United States General Accounting Office

GAO

October 2001

ELECTIONS

A Framework for Evaluating Reform Proposals

G A O

Accountability ★ Integrity ★ Reliability

GAO-02-90

Contents

Letter

Letter 1
Introduction 4
Results in Brief 6
Section 1: States and Local Jurisdictions Indicated the Desire for Reasonable Flexibility and Time to Implement Reforms 9
Section 2: Challenges Exist to All Parts of Election Systems: People, Process, and Technology 18
Section 3: Framework for Assessing Election Reform Proposals 43
Section 4: Conclusion 53

Appendixes

Appendix I: Results of Our Election Work 56
The Scope of Congressional Authority in Election Administration 56
Elections: Perspectives on Activities and Challenges Across the Nation 58
Voting Accessibility for Voters with Disabilities 61
Improving Voting Assistance for Military and Overseas Voters 63
Status and Use of Federal Voting Equipment Standards 65
Statistical Analysis of Factors Affecting Uncounted Votes in the 2000 Presidential Election 66

Appendix II: List of Recently Issued Election Reports 69
GAO Reports 69
Other Recent National Reports 69
State Commission and Task Force Reports 70

Tables

Table 1: Percentage of Jurisdictions That Collected Data on Accuracy, by Type of Voting Equipment 40
Table 2: Election Issues and GAO Reports 56

Figures

Figure 1: Oklahoma and Pennsylvania Illustrate Differences Between Statewide Election Systems and Locally Autonomous Jurisdictions 11
Figure 2: Size of Jurisdiction Affects Magnitude of Key Tasks for Election Officials 12
Figure 3: Some States Require An Excuse Before Allowing Voters to Cast An Absentee Ballot, But Others Do Not 14
Figure 4: Voting Methods Used In November 2000 Election by Registered Voters 16

Figure 5: Jurisdictions Offer Various Types of Voter Education Materials 23
Figure 6: Prevalence of Potential Impediments at Polling Places and Availability of Curbside Voting 25
Figure 7: Persons Voting Absentee in the November 2000 Election Cast Ballots Both by Mail-in and In-Person Absentee Voting 28
Figure 8: Example of An Absentee Ballot Secrecy Envelope That Must Be Completed Correctly in Order For the Absentee Ballot to be Counted 30
Figure 9: Optical Scan Ballots Can Be Mismarked in a Variety of Ways 33
Figure 10: Voting Technologies Perform Roughly on Par With Each Other 37
Figure 11: Percentage of Total Variation in Uncounted Presidential Votes Explained By County Demographics, Voting Equipment, State Differences, and Unknown Factors 38

G A O
Accountability * Integrity * Reliability

Comptroller General
of the United States

United States General Accounting Office
Washington, D.C. 20548

October 15, 2001

The President of the Senate
The Speaker of the House of Representatives

Voting is fundamental to our democracy. Each year the millions of people who go to the polls expect that their ballots will be cast in private and accurately processed and counted. However, events surrounding the November 2000 presidential election raised broad-based concerns, including such issues as the performance of different types of voting equipment, the disqualification of absentee ballots, and the accuracy of vote tallies and recounts. As a result, public officials and various interest groups have proposed a number of reform measures to address the perceived shortcomings of various election systems.

As part of the broad congressional interest in these issues, we were asked to review certain aspects of elections throughout the United States. This capping report draws upon the extensive body of recent work done by GAO at the request of several congressional leaders, congressional committees and Members of Congress on matters surrounding the November 2000 election. Our work, which culminated in six other reports that are summarized in the appendices, addressed the following topics:

- the scope of Congressional authority in election administration,
- compilation and maintenance of voter registration lists,
- absentee and early voting,
- voting assistance for military and overseas voters,
- election day administration,
- voting accessibility for voters with disabilities,
- vote counts, recounts, and certification,
- voting technology,
- Internet voting, and
- status and use of the Federal Election Commission voting equipment standards.

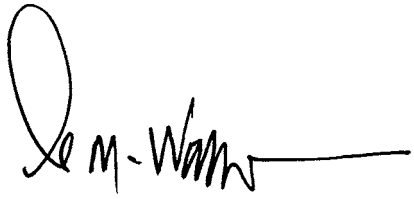
This capping report serves three purposes. First, we discuss how the constitutional and operational division of federal and state authority to conduct elections has resulted in great variability in the ways elections are administered in the United States. As a result, given this diversity and the decentralized nature of election administration, careful consideration needs to be given to the degree of flexibility and the planned timeframes for implementing new initiatives.

Second, in order for election reform to be effective, reform proposals must address all major parts of our election systems—its people, processes, and technology—which are interconnected and significantly affect the election process. We discuss the main challenges that election officials face in each of these areas and the need to accurately characterize and diagnose related issues.

Finally, as Congress considers if and how to address the challenges to our national election system it will have to deliberate upon a number of reform proposals. Based on our work, this report offers basic criteria for assessing a range of election reform proposals. It is not our intention to advocate any particular reform proposal, but we believe that these criteria offer a useful analytical framework with which to consider changes to our nation's election system.

Copies of this report are being sent to the President, the congressional leadership and all other Members of Congress. Copies will also be made available to other interested parties via our web site at www.gao.gov.

If you or your offices have any questions about matters discussed in this report, please contact me at (202) 512-5500; Norman J. Rabkin at (202) 512-3610, Managing Director, Tax Administration and Justice; or Richard M. Stana, Director, at (202) 512-8816. They can also be reached by e-mail at *rabkinn@gao.gov* and *stanar@gao.gov*, respectively.



David M. Walker
Comptroller General
of the United States

Introduction

On November 7, 2000, more than 100 million Americans cast their votes for various candidates and ballot issues across the country. This hallmark of American democracy unfolded in more than 10,000 local election jurisdictions, which used several different types of voting equipment, ranging from hand-counted paper ballots to electronic touchscreen voting machines. Staffing the precincts were some 1.4 million dedicated poll workers who opened the polls, logged in and assisted voters, closed polls, and in many cases, tabulated the votes cast at the precinct. These poll workers were assisted by an army of unseen election workers who answered phone calls from both voters and poll workers, delivered extra ballots to precincts, replaced or repaired broken voting machines, tabulated absentee ballots, and compiled the election results from individual precincts within their jurisdiction. This highly decentralized, complex, and massive logistical effort made it possible for American citizens to participate in one of the most fundamental democratic traditions—that of eligible citizens to cast their votes for candidates of their choice.

The controversy surrounding the presidential vote in the November 2000 election cast America's election system in a new and revealing light, spotlighting issues such as the

- accuracy of voter registration lists;
- procedures used to accept or disqualify absentee ballots for counting;
- variety of ways elections are administered across and within jurisdictions;
- widely varying types of voting equipment used to cast and count ballots; and
- many different methods of determining voter intent when voters improperly or incompletely marked their ballots.

Several congressional leaders, congressional committees, and Members of Congress asked us to review our nation's election systems. Accordingly, we focused on issues that may affect the ability of eligible U.S. citizens to cast their ballots in private and have those ballots counted accurately.

This capping report draws on a considerable body of work recently done by GAO on election systems. We address three main issues that Congress may wish to keep in mind as it approaches election reform. First, we examine the division of federal and state authority to conduct elections and the resulting variation among election jurisdictions. Second, we describe the

challenges that election officials face as they work with the people, processes, and technology involved in our administering our nation's election systems. And third, we suggest four criteria that Congress could use as it weighs the merits of various reform proposals.

Our work on election systems, which is contained in this capping report and six separate reports, took us across the United States and around the world as we employed a variety of methods to answer Congress' questions. We conducted a detailed analysis of relevant constitutional provisions, federal statutes, and federal court decisions as well as state statutes and regulations on selected election issues. We met with and reviewed documents provided by local election officials in 41 election jurisdictions in 22 states and met with officials at the Department of State, the Department of Defense, the Federal Election Commission (FEC), and the National Conference of State Legislatures. We surveyed District of Columbia and state election directors.[1] Moreover, we used a mail survey and a telephone survey[2] and interviews with local election officials to obtain information about the election process that would generally be representative of the more than 10,000 local election jurisdictions in the United States. We also visited 585 polling places and met with embassy and military personnel abroad and overseas citizens as well as with manufacturers and testers of voting equipment. And finally, we reviewed documents provided by state and local election officials, voting equipment manufacturers and testers, and obtained data on voting methods and election results for the November 2000 election from Election Data Services, Inc., and other sources.

[1]In our discussion of state election systems, we include the District of Columbia.

[2]Our mail survey is generalizeable to 90 percent of the U.S. population, and our telephone survey is generalizeable nationwide.

Results in Brief

Principal findings from our work provide a context for considering challenges and subsequent reforms of our nation's election systems. When considering election reform proposals, careful consideration should be given to the way election systems have evolved throughout history. First, if required to adopt federal election reform, states and local jurisdictions have indicated their desire to have reasonable flexibility and time to implement any changes. Traditionally, election administration has primarily been the responsibility of state and local governments which are guided by a tapestry of federal and state laws and regulations. Historically, Congress has exercised its constitutional authority to affect the way state and local jurisdictions conduct elections, primarily focusing on prohibiting certain discriminatory practices and providing statutory protections for the rights of groups as racial and language minorities, elderly voters, and voters with disabilities. Over time, our nation's election system has evolved into 51 individual systems[3] that in turn are administered and principally funded by more than 10,000 counties, cities, townships, and villages. We found considerable variation in how these jurisdictions register voters; arrange for polling places; recruit, train and pay poll workers; buy and maintain voting equipment; conduct the election; and count the votes. Given this variability, states and local jurisdictions have indicated the need for reasonable flexibility in tailoring reform proposals to accommodate local needs. Because implementing reform may require states and local jurisdictions to transform long held practices, they will also need appropriate time to successfully integrate the changes into policies and procedures.

Second, our work also underscores the complexity and intricacy inherent in the American electoral system. The success of an election system is contingent on the appropriate integration of people, processes, and technology. Our research disclosed various challenges that election officials face in each of these areas.

People: The people involved in an election include the election officials and legions of temporary poll workers who prepare for and conduct the election as well as the voters who participate in them. Our work disclosed a wide range of challenges election officials faced related to both election workers and voters. For example, recruiting and training a sufficient number of poll workers presented a challenge to many officials. We

[3]Including the 50 states and the District of Columbia.

estimate that 51 percent of jurisdictions nationwide found it somewhat or very difficult to recruit a sufficient number of poll workers. As a second example, providing education to voters on election processes and equipment also posed a challenge to election officials, in some cases due to a lack of funds. We estimate that 38 percent of jurisdictions nationwide support federal funding to subsidize voter education. We also found that making polling places accessible to voters with disabilities or providing alternative methods for voting to individuals with disabilities posed a challenge to many election jurisdictions.

Process: Processes guide people involved in the election process. For example, election workers rely on processes as they carry out their duties such as registering voters, distributing and processing absentee ballots, educating voters, conducting the election, and counting the votes. We found that a wide variety of process-related challenges confronted election officials. For instance, keeping registration lists accurate and current presented a challenge. In some cases, difficulties maintaining current voter registration lists were related to the National Voter Registration Act (NVRA, which is widely known as the "Motor Voter" Act) in part because local election officials received incomplete or incorrect voter registration information from motor vehicle authorities. We estimate that about 46 percent of jurisdictions nationwide had problems with NVRA during the November 2000 election. Our work also surfaced process-related challenges associated with providing assistance for military personnel and overseas citizens absentee voters. These voters' absentee ballots were disqualified at higher rates than absentee ballots cast by voters living in the United States. We found the availability of assistance to military personnel and overseas citizens lacking and recommend that the Departments of State and Defense take action to improve voter education and assistance efforts. As a final example, determining voter intent when ballots were improperly marked presented a challenge to many election officials. We estimate that nationwide about 32 percent of local election jurisdictions had no written instructions to interpret voter intent when ballots are mismarked.

Technology: Technology, such as voting equipment, provides tools for officials as they administer elections and for voters as they participate in them. We identified diverse technology-related challenges facing our nation's election systems. Assessing why voting equipment does not meet the needs of a jurisdiction presented a challenge to many election officials. As a result, election officials may face a related challenge--a lack of performance data to help them make informed decisions regarding

acquisition of new voting equipment. Overall, about 96 percent of jurisdictions nationwide reported being satisfied with the performance of their voting equipment, but this level of satisfaction was typically based on election officials' subjective impressions rather than objective performance data. We estimate that less than half of election jurisdictions collected data on how well their voting equipment performed in the November 2000 election. In addition to these challenges, we found that federal standards for voting equipment should be updated (the FEC has initiated plans to issue revised standards in 2002). We are making recommendations to the FEC aimed at improving its efforts to update its 1990 voting equipment standards. Because development, maintenance, and implementation of voting equipment standards are very important responsibilities, we also raise as a matter for congressional consideration the explicit assignment of responsibility in these areas.

Our research also indicates that failure to coordinate these components can cause problems that may be hard to accurately characterize, diagnose and correct. For example, many of the problems that received media attention in the November 2000 election were attributed to the failure of voting technologies to accurately record the voter's selections or count the ballots. Our analysis showed that the type of voting equipment used (including equipment which allowed for error correction) explained a relatively small percent of the total variation among jurisdictions in uncounted presidential votes. Jurisdictions, however, may still wish to obtain benefits from modernizing voting equipment. In addition, many election officials pointed to greater voter education as a more immediate way to resolve voter error and uncounted votes.

Third, this report delineates an analytical framework that Congress could use as it weighs the merits of various reform proposals. This framework entails the following four fundamental criteria:

- ***Criterion I: The Appropriate Role of the Federal Government in Election Reform.***
  Does the proposed change call for an appropriate federal role in affecting election reform, given the historic balance struck between Congress' constitutional authority to legislate election administration and some states' laws and traditions that grant autonomy to local jurisdictions as they administer elections?

- ***Criterion II: The Balance Between Accessibility and Integrity.***[4] How are the goals of providing citizens broad access to the voting process balanced against the public's interest in ensuring the integrity of our election systems?

- ***Criterion III: Coordination and Integration of People, Processes, and Technology.*** How does the proposed change affect both the discrete problem it is intended to resolve and the election system as a whole?

- ***Criterion IV: The Affordability and Sustainability of Proposed Election Reforms.*** Have the necessary resources been identified to institute the change and to continually monitor and re-evaluate it over time?

Section 1: States and Local Jurisdictions Indicated the Desire for Reasonable Flexibility and Time to Implement Reforms

Election administration in the U.S. is guided by federal and state laws, regulations and policies. Within the broad framework established by the Constitution and federal statutes, each state sets its own requirements for conducting local, state, and federal elections within the state. Consequently, state requirements and processes vary considerably, and the U.S. election system comprises 51 separate election systems. In turn, states typically have decentralized this process so the responsibility for administering and funding elections resides in thousands of local government election jurisdictions, creating even more variability among our nation's election systems. Thus, in adopting federal election reforms, the degree of flexibility and the timeframes for implementing new initiatives need to be given careful consideration during deliberation and execution of related reforms.

