# Who Cures Ballots: Evidence from North Carolina's 2020 General Election

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#### Abstract

Some states specify a cure process so that voters can address deficiencies with returned mail ballots that would cause them to be rejected. We identify three key elements of a cure process that we theorize affect whether voters utilize it to make their ballots count. First, the process through which voters learn about disqualifying deficiencies on their ballots. Second, the actions available to voters to cure their ballots. Third, whether stakeholders who engage in voter outreach are given information about ballots with disqualifying deficiencies. We highlight the importance of these elements in the cure process used by North Carolina in the 2020 general election. In this election, about 82 percent of the roughly 26,000 voters who submitted mail ballots eligible for a cure process ultimately cast a counted ballot. About 39 percent of these counted ballots were cured in-person and greater access to in-person curing options increased the likelihood that a ballot was cured. Democratic and non-major party registrants cured their ballots more often than Republican registrants, particularly when they lived in a county in which the Democratic Party was running a coordinated campaign focused on curing. While election officials sometimes attempted to inform voters by phone about the need to cure, there was no clear relationship between having a phone number recorded in a registration record and the likelihood that a ballot was cured.

## 1 Introduction

The massive increase in the use of mail balloting in the United States during the 2020 elections raised the salience of rules and regulations structuring the verification of mail ballots. Because mail ballots are typically not cast in the presence of elections officials, states use a variety of mechanisms to verify that they were cast by the intended registrants. These include signature verification, notarization, and witness and identification requirements (Bloomgarden et al., 2021). Returned mail ballots may not count when they fail to satisfy one of these requirements. About one percent of the returned mail ballots in the 2016 general election were rejected, with over half of these rejections being due to a non-matching voter signature, a lack of a voter signature, or a lack of a witness signature (see U.S. Election Assistance Commission, 2017b, Table 1).

Curing prevents mail ballots with disqualifying deficiencies from being rejected. We use the term curing in this article to refer to a voter taking action to cast a counted ballot after initially submitting a mail ballot with a disqualifying deficiency.<sup>1</sup> The process of curing involves two stages. In the first stage, voters are informed that they cast mail ballots with disqualifying deficiencies. Election officials in at least 24 states are statutorily mandated to attempt to contact voters who cast mail ballots with certain issues (see National Conference of State Legislatures, 2022, Table 15 for a description of these state laws). Voters may also find out about problematic ballots through voluntary outreach by elections officials, ballot tracking websites, and campaigns. In the second stage, some voters who learned that their mail ballots have disqualifying deficiencies take actions to make their ballots count. Depending on the state, voters may be able to do this through an attestation process, by casting a new mail ballot, or by casting an in-person ballot at a county elections office or

<sup>&</sup>lt;sup>1</sup>Our definition of curing encapsulates both the correction of the deficiency on the returned mail ballot and the submission of a replacement ballot. This definition is consistent with how curing was used in RNCv. Chapman (Pa. Commw. Ct. No. 102 MM 2022). Curing is sometimes more narrowly defined only as the correction of the deficiency on the returned mail ballot. For example, North Carolina election officials use the word cure only to refer to correcting deficiencies on returned ballots (North Carolina Board of Elections, 2020a). The key distinction is whether you are focused on whether any ballot is counted or whether the initially submitted ballot is counted.

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We identify three elements of a cure process that we theorize affect whether voters take action to cure their ballots. First, the process through which voters learn about about disqualifying deficiencies on their ballots. Voters must notice and find credible information provided to them about the need to cure their ballots. Second, the actions available to voters to cure their ballots. Especially when the deficiency is discovered close to Election Day, we conjecture that voters will be more likely to cure their ballots if they can do so without having to fill out a new ballot. Third, whether information about ballots with disqualifying deficiencies is available to stakeholders who engage in voter outreach. This is because stakeholders and inform and assist voters who need to cure their ballots in ways that would be infeasible or inappropriate for election officials.

We test our theory by studying curing in North Carolina's 2020 general election. In this election, many voters who submitted mail ballots with disqualifying deficiencies could cure these ballots by submitting an Absentee Cure Certification (ACC), who we refer to as ACC-eligible voters. We identify a set of about 26,000 ACC-eligible voters by combining data on returned absentee ballots that were posted online daily by the North Carolina Board of Elections (NCBOE). We find that about 82 percent of these ACC-eligible voters cured their ballots. About 39 percent of this curing was done by voters casting early in-person or Election Day ballots.

We generate several hypotheses about how the characteristics of ACC-eligible voters are expected to relate to their likelihood of curing their ballots. Because election officials sometimes called voters to inform them about the need to cure their ballots, we hypothesize that voters with a phone number recorded in their registration record will be more likely to cure their ballots than voters without a phone number recorded in their registration record. We also predict that voters will be more likely to cure their ballots when there are in-person curing options available. Finally, we conjecture that registered partisans will be more likely to cure their ballots than voters not registered with a major party because of campaign mobilization, particularly when a registrant's party is actively promoting curing efforts in their local area.

The patterns of curing that we observe mostly aligned with our expectations. Greater access to in-person curing options associated with an increased likelihood that a ballot was cured. And ACC-eligible voters with a Democratic party of registration were slightly more likely to cure their ballots than ACC-eligible voters who did not register with a major party, particularly when they lived in a county in which the Democratic party was running a coordinated campaign focused on curing. But inconsistent with our expectations, ACC-eligible voters with a Republican party of registration were less likely to cure their ballots than ACCeligible voters who did not register with a major party. And there was no clear relationship between having a phone number recorded in a registration record and the likelihood that a ballot was cured.

This paper proceeds as follows. Section 2 presents our theory of when voters engage in curing. Important features of the North Carolina context that we are studying are highlighted in Section 3. Our data are detailed in Section 4, while Section 5 lays out our hypotheses about the relationships we expect to find in these data. Section 6 describes our results, with Section 7 discussing their implications and avenues for future scholarship.

### 2 Theory

Riker and Ordeshook's (1968) canonical model of voter turnout posits that people vote when the instrumental and expressive benefits received from voting outweigh the costs associated with casting ballots. We argue that a similar model can be applied to understand whether voters choose to pay the costs necessary to cure mail ballots with disqualifying deficiencies. Voters who are aware of problems with their returned ballots will take actions to cure these ballots when the instrumental and expressive benefits from having their ballots count outweigh the costs of taking actions to cure it. We expect that many voters who return mail ballots with disqualifying deficiencies find that the benefits from having their ballots count outweigh the costs of taking actions to cure them. The act of initially returning a mail ballot reveals that an individual perceived that the expected benefits from voting outweighed the expected costs of mail balloting when the or she initially requested, filled out, and submitted the mail ballot. Absent a reduction in the benefits from, or increase in the costs of, voting, someone who casts a mail ballot with a disqualifying deficiency should continue to find that the costs associated with requesting, filling out, and submitting a second mail ballot are less than expected benefits of doing so.

