



Bipartisan Policy Center

Balancing Security, Access, and Privacy in Electronic Ballot Transmission

A product of the Bipartisan Policy Center Task Force on Elections

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Introduction

Trade-offs are inherent to election administration. Election officials and policymakers must regularly make decisions that restrict or expand voter access, detract or enhance election security, and reduce or enshrine voter privacy. These decisions ought to be simple: policymakers should prioritize expanding privacy, security, and access over restricting it.

Reality is far more complicated. Nearly every election policy decision requires lawmakers to balance competing, yet equally important, priorities. Security improvements can result in barriers to access: a voting system with no security vulnerabilities would be intrinsically restrictive. Similarly, a voting system which prioritized the ease of casting a ballot over all else would likely expose the system to vulnerabilities that would undermine the integrity of the election as a whole.

The electronic transmission of ballots is a direct embodiment of this conflict. Election officials and cybersecurity experts agree that electronic ballot return yields security vulnerabilities that cannot be mitigated. In spite of the vulnerabilities, electronic ballot transmission is crucial in ensuring that certain citizens unable to vote through traditional voting methods (such as mail or in-person voting) can still cast a ballot. Electronic ballot return is already being utilized to some extent in at least 31 states, particularly for military and overseas voters. Despite its fairly extensive adoption, there remains almost no real conversation among election experts about how to do it well and what policy options facilitate those practices.

Electronic ballot transmission will likely face extensive litigation in the coming election cycles, from both security skeptics and accessibility advocates. Litigation tends to cluster near Election Day, often resulting in election officials being mandated to implement new procedures in the immediate lead up to an election.

This paper strives to provide state lawmakers and election officials with thoughtful and proactive guidance on how to improve the administration of electronic ballot delivery, marking, and return. Rather than focus on the expansion or removal of electronic ballot return, it outlines best practices that are informed by the learned experiences and published collateral of election administrators, cybersecurity experts, and accessibility advocates.

This report is unanimously endorsed by the Bipartisan Policy Center Task Force on Elections, a bipartisan group of state and local election officials from jurisdictions throughout the United States. Each recommendation was carefully considered as part of an internally consistent collection of recommendations, designed to bolster accessibility and strengthen the implementation of federally required electronic ballot transmission options. While

some task force members may have hesitations about particular recommendations, their endorsement pertains to the report as a whole.

As the public servants responsible for the day-to-day work of keeping our democracy afloat, election officials have specialized knowledge of how the increasingly complex elections ecosystem functions. Their input is crucial—yet all too often excluded—from election policy conversations. The BPC Task Force on Elections strives to bridge that gap.

We submit this report with a brief note of caution. Since the 2020 election, the elections field has been overrun by false narratives of voter fraud. False narratives might cause some to resist any forward-thinking reforms for fear that they become manipulated in popular discourse. The Bipartisan Policy Center has greater aspirations for American elections than to simply wait out the naysayers. It is the spirit of this report that nothing should get in the way of meaningful improvements to voters' access to the ballot and the security of our election system. Electronic ballot transmission, like most election policies, has inherent risks and benefits. It is the electorate who ultimately decides what level of risk is admissible in an election system. This report of the BPC Task Force on Elections strives to ensure that all decisionmakers are fully aware of the suite of reform options available to them.

THE BIPARTISAN POLICY CENTER TASK FORCE ON ELECTIONS

The Bipartisan Policy Center believes that better policy comes from reasoned deliberation and compromise. When it comes to election administration, policymakers need to hear from those who administer elections.

BPC's Task Force on Elections includes 26 state and local election officials from 18 states who are devoted to making meaningful improvements to U.S. elections. This report builds on the task force's recommendations made in [Logical Election Policy](#), [Improving the Voting Experience After 2020](#), [Bipartisan Principles for Election Audits](#), and [Policy to Advance Good Faith Election Observation](#).

The task force unanimously endorses this report. In addition to the members listed below, this report was also crafted with the input and endorsement of the Task Force on Elections Advisory Council, comprised of industry experts and former election officials from a variety of states and political affiliations.

Public signatories of this report include the following members of the [Task Force on Elections](#).

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Background

Throughout American history, elections have been conducted overwhelmingly through in-person voting on Election Day. A growing share of voters have cast their ballots early or by mail in recent decades; these options have expanded voting access and shored up safe and secure voter participation, especially during the COVID-19 pandemic.

Despite the expansion of alternative voting methods, some voters remain unable to cast their ballots through traditional methods. Voters living overseas and those with physical impairments face barriers that must be addressed to protect equitable voting access.

