ELECTION LAW JOURNAL
Volume 18, Number 4, 2019
© Mary Ann Liebert, Inc.
DOI: 10.1089/elj.2018.0531

Original Articles

Segregated Ballots for Voters with Disabilities? An Analysis of Policies and Use of the ExpressVote Ballot Marking Device

Jonathan Lazar

Downloaded by UNIV OF MARYLAND MCKELDIN LIBRARY/ from www.liebertpub.com at 02/27/20. For personal use only.

ABSTRACT

When the Help America Vote Act (HAVA) was enacted in 2002, it meant that, for the first time, people with disabilities were given the right to vote privately and independently. Post-HAVA, most states switched to direct recording electronic (DRE) voting machines, which allowed for people with disabilities to use the same machines, with alternate input/output modalities (e.g., blind voters could use the audio option and a set of headphones to ensure privacy). However, in the light of potential hacking threats (or even just the fear of hacking threats), many states are now moving back to hand-marked paper ballots such as optical scan ballots. Voters with print-related disabilities, unable to use an optical scan ballot by hand, are now forced to use a separate system, called a ballot marking device (BMD), to mark up paper ballots. Some BMDs, such as the ExpressVote®, produce a ballot that is different in size and content from the hand-marked ballot used in the jurisdiction. If only a small number of people with disabilities are using this BMD in each polling place, this allows for the possibility of determining which votes were cast by people with disabilities, and if only one ballot was cast using the BMD in a precinct, it might eliminate the secrecy of the ballot for that voter. This article presents a case study of Maryland, describing how ballot secrecy may have been violated in the 2016 and 2018 elections. The article also presents empirical data from the 19 other states (and Washington DC) where the ExpressVote BMD is used, on their policies related to the use of the BMD.

Keywords: Help America Vote Act, ballot marking devices, voters with disabilities, discrimination, civil rights, private ballot

INTRODUCTION

It is well established in U.S. legal frameworks that people with disabilities have an equal right to participate in elections and the political process. The aftermath of the 2000 U.S. presidential election, including the implementation of the Help America Vote Act (HAVA), offered the opportunity to provide new voting equipment that would allow individuals with disabilities, including with print-related disabilities, to cast a secret and independent vote, which for many people was a new experience. The voting equipment that made it possible is known as a direct recording electronic (DRE) device. However, in an age of concerns about the potential hacking of State Boards of Elections, voter registration lists, equipment manufacturers, and actual voting machines,[1] several states have either adopted voting

Jonathan Lazar is a professor in the College of Information Studies, associate director of the Trace Center, and core faculty in the Human-Computer Interaction Lab at the University of Maryland in College Park, Maryland.

[1]Various news outlets have reported on the ease of hacking, potential hacking or intrusions; see Wines 2019; Ratnam 2019; Patterson 2018; Schwartz 2018.

Downloaded by UNIV OF MARYLAND MCKELDIN LIBRARY/ from www.liebertpub.com at 02/27/20. For personal use only.

equipment with a paper trail or voting equipment that utilizes a paper ballot (note: this article is not commenting on the actual threat or incidents of hacking, only on the impact of that perceived threat in states moving away from DREs). This has, inadvertently, led to the possibility of some voters with print-related disabilities no longer having a secret ballot. The research described in this article, involving jurisdictions moving away from DREs towards using ballot marking devices (BMDs), aims to understand (1) how prevalent the violation of a secret ballot is with a case study of Maryland, and (2) what steps other jurisdictions that use BMDs have taken to protect the right to a secret ballot for those with disabilities.

It is important to note that voting rights for people with disabilities is a very broad area of research, including the topics of polling places that are physically inaccessible, ballots that are inaccessible or do not provide secrecy and independence (Waterstone 2003), voting rates of people with disabilities (Shur and Adya 2013), the prevalent use of absentee ballots by people with disabilities (Tokaji and Colker 2007), the rights of people with severe cognitive impairment or severe mental illness to vote (Karlawish et al. 2004), voting rights outside of the USA (Lord 2017), and voting rights contained within the United Nations Convention on the Rights of Persons with Disabilities (2018) (not binding law within the USA since the USA has signed the Convention but not yet ratified it). This research article only focuses on policies for protecting ballot secrecy and eliminating ballot segregation for voters with disabilities where BMDs are used.

LEGAL FRAMEWORK

Until the 1960s, there was no statutory basis in the USA for providing people with disabilities the right to vote. The Voting Rights Act of 1965 was a landmark piece of legislation, with a primary focus on protecting the voting rights of people of color, but it also stated that "Any voter who requires assistance to vote by reason of blindness, disability, or inability to read or write may be given assistance by a person of the voter's choice, other than the voter's employer or agent of that employer or officer or agent of the voter's union." (52 U.S.C. § 10508) The Voting Accessibility for the Elderly and Handicapped Act (1984) requires that states take steps to make their voting process more accessible, however, it has very vague provisions (42 U.S.C. § 1973ee-6(1)). These two laws do not truly establish the right to a private and independent vote (Waterstone 2003), a reality confirmed by cases in the Fifth Circuit (*Lightbourn v. County of El Paso* 1997) and the Sixth Circuit (*Nelson v. Miller* 1999). There are two antidiscrimination statutes, the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA) (1990), that broadly address disability rights, and therefore cover voting, but do not provide any specific thresholds or requirements related to voting.[2]

The strongest statutory basis for people with disabilities to have the right to a private and independent vote is the Help America Vote Act (2002), often known as HAVA. Pre-HAVA, in 2001, a U.S. General Accounting Office (GAO) report documented that 84% of the polling places that they visited had physical accessibility barriers, and none of the polling places that they visited had ballots or machines that would be accessible for blind voters (GAO 2001). The four previously mentioned statutes (the Voting Rights Act, the Voting Accessibility for the Elderly and Handicapped Act, the Rehabilitation Act, and the Americans with Disabilities Act), were not effective in ensuring that Americans with disabilities had access to a private and independent vote (Weis 2004). While HAVA was passed primarily due to the need for accurate vote counts, and various technical and security problems that occurred in the 2000 general election, access to voting for people with disabilities was also included, primarily due to pressure from disability rights activists (Weis 2004).

HAVA requires, inter alia, that each polling place have at least one voting machine that is accessible

[2]Waterstone (2003) notes about the Rehabilitation Act and the Americans with Disabilities Act (ADA):

> The Rehab Act provides that "no otherwise qualified individual with a disability in the United States … shall, solely by reason of her or his disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance . … " Title II of the ADA provides that "no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity."