Some voters will experience decreased benefits from, or increased in the costs of, voting after submitting their mail ballots. While political interest tends to be a relatively stable trait in the short-run (Prior, 2010), some voters may find that their excitement to vote wained after they initially returned their ballots. Voters may also perceive reduced benefits from voting if their confidence in election administration declined after being told that their ballots contained disqualifying deficiencies. If this reduced confidence is specific to trust in mail balloting, voters may prefer to shift to in-person voting moving forward. And for voters who learn about problematic ballots after Election Day, there could be a decreased sense that their votes matter when initial vote totals are known.

There are also reasons why voters may find that a second mail ballot is more costly to request, fill out, and submit than the first. As Election Day gets closer, voters may have less flexibility in when they take these actions. At some point, it may not be feasible for election officials to get new ballots to voters in time for them to return it by their state's statutory ballot-receipt deadline. In such cases, casting a new ballot could require the voter to show up to a county elections office or polling place. This may be challenging for some mail-ballot voters, especially those who are using mail ballots precisely because they face high costs of in-person voting.

Policies that help reduce the costs of curing may be particularly important for voters who experience decreased benefits from, or increased in the costs of, voting after submitting their mail ballots. One of these policies is automatically sending a new mail ballot to a voter who returned one with a disqualifying deficiency. Another is allowing voters to cure by attestation rather than requiring them to return new ballots. One of the rationales for attestation is that the time costs associated with attestation are generally lower than the time costs associated with returning a new ballot. Attestation can often be done electronically, which is particularly helpful for voters who learn about the need for curing close to Election Day. Finally, there is increased flexibility in when election officials must receive attestation as opposed to new ballots. While new ballots can only be counted when received by a state's statutory ballot-receipt deadline, a state can setup a process through which voters correct disqualifying deficiencies on timely-received mail ballots using attestation received after the ballot-receipt deadline. Such a process is necessary if a state wants to allow voters to cure ballots with problems that were not identified until after Election Day.

Because we expect that many mail-ballot voters find the benefits of having their ballots count outweigh the costs of curing, we contend that the rates of curing will depend heavily on the frequency with which voters learn about the need to cure ballots in time to take action. Provision of information about disqualifying deficiencies is necessary if voters are going to learn about the need for curing. But journalistic accounts highlight cases in which a voter never saw a mailer sent to them about their need to cure (e.g., Markus, 2022) or assumed that the mailer was part of a scam (e.g., Spears, 2022). Thus, voters will be more likely to learn about the need for curing if they notice and find credible any information that is provided to them.

When political parties and other stakeholders are aware of the specific mail ballots that are in need of curing, they are incentivized to take actions to increase the chances that their supporters' ballots are counted. This may include additional efforts to inform a voter about their problematic ballot. Or actions that lower the cost of curing the ballot, like assisting the voter in filling out a cure form or providing the voter with transportation to a polling place or an elections office. Some of these efforts may largely replicate the efforts undertaken by elections officials. Others, like applying social pressure about the importance of curing the ballot to support a specific political cause, would not be taken by election officials and thus are only likely to be present if information about who cast problematic mail ballots is broadcast beyond the individually affected voters.

Sparse data limit what is currently known about the frequency with which voters cure ballots that contain disqualifying deficiencies or whether this frequency varies over different types of voters or contexts. The Election Assistance Commission's Election Administration and Voting Survey does not collect information on curing, and thus there is no mention of it in the U.S. Election Assistance Commission's (2021) retrospective on the administration of the 2020 general election. What information is available about the frequency with which voters take advantage of opportunities to cure their ballots is often buried within media reports about specific elections (e.g., Geringer-Sameth, 2021; Calderon, 2022). Two exceptions are Smith (2021) and Southern Coalition for Social Justice (2021), which focus on the use of curing in Florida and North Carolina, respectively, in the 2020 general election. Smith reports that about 73 percent of Florida voters who initially submitted mail ballots with disqualifying deficiencies eventually took actions to make a ballot count. Using nearly the same data that we analyze in this paper, Southern Coalition for Social Justice concludes that about 83 percent of North Carolina voters who were eligible to submit an ACC took actions to make a ballot count. Both Smith and Southern Coalition for Social Justice examine whether voters from certain demographic groups are more or less likely to fix disqualifying deficiencies on mail ballots. Both studies report that Black voters were more likely than non-Black voters to take actions to make a ballot count, with Smith also showing that older voters were more likely to cure their ballots than younger voters. We expand upon these analyses by looking not only at a broader set of demographic and contextual factors, but also several features of voters and their context that relate to the speed with which they need to take action, the actions available to them to correct the error, and the degree to which campaigns are likely to be supporting their efforts to take action.

## 3 North Carolina Context

N.C. Gen. Stat. §§163-226 makes all North Carolina registrants eligible to vote using a mail ballot. State law dictates that voters must properly fill out the application and certificate on the mail-ballot return envelope, both of which must be signed by the voter (see N.C. Gen. Stat. §§163-229). In addition, the return envelope must be signed and addressed by two witness or one notary public for the vote to be count (see N.C. Gen. Stat. §§163-231).<sup>2</sup> Prior to the 2020 general election, local elections officials were not required to notify voters about problems on their return envelopes with their signature, witness information, or notarization that would cause their mail ballots to not count. This meant a substantial share of mail ballots were rejected because of one of these problems. According to U.S. Election Assistance Commission (2017*b*), 4,861 of the 179,263 mail ballots returned in North Carolina's 2016 general election were not counted. At least 995 and 2,732 of these ballots were rejected because of problems with the signatures and the witness information or notarization on voters' return envelopes, respectively.<sup>3</sup>

Despite the dramatic increase in mail balloting in North Carolina's 2020 general election, the share of return mail ballots that were rejected declined substantially between the 2016 and 2020. According to U.S. Election Assistance Commission (2021), 7,465 of the 981,816 mail ballots returned in this election were rejected. One reason for this decline was a series of court rulings that caused counties to implement a consistent cure process. Figure 1 presents a timeline highlighting key dates in the development of this cure process. It begins on August 4 when United States District Judge William Osteen issued a preliminary injunction in *Democracy NC v. State Board of Elections* that the NCBOE could not reject mail ballots in the 2020 general election without providing voters notice about, and the opportunity to correct, mail ballots with disqualifying deficiencies (Doran, 2020). On August 21, 2020, the NCBOE issued its initial guidance about how to address this ruling (North Carolina Board

 $<sup>^{2}</sup>$ In June 2020, the North Carolina state legislature changed this requirement to be only one witness for the 2020 general election (Harte, 2020).