Uniformed and Overseas Citizens Absentee Voting Act

In-person voting is challenging for voters who are stationed or living overseas. While citizens can cast a ballot at American embassies, embassies are not consistently accessible by citizens living abroad, many of whom are spread to the remotest corners of the globe. Mail voting is the default option for overseas voters, but it is not without its impediments. Overseas citizens experience limited or unreliable access to international mail delivery. Even when voters have access, international mail delivery is notoriously erratic and wracked with delays. These factors make requesting and submitting a ballot within conventional mail voting timelines untenable.

To shore up overseas voters' ability to vote, Congress passed the Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA) in 1986. UOCAVA sought to mitigate barriers to absentee voting faced by overseas citizens, servicemembers, and their families (who are collectively dubbed "UOCAVA voters").

UOCAVA voters [include](#):

- Members of the seven Uniformed Services
- Members of the U.S. Merchant Marine
- Eligible family members of the above
- U.S. citizens employed by the federal government residing outside the U.S.
- Other private U.S. citizens residing outside the United States

UOCAVA set the [basic legal framework](#) enshrining absentee voting access for military and overseas voters. Among other provisions, it required that all UOCAVA voters be able to register to vote and request an absentee ballot simultaneously. Should a UOCAVA voter not receive their ballot after making a timely request, the voter is also entitled to use a [Federal Absentee Write-In ballot](#) as a backup.

Even after the law’s implementation, overseas voters continued to experience problems receiving and casting their absentee ballots while abroad. In 2010, Congress passed the Military and Overseas Voter Empowerment (MOVE) Act amending UOCAVA and filling many of the gaps in the law. The MOVE Act [required](#) that election offices “transmit validly-requested absentee ballots to UOCAVA voters no later than 45 days before an election for a federal office.”

The MOVE Act launched electronic ballot transmission into election discourse. The law requires that states give UOCAVA voters the ability to request and receive voter registration and mail voting applications electronically. Moreover, the law also requires that UOCAVA voters be given the option to receive a blank ballot electronically and track the receipt of their ballots through an online portal. The electronic transmission of materials to voters effectively doubled the amount of time for voters to return voted ballots to election officials, greatly increasing the likelihood of overseas ballots being received in time to be counted.

These requirements transformed voting for overseas and domestic citizens alike, as many of the technologies—and ballot tracking in particular—that were rolled out to UOCAVA voters in the years following the MOVE Act [became mainstream](#).

Most discussion of electronic ballot transmission methods focuses singularly on UOCAVA voters. Voters with disabilities are promised an equal right to vote by law but are not afforded the same guarantees, such as electronic ballot delivery and extended timelines.

Voters with Disabilities

The [Americans with Disabilities Act](#) (ADA) requires that citizens with disabilities have full and equal opportunity to vote. This requirement applies to all parts of the voting process, from voter registration to casting a ballot. The ADA was enacted more than three decades ago, and yet significant barriers remain for voters with disabilities.

In-person voting

In 2016, the Government Accountability Office [examined](#) a nongeneralized sample of voting sites and found that only 17.3% were free of potential impediments inside and outside the voting site. This is in addition to [transportation barriers](#) voters with disabilities face even getting to an in-person voting site to begin with, such as lack of access to affordable or accessible transportation. Furthermore, individuals with disabilities tend to be at increased risk of serious illness resulting from COVID-19, which increases the health risk of voting in-person.

There are benefits to voting in-person. Voting sites can offer direct assistance from poll workers and accessible voting machines that can interact with assistive technology.¹

Mail voting

Voters should not have to risk their health to vote. While millions of Americans vote by mail, voters with certain physical impairments are unable to complete and submit a mail ballot independently.

COVID-19 made interpersonal contact unsafe, especially for those living with disabilities. Voters unable to cast a mail ballot might traditionally receive assistance from caretakers or family members, yet the COVID-19 risk of receiving assistance again left voters with disabilities to choose between their safety and their right to vote. Further complicating matters, [nine states](#) require a witness or notary signature to submit an absentee ballot—further undermining safety for vulnerable populations that could otherwise cast a mail ballot independently.

Voters with disabilities face barriers to both in-person and mail voting. Being able to electronically mark or otherwise interact with a ballot could fill crucial gaps in voting access for voters with physical impairments.

1 It also bears mentioning that in the onslaught of election law changes being considered by state legislatures since the 2020 election, some states have restricted poll workers' and caregivers' ability to assist voters with disabilities.

