and Reappraisal*, *supra* note 125, at 623 (“At present, the best predictor of seizure recurrence for people with epilepsy seems to be the recent history of seizure control.”).

264. See Sanchez & Krumholz, *supra* note 79 (“In general, the main standard for determining adequate seizure control . . . is the duration of time that an individual has been seizure free. The main reason that the seizure-free interval is used is because it is a reasonably reliable predictor of the risk of subsequent seizures.”). See also *To Drive or Not to Drive*, *supra* note 126, at 817 (“The seizure-free interval is important. A recent study showed that it is the strongest predictor for risk of seizure-related crashes for people with epilepsy.”).

265. See *Review and Reappraisal*, *supra* note 125, at 625 (citing V. Kuhl et al., *The Prognosis of Epilepsy with Special Reference to Traffic Security*, 8 EPILEPSIA 195, 195 (1967)).

266. *Risk Factors*, *supra* note 146, at 1326 (“When seizure-free intervals were analyzed using 6 months as the cutoff point, the odds of crashes for patients with 6-month or longer seizure-free periods were reduced by 85% . . . as compared to patients with shorter seizure-free periods.”).

267. *Id.* (“The estimated risk of accidents was reduced 93% for patients with ≥12-month seizure-free intervals compared to patients with shorter intervals.”).

concluded “[b]ecause the odds for motor vehicle crashes during seizures were reduced markedly by 6- and 12-month seizure-free intervals, but not by 3-month intervals, shortening state motor vehicle restrictions to 3-month seizure-free minimums may not be prudent.”<sup>268</sup> Most states agree with this theory.<sup>269</sup> The AMA has not published an opinion on whether or for how long states should require applicants with epilepsy to be seizure-free prior to licensure.<sup>270</sup>

ii. Research in Favor of a Three-Month Seizure-Free Period

There is substantial evidence that many applicants and licensed drivers with epilepsy do not comply with restrictions, choosing to disregard medical advice or legal requirements in order to maintain their independence.<sup>271</sup> The longer states require applicants or licensed drivers to have been seizure-free, the less likely an applicant or licensed driver is to comply.<sup>272</sup> Even the authors of the 1999 study discussed in Section III.B.2.i concluded that although a three-month seizure-free period may be associated with a *higher individual* risk that a driver with epilepsy may cause a crash, a three-month seizure-free period may actually *reduce* the *aggregate* that drivers with epilepsy, as a whole, may cause crashes because drivers with epilepsy may be more likely to comply with a three-month restriction than with a six-month restriction.<sup>273</sup> Moreover, several

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268. *Id.* at 1328.

269. See discussion *supra* note 158 and accompanying text (explaining that nineteen states require applicants with epilepsy to be seizure-free for six months prior to licensure). See also *infra* Appendix, Table 1 (summarizing all state seizure-free periods and demonstrating that a plurality of states use the six-month period).

270. D. Bacon et al., *American Academy of Neurology Position Statement on Physician Reporting of Medical Conditions That May Affect Driving Competence*, 68 NEUROLOGY 1174, 1175 (2007).

271. See Kramer, *supra* note 39, at 367 (“Some studies have found that nearly twenty percent of individuals who experienced one seizure a year and twenty four percent of those who experienced daily seizures continue to drive. Fifty one percent of individuals who were employed continued to drive as compared to twenty percent of those who were unemployed.” (footnotes omitted)). See also Berg et al., *supra* note 229, at 1306 (“In a country such as the United States that has not managed to control drunken driving, a far more serious threat to the public, it is unclear how one can alter the behavior of those determined to drive no matter the risk.”).

272. See *Review and Reappraisal*, *supra* note 125, at 623 (“Particularly stringent restrictions may be counter-productive by discouraging compliance with motor vehicle regulations. Such problems with compliance may explain, at least in part, why the more severe legal restrictions on driving imposed by some countries have not been better at preventing traffic accidents due to seizures.”). See also Sanchez & Krumholz, *supra* note 79 (“Noncompliance with legal standards is a major factor limiting the effectiveness of state regulations for drivers with epilepsy. Approximately half of all drivers with epilepsy or seizures who drive do not report their condition to state authorities. Such noncompliance limits the value of excessively long seizure-free intervals as they may promote greater noncompliance.”).

273. *To Drive or Not to Drive*, *supra* note 126, at 818 (“More permissive restrictions, although

studies acknowledge that longer seizure-free periods place unnecessary and unreasonable burdens on the “majority of” applicants and licensed drivers with epilepsy whose disorders do not increase their risk of causing a crash.<sup>274</sup>

The alliance recommended states should require applicants with epilepsy to have been seizure-free for three months prior to licensure.<sup>275</sup> Only ten states agree.<sup>276</sup> In 1994, Arizona implemented the alliance’s recommendation and decreased its required seizure-free period from twelve months to three months.<sup>277</sup> In the years after, the incidence rate of seizure-related crashes decreased almost 2 percent, and the incidence rate of *fatal* seizure-related crashes decreased 64 percent.<sup>278</sup> In Arizona, requiring applicants with epilepsy to be seizure-free for three months prior to licensure achieved the goals of protecting public safety and promoting the independence of drivers with epilepsy.

### 3. Seizure-Free Period for Licensed Drivers with Epilepsy

The *Consensus Statements* do not mention how long an already-licensed driver with epilepsy must be seizure-free in order to resume driving.<sup>279</sup> Instead, the alliance encouraged physicians to inform their patients with epilepsy who experience a seizure to “cease driving, consult with their physician, and promptly notify the DMV.”<sup>280</sup> The majority of states have policies that comply with this recommendation.<sup>281</sup> The AMA

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potentially increasing the individual risk of a crash, may actually reduce the cumulative crash risk by promoting compliance with legal driving rules by more people.”). *See also* Berg et al., *supra* note 229, at 1306 (“Other data indicate that many individuals with epilepsy who should not drive do so. Another challenge, therefore, is ensuring compliance with appropriate restrictions in order to ensure safety of the public and of the individual patient. Detailed counseling by physicians and establishment of rational laws and flexible requirements are probably adequate for most individuals.”).

274. *See Risk Factors*, *supra* note 146, at 1328 (“Long seizure-free restrictions, moreover, limit driving for the *large majority* of patients with epilepsy who do not have seizure-related motor vehicle crashes.” (emphasis added)). *See also* Berg et al., *supra* note 229, at 1306 (“[A] 1-year restriction on driving can impose a severe and unnecessary burden on individuals whose seizures present less of a risk for a MVA.”). *See also supra* notes 243–45 and accompanying text (explaining that not all applicants or drivers with epilepsy are at risk of causing crashes).

275. *Consensus Statements*, *supra* note 252, at 696. (“A seizure-free interval should be stated, and 3 months is preferred, starting from the date of the seizure.”).

276. *See discussion supra* notes 157–58 and accompanying text (explaining that ten states require a three-month seizure-free interval and the majority of states require a six-month seizure-free interval). For a complete comparison of all state seizure-free period requirements, see *infra* Appendix, Table 1.

277. Drazkowski et al., *supra* note 226, at 819.

278. *Id.* at 821.

279. *See generally Consensus Statements*, *supra* note 252.

280. *Id.* at 697.

281. *See discussion supra* note 164 and accompanying text (explaining that the majority of states require licensed drivers to immediately cease driving and disclose the seizure to the DMV).

has not published an opinion on whether or for how long states should require already-licensed drivers with epilepsy to be seizure-free in order to resume driving.<sup>282</sup>

#### 4. Consideration of Mitigation and Aggravating Factors

Despite the fact that mitigating factors have been proven to decrease a driver's risk of experiencing a seizure behind the wheel, about half of states refuse to consider them.<sup>283</sup> Instead, they only consider how long an applicant or licensed driver with epilepsy has been seizure-free.<sup>284</sup> The alliance advocated that mitigating and aggravating factors should be considered for every case.<sup>285</sup>

The alliance determined the following factors mitigate an applicant's or licensed driver's risk of experiencing a seizure while driving: (i) if she is diagnosed with simple partial seizures that do not interfere with consciousness or motor control;<sup>286</sup> (ii) if she is diagnosed with nocturnal seizures;<sup>287</sup> (iii) if her seizures are preceded by persistent and prolonged auras; (iv) if her seizures are triggered by sleep deprivation; (v) if her seizure occurred during a physician-directed change to medication; or (vi) if her seizures occurred secondary to a reversible, acute illness.<sup>288</sup>

In 2007, the AAN published a *Position Statement on Physician Reporting of Medical Conditions That May Affect Driving Competence* (*Position Statement*) to supplement its participation in the *Consensus Statements*.<sup>289</sup> The AAN rejected consideration of factor (iv), arguing that "sleep deprivation should not be a cause for exception . . . ."<sup>290</sup>

There is more muscular opposition to consideration of factor (iii)—whether reliable auras actually mitigate an applicant's or licensed driver's

282. Bacon et al., *supra* note 270, at 1175.

283. See discussion *supra* note 171 and accompanying text (explaining that approximately half of states consider mitigating and aggravating factors and approximately half of states do not).