<sup>&</sup>lt;sup>3</sup>Authors' calculation using U.S. Election Assistance Commission (2017a).

of Elections, 2020a). Their guidance divided up mail ballots with disqualifying deficiencies into two groups: those that could be fixed using an ACC (see Figure A.1 in the Appendix for an example on an ACC) and those that required the voter to submit a new ballot (see North Carolina Board of Elections, 2020a, Section 3.1). Initially the only problem that could be fixed with the ACC were cases in which the return envelopes had missing or misplaced voter signatures; ballots with other disqualifying deficiencies were spoiled and the voters were issued new ballots. Voters could return an ACC to their county board of elections, including by fax, email, mail, or commercial carrier (see North Carolina Board of Elections, 2020a, Section 3.2). Regardless of the method of return, the ACC could only be returned by the voter, the voter's near relative or legal guardian, or by a multi-partisan assistance team. An ACC did not require a wet signature, but could not be signed electronically (see North Carolina Board of Elections, 2020a, Section 3.3).

The NCBOE revised its guidance on September 22, 18 days after mail ballots were first distributed, about which disqualifying deficiencies on mail ballots could be fixed by submitting an ACC (see North Carolina Board of Elections, 2020b, d, e). These revisions were triggered by a settlement in separate lawsuit, in which the North Carolina Alliance for Retired Americans made similar claims against the NCBOE. As a result of these revisions, mail ballots in return envelopes with a missing or misplaced witness signatures or without the witness' printed name or address could also be cured using an ACC.

It was initially uncertain whether this cure process would be allowed to stand. On October 1, the NCBOE issued a memo changing the protocol for ballots that lacked a witness signature on the return envelope, asking county elections officials to keep these ballots in a secure location and not take any action until further notice (see North Carolina Board of Elections, 2020f). A federal judge put the cure process on hold on October 3, reasoning that it changed election rules and procedures too close to Election Day (Viebeck, 2020). Consequentially on October 4, the NCBOE asked local elections officials to keep all mail ballots with disqualifying deficiencies in a secure location and not take any action Figure 1: Curing Timeline in 2020 North Carolina General Election

#### **Timeline of Events, 2020**

- August 4: Federal District Judge Osteen issues partial preliminary injunction in Democracy NC v. NC State Board of Elections
- August 21: NCBOE issues initial guidance about curing process (Numbered Memo 2020-19)
- September 4: First absentee ballots are sent to voters
- September 22: Settlement reached between the parties in *NC Alliance of Retired Americans v. NC State Board of Elections.* NCOBE revises guidance about curing process, expanding the number of disqualifying errors that can be corrected using an Absentee Cure Certification, including ballots missing witness signatures (revised Numbered Memo 2020-19)
- September 26: Two lawsuits (*Wise v. NC State Board of Elections* and *Moore v. Circosta*) filed challenging whether the curing process should be allowed
- October 1: NCBOE instructs that no action be taken on ballots missing witness signatures (Numbered Memo 2020-27)
- October 2: Wake County Superior Court Judge Bryan Collins approves the September 22 settlement between the North Carolina Alliance of Retired Americans and the NCBOE
- October 3: Federal District Judge James Dever orders that the curing process be halted
- October 4: NCBOE places ballot curing process on hold (Numbered Memo 2020-28)
- October 14: Injunction by Federal District Judge Osteen instructs NCBOE to revise guidance regarding ballots missing witness signatures, but upholds other elements of September 22 settlement
- October 15: Early in-person voting begins
- October 17: NCOBE resumes ballot curing process, with ballot missing witness signatures no longer eligible for Absentee Cure Certification (revised Numbered Memo 2020-19)
- October 19: NC Court of Appeals dismisses motion for an appeal against the September 22 settlement made by two members of the NC state legislature
- October 23: NC Supreme Court denies motion for a temporary stay on the September 22 settlement (specifically the ballot receipt deadline extension) made by two members of the NC state legislature
- October 27: Deadline to request an absentee ballot
- October 29: US Supreme Court denies stay of the September 22 settlement
- October 31: Early in-person voting ends
- November 3: Election Day
- November 12: Receipt-deadline for mail ballots postmarked by Election Day and Absentee Cure Certifications

until further notice (see North Carolina Board of Elections, 2020g). The uncertainty was settled on October 14 when Judge Osteen again issued an injunction, reaffirming almost all of the previously announced policies (Drew, 2020). However, mail ballots returned in ballot envelopes that were missing a witness signature could no longer be cured using an ACC. Following this ruling, the NCBOE issued revised guidance on October 17 instructing each county to reinstate curing procedures (see North Carolina Board of Elections, 2020*c*).

The guidance the NCBOE issued on September 22, 2020 about how election officials should notify voters about mail ballots with disqualifying deficiencies remained in place when the cure procedures was reinstated (see North Carolina Board of Elections, 2020*c*, Section 3). County elections officials were required to send voters written notice within one business day of discovering a deficiency with their mail ballot. If a voter was eligible to use the ACC, county elections officials were instructed to mail the voter both the ACC and information on how to vote early in-person or on Election Day.<sup>4</sup> This mail was sent to the address that the voter had the mail ballot sent to, even if that address differed from the voter's address of registration. Election officials were instructed to also email an ACC to a voter, if they had an email address on file for that voter. When there was a phone number, but no email address, on file for a voter, elections officials were instructed to call the voter to inform the them about the mailed ACC. The same process was used if a voter was not eligible to use the ACC, except election officials immediately spoiled the mail ballot with the disqualifying deficiency and sent the voter a new mail ballot instead of an ACC.

Campaigns also invested heavily in informing North Carolina voters about disqualifying deficiencies on their mail ballots. In addition to being considered a swing state in the presidential election, North Carolina had a competitive Senate election, as well as several other competitive races for state offices on the ballot. Because of the idiosyncrasies of the 2020 general election, political and activist organizations aligned with the Democratic Party were especially working hard to inform voters about problems with their mail ballots and correct

<sup>&</sup>lt;sup>4</sup>What we label early in-person voting to be consistent with the political science literature is referred to as absentee onestop and absentee curbside by North Carolina election officials.

deficiencies. One of these groups was the North Carolina Democrats' Coordinated Campaign, who we observe organized door-knocking events focused on curing in some counties as early as October 17.<sup>5</sup> Organizers told volunteers to encourage voters to cure ballots using early in-person voting, both because it reduced the possibility of another mistake occurring and the ballot being rejected again, and because it eliminated the risk that ongoing litigation could call ballots fixed with an ACC into question (Brown, 2020).