Electronic Ballot Transmission in U.S. States

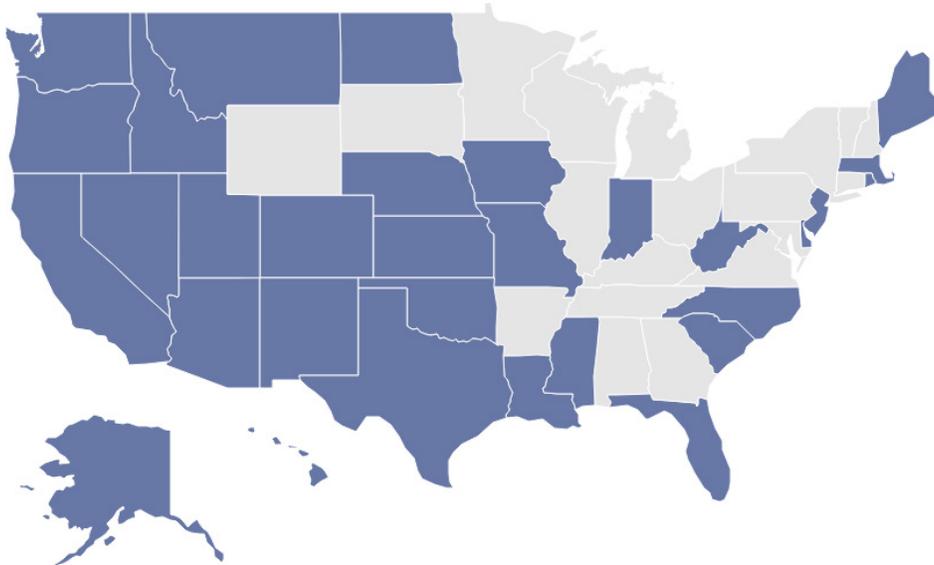
Electronic ballot transmission encompasses three primary categories: electronic blank ballot delivery, electronic ballot marking, and electronic return of a voted ballot. With each progression, additional security risks arise.

UOCAVA, as amended by the MOVE Act of 2010, requires that all states provide an electronic blank ballot delivery option to military and overseas voters. While not statutorily required at the federal level, [31 states](#) also offer UOCAVA voters the option to electronically return their voted ballot, according to the National Conference of State Legislatures. Some of these states also expand the option to voters with disabilities.

UOCAVA voters make up a minuscule portion of the electorate at large, typically comprising [fewer than 1%](#) of total votes cast.

Electronic Ballot Return by State (as of September 2019)

Shaded states indicate those who offer electronic ballot return. This data reflects state policy as collected by the National Conference of State Legislatures, last updated in September of 2019. At the time of publication, no more recent data could be identified which incorporates changes to electronic ballot transmission rules since 2019.



Source: National Conference of State Legislatures. "Electronic Transmission of Ballots." Last edited September 5, 2019. Accessed March 13, 2022. Available at: <https://www.ncsl.org/research/elections-and-campaigns/internet-voting.aspx>

While most states restrict electronic ballot return to UOCAVA voters, some states have begun to expand the option to voters with disabilities. In an ideal scenario, state legis-

latures would take time to craft an electronic ballot transmission policy and provide all necessary resources and guidance to election officials to implement it properly. Too often, however, court actions back election officials into implementing electronic transmission on a rapid turnaround.

In recent years, there have been numerous instances in which courts ordered states to implement electronic ballot transmission during an election year. For example, on September 24, 2020 the U.S. District Court for the Eastern District of North Carolina granted a [motion](#) ordering the North Carolina Board of Elections to make their electronic return options accessible to voters with disabilities for the November election. At the time, the election was less than six weeks away. The task force has previously [recommended](#) that challenges to standing election procedures within 90 days of an election be considered by courts only for future elections, except in extreme cases when a voter's access to the ballot is in question. This is arguably one of those instances, and yet it cannot be ignored that ordering a state to expand electronic ballot return in the weeks leading up to a Presidential election imparts a level of risk that should be avoided in future elections.

The lawsuit was predicated on the idea that North Carolina was unfairly excluding voters with disabilities from a more accessible voting system that already existed for military and overseas voters. Cases like this are far from over. States that expand additional electronic ballot transmission options to UOCAVA voters should be prepared to face litigation claiming unequal treatment if those options are not extended to voters with disabilities. Rather than wait for litigation, forward-thinking state policymakers and election officials should begin thinking now about how electronic ballot delivery and marking options could be scaled to this population in as safe and secure a way as possible. This report hopes to serve as a starting point for those reflections.