284. *Id.*

285. *Consensus Statements*, *supra* note 252, at 697.

286. Simple partial seizures are the most common type of seizure. *Focal Onset Aware Seizures* (*Simple Partial Seizures*), EPILEPSY FOUND. (Mar. 23, 2017), <https://www.epilepsy.com/learn/types-seizures/focal-onset-aware-seizures-aka-simple-partial-seizures> [<https://perma.cc/D4UB-CN4L>]. They cause the person to become "frozen" for a brief period of time, unable to communicate. *Id.* But the person is completely awake, alert, and able to recall events. *Id.* The Epilepsy Foundation advocates for changing the name of this type of seizure to "focal aware" seizures. *New Terms for Seizure Classification*, EPILEPSY FOUND. (Dec. 23, 2016), <https://www.epilepsy.com/learn/types-seizures/new-terms-seizure-classification> [<https://perma.cc/5JLE-Y3AN>].

287. Nocturnal seizures occur during sleep or shortly after waking. *Nocturnal Seizures*, CEDARS-SINAI, <https://www.cedars-sinai.edu/Patients/Health-Conditions/Nocturnal-Seizures.aspx> [<https://perma.cc/MX9A-HGZC>].

288. *Consensus Statements*, *supra* note 252, at 697.

289. Bacon et al., *supra* note 270, at 1177.

290. *Id.*

risk of causing a crash. A 1999 study concluded that drivers who experience reliable auras prior to their seizures have significantly reduced odds of causing a crash.<sup>291</sup> But 26 percent of subjects who experienced reliable auras still crashed.<sup>292</sup> In many cases, the subjects were in the left lane when they noticed their auras and did not have enough time to pull over to the right before their seizures began.<sup>293</sup> In other cases, the subjects unsuccessfully attempted to drive home before their seizures began.<sup>294</sup> A 2015 study concluded that drivers with epilepsy who have reliable auras do *not* have a lower risk of causing accidents.<sup>295</sup> It suggested that reliable auras provide drivers with epilepsy a “false sense of security.”<sup>296</sup> For these reasons, a 2017 paper rejected consideration of factor (iii).<sup>297</sup>

The alliance determined the following factors aggravate an applicant’s or licensed driver’s risk of experiencing a seizure while driving: (a) if she is noncompliant with taking antiepileptic drugs,<sup>298</sup> noncompliant with attending medical appointments, or not credible; (b) if she has abused alcohol or drugs in the three months prior to application; (c) if she has experienced an increased number of seizures in the year prior to application than in previous years; (d) if she has experienced frequent seizures after a seizure-free interval; (e) if she has a bad driving record; (f) if she has caused an accident because of a seizure during the five years prior to application; (g) if she has a structural brain lesion; or (h) if she has a non-correctable brain-functioning or metabolic condition.<sup>299</sup> In its supplementary *Position Statement*, the AAN rejected consideration of

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291. *Risk Factors*, *supra* note 146, at 1324.

292. *Id.* at 1326.

293. *Id.* (“Patients reported crashing despite auras when: 1) the auras were too brief to allow the patient to stop driving before seizure impaired their driving; 2) patients were blocked in busy traffic or in the left lane and were unable to pull off the road during auras . . .”).

294. “Patients reported crashing despite auras when: . . . 3) patients attempted to drive home during auras before their seizures impaired their driving; or 5) patients with frequent auras, but only occasional complex partial or generalized seizures, did not stop driving during their auras. Odds for crashing were not significantly reduced for patients who sometimes had auras.” *Id.*

295. Punia et al., *supra* note 15, at e184 (“[O]ur results suggest that [people with epilepsy] with reliable auras do not have lower [accident] risk.”).

296. The study concluded that “auras may provide a false sense of safety because [the percentage of subjects] who thought that their auras provided them sufficient duration to protect themselves” was similar in the group that did cause accidents and the group that did not cause accidents. *Id.*

297. “[T]he significance of . . . having long auras . . . is uncertain and warrants further study.” Ma et al., *supra* note 157, at 1395.

298. There is convincing data that noncompliance with taking antiepileptic drugs may increase a driver’s risk of experiencing a seizure behind the wheel. *Risk Factors*, *supra* note 146, at 1324 (finding that “20% of cases crashed immediately after missing [antiepileptic drug] doses” and suggesting that “patients should not drive after missing an [antiepileptic drug] dose”). Moreover, a missed dose of medication is the most common trigger of seizures. *The Curious Case*, *supra* note 11.

299. *Consensus Statements*, *supra* note 252, at 697.

factor (e), arguing that a bad driving record “is not a medical consideration.”<sup>300</sup> Instead, it suggested that the cognitive and psychomotor side effects of antiepileptic drugs should be considered.<sup>301</sup>

In 2003, Maryland amended its regulations to allow consideration of mitigating and aggravating factors in accordance with the *Consensus Statements*.<sup>302</sup> In the seven years after implementing the alliance’s recommendations, there were only two seizure-related crashes.<sup>303</sup> This flexible approach both protected public safety and promoted the independence of drivers with epilepsy.<sup>304</sup>

### 5. Mandating Physicians to Report Their Patients to the DMV

As Dr. David Spencer, author of *Navigating Life with Epilepsy*, wrote, “health care provider reporting of seizures is not the simple solution it might seem.”<sup>305</sup> On one hand, mandating physicians to report their patients with epilepsy to the DMV may encourage patients with epilepsy to comply with statutes, regulations, and policies. In a 1992 survey, 67 percent of respondents reported they would observe all licensing laws if their physicians were mandated to report.<sup>306</sup> Only 47 percent of respondents reported they would observe all licensing laws if their physicians were *not* mandated to report.<sup>307</sup>

On the other hand, mandating physicians to report their patients with epilepsy to the DMV may discourage patients with epilepsy from disclosing seizures to their physicians.<sup>308</sup> If a patient does not tell her physician that she has experienced a seizure, she will not receive the care she needs and may continue to experience seizures.<sup>309</sup> This not only hurts the patient, but also increases the risk that the patient will cause a crash

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300. Bacon et al., *supra* note 270, at 1176–77.

301. *Id.* at 1177. *See also supra* notes 10, 42 and accompanying text (identifying one reason legislators, administrators, and policymakers justify restrictions on drivers with epilepsy is because antiepileptic drugs may affect the ability of a driver with epilepsy to safely operate a motor vehicle).

302. Ma et al., *supra* note 157, at 1395.

303. *Id.* at 1390.

304. *Id.*

305. SPENCER, *supra* note 8, at 40.

306. Bacon et al., *supra* note 270, at 1176.

307. *Id.*

308. *See Review and Reappraisal, supra* note 125, at 624 (“The benefit of [mandating physicians to report their patients with epilepsy] is questionable because of . . . interference with optimal therapy due to incomplete seizure reporting to physicians.”). *See also* Kramer, *supra* note 39, at 360 (“Additionally, the enforcement of a compulsory physician reporting statute encourages patients to withhold information about their seizures out of fear that the physician will report the condition to licensing authorities.”).

309. *See* Kramer, *supra* note 39, at 360 (“This scenario results in individuals not only avoiding the medical attention they need, but continuing to drive despite medical advice, thereby increasing the population risk of seizure-induced accidents.”).

and hurt others.<sup>310</sup> A study by the AAN found that in California—one of the six states that mandate physicians to report their patients with epilepsy to the DMV—16 percent of patients who had *not* experienced a previous license suspension withheld information from their physicians.<sup>311</sup> Remarkably, 50 percent of patients who *had* experienced a previous license suspension withheld information from their physicians.<sup>312</sup> Another study concluded that “patients with epilepsy were six times more likely to compromise their own medical care in order to drive illegally . . . serving neither the public nor the patient’s safety interests.”<sup>313</sup>

Notably, states that mandate physicians to report their patients with epilepsy to the DMV have similar crash rates as states that do not mandate physicians to report.<sup>314</sup> A review of the evidence led one physician to write “most Epileptologists . . . accept that mandatory reporting of patients with seizures to Driving Licensing Authorities is futile, counter-productive and potentially dangerous, as well as contributing to the inadequate care and control of seizure disorders.”<sup>315</sup> Accordingly, the alliance asserted that physicians should not be mandated to report their patients with epilepsy to the DMV.<sup>316</sup> Researchers, medical professional organizations, and advocacy groups all agree that states should not mandate physicians to report, opposing the UVC and the laws of California, Delaware, Nevada, New Jersey, Oregon, and Pennsylvania.