Campaign efforts to get ACC-eligible voters to return an ACC continued up until the November 12 cure deadline. Numerous races, including the presidential and Senates races, were labeled as too close to call in the days following the election given that the margins were less than number of outstanding mail ballots statewide (Jasper and Doran, 2020). The tightest of these races was for the Chief Justice of the North Carolina State Supreme Court, a race that was ultimately decided by less than 1,000 votes after two recounts (Battaglia and Innis, 2020). The close nature of these races motivated campaigns to continue after Election Day to reach out to voters with an outstanding ACC and encourage them to cure their ballots (Elliott et al., 2020).

#### 4 Data

We identify ACC-eligible voters using data on returned absentee ballots that were posted online daily by the NCBOE in the lead up to the 2020 general election. Among other things, these data contain information on the voter's county and registration number, how the absentee ballot was delivered to the voter (e.g., email, in-person, mail), the address that the ballot was sent to if delivered by mail, and the current status of the ballot.

Table 1 shows the frequency of the different ballot statuses in the NCBOE returned absentee ballot file downloaded on November 20, 2020. The 7,946 ballots with a status of "ACCEPTED - CURED" is an underestimate of the number of mail ballots that voters

<sup>&</sup>lt;sup>5</sup>See https://web.archive.org/web/20201015185513/https://www.mobilize.us/nc2020victory/ for the event labeled "Asheville Absentee Ballot Cure Door-to-Door Canvas" scheduled for October 17 and October 18.

		Eligible
Status	Cases	For Cure
ACCEPTED	4,621,253	
SPOILED	$276,\!804$	
BLANK	165,591	
ACCEPTED - CURED	7,946	Х
WITNESS INFO INCOMPLETE	$5,\!891$	Х
PENDING CURE	5,184	Х
CANCELLED	4,212	
RETURNED UNDELIVERABLE	2,580	
WRONG VOTER	845	
RETURNED AFTER DEADLINE	813	
NOT VOTED	703	
DUPLICATE	612	
CONFLICT	517	
PENDING	66	
NO TIME FOR CURE - CONTACTED	59	
SIGNATURE DIFFERENT	28	Х
ASSISTANT INFO INCOMPLETE	8	Х
E-TRANSMISSION FAILURE	4	
NOT PROPERLY NOTARIZED	1	Х

Table 1: Ballot Status in 11/20/20 NCBOE Returned Absentee Ballots File

cured in this election. The issue is that this status field changed as voters took actions to cure their ballots, and it was not updated in a consistent manner. For example, some ballots that initially had a status of "WITNESS INFO INCOMPLETE" eventually had the status changed to "ACCEPTED", presumably because these voters took action to ensure their ballots counted. The implication is that we cannot use the final status in these data to either represent all of the ACC-eligible voters nor all of the cases in which voters successfully cured their ballot.

To identify the universe of ACC-eligible voters, we combine information contained in the data on returned absentee ballots posted online daily by the NCBOE every day between September 13, 2020 and November 11, 2020, as well as November 20, 2020. We classify a mail-ballot as being ACC-eligible if it had any of the statuses marked with an "X" in Table 1 in any file posted between September 13, 2020 and November 13, 2020 or November 20,

	Vote History	Cases
1)	ABSENTEE BY MAIL	13,154
2)	ABSENTEE ONESTOP	5,794
3)	ABSENTEE CURBSIDE	$1,\!176$
4)	IN-PERSON	$1,\!153$
5)	CURBSIDE	100
6)	PROVISIONAL	19
7)	TRANSFER	1
8)	NONE	$4,\!699$

Table 2: Vote Method Used by ACC-Eligible Voters to Cure Ballots

2020. A total of 26,096 ACC-eligible mail ballots were identified using this process.<sup>6</sup>

Vote history data posted online by the NCBOE about 82 percent of the voters who cast ACC-eligible mail ballots took action to correct the deficiencies. Table 2 displays the 2020 general election turnout outcome in these data for the 26,096 ACC-eligible voters described in the previous paragraph. The first row shows that 13,154 of these ACC-eligible voters were recorded as casting a mail ballot. Unfortunately, we cannot differentiate which of these voters returned the ACC and which cast a new mail ballot.<sup>7</sup> Combining rows two and three shows that an additional 6,970 of these registrants had a record of voting early in-person, while rows four through seven show 1,273 more of these registrants voted in-person on Election Day. The eighth row shows that 4,699 ballots cast by ACC-eligible voters appear to have been rejected, because there is no vote record for these voters. Thus, even though 82 percent of ACC-eligible voters cast counted ballots, the number of mail ballots rejected due to these deficiencies was still an order of magnitude larger than the final vote difference in the Chief Justice of the North Carolina State Supreme Court race.

We model the likelihood that an ACC-eligible voter cast a counted ballot using variables created from several sources of data. The date on which an ACC-eligible ballot was first

<sup>&</sup>lt;sup>6</sup>Ideally we would also look at mail ballots returned with a disqualifying deficiency that required the voter to cast a new ballot (e.g., mail ballots with no witness information). However, because these ballots were assigned a ballot status of "CANCELLED" there is no way to distinguish mail ballot rejected for this reason from mail ballots that were canceled for some other reason.

<sup>&</sup>lt;sup>7</sup>Appendix Table A.1 shows that 8,863 of these 13,154 cases had at least one day in which the ballot's status in the returned absentee ballot file was noted as "ACCEPTED - CURED."

received by county elections officials is assigned based on the first day that a voter's registration number was contained in the data posted daily on returned absentee ballots. We also compare the zip code of the address that the mail ballot was sent to according to the returned absentee ballots data to the zip code of the voter's registration address in the North Carolina voter file. We create a variable noting whether the mail ballot was initially sent to the same zip code as the registration address, a different zip code in the same county as the registration address, a zip code in a different county in North Carolina than the registration address, a zip code in a county outside North Carolina, but within the United States, or outside of the United States. The North Carolina voter file is also used to generate variables containing information on a voter's party of registration, race and ethnicity, and age. We also create an indicator noting whether a voter has a phone number recorded in this voter file. Voters' address of registrations in the North Carolina voter file were geocoded to determine their census tracts of residence, and data from the 2016-2020 American Community Survey (ACS) were merged in about the characteristics of the census tracts that voters reside in. Finally, we measure the presence of the North Carolina Democrats' Coordinated Campaign engaging in curing efforts in a voter's county of registration.<sup>8</sup> Ideally we would also have data on which counties had similar types of Republican party campaign activity, but we could not find such data.