Bolstering Security

In a 2020 [report](#), the Cybersecurity and Infrastructure Security Agency (CISA), Election Assistance Commission (EAC), Federal Bureau of Investigation (FBI), and National Institute of Standards and Technology (NIST) concluded that even with risk management controls in place, electronic ballot return technologies are inherently high risk. The National Academies of Sciences, Engineering and Medicine echoed a similar finding in 2018, when they [stated](#) that “**no known technology guarantees the secrecy, security, and verifiability of a marked ballot transmitted over the Internet.**”

Electronic transmission typically takes place through email, fax, and web-based portals.

Email. Designed to promote delivery over security, email has limited security protections that make it unideal for sensitive communications. CISA [explains](#) that emails “may be viewed or tampered with at multiple places in the transmission process, and

emails can be forged to appear as if they were sent from a different address.” There are [tools](#) that election offices can use to mitigate the security risks of email, such as encryption and authentication that verify both sides of an email transaction and ensure information cannot be read by unauthorized users in transit.

Fax. Originally sent over telephone lines, today there are myriad ways to transmit a fax, including through online services and websites. These expanded options, as well as because of structural deficiencies in how faxes work, can make it difficult to ascertain where a fax originated. Like email, [faxes](#) were not designed to transmit highly secure information. Faxes are typically unencrypted, making it easier for malicious actors to view or intercept information sent by fax. Furthermore, fax machines that are connected to the local network can [expose the whole system to heightened risk](#), as cyber actors could capitalize on that access to compromise other devices on the network.

Web. Web-based portals are increasingly common in election administration and are used for everything from voter registration to absentee ballot requests. Some states have also begun utilizing online portals for electronic ballot delivery, marking, and return. Occasionally, a jurisdiction has a single web application that can be used for several activities (for example, voter registration, electronic ballot transmission, and ballot tracking). While online portals offer many stronger security options for electronic return when compared to web or email, a single publicly accessible portal in which sensitive voter information is transmitted greatly increases the potential risk (and potential impact) of a cyber-attack. The Turnout [outlined](#) several risk scenarios associated with web-based transmission, including attacks on the portal “leading to full compromise of confidentiality, integrity, and availability.” When several voter-facing resources are contained in one portal, a cyber-attack that manipulates or temporarily takes a portal offline could have significant disenfranchising impacts.

In addition to fax, web, and email, some emerging technologies hold promise to offer more secure methods of electronic transmission in the future. West Virginia, for example, has rolled out an [electronic voting app using blockchain technology](#) to UOCAVA voters. The Turnout [pointed](#) to the possibility of using secure messaging platforms like Signal or Protonmail. While these options certainly hold promise, extensive research still needs to be conducted on the usability, accuracy, privacy, and [security](#) of these tools prior to broader implementation.

Regardless of return method, additional steps must be taken once the electronic ballot is delivered to the election office. Even when a ballot is marked electronically and physically printed and mailed to an election office, ballot tabulators typically cannot process

conventional printer paper. As such, it is best practice for election workers to securely transfer the information received electronically (or received physically from an electronically marked ballot) onto an official paper ballot for tabulation, a process known as [ballot duplication](#). There are some additional, inherent risks associated with ballot duplication, such as incorrect duplication resulting from human error or intentional misconduct. Accordingly, it is essential that jurisdictions implement strong security protocols and chain of custody procedures to insulate ballot duplication from potential malfeasance. For more information, refer the Council of State Governments' Overseas Voting Initiative's [2019 report](#) which outlines best practices for secure ballot duplication.

Security is essential to policy discussions surrounding electronic ballot transmission. BPC defers to the ample and continually evolving work of security experts and will not attempt to recreate security best practices in this report. Jurisdictions considering implementing or improving their electronic transmission methods should consult the following resources for security best practices and recommendations:

- [Mitigating risks for UOCAVA voting](#). By Jared Marcotte of The Turnout, LLC. Published February 4, 2019.
- [Leveraging Electronic Balloting Options Safely and Securely During the COVID-19 Pandemic](#). By Susan Greenhalgh of Free Speech for the People and Steve Newell, Ph.D., M.M.Sc. of the American Association for the Advancement of Science and the Center for Scientific Evidence in Public Issues. Published June 2020.
- [Risk Management for Electronic Ballot Delivery, Marking, and Return](#). Compiled by the Cybersecurity and Infrastructure Security Agency, Election Assistance Commission, Federal Bureau of Investigation, and National Institute of Standards and Technology. Published in 2020.
- [Electronic Ballot Delivery and Marking](#). Compiled by the Cybersecurity and Infrastructure Security Agency (CISA) Elections Infrastructure Government Coordinating Council and Sector Coordinating Council's Joint COVID Working Group. Published in 2020.
- [Election Infrastructure Cyber Risk Assessment](#). Compiled by the Cybersecurity and Infrastructure Security Agency's National Risk Management Center. Published July 28, 2020.

