Twitter Thread by Jennifer Cohn ✍■ ■

Jennifer Cohn ✍■ ■
@jennycohn1

Dear @HouseDemocrats:

HR 1 requires that the voter "have the option to mark his or her ballot by hand."

Pls add the following for clarity: "For jurisdictions w/ in person voting, this option shall be provided to the voter at the polling place." @RepTedLieu @katieporteroc 1/
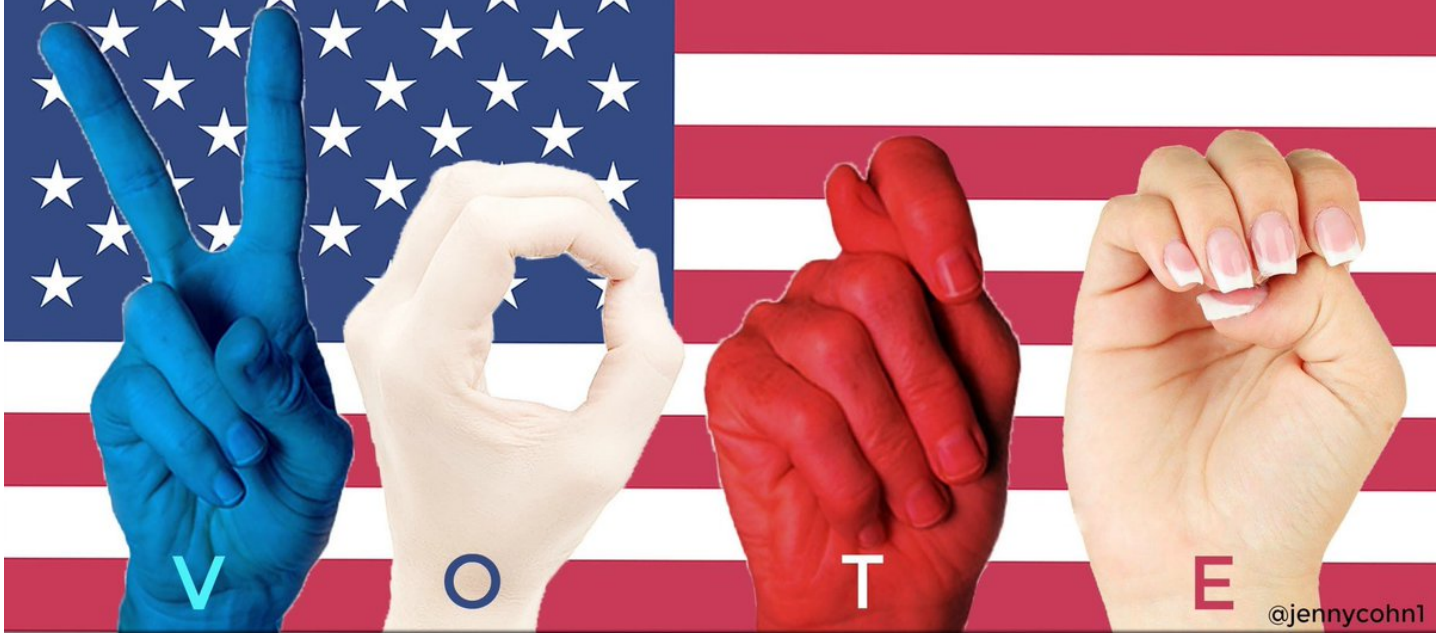
Without this clarifying language, jurisdictions cld still force all in person voters to use risky touchscreen voting machines called ballot marking devices (BMDs), as long as vote by mail is also an option. That won't suffice to protect election integrity & faith in elections. 2/

Unlike #HandMarkedPaperBallots (pen and paper), BMDs are vulnerable to electronic failure, screen freezes, miscalibration, disproportionate distribution (causing bottlenecks & long lines in suppressed areas), and hacking. 3/

4/ I also suggest that you supplement HR 1 to specify that BMDs "must not put votes into barcodes or QR codes." This language is important because barcodes & QR codes are not transparent, further endangering integrity and confidence in elections.

HUMANS CAN'T READ BARCODES!

5/ We are only beginning now to understand how these barcodes and QR code's unnecessarily increase the attack surface for bad actors seeking to interfere in our elections. This is unacceptable & unnecessary.