For the remaining forty-four states and the District of Columbia that do not *mandate* physicians to report, there is vigorous debate as to whether physicians should *voluntarily* report their patients to the DMV. Some scholars have argued that voluntarily reporting patients with epilepsy to the DMV is “unnecessary” and that the “physician-as-policer” role is of “questionable” benefit.<sup>317</sup> The alliance recommended that physicians should first advise their patients to self-report their diagnosis

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310. *Id.*

311. Bacon et al., *supra* note 270, at 1176.

312. *Id.*

313. *Id.* (citing M.C. Salinsky et al., *Epilepsy, Driving Laws, and Patient Disclosure to Physicians*, 33 EPILEPSIA 469, 469 (1992)).

314. Kramer, *supra* note 39, at 360 (citing Richard S. McLachlan et al., *Impact of Mandatory Physician Reporting on Accident Risk in Epilepsy*, 48 EPILEPSIA 1500, 1500 (2007)).

315. Black, *supra* note 34, at 335.

316. *Consensus Statements*, *supra* note 252, at 697.

317. See, e.g., Lee et al, *supra* note 172, at 658 (“Physician reporting of epileptic patients is ineffective and unnecessary.”); Berger et al., *supra* note 39, at 668 (“For a number of reasons, physicians should be restrained in reporting to authorities drivers with a mild or moderate increase in driving risk. First, this degree of added risk is on the same order as other conditions where reporting is not considered professionally or legally appropriate, e.g., benzodiazapine [sic] use. Second, the burdens of loss of driving privilege may be out of proportion to threat to personal and public safety. Third, physician-as-policer is of questionable long-term, net benefit to patients.”).



of epilepsy and any subsequent seizures to the DMV.<sup>318</sup> It also recommended that physicians should have the option to voluntarily report their patients to the DMV.<sup>319</sup> The AAN agreed. It supported voluntary reporting if the physician discerns the patient is at risk and has not already reported herself to the DMV.<sup>320</sup> The AMA went a step further, asserting that physicians have a “moral responsibility” to report their patients who pose a threat and have disregarded the physician’s advice to cease driving.<sup>321</sup> The majority of states are aligned with the recommendations of the alliance, the AAN, and the AMA, providing mechanisms for physicians and members of the public to voluntarily report people who may not be able to operate a motor vehicle safely to the DMV.<sup>322</sup>

#### 6. Granting Immunity from Liability

In states where physicians are not granted immunity from civil liability, physicians may conservatively withhold recommending their patients are *fit* to drive out of fear of liability if their patients cause crashes.<sup>323</sup> Similarly, physicians may withhold recommending their patients are *unfit* to drive out of fear of liability if their patients allege they breached physician-patient confidentiality.<sup>324</sup> The alliance asserted that physicians should be immune from civil liability for choosing to report their patients to the DMV, provided they act in good faith.<sup>325</sup> The AMA agreed.<sup>326</sup> The UVC and most states are in accord, providing

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318. *Consensus Statements*, *supra* note 252, at 697.

319. *Id.*

320. Bacon et al., *supra* note 270, at 1175–76.

321. *Id.* at 1175.

322. See *supra* note 174 and accompanying text (acknowledging that a majority of states provide mechanisms for physicians and members of the public to voluntarily report people who may not be able to operate a motor vehicle safely to the DMV).

323. See Kramer, *supra* note 39, at 363 n.123 (quoting *Schmidt v. Mahoney*, 659 N.W.2d 552, 555 (Iowa 2003)) (holding that, “[i]n order to curtail liability, physicians may become prone to make overly restrictive recommendations concerning the activities of their patients and will exercise their role as reporters to the department of transportation in an inflexible manner not in their patient’s best interest”).

324. See Berger et al., *supra* note 39, at 669 (“Voluntary reporting programs are often unsuccessful because physicians may not report physical or mental impairments for fear of being sued by patients for breach of confidentiality.”).

325. *Consensus Statements*, *supra* note 252, at 700. *But see* Black, *supra* note 34, at 334 (“[A] doctor should refrain from taking such action even in States where an indemnity against prosecution is provided, since the same general ethical and legal responsibilities between doctor and patient still apply. Even where statute requires disclosure it is wrong to act on this requirement without careful consideration since to do so involves doctors in a breach of confidentiality that breaks a fundamental link in the therapeutic relationship they have with their patients.”); Sullivan, *supra* note 137, at 24 (“In the absence of a mandatory reporting law, physicians are at risk for potential liability when they disclose medical information to the department of motor vehicles without their patients’ consent.”).

326. Bacon, *supra* note 270, at 1175.

physicians with immunity from civil liability for choosing to report their patients with epilepsy to the DMV.<sup>327</sup>

The alliance also asserted that physicians should be immune from civil liability for choosing *not* to report their patients to the DMV.<sup>328</sup> In its supplementary *Position Statement*, the AAN added that this immunity should be conditioned on the physician: (i) acting in good faith; (ii) informing the patient of his or her driving risks; and (iii) documenting these actions in the patient's medical record.<sup>329</sup> Only a few states provide such immunity.<sup>330</sup>

Additionally, the alliance recommended that physicians should be immune from civil liability for any updates submitted to the DMV and any recommendations therein.<sup>331</sup> These updates must remain confidential and must not be used in any trial or proceeding other than trials or proceedings concerning the applicant's or driver's licensure.<sup>332</sup> Lastly, the alliance recommended that employees of DMVs and members of medical advisory boards should also be immune from civil liability for their recommendations, provided they acted in good faith.<sup>333</sup> Some states concur.<sup>334</sup>

#### 7. Requiring Periodic Updates

The alliance argued that periodic updates would not be necessary if the DMV requires drivers to cease driving, consult their physician, and promptly notify the DMV after any seizure and it prints these requirements on application and renewal forms.<sup>335</sup> This recommendation would render some states' policies unnecessary.<sup>336</sup>

#### 8. Utilizing a Medical Advisory Board

The alliance recommended that all states should have a medical advisory board and that at least one member "should have expertise and experience in treating epilepsy and episodic disorders of loss of

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327. See *supra* note 178 and accompanying text (explaining that the UVC and most states provide physicians with immunity for choosing to report their patients to the DMV).

328. *Consensus Statements*, *supra* note 252, at 700.

329. Bacon, *supra* note 270, at 1177.

330. See *supra* note 179 and accompanying text (explaining that fewer states provide physicians with immunity for choosing *not* to report their patients to the DMV).

331. *Consensus Statements*, *supra* note 252, at 700.

332. *Id.* at 700.

333. *Id.* at 696, 701.

334. See *supra* notes 180–81 and accompanying text (explaining that some states additionally provide DMV employees and members of medical advisory boards with immunity from civil liability for their recommendations).

335. *Consensus Statements*, *supra* note 252, at 697.

336. See discussion *supra* notes 182–83 and accompanying text (explaining that some states require physicians to submit updates about their patients with epilepsy at regular intervals).

consciousness and motor function.”<sup>337</sup> The majority of states and the UVC adhere to this recommendation.<sup>338</sup> The alliance also proposed that medical advisory boards should perform several functions. First, medical advisory boards should establish the medical criteria for DMVs to utilize in making licensing decisions.<sup>339</sup> Second, medical advisory boards should review complicated cases that first-level DMV staff could not decide.<sup>340</sup> Third, medical advisory boards should educate physicians, drivers, and the public about the medical criteria for licensure and renewal.<sup>341</sup>

Although the primary purpose of medical advisory boards is to formulate medical criteria for the DMVs to utilize in licensing decisions,<sup>342</sup> an assessment by the Highway Research Board of the National Research Council determined that most medical advisory boards evaluate individual cases rather than formulate criteria to be applied to all cases.<sup>343</sup> The Highway Research Board conducted this assessment in 1971;<sup>344</sup> a reassessment of the utility of medical advisory boards is long overdue.

#### 9. Who Makes the Ultimate Licensing Decision?

Both the alliance and the AMA insisted that the ultimate licensing decision should be made by the DMV, not by the applicant's or driver's personal physician.<sup>345</sup> This opposes the policies of the ten states that delegate the ultimate licensing decision to the applicant's or driver's personal physician.<sup>346</sup> Maryland's decision-making scheme is illustrative. In Maryland, applicants' personal physicians make

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337. *Consensus Statements*, *supra* note 252, at 697.