Recommendations

Electronic ballot transmission has implications for the whole of the election ecosystem. At minimum, there are three overarching criteria with which electronic ballot transmission policies should be evaluated: security, access, and privacy. While all election policies have implications for these criteria, electronic ballot return is uniquely situated between the three—improving one almost always requires reducing another.

Members of the public, lawmakers, and election officials have varying preferences for how trade-offs between security, privacy, and access should be managed. Generally, the more parts of a voting apparatus that are online, the more accessible it is. However, a greater online presence decreases the security of the election system. Similarly, a more secure electronic voting system could be achieved, but privacy would be sacrificed. No single solution successfully advances security, access, and privacy simultaneously. The task force acknowledges this paradigm and recommends the following policies as a middle ground. While at first glance some recommendations may not seem directly applicable to electronic ballot transmission, the task force takes an [ecosystem-level approach](#) to election reform. All parts of the election process work together to produce free and fair elections, and the recommendations of this report aim to strengthen and prepare the entire election system for electronic ballot transmission's success.

Eight of the 11 recommendations are directed at state legislatures and chief state election officials, who have primary responsibility for making sure electronic ballot transmission functions smoothly and securely. While local election officials are often given discretion on how to implement state election rules, the high-risk nature of electronic transmission requires proactive direction from the state on how best to mitigate security risks and promote equitable access. The remaining recommendations are directed at the U.S. Election Assistance Commission and at the state and local election officials responsible for putting electronic ballot transmission into practice.

Unless otherwise stated, 'electronic ballot transmission' refers collectively to any time a ballot is electronically delivered to, marked, or returned by a voter. The recommendations of this report apply to states regardless of the extent to which they offer electronic transmission—from those that perform just federally required electronic ballot delivery to UOCAVA voters, to those that offer electronic delivery, marking, or return to a broader cohort. Electronic ballot return has security risks that cannot be mitigated with available technology; equally as true as the security risks is the reality that electronic ballot return is already being used for select voters. The task force's recommendations strive to bolster the *administration* of statutorily required electronic ballot transmission options, and therefore they are relevant to states at all levels of implementation.

RECOMMENDATION 1

States should equip election offices with ample resources to support the additional training and staff needed to carry out electronic ballot transmission.

While electronic ballot transmission is utilized by only a small proportion of voters (as required by federal law), it requires significant investments of election office resources, especially for jurisdictions implementing it for the first time.

Electronic ballot transmission requires resources to invest in new technology and additional staff to verify the identity of electronic voters, prepare electronically received ballots for tabulation, provide technical support to electronic voters, perform risk assessments and audits, and conduct voter outreach and education. Each of these steps are crucial to the policy's success, and yet each can pose an insurmountable burden to small, local election offices—many of which are already operating without sufficient resources. To ensure the security and smooth implementation of electronic ballot transmission, states must work with local election offices to identify the extent of resources needed, and then allocate accordingly.

Additionally, states must ensure that they have the necessary infrastructure in place to support localities' electronic ballot transmission efforts. This includes a vibrant security apparatus, training modules, and established communication channels between state and local election officials.

For state guidance and support to have maximum impact, state leaders must work with local election officials from the start. Top-down state guidance can fall flat when it is developed without local buy in. Furthermore, local officials can alert the state to administrative concerns unique to their jurisdiction, improving the quality of the guidance and warding off future problems.

RECOMMENDATION 2

States should provide an online mail ballot request portal that is accessible to all voters.

Voters with disabilities face disproportionate burdens when voting by mail and in-person. While each voter has unique obstacles, generally speaking the more parts of the voting process that can be interacted with electronically (and, by extension, with the voter's assistive technology), the greater ease voters with disabilities will have voting. Providing an online mail ballot request portal can mitigate some of the barriers faced by voters with

physical impairments that limit their ability to complete and submit documentation by mail. While that voter would still require assistance once they receive their mail ballot, enabling at least one part of the process to be completed online reduces the total extent of assistance that is needed.

RECOMMENDATION 3

States should expand electronic ballot delivery and ballot marking options to voters with disabilities. Additionally, states should continue to explore secure options for electronic ballot return for voters with disabilities and implement as feasible.

Despite ongoing improvements to ballot access, gaps in accessibility for voters with disabilities endure. Voters with disabilities are almost [twice as likely](#) to encounter difficulties voting as non-disabled voters. Difficulties with mail voting are concentrated among voters with visual or cognitive impairments; in 2020, 22.1% of voters with vision impairments reported experiencing difficulties with casting a mail ballot.