#### 5 Empirical Tests

This section lays out a series of hypotheses about which ACC-eligible voters we expect to be more or less likely to take actions to make their ballots count. A challenge we face in deriving these hypotheses is that ACC-eligible voters were mostly subject to the same policies that we theorize increase the likelihood that voters successfully cure a problematic mail ballot. Counties were required to quickly distribute information to these voters about

<sup>&</sup>lt;sup>8</sup>We measure this using information on historical copies of the website https://www.mobilize.us/ nc2020victory/ that were archived by the WayBack Machine for the following dates: October 15, October 19, October 20, November 1, November 4, November 5, November 6 and November 12.

their problematic mail ballots and how to fix them, using multiple methods of communication when possible. And by definition, all ACC-eligible voters could use a cure form to cure their ballot. So we instead derive hypotheses based on variation over ACC-eligible voters in their likelihood of receiving the information distributed by election officials, ability to engage in in-person curing, and exposure to campaign activity focused on curing.

Our first two hypotheses reflect differences that we expect to observe in curing rates because of differences in voters' likelihood of receiving the information distributed by election officials about the need for curing. First, we expect that ACC-eligible voters with a phone number recorded in the North Carolina voter file were more likely to cure their ballots than ACC-eligible voters who do not. As we discussed in the North Carolina context section, election officials mailed the ACC to the address that the mail ballot was sent to. They also attempted to email the voter if they had an email address on file or, if no email address was available, call the voter if they had a phone number on file. Thus, we expect voters were more likely to learn about the need to cure if they have an email or phone number recorded in the North Carolina voter file than if neither is recorded. While ideally we would examine how both emails and phone number relate to the likelihood of curing, the public release of the North Carolina voter file does not contain information on registrants' emails.

A related hypothesis is that ACC-eligible voters who had their mail ballots sent to their address of registration were more likely to cure their ballots than voters who had their mail ballots sent elsewhere. We conjecture that voters were more likely to see the mailed ACC when their mail ballots were sent to their address of registration than when their mail ballots were sent to another address. This is because we expect that an address besides an address of registration is more likely to be a temporary residence that the registrant has since moved on from. Given the challenges in determining whether two strings represent the same address, we proxy for whether a mail ballot was sent to the registration address based on whether the mailing address for the mail ballot shares the same zip code as the registration address.<sup>9</sup>

 $<sup>^{9}</sup>$ To investigate the validity of this proxy, we randomly selected 100 cases in which a mail ballot was sent to the zip code of registration. In 65 of the cases, the mailing address and the registration address were

Hypothesis number three also relates to differences that we expect to observe in curing rates among ACC-eligible voters who had their mail ballots sent to a different address than their address of registration. Access to in-person curing may be important for voters who lost trust in mail balloting when they learned that their initial mail ballot had a disqualifying deficiency. We conjecture that voters who had their mail ballots sent to an address in their county of registration were better able to utilize in-person voting options to cure their ballots than voters who had their mail ballots sent to an address outside of their county of registration. Thus, we expect ACC-eligible voters who had their mail ballots than ACCeligible voters who had their mail ballots sent to cure their ballots than ACCeligible voters who had their mail ballots sent elsewhere. To measure whether a voter had their mail ballot sent to an address within their county of registration, we measure whether there is at least one registered voter in the county whose registration address contains the zip code that their mail ballot was sent to.

We also hypothesize that voters who submitted their mail ballots earlier will be better able to utilize in-person voting options to cure their ballots than voters who submit their mail ballots later. We break voters into five categories based on when their mail ballot was received: on or before October 3 (i.e., before the NCBOE paused the cure process), between October 4 and October 16 (i.e., when the cure process was paused), between October 17 and October 30 (i.e., could cure at early in-person vote site, at polling place on Election Day, or using an ACC), between October 31 and November 3 (i.e., could cure at polling place on Election Day or using an ACC), and on November 4 or later (i.e., only could cure using an ACC).<sup>10</sup> We expect ACC-eligible voters whose mail ballots were received between October 17 and October 30 cured their ballots more often than ACC-eligible voters whose mail ballots were received between October 31 and November 3, because only the former

identical. In 33 of the cases, it was the same address presented in a slightly different way. In the remaining 2 cases, the ballots were sent to a PO Box instead of a residential address.

<sup>&</sup>lt;sup>10</sup>While the last day of early voting was October 31, voters whose mail ballots were received on this date would be unlikely to receive information about the disqualifying deficiency in time to cure the ballot by using early in-person voting.

could potentially correct the deficiency at an in-person early voting site. Likewise, we expect ACC-eligible voters whose mail ballots were received between October 31 and November 3 cured their ballots more often than ACC-eligible voters whose mail ballots were received after Election Day, because only the former could potentially correct the deficiency at their polling place on Election Day.

Our fifth and sixth hypotheses relate to differences that we expect to observe in curing rates because of campaign effects. Our theory section highlights that campaign assistance can lower a voter's cost of curing and increase their knowledge of the need to cure. Because most of the campaigns that assist voters with curing have partian motivations, they target their assistance at voters with observable characteristics that predict likely support for their preferred candidates (see Hersh, 2015, p. 75). While campaigns can observe many things about a voter that hints at their likely vote choices, arguably the most important is the voter's party of registration. Thus, we conjecture that ACC-eligible voters with a major party of registration received more campaign assistance with curing than ACC-eligible voters who are not registered with a major political party. As a result of this increased campaign attention, we expect ACC-eligible voters with a major party of registration cured their ballots more often than ACC-eligible voters not registered with a major political party. Because in the 2020 general election there is more evidence that the Democratic Party supported curing efforts than the Republican Party, we also expect ACC-eligible voters with a Democratic registration cured their ballots more often than ACC-eligible voters with a Republican registration.

Finally, we hypothesize that having observable characteristics that predict likely vote choice are particularly important when a voter's preferred party has a greater campaign presence in their local area. This is because some forms of curing assistance, such as canvasing and providing voters with transportation to their local elections office or polling place, are done better when there are organized efforts to do so near a voter's residence. Consequentially, we expect that among ACC-eligible voters who are registered Democrats, the rate of curing was higher in counties in which the Democratic Party was engaged in coordinated efforts to cure ballots than in counties in which these efforts are not present.

In the next section, we present several regression analyses that test these six hypotheses. In doing so, we include several control variables that past work suggests might be correlates of who cures their ballots. First, we include measures of a voter's age and race and ethnicity given what other work shows about who cures ballots. We also include a number of contextual variables that relate to the socioeconomic status of the area surrounding a voter's residence (e.g., share of adults with a Bachelor's degree, median household income) given that previous work highlights that higher socioeconomic status voters are sometimes more likely to initially use new voting methods (Berinsky, 2005; Kropf, 2012). And we also include several contextual variables that we suspect relate to the relative cost a voter faces curing their ballot in-person or using an ACC (e.g., share of households with broadband internet, share of adults who drive to work). Finally, we include county fixed effects in some specifications to account for differences in curing that may result from variation in counties' election administration capacity (Kropf et al., 2020; Suttmann-Lea and Merivaki, 2022).