[4]As used in this criterion, accessibility refers to voters' access to the political process rather than the access of a voter with disabilities to the polling place.

The Federal Government Establishes a General Framework for Elections, but Elections Are Primarily the Responsibility of State and Local Governments

The constitutional framework for elections contemplates both state and federal roles. With regard to the administration of federal elections, Congress has certain constitutional authorities over both congressional and presidential elections.[5] Congress has passed legislation relating to the administration of federal elections, under its various constitutional authorities in certain areas, including the timing of federal elections, voter registration, accessibility provisions for the elderly and persons with disabilities, and absentee voting. Congress has, however, been most active with respect to enacting prohibitions against discriminatory voting practices, which apply in the context of both federal and state elections. The Voting Rights Act of 1965, for example, established the constitutional guarantee that no person be denied the right to vote on account of race or color. In addition, subsequent amendments to the Act expanded it to include protections for members of language minority groups, as well as other matters regarding voting registration and procedures.

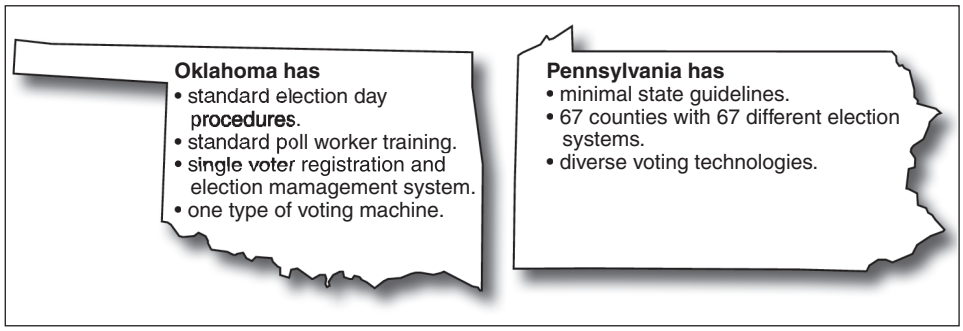
Within the broad framework established by the Constitution and federal statutes, each state sets the requirements for conducting local, state, and federal elections within the state. For example, states regulate such aspects of elections as ballot access, registration procedures, absentee voting requirements, establishment of voting places, provision of election day workers, and counting and certifying the vote. The states, in turn have typically delegated responsibility for administering and funding state election systems to the thousands of local election jurisdictions—more than 10,000 nationwide—creating even more variability among our nation's election systems.

State election codes and regulations may be very specific or very general. In particular, some states have mandated statewide election administration guidelines and procedures that foster uniformity in the way local jurisdictions conduct elections. It is common for state provisions to furnish some guidance regarding voter registration requirements and procedures, absentee voting requirements and procedures, performance requirements for voting methods used within the state, establishment of polling places, provision of election day workers, and the count and certification of the vote. Other states have guidelines that generally permit local election

[5]For additional details, see *Elections: The Scope of Congressional Authority in Election Administration* (GAO-01-470, Mar. 13, 2001).

jurisdictions considerable autonomy and discretion in the way they run elections (see figure 1).

Figure 1: Oklahoma and Pennsylvania Illustrate Differences Between Statewide Election Systems and Locally Autonomous Jurisdictions

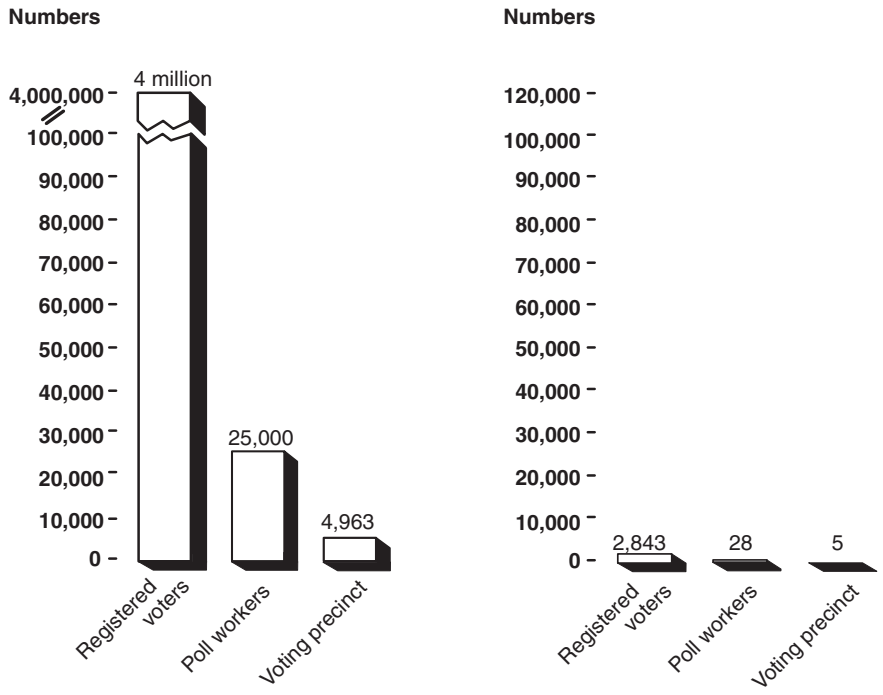


Source: GAO analysis based on information from local election officials.

Great Variability Exists in the Ways Various Local Elections Are Conducted

The variability from state to state becomes even more pronounced at the local level, as local jurisdictions have used the flexibility afforded in state provisions to create local elections systems that vary from county to county, and even, in some cases, within counties. This variation stems from several factors. One factor can be a consequence of the size of local election jurisdictions, which varies considerably. For example, one rural county has 208 registered voters in contrast with a large, urban county, such as Los Angeles County, whose total number of registered voters exceeds that of 41 states. The complexity of preparing for and conducting an election in large jurisdictions is generally greater than in smaller jurisdictions. For example, a rural county, with a few thousand voters who share the same language, prints its ballot in one language. In contrast, in a large, urban jurisdiction with a diverse population of 4 million registered voters prints its ballots in 7 different languages. This can also have an effect on the processes and type of voting equipment used. As illustrated in figure 2, the magnitude of other key administrative tasks in this large, urban jurisdiction is a thousand times larger than for the small jurisdiction.

Figure 2: Size of Jurisdiction Affects Magnitude of Key Tasks for Election Officials



Source: GAO analysis based on information from local election officials.

Variability can also be a consequence of local needs. For example, a jurisdiction with a large population segment that moves out of the location each year might opt for certain voter registration and voter education processes that reflect the need to address a large voter turnover. As a second example, a jurisdiction might use a certain type of voting equipment based on financial resource availability. More wealthy jurisdictions have had the resources necessary to modernize equipment, while others need to make do with what they have.

Finally, variability can be a consequence of a jurisdiction's perceived need to maintain voting traditions that have been in place for a long time. In two jurisdictions we visited, election officials opted to replace lever machines with full-screen electronic voting machines because this machine uses a ballot that most closely resembles the type of ballot voters were used to seeing on lever machines. This choice was possible because ballots did not

have to be printed in more than two languages in either jurisdiction so the ballots could fit on a single page.

Variability among states and local jurisdictions was evident in each major stage of an election--voter registration, absentee and early voting, preparing for and conducting election day activities, and vote counting and certification. Some examples follow.

Who Could Vote Varied

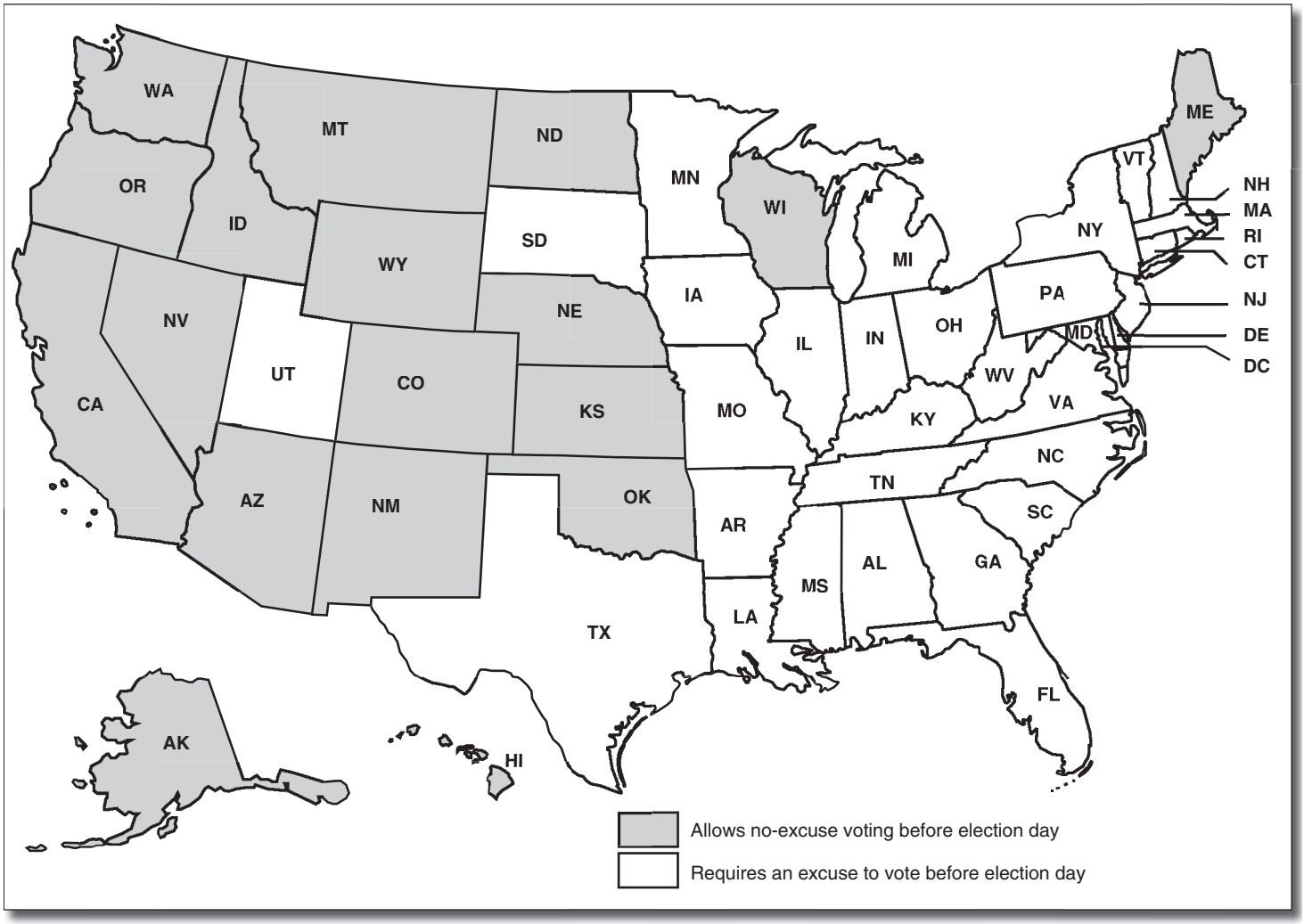
For the November 2000 election, the FEC reported that nearly 168 million people, or about 82 percent of the voting age population,[6] were registered to vote. Registering to vote is not a federal requirement, but in November 2000, all states except North Dakota required citizens to register before voting. At a minimum, every state and the District of Columbia required that a voter be a U.S. citizen, at least 18 years of age, and a resident. Additional requirements to vote, such as time in residence, varied. Due to variations in voter eligibility requirements, different citizens with the same qualifications would be eligible to vote in some states but not in others including (1) those that had completed their sentence after a felony conviction; (2) those who had been adjudged mentally incompetent; and (3) those who met all of the qualifications to vote but who had not registered in accordance with prescribed timeframes.

When People Could Vote Varied

In November 2000, citizens had different opportunities for obtaining and successfully casting absentee ballots due to the differences in absentee and early voting requirements, administration, and procedures. All states allow some provision for absentee balloting; some, however, require a reason to vote absentee as indicated in the figure below.

[6]This number includes active and inactive voters. FEC defines inactive voters as those who remain on the registration list but who have moved, according to information provided by the Postal Service, have been mailed a registration confirmation notice, but have neither responded nor offered to vote in the subsequent federal election. All other persons on the registration list are considered to be active voters. In *The Impact of The National Voter Registration Act of 1993 on the Administration of Elections for Federal Office, 1999-2000*, the FEC reported that for the November 2000 general elections, there were 149,476,705 active registered voters, about 73 percent of the voting age population.

Figure 3: Some States Require An Excuse Before Allowing Voters to Cast An Absentee Ballot, But Others Do Not



Source: GAO review of state statutes.

Who Conducted the Election Varied

For the November 2000 election, about 1.4 million poll workers staffed polling places across the country on election day. Although poll workers are usually employed for only one day, the success of election administration largely hinges upon their ability to perform their jobs well. Depending on state law and the organization and traditions of the local jurisdiction, poll workers have different titles, levels of pay, training

requirements, and responsibilities. Some poll workers are elected, some are appointed, and some volunteer. Levels of authority and responsibility that jurisdictions grant to poll workers also ranged from significant autonomy over the operation of the polling place with final authority to interpret improper ballot markings to having limited discretion, functioning primarily as clerks and facilitators who refer issues and problems back to elections headquarters.

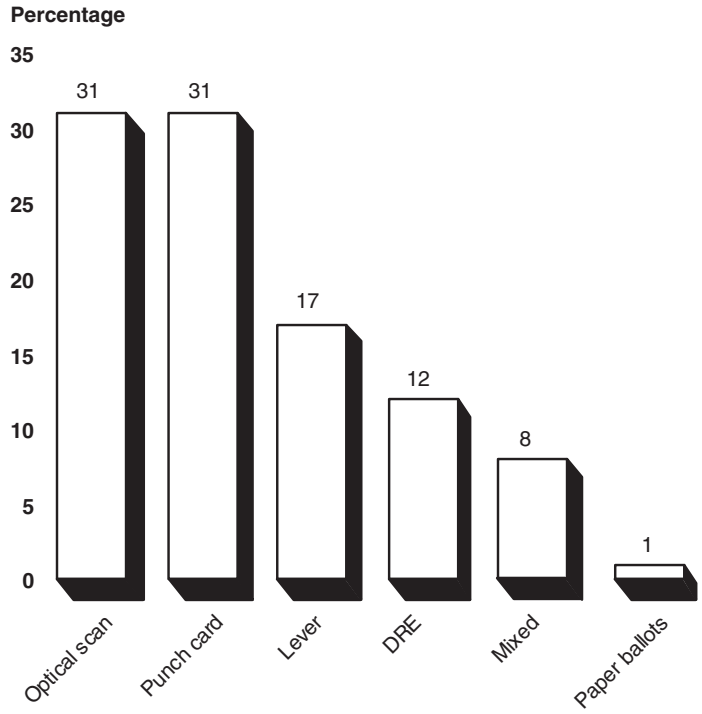
How Elections Were Conducted Varied

Jurisdictions followed various procedures on election day that created differences in the way elections were conducted. For example, to determine whether a citizen who appeared at the polls was eligible to vote, some jurisdictions required voters to identify themselves by stating their names and addresses to the poll workers, who also matched the signature on the voter application with the voter registration records. Other jurisdictions also required voters to present a valid photo identification card. In other jurisdictions, a hunting or fishing license was sufficient to verify one's identity. Still other jurisdictions required no identification other than the voter stating his or her name. If a voter's name did not appear on the list of registered voters, some jurisdictions accommodated these individuals by automatically giving them a provisional ballot which may have been counted if the voter's eligibility was verified at a later time. Others did not.