Downloaded by UNIV OF MARYLAND MCKELDIN LIBRARY/ from www.liebertpub.com at 02/27/20. For personal use only.

for people with disabilities, and "be accessible for individuals with disabilities, including nonvisual accessibility for the blind and visually impaired, in a manner that provides the same opportunity for access and participation (including privacy and independence) as for other voters."[3] HAVA also provides mechanisms to fund states for the costs of upgrading their voting machines, as well as "making polling places, including the path of travel, entrances, exits, and voting areas of each polling facility, accessible to individuals with disabilities, including the blind and visually impaired, in a manner that provides the same opportunity for access and participation (including privacy and independence) as for other voters."[4] While HAVA in theory provides the statutory path to equal voting rights for people with disabilities, the situation on the ground is still very problematic. Reports from the U.S. GAO in both 2013 and 2017 document that a majority of polling places they sampled still had physical barriers to accessibility, and many polling places did not have an accessible voting machine.[5]

THE MOVE AWAY FROM ACCESSIBLE DRES TO OPTICAL SCAN BALLOTS AND BALLOT MARKING DEVICES

The direct recording electronic voting machines were the primary voting machines used after the passage of HAVA, however, due to concerns about hacking and the integrity of DREs (Ribeiro 2016), approximately half of all jurisdictions in the USA now use optical scan voting, where voters fill out bubbles or connect arrows using a pencil or pen on paper ballots, which are then scanned (Desilver 2016). The recent evidence in the Mueller Report of the Russian government hacking county governments and voting equipment manufacturers only increases the already-existing concern about potential hacking (Wines 2019). This has led to a perceived trade-off between accessibility and integrity (although I do not believe that it is an actual trade-off). The benefits that people with disabilities received from the DREs, of private and independent voting, have in some cases disappeared.

A ballot marking device allows a voter with a print-related disability to mark up a paper ballot privately and independently. If a voter is blind, they can use the audio option with a headset and a keypad to make their voting selection. If a voter has motor impairments, they can utilize either the keypad (depending on their motor skills, this may still be feasible for people with arthritis or mild Parkinson's disease), or alternate methods such as sip-and-puff (e.g., for a voter who is paralyzed). The BMD then prints out their choices on a ballot. Another way to think of a BMD is essentially an accessible DRE (allowing for audio-based interaction) machine that will also create a physical paper ballot as output.

Some of the BMDs create/mark up physical ballots that are identical in size and content to the hand-marked optical scan ballots (which are frequently, but not always, 8.5 inch by 11 inch letter or legal paper-sized), so at least on a cursory look, the ballots appear identical (although on closer inspection, it may be possible to determine whether the marks were made by hand or by machine). Some BMDs, such as ExpressVote®, create a completely different format, and only list the name of the contest and the candidates selected, which is not what appears on hand-marked ballots. If all voters (voters with disabilities and those without) use the same BMD, or the BMD marks up a ballot that is identical in size and content to the hand-marked ballot being used by voters without disabilities, there is no segregation of ballots or threat to secrecy of the ballot, as all ballots are identical, exist in large numbers, and are counted together. Ideally, the ballots created/used by the BMD should be identical to the hand-marked ballots, in terms of size and content (as was true with AutoMark®, a device previously manufactured by Election Systems & Software). If the size and content for the BMD ballots and the hand-marked ballots are not identical, then it is especially important that large quantities of voters use the BMD. Otherwise, if only one or two ballots are cast in a polling place using a BMD which creates nonidentical ballots, it may be possible to identify that the votes came from voters with disabilities, or even reidentify the ballots to individual voters, causing a loss of ballot secrecy.

---

[3]42 U.S.C. § 15481a(3). Note: the Department of Justice (DOJ) website says that this is an accurate citation, but Lexis/Nexis disagrees on the citation.
[4]42 U.S.C. § 15421b(1). Note: the DOJ website says that this is an accurate citation, but Lexis/Nexis disagrees on the citation.
[5]See U.S. General Accounting Office (2013) and (2017).

The gradual changes in voting equipment, switching from DREs to a combination of optical scan ballots and BMDs, have the potential to provide an effective outcome for all, or instead to violate the right of people with disabilities to have a secret ballot. The unknown effect of this new wave of voting equipment motivated this exploratory research. This article focuses specifically on the use of the ExpressVote BMD, a product of Election Systems & Software (ES&S) which uses a ballot that is a nonstandard size (14 inch by 4.25 inch) compared to the hand-marked optical scan ballots, which exacerbates the potential problems with having different types of ballots.

RESEARCH METHODOLOGY

To better explore the impact of BMDs on the ballot secrecy of voters with disabilities, two research methods were used:

1. The first research method is a case study of Maryland, examining materials provided to the public by the attorney general's office and the State Board of Elections, as well as precinct-level voting data provided by the State Board of Elections for the 2016 general election and the 2018 primary and general elections. The purpose of the case study is to better understand the specific stakeholders involved in decisions, the policies used in association with the BMDs, and the outcomes related to the use of BMDs in primary and general elections and the potential loss of ballot secrecy based on the precinct-level data.
2. The second research method is collecting empirical data from election jurisdictions that Verified Voting indicates used the ExpressVote BMD in 2018. According to VerifiedVoting .org, 20 states and the District of Columbia utilize the ExpressVote BMD in at least one jurisdiction. The extent to which each state uses the device varies. For example, in Maryland and Maine, every jurisdiction uses the device, and in states like Virginia (42 of 132 jurisdictions), and Florida (25 of 67 jurisdictions), the devices are widely used, but in states like Illinois and Indiana, only one jurisdiction uses the device. The data were collected with phone calls to state- and jurisdiction-level election officials, with some communication being provided by election officials via follow-up e-mail message.

CASE STUDY OF MARYLAND

Maryland provides a representative case study in the complexity of repeatedly switching voting machines, and how our patchwork of voting laws and policies across the U.S. leads to potential problems such as the violation of ballot secrecy. In the year 2000, the 24 voting jurisdictions in Maryland (the 23 Maryland counties and the City of Baltimore, which is not a part of a county) used four different types of voting machines: punch-card, mechanical lever, optical scan, and DREs (Maryland Attorney General 2013). By the 2004 elections, the State Board of Elections (SBE) had standardized on Diebold AccuVote® touch screen-based DRE voting machines for all counties (Kazanjian 2013). In 2007, the General Assembly enacted legislation requiring the SBE to certify, for use in elections after January 1, 2010, voting machines that would provide a paper trail (Maryland Attorney General 2013). Due to budgetary reasons, this change back to paper ballots did not occur until the 2016 elections (Maryland Attorney General 2013). The Diebold Accuvote voting machines used from 2004 to 2014 had built-in accessibility features, and poll workers simply needed to attach a keypad and headphones for voters who needed an accessible machine, yet they did not provide a paper trail of any type. Everyone voting in the polling place, with and without disabilities, used the same voting machines, and it was impossible to determine which votes came from people with disabilities and which votes came from people without disabilities.