In addition to improving the accessibility of existing mail and in-person voting options, electronic ballot delivery and marking presents an opportunity for states to further improve access for a population of voters that have long faced barriers to the ballot. Electronic options enable voters with disabilities to use their own assistive technology to mark their ballots privately and independently, which is not always feasible under a paper-based system.

Federal law already requires that electronic ballot delivery be available to UOCAVA voters. To ensure a baseline level of accessibility, states should expand these pre-existing electronic ballot delivery and marking options to voters with disabilities.

The majority of states also offer electronic return to UOCAVA voters, in addition to electronic ballot delivery and marking. Without electronic return, voters who mark their ballots electronically still must print and mail their completed ballot to the election office—a task many voters with disabilities cannot complete privately and independently. While we acknowledge that there is risk inherent to electronic return, the 31 states that offer it to UOCAVA voters have demonstrated that, in extreme cases, a certain level of risk is tolerable in exchange for expansions to voter access. The task force defers to the expertise of cybersecurity and accessibility leaders to determine what level of risk is ultimately admissible; however, given the high likelihood that—through either litigation or legislation—electronic return may one day be required, we encourage states to proactively explore what secure options for electronic ballot return for voters with disabilities might look like and how they could be implemented.

RECOMMENDATION 4

To ensure that only voters with disabilities that interfere with the reading, writing, or use of printed material are able to use electronic ballot transmission, states should provide a self-attestation tool that gives voters the option to attest under penalty of the law that they meet the criteria for electronic ballot transmission.

The Task Force on Elections [recommended](#) in its first report released in January of 2020 that “States should implement an online voter registration system that facilitates registration in an accessible and secure manner.” Not only does online voter registration promote accurate and up-to-date voter rolls, it also makes the system more accessible for voters with and without disabilities.

Limiting the pool of voters utilizing electronic transmission is perhaps the most important step in mitigating its security risks. However, completely walling off the practice to UOCAVA voters alone misses the opportunity to meaningfully enfranchise individuals living with disabilities.

To extend electronic ballot delivery and marking to only those who need it (no more and no less), states should give voters the option to attest they have a disability impacting their ability to complete a mail ballot and restrict electronic ballot access accordingly. Much like an affidavit for voter identity verification, that self-attestation will be voluntary and function as a sworn agreement admissible as evidence in a court of law.

Michigan provides one example for how states might approach the self-attestation. Michigan voters hoping to mark a ballot electronically must complete an [accessible electronic ballot application](#). The application explains that “Print disabilities are disabilities that interfere with the effective reading, writing, or use of printed material. This definition includes persons who are blind or visually impaired, those with learning disabilities, as well those with a physical disability that interferes with holding and manipulating paper or a pen or pencil.” Voters without a print disability are directed to request a mail ballot through normal channels.

While a separate electronic ballot application is a viable option for states, it is the task force’s belief that also building the self-attestation into the voter registration process would reduce additional hurdles and promote awareness of all return options that voters with disabilities have available to them.

RECOMMENDATION 5

State should provide robust ballot tracking options, as well as options to fix ballots' eligibility deficiencies, to all voters using mail or electronic ballot return.

Ballot tracking is a widely used feature with benefits for election security and voter access. Election officials benefit from knowing where a ballot is during all steps of voting and counting, as it improves their ability to maintain chain of custody and identify vulnerabilities. Voters benefit from knowing whether their ballot was received and verified by the election office. When a mailed ballot runs into a problem (such as not arriving on time or lacking identifying information), ballot tracking enables the voter to catch the problem early, resolve any issues, and cast their vote.

Given the risk that malicious actors could interfere with the delivery or return of an electronic ballot, ballot tracking is especially important for electronic delivery and return. The [MOVE Act](#) already requires that states make available a free access system in which military and overseas voters can track their ballot. States should build upon this base requirement to ensure that all voters—whether using mail or electronic ballot delivery or return options—can track the status of their ballot in real time.

To further bolster security, [experts recommend](#) that election offices “proactively inform voters of the status of their [electronically delivered] ballot via transmission report (fax) or a read receipt (email).” Proactively notifying voters (rather than requiring voters to check the status themselves) helps identify any instances in which a malicious actor tries to cast a ballot under an existing voters' name. While proactive notification is critical for electronic transmission, a conventional ballot tracking system in which voters can opt-in to notifications (or check their ballots' status on a web portal) is sufficient for mail ballots.