How the Votes Were Cast Varied

Registered voters cast their ballots using one of five voting methods in the November 2000 election: hand-counted paper ballots and lever, punch card, optical scan, and Direct Recording Electronic (DRE) voting equipment. Punch card and optical scan equipment was most widely used by registered voters, as figure 4 shows.

Figure 4: Voting Methods Used In November 2000 Election by Registered Voters



Source: GAO analysis of data from Electronic Data Services and states.

Election Reform Requires An Appreciation for Variability Among Jurisdictions

Although the states have traditionally had broad authority to regulate and conduct elections, Congress also has broad authority to regulate federal elections, and, in particular, congressional elections. State and local election officials generally use the same people, processes, and technology to conduct local, state, and federal elections. Consequently, as a practical matter, congressionally directed changes in the conduct of congressional elections are likely to affect the administration of state and local elections. In addition, through the use of its spending power, Congress may encourage state action by attaching conditions to the receipt of federal funds.[7]

[7]For additional details, see GAO-01-470, Mar. 13, 2001.

Our work found wide variations across the country which have developed over time in response to local economic, demographic, political, and cultural traditions in each state and local jurisdiction. As might be expected given this variety, local election officials do not share a common perspective on election reform. For example, when asked their preferences for the use of federal funds, should they become available, local election officials identified a range of spending priorities, with no clear consensus on the top priority. Among these priorities were voter education, voting equipment, poll worker pay, and postage for mailing voting materials and printing ballots. Nor was there a consensus among local election officials on how involved the federal government should be in state and local election administration and reform. About 27 percent of the local jurisdictions we surveyed supported uniform standards for election administration, and 30 percent supported updated federal standards for voting equipment. However, many of the jurisdictions we visited did not want federal funding for election administration if it meant sacrificing local autonomy. Some supported the concept of a federal clearinghouse for sharing information about election administration practices.

National Survey Results

We estimate that 54 percent of local election officials support federal funding to subsidize postage for materials mailed to voters, 42 percent support federal funding to help with the operational costs of elections, and over 38 percent support federal funding for voter education.

GAO Mail Survey of Jurisdictions

Overall, our work suggests that a "one size fits all" approach may not be suitable for every aspect of election administration. In jurisdictions with a small number of voters, for example, hand-counted paper ballots may produce accurate and complete vote counts. Conversely, full-faced DRE equipment (this type of machine uses a large, single-page ballot) could not readily accommodate Los Angeles County's long ballot printed in 7 languages. Thus, the degree of flexibility afforded local jurisdictions in implementing any reform should be given careful consideration when deliberating specific reform initiatives. Historically, changes in election administration have been evolutionary rather than revolutionary. Both

election officials and voters become accustomed to and comfortable with how elections are planned and conducted in their individual jurisdictions. Many of the underlying conditions associated with the variations are not likely to change in the short term. Large-scale, immediate changes in the use of people, processes, or technology will not necessarily change those conditions. Thus, appropriate time may be needed for state and local jurisdictions to determine how to implement changes effectively in their specific jurisdictions.

Section 2: Challenges Exist to All Parts of Election Systems: People, Process, and Technology

The second principal finding that emerged from our work is that election officials face a range of challenges connected with all parts of the election system: people, process, and technology. The people involved in an election include election officials, legions of temporary poll workers, and voters. Processes guide people as they carry out their duties, such as registering voters and conducting the vote. Technology, such as voting equipment, provides tools for officials to administer elections and for voters to participate in them.

National Survey Results

We estimate that 57 percent of jurisdictions nationwide had major problems in one or more areas on election day.

GAO Mail Survey of Jurisdictions

Our work identifies several challenges that can be categorized as primarily people, process, or technology-related issues. Although we classify problems as falling into one of these three areas, what becomes apparent is that a problem in any one of these three broad categories is related in some way to another part of the system. For example, people-related challenges impinge upon process issues, process challenges affect technology, and technology challenges affect people issues.

Specifically, several challenges emerged from our work on elections. Issues with recruiting and training poll workers, educating voters, and

addressing needs of voters with disabilities posed major people-related challenges in the November 2000 elections. Election officials confronted process-related challenges that included maintaining accurate voter registration lists, completing and processing absentee ballots, and canvassing the vote. Technology-related challenges that faced our nation's election systems included assessing why voting equipment may fail to meet jurisdictions' needs, collecting useful performance data to make informed investment decisions, and needing federal leadership in updating and implementing standards for voting equipment. Below we highlight the main challenges identified through discussions with election officials and our analysis.

People, Both Election Workers and Voters, Presented Challenges

Issues with recruiting and training poll workers, educating voters, and addressing needs of voters with disabilities posed major challenges in the November 2000 elections. We estimate that over half of the jurisdictions in the United States found it somewhat or very difficult to recruit and train a sufficient number of poll workers. The major challenge many jurisdictions identified regarding voter education was finding sufficient funding. On the basis of our mail survey, we estimate that over a third of the jurisdictions nationwide believed that the federal government should provide monetary assistance for voter education programs. Limited availability of accessible buildings and other constraints create obstacles to election officials' efforts to make polling places accessible to voters with disabilities. We estimate that, from the parking area to the voting booth, 16 percent of all polling places have no potential impediments, 56 percent have one or more potential impediments but offer curbside voting, and 28 percent have one or more potential impediments and do not offer curbside voting.

Recruiting and Training Qualified Poll Workers Presents a Major Challenge for Many Jurisdictions

Many election officials told us recruiting and training a sufficient number of poll workers with appropriate skills to open, operate, and close polling places was a major challenge on election day. Factors that can work in concert to complicate an already difficult task for election officials include an aging work force, low pay, and little or no poll worker training.

Recruiting Enough Poll Workers Is Difficult for Many

On the basis of our mail survey, we estimate that 51 percent of jurisdictions nationwide had a somewhat or very difficult time getting enough poll workers. For these jurisdictions, obtaining enough poll workers (27

percent) was the most frequently identified major problem the jurisdictions faced.

National Survey Results

We estimate 51 percent of the jurisdictions nationwide reported that it was somewhat or very difficult to get a sufficient number of poll workers.

GAO Mail Survey of Jurisdictions

Poll Workers Drawn From Aging Labor Pool

Many people who are available for occasional full-day employment as poll workers are older, perhaps retired, and likely attracted to the work because of something other than the pay because poll workers are generally paid low wages. For example, an election official in a small jurisdiction said that over 70 percent of their poll workers are over 65 years old. One official remarked that volunteering is characteristic of an older generation. Several officials echoed the statement of an official in a small jurisdiction that "[o]ur election workforce is aging and we are having difficulty recruiting younger workers."

Low Pay, Long Hours May Discourage Younger Workers

The pool of potential poll workers may be shrinking because poll worker pay is inadequate to attract employed or more skilled workers and poll workers often are required to complete a 15- to 18-hour day. One election official reported that "[s]ince compensation for this job is only $80 to $135 per day, depending upon the election district, it is not sufficient to attract a younger workforce." The length of the day is a complaint of many poll workers and may even pose an obstacle for younger workers. Another official said that, "[w]hat they (the election judges) used to consider as a fun and interesting day and an American duty has become 'heavy duty'." In one large jurisdiction, election officials asked poll workers to provide feedback on their experience in the November 2000 election. One poll worker responded that it was "[a]bsolutely, positively too long a day. I am

26 years old and very athletic and still went home at night and fell asleep with my clothes on. With the majority of helpers either older or disabled, I have no idea how they survived the day."

Poll Workers With Specialized Skills Are Often Difficult to Recruit

Another problem is addressing the specialized labor needs unique to particular polling sites, according to several local election officials. Some polling places required poll workers to have specific language skills. Finding qualified bilingual workers, specifically workers fluent in Asian languages, is one very large jurisdiction's biggest recruiting problem. Some places had trouble finding poll workers who are able to learn the technical skills necessary to operate voting equipment. Officials in one very large jurisdiction said they have no scarcity of people willing to serve, but finding people to meet specialized needs is the issue. Obstacles to recruiting poll workers may overlap. One election official wrote that "[i]t is increasingly difficult to find folks to work for $6 an hour. We are relying on older retired persons—many who can't/won't keep up with changes in the technology or laws. Many of our workers are 70+."

Minimal Training May Not Have Adequately Prepared Poll Workers for Election Day

We estimate that 87 percent of jurisdictions nationwide provided some training for poll workers. Poll worker training courses generally span a few hours' time and focus on the key processes that poll workers should follow, including how to operate voting equipment. Although most of the jurisdictions we visited required some poll worker training, election officials cited instances where poll workers who had attended training still either did not understand what they were to do or chose not to follow specific instructions on how to run the polls. For example, to handle unregistered voters in one very large jurisdiction, the poll workers were instructed to provide those voters with questionable credentials a provisional ballot. However, some poll workers failed to follow these rules and turned away some voters from the polling place. Poll worker training in the sites we visited rarely included discussion of the interpersonal skills that poll workers should employ when dealing with frustrated citizens or with each other.

Educating Voters About Processes, Voting Equipment is a Challenge

Another people-related challenge concerns educating voters about particular processes, such as voter registration and how to operate voting equipment. Jurisdictions place varying degrees of emphasis on educating

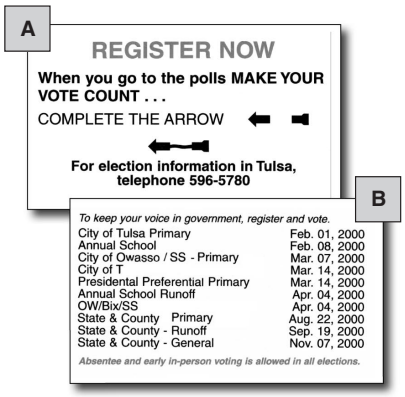
voters about election processes and procedures. A lack of funds is the primary challenge that election officials said they face in expanding their efforts to educate voters about elections. Further, spending for voter education is considered discretionary. Some local officials must first take care of mandatory items such as equipment, supplies, poll worker salaries and polling places. Many officials said that they see voter education as an area where federal funds could be particularly helpful. On the basis of our mail survey, we estimate that over 38 percent of jurisdictions nationwide believed that the federal government should provide monetary assistance for voter education programs.

Voter Education Needed Regarding Processes, Use of Voting Equipment

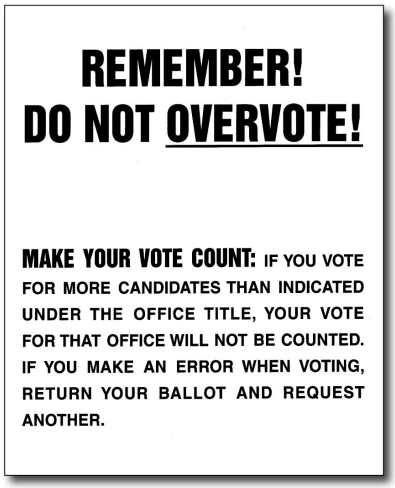
How well a jurisdiction educates voters about election processes and how to use voting equipment can effect how well an election system functions. For example, a number of problems associated with processes, such as requesting and completing absentee ballots and registering to vote, are precipitated by voters failing to provide complete information or to meet deadlines. Voter education can be used to help remedy some of these difficulties.

How well jurisdictions educate voters on the use of voting equipment can affect how easy voters find the equipment to use and integrity of the vote. Jurisdictions provide various types of voter education materials to help voters correctly use voting equipment.

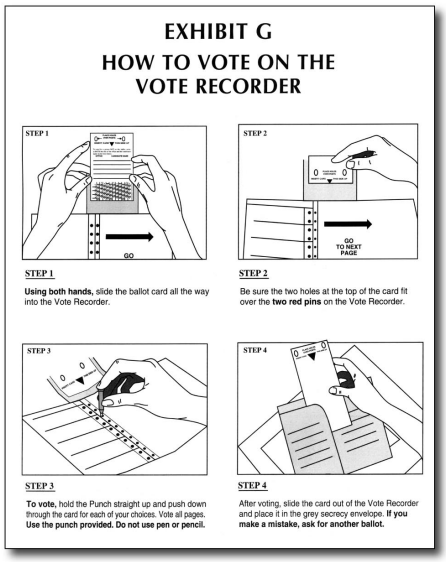
Figure 5: Jurisdictions Offer Various Types of Voter Education Materials



Tulsa uses the front side (A) of wallet cards to educate voters on the proper way to complete optical scan ballots and the reverse side to provide (B) schedules for key events.



Detroit warns voters against choosing more than one candidate in a single race on one page of its voter guide.



Cuyhoga County provides instructions on how to vote a punch card ballot.

Los Angeles County advises voters to remove hanging chads from their punch card ballots.

Source: Local election officials.

How frequently the voting equipment counts votes *as intended* by voters is a function not only of equipment design, but of how well poll workers properly instructed and guided voters, how well voters followed applicable instructions, and what type of assistance was available to help voters who

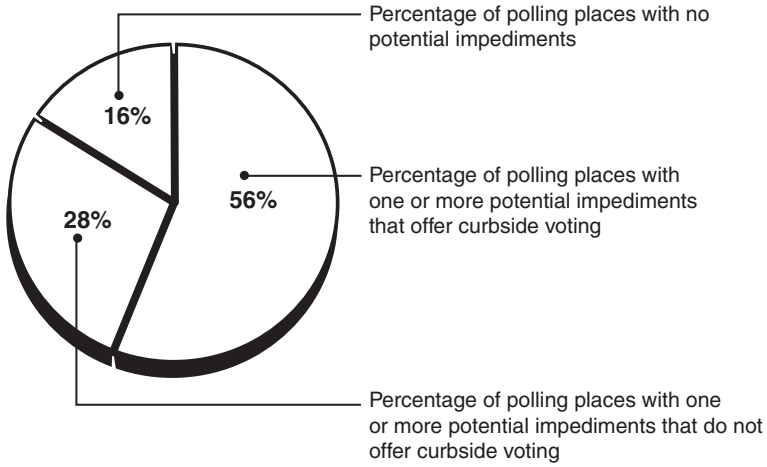
have questions or make mistakes in voting. To illustrate this point, officials from a very large jurisdiction stated that in the November 2000 election 1,500 voters had inserted their punch cards in the recording device upside down, thus causing their votes to be inaccurately recorded. Similarly, at a small jurisdiction that we visited where optical scan equipment was used, officials reported that some voters incorrectly marked the ovals or used a nonreadable pen to mark the ballot, resulting in partially read ballots. In a medium-sized jurisdiction that we visited, voters selected a candidate on the optical scan ballot and then wrote the candidate's name in the write-in section of the ballot, thus overvoting (making more choices than are permitted per contest) and spoiling the ballot. The election officials stated that they believed that this misunderstanding contributed to the jurisdictions' almost 5-percent overvote rate. In each of these cases, the way that the voter completed the ballot caused the vote to be recorded inaccurately, even though the voting equipment correctly counted the votes as recorded.