Despite the inclusion of these controls, empirically testing these hypotheses is complicated by concerns about omitted variable bias. To give one example, we expect voters who return their mail ballots earlier are more politically engaged than voters who return their mail ballots just before Election Day. These differences in political engagement may cause voters who return their mail ballots earlier to be more likely to cure their ballots than voters who return their mail ballots later absent any difference in in-person balloting options. It is unlikely that we could construct any set of additional control variables using available data that would fully account for these differences in political engagement among voters who returned their ballots at different times. This illustrates why our regression coefficients should be interpreted as testing whether conditional correlations exist in the data that are consistent with our hypotheses as opposed to a causal estimates of how these variables affect the rates at which ACC-eligible voters cured their ballots.

## 6 Results

We begin this section by visualizing the data supporting the empirical tests described in previous section. Figure 2 presents data related to our first hypothesis about how having a phone number recorded in a voter registration increases the likelihood that an ACC-eligible voter cures their ballot. Among ACC-eligible voters with a recorded phone number, about 50.4 percent cured their ballots by mail, 27.6 percent cured their ballots at an early inperson vote site, 4.5 percent cured their ballots at a polling place on Election Day, and 17.5 percent did not cure their ballots. Those same quantities among ACC-eligible voters without a recorded phone number are 50.4 percent, 25.4 percent, 5.5 percent, and 18.7 percent, respectively. Thus, ACC-eligible voters with and without phone numbers recorded in their voter registrations cured ballots in a similar manner.

Figure 2: Vote History of ACC-Eligible Voters by Whether Voter Has Phone Number Recorded in Voter File



The evidence is more supportive of the hypothesis that ACC-eligible voters who had their ballots mailed to the same zip as their registration address were more likely to cure their ballots than ACC-eligible voters who had their ballots mailed elsewhere in the United States. Figure 3 shows that about 84 percent of ACC-eligible voters cured their ballots when their ballots were sent to the same zip code as their address of registration. As a point of comparison, only about 72 percent of ACC-eligible voters cured their ballots when they had their ballots sent to a different zip code within North Carolina than their zip code of registration, whether or not that zip code was located in their county of registration. The rate of curing drops further to 62 percent for ACC-eligible voters who had their mail ballots delivered to a zip code outside of North Carolina. Figure 3 shows that these differences in cure rates are largely due to ACC-eligible voters being more likely to cure in-person when their mail ballots were delivered to their zip code of registration. Interestingly, ACC-eligible voters who had their ballots mailed outside of the United States or emailed, presumably because they are UOCAVA voters, were the most likely to cure their ballots, although it should be noted that this is based on a sample of only 59 voters.

There is also strong evidence supporting the hypothesis that ballots are more likely to be cured when received by elections officials in time for voters to access in-person curing options. Figure 4 shows about 82 percent of ACC-eligible ballots received between October 17 and October 30, when early in-person voting was occurring, were cured. As a point of comparison, only about 67 percent of ACC-eligible ballots were cured when received between October 31 and November 3, after early in-person voting ended. Figure 4 also shows that only about 38 of percent of ACC-eligible ballots received after Election Day were cured. This steep drop in the likelihood that ACC-eligible ballots were counted if the ballot was received after Election Day likely reflects the combined effects of voters having no in-person curing options after Election Day, as well as voters having less interest in curing their ballots after initial vote totals are known.



Figure 3: Vote History of ACC-Eligible Voters by Where Voter Had Mail Ballot Sent

Figure 4: Vote History of ACC-Eligible Voters by Date Voter First Appeared in Absentee Ballot Return Data



Figure 5 clearly shows that Democratic Party campaign activity in a county relates to the method that ACC-eligible voters used to cure their ballots. The figure focuses specifically on ACC-eligible voters who first showed up in the absentee ballot return data between October 17 and October 30, and so could possibly use early in-person voting to cure their ballots. Figure 5 shows that about 51 percent of ACC-eligible voters who were registered Democrats used early in-person voting to cure their ballots in counties with a Democratic Party campaign focused on curing. In counties without a Democratic Party campaign focused on curing, only about 29 percent of ACC-eligible voters who were registered Democrats used early in-person voting to cure their ballots. ACC-eligible voters who do not register with a major party were also 19 p.p. more likely to use early in-person voting to cure their ballots in counties with a Democratic Party campaign focused on curing. While registered Republicans were also more likely to cure their ballots using early in-person voting in counties with a Democratic Party campaign focused on curing, the rate is only 5 p.p. higher than in counties that did not.<sup>11</sup>

It is less clear in Figure 5 whether Democratic Party campaign activity in a county relates to the share of ACC-eligible voters who cure their ballots. Figure 5 shows that Democratic registrants were to be more likely than Republican or non-major party registrants to cure their ballots, whether or not there was a Democratic Party campaign focused on curing in their county. Figure 6 further explores how the cure rates of Democratic and Republican ACC-eligible voters compared within counties. The fact that the circles generally are to the right of the 45-degree line indicates in most, but not all, counties that Democratic registrants were more likely than Republican registrants to cure their ballots. Additionally, Figure 6 reveals a positive association between the rates in a county at which ACC-eligible Democrats and Republicans cured their ballots, both in counties with and without a North Carolina Democrats' Coordinated Campaign present. Such a pattern is consistent with there being

<sup>&</sup>lt;sup>11</sup>Appendix Figure A.2 shows similar patterns, albeit slightly more muted, for ballots received before October 17.

Figure 5: Vote History of ACC-Eligible Voters by Party of Registration and Presence of Democratic Party Curing Campaign in a Voter's County of Registration



differential capacity of elections officials over counties to support the cure process.

Figure 6: County Cure Rates of ACC-Eligible Voters by Party of Registration



Note: Grey circles represent counties with a North Carolina Democrats' Coordinated Campaign.

Table 3 presents regression analyses that model how all of these factors simultaneously relate to the likelihood that ACC-eligible voters took actions to cure their ballots. The dependent variable in these regressions equals one if the voter had a vote record using any vote mode, and zero if the voter did not have a vote record.<sup>12</sup> These regressions include the independent variables presented in the figures displayed above, as well as variables relating to the voters' party of registration, race and ethnicity, and age, as well as several variables relating to characteristics of the census tract of voters' addresses of registration. Appendix Table A.2 reports descriptive statistics for all of the variables included in these regression.<sup>13</sup>

<sup>&</sup>lt;sup>12</sup>Table A.3 in the Appendix shows the results of a multinomial logit that separates out by vote mode.