For voters with print-related disabilities (primarily those who are blind or low vision or have trouble physically handling printed ballots), the new optical scan paper ballots in Maryland utilized starting in 2016 are inaccessible, and so the voters with disabilities were asked to vote using the ExpressVote BMD. The ExpressVote BMDs create ballots that are immediately visually identified as being different, 14 inch by 4.25 inch, compared to the paper ballots designed for being hand-marked (which are generally letter or legal sized). Unlike standard paper ballots, which list all candidates, an ExpressVote ballot only lists the candidates that the voter

Downloaded by UNIV OF MARYLAND MCKELDIN LIBRARY/ from www.liebertpub.com at 02/27/20. For personal use only.

selected. Due to the difference in size and format, it is visually obvious that the ballot was cast using ExpressVote, and unless there are significant numbers of people without disabilities using the ExpressVote BMD, that ballot can be assumed to be cast by someone with a disability (Maryland Attorney General 2013). Figure 1 illustrates the difference between a standard-size paper ballot in Maryland and a ballot utilized in the ExpressVote ballot-marking device. It is important to note here that there isn't a forced trade-off between ballot accessibility and ballot security. It's the size and format of the ExpressVote ballot, which differs greatly from the standard optical scan ballot,

Downloaded by UNIV OF MARYLAND MCKELDIN LIBRARY/ from www.liebertpub.com at 02/27/20. For personal use only.

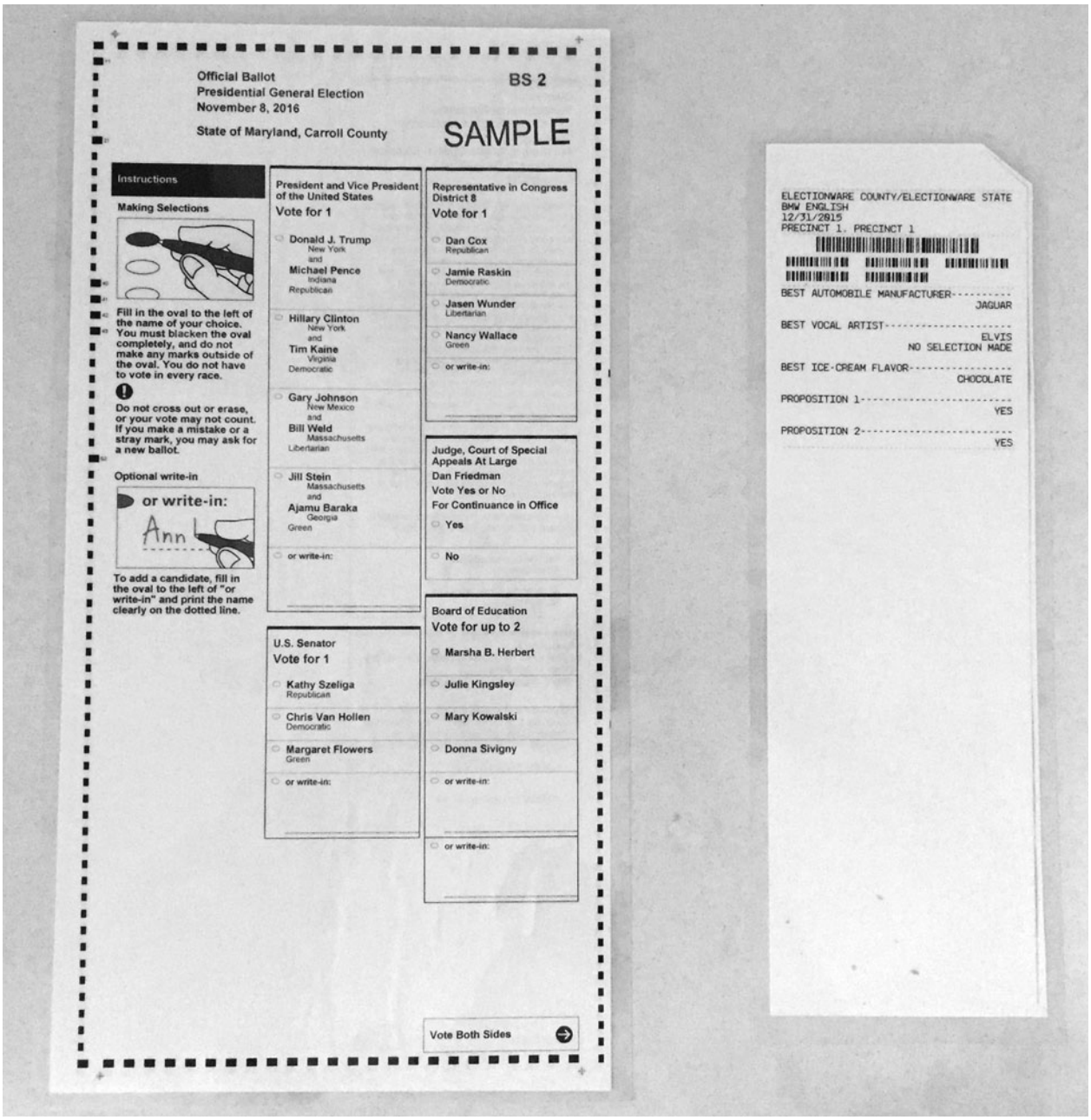

FIG. 1. An illustration of the difference in size between a ballot utilized in the ExpressVote ballot-marking device (*right*) and a standard-size paper ballot (*left*).

which is causing many of the problems with ballot segregation and ballot secrecy described in this article.

There are four main stakeholders in the debate over the use of ExpressVote BMDs in Maryland: (1) the Maryland attorney general's office, (2) Maryland disability rights activists, (3) the Maryland State Board of Elections, and (4) the Maryland Legislature.