In addition to ballot tracking, the task force [recommended](#) in 2020 that states provide generous opportunities for voters to “cure” or fix deficiencies in mail ballots, even if that period extends beyond Election Day. Ballot curing gives voters a chance to fix minor problems relating to the eligibility of their ballot (for example, a rejected signature or missing information). Curing does not allow voters to change their choices on the ballot itself.

States should extend curing options to voters who return ballots electronically, ensuring that such voters have equal opportunity to have their voice heard in the electoral process. To facilitate ballot tracking and curing, states should request additional points of contact during the voter registration process, as [recommended](#) by the task force in 2020. These points of contact should not be publicly disclosable.

RECOMMENDATION 6

States should provide local election officials with detailed guidance about the types of electronic ballot transmission that are permitted.

Electronic ballot transmission is a technical and high-risk operation that should not be left to local election officials, who are often operating with limited resources, to implement on their own. States must take the lead in building a secure electronic ballot transmission system by clarifying the scope of allowable transmission, parameters for acceptable technologies, and relevant security frameworks. States should create a flexible framework that is able to respond to and incorporate new technologies and best practices as they develop.

States which clarify the types of electronic return permitted (as opposed to solely noting that “electronic” return be available) benefit from enhanced security and equity. While larger counties might have the resources to invest in technology like secure web portals, smaller counties are typically unable to lift up such a program on their own. This creates access discrepancies across the state and makes any sort of statewide audit of electronic ballot return methods more challenging.

Election administration requires clarity. States must provide proactive and detailed guidance on return options, approved technology, security measures, ballot duplication, audits, and chain of custody procedures.

RECOMMENDATION 7

States should follow federal agency guidance on how to mitigate the security risks of electronic ballot transmission.

In 2020, CISA, the EAC, the FBI, and NIST compiled a risk assessment of electronic ballot transmission methods that consolidates federal guidance into a [single document](#). While these agencies provide security guidance, they recommend against the use of electronic return options:

“While there are effective risk management controls to enable electronic ballot delivery and marking, we recommend paper ballot return as electronic ballot return technologies are high-risk even with controls in place. Recognizing that some election officials are mandated by state law to employ this high-risk process, its use should be limited to voters who have no other means to return their ballot and have it counted.”

Like CISA, the task force’s aim with this report is not to encourage the expansion of electronic return, but to recognize that improvements are possible in the states which already

use it. With that in mind, we urge states to follow CISA’s guidance on how to mitigate risk when conducting electronic ballot delivery, marking, and return. Their guidance includes:

- “All election systems and technology should be completely separated from systems that are not required for the implementation or use of that specific system.
- “Election officials should implement processes to separate the ballot from the voter’s information in a manner that maintains the secrecy of the ballot.
- “If the system attempts to verify the voter’s identity through digital signature, biometric capture, or other method, assess whether an attacker could use this to violate ballot secrecy.
- “Best practices for securing voter registration data should be used to protect the personal identifying information that is stored in the voter registration database and used to authenticate voters.
- “Removable storage media (e.g., USB drives, compact flash cards) used to handle sensitive election data should be obtained from a trusted source and erased before being used. To the extent practical, removable storage media should be new.
- “Follow the domain security best practices issued by the Federal Government available at <https://home.dotgov.gov/management/security-best-practices/>”

RECOMMENDATION 8

States should conduct regular risk assessments, implement fraud detection and recovery protections, and require regular performance audits of electronic ballot transmission practices. The original electronically transmitted ballot should be retained as the ballot on record for tabulation audits and recounts.

In a 2020 [Election Infrastructure Cyber Risk Assessment](#), CISA explained that “Even jurisdictions that deploy cybersecurity best practices are potentially vulnerable to attacks from sophisticated cyber actors, such as advanced nation-state actors. Therefore, detection and recovery methods are equally significant as preventative measures.”

The task force [recommends](#) that all states require regular audits after each election. Regular audits are made even more important by electronic ballot transmission’s high-risk nature. The task force recommends that states require both regular performance audits (in which the jurisdictions’ processes are assessed to determine if they are working as intended to meet stated goals) and tabulation audits (in which the accuracy of the vote totals are verified). If the quantity of electronically transmitted ballots gains in volume, traditional tabulation audits may be insufficient to verify security. New audit methods may need to be designed to accommodate the need for supplemental security verification.