Officials Face Challenges Addressing Needs of Voters with Disabilities

A third people-related challenge surfaced during the November 2000 election—making polling places accessible to voters with disabilities or providing alternative voting methods such as curbside voting. The extent to which any given feature may prevent or facilitate access to a polling place is unknown; however, based on our onsite work during the November 2000 election, we estimate that, from the parking area to the voting room, 16 percent of all polling places have no potential impediments, 56 percent have one or more potential impediments but offer curbside voting, and 28 percent have one or more potential impediments and do not offer curbside voting (see fig. 6).[8] These potential impediments would primarily affect individuals with mobility impairments and occur most often on the route from the parking area to the building or at the entrance to the polling place. Inside the voting room, the types and arrangement of voting equipment used may also pose challenges for people with mobility, vision, or dexterity impairments.

[8]Although curbside voting is not available at a number of polling places with potential impediments, as noted earlier all states have provisions for absentee voting, and many states provide for other alternative voting methods or accommodations, which may facilitate voting by people with disabilities on or before election day.

Figure 6: Prevalence of Potential Impediments at Polling Places and Availability of Curbside Voting



Note: These potential impediments are located along the route from the parking area to the voting room.

Source: GAO analysis of polling place data collected on Nov. 7, 2000.

A number of efforts have been made by states and localities to improve voting accessibility for people with disabilities, such as modifying polling places, acquiring new voting equipment, and providing curbside voting. State and county election officials we surveyed cited a variety of challenges to improving access, including limited availability of accessible facilities and funding constraints at the local level. Some disability advocates believe that alternative voting methods and accommodations should not be viewed as permanent solutions for inaccessible polling places because these remedies do not provide the same opportunity for voting afforded the general public, that is, in a polling place and in private.

Processes for Election Activities Present Challenges to Election Administration Officials

Election officials confronted process-related challenges that included maintaining accurate voter registration lists, completing and processing absentee ballots, and interpreting voter intent. A number of jurisdictions reported they had trouble maintaining accurate voter registration lists because of the NVRA. This difficulty, in turn, may have exacerbated problems related to qualifying voters at the polls on election day. As the

number of voters at home and abroad who cast absentee ballots grows, challenges related to absentee voting are increasing. Election officials reported difficulties with processing millions of absentee ballots cast in the weeks and days before election day and noted the added financial burden of processing these ballots. Military personnel and overseas citizens' absentee ballots were disqualified at a higher rate than voters at home which presents another challenge. And finally, interpreting improperly marked ballots to determine the voter's intent was a challenging process because local jurisdictions often lack specific, written guidance and the task itself can be inherently difficult.

NVRA May Complicate Maintenance of Voter Registration Lists, Qualifying Voters on Election Day

National Survey Results

We estimate that about 46 percent of jurisdictions nationwide had problems with the National Voter Registration Act (NVRA or motor voter) during the November 2000 election.

GAO Telephone Survey of Jurisdictions

Primarily, a citizen's access to voting was based on the appearance of his or her name on a voter registration list, which is compiled and maintained by election officials. Officials encountered several process-related challenges connected with compiling and maintaining accurate voter registration lists, chief among them processing applications submitted through sources other than elections offices, such as motor vehicle authorities. Specifically, local election officials around the country expressed concerns about processing voter registration applications submitted at state motor vehicle authorities, as permitted by NVRA. They claimed motor vehicle authorities forward incomplete, illegible and late applications. Some election officials attribute not only missing or incomplete applications to NVRA, but a new problem, duplicate registrations. In the words of one official:

"You can ask any county clerk in the state and they will tell you that the biggest problem is motor voter [NVRA]. Residents can register at the welfare office, the health department, the motor vehicle authorities, and they do, time and again. This results in tons of registrations which are costly and time-consuming to sort through and check against records."

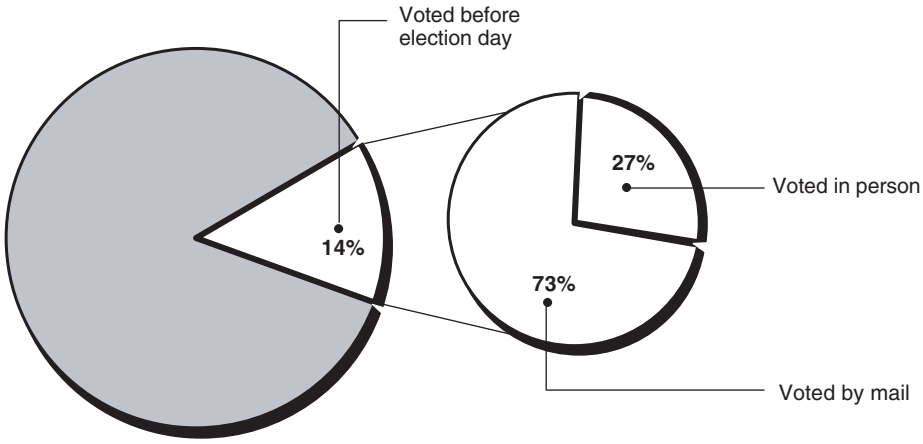
Inaccurate registration lists affect other parts of the election system, especially qualifying voters on election day. Officials reported that voters appeared at the polls on election day claiming to have registered to vote through the motor vehicle authority, but their applications never arrived in the elections office. These individuals were sometimes turned away from the polls. Dealing with voter eligibility issues can be a major problem for some jurisdictions. We estimate that 30 percent of jurisdictions considered dealing with unregistered voters at the polls to be a major problem.

Processes for Assisting Citizens at Home and Abroad with Absentee Voting Present Challenges

All 50 states and the District of Columbia allowed some form of absentee or early voting to increase voter access, convenience, and participation, and the number of American voting absentee is growing. Using Census data, we estimate that for the November 2000 election about 14 percent of voters nationwide cast their ballots before election day.[9] Of these voters, about 73 percent used mail ballots and 27 percent voted in-person, as seen in Figure 7. This represents an increase from the 1996 presidential election in which a total of about 11 percent of voters cast ballots before election day. We estimate that nationwide local election officials received about 14.5 million applications for mail-in absentee ballots (plus or minus 3 million) for the November 2000 election.

[9]Based on GAO analysis of U.S. Census Current Population Survey, November 2000 Voting Supplement.

Figure 7: Persons Voting Absentee in the November 2000 Election Cast Ballots Both by Mail-in and In-Person Absentee Voting



Source: GAO analysis of U.S. Census Bureau Current Population Survey, November 2000 Voting Supplement.

As more voters, at home and abroad, cast absentee ballots, officials from several local election jurisdictions reported costs and workload involved in reviewing the volume of ballots have grown. Each of the millions of mail-in absentee ballots received by local election officials had to be qualified before being counted. Officials from one very large jurisdiction stated that the sheer volume of mail-in ballots received creates a greater potential for errors.

Military and Overseas Citizens' Absentee Ballots Disqualified at Higher Rates

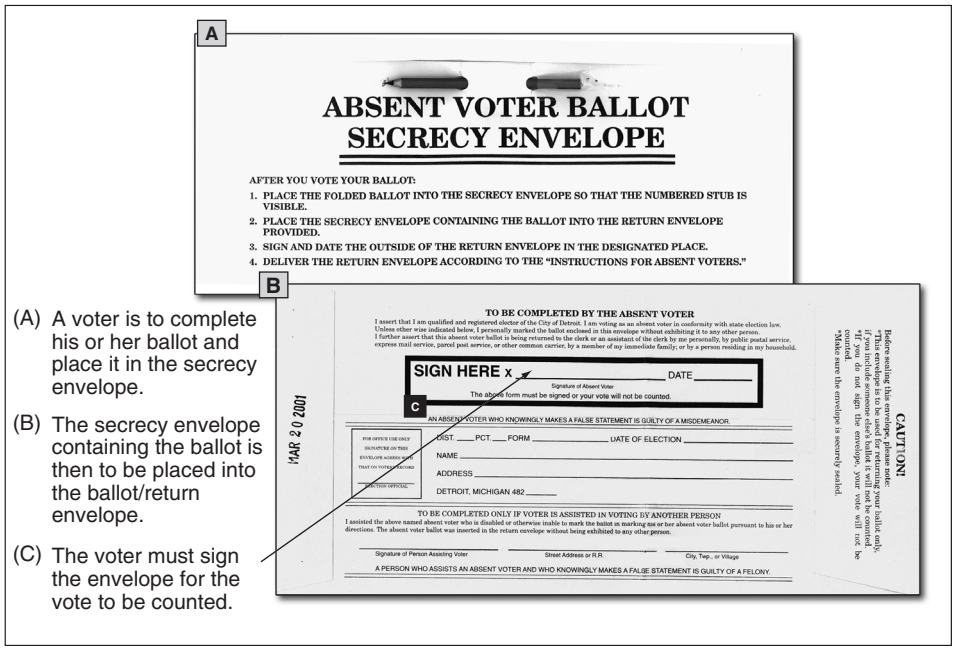
Because military and overseas citizens' absentee ballots are disqualified at higher rates than those of citizens voting absentee at home, processes for assisting military personnel and overseas citizens need to be improved. Although precise numbers are not available, we estimate that counties having a voting age population of less than 60,000 nationwide disqualified about 8 percent of ballots cast by military and overseas voters. In contrast, the ballot disqualification rate for civilian voters not living overseas was less than 2 percent.[10] While counties having a voting age population of more than 60,000 that responded to GAO's survey showed a similar pattern, the data was insufficient to make a national estimate.[11]

The survey showed that for all absentee ballots cast, almost two-thirds of the disqualified absentee ballots were rejected because the ballots arrived too late to be counted or the envelopes or forms accompanying the ballots were not completed properly. The figure below describes the forms that must be completed in order for the mail-in absentee ballot to be qualified.

[10]The confidence intervals in this report are calculated at the 95-percent confidence level. For example, we are 95 percent certain that the actual disqualification rate for civilians not living overseas was between 1.2 and 2.4 percent. In this analysis, GAO uses the term "disqualified ballots" to refer to absentee ballots that, in the judgement of local election officials, did not meet state requirements and that were rejected prior to the vote counting process. For instance, the ballot may have been received after the deadline or may have lacked certain required information on the ballot/return envelope, such as the voter's signature. Disqualification does not refer to ballots that were rejected during ballot counting due to problems in reading the ballot and/or determining a voter's actual preferences.

[11]Not enough counties in the sample provided data on the reasons ballots were disqualified from specific groups of voters, such as military versus non-military, to enable GAO to make reasonable estimates for these groups.

Figure 8: Example of An Absentee Ballot Secrecy Envelope That Must Be Completed Correctly in Order For the Absentee Ballot to be Counted



Source: Local election officials.

Processes for Assisting Military and Overseas Citizens Need Improvement

The Uniformed and Overseas Citizens Absentee Voting Act of 1986[12] protects the right to vote by absentee ballot in federal elections for more than 6 million military and overseas citizens and recommends that states adopt a number of provisions that facilitate absentee voting by these populations. The Federal Voting Assistance Program, established within the Department of Defense (DOD), is responsible for implementing the act by informing U.S. citizens worldwide about their right to vote, fostering voting participation, and working with states to simplify the registration and absentee voting process. Also, the State Department works with DOD to provide voter assistance to overseas citizens.

[12]42 U.S.C. 1973ff-1973ff-6.

The extent and quality of federal voter assistance for military personnel and overseas citizens varied considerably in the November 2000 election. While the Federal Voting Assistance Program developed a number of useful tools for voters and some installations GAO visited had well run programs providing assistance and information to potential voters, other installations did not meet DOD and service requirements. The variability in executing the program is due to incomplete service-level guidance that does not reflect DOD's directive, a lack of command support at some installations, and a lack of program oversight by some DOD components. Finally, the State Department provided citizens abroad with a variety of useful assistance, according to overseas citizens and federal employees GAO spoke to, although both groups believed more outreach could be beneficial. Also, State Department Headquarters has not played an active role in sharing best practices and lessons learned or in overseeing the program. We recommend that the Secretaries of Defense and State improve (1) the clarity and completeness of service guidance, (2) voter education and outreach programs, (3) oversight and evaluation of voting assistance efforts, and (4) sharing of best practices.[13]

Processes for Interpreting Voter Intent Posed a Challenge to Many

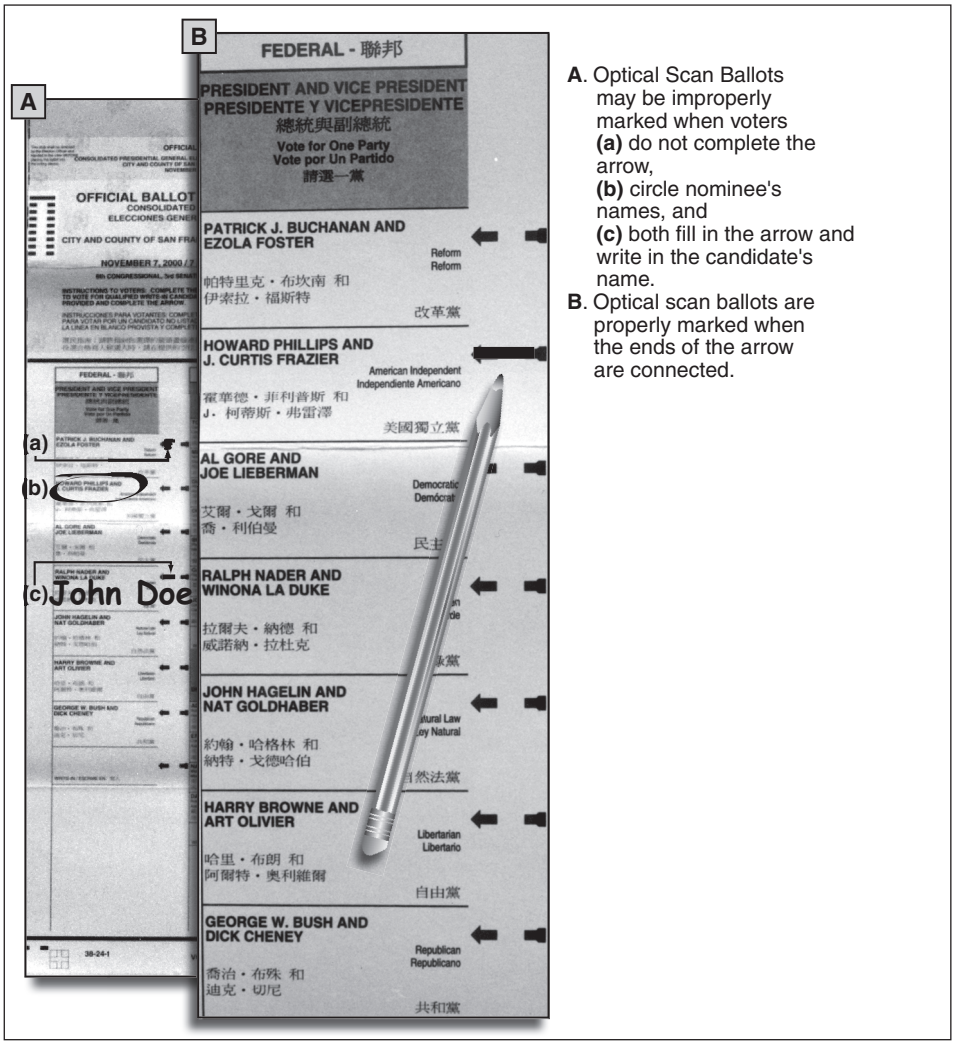
Processes for handling improperly marked ballots present a challenge for many election officials, especially when an election is close. Many states specifically require election officials to count ballots if the "intent of the voter" can be determined. Thirty-one states and the District of Columbia reported to us that they make some determination of voter intent. Voter intent issues arise with paper, optical scan, and punch card ballots, not when the ballots are marked properly for the type of ballot used, but when there are variations from proper marking. During the canvassing stage (when votes are counted and totals calculated), election officials are tasked with reviewing ballots that are not properly marked and sometimes required to determine how those voters intended to cast their votes.