338. *See* discussion *supra* note 185 (explaining that the UVC requires states to appoint a medical advisory board comprised of healthcare professionals and that most states do so).

339. *Consensus Statements*, *supra* note 252, at 697–98.

340. *Id.* at 698.

341. *Id.*

342. *See supra* note 185 and accompanying text (revealing the UVC declares the primary purpose of medical advisory boards is to formulate medical criteria for the DMVs to utilize in licensing decisions).

343. REESE, *supra* note 17, at 83–84. Moreover, this report concluded that medical advisory boards are premised on the inaccurate assumption that the members of medical advisory boards can scientifically predict whether a person with epilepsy will be able to drive safely. *Id.* at 84. In reality, the assessment found, members of medical advisory boards make nothing more than “educated guesses” “based on socio-political considerations.” *Id.* at 84–85. The assessment also criticized the lack of mechanisms in place to ensure the members of medical advisory boards are up to date on research in this niche area. *Id.* at 84.

344. *See generally id.*

345. *See Consensus Statements*, *supra* note 252, at 696 (discussing the role the DMV should play in assessing an individual with epilepsy's ability to drive); *see also* Bacon, *supra* note 270, at 1175 (discouraging mandatory physician recommendations about a patient's ability to drive).

346. *See* discussion *supra* note 193 (explaining that ten states rely solely on physician recommendations).

recommendations to the medical advisory board, which makes recommendations to the DMV head, who makes the ultimate licensing decision.<sup>347</sup> A 2017 study found that when the medical advisory board did *not* recommend licensure for an applicant, 84.4 percent of the time the applicant's personal physician *had* recommended licensure.<sup>348</sup> The study concluded that this "raises safety concerns" for the ten states that rely solely on personal physicians' recommendations rather than on a medical advisory board.<sup>349</sup>

#### 10. Providing the Right to Appeal

The alliance endorsed providing applicants and drivers with the statutory right to appeal licensing decisions to a court competent to review administrative agency decisions.<sup>350</sup> The UVC and all states grant this statutory right.<sup>351</sup>

#### *C. State Laws Are Not Data-Driven Nor Evidence-Based*

For some of the components of state laws affecting drivers with epilepsy and their physicians, the majority of states' statutes, regulations, and policies align with the results of studies and the recommendations of medical professional organizations and advocacy groups. For example, most states do not mandate physicians to report their patients with epilepsy to the DMV.<sup>352</sup> But for other components, the majority of states' statutes, regulations, and policies are antithetical to the results of studies and the recommendations of medical professional organizations and advocacy groups. For example, most states require applicants with epilepsy to be seizure-free for six months prior to licensure,<sup>353</sup> despite the recommendations of the alliance and the AAN<sup>354</sup> and the studies concluding that requiring applicants with epilepsy to be seizure-free for longer than three months increases the risk applicants will not comply.<sup>355</sup> Restrictions such as these are premised on the inaccurate assumption that

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347. Ma et al., *supra* note 157, at 1394.

348. *Id.* at 1389.

349. *Id.*

350. *Consensus Statements*, *supra* note 252, at 699.

351. See discussion *supra* notes 195–96 and accompanying text (explaining that the UVC and most states' statutes grant this right).

352. See *supra* note 172 and accompanying text (identifying the six states that mandate physicians to report their patients to the DMV).

353. See *supra* note 158 and accompanying text (demonstrating that the majority of states require applicants with epilepsy to be seizure-free for six months prior to licensure).

354. See *supra* note 275 and accompanying text (explaining that the alliance and AAN recommends applicants with epilepsy to be seizure-free for three months prior to licensure).

355. See *supra* notes 272–73 and accompanying text (highlighting studies concluding that requiring applicants with epilepsy to be seizure-free for longer than three months increases the risk applicants will not comply).

drivers with epilepsy have higher crash rates than the general population<sup>356</sup> and ignores the evidence that drivers with other disorders or diseases should be of similar or greater concern.<sup>357</sup> If states want their laws to be rooted in science, rather than stigma, they must revisit these laws. The next Part proposes solutions that promote public safety without unreasonably restricting drivers with epilepsy or burdening the physicians who treat them.<sup>358</sup>

#### IV. PROPOSAL

The alliance published its influential *Consensus Statements* in 1992.<sup>359</sup> In the twenty-eight years since, the medical and traffic safety communities have published dozens of papers urging legislators, administrators, and policymakers to revisit restrictions on drivers with epilepsy.<sup>360</sup> And at least two states that implemented the alliance's recommendations saw favorable results.<sup>361</sup> Because more Americans are living with epilepsy now than at any point in history, these statutes, regulations, and policies affect more constituents each day.<sup>362</sup> But with advancements in medicine and technology, people with epilepsy can control their seizures better now than ever before.<sup>363</sup> This renders many of these laws unnecessary, or at the very least, unreasonably restrictive.<sup>364</sup> It is time for the legal community to revisit state laws that unreasonably restrict drivers with epilepsy and burden the physicians who treat them.<sup>365</sup>

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356. See discussion *supra* Sections III.A.1–2 (arguing that drivers with epilepsy do not have higher crash rates than the general population).

357. See discussion *supra* Section III.A.3 (contending that drivers with other disorders or diseases should be of similar or greater concern than drivers with epilepsy).

358. See discussion *infra* Part IV (proposing solutions that promote public safety without unreasonably restricting drivers with epilepsy or burdening the physicians who treat them).

359. See generally *Consensus Statements*, *supra* note 252.

360. This Comment alone cites to over two dozen papers from the medical and traffic safety communities that were published between 2000–2019.

361. See *supra* notes 277–78 and accompanying text (explaining that after Arizona implemented the alliance's recommendations, the incidence rate of seizure-related crashes decreased almost 2 percent); *supra* notes 302–04 and accompanying text (explaining that in the seven years after Maryland implemented the alliance's recommendations, there were only two seizure-related crashes).

362. See generally *More Americans Have Epilepsy Than Ever Before*, CTRS. FOR DISEASE CONTROL & PREVENTION NEWSROOM (Aug. 10, 2017), <https://www.cdc.gov/media/releases/2017/p0810-epilepsy-prevalence.html> [<https://perma.cc/ZJ4F-P7YC>].

363. See *supra* note 50 and accompanying text (highlighting recent advancements in medicine and technology).

364. See discussion *supra* note 274 and accompanying text (explaining that many drivers with epilepsy are not at a higher risk of causing crashes than the general population, and therefore, as applied to them, these laws are unnecessary and unreasonably restrictive).

365. See discussion *supra* note 137 and accompanying text (reflecting that only two legal papers calling to reform state laws affecting drivers with epilepsy and their physicians were published

This Part begins by calling for more research on driving with epilepsy.<sup>366</sup> After, it illustrates the need for uniformity among the states and the inadequacy of current uniform and model laws.<sup>367</sup> Then it proposes solutions for each of the ten primary components of state statutes, regulations, and policies affecting drivers with epilepsy and their physicians.<sup>368</sup> Then it offers a few additional suggestions to legislators, administrators, and policymakers.<sup>369</sup> A brief conclusion follows.

#### A. Call for Research

The data that informed the recommendations of the American Academy of Neurology, American Epilepsy Society, and Epilepsy Foundation are over three decades old.<sup>370</sup> Consequently, legislators, administrators, and policymakers may not consider the *Consensus Statement* as influential now as it was twenty-eight years ago. For them to draft data-driven, evidence-based statutes, regulations, and policies, new data is needed.<sup>371</sup>

Future studies must be structured to eliminate the limitations of previous studies.<sup>372</sup> To accurately determine the crash rates of drivers with epilepsy, future studies must isolate drivers with epilepsy rather than evaluating drivers with epilepsy together with drivers who experience lapses of consciousness or drivers with neurological conditions.<sup>373</sup> Next, future studies must account for the likely overestimation of crash rates of drivers with epilepsy in states where physicians are mandated to report

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from 2000–2019); see also Kramer, *supra* note 39, at 361 (“A fresh analysis and restructuring of the statute and its various applications are respectfully suggested.”).

366. See discussion *infra* Section IV.A (calling for more research on drivers with epilepsy).

367. See discussion *infra* Section IV.B (illustrating the need for states’ laws to be uniform and the inadequacy of current uniform and model laws).

368. See discussion *infra* Section IV.C (proposing solutions for each of the ten primary components of statutes, regulations, and policies affecting drivers with epilepsy and their physicians).

369. See discussion *infra* Section IV.D (offering additional suggestions to legislators, administrators, and policymakers).

370. Although the *Consensus Statements* do not contain references, because the alliance met in 1991 and published their recommendations in 1992, the author assumes that at least some of the underlying data the alliance relied on was published before 1990.

