Counting on security

The transition to electronic voting without tough standards for security, reliability and accessibility is a serious mistake.

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Published 12:00 am PST Sunday, November 5, 2006

The election system voters will encounter Tuesday is, in many ways, untested. Voters will be facing new technologies and policies in the first national election since Congress approved the Help America Vote Act in 2002 to reform the system. And there are troubling signs that the transition will be anything but smooth.

Prompted by the 2000 presidential election debacle, Congress enacted the law, Help America Vote Act, that provides incentives for states to modernize their voting equipment and election administration. Has it prompted real change? Has that change been positive? Will it produce more problems than it solves? Nobody knows yet, and it may be long after Election Day before the answers become clear. In the meantime, voters will participate in a complex system that is changing in many ways simultaneously.

There are some indications that the law has helped update archaic voting systems, but many of these systems are unsecure, unreliable and inaccessible to voters with disabilities. Numerous computer security researchers have shown that electronic voting machines can be attacked in a variety of ways, including through a vote-stealing virus that takes about one minute to install. Manufacturers have known about some of these security holes for years but have yet to fix them.

Reliability problems were exposed in 2004, when electronic voting machines in Carteret County, N.C., continued to accept votes after they ran out room to store them. The result was that 4,400 votes were permanently lost. The accessibility of electronic voting systems -- widely touted as one of their major benefits -- has been called into question by blind voters, who have found some machines' audio interfaces too cumbersome to use without help.

Why do we use these machines to vote in the United States? A simple answer is that the Help America Vote Act provided money for states to buy them without requiring the machines to meet meaningful standards. To be sure, these machines were examined and certified. But they were certified through a process that either did not detect many problems or did not view them as sufficient reason to deem the machines unfit for use in elections. The law simply made it easier for states to purchase the voting machines.

Charging ahead with electronic voting without developing stringent standards for security, reliability and accessibility was a serious mistake. So is the continuation of a testing and certification process that is effectively removed from public oversight and scrutiny. The Election Assistance Commission, which was created to oversee election reform, has the responsibility to change this situation, but it hasn't received the funding or support it needs to do its job. The lack of support for the commission is so profound that its first chairman, the Rev. DeForest Soaries, called the commission a "charade."

Voters also may face the effects of the reforms through voter registration. The new law required states to set up statewide voter registration databases and match them with other government databases, such as the state Department of Motor Vehicles database. The idea is to increase the accuracy of voter registration records, but a number of civil rights groups have shown that some
state's databases are error prone and inaccurate. The result could be the disenfranchisement of people who are entitled to vote, though states are scrambling to correct these errors. In addition, many states will be holding elections under new voter identification laws. There is a concern that Election Day identification requirements will disproportionately affect minorities and the elderly. Lawsuits filed in four states to block these laws have met mixed results. The effect on voter participation remains to be seen.

Rapid changes in voting law and technology are also hard on poll workers and election officials. Procedures and knowledge that served these officials well in the past often no longer apply to new voting systems. For example, during the September primary election in Montgomery County, Md., most polling places opened late because an election official neglected to send "voter access cards" -- keys that allow voters to vote on electronic voting machines -- to each polling place. Polling places quickly ran out of emergency and provisional ballots. In some cases poll workers went to local shops to copy additional ballots.

Partly in response to problems like those seen in Maryland, an increasing number of voters are choosing absentee ballots. In California, absentee votes may outnumber votes cast in person at polling places in this election. Some counties expect half of all votes to be cast by absentee voters. But many election watchers are wary of absentee voting because it is more susceptible to vote selling and voter coercion. Early voting -- using large, dedicated polling places that are staffed in the weeks before Election Day -- largely eliminates this danger. Paul Gronke, a political scientist at Oregon's Reed College, estimates that 25 percent to 30 percent of registered voters in this election cycle will vote before Election Day, either with an absentee ballot or through early voting.

The 2000 election demonstrated that things can get really interesting after the polls close, and the Help America Vote Act requires changes in this stage of elections, too. The law requires voting systems to have an "audit capacity," but it says little about what this means, and it doesn't actually require audits to take place. Some states have stepped in with their own audit requirements. But doubts remain about how effective these requirements will be in settling close contests or dispelling suspicions of fraud.

While any system that is used in practice will suffer some problems, this is no reason to demand anything less than a voting system that records every vote as it was intended and counts every vote as it was cast. The first step toward this kind of voting system is to replace the process that allowed deeply flawed technology to reach the polling place. This will require both rigorous testing standards and a review process that the public can oversee. The Election Assistance Commission has the authority and the responsibility to do this, but to date it has lacked the resources and the will to take the bold steps necessary to revamp the process for testing and certifying voting systems. Beyond this, we need additional research in computer security and in how voters interact with computers.

Advancing our knowledge in these areas is essential to developing voting technology that serves our collective needs and is deserving of our confidence. Fair and equal elections are the cornerstone of our democracy. Whatever happens Tuesday, ensuring that we have fair elections is a goal that is too important to forget after the midterm ballots have been counted.

Go to: Sacbee / Back to story