After the polls close and ballots are returned to election headquarters, workers canvass the votes, a process that entails reviewing all votes by precinct, resolving problem votes, and counting all valid votes. At this point, workers deal with ballots that are either unclearly or improperly marked.

[13]The recommendations made to the Secretaries of Defense and State were made in *Elections: Voting Assistance to Military and Overseas Citizens Should be Improved* (GAO-01-1026, Sept. 28, 2001)

Ballots can be improperly marked in variety of ways that differ according to the type of voting equipment being used in a jurisdiction. Because the DRE and lever machines voters record the vote directly on the equipment rather than a separate ballot, there is no opportunity for a mismarked ballot. Paper, punch card, and optical scan ballots, however, can be improperly marked. For example, on an optical scan ballot voters may have circled a candidate's name, instead of completing the oval, box, or arrow next to the candidate's name as illustrated in figure 9.

Figure 9: Optical Scan Ballots Can Be Mismarked in a Variety of Ways



Source: Local election officials and GAO analysis.

Interpreting a mismarked ballot to determine the voter's intent can be a challenging process. While states may instruct officials to determine voter's intent on mismarked ballots, states do not always provide guidance on how to do so. Our work indicates that nationwide about 30 percent of local jurisdictions had no instructions, either from the state or local jurisdiction, on how to interpret voter intent, for example, how to read

stray marks on paper ballots or dimples or partially punched chads on punch card ballots. We estimate that about 15 percent of jurisdictions had instructions developed by the jurisdiction and 23 percent had both state and local written guidance.

National Survey Results

We estimate that nationwide about 32 percent of local election jurisdictions had no written instructions, either from the state or local jurisdiction, on how to interpret voter intent, such as stray marks on ballots or partially punched punch card boxes.

GAO Mail Survey of Jurisdictions

Developing processes to interpret a voter's intent can be challenging, and local jurisdictions vary in how they approach this task. Processes for handling punch card ballots illustrate this point. Jurisdictions we visited reported various ways to handle problem punch card ballots. For example, in one jurisdiction, election officials told us if the punch card ballot contains a dimple with a pinhole, employees put the original ballot over a pink (or duplicate) ballot and held it up to the light. Where they saw light, they punched. The employee also turned over the ballot and looked for bumps, which indicated the voter inserted the ballot backwards. If a ballot contained bumps on the backside, the ballot could be duplicated.

In another jurisdiction, a vote on a punch card consisted of any removed chad plus any chad that freely swung by one side. The person scanning the ballot inspected it for improperly punched chads by running the ballot through their fingers. In another jurisdiction, the ballot inspection teams are given a pair of tweezers and told to remove any chads remaining on the punch card.

One jurisdiction used persons called "scanners" to go over the ballots before they are counted. Each ballot is inspected for improperly punched chad by running the ballot cards between the scanners' fingers. Very loose chad will be removed through this process. If the chad does not come off and freely swings by one side, it may be removed. Problem ballots, such as

those that are unreadable because of incompletely removed punches or incorrect punches, can alter the counting results or create problems with the computer processing. They are given to "makeover scanners" to be remade.

Technology Challenges Include Assessing Why Equipment May Not Meet Needs, Collecting Useful Performance Data, and Updating Standards

While problems related to voting equipment performance during the November 2000 election received a great deal of media attention, the performance of voting equipment is not only a function of the technology design itself. The people who interact with the technology and the processes governing this interaction can also affect whether voting technology meets the needs of a jurisdiction. As a result, assessing why voting equipment may not meet needs of some jurisdictions can be difficult. Another challenge facing election officials involved obtaining reliable measures and objective data to make informed decisions about whether to invest in new voting equipment or to invest in measures to improve performance of existing equipment, such as maintenance personnel. Local jurisdictions do not always have the information they need to select the most appropriate investment option given their needs and resource constraints. Although 96 percent of local jurisdictions report that they are satisfied with their voting equipment, less than 50 percent of them collect data on how well their equipment performed. This information is vital for jurisdictions considering modernizing their equipment. Another challenge relates to developing and maintaining updated standards for voting equipment. Although the FEC is in the process of updating voting equipment standards issued in 1990, responsibility for establishing, maintaining, and implementing up-to-date standards for voting equipment has not been explicitly assigned. As a result, the 1990 standards have become dated.

Assessing Why Voting Equipment May Not Meet Jurisdictions' Needs Poses a Challenge

Understanding a jurisdiction's voting equipment needs and why voting equipment may not meet those needs can pose a challenge. In assessing whether voting equipment meets the needs of a jurisdiction's user communities (both the voters and the officials who administer the elections), election officials must have reliable measures and objective performance data. When voting equipment does not meet the needs of a jurisdiction, officials must also understand the cause or causes of the problem before they can choose an appropriate solution, such as more voter education, increased training for election workers, or acquiring new equipment. These causes can be difficult to identify because performance of voting equipment is not only a function of the technology design itself,

but also of the people who interact with the technology and the processes governing this interaction.

To illustrate this point, our survey of vendors showed little difference among the basic performance characteristics of DRE, optical scan, and punch card equipment.[14] However, when local election jurisdictions' experiences with the equipment are considered, performance differences among voting equipment became more evident. These differences arise because a real-world setting—such as an election in which equipment is operated by actual voters, poll workers, and technicians—tends to result in performance that differs from that in a controlled setting (such as in the manufacturer's laboratory). This difference demonstrates the importance of the effect of people and process on equipment performance.

While Some Voting Equipment Is Easier to Use, No Clear "Best Performer"

Figure 10 shows a relative comparison of certain characteristics—accuracy, ease of use, efficiency, and security—of the various types of voting equipment used in the November 2000 elections. The comparison reflects the results of our analysis of data provided by voting equipment vendors that responded to our survey and survey responses of 513 local election jurisdictions.[15] With appropriate maintenance and proper operation, most equipment performs on par with each other. Some voting technology is easier to use thus eliminating some opportunities for voter error. Overall, our analysis of both the vendor and jurisdiction data showed that DREs are slightly easier to use and slightly more efficient than the other types of equipment. In the area of security, DRE and optical scan are relatively equal, and in the area of accuracy, all equipment is relatively the same.

[14]Our vendor survey did not include lever machines because these machines are no longer manufactured.

[15]In our survey of jurisdictions, we grouped those that used punch card, lever, and hand-counted paper ballots, and placed them in an "other" category. In our vendor survey, we excluded lever equipment because it is no longer manufactured and, of course, hand-counted paper ballots, for which no equipment is needed.

Figure 10: Voting Technologies Perform Roughly on Par With Each Other

Characteristics	GAO analysis of vendor-reported data: Technology			GAO analysis of jurisdiction-reported data: Technology		
	DRE	Optical	Punch	DRE	Optical	Other[a]
Accuracy	●	●	●	●	●	●
Ease of use	○	●	●	○	●	●
Efficiency	●	●	●	○	●	●
Security	○	○	●	●	●	●

○ = Technology type performs slightly better relative to other technology types.

● = Technologies have relatively equal performance, or data were insufficient to judge.

● = Technologies have relatively worse performance.

[a]Other includes punch card, lever machines, and paper ballots

Source: GAO analysis.

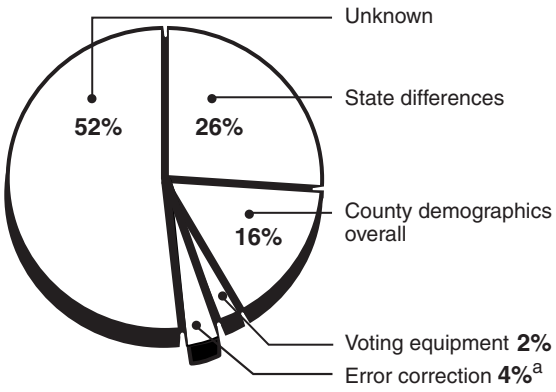
The differences among voting equipment can be attributed, in part, to the differences in the equipment itself. However, they also can be attributed to the people who use the equipment and the rules or processes that govern its use. Further, all voting equipment is influenced by security, testing, maintenance, and cost issues, each of which also involves people and processes.

In addition, the accuracy of voting equipment (as measured by how reliably the equipment captures the voter's intent) can be affected by the processes and procedures that govern how voters interact with the technologies. Differences in these procedures can have noticeable effects on the prevalence of undervotes (votes for fewer choices than permitted, such as not voting for president) and overvotes, for example. In particular, we found that some precinct-count optical scan voting equipment can be programmed to return a voter's ballot if the ballot is overvoted or undervoted. Such programming allows the voter to make any changes necessary to ensure that the vote is recorded correctly. However, not all states allow this. For example, election officials in one Virginia jurisdiction state that Virginia jurisdictions must accept ballots as cast.

Interaction Between People and Technology Affect Uncounted Votes

Our analysis showed that the type of voting equipment used (including equipment which allowed for error correction) explained a relatively small percent of the total variation among jurisdictions in uncounted presidential votes. The state in which counties were located had more of an effect on the number of uncounted presidential votes than either a county's voting equipment or demographic characteristics. Figure 11 shows the results of our analysis.[16]

Figure 11: Percentage of Total Variation in Uncounted Presidential Votes Explained By County Demographics, Voting Equipment, State Differences, and Unknown Factors



[a]This contribution of 4% results from an analysis of the 404 counties for which we had error correction information.

Source: GAO analysis.

Counties' demographic characteristics also affected their percentages of uncounted presidential votes. Specifically, counties with higher percentages of minority residents tended to have higher percentages of uncounted presidential votes, which counties with higher percentages of younger and more educated residents tended to have lower percentages of

[16]Our findings, which are based on aggregate statistics and only those data that were comprehensively available for the more than 2,000 counties included in our analyses, have methodological limitations that are inherent to statistical studies of this type.

uncounted presidential votes. Counties that used punch card equipment did not generally have higher percentages of minority, less educated, or lower income residents.

We found that the state in which counties are located had a greater effect on counties' percentage of uncounted presidential votes than did counties' voting equipment or demographic characteristics combined. State differences, which may have included such factors as statewide voter education efforts and state standards for determining that is a valid vote, accounted for 26 percent of the total variation in uncounted presidential votes across counties. County demographic characteristics accounted for 16 percent of the variation. Voting equipment, including the use of optical scan error correction technology, accounted for a total of about 6 percent of the variation in counties' uncounted presidential votes. The largest percentages of uncounted presidential votes tended to occur in counties that used punch card equipment. Counties that used optical scan equipment with error correction had about 1.1 percentage points fewer uncounted presidential votes than did counties with punch card equipment. The remaining 52 percent of variation was due to unknown factors such as whether a county switched to a new type of voting equipment or the number of inexperienced voters in a county.

Absence of Data Limit Ability to Make Informed Investment Decisions

Looking back to the technology used in the November 2000 elections, our survey of jurisdictions showed that the vast majority of jurisdictions were satisfied with the performance of their respective technologies. However, this satisfaction was in most cases not based on hard data, but on the subjective impressions of election officials. While these impressions should not be discounted, informed decision-making regarding where to make the most appropriate investments, for example, in new equipment, training for election workers, or voter education, requires more objective data. Acquiring new voting equipment is not the only investment option jurisdictions may consider, and, in some cases, may not be the most appropriate solution for jurisdictions who find their voting equipment does not meet their needs.

Making wise technology investment decisions present a challenge to our election systems. It is extremely important that election officials be able to define, measure, evaluate voting equipment performance so that they may properly assess whether their current technology is meeting their needs. This information is also important as election officials consider the suitability of available technology options to get the best return on their investment if they choose to modernize their voting equipment.

However, we found that about half of the jurisdictions did not collect actual performance data for the voting equipment that they used in the November 2000 election. Table 1 shows the percentage of jurisdictions that collected data on accuracy (which is one measure of performance) by type of voting equipment.

Table 1: Percentage of Jurisdictions That Collected Data on Accuracy, by Type of Voting Equipment

Technology	Percentage of jurisdictions that collected accuracy data
DRE	44[a]
Optical scan	54[b]
Other[c]	42[b]

[a] The 95-percent confidence interval is plus 7 or minus 8 percentage points.

[b] The 95-percent confidence interval is plus or minus 7 percentage points.

[c] Other includes punch cards, lever machines, and paper ballots.

Source: GAO mail survey of jurisdictions.

Further, it is unclear the extent to which jurisdictions have meaningful performance data. For those local election jurisdictions that we visited that stated that their voting equipment was 100-percent accurate, none was able to provide actual data to substantiate these statements. Similarly, the results of our mail survey indicates that only about 51 percent of jurisdictions nationwide collected data on undervotes, and about 47 percent of jurisdictions nationwide collected data on overvotes for the November 2000 election.

Jurisdiction election officials were nevertheless able to provide their perceptions about how the equipment performed. For example, our mail survey results indicated that 96 percent of jurisdictions nationwide were

satisfied with the performance of their voting equipment during the November 2000 election.

National Survey Results

We estimate that 96 percent of jurisdictions nationwide were satisfied with the performance of their voting equipment during the November 2000 election.

GAO Mail Survey of Jurisdictions

These perceptions aside, a lack of performance data may limit jurisdictions' abilities to select the most appropriate voting equipment that gives them the best return on their investment. Thus, without reliable performance data, were federal funds to be made available for the purchase of new voting equipment, over half of the jurisdictions in the U.S. would not be in the best position to make wise investment choices.

Updating and Implementing Voting Equipment Standards Presents a Challenge

While no federal agency has been assigned explicit statutory responsibility for developing voting equipment standards, the FEC assumed this role developing voluntary standards in 1990 for computer-based systems, and Congress has supported this role with appropriations. These standards describe specific performance benchmarks and address many—but not all—types of systems requirements. However, these standards have not been maintained and are now out of date (the FEC initiated plans to issue revised standards in 2002).