371. See discussion *supra* notes 198–99 and accompanying text (explaining the need for data-driven, evidence-based laws).

372. See discussion *supra* Section II.A.1 (highlighting the damning limitations of previous studies).

373. See discussion *supra* notes 209–16 and accompanying text (demonstrating that previous studies evaluated the crash rates of drivers with epilepsy together with the crash rates of drivers with other conditions, preventing unequivocal conclusions about the crash rates of drivers with epilepsy).

their patients to the DMV.<sup>374</sup> They must also account for the potentially large number of drivers with epilepsy that have not come to the DMVs' attention because are safe drivers who have not caused crashes.<sup>375</sup> Finally, future studies must distinguish whether a driver with epilepsy caused a crash because she was experiencing a seizure behind the wheel or because of another factor, like driver error or alcohol consumption.<sup>376</sup>

As more states begin to evaluate applicants and licensed drivers with epilepsy on an individualized basis, future studies should focus on any strengths and weaknesses of this system.<sup>377</sup> Similarly, more research is needed to determine which factors truly mitigate the risk that applicants and licensed drivers with epilepsy will experience a seizure behind the wheel.<sup>378</sup> For example, there is vigorous debate whether reliable auras actually prevent drivers with epilepsy from experiencing a seizure behind the wheel.<sup>379</sup> Because the *Consensus Statements* and many state medical advisory boards consider reliable auras a mitigating factor, definitive research is needed to support this practice.<sup>380</sup> The next Section argues that, armed with the results from future studies, legislators will be able to draft evidence-based, uniform statutes that promote public safety without unreasonably restricting drivers with epilepsy or burdening the physicians who treat them.

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374. See discussion *supra* notes 217–19 and accompanying text (citing the possible overestimation of crash rates of drivers with epilepsy in California, a state that mandates physicians to report their patients with epilepsy to the DMV).

375. See discussion *supra* note 220 and accompanying text (hypothesizing that crash rates for drivers with epilepsy may also have been overestimated because the DMVs did not know about the potentially large number of drivers with epilepsy that have not been reported to the DMVs and have not caused crashes).

376. See discussion *supra* notes 221–24 and accompanying text (demonstrating the majority of accidents caused by drivers with epilepsy was due to nonmedical factors, such as driver error or alcohol consumption).

377. Ma et al., *supra* note 157, at 1391 (charting that several states evaluate applicants with epilepsy on an individualized basis). See also *id.* at 1395 (“[T]he ability to adjust licensing decisions based on an individual’s changing clinical history over time appears to be a strength of this system and should be a focus of future studies . . .”).

378. *Id.* (“The [medical advisory board] considered many risk factors in determining licensure; however, the significance of several of these favorable and unfavorable risk factors (e.g., having long auras or only nocturnal seizures), is uncertain and warrants further study.”).

379. See discussion *supra* notes 291–97 and accompanying text (featuring the debate about whether reliable auras actually prevent drivers with epilepsy from experiencing a seizure behind the wheel).

380. See discussion *supra* note 288 and accompanying text (explaining that the *Consensus Statements* consider reliable auras a mitigating factor). See also Ma et al., *supra* note 157, at 1391 (charting that many states consider “variables” such as “presence of reliable aura”).

### *B. Need for Uniformity*

#### 1. States Have a Duty to Modernize and Standardize Their Laws

As discussed in Part III, for decades, medical professional organizations and advocacy groups have campaigned for the liberalization of state laws affecting drivers with epilepsy and their physicians.<sup>381</sup> Likewise, for decades, traffic safety professional organizations have campaigned for uniformity among state laws. For example, in 1974 the Traffic Institute at Northwestern University asserted “[s]tandardization of the traffic laws brings easier understanding, and consequently greater public observance, of the laws, and in the final analysis this is a critical factor in solving the traffic accident problem.”<sup>382</sup> Similarly, the American Association of Motor Vehicle Administrators has been “striving to develop uniform guidelines across the entire spectrum of driver licensing activities; from identification, to testing, to medical screening and evaluation, to problem driver intervention and education, to license withdrawal.”<sup>383</sup> And recall that, pursuant to century-old US Department of Transportation policy, states have a duty to identify and eliminate major variations among traffic laws.<sup>384</sup> As discussed in Part II, there are still massive disparities among the states’ laws.<sup>385</sup> To assist legislators, administrators, and policymakers in their duty to work towards uniformity, this Part proposes solutions to the ten primary components of laws affecting drivers with epilepsy and their physicians that states can adopt.<sup>386</sup>

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381. See discussion *supra* Sections III.A–.B (highlighting medical professional organizations and advocacy groups that have called for the liberalization of restrictions on drivers with epilepsy and the repeal of mandatory reporting laws).

382. FISHER & REEDER, *supra* note 152, at 24.

383. AAMVA’S PROBLEM DRIVER INTERVENTION & EDUC. WORKING GRP., MODEL PROBLEM DRIVER INTERVENTION AND EDUCATION PROGRAM: MODEL PROGRAM 5 (Aug. 2009), available at <https://www.aamva.org/best-practices-and-model-legislation/> [<https://perma.cc/PWM2-H2MG>].

384. See discussion *supra* note 143 and accompanying text (explaining states have a duty to review their statutes, regulations, and policies on a regular basis to ensure conformance with the UVC’s provisions on driver licensing). See also UNIF. VEHICLE CODE & MODEL TRAFFIC ORDINANCE, at x (NAT’L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 1968) (each state shall review “on a regular basis the laws relating to the licensing of drivers to assure the compatibility with an/or conformance to Chapter 6, ‘Drivers’ Licenses,’ of the Uniform Vehicle Code.”).

385. See discussion *supra* Section II.B (showcasing how these laws vary drastically state-to-state).

386. See discussion *infra* Section IV.B (proposing solutions to the ten primary components of state laws affecting drivers with epilepsy and their physicians).



## 2. Shortcomings of Current Uniform and Model Laws, Codes, and Acts

The American Law Institute (ALI) was founded in 1923 to address the “uncertainty and . . . complexity” of American law.<sup>387</sup> Since then, the ALI has published Restatements of the Law, Principles of the Law, and Model Codes that attempt to modernize and standardize the laws of the states.<sup>388</sup> Unfortunately, none of its publications address the topic of driver licensing.<sup>389</sup> Similarly, the Uniform Law Commission (ULC) was founded in 1892 to bring “clarity and stability” to state laws.<sup>390</sup> Since then, the ULC has published one hundred twenty Uniform Acts and thirty-five Model Acts, none of which address the topic of driver licensing.<sup>391</sup> Furthermore, none of the ULC’s forty-five current committees are tackling this issue.<sup>392</sup>

In 2010, the NCUTLO, author and custodian of the UVC, suspended operations due to lack of funding.<sup>393</sup> In response, the National Committee on Uniform Traffic Control Devices created a Rules of the Road ad hoc committee to “address ongoing needs related to the [UVC],”<sup>394</sup> but the UVC has not been updated under its watch.<sup>395</sup> As a result, current uniform and model laws, codes, and acts do not satisfactorily address laws affecting drivers with epilepsy and their physicians.

### C. Solutions to the Ten Primary Components of Laws Affecting Drivers with Epilepsy and Their Physicians

After a review of the data, a state’s legislators, administrators, and policymakers may reasonably conclude that applicants and licensed

387. *About ALI*, AM. LAW INST., <https://www.ali.org/about-ali/> [<https://perma.cc/ZQ8V-WW3Y>].

388. *Id.*

389. *See Restatements of the Law*, AM. LAW INST., <https://www.ali.org/publications/#publication-type-restatements> [<https://perma.cc/P8N7-MJNV>]; *Principles of the Law*, AM. LAW INST., <https://www.ali.org/publications/#publication-type-principles> [<https://perma.cc/8X4B-3UJ3>]; *Model Codes and Studies*, AM. LAW INST., <https://www.ali.org/publications/#publication-type-model-codes> [<https://perma.cc/N894-H3BK>].

390. *See Overview*, UNIF. LAW COMM’N, <https://www.uniformlaws.org/aboutulc/overview> [<https://perma.cc/CP6U-2AWY>].

391. *See Current Acts*, UNIF. LAW COMM’N, <https://www.uniformlaws.org/acts/catalog/current> [<https://perma.cc/TQ9F-3BW7>].

392. *See All Committees*, UNIF. LAW COMM’N, <https://www.uniformlaws.org/projects/committees/all> [<https://perma.cc/N6HP-9C5N>].