<sup>&</sup>lt;sup>13</sup>In the Appendix, we visualize how a voter's party of registration (Appendix Figure A.4), race and

The excluded registrant in these regressions is a White Democrat under the age of 30 who had their mail ballot delivered to their zip code of registration and whose ballot was included in the received absentee ballot data by October 3.

The first row of Table 3 presents inconclusive evidence about whether having a phone number recorded in a registration record relates to cure rates. The specifications that omit county fixed effects do not show a consistent sign on the coefficient on the phone number variable. In contrast, the specifications that include county fixed effects do indicate that voters with phone numbers recorded in the voter file were about 1.5 p.p. more likely to cure their ballots than voters without a phone number in the voter file. But the standard errors are such that we cannot reject the null hypothesis of no relationship between having a phone number recorded in the voter file and the likelihood of curing at standard levels of statistical significance. One challenge we face in interpreting this finding is that we do not know how many voters election officials attempted to contact by phone or how many of these attempted contacts were successful. So it is hard to know whether we fail to reject the null hypothesis because there were few attempted contacts, few successful contacts, or that voters learned the information about the need for a cure in another way.

Table 3 also demonstrates that ACC-eligible voters were more likely to cure their ballots when their mail ballots were sent to their address of registration than to another address in the United States. Cure-eligible voters sending their mail ballots to the same zip code as their address of registration were estimated to be about six and nine p.p. more likely to cure their ballots than ACC-eligible voters sending their mail ballots elsewhere in the United States. If this relationship was entirely driven by differential access to in-person curing options, we would expect to observe that ACC-eligible voters who sent their ballot to a zip code besides their zip code of registration within their county of registration to be more likely to cure their ballot than ACC-eligible voters who sent their ballot to a zip code in North Carolina outside of their county of registration address or outside of North ethnicity (Appendix Figure A.5), and age (Appendix Figure A.6) relate to cure rates.

	(1)	(2)	(3)	(4)	(5)	(6)
County Fixed Effects	Dep. Varia No	ble: 1 = No	Cast Counted No	Ballot, 0 = Yes	Didn't Cast ( Yes	Counted Ballot Yes
Phone Recorded in Voter File	-0.002 (0.010)		$\begin{array}{c} 0.007 \\ (0.009) \end{array}$	$\begin{array}{c} 0.016 \\ (0.013) \end{array}$		0.015 (0.013)
Zip Code Mail Ballot Sent To: Not Registration Zip in County of Registration	$-0.091^{***}$ (0.027)		$-0.091^{***}$ (0.027)	$-0.088^{**}$ (0.028)		$-0.088^{***}$ (0.028)
Different NC County than County of Registration	$-0.062^{**}$ (0.028)		$-0.064^{**}$ (0.028)	$-0.065^{**}$ (0.029)		$-0.067^{**}$ (0.030)
Different State	$-0.079^{***}$ (0.019)		$-0.088^{***}$ (0.019)	$-0.082^{**}$ (0.018)	×	$-0.086^{***}$ (0.018)
Out of County or Emailed	$\begin{array}{c} 0.026\\ (0.043) \end{array}$		$\begin{array}{c} 0.013 \\ (0.041) \end{array}$	$\begin{array}{c} 0.085\\ (0.061) \end{array}$		$\begin{array}{c} 0.074 \\ (0.060) \end{array}$
Return Date in Absentee Ballot Return Data:						
10/4 - 10/16	$-0.079^{**}$ (0.036)		$-0.074^{**}$ (0.032)	$-0.034^{*}$ (0.020)		-0.033 (0.020)
10/17 - 10/30	$-0.070^{***}$ (0.013)		$-0.075^{***}$ (0.012)	$-0.078^{***}$ (0.012)	*	$-0.078^{***}$ (0.012)
10/31 - 11/3	$\begin{array}{c} -0.197^{***} \\ (0.018) \end{array}$		$-0.201^{***}$ (0.017)	$-0.225^{**}$ (0.013)	*	$\begin{array}{c} -0.225^{***} \\ (0.013) \end{array}$
11/4 or Later	$\begin{array}{c} -0.503^{***} \\ (0.030) \end{array}$		$-0.505^{***}$ (0.031)	$-0.519^{**}$ (0.031)		$\begin{array}{c} -0.517^{***} \\ (0.031) \end{array}$
Party of Registration:						
Republican	$-0.077^{***}$ (0.010)		$-0.076^{***}$ (0.010)	$-0.074^{**}$ (0.010)	k	$\begin{array}{c} -0.074^{***} \\ (0.010) \end{array}$
Not Registered with Major Party	$-0.014^{***}$ (0.005)		$-0.017^{***}$ (0.005)	$-0.016^{**}$ (0.005)		$\begin{array}{c} -0.017^{***} \\ (0.005) \end{array}$
Race and Ethnicity:						
Black	(0.008) (0.006)		$(0.025^{***})$ (0.006)	0.021*** (0.007)		0.032*** (0.007)
Hispanic	$-0.061^{***}$ (0.017)		$-0.054^{***}$ (0.018)	$-0.055^{**}$ (0.019)	*	$-0.049^{**}$ (0.019)
Asian/Other Race	$\begin{array}{c} -0.042^{***} \\ (0.013) \end{array}$		$-0.039^{***}$ (0.012)	$-0.026^{**}$ (0.010)	ĸ	$-0.024^{**}$ (0.010)
Undesignated/Declined	$-0.017^{*}$ (0.009)		-0.011 (0.009)	-0.012 (0.010)		-0.008 (0.009)
Age:						
30-44	(0.012) (0.014)		(0.015) (0.013)	0.019 (0.013)		0.020 (0.013)
45-64	$0.006 \\ (0.010)$		$\begin{array}{c} 0.013 \\ (0.010) \end{array}$	$\begin{array}{c} 0.014 \\ (0.010) \end{array}$		$\begin{array}{c} 0.017\\ (0.011) \end{array}$
65+	$\begin{array}{c} 0.015\\ (0.012) \end{array}$		$0.023^{*}$ (0.012)	$0.024^{**}$ (0.012)		$0.026^{**}$ (0.012)
Census Tract of Residence:						
Logged Median Income		-0.022 (0.020)	2 0.036*** ) (0.011)		0.003 (0.009)	$0.024^{**}$ (0.010)
Share of Adults with BA Degree or Higher		0.0003 (0.0003	B 0.0005 B) (0.0003)		-0.00005 (0.0003)	0.0004 (0.0002)
Share Speaking English "Less than Well"		0.0002	$\begin{array}{ccc} 0.001 \\ (0.001) \end{array}$		$\begin{array}{c} 0.001 \\ (0.001) \end{array}$	$\begin{array}{c} 0.001 \\ (0.001) \end{array}$
Share of Households with Broadband Subscription		0.0003	8 0.0004 ) (0.0005)		$\begin{array}{c} 0.00001 \\ (0.0004) \end{array}$	$\begin{array}{c} 0.0001 \\ (0.0004) \end{array}$
Share of Commuters who Drive to Work Alone		0.0003 (0.001)	-0.0001 (0.0004)		$\begin{array}{c} 0.0003 \\ (0.0004) \end{array}$	0.0003 (0.0003)
Standardized Population Density (higher = more dense) $% \left( \frac{\partial f_{i}}{\partial t_{i}} \right) = \left( \frac{\partial f_{i}}{\partial t_{i}} \right) \left( \partial f_{$		-0.003 (0.007)	$\begin{array}{c} 3 & -0.007 \\ 0 & (0.004) \end{array}$		-0.004 (0.003)	-0.005 (0.003)
Constant	$0.928^{***}$ (0.011)	1.004** (0.196	* 0.483*** ) (0.120)			
Observations P <sup>2</sup>	26,081	26,018	26,017	26,081	26,018	26,017