Jennifer Cohn ✍️ 📢
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😳ES&S's ExpressVote voting system reportedly has an integrated zebra technologies barcode reader whose "operation can be modified by scanning configuration barcodes," which can "reconfigure which types of barcodes the scanner reads," & "how it reads...&..processes them." 1/

10.5 Integrated Zebra Technologies, QR Code Scanner

In an email received by Commissioner Douglas Kellner, Kevin Skoglund stated the following potential issue with ExpressVote XL:

> The EAC certification for ES&S EVS 6.0 lists "COTS Hardware" which includes: "Zebra Technologies, QR code scanner (Integrated), DS457-SR20009". It appears that this barcode scanner is integrated into the ExpressVote XL and into ExpressVote HW 2.1. If so, and if it is the commercial off-the-shelf (COTS) version as the EAC document indicates, then its operation can be modified by scanning configuration barcodes.
>
> These configuration barcode are not secret. Zebra publishes them in their online manuals. They can reconfigure which types of barcodes the scanner reads, how it reads them, and how it processes them. They could cause the barcode scanner to stop tabulating ExpressVote barcodes or to tabulate them incorrectly. They can even be used to allow sending unintended data and keyboard commands to the voting system. A set of carefully constructed keyboard commands could be used to manipulate the voting system software.

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NYSBOE: NYSTEC OVERSIGHT REVIEW OF ES&S EVS 6.0.4.1

The ExpressVote XL and the ExpressVote HW 2.1 immediately scan every inserted ballot card. They

6/ Sourced thread about concerns involving the zebra technologies integrated barcode reader in ES&S ExpressVote barcode BMDs. https://t.co/gTTZgmUi9U

7/ Even without the barcodes & QR code's, using BMDs as a primary voting systems is unacceptable. A recent study shows that 93% of inaccuracies in the text portion of machine-marked paper records from BMDs go unnoticed by voters. https://t.co/R3aVXpCOGZ

8/ This is an invitation for fraud especially for down ballot races (eg, for state legislature).

9/ Per the author of the study in post 7, @jhalderm, merely instructing voters to review the printouts didn't help much. The only thing that did was giving them a pre-filled slate (such as a sample ballot) to compare to the printout. Many/most voters don't know to do this.

Replying to @beckerdavidj

Actually, the 86% rate came from giving verbal instructions *and* asking participants to vote a randomly selected slate of candidates--somewhat akin to using a sample ballot.

Verbal instructions alone only achieved 13-16% verification.

5:14 PM · 1/8/20 · Twitter Web App

10/ Another suggestion for HR1: supplementing it to require updated paper pollbooks as a backup for electronic pollboooks on Election Day , as recommended by @BrennanCenter.

11/ To the extent HR1 does not already ban remote access and internet connectivity to voting systems, it should be amended to include such a ban. (Good luck to any politicians who oppose this proposed ban.)

12/ To the extent HR1 does not already require robust manual audits for all federal races, it should be supplemented to add that too.

13/ I discuss these recommendations and more (eg, preservation of ballot images and disclosure of vendor ownership) here. There is a synopsis at the end. Thank you for your consideration. #ProtectOurVotes https://t.co/Sm7CKY2dKB

14/ Synopsis:

Synopsis of Goals

1. Hand marked paper ballots as a primary voting system: no touchscreen voting machines, no barcodes on ballots, no "hybrids," no machine-marked paper ballots from ballot marking devices (except for voters with disabilities) **(Update 2/5/20:** Now that so many jurisdictions have gone ahead and purchased universal use ballot marking devices (despite expert advice), they should at least give voters the option to use a hand marked paper ballot at the polling place. There is still time to implement this protocol.)

2. Well-maintained non-hybrid BMDs without barcodes that produce full-face paper ballots (not summaries) for voters with disabilities.

3. Transparent and secure chain of custody: digital ballot images preserved and published, published chain of custody records

4. Public hand audits (or full public hand counts) for all races

5. No wireless modems or remote access

15/ PS. We must also require reasonably prompt public disclosure of election-system breaches and details thereof unless the government persuades a court that such disclosure would impede an ongoing investigation. #Transparency

16/ PPS. The requisite robust manual election audits must be conducted in public and before certification. See @philipbstark, inventor of Risk Limiting Audits, for further guidance.

17/ September 2020 letter from experts advising that jurisdictions remove wireless modems from voting systems because they connect the ballot scanners and receiving end systems to the internet. https://t.co/JbSBGSxK7o

18/ Note: the GOP blocked the #SAFEAct last year which would have banned this internet connectivity & required robust manual audits for all federal races. I doubt their constituents would let them get away with this again. We have an opportunity here. https://t.co/LDXnPl3Kkx

19/ https://t.co/DXiwOng1nV