393. *See* U.S. DEP’T TRANSPORTATION, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FEDERAL HIGHWAY ADMINISTRATION (Apr. 14, 2017), available at <https://mutcd.fhwa.dot.gov/ser-pubs.htm> [<https://perma.cc/8RTE-GYSY>].

394. *Id.*

395. The most recent edition of the UVC the author can locate is the 2000 edition. *Rules of the Road Revisions—Request for Comment*, NAT’L COMM. ON UNIFORM TRAFFIC CONTROL DEVICES, <https://web.archive.org/web/20160305153725/http://www.ncutcd.org/rulesroad042013.shtml> (accessed by searching for the Uniform Vehicle Code in the Internet Archive index).

drivers with epilepsy pose only a small, acceptable risk to public safety. In that case, most, if not all, of the state's restrictions on drivers with epilepsy should be repealed. A state's legislators, administrators, and policymakers may, however, conclude that they must continue to impose restrictions on drivers with epilepsy and affirmative duties on their physicians in order to promote public safety. In that case, this Section proposes less restrictive and burdensome solutions based on the results of studies and the recommendations of medical professional organizations and advocacy groups.

### 1. Language and Location of Laws

States should remove explicit mention of epilepsy or losses of consciousness from their statutes.<sup>396</sup> This acknowledges that people without epilepsy can experience seizures<sup>397</sup> and recognizes the studies that concluded people with other disorders or diseases are of similar or greater concern than drivers with epilepsy.<sup>398</sup> Consequently, mention of epilepsy should appear in regulations, definitions of "epilepsy" and "seizures," medical criteria for initial licensure and renewal, and medical criteria required to be able to resume driving after experiencing a seizure should appear in policies.<sup>399</sup> These policies should be published and available to the public on DMVs' websites.<sup>400</sup>

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396. See *Consensus Statements*, *supra* note 252, at 698 ("For example, the following type of language should be repealed: 'A drivers license shall not be issued to: any person adjudged insane or an idiot, imbecile, epileptic, or feeble-minded' . . . [or any] '[p]erson who is subject to losses of consciousness due to disease of the central nervous system.'"). See also *id.* (proposing the following statutory language: "The department shall not issue a license: (a) To any person who is unable to exercise reasonable control over a motor vehicle, as defined by the department by rule").

397. See discussion *supra* note 7 and accompanying text (explaining that people without epilepsy can experience seizures).

398. See discussion *supra* Sections III.A.2–3 (arguing that drivers with other disorders or diseases should be of similar or greater concern than drivers with epilepsy because they have similar or greater crash rates).

399. *Consensus Statements*, *supra* note 252, at 696. Ordinarily, words used in statutes, regulations, and policies should be defined. However, when dealing with medical disorders, a definition can soon become outdated. In this case, statutes and regulations should not define "epilepsy" or "seizures." Instead, legislators and administrations should defer to their medical advisory boards to define "epilepsy" and "seizures" in policies. See Perr, *supra* note 45, at 281 ("Although ordinarily words used in law should be clearly defined, at times it is more helpful not to pin down a word with a rigid definition which soon becomes outmoded. Since concepts and knowledge of epilepsy have changed greatly in recent years, flexibility of definition in this specific case is realistic and useful.").

400. See discussion *supra* note 37 (revealing that many DMVs have less formal, unpublished restrictions on driving). See also *Individual State Driving Restrictions*, *supra* note 37, at 1785 ("A major finding of our study is that many flexible and informal state practices for driving with epilepsy are not well documented or accessible to the public. Efforts are encouraged to correct this problem.").

## 2. Seizure-Free Period for Applicants with Epilepsy

Driver license applications should require applicants to disclose a diagnosis of epilepsy or any seizures. Utah's application form is illustrative: "Do you have, or have you had, any of the following in the last 5 years? . . . Epilepsy, seizures, and other episodic conditions that include any recurrent loss of consciousness or control?"<sup>401</sup> Driver license application forms should conspicuously inform applicants that they have a continuing duty to disclose a diagnosis of epilepsy or any seizures. They should also inform applicants that if they are diagnosed with epilepsy or experience a seizure, they must immediately cease driving, notify the DMV, and seek medical evaluation.<sup>402</sup> Failure to disclose a diagnosis of epilepsy or any seizures should be punishable.<sup>403</sup>

Compared with requiring applicants with epilepsy to have been seizure-free for six months, requiring applicants with epilepsy to have been seizure-free for only three months slightly *increases* the *individual* risk that a driver with epilepsy may experience a seizure behind the wheel.<sup>404</sup> However, it likely *decreases* the *aggregate* risk that drivers with epilepsy may cause crashes because, as a whole, they may be more likely to comply with restrictions.<sup>405</sup> Therefore, states should not require applicants with epilepsy to have been seizure-free for more than three months prior to application.

## 3. Seizure-Free Period for Licensed Drivers with Epilepsy

Driver license renewal forms should require licensed drivers to disclose a diagnosis of epilepsy or any seizures. However, if people are only required to disclose a diagnosis of epilepsy or any seizures upon application and renewal, the DMV may not know that a licensed driver has been diagnosed with epilepsy or experienced a seizure during the period of time between application and renewal or between two renewals.<sup>406</sup> In some states, that period of time is as long as twelve

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401. NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., DOT-HS-812-402: MEDICAL REVIEW PRACTICES FOR DRIVER LICENSING VOLUME 3: GUIDELINES AND PROCESSES IN THE UNITED STATES 373 (Apr. 2017), available at [https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812402\\_medicalreviewdriverlicense.pdf](https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812402_medicalreviewdriverlicense.pdf) [<https://perma.cc/Y7AM-N432>].

402. *Consensus Statements*, *supra* note 252, at 697.

403. *Id.*

404. See discussion *supra* notes 271–72 and accompanying text (providing the results of a 1999 study).

405. See *id.* (demonstrating that the longer the seizure-free period, the less likely drivers with epilepsy are to comply).

406. See Kramer, *supra* note 39, at 356 (footnotes omitted) ("However, the Ohio Revised Code provisions set forth no legal duty upon an individual to disclose a diagnosis or change in medical state of an epileptic condition between licensing periods. Therefore, individuals with epilepsy do

years.<sup>407</sup> To combat this void, renewal forms should conspicuously inform licensed drivers that they have a continuing duty to disclose a diagnosis of epilepsy or any seizures. They should also inform licensed drivers that if they are diagnosed with epilepsy or experience a seizure, they must immediately cease driving, notify the DMV, and seek medical evaluation.<sup>408</sup> Failure to disclose a diagnosis of epilepsy or any seizures between application and renewal or between two renewals should be punishable.<sup>409</sup>

As illustrated in the fictional account in the Introduction, although laws governing applicants with epilepsy are relatively clear, those governing already-licensed drivers with epilepsy are more obscure.<sup>410</sup> In addition to application and renewal forms, states should post any restrictions on DMV websites. To ensure restrictions are easy to find, a webpage could be dedicated to people with epilepsy, clearly delineating restrictions on applicants and restrictions on already-licensed drivers.

#### 4. Consideration of Mitigating and Aggravating Factors

States should consider mitigating and aggravating factors that make it less and more likely, respectively, that applicants and licensed drivers with epilepsy will cause crashes. This flexible approach has proven to both promote public safety and respect drivers with epilepsy's independence.<sup>411</sup> The mitigating and aggravating factors listed in the alliance's proposed regulatory provision, however, are not beyond

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not voluntarily disclose their medical conditions between licensing periods, even following an initial diagnosis of epilepsy. If the intent of the Ohio Revised Code provisions is to prevent individuals with epilepsy from driving, the statutes are at least partially ineffective for failing to set forth a disclosure requirement for significant adverse changes in a licensed individual's epileptic condition that occur between license renewal periods, and for permitting such individuals to retain an unrestricted driver's license until its ordinary expiration.").

407. For example, drivers in Arizona only have to renew their license photos once every twelve years, and do not have to renew their licenses until they turn sixty-five. John Genovese, *Why Arizona Driver Licenses Don't Expire for Decades*, ABC15 (Jul. 26, 2018), <https://www.abc15.com/news/roads/why-arizona-driver-licenses-don-t-expire-for-decades> [<https://perma.cc/RUS7-JBKM>]. Drivers in Michigan only have to renew their licenses once every eight years. *Renewing Driver's License*, MICH. SEC'Y STATE, [https://www.michigan.gov/sos/0,4670,7-127-1627\\_8669\\_53327---,00.html#Online](https://www.michigan.gov/sos/0,4670,7-127-1627_8669_53327---,00.html#Online) [<https://perma.cc/CB3Y-HUJZ>].

408. *Consensus Statements*, *supra* note 252, at 697.