According to FEC officials, the Commission has not proactively maintained the standards because it has not been assigned explicit responsibility to do so. Without current, relevant, and complete voting equipment standards, states may choose not to follow them, resulting in the adoption of disparate standards that could drive up the cost of voting equipment and produce unevenness among states in the capabilities of their respective voting equipment.

No federal agency has been assigned responsibility for or assumed the role of testing voting equipment against the federal standards. Instead, NASED, through its Voting Systems Committee, has assumed responsibility for implementing the federal voting equipment standards by accrediting independent test authorities,[17] which in turn, test voting equipment against the standards. To this end, the committee has developed procedures to accredit the independent test authorities.[18] When testing is successfully completed, the independent test authorities notify the NASED that the voting equipment has satisfied testing requirements.[19] As of July 3, 2001, the Association had qualified 21 voting equipment, representing 10 vendors.

Because development, maintenance, and implementation of voting equipment standards are very important responsibilities, we are raising matters for congressional consideration regarding the explicit assignment of responsibility in these areas. Additionally, we are making recommendations to the FEC aimed at improving its efforts to update its 1990 voting equipment standards.[20]

The Interaction of People, Process, and Technology Needs To Be Considered

Our nation's election systems are complex and intricate. Successful election administration requires the appropriate integration of people, processes and technology. In the challenges that we have categorized as related primarily to this part of the system, it is important to note that each of them is related in some way to another part of the system. Therefore, in considering election reform proposals, it is important to remember that people, processes, and technology issues should not be addressed in isolation. Any reform proposal that influences one part of the system, for example, a process, may have an unforeseen and perhaps undesirable

[17]Independent test authorities are contractors independent from the voting equipment vendors and are responsible for testing voting equipment to ensure that they meet the Commission's standards.

[18]According to the NASED, accreditation signifies formal recognition that the independent test authority possesses or will acquire the competence to design and perform specific test methods applicable to voting equipment hardware and software, and that the test authority has adequately demonstrated its competence for voting equipment testing.

[19]Independent test authorities notify the Election Center, which serves as the NASED's Secretariat and maintains the list of the association's approved voting equipment.

[20]The matters for congressional consideration and recommendations to the FEC were made in *Elections: Status and Use of Federal Voting Equipment Standards* (GAO-02-52, Oct. 15, 2001).

effect on another part of the system, such as the people. Additionally, any problem attributed to people, processes, or technology might actually have its root cause in a different part of the system or be precipitated by a lack of integration among the components of the system.

For example, many problems that surfaced in the November 2000 election were attributed to faulty technology, more specifically to punch card machines. While voting technology may need to be modernized, our work showed that any of the types of voting equipment, if used properly, can reliably record a voter's selections. In most cases, technology was not the dominant factor related to voter error such as mismarked ballots or uncounted votes. Rather, problems were more closely related to voter error included processes that did not allow for poll workers and voters to recognize when errors occurred. In fact, one of the jurisdictions we visited that used punch card machines had a voter error rate of 1.2 percent, which election officials attributed in part to voter education efforts. Greater voter education on voting processes and equipment, rather than the purchase of new voting equipment, can be a more immediate way to resolve issues related to voter error.

Section 3: Framework for Assessing Election Reform Proposals

Our work and the work of others have disclosed a number of challenges to our national election system. As Congress considers if and how it may wish to address these challenges, it may turn to a number of reform proposals put forth by commissions or by proposed legislation. The proposals to date may be grouped into broad categories such as those listed below:

- providing federal funds for replacing voting equipment,
- providing federal funds for state or locally determined election administration needs,
- creating special postal rates, or requiring no postage, for election materials,
- creating federal election administration standards, mandatory or voluntary,
- updating FEC voluntary voting equipment standards and developing operation standards for voting equipment,
- developing or improving electronic voter registration systems and statewide information sharing capabilities,
- reforming absentee or early voting requirements,
- creating uniform statewide standards for what constitutes a vote and how votes are counted and recounted, and

- mandating the availability of provisional ballots for all jurisdictions.

Variation in specific proposals may occur because of many factors, including the source of the proposal.

Proposals may be crafted with various goals in mind—among them enhancing the accessibility, integrity, fairness, consistency, affordability, and sustainability of election systems. While all of these goals are consonant with our democratic traditions, some reform proposals may advance one goal at the expense of the other. For example, some officials promote reforms such as early voting to enhance the accessibility of the electoral process to the general public, while others claim such a move could open the door to voter fraud and thus may come at the price of the integrity of the election system. When reform proposals forward competing goals, the debate over election reform becomes more complex and assessing different reform proposals more difficult.

We do not presume to endorse any particular election reform proposal or package, because this is best left to the Congress and other elected officials. However, our review of state and local practices, as well as our analysis of input from state and local officials, suggest criteria that Congress could use as it weighs the merits of reform proposals.

- *Criterion I: The Appropriate Role of the Federal Government in Election Reform.* Does the proposed change call for an appropriate federal role in affecting election reform, given the historic balance struck between Congress' constitutional authority to legislate election administration and some states' laws and traditions that grant autonomy to local jurisdictions as they administer elections?

- *Criterion II: The Balance Between Accessibility and Integrity.*[21] How are the goals of providing citizens broad access to the voting process balanced against the public's interest in ensuring the integrity of our election systems?

- *Criterion III: Coordination and Integration of People, Processes, and Technology.* How does the proposed change affect both the discrete

[21]As used in this criterion, accessibility refers to voters' access to the political process rather than the access of a voter with disabilities to the polling place.

problem it is intended to resolve and the election system as a whole?

- *Criterion IV: The Affordability and Sustainability of Proposed Election Reforms.* Have the necessary resources been identified to institute the change and to continually monitor and re-evaluate it over time?

We believe using these criteria will help clarify the debate and provide a framework to evaluate the potential effects of various election reform proposals. The following sections further elaborate how Congress might use each of the four criteria.

A threshold consideration in assessing various proposals and legislation is the appropriate role of the federal government in effecting election reform. Pursuant to its constitutional authority, Congress has periodically enacted legislation that mandates elections be conducted in particular ways. For example, Congress has prohibited discrimination based on certain voter characteristics, such as race or age for both state and federal elections. In addition, Congress has broad authority to establish requirements for congressional elections that are binding on the states. As a practical matter, such requirements may also affect state and local elections held in conjunction with elections to federal office. Congress has enacted legislation affecting the timing of federal elections, voter registration, absentee voting for military and overseas civilian citizens of the United States, and voting accessibility for the elderly and the disabled in federal elections. These statutes have basically focused on facilitating the opportunity for voters to participate in the voting process and ensuring fair and equitable treatment of voters. Aside from direct regulation of election administration, Congress may also, in exercising its spending power, encourage state action by attaching conditions to the receipt of federal funds. The scope of congressional authority in election administration is discussed in our March 2001 report.[22]

[22]GAO-01-470, Mar. 13, 2001.

This constitutionally-derived authority notwithstanding, election administration has principally been the responsibility of state and local jurisdictions that conduct elections for local, state, and federal offices. As discussed elsewhere in this report, states and local jurisdictions have determined voter qualifications, types of voting equipment to be used, ballot design, selection of poll workers, and what constitutes a vote. This historical balance between Congress' constitutional authority to prescribe change and the states' and localities' traditional roles in defining the terms of election administration raises fundamental policy issues that must be confronted in the debate about the federal government's efforts to pursue election reform.

Various reform proposals offered to date differ in the role envisioned for the federal government. These can be categorized into essentially four distinct options for federal action that fall along a continuum of low- to high- federal involvement. The first option, falling on the low end of the continuum, calls for the federal government to provide information, guidance, and encouragement to states and local jurisdictions to take action in specific areas. At the second point on the continuum, a reform proposal may envision a more involved federal role that calls for the federal government to provide funds to states and localities to improve election administration, allowing each jurisdiction to use the funds where it believes they are most needed. At the third point on the continuum, proposals may go a step further suggesting that the federal government provide funds, contingent on states and local jurisdictions taking specific actions or achieving specific results. In this role the federal government uses a "carrot" to encourage a desired behavior by states and local jurisdictions. However, the states and local jurisdictions still have the ability to opt for the status quo by refusing the federal funds. At the fourth point on the continuum, where election reform would involve the greatest use of federal authority, the federal government would mandate that state and local jurisdictions take specific actions or achieve specific results--with or without accompanying funding. Historically, this option has been used when the federal government wishes to guarantee a voter right or protection.

By way of illustration, consider how Congress would reach different conclusions on the issue of replacing existing voting equipment given how it might use its authority. Many recommendations from recently completed studies and congressional legislative proposals call for providing federal assistance to state and local election jurisdictions for replacing voting equipment.

- Under the first option, Congress could require the FEC to act as a clearinghouse to gather and disseminate information and to sponsor research on the various types of voting equipment. The federal government would provide information, assistance, and advice that would make it easier for that state and local election jurisdictions to examine their choice of voting equipment in light of national data on specific practices or issues. This approach provides a minimal federal role in affecting change, leaving the greatest discretion and control to states and local election jurisdictions. This federal role would not entail disbursing federal funds to support purchase and installation of new technologies, leaving acquisition decisions up to local jurisdictions.

- Under the second option, the federal government could create a grant program that would make federal funding available to states to support purchase and installation of new voting equipment. Funds would be provided with no "strings" attached regarding which type of equipment the state could buy.

- Under the third option, the federal government could create a similar grant program to that in the second option, except that strings would be attached. For example, funds would only be provided for states to buy equipment that meets federal standards, or only for certain types of equipment (e.g., precinct-based optical scanners). This further limits local jurisdictions' discretion in choosing appropriate equipment and allows states to opt out of the program.

- Under the fourth option, the federal government could mandate that only certain types of voting equipment could be used in federal elections. Congress might or might not provide funding to enable states without this type of equipment to purchase and install it. Either way, jurisdictions would have no choice but to comply with the law and acquire that voting equipment, regardless of whether this choice best meets local needs. This option provides the least discretion. Because federal elections are usually conducted in conjunction with state and local elections, congressional mandates regarding the conduct of federal

elections would likely involve changes in many, if not all, state and local elections.

Criterion II Balancing Accessibility and Integrity

In addition to the appropriate federal role in election reform, the degree to which reform proposals may affect the accessibility and integrity of an election system, our work suggests, is an important criterion for Congress to use in assessing the effect of reform proposals on our election systems. Some proposals may seek to increase the general public's access to the election system. Accessibility describes the degree to which an election system promotes inclusiveness, thus making it as easy as possible for the general population to register to vote and to cast their votes. For example, reform proposals that attempt to (1) make voter registration less cumbersome, (2) give voters more opportunity to cast absentee or early ballots, or (3) provide voting equipment that all voters can use with ease can be considered as affecting an election system's accessibility. Other proposals may attempt to increase the system's integrity, that is, the degree to which the system is impervious to voter fraud. For instance, proposals may implement controls to ensure that (1) voters present identification or proof of eligibility at the polls on election day or (2) all eligible votes are counted can be said to affect an election system's integrity.

The goal of making the election system more accessible to voters can run at cross purposes with the goal of ensuring the election system's integrity. This tension suggests decision makers should ask how reform proposals balance the goals of providing all citizens broad access to the voting process against the public interest in ensuring the integrity of the vote.

Most election reform proposals address one or both of these concepts to some degree, with some placing more emphasis on one or the other. The weight individual policymakers may place on different concerns could vary, depending on how they value different attributes. For example, increasing the opportunity to use absentee ballots may improve access to the vote, but it also might negate the possibility of using some of the controls that may be used at a polling place to assure voter identification and eligibility. If increasing access to the vote is deemed more important than ensuring the

presence of rigorous controls, then reform proposals emphasizing accessibility considerations might be preferred.

In the past when Congress has taken action to change the election system, it considered both accessibility and integrity issues. Constitutional amendments and federal legislation affecting the election process opened access to those whose access was either denied or circumscribed—e.g., African-Americans, women, language minorities, people with disabilities. All of these reforms assumed the existence of controls to ensure that only those who were otherwise eligible among these groups would be able to register to vote and cast their ballots. The most recent federal statute affecting the election process—NVRA, or motor voter act—specifically recognized the dual goals of access and integrity. The act established registration procedures designed to "increase the number of eligible citizens who register to vote in elections for Federal office," without compromising "the integrity of the electoral process" or the maintenance of "accurate and current voter registration rolls."[23]

Creating a proper balance between accessibility and integrity is sometimes difficult, as seen in the following examples which illustrate the inherent tension between these competing goals:

- Requiring that citizens who register to vote present a form of picture identification with their residence's address provides some proof of identify and some assurance that the person resides in the voting jurisdiction and is therefore eligible to vote in the jurisdiction in which he or she is registering. However, this procedure makes it more difficult for persons to register to vote if they meet registration qualifications but do not have a driver's license or other picture identification indicating their place of residence.

- Providing a provisional ballot to every person who wishes to vote but is not listed in the poll books at the polling place maximizes the opportunity of every person to cast a ballot.[24] The purpose of checking whether these persons are in fact registered to vote prior to counting

[23]National Voter Registration Act of 1993, 42 U.S.C. 1973gg to 1973gg-10. Also see GAO-01-470, p. 12 and footnote 65).

[24]Provisional ballots are not an issue in those jurisdictions that do not require registration, such as North Dakota, or that permit eligible voters to register and vote on election day. Election day registration is permitted in six states.

their ballots is to assure that the vote count will include only ballots cast by eligible voters.

- Election officials may go to nursing homes to review absentee ballot requests, and accept ballots cast by nursing home residents while the officials are present to supervise the voting process. In effect, the nursing home becomes an unofficial polling place. Residents are provided a greater opportunity to vote but with better controls in place to address the potential that the absentee ballot might be voted by someone other than the registered voter.

- Allowing remote voting via the Internet may improve some voters' opportunities to cast a ballot. Although this method is in an experimental stage, unresolved questions about its impact on the integrity of election systems remain. As with other forms of remote voting, such as absentee voting by mail, there is a need to ensure that only eligible voters cast ballots, voter privacy is protected, and voters are not subject to coercion.

Criterion III — Integration of People, Processes and Technology

As Congress assesses various reform proposals, it may consider both reforms that address a discrete problem and that address the election system more broadly. Congress may also be asked to choose among proposals that address specific parts of a perceived problem or address perceived problems in a more systematic fashion.

Effective election administration requires the appropriate coordination and integration of people, processes, and technology. For example, successfully registering a new voter, whether the person registers by mail, at the Department of Motor Vehicles, or at the registrar's office, involves the coordination and integration of (1) voters and registration workers who know and follow the registration process, including obtaining the information required to register successfully; (2) the process for registering new voters that guides election workers as they supply the correct forms to voters, compile and update voter information, and notify voters of their registration status; and (3) a computer system or other means of creating and updating a voter registration list to assure an

accurate, current list of registered voters. Shortcomings in any of three areas can affect the ability of persons to register successfully and the accuracy of the registration rolls.