The Maryland attorney general's office

In 2013, the administrator of the State Board of Elections (SBE) asked the Maryland attorney general to issue a statement on the meaning of the term "segregated ballot" within Maryland election law (Maryland Attorney General 2013). The Maryland attorney general stated that Maryland law requires the state to "provide access to voters with disabilities that is equivalent to access afforded voters without disabilities without creating a segregated ballot for voters with disabilities" (Maryland Attorney General 2013). The attorney general indicated that "the ballots cast by voters with disabilities could not be identified as such during the process of casting, counting, and, if necessary, re-counting the paper ballots cast in an election." (Maryland Attorney General 2013) According to the attorney general, there are only three ways to meet this statutory requirement:

> First, SBE may require all voters to use a voting system that is accessible to voters with disabilities. This option would not segregate ballots in any way, but the cost and inefficiency of such a system—which the statute requires SBE to consider—might weigh against it. Second, SBE may certify an accessible voting system that generates a ballot that is formally identical to those ballots cast by non-disabled voters so long as all ballots are cast, counted, and stored together. Finally, after considering the legislative history and the definitions and usage of the term "segregated," we conclude that the statute permits SBE to certify an accessible voting system that generates a non-identical ballot, so long as voting procedures are implemented to ensure that non-disabled voters use the accessible system as well and do so in sufficient numbers to prevent the resulting ballots from being identified as having been cast by voters with disabilities. (Maryland Attorney General 2013)

The Maryland attorney general's opinion states that Maryland is the only state that specifically uses the term "segregated ballot" to apply to the votes of people with disabilities. It is rarely used in other jurisdictions, and when it is, it describes ballots that are "spoiled" and therefore are of questionable validity (e.g., due to stray markings). The Maryland attorney general states that, if the third option is selected, requiring voters without disabilities to use the ballot marking devices, there would need to be sufficient procedures in place to ensure that it actually occurs:

> It would not be sufficient simply to give non-disabled voters the option of using the accessible voting system. If using the accessible voting system requires more time and is more complicated—as we understand may be the case for some systems—a non-disabled voter may be unlikely to choose that option and voters without disabilities would need to be forced to use the device … if SBE elects to proceed in this fashion, it must establish randomized polling-place procedures to ensure that a significant number of non-disabled voters will use the accessible voting system …. so long as SBE develops and implements polling-place procedures that result in non-disabled voters using the accessible voting system in sufficient numbers to make the ballots cast by disabled voters unidentifiable as such, the State Board may certify and select any accessible voting system that meets the other requirements of the Election Law without creating a "segregated ballot." (Maryland Attorney General 2013)

If the third option is taken, the attorney general's opinion leaves the question of how many voters per polling place must use the ballot marking device to the State Board of Elections: "We are not in a position to say how many ballots cast by non-disabled voters would be sufficient to render the ballots cast by disabled voters indistinguishable as such; that decision is properly left to SBE" (Maryland Attorney General 2013). In December 2015, the SBE stated that their goal was to have 30 voters per polling place use the ballot marking device, and to encourage the use of the devices during early voting, to help increase the numbers. However, by March 2016, the SBE had indicated that they had changed their plans, and would only require two voters per polling place to use the ballot marking devices (Letter from NFBMD to SBE 2016).

Downloaded by UNIV OF MARYLAND MCKELDIN LIBRARY/ from www.liebertpub.com at 02/27/20. For personal use only.

Downloaded by UNIV OF MARYLAND MCKELDIN LIBRARY/ from www.liebertpub.com at 02/27/20. For personal use only.

Note: on June 28, 2019, the State Board of Elections voted to increase the target goal of minimum number of BMD votes per polling place to five.

Maryland disability rights activists

There have been a number of efforts by disability advocacy groups, primarily the National Federation of the Blind of Maryland (NFBMD), and Disability Rights Maryland (DRM) (formerly known as the Maryland Disability Law Center or MDLC), expressing their concern about the current ballot situation in Maryland. One comment from a 2017 letter, although certainly not the beginning of discussions on this topic, sums up the attitude of disability rights activists in Maryland:

> The disability community was very much opposed to Maryland moving to a paper ballot system and abandoning the universally accessible touch screen system. With the touchscreen voting system, all voters voted on the same system, and while voters with disabilities may have used the accessible feature of the machine, the way in which the ballot choices were made, cast and counted was indistinguishable from other voters. Disability advocates were vocal that they did not want two systems that would cause the physical segregation of voters with disabilities as well as the segregation of their ballots by physical appearance thereby jeopardizing the privacy of their vote—for this reason language prohibiting a segregated ballot was included in Maryland Election Law Article §9-102(f)(1), Annotated Code of Maryland. (Letter from NFBMD to SBE 2017)

According to a March 2016 letter from NFBMD and MDLC:

> In December 2015, SBE, in collaboration with NFBMD and MDLC, established a goal for each election day polling place to have at least thirty voters mark their ballot using the ExpressVote electronic ballot marking device, which we deemed a reasonable and sufficient number in keeping with the Attorney General's opinion to "make it impossible to draw a conclusion that the ballot was, or was likely to have been, cast by a disabled voter." (Letter from NFBMD to SBE 2016)

It is important to note [opinion of the author] that there was no scientific or statistical basis for the number 30 being selected as the threshold. The letter from March 2016 further aimed to

> express our objection to SBE's draft concept which seeks to severely limit the use of the ExpressVote electronic ballot marking device (BMD) during Maryland's primary election and proposes that only two voters per day use the BMD … we believe that SBE's proposal is not sufficient to protect the privacy of voters with disabilities who may use the BMD. Moreover, a minimum of two voters is not consistent with the Attorney General's 2013 opinion regarding the segregated ballot issue. (Letter from NFBMD to SBE 2016)

In October 2017, NFBMD and DRM (note that the name change occurred during the time in between these two letters) again expressed their concern about how the State Board of Elections was utilizing ExpressVote, and suggested three approaches for addressing this: "1) Give local boards of elections the ability to deploy more than one BMD; 2) increase the minimum number of voters who must use the BMD to ensure the privacy of voters with disabilities; and 3) continue to require the mandatory statement at check-in that lets voters know that there is an accessible way to read and mark a ballot" (Letter from NFBMD to SBE 2017). The letter goes on to suggest that potentially there may have been Maryland voters with disabilities who would have benefitted from ExpressVote but were not made aware of it or encouraged to use it: "According to SBE data, during the 2016 General Election only 1.8% of voters used the BMD. This low percentage is particularly alarming given the population of Marylanders with disabilities who may have benefited from using the accessible feature of the ExpressVote" (Letter from NFBMD to SBE 2017).