In addition to regular performance and tabulation audits, [best practices](#) for fraud detection and recovery include:

- Instructing voters who utilize electronic ballot marking to carefully verify that their printed ballot reflects their vote choices
- Remaking ballots for counting only from the voters' selections, rather than from a barcode or equivalent feature
- Retaining the original ballot received electronically from the voter as the record for tabulation audits and recounts, as opposed to the duplicated ballot used for tabulation
- Utilizing CISA's [vulnerability scanning and remote penetration testing services](#), which are available free of charge.

RECOMMENDATION 9

The U.S. Election Assistance Commission should consider implementing a certification program for electronic ballot delivery, marking, and return technology.

The Help America Vote Act of 2002 created the U.S. Election Assistance Commission and charged it with creating baseline standards for voting systems, now known as the Voluntary Voting System Guidelines (VVSG). The NCSL [explains](#) that “Voting system vendors are responsible for ensuring that the system is tested—often through a federally accredited Voting Systems Test Laboratory or VSTL—to the required standards. Once testing is complete, approval is issued at the state level and local jurisdictions may purchase the system.”

[38 states](#) and DC rely to some extent on the federal voting system certification process to approve their voting systems, and [11 states](#) require full federal certification for a voting system to be used. This becomes problematic for technology that supports electronic ballot transmission, as the EAC has yet to produce guidelines for remote electronic voting systems. This is despite a 2004 mandate from Congress [requiring the EAC to create guidelines](#) for the development of a remote electronic voting system. Some states have had to delay the rollout of electronic ballot transmission options indefinitely as state law requires that technology meet currently nonexistent federal standards.

Electronic ballot transmission will continue to expand among states and populations in the coming years. The EAC must fulfill their obligation to develop guidelines for the development of a remote electronic voting system. As there is concern that the EAC does not have sufficient in-house expertise or resources, we encourage the EAC to work with NIST to produce security guidelines for electronic ballot transmission technology.

RECOMMENDATION 10

Election officials should educate voters about risks and mitigation tactics pertaining to electronic ballot delivery, marking, and return.

Electronic ballot transmission has inherent risk, and it's important that voters who choose to utilize this method do so knowing the security and privacy drawbacks relative to other voting methods.

Most jurisdictions that offer electronic return require voters that use it to waive their right to ballot secrecy. According to [joint analysis](#) from the Electronic Privacy Information Center, the Verified Voting Foundation, and the Common Cause Education Fund, "Because of current technological limitations, and the unique challenges of running public elections, it is impossible to maintain separation of voters' identities from their votes when Internet voting is used." To maintain transparency, jurisdictions that choose to offer electronic return should require voters to waive their rights to ballot secrecy prior to returning a ballot electronically.

Additionally, voters should be instructed on how to create [secure conditions for electronic transmission](#), including using their personal devices and to never mark a ballot when their device is connected to the internet. Voters should also be instructed to carefully confirm that the choices marked on their ballot reflect their intent, to the extent that they are able.

RECOMMENDATION 11

Election officials should work with local and national disability organizations to disseminate voting access and security information to voters in a targeted fashion.

It is common for jurisdictions to roll out an accessible technology or voting method, and then report that the roll out was unsuccessful because the technology does not get used to the extent anticipated. Usually, the missing piece is that the voters who would benefit most from the improvement were never made aware of the change to begin with. That risk remains for states considering expanding electronic ballot delivery and marking options to voters with disabilities.

Proactive communication about both availability and security and privacy risks is essential. However, states must be careful in how they discuss electronic transmission. Voter confidence is deeply fractured and fragile in this moment, and any voting policy can

quickly and unexpectedly become the target of ire—regardless of the actual contents or merits of the policy. Electronic transmission is particularly vulnerable to misinformation, given its highly technical nature that could be easily misconstrued. Furthermore, as only a small portion of the electorate is even eligible to utilize electronic ballot transmission, voter outreach would function best in an intentional, targeted fashion.

Thankfully, given the hyper-local nature of U.S. election administration, each state or local election office can target their voter outreach efforts to the needs of their communities. Accessibility advocates consulted for this report recommended that election officials reach out to both local and national disability rights organizations to get input on their outreach strategy. Often, local disability rights organizations have a better understanding of which outreach methods are most successful at targeting voters with disabilities in that area. They might also have mailing lists that could be used to disseminate information. National organizations, such as the [National Disability Rights Network](#) and the [National Federation of the Blind](#), could offer additional perspective on how to structure successful digital and communications strategies, in addition to themselves maintaining large, nationwide mailing lists with potential voters.

Conclusion

Electronic ballot delivery and marking has the potential to transform how military, overseas, and voters living with disabilities interact with the voting process. While this is an evolving area of research, this report outlines some key administrative recommendations that would collectively enhance the performance of electronic ballot transmission methods.



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