To illustrate the difference between approaching reforms from a discrete versus system-wide perspective, consider election reform proposals that recommend Congress provide assistance to states and localities to purchase new voting equipment in order to reduce voter error. Some of these proposals approach voter error as if it were precipitated by a single cause, such as the type of voting equipment used. However, introducing new technology alone may not necessarily reduce voter error. In fact, switching equipment actually may introduce new opportunities for voter error unless the jurisdiction deals with the people aspects of successfully fielding new voting technology and offers voter education on how to use the new equipment effectively. Moreover, successful implementation must include processes for dealing with machine failure, ensuring that the equipment is programmed properly to accurately count the votes for each office on the ballot and that the ballots and machines are secure. Failure to consider the interaction of people, processes, and technology in fielding new voting equipment may result in increased voter or counting error, rather than a decrease.

As a second example, some proposals suggest a change in process that establishes standard voting hours such that all polling places across the nation are opened and closed simultaneously, regardless of time zone. With this proposal, voters in every part of the country would cast their votes while the outcome of the election is still unknown, thus negating any influence that media reports of election results may have. Although voter participation might increase as a result, this proposal might also have unintended consequences for other parts of the election system. For example, keeping polling places open at earlier or later hours may increase the burden placed on poll workers. Some elections officials currently report difficulties in securing poll workers who are willing to work 15 to 18 hour days, a situation that might be exacerbated if poll workers were asked to work even earlier or later.

Criterion IV — Affordability and Sustainability of Proposed Election Reforms

The implementation of election reforms will likely increase the overall cost of our nation's election systems. Choosing among election reform proposals, therefore, should include a careful assessment of the affordability and sustainability of the reform as well as who is expected to shoulder the costs. Simply making funding available to state and local governments to implement a reform without consideration of whether all associated lifecycle costs have been considered or how the reform is to be sustained could result in having to revisit reform issues.

Historically, incurring the costs of election administration and equipment has largely fallen to local jurisdictions, with some support provided by the state governments. Elections have been conducted over the years with relatively small budgets, and election officials consistently find themselves competing for funds with other local government priorities. Our work confirmed that election administration is not usually at the top of state and local funding priorities. As an official in a large election jurisdiction told us, election administration is often number 11 in the top 10 priorities of local government budgets.

As a result, realistic reform proposals are those that not only identify solutions to the issues at hand, but are also affordable and sustainable with achievable financial commitments for the federal, state, and local government stakeholders. Along these lines, as Congress assesses reform proposals, it should consider three factors related to affordability and sustainability.

The first factor is the **initial outlay** required to fully implement the proposal. In this regard, the assessment should consider whether the initial outlay for the proposed reform would be affordable to the state and localities, including all associated and transition costs (e.g., training workers and voters to use new equipment and any changes to voting processes necessitated by new equipment). For example, were Congress to implement a proposal that requires all states to develop a state-wide voter registration system, some states might find themselves unable to comply unless federal funding sources were forthcoming. States with

budgetary pressures that prevented them from quickly implementing the federal requirement could be even less likely to supply the funding to comply with the federal requirements. In addition, the costs to the other components of election administration (e.g., the cost of training election workers to use the new voting technology) should also be considered.

The second factor is whether the federal government and/or state and local jurisdictions could afford the **long-term costs** of sustaining the proposed reform over time. Reform proposals that provide funding for purchasing new technology could enable some jurisdictions to upgrade their voting equipment. To the extent that a local jurisdiction could sustain the funding needed to continue its use, the performance of voting equipment would be improved. For example, if the federal government were to make funds available to purchase different voting technology (e.g., replacing punch cards with electronic equipment), it should have some assurance that the additional resources necessary to sustain the reform (e.g., software, programming capability, vendor support, and updates) would be available. However, not all jurisdictions are in a position to make that commitment.

The third factor is **assigning responsibility for costs**, and whether all levels of government could commit to implement and sustain the reform. As mentioned above, it is doubtful that every local jurisdiction could alone commit the resources necessary to fund many of the reforms envisioned in several proposals. However, they might be in a position to fund some of them, thereby making a commitment to the success of the reform. On the other hand, the question arises as to how much of a federal or state presence in local election administration is perceived as desirable or financially possible.

Section 4: Conclusion

Events surrounding the November 2000 election brought into question the integrity of our nation's election systems. Although not all states and jurisdictions reported experiencing major problems during the November 2000 election, important concerns were raised in most jurisdictions related to each stage of the election process—registration, absentee and early voting, preparing for and conducting election day activities, and vote tabulations. Congress has the opportunity to address these challenges now, to avoid similar problems in the future. However, addressing these challenges involves complex considerations and even more difficult choices when considering the range of proposals for election reform.

Accordingly, we have offered four criteria against which any election reform proposals may be measured. These may not be the criteria that every analyst would suggest, and each policymaker would not give the same weight to each criterion. However, if election system reform proposals were to be evaluated as to the (1) appropriate federal role in election reform; (2) balance between accessibility and integrity; (3) integration of people, process, and technology; and (4) affordability and sustainability of election reforms, Congress would have a good foundation for devising sustainable solutions that will meet the needs of future generations of U.S. citizens.

Results of Our Election Work

This section summarizes the major issues contained in the other six reports that we prepared on our nation's election systems. Table 2 lists the issues that we addressed in our elections work and the reports that discuss them in further detail.

Table 2: Election Issues and GAO Reports

Election Issues Addressed	GAO Election Reports
The scope of congressional authority in election administration	*Elections: The Scope of Congressional Authority in Election Administration* (GAO-01-470, Mar. 2001)
Compiling and maintaining voter registration lists, absentee and early voting, election day administration, voting technology, Internet-based voting technologies, vote counts, certification, and recounts	*Elections: Perspectives on Activities and Challenges Across the Nation* (GAO-02-03, Oct. 2001)
Voting accessibility for voters with disabilities	*Voters with Disabilities: Access to Polling Places and Alternative Voting Methods* (forthcoming)
Improving voting assistance for military and overseas voters	*Elections: Voting Assistance to Military and Overseas Citizens Should be Improved* (GAO 01-1026, Sept. 2001)
Status and use of federal voting equipment standards	*Elections: Status and Use of Federal Voting Equipment Standards* (GAO-02-52, Oct. 2001)
Factors affecting uncounted votes in the 2000 presidential election	*Elections: Statistical Analysis of Factors that Affected Uncounted Votes in the 2000 Presidential Election* (GAO-02-122, Oct. 2001)

Collectively, our extensive research shows that election systems vary widely across states and jurisdictions. It also shows that federal, state, and local governments face daunting, often long-standing challenges. In the following sections we summarize our findings and insights from each of our reports.

The Scope of Congressional Authority in Election Administration

This report describes Congress' constitutional authority to regulate congressional, presidential, and state and local elections and identify major federal statutes enacted in the area of election administration. Under the Constitution, states are responsible for the administration of both their own and federal elections. Accordingly, states and localities incur the costs associated with these activities.

Notwithstanding the state role in administering elections, Congress has authority to affect the administration of elections in certain ways. Congressional authority to legislate in this area derives from various constitutional sources, depending upon the type of election. With regard to

the administration of federal elections, Congress has constitutional authority over both congressional and presidential elections.

Congress' authority to regulate congressional elections derives primarily from Article I, Section 4, Clause 1 of the Constitution (known as the Elections Clause). The Elections Clause provides that the states will prescribe the "Times, Places and Manner" of congressional elections, and that Congress may "make or alter" the states' regulations at any time, except as to the places of choosing Senators. The courts have held that the Elections Clause grants Congress broad authority to override state regulations in this area. Therefore, while the Elections Clause contemplates both state and federal authority to regulate congressional elections, Congress' authority is paramount to that of the states.

With respect to presidential elections, the text of the Constitution is more limited. Specifically, Article II, Section 1, Clause 4, provides that "Congress may determine the Time of chusing the Electors, and the Day on which they shall give their Votes; which Day shall be the same throughout the United States." Despite this limited language, the Supreme Court and federal appellate courts have upheld certain federal statutory provisions regulating presidential elections that go beyond regulating the "time" of choosing the electors. However, because federal legislation that relates solely to the administration of presidential elections has been fairly limited, case law on this subject has been sparse. Consequently, the precise parameters of Congress' authority to pass legislation relating to presidential elections have not been clearly established.

With regard to state and local elections, although Congress does not have general constitutional authority to legislate regarding these elections, a number of constitutional amendments authorize Congress to enforce prohibitions against specific discriminatory practices in state and local elections, such as discrimination on the basis of race or color, in all elections—federal, state, and local.

Historically, Congress has passed legislation related to the administration of both federal and state elections in several major functional areas of the voting process, including: (1) timing of federal elections; (2) voter registration;[1] (3) absentee voting requirements;[2] (4) accessibility provisions for elderly and disabled voters;[3] and (5) prohibitions against discriminatory voting practices.[4] In general, the purpose of these federal statutes has been either to prohibit discrimination on the basis of specific voter characteristics or make it easier for citizens to register to vote.

Elections: Perspectives on Activities and Challenges Across the Nation

Our report on the administration of the 2000 elections presents the results of our review of aspects of elections in the United States. Specifically, we (1) describe elections in the United States and the activities and challenges associated with each of the four major stages of election administration—voter registration, absentee and early voting, preparing for and conducting election day activities, and vote tabulation; (2) identify the types of voting methods used, their distribution in the United States, and any associated challenges; assess such characteristics of voting equipment as accuracy, ease of use, efficiency, security, and cost; and estimate the cost of replacing existing voting equipment in the United States with either optical scan or electronic voting equipment; and (3) identify issues and challenges associated with the use of the Internet for voting.

Although registration is a prerequisite to voting in nearly all states, we found that different citizens with the same qualifications would be eligible to vote in some states but not in others because of variations in voter eligibility requirements. A citizen's access to voting is primarily based on the appearance of his or her name on a voter registration list, which is

[1]The National Voter Registration Act of 1993, commonly referred to as "motor voter." The Act requires states to establish certain procedures to facilitate the registration of voters in federal elections, both congressional and presidential, including permitting voters to register by mail or in person when applying for a driver's license.

[2]Uniformed and Overseas Citizens Absentee Voting Act of 1986 requires states to permit specified domestic and overseas military personnel and their dependents and citizens living overseas to vote by absentee ballot in federal elections.

[3]The Voting Accessibility for the Elderly and Handicapped Act of 1984 requires, with some exceptions, local election jurisdictions to assure that polling places and registration sites are accessible to elderly and disabled voters.

[4]The Voting Rights Act of 1965, as amended, provides, in general, that no person shall be denied the right to vote on account of race or color.

developed from registration applications and compiled and maintained by election officials using various technologies and information sources. Election officials nationwide expressed varying degrees of confidence in the accuracy of their voter registration lists; however, information about list accuracy and currency, as well as the extent of error, was difficult to obtain. Among the challenges identified were processing applications submitted through sources other than elections offices, such as state motor vehicle authorities; obtaining accurate and timely information from numerous sources to update voter registration lists; and using technology to help process applications and compile registration lists.

All states allowed some form of absentee or early voting in the November 2000 election; using U.S. Census data, we estimate that for the November 2000 election, about 14 percent of voters nationwide cast their ballots before election day, three-fourths of them using mail-in ballots and one-fourth voting in person. However, we found that no national data are currently maintained on the number of mail-in absentee ballots disqualified. Differences in requirements, administration, and procedures resulted in citizens having different opportunities for obtaining and successfully casting absentee ballots. For example, the likelihood of a ballot being disqualified due to voters' errors in completing and returning mail-in absentee ballots varied even, in some instances, among jurisdictions in the same state. Among the challenges local election officials face are deciding whether and how to process incomplete and late mail-in absentee applications and ballots; processing large numbers of mail-in absentee applications and ballots in a timely manner; and obtaining adequate staffing, ballots, and locations for conducting early voting.

Election officials across the country, with some variation, performed similar duties to prepare for and conduct the November 2000 election. Our survey indicated that 57 percent of voting jurisdictions nationwide encountered major problems in conducting the 2000 election. While jurisdictions did not experience the same problems, more than half cited problems with recruiting enough qualified poll workers. However, because few jurisdictions systematically collected information on how they administer elections, what they consider to be major problems may be based on anecdotal information and limited analysis. From the perspective of election officials, a major election day challenge is resolving questions about voter eligibility. Large numbers of ineligible voters can create long lines, voter frustration, and problems for poll workers. Many eligibility issues stem from the reliability of voter registration lists.

Counting votes is not a simple task. It involves counting votes cast before and on election day and may be carried out at the precinct, at a central location, by hand, or by some type of counting equipment. Vote counting problems are highlighted when the election results are close. A ballot may not be counted when a voter overvotes—marks for two candidates--or when the ballot cannot be read by the counting equipment. What constitutes a proper mark on a ballot differs based on the type of voting method used. According to our survey of state election directors, 31 states and the District of Columbia have a state law or other provision specifying what is a proper ballot marking for each voting method, but state guidance also varied from general to specific. Forty-seven states and the District of Columbia have laws with provisions for recount, but they vary. For example, 17 states provide for a mandatory recount, but two of these require a tie vote and another requires a 1 percent or 200 vote difference. According to officials in 42 of the jurisdictions that had recounts in the 2000 election, none of the recounts altered the original election outcome. Counting ballots posed several challenges for election officials, including counting only votes cast by eligible voters; interpreting variations when ballots are not properly marked; and completing the results of a recount in a close or contested election in a fair, accurate, and timely manner.

Four types of voting equipment—punch card, optical scan, lever, and DRE—were used in 98 percent of all election jurisdictions in 2000.[5] While a survey of vendors showed little performance difference among DRE, optical scan, and punch card equipment, local election officials we contacted rated DRE as more easy to use than other voting methods. Only about 50 percent of jurisdictions collected data on accuracy and few of the jurisdictions we visited had collected actual performance data on the voting equipment used in the 2000 election. Nevertheless the vast majority of jurisdictions across the nation were satisfied with their respective voting equipment, based largely on officials' perceptions of how their equipment performed. The cost to replace existing voting equipment depends on the type of equipment purchased and the number of jurisdictions for which it is purchased. We estimated the cost of purchasing optical scan units, not including certain software costs, could range from $191 million for optical scan machines that use a central-count unit to about $1.3 billion for optical scan equipment that counts ballots at the precinct and thus allows for voter error correction. We estimated the cost of purchasing touchscreen DRE units to be about $3 billion (including one DRE touchscreen unit per

[5]Two percent of jurisdictions used paper ballots; no "equipment" was required.

precinct equipped for voters with disabilities and one central count optical scan unit per county for absentee ballots). Among the voting equipment challenges identified by election officials were having reliable measures and objective data to know whether the technology used is meeting the jurisdictions' needs; ensuring that necessary security, testing, and maintenance activities are performed; and ensuring that the technology will provide benefits over its useful life commensurate with life cycle costs and that these collective costs are affordable and sustainable.