The most recent letter from NFBMD and DRM was in response to the July 2018 letter from the Maryland State Board of Elections to the Maryland State Legislature (described in the next section). In the letter, NFBMD and DRM noted that SBE is still not taking this issue seriously, and stated that "If the ballots of any other protected class of citizen were identifiable by gender, race or ethnicity, for example, the General Assembly would surely insist that SBE revise its policies" (Letter from NFBMD to House and Senate 2018).

Downloaded by UNIV OF MARYLAND MCKELDIN LIBRARY/ from www.liebertpub.com at 02/27/20. For personal use only.

The Maryland State Board of Elections

It's important to note that the SBE takes a viewpoint that is different from both the attorney general's office and disability rights activists, a view detailed in a July 2018 letter. In July 2018, the State Board of Elections wrote a letter to chairs of two Maryland legislative committees, which had asked SBE to provide an update and detail why they made these decisions about limiting the use of the BMDs (Letter from SBE to House and Senate 2018). The main reason listed was that there were complaints from candidates about how names were displayed in races with more than seven candidates, moving some candidates on to a "second screen" with confusing navigation. The "more" button moved voters to the next screen of candidates in the same contest, but "previous" and "next" buttons moved voters to the next contest, and there was potentially confusion among voters about the meanings of "next" versus "more." While the SBE expected that the vendor would make changes to eliminate this problem in time to be tested and certified for the 2018 primary and general elections, the vendor indicated that there was a delay; therefore, the modifications would not be ready in time for 2018.

The SBE further framed the discussion in a way very different from the framing of disability rights activists: "… the 2016 and 2018 policy aims to strike a balance between the rights of candidates to have their names be viewed and considered by all voters, the ability of voters to make selections without confusion, and the requirement to ensure ballot secrecy" (Letter from SBE to House and Senate 2018). The letter further describes: "As the vendor has committed to addressing the navigation issues before the 2020 election, the limited use of the ballot marking device should not be needed after the 2018 elections" (Letter from SBE to House and Senate 2018). It is unknown whether that prediction will come to fruition. It is also important to note that, from the data collected in the next section of this article, no other jurisdictions which utilized ExpressVote reported having any problems of this type.

The Maryland Legislature

During the 2019 legislative session (which runs from January to the first week of April), a bill was introduced in the Maryland House of Delegates and State Senate (known as House Bill 565 and Senate Bill 363, respectively), which would require that all voters in Maryland, with and without a disability, use a BMD to vote. The relevant text from the bills, which would modify existing Maryland election law, is as follows (note: capitalization is from the bill, not the author):

> *(1) TO ENSURE THAT ACCESS IS PROVIDED TO VOTERS WITH DISABILITIES IN ACCORDANCE WITH SUBSECTION (F)(1) OF THIS SECTION:*
> *(I) EACH VOTER SHALL USE A BALLOT MARKING DEVICE THAT IS ACCESSIBLE TO VOTERS WITH DISABILITIES TO VOTE AT AN EARLY VOTING CENTER OR AN ELECTION DAY POLLING PLACE; AND*
> *(II) A BALLOT CAST BY A VOTER WITH A DISABILITY MAY NOT BE SET APART OR DISTINGUISHABLE, IN SIZE AND FORM, FROM A BALLOT CAST BY A VOTER WITHOUT A DISABILITY.*

While the bill had a hearing in the House Ways and Means Committee and the Senate Education, Health, and Environmental Affairs Committee (both in February), no committee vote was held in either case, and the respective bills never made it to a floor vote. While the Maryland SBE came out against the bill (as expected), and disability rights groups came out for the bill (as expected), a voting rights group, Save Our Votes, first came out against the bill during the House hearing, but then changed and supported the bill during the Senate hearing. It is unknown whether the bill will be introduced again in the 2020 legislative session.

Empirical data on the use of ExpressVote in Maryland

Data were acquired from the Maryland State Board of Elections on the utilization of the ExpressVote BMD in the 2016 and 2018 elections. According to the State Board of Elections, they did not collect any data related to ExpressVote usage in the 2016 primary election, the first time that the BMDs were used in Maryland. So only three data sets from the State Board of Elections can be analyzed: the 2016 general election, the 2018 primary election, and the 2018 general election. To understand the magnitude of the problem of having small numbers of voters using a ballot that is

sized and formatted differently, the data were analyzed to determine how many precincts in Maryland had only one voter who cast a vote using ExpressVote. In summary, in the 2018 general election, there were 22 precincts in Maryland where only one ballot was cast using ExpressVote, and in the 2018 primary election, there were 40 precincts where only one ballot was cast using ExpressVote. See Table 1 for a list of where the precincts with only one vote using ExpressVote were located in the 2018 general election and primary election.

A few other notes: separate data on *early voting* was provided for the 2018 primary election (and only the primary election), and while no early voting centers in Maryland had only one vote using ExpressVote, one early voting center (in Harford County) had only two ballots with ExpressVote out of a total of 1,299 ballots cast, and three early voting centers in Prince George's County had a surprising 33.9%, 36.5%, and 73.5% of early votes cast using the ExpressVote BMD. It is unknown what occurred in those early polling places. As a comparison between 2018 and 2016, in the 2016 general election there were 34 precincts that had only one ballot cast using ExpressVote.

Table 1. Precincts in the 2018 General Election (22) and 2018 Primary Election (40) Where There Was Only One Ballot Cast Using ExpressVote

2018 General election		*2018 Primary election*	
Jurisdiction of precinct	*Total number of ballots cast in precinct*	*Jurisdiction of precinct*	*Total number of ballots cast in precinct*
Anne Arundel	806	Anne Arundel	159
Anne Arundel	656	Anne Arundel	205
Baltimore City	15	Baltimore City	71
Baltimore City	466	Baltimore City	76
Baltimore City	417	Baltimore City	13
Baltimore City	259	Baltimore City	54
Baltimore City	330	Baltimore City	7
Baltimore County	1,199	Baltimore City	373
Baltimore County	187	Baltimore City	214
Charles	194	Baltimore City	132
Frederick	2,212	Baltimore City	67
Harford	2,118	Baltimore City	9
Harford	1,737	Baltimore City	172
Harford	838	Baltimore City	52
Harford	1,374	Baltimore City	300
Harford	1,270	Baltimore City	19
Harford	1,123	Baltimore City	54
Montgomery	1,207	Baltimore City	156
Prince Georges	686	Baltimore City	253
Prince Georges	132	Baltimore County	250
Wicomico	552	Cecil	332
Wicomico	314	Harford	235
		Harford	137
		Harford	174
		Harford	431
		Harford	368
		Harford	321
		Harford	557
		Howard	255
		Montgomery	320
		Montgomery	429
		Prince Georges	509
		Prince Georges	289
		Prince Georges	480
		Prince Georges	100
		Prince Georges	199
		Prince Georges	175
		Prince Georges	751
		Washington	119
		Washington	242