409. *Id.*

410. See *Review and Reappraisal*, *supra* note 125, at 624 ("In general, drivers with epilepsy or seizures are required to report their condition at the time of driver's license application or renewal. Requirements for further reporting are variable, often poorly defined, and a potential source of confusion."). See also discussion *supra* notes 25–32 and accompanying text (providing an example of a policy in the District of Columbia that cannot be found on the Epilepsy Foundation's *State Driving Laws Database*, the District's statutes, or the District's regulations, but only on the District's DMV's website).

411. See discussion *supra* note 304 and accompanying text (discussing the effects after Maryland amended its regulations to allow consideration of mitigating and aggravating factors).

dispute. Therefore, states should consider some, but not all, of the alliance's recommended mitigating and aggravating factors. Because the following mitigating factors have been shown to decrease an applicant's or licensed driver's risk of experiencing a seizure behind the wheel, states should consider: (i) if the applicant or licensed driver is diagnosed with simple partial seizures that do not interfere with consciousness or motor control; (ii) if she is diagnosed with nocturnal seizures; (iii) if her seizure occurred during a physician-directed change to medication; or (iv) if her seizures occurred secondary to a reversible, acute illness.<sup>412</sup> States should not consider reliable auras as a mitigating factor until future studies resolve the vigorous debate as to whether reliable auras actually decrease a driver's risk of experiencing a seizure behind the wheel.<sup>413</sup>

States should modify the alliance's proposed regulatory provision, considering the following aggravating factors that increase an applicant's or licensed driver's risk of experiencing a seizure behind the wheel: (a) if she is noncompliant with taking antiepileptic drugs, noncompliant with attending medical appointments, or not credible; (b) if she has abused alcohol or drugs in the three months prior to application; (c) if she has experienced an increased number of seizures in the year prior to application than in previous years; (d) if she has experienced frequent seizures after a seizure-free interval; (e) if she has caused an accident because of a seizure during the five years prior to application; (f) if she has a structural brain lesion; or (g) if she has a non-correctable brain-functioning or metabolic condition.<sup>414</sup> Pursuant to the American Academy of Neurology's supplementary *Position Statement*, the states should also consider "cognitive and psychomotor side effects of antiepileptic drugs" an aggravating factor.<sup>415</sup>

##### 5. Mandating Physicians to Report Their Patients to the DMV

Among the medical community, there is nearly unanimous opposition to mandating physicians to report their patients to the DMV.<sup>416</sup> Moreover, researchers have demonstrated that when physicians are mandated to report, their patients with epilepsy compromise their own care in order to drive.<sup>417</sup> Accordingly, California, Delaware, Nevada, New Jersey, Oregon, and Pennsylvania should repeal their mandated-reporting

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412. *Consensus Statements*, *supra* note 252, at 697.

413. *See* discussion *supra* notes 291–97 (highlighting studies that came to opposite conclusions).

414. *Consensus Statements*, *supra* note 252, at 697.

415. Bacon, *supra* note 270, at 1177.

416. Black, *supra* note 34, at 335.

417. *See* discussion *supra* notes 308–13 and accompanying text (discussing the results of studies).

laws.<sup>418</sup> Although there is lively debate as to whether physicians *should* voluntarily report their patients to the DMV,<sup>419</sup> states should provide physicians with the mechanism to voluntarily report their patients if they so choose. By abolishing mandated reporting in favor of voluntary reporting, states would eliminate one discriminatory aspect of these laws. Just like physicians are not mandated to report their patients with alcoholism to the DMV, but can voluntarily do so,<sup>420</sup> physicians should not be mandated to report their patients with epilepsy to the DMV, but should be able to voluntarily do so if they determine it is in the best interest of the patient and the public.

#### 6. Granting Immunity from Liability

In accordance with recommendations of both medical professional organizations and DMV heads, states should grant physicians statutory immunity from civil liability for both choosing *to* report their patients to the DMV and choosing *not* to report their patients to the DMV, provided they acted in good faith.<sup>421</sup> Additionally, statutes should grant physicians immunity from civil liability for any updates submitted to the DMV and any recommendations therein.<sup>422</sup> Statutes should guarantee that these reports and updates will remain confidential and will not be used in any trial or proceeding other than trials or proceedings concerning the applicant's or driver's licensure.<sup>423</sup> Lastly, statutes should also grant employees of DMVs and members of medical advisory boards immunity from civil liability for their recommendations, provided they acted in good faith.<sup>424</sup>

#### 7. Requiring Periodic Updates

The alliance argued that requiring licensed drivers with epilepsy to furnish periodic updates from their physicians would not be necessary if application and renewal forms conspicuously inform them that, if they

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418. See *Review and Reappraisal*, *supra* note 125, at 624 (noting the benefit of physician reporting poses potential serious problems and may conflict with patient confidentiality); see also Lee et al., *supra* note 172, at 657 (arguing mandated reporting may discourage patients to be honest with their physicians).

419. See discussion *supra* note 317 and accompanying text (introducing the two sides of the debate).

420. See *supra* note 219 and accompanying text (expressing that California, a state that mandates physicians to report their patients with epilepsy to the DMV, does not mandate physicians to report their patients with heart disease, alcoholism, or other conditions that may render them unable to safely operate a motor vehicle to the DMV).

421. See discussion *supra* notes 325–28 and accompanying text (highlighting the recommendations of the alliance and the AMA).

422. *Consensus Statements*, *supra* note 252, at 700.

423. *Id.* at 700.

424. *Id.* at 696, 701.

experience a seizure, they must immediately cease driving, notify the DMV, and seek medical evaluation.<sup>425</sup> However, if drivers fail to disclose seizures to the DMV, requiring licensed drivers with epilepsy to furnish periodic updates from their physicians may prove to be a useful tool. Interviews with DMV heads reveal that police do not routinely notify DMVs of accidents caused by drivers who experienced seizures behind the wheel.<sup>426</sup> Consequently, the DMVs are not able to suspend, revoke, or restrict those drivers' licenses.<sup>427</sup> And when the driver's license is up for renewal, the medical advisory board will not know about the seizure nor the accident it caused when making its recommendation.<sup>428</sup>

This is both ineffective and unsettling.<sup>429</sup> Proposing a solution to improve communication between police, DMVs, and medical advisory boards is beyond the scope of this Comment, but requiring licensed drivers with epilepsy to furnish periodic updates from their physicians may help DMVs better monitor drivers with epilepsy who fail to disclose seizures between application and renewal or between two renewals.<sup>430</sup>

### 8. Utilizing a Medical Advisory Board

DMVs should appoint medical advisory boards comprised of medical professionals, and at least one member "should have expertise and experience in treating epilepsy."<sup>431</sup> DMVs should ensure mechanisms are in place to guarantee that members of medical advisory boards are up to date on research in this niche area.<sup>432</sup> In addition to evaluating individual cases, medical advisory boards—not DMV employees, DMV heads, legislators, or administrators—should formulate medical criteria to be

425. *Id.* at 697.

426. For example, in Maryland, "police crash reports are not linked to patients' [medical advisory board] medical reports. The police may not suspect that crashes are linked to seizures unless a seizure is directly witnessed or personal injury has occurred and a medical history is obtained." Ma et al., *supra* note 157, at 1395. In general, police are required to report crashes that cause serious injury or property damage, not including vehicle damage, to DMVs. *Individual State Driving Restrictions*, *supra* note 37, at 1785. Police are not, however, required to report crashes that only cause minor injury or vehicle damage. *Id.*

427. *Individual State Driving Restrictions*, *supra* note 37, at 1783 ("Consequently, legal authorities do not routinely review patients' driving privileges after seizure-related crashes.").

428. *Id.* ("This information is usually not transmitted to the medical panels.").

429. *Id.* at 1785 ("Surprisingly, states do not effectively monitor whether patients with epilepsy have seizure-related crashes.").

430. *Id.* ("Identifying patients with previous seizure-related crashes may help prevent people with uncontrolled seizures from driving because these patients often have subsequent seizure-related crashes."). See also Winston & Jaiser, *supra* note 157, at 375 ("[C]ollaborative sharing of routine data between national driving authorities, motor insurance companies and police would yield high quality data to inform future risk models and legislation.").

431. *Consensus Statements*, *supra* note 252, at 697.