Our review identified three kinds of internet voting--at a polling place; in a voting "kiosk" at public places, such as malls or libraries; or at any location, including the voter's workplace or home through a personal computer. Although opinion is not unanimous, security is seen as the primary challenge for Internet voting. The cost effectiveness of Internet voting remains unclear because reliable cost data are not available. The broad application of Internet voting presents several social and technological challenges, including providing adequate voter privacy safeguards, security for voting equipment to ensure that it is adequately safeguarded, and equal access to all voters.

Voting Accessibility for Voters with Disabilities

This report examines state and local provisions and practices for ensuring voting accessibility, both at polling places and with respect to alternative voting methods and accommodations; estimates the proportion of polling places with features that might facilitate or impede access, including features of polling booths and voting accommodations; and identifies efforts and challenges to improving accessibility.

All states[6] have provisions (in the form of statutes, regulations, or policies) that specifically address voting by people with disabilities. However, consistent with the broad discretion afforded states, these provisions vary greatly. State laws and policies also vary on how counties are to assure accessibility of polling places. Our survey of counties confirms that most counties inspect all polling places for accessibility, although county practices for ensuring accessibility vary.

All states provide for one or more alternative voting methods or accommodations that may facilitate voting by people with disabilities

[6]For analytical purposes we treated the District of Columbia as a state, resulting in a total of 51 states.

whose assigned polling places are inaccessible. For example, all states have provisions allowing voters with disabilities to vote absentee without notary or medical certification requirements, although the deadlines and methods (for example, by mail or in person) for absentee voting vary among states. In addition, many states, but not all, have laws or policies that provide for other accommodations and alternatives for voting on or before election day—such as reassignment to a polling place that is accessible, curbside voting, or early voting.

Our onsite work on election day 2000 found that polling places are generally located in schools, libraries, churches, and town halls, as well as other facilities. Although the extent to which any given feature may prevent or facilitate access is unknown, we estimate that, from the parking area to the voting room, 16 percent of all polling places in the contiguous United States have no potential impediments, 56 percent have one or more potential impediments but offer curbside voting, and 28 percent have one or more potential impediments and do not offer curbside voting.[7] These potential impediments would primarily affect individuals with mobility impairments and occur most often on the route from the parking area to the building or at the entrance to the polling place. Inside the voting room, the types and arrangement of voting equipment used may also pose challenges for people with mobility, vision, or dexterity impairments. To facilitate voting inside the voting room, polling places generally provide accommodations, such as voter assistance, magnifying devices, and voting instructions or sample ballots in large print. However, none of the polling places that we visited had special ballots or voting equipment adapted for blind voters.[8]

A number of efforts have been made by states and localities to improve voting accessibility for people with disabilities, such as modifying polling places, acquiring new voting equipment, and expanding voting options. Nevertheless, state and county election officials we surveyed cited a

[7]Although curbside voting is not available at a number of polling places with potential impediments, as noted earlier all states have provisions for absentee voting, and many states provide for other alternative voting methods or accommodations, which may facilitate voting by people with disabilities on or before election day.

[8]Although we did not observe such aids on election day, some county officials told us that, upon request, they try to provide special aids so that blind individuals can vote independently. We may not have observed these aids on election day because they may not have been requested in advance by voters in the polling places that we visited or the local poll workers we interviewed may not have been aware of these aids.

variety of challenges to improving access, including limited availability of accessible facilities and funding constraints at the local level. Some disability advocates believe that although alternative voting methods and accommodations, such as curbside voting, expand options for voters with disabilities, they do not provide the same voting opportunities afforded the general public (that is, the opportunity to vote independently and privately at a polling place) and should not be viewed as permanent solutions for inaccessible polling places.

Improving Voting Assistance for Military and Overseas Voters

This report describes the extent and quality of voter assistance provided for uniformed and overseas citizens; the challenges that state and local requirements may pose to these voters; and the extent of and reasons for disqualification of ballots cast by these voters.

The Uniformed and Overseas Citizens Absentee Voting Act of 1986[9] protects the right to vote by absentee ballot in federal elections for more than 6 million military and overseas citizens. The act also recommends that states adopt a number of provisions that facilitate absentee voting by these populations. The Federal Voting Assistance Program, established within the Department of Defense (DOD), is responsible for implementing the act by informing U.S. citizens worldwide about their right to vote, fostering voting participation, and working with states to simplify the registration and absentee voting process. Voter education and assistance efforts for military personnel are largely implemented by the military services through Voting Assistance Officers. Also, the State Department works with DOD to provide voter assistance to overseas citizens.

The extent and quality of federal voter assistance for military personnel and overseas citizens varied considerably for the 2000 general election. The Federal Voting Assistance Program developed a number of useful tools for voters and Voting Assistance Officers, but many potential voters we spoke to were unaware of them. While some installations we visited had well run programs providing assistance and information to potential voters, other installations did not meet DOD and service requirements because they did not provide sufficient numbers of trained Voting Assistance Officers, voter training, and voting materials. The variability in executing the program is due to incomplete service-level guidance that does not

[9] 42 U.S.C. 1973ff-1973ff-6.

reflect DOD's directive, a lack of command support at some installations, and a lack of program oversight by some DOD components. Finally, the State Department provided citizens abroad with a variety of useful assistance, according to overseas citizens and federal employees we spoke to, although both groups believed more outreach could be beneficial. Also, State Department Headquarters has not played an active role in sharing best practices and lessons learned or in overseeing the program.

Despite progress made by states to facilitate absentee voting, many military and overseas voters we spoke to believe that challenges remain, including helping voters understand and comply with state requirements and local procedures for absentee voting, such as deadlines for registering and returning ballots. Continued efforts by DOD officials to work with the states to simplify procedures, modify election schedules, or allow more use of technology, such as faxing and the Internet, to speed some portions of the voting process may help alleviate the challenges, but state legislative actions may be required.

Although precise numbers are not available, we estimate that small counties (having a voting-age population of less than 60,000) nationwide disqualified 8.1 percent (plus or minus 3.2 percent) of ballots cast by military and overseas voters. In contrast, the ballot disqualification rate for civilian voters not living overseas was 1.8 percent (plus or minus 0.6 percent).[10] While larger counties (having a voting age population of more than 60,000) that responded to GAO's survey showed a similar pattern, the data were insufficient to make a national estimate.[11] The survey showed that for all absentee ballots cast, almost two-thirds of the disqualified absentee ballots were rejected because the ballots arrived too late to be counted or the envelopes or forms accompanying the ballots were not completed properly.

This report includes recommendations to the Secretaries of Defense and State to improve (1) the clarity and completeness of service guidance, (2)

[10]The confidence intervals in this report are calculated at the 95-percent confidence level. For example, we are 95 percent certain that the actual disqualification rate for civilians not living overseas was between 1.2 and 2.4 percent

[11]Not enough counties in the sample provided data on the reasons ballots were disqualified from specific groups of voters, such as military versus non-military, to enable GAO to make reasonable estimates for these groups

voter education and outreach programs, (3) oversight and evaluation of voting assistance efforts, and (4) sharing of best practices.

Status and Use of Federal Voting Equipment Standards

This report identifies the Federal Election Commission's (FEC) role regarding various voting equipment and assesses how well the FEC is fulfilling its role. Our work also identifies the National Association of State Election Directors' (NASED) process for testing and qualifying voting equipment.

No federal agency has been assigned explicit statutory responsibility for developing voting equipment standards; however, the FEC assumed this role by developing voluntary standards in 1990 for computer-based equipment, and Congress has supported this role with appropriations. These standards describe specific performance benchmarks, and address many—but not all—types of systems requirements. In 1997, the FEC initiated efforts to evaluate the 1990 standards to identify areas to be updated, and in 1999, initiated efforts to update the standards. The FEC plans to issue revised standards in 2002. This update is necessary because the FEC has not proactively maintained them, thus allowing them to become out of date. According to FEC officials, the FEC has not proactively maintained the standards because it has not been assigned explicit responsibility to do so. Unless voting equipment standards are current, relevant, and complete, states may choose not to follow them, resulting in the adoption of disparate standards that could drive up the cost of voting equipment and produce unevenness among states in the capabilities of their respective voting equipment.

No federal agency has been assigned responsibility for or assumed the role of testing voting equipment against the federal standards. Instead, NASED, through its Voting Systems Committee, has assumed responsibility for implementing the federal voting equipment standards by accrediting independent test authorities,[12] which in turn, test voting equipment against the standards. To this end, the committee has developed procedures to accredit the independent test authorities.[13] According to the test authorities, testing is generally iterative, in which the voting equipment vendors are provided an opportunity to correct deficiencies identified during testing and resubmit the modified voting equipment for retesting. When testing is successfully completed, the independent test authorities notify the NASED that the voting equipment has satisfied testing requirements.[14] As of July 3, 2001, the NASED had qualified 21 different types of voting equipment, representing 10 vendors.

Because development, maintenance, and implementation of voting equipment standards are very important responsibilities, we are raising matters for congressional consideration regarding the explicit assignment of responsibility in these areas. Additionally, we are making recommendations to the FEC's Commissioners aimed at improving its efforts to update its 1990 voting equipment standards.

Statistical Analysis of Factors Affecting Uncounted Votes in the 2000 Presidential Election

Our analysis of data from 2,455 counties shows that the type of voting equipment that counties used in the 2000 general election had an effect on uncounted presidential votes. Specifically, counties that used punch card equipment had roughly 0.6 percentage points higher percentages of uncounted presidential votes than counties using electronic, paper, or optical scan voting equipment. Counties using lever equipment had 0.7 percentage points lower percentages of uncounted presidential votes than counties using electronic, paper or optical scan voting equipment. When

[12]Independent test authorities are contractors independent from the voting equipment vendors who are responsible for testing voting equipment to ensure that they meet the FEC standards

[13]According to the NASED, accreditation signifies formal recognition that the independent test authority possesses or will acquire the competence to design and perform specific test methods applicable to voting equipment hardware and software, and that the test authority has adequately demonstrated its competence for voting equipment testing

[14]Independent test authorities notify the Election Center, which serves as the NASED's Secretariat and maintains the list of the association's approved voting equipment

we supplement this analysis with information about the performance of optical scan equipment with error correction from our sample of 404 counties, we found that counties using punch card equipment had significantly higher percentages of uncounted presidential votes than counties using error corrected optical scan equipment. If we apply the relationship we found in these 404 counties to the larger set of 2,455 counties, an estimated 300,000 additional votes may have been counted if counties that used punch card equipment had, instead, used optical scan equipment with error correction. Overall, county voting equipment accounted for 2% of the variation in uncounted presidential votes across counties. Additionally, the analysis of the subset of 404 counties showed that the use of error correction accounts for another 4% of variation in uncounted presidential votes across counties.

We found that counties' demographic characteristics accounted for about 16 percent of the total variation in uncounted presidential votes. Counties with higher percentages of minority residents were more likely to have higher percentages of uncounted presidential votes. Counties with higher percentages of 18- to –24 year olds and higher education were more likely to have lower percentages of uncounted presidential votes.

The state in which counties are located accounted for about 26 percent of the total variation in uncounted presidential votes. Data were not available to examine the extent to which specific factors that were common to counties within a state but varied across states affected uncounted presidential votes. However, such factors may include statewide voter education efforts, the number of candidates on the ballot, the extent to which absentee or early voting occurred, and the state's standards for determining that is a valid vote. Non-election specific factors, such as the percentage of the state's population for which English is a second language, may have also contributed to the variability in uncounted presidential votes.

Our statistical models left about half of the variation in uncounted presidential votes unexplained. Several factors may have contributed to this remaining variability, including differences among counties, precincts, and people. An example of this type of difference is whether a county had switched to a new type of voting equipment that voters found difficult to operate.

Our findings, which are based on aggregate statistics and only those data that were available for our sample of 2,455 counties, and the subset of 404

counties, have methodological limitations that are inherent to statistical studies of this type.

List of Recently Issued Election Reports

GAO Reports

Elections: Perspectives on Activities and Challenges Across the Nation (GAO-02-03, Oct. 2001).

Elections: Status and Use of Federal Voting Equipment Standards (GAO-02-52, Oct. 2001).

Voters with Disabilities: Access to Polling Places and Alternative Voting Methods (forthcoming).

Elections: Voting Assistance to Military and Overseas Citizens Should be Improved (GAO-01-1026, Sept. 2001).

Elections: Statistical Analysis of Factors that Affected Uncounted Votes in the 2000 Presidential Election (GAO-02-122, Oct. 2001).

Elections: The Scope of Congressional Authority in Election Administration (GAO-01-470, Mar. 2001).

Bilingual Voting Assistance: Assistance Provided and Costs (GAO/GGD-97-81, May 1997).

Other Recent National Reports

The Constitution Project, *Building Consensus for Election Reform* (Aug. 2001).

National Association of Secretaries of State, *State-by-State Election Reform Best Practices Report* (Aug. 2001).

The National Commission on Federal Election Reform, *To Assure Pride and Confidence in the Electoral Process* (July 2001).

National Conference of State Legislatures, *Voting in America: Final Report of the NCSL Elections Reform Task Force* (Aug. 2001).

National Task Force on Election Reform, *Election 2000: Review and Recommendations by The Nation's Elections Administrators* (Aug. 2001)

Caltech-MIT Voting Technology Project, *Voting: What Is, What Could Be* (July 2001).

State Commission and Task Force Reports

(alphabetical order by state)

The Governor's Select Task Force on Election Procedures, Standards, and Technology, *Revitalizing Democracy in Florida* (Mar. 2001).

Hon. Cathy Cox, Georgia Secretary of State, *The 2000 Election: A Wake-Up Call For Reform and Change - Report to the Governor and Members of the General Assembly* (Jan. 2001).

Hon. Chet Culver, Iowa Secretary of State, Commissioner of Elections, and Registrar of Voters, *Iowa's Election 2000: Facts, Findings, and Our Future* (Mar. 2001).

Hon. Ron Thornburgh, Kansas Secretary of State, *Kansas Secretary of State's Six-Point Election Improvement Plan* (Jan. 2001).

Special Committee on Voting Systems and Elections Procedures in Maryland, *Report and Recommendations* (Feb. 2001).

Hon. Matt Blunt, Missouri Secretary of State, *Making Every Vote Count: Report of Secretary of State Matt Blunt to the People of Missouri* (Jan. 2001).

Hon. Bob Brown, Montana Secretary of State, *2001 Election Reform Plan* (2001).

Office of New York Attorney General, Eliot Spitzer, *Voting Matters in New York: Participation, Choice, Action, Integrity* (Feb. 2001).

Hon. Henry Cellar, Texas Secretary of State, *Texas Overvote/Undervote Study* (Jan. 2001).

Secretary of State Deborah L. Markowitz, *Review of Vermont's Election Administration and Proposals for Improvement* (Jan. 2001).

United States
General Accounting Office
Washington, D.C. 20548-0001

Official Business
Penalty for Private Use $300

Address Correction Requested

Presorted Standard
Postage & Fees Paid
GAO
Permit No. GI00