EMPIRICAL DATA ON THE USE OF EXPRESSVOTE IN OTHER JURISDICTIONS

To better understand the policies associated with the use of the ExpressVote BMD, a series of phone calls were made by the author in March and April 2018. For states that have five or more voting jurisdictions using ExpressVote, the State Board of Elections (or equivalent) was contacted (11 states, plus Maryland and the District of Columbia, although Maryland was not contacted as a part of this portion of the data collection, since the policies were already well documented in the materials supplied by the Maryland SBE). For states that have fewer than five voting jurisdictions using ExpressVote, the individual jurisdictions (usually at a city or county level) were contacted (eight states) (data on usage of ExpressVote came from VerifiedVoting.org). It is important to note that the definition of "jurisdiction" for voting purposes differs depending on the state; for instance, in some states only counties count as jurisdictions, whereas in other states cities or municipalities count as jurisdictions. See Table 2 for a listing of states and the associated number of jurisdictions in each state that use ExpressVote. It is acknowledged that the policies mandated at a state level quite possibly may not be carried out by every individual polling place, as some requirements are set at a state level, while others are left for local jurisdictions to decide.

Downloaded by UNIV OF MARYLAND MCKELDIN LIBRARY/ from www.liebertpub.com at 02/27/20. For personal use only.

Table 2. States That in 2018 Elections Were Using ExpressVote

State	Number of jurisdictions in state that use ExpressVote
States with 5+ jurisdictions using ExpressVote	
Arkansas	15
Arizona	8
DC	All 143 precincts (only one jurisdiction)
Florida	20
Idaho	13
Iowa	13
Kansas	6
Maine	All
Maryland	All (but not included in data collection)
Michigan	7
Virginia	40
Wisconsin	211
West Virginia	13
States with <5 jurisdictions using ExpressVote	
Illinois	1 (Bloomington)
Indiana	1 (Marion County, aka Indianapolis)
Kentucky	1 (Jefferson County, aka Louisville)
Nevada	1 (Carson City)
Ohio	2 (Knox County and Portage County)
South Dakota	1 (Aurora County)
Tennessee	3 (Hardin, McNairy, and Wilson County)
Texas	1 (Kaufmann County)

In general, there were three approaches by voting officials in response to the phone calls: (1) the researcher was connected to the person who could answer the question or told to call back later that day or another day when the person in question was available, (2) the researcher was asked to leave a message and wait for a return phone call, and (3) the researcher was asked instead to please submit the questions via e-mail. Three short questions were asked by the researcher, related to policies on use of the ExpressVote device. The three questions were:

1. Are people without disabilities encouraged or required to use the ballot marking devices (BMD), so that there are more ballots created using the BMD, and it then becomes impossible to determine which votes came from people with disabilities?
2. Is there a minimum number of people at each polling place who are required to use the ballot marking device?
3. Are any actions taken to ensure that the ballots of people who used the ballot-marking device are not counted separately?

If the answer to the first question rendered the second and third questions moot, the researcher did not ask any additional questions. If the researcher was not able to reach someone the first time, or did not receive an e-mail or phone call in response, a follow-up call was made one week later, and then two weeks later.

The responses to the phone calls to election officials documented that there appear to be seven policy options on a spectrum of who is allowed to, is requested to, or may use the ExpressVote BMD. These seven policies are listed in terms of the likely percentages of votes cast using ExpressVote (from least to greatest), along with nicknames created by the author. Table 3 lists the seven types of policies, along with which states and jurisdictions reported policies within each of these seven policies. It is important to note that Stein et al., in 2008, said that voters in an election having a choice between two voting technologies is "an unusual circumstance," which clearly is no longer the case (Stein et al. 2008).

The second interview question related to the minimum number of people at each polling place who are required to use the ballot marking device. Most of the election officials contacted indicated that there was no minimum number of voters as a target per precinct. A rare exception was Michigan where they encourage at least a minimum of two ExpressVote ballots per precinct, and Knox County, Ohio, where they have a goal of at least one ExpressVote ballot in each precinct (it was unclear why that was encouraged, as that is generally a problem situation). However, a few election officials indicated that they have policies in place to increase the number of ExpressVote ballots at each precinct by encouraging poll workers to vote using ExpressVote. For instance, in Iowa, Maine, and Michigan, as well as Bloomington, Illinois, poll workers are encouraged to use ExpressVote to personally vote. One election official noted an additional bonus: by using ExpressVote for their personal vote, the poll workers also learn how ExpressVote works. One election official noted: "Each polling place has a minimum of three poll workers, so if we could get all three of them to vote using ExpressVote, we could avoid the problem of ballot secrecy." In Iowa, individuals who work for disability rights organizations are also encouraged to vote with ExpressVote.

Downloaded by UNIV OF MARYLAND MCKELDIN LIBRARY/ from www.liebertpub.com at 02/27/20. For personal use only.

Table 3. Policy Strategies Utilized Related to the ExpressVote BMD

Paper required—Unless they appear to have a disability, voters in that state or jurisdiction are not given the option to use ExpressVote	Portage County, OH
Paper encouraged—Voters in that state or jurisdiction are encouraged to use a paper ballot, but if they ask to use the ExpressVote, they are allowed to do so	Marion County, IN—Indianapolis Aurora County, SD Iowa Wisconsin Maine
Paper encouraged unless there is a wait—Voters in that state or jurisdiction without disabilities are directed to use the paper ballot (non-neutral), unless there is a long wait for paper ballots, in which case voters are directed to use ExpressVote	Knox County, OH
Neutral—Voters in that state or jurisdiction are told that they have a choice of paper or electronic ballot, in a neutral way	Jefferson County, KY—Louisville Idaho Kansas
Neutral unless there is a wait—Voters in that state or jurisdiction are told that they have a choice of paper or electronic ballot, in a neutral way, but when lines are long at the polling place for paper ballots, polling workers then switch and encourage voters without disabilities to use the ExpressVote machines	Washington DC
BMD encouraged—Voters in that state or jurisdiction are encouraged to use the ExpressVote device, and only get paper ballots upon request	Bloomington, IL Hardin County, TN McNairy County, TN Michigan (note: ExpressVote is one of three different BMDs used throughout the state) West Virginia
BMD required—Voters in that state or jurisdiction are required to utilize ExpressVote unless they are using a provisional ballot or an absentee ballot.	Carson City, NV Wilson County, TN Kaufmann County, TX Arkansas (for counties that choose to be all-machine counties, they use ExpressVote and allow for no paper ballots; for counties that choose to be an all-paper county, they use iVotronic as their accessible machine instead)
States where they give no advice on the voting issues presented in this article	Arizona Florida Virginia

Related to the third interview question, there was very little useful information collected. Every election official said that either (1) there were no policies about ballot storage or separateness, or (2) all ballots are stored and counted together, because the scanners can handle differently sized ballots. However, one state-level election official did say in response to this question, that "we count all of the ballots together . . . . [but] we can't control how it happens in every jurisdiction."