432. See discussion *supra* note 343 and accompanying text (citing a report that concluded medical advisory boards do not stay up to date with research).

applied to all cases. This will ensure medical criteria is formulated by subject matter experts, driven by data, rooted in science rather than stigma,<sup>433</sup> and free from political considerations.<sup>434</sup>

#### 9. Who Makes the Ultimate Licensing Decision?

Pursuant to the alliance's recommendations, application forms should be structured so that first-level DMV staff can make licensing decisions in straightforward cases.<sup>435</sup> Additionally, application forms should include an *optional* section for the applicant's physician to complete, if the applicant and the applicant's physician so choose.<sup>436</sup> This section should ask the applicant's physician whether the physician would recommend licensure and provide space for comments.<sup>437</sup> Complicated cases, those that first-level DMV staff cannot decide, should be referred to medical advisory boards. The medical advisory boards should "give fair consideration" to personal physicians' opinions,<sup>438</sup> but not rely solely on them.<sup>439</sup> After the medical advisory board makes its recommendations to the DMV head, the DMV head should be charged with making the ultimate licensing decision.

#### 10. Providing the Right to Appeal

Lastly, states should grant applicants and licensed drivers with epilepsy the statutory right to appeal a licensing decision to a court of competent jurisdiction.

#### *D. Additional Suggestions*

Regardless of whether legislators, administrators, and policymakers conclude that applicants and licensed drivers with epilepsy pose only a small, acceptable risk to public safety, or conclude that the continued imposition of restrictions on drivers with epilepsy and affirmative duties on their physicians best promotes public safety, the following suggestions may be valuable.

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433. See discussion *supra* notes 198–99 and accompanying text (demonstrating the value of data-driven, evidence-based laws).

434. See discussion *supra* note 343 and accompanying text (citing a report that concluded medical advisory boards make nothing more than "educated guesses" "based on socio-political considerations.").

435. *Consensus Statements*, *supra* note 252, at 696.

436. *Id.*

437. *Id.* Forty-four states' application forms ask the applicant's physician whether the patient should be licensed. *Individual State Driving Restrictions*, *supra* note 37, at 1783.

438. *Consensus Statements*, *supra* note 252, at 699.

439. See discussion *supra* notes 347–49 and accompanying text (discussing the possible implications of this practice).



States should conduct regular, systematic reviews of their statutes, regulations, and policies affecting drivers with epilepsy and their physicians.<sup>440</sup> Additionally, an evaluation of whether these laws are effective is encouraged. The last study to measure the efficacy of these laws was published in 1978.<sup>441</sup> Evaluating the efficacy of statutes, regulations, and policies would promote public safety and foster administrative efficiency without unreasonably restricting drivers with epilepsy or burdening the physicians who treat them.<sup>442</sup>

States should also advertise procedures for drivers with epilepsy who wish to voluntarily surrender their licenses to the DMV. By voluntarily surrendering their licenses to the DMV, people with epilepsy eliminate the appearance of suspensions or revocations on their driving records and the avoid the consequential increased insurance premiums.<sup>443</sup> States should consider issuing restricted licenses to applicants and licensed drivers with epilepsy, permitting them to drive at certain times, within certain geographic boundaries, or underneath certain speeds.<sup>444</sup> This would reduce the restrictions on drivers with epilepsy whose disorder

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440. *Review and Reappraisal*, *supra* note 125, at 626 (“To maintain proper balance between protection of the public’s safety and promotion of the welfare of people with seizure disorders, regular, systematic reviews of policies, procedures, and standards regarding epilepsy and driving should be encouraged.”).

441. RILEA, *supra* note 207, at vii.

442. *Id.* at vii–viii (“A clearer understanding of the efficacy of current procedures may lead to more efficient approaches to identifying the appropriate action, potentially improving traffic safety and reducing the workload of Driver Safety hearing officers.”). *See also Review and Reappraisal*, *supra* note 125, at 626 (“Experience with these policies and standards should be critically monitored, and research on the issues associated with driving and epilepsy should be actively promoted.”).

443. *See, e.g., WIS. STAT. § 343.265(1)* (2020) (“The department may accept the voluntary surrender of the operator’s license of a person who has a mental or physical disability or disease or a medical condition which prevents or may prevent the person from exercising reasonable control over a motor vehicle if the person’s operating privilege is not subject to suspension or revocation for any reason.”). *See also Review and Reappraisal*, *supra* note 125, at 624 (“To avoid higher insurance costs and the stigma of suspension, and to encourage self-reporting by people with epilepsy, some states permit as an alternative to suspension the voluntary surrender of a driver’s license.”). The alliance also recommended DMVs allow drivers with epilepsy to voluntarily surrender their licenses. *Consensus Statements*, *supra* note 252, at 698.

444. For example, North Dakota requires applicants with epilepsy to have been seizure-free for six months prior to licensure. N.D. ADMIN. CODE 37-03-01-05(3) (2020). After three months, however, some applicants may qualify for a restricted license permitting them to drive to and from work and school. *Id.* § 37-03-01-05(2). Similarly, in Utah, some applicants may qualify for a restricted license permitting them to drive during daylight hours, at slow speeds, and on local roads. UTAH CODE § 53-3-304(2) (2020). The UVC similarly allows DMVs to issue “limited licenses.” UNIF. VEHICLE CODE & MODEL TRAFFIC ORDINANCE § 6-211 (NAT’L COMM. UNIF. TRAFFIC LAWS & ORDINANCES 2000). Limited licenses are only available to drivers whose licenses have been revoked, not to applicants for initial licensure. *Id.* Thirty days after revocation, the DMV may issue a limited license conditioned on “the operation of a particular vehicle or vehicles, or to a particular class or classes of vehicles, and/or to time of operation.” *Id.*

does not increase their risk of crashing.<sup>445</sup> Lastly, states should expand the availability of low-cost public transportation and connect people with epilepsy to local organizations that provide transportation resources.<sup>446</sup>

#### CONCLUSION

In 1956, Dean Roscoe L. Barrow of the University of Cincinnati College of Law and Dr. Howard D. Fabing, President of the American Academy of Neurology, declared: “This remarkable progress in treating epileptic seizures calls for a complete reappraisal of our laws and administrative practices governing issuance of drivers’ licenses to persons having a history of seizures.”<sup>447</sup> Sixty-four years and infinite medical advancements later, their call to action still echoes through legislative chambers and administrative halls across the country. For decades researchers, medical professional organizations, and advocacy groups have demonstrated that these statutes, regulations, and policies are neither data-driven nor evidence-based.<sup>448</sup> It is time for the legal community to capitalize on their body of work. At the beginning of a new decade, the time for reform draws nigh. The states should revisit their laws that unreasonably restrict drivers with epilepsy and burden the physicians who treat them.

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445. Kramer, *supra* note 39, at 345 (“Not all individuals with epilepsy are at risk of causing accidents . . .”). See also discussion *infra* note 286 (providing an example of one type of seizure that does not cause alteration in consciousness or loss of bodily control).

446. See Tara Haelle, *Epilepsy’s Mobility Problem: Advocating for Changes in Transportation Laws, Public Resources*, NEUROLOGY ADVISOR (Jun. 13, 2018), <https://www.neurologyadvisor.com/topics/epilepsy/epilepsys-mobility-problem-advocating-for-changes-in-transportation-laws-public-resources/> [<https://perma.cc/KV93-78QH>] (“Two ways states and communities could address inadequate transportation options today are to expand public transportation and rewrite driving regulations to reflect current evidence.”).

447. BARROW & FABING, *supra* note 124, at 35.

448. See ARTHUR D. LITTLE, INC., *supra* note 223, at 70–71 (“[P]ersons suffering from epilepsy, more than from any other disease, including alcoholism, have received great attention with regard to medical and legal opinions concerning their ability to hold a license and drive an automobile safely . . . Concrete evidence to support these opinions is generally lacking. . . . [T]he information reviewed on epilepsy . . . is insufficient to allow unequivocal statements concerning the role of these diseases and their treatment in the initiation of automobile accidents.”).

## APPENDIX

TABLE 1: Period of time states and the District of Columbia require applicants for driver licenses to have been seizure-free prior to licensure.

Seizure-Free Period				
Three Months	Six Months	Twelve Months	Range	No Set Period
Arizona	Alabama	Arkansas	California	Colorado
Kentucky	Alaska	District of Columbia	Maine	Connecticut
Maryland	Georgia	New Hampshire	North Dakota	Delaware
Minnesota	Hawaii	New York		Florida
Nevada	Iowa	South Dakota		Idaho
Oregon	Kansas	Tennessee		Illinois
Utah	Massachusetts			Indiana
Wisconsin	Michigan			Louisiana
Texas	Mississippi			Montana
Wyoming	Missouri			Ohio
	New Jersey			Vermont
	New Mexico			Nebraska
	North Carolina			Rhode Island
	Oklahoma			
	Pennsylvania			
	South Carolina			
	Virginia			
	Washington			
	West Virginia			
Total				
10	19	6	3	13