CONCLUSION AND IMPLICATIONS

The Maryland precinct voting data from 2016 and 2018 demonstrates that there is a frequent problem where ballot secrecy is violated. In the 2018 general election, there were 22 precincts where one vote was cast using ExpressVote; in the 2018 primary election, there were 40 precincts where one vote was cast using ExpressVote; and in the 2016 general election, there were a total of 34 precincts that had only one vote cast using ExpressVote. The situation in Maryland can benefit from understanding what other states and jurisdictions are doing in conjunction with the ExpressVote BMD.

It is important to reiterate that the potential problems only occur when ExpressVote ballots are used in conjunction with standard-sized, hand-marked paper ballots. In a number of jurisdictions (e.g., in Wilson County, Tennessee, and Kaufmann County, Texas), they require all voters to use the ExpressVote BMD for in-person voting, so there are no concerns about potential segregation of ballots or loss of ballot secrecy. Also, some jurisdictions allow for paper ballots but encourage voters (either in general or specifically when waiting lines are long) to use the ExpressVote (these jurisdictions include Bloomington, Illinois; Hardin County,

Downloaded by UNIV OF MARYLAND MCKELDIN LIBRARY/ from www.liebertpub.com at 02/27/20. For personal use only.

Downloaded by UNIV OF MARYLAND MCKELDIN LIBRARY/ from www.liebertpub.com at 02/27/20. For personal use only.

Tennessee; and McNairy County, Tennessee), and so, it is likely that a majority of the ballots are voted using ExpressVote, avoiding the core problems.

The data presented in this article provide a number of suggestions from other jurisdictions on how Maryland (and any jurisdictions with similar policies) could avoid the potential problems of ballot segregation and the lack of ballot secrecy. For instance, in very few places do these rules for how voters are given instructions seem to be written or formalized in any manuals or election codes. So, it's theoretically possible that changes to these policies could potentially be made outside of formal regulatory or statutory processes. Unless otherwise required by formal rule, it seems possible to change the "Paper required" or "Paper encouraged" default in some jurisdictions, to a default of "Neutral" or "Neutral unless there is a wait," with limited political requirements. To avoid the problems involving ballot secrecy, you only need a substantial number of voters using it (i.e., you don't need to move the policy all the way to one end of the spectrum). There is likely another concern here that no jurisdiction mentioned—if you encourage more people to use the ExpressVote BMD, there will be more demand for the machines from jurisdictions, and that may have budgetary implications, as more machines will be needed.

Another promising approach to avoiding the potential loss of ballot secrecy is to add a requirement (or a strong suggestion) that polling workers themselves vote using the ExpressVote, both to increase the number of ExpressVote ballots and also to help poll workers learn how to use it so that they can help other voters. This simple policy modification wouldn't impact the mainstream voters, or have budgetary implications. Unpublished data collected by the National Federation of the Blind in Maryland in 2016 (the first year that ExpressVote was used in Maryland) found that 28% of voter-respondents indicated that the poll workers couldn't provide any instructions on how to use the ExpressVote BMD, and in 2018, a third of blind voter-respondents said that poll workers had problems setting up or operating the ExpressVote.[6] Requiring that poll workers themselves vote using the BMD would likely improve both the ballot secrecy situation and also the situation of poll workers being unfamiliar with the device.

The data collected in this article, and the situations facing jurisdictions across the USA, lead to a number of new, unanswered questions which are suggested for future research and are described in the following paragraphs.

1. How does the potential loss of ballot secrecy impact on the attitude and behavior of voters with disabilities? Do voters perceive that they or their vote will be discriminated against, and if so, does that change voting patterns or habits?

2. How do the policies described impact overall voting patterns? While this research article only examined existing policies, in the future, it would be useful to collect data about the actual number of votes cast using traditional paper ballots versus the ExpressVote ballots, given a specific policy related to choice or encouragement. It would also be interesting to run empirical studies examining how different groups of voters interact with the ExpressVote devices. For instance, it would be interesting to determine, for voters without any print-related disabilities, which method is faster: using paper ballots or using the ExpressVote devices. If empirical research documented that it is faster for a majority of voters to use ExpressVote BMDs than paper ballots, would that influence policies?

3. How do policies on using the ExpressVote impact on voters who wouldn't classify themselves as having a disability, and therefore wouldn't ask for the ''disabled'' option, but might have minor impairments? While the focus in this article is on blind voters, what about those who have poor eyesight but wouldn't classify themselves as low vision? What about people who have arthritis or hand tremors which make writing with pen and paper challenging? What about people with cognitive challenges or learning disabilities, where hearing the choices on a headset might make the voting experience easier to understand? All of these individuals may benefit from a BMD where adjustments to the presentation of the ballot can be made without having to ask for special help or identify as "disabled."

4. In precincts where there was only one ExpressVote ballot, and there was a recount, how was the ballot actually handled by election officials? Our discussions so far focus on the *potential* loss of ballot secrecy. But in practice, when a recount occurs in a precinct with only a few

[6]From a conversation with Lou Ann Blake of the National Federation of the Blind in Baltimore, Maryland.

ExpressVote ballots, or even only one, how was that ballot treated?

In an ideal world, all of voting machines and technologies would be designed to be fully accessible for people with disabilities, using the same machines and ballots for all voters, in a fully secure manner, and providing a paper trail for recounts. To roll out such a "perfect design" solution across the U.S. would require expert designers, sufficient funding, and political pressure. Given that state and local jurisdictions have the authority to decide how to run their elections, even if there was a "perfect design solution," it is unlikely that it could be consistently implemented across the USA. So instead, we must investigate various situations that may occur given the patchwork of election ballot technologies, policies, and approaches used around the U.S., and try to identify issues and come up with solutions to the problems of ballot segregation and the loss of ballot secrecy.

REFERENCES

42 U.S.C. § 15421b(1). Election Administration Improvement—Payments to States and Units of Local Government to Assure Access for Individuals with Disabilities.

42 U.S.C. § 15481a(3). Voting Systems Standards—Accessibility for Individuals with Disabilities.

42 U.S.C § 1973ee -6(1) (reclassified as 52 U.S.C. § 20101). Voting Accessibility for the Elderly and Handicapped.

52 U.S.C. § 10508. Voting Assistance for Blind, Disabled or Illiterate Persons.

Desilver, D. (2016). "On Election Day, Most Voters Use Electronic or Optical-Scan Ballots." *Pew Research*. November 8, <http://www.pewresearch.org/fact-tank/2016/11/08/on-election-day-most-voters-use-electronic-or-optical-scan-ballots/>.

Dill, D. (2017). "Our Elections Are Not Secure." *Scientific American* 316(3): 12.

Karlawish, J. H., Bonnie, R. J., Appelbaum, P. S., Lyketsos, C., James, B., Knopman, D., Patusky, C., Kane, R., and Karlan, P. S. (2004). "Addressing the Ethical, Legal, and Social Issues Raised by Voting by Persons with Dementia. *Journal of the American Medical Association* 292(11): 1345–1350.

Kazanjian, Glynis (2013). "Maryland Prepares Move Back to Paper Ballots for Elections." *Maryland Reporter*. November 19. <http://marylandreporter.com/2013/11/19/maryland-prepares-move-back-to-paper-ballots-for-elections/>.

Letter from the National Federation of the Blind of Maryland (NFBMD) and the Maryland Disability Law Center (MDLC) to the Maryland State Board of Elections (SBE) (March 4, 2016).

Letter from the National Federation of the Blind of Maryland (NFBMD) and Disability Rights Maryland to the Maryland State Board of Elections (SBE) (October 13, 2017), Re: Comments on Ballot Marking Devices Usage for the 2018 Elections.

Letter from the National Federation of the Blind of Maryland (NFBMD) and Disability Rights Maryland to the chairs of the House Appropriations Committee and the Senate Budget and Taxation Committee (August 31, 2018), Re: Ballot Marking Device Secrecy and Voters with Disabilities.

Letter from the Maryland State Board of Elections (SBE) to the chairs of the House Appropriations Committee and the Senate Budget and Taxation Committee (July 30, 2018), Re: Ballot Marking Device Secrecy and Voters with Disabilities.

Lightbourn v. County of El Paso (1997). 118 F.3d 421 (5th Cir.).

Lord, J. (2017). "Accessible ICTs and the Opening of Political Space for Persons with Disabilities." In J. Lazar and M. Stein (eds.). *Disability, Human Rights, and Information Technology*. Philadelphia: University of Pennsylvania Press, 24–40.

Maryland Attorney General (2013). "Election Law: Voting Systems—Statutory Construction—Requirement that Voting Systems Not Create a "Segregated Ballot" for Voters with Disabilities." 98 Op. Att'y 152 (December 18). <http://www.marylandattorneygeneral.gov/Opinions%20Documents/2013/98OAG152.pdf>.

Md. Code Ann., Election Law ("EL") § 9102(f)(1).

Nelson v. Miller (1999). 170 F.3d 641 (6th Cir.).

Patterson, Dan (2018). "Why Voting Machines in the U.S. Are Easy Targets for Hackers." *CBS News*. September 19. <https://www.cbsnews.com/news/why-voting-machines-in-the-u-s-are-easy-targets-for-hackers/>.

Ratnam, Gopal (2019). "Mueller Report: Russia Hacked State Databases and Voting Machine Companies." *Roll Call*. April 22. <https://www.rollcall.com/news/whitehouse/barrs-conclusion-no-obstruction-gets-new-scrutiny>.

Ribeiro, R. (2016). "Paper-Based vs. Electronic Voting: States Move in Different Directions," *State Tech Magazine*. March 29. <https://statetechmagazine.com/article/2016/03/paper-based-vs-electronic-voting-states-move-different-directions>.

Schur, L., and Adya, M. (2013). "Sidelined or Mainstreamed? Political Participation and Attitudes of People with Disabilities in the United States." *Social Science Quarterly* 94(3): 811–839.

Schwartz, J. (2018). "The Vulnerabilities of Our Voting Machines." *Scientific American*. November 1. <https://www.scientificamerican.com/article/the-vulnerabilities-of-our-voting-machines/?redirect=1>.

Stein, R. M., Vonnahme, G., Byrne, M., and Wallach, D. (2008). "Voting Technology, Election Administration, and Voter Performance." *Election Law Journal* 7(2): 123–135.

Tokaji, D. P., and Colker, R. (2007). "Absentee Voting by People with Disabilities: Promoting Access and Integrity." *McGeorge Law Review* 38: 1015.

United Nations (2018). UN Convention on the Rights of Persons with Disabilities. <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/convention-on-the-rights-of-persons-with-disabilities-2.html>.

Downloaded by UNIV OF MARYLAND MCKELDIN LIBRARY/ from www.liebertpub.com at 02/27/20. For personal use only.

U.S. General Accounting Office (2001). *Voters with Disabilities: Access to Polling Places and Alternative Voting Methods*. October. <https://www.gao.gov/assets/240/232882.pdf>.

U.S. General Accounting Office (2013). *Voters with Disabilities: Challenges to Voting Accessibility*. April 23. <https://www.gao.gov/assets/660/654099.pdf>.

U.S. General Accounting Office (2017). *Voters with Disabilities: Observations on Polling Place Accessibility and Related Federal Guidance*. October. <https://www.gao.gov/assets/690/687556.pdf>.

Waterstone, M. (2003). "Constitutional and Statutory Voting Rights for People with Disabilities." *Stanford Law & Policy Review* 14: 353.

Weis, C. J. (2004). "Why the Help America Vote Act Fails to Help Disabled Americans Vote." *NYU Journal of Legislation & Public Policy* 8: 421.

Wines, M. (2019). "Russians Breached Florida County Computers Before 2016 Election, Mueller Report Says." *New York Times*. April 18. <https://www.nytimes.com/2019/04/18/us/florida-russia-2016-election-hacking.html>.

Address correspondence to:
Jonathan Lazar
College of Information Studies
University of Maryland
College Park, MD 20742

E-mail: jlazar@umd.edu

Received for publication September 13, 2018; received in revised form May 27, 2019; accepted May 28, 2019; published online September 25, 2019.

Downloaded by UNIV OF MARYLAND MCKELDIN LIBRARY/ from www.liebertpub.com at 02/27/20. For personal use only.