#### Table 3: Which ACC-Eligible Voters Cured Their Ballots

Note: The excluded registrant is a White Democrat under the age of 30 who had their mail ballot delivered to their zip code of registration and whose ballot was included in the received absentee ballot data by 10/3. Standard errors clustered by county reported in parentheses. \*p<0.1; \*\*p<0.05; \*\*p<0.01.

Carolina altogether. However, Table 3 reveals little difference in curing rates among these three groups of ACC-eligible voters. This suggests to us that at least some of the lower rates of curing among ACC-eligible voters who sent their mail ballots to a different zip code than their address of registration is caused by those voters being less likely to receive information about the need for a cure.

The regression analyses presented in Table 3 confirm that ACC-eligible voters were less likely to cure their ballots when those ballots came in just before or after Election Day. Ballots first appearing in the returned absentee ballot data between October 17 and October 3 are estimated to be 12 to 15 p.p. more likely to be cured than ballots first appearing in the returned absentee ballot data between October 31 and Election Day. This suggests that the decision of some ACC-eligible voters about whether to cure their ballots may hinge on whether they can do it at an early in-person voting site. And there is roughly an additional 30 p.p. reduction in the likelihood that a ballot was cured if that ballot did not first appear in the returned absentee ballot data until after Election Day.

The partian differences observed in Table 3 are only partially consistent with our expectations. The fact that Democratic registrants were seven to eight p.p. more likely to cure their ballots than Republican registrants was what we expected to see given the emphasis that Democratic campaigns put into curing. However, there was less than a two p.p. difference between the curing rates of Democratic registrants and ACC-eligible voters who do not register with a major party. One potential explanation for this pattern is that the Democratic campaigns attempted to assist any non-Republican registrant with curing, given the link between willingness to use mail ballots and opposition to Trump in the 2020 general election.

A few additional findings within Table 3 are worth noting. Consistent with the findings of Smith (2021) and Southern Coalition for Social Justice (2021), Black ACC-eligible voters are more likely than voters from any other racial and ethnic group to cure their ballots. In contrast, Hispanic ACC-eligible voters are less likely than voters from any other racial and ethnic group to cure their ballots. Also consistent with Smith, ACC-eligible voters over the age of 65 were more likely to cure their ballot than ACC-eligible voters under the age of 65, although the age-differences are small. Among the contextual variables, the most consistent is the negative relationship between the population density in a census tract and cure rates, although this relationship is also substantively small. There is also some evidence of higher cure rates among ACC-eligible voters in who live in wealthier and more educated census tracts.

Table 4 looks at which mode voters used to cast a counted ballot. The dependent variable in these regression equals to one if the voter had a record of voting by mail and zero if the voter had a record of voting in-person. Thus, positive coefficients indicate that ACC-eligible voters from that group were more likely to cure their ballots by submitting an ACC or mail ballot, while negative coefficients imply that ACC-eligible voters from that group were more likely to cure their ballots by voting at an early in-person site or at their polling place on Election Day. This table shows curing was more likely to be done by mail when ballots were sent further from a registrant's address of registration, were returned either before October 4 or after early in-person voting ended, and were cast by registrants who were over 65, White and registered Republicans. Again the most consistent predictor among the contextual variables is population density, with people who cured their ballot being less likely to do so by mail when they lived in a more densely populated census tract.

Our final set of regressions focuses specifically on how Democratic Party campaign activity in a county relates to whether ACC-eligible voters cured their ballots and, if they did, what mode they used to do so. Table 5 presents the outcome of these analyses. The first row of Column 1 reveals almost no difference in the likelihood that ACC-eligible registered Democrats cured their ballot based on whether there was Democratic Party campaign activity in their county of registration. However, the interaction terms reveal that the difference in the likelihood that registered Democrats and registered Republicans cured their ballots was greater in counties with Democratic Party campaign activity. In counties with-

Observations R <sup>2</sup>	21,393 0.124	21,342 0.023	21,341 0 133	21,393 0 188	21,342 0.108	21,341 0.188
Constant	$0.653^{***}$ (0.056)	-0.484 (0.337)	0.317 (0.247)			
Standardized Population Density (higher = more dense) $\label{eq:standardized}$		$-0.043^{***}$ (0.016)	$-0.025^{**}$ (0.010)		$-0.015^{*}$ (0.008)	-0.007 (0.008)
Share of Commuters who Drive to Work Alone		$\begin{array}{c} 0.001 \\ (0.001) \end{array}$	$\begin{array}{c} 0.001 \\ (0.001) \end{array}$		$\begin{array}{c} 0.0002\\ (0.0004) \end{array}$	$\begin{array}{c} 0.0003\\ (0.0004) \end{array}$
Share of Households with Broadband Subscription		0.0003 (0.002)	-0.0004 (0.001)		0.0002 (0.001)	-0.0002 (0.0005)
Share Speaking English "Less than Well"		$-0.005^{***}$ (0.002)	$-0.003^{**}$ (0.001)		-0.001 (0.001)	-0.001 (0.001)
Share of Adults with BA Degree or Higher		-0.001 (0.001)	$-0.002^{**}$ (0.001)		0.001*** (0.0005)	0.0003 (0.0004)
Census Tract of Residence: Logged Median Income		0.099*** (0.030)	$0.037^{*}$ (0.022)		$0.043^{**}$ (0.019)	-0.003 (0.013)
65+	$0.075^{***}$ (0.013)		$0.057^{***}$ (0.011)	$\begin{array}{c} 0.052^{***} \\ (0.010) \end{array}$		$0.053^{***}$ (0.010)
45-64	$(0.017^{*})$		(0.004) (0.010)	(0.004) (0.012)		(0.005) $(0.012)$
Age: 30-44	0.002 (0.010)		-0.0005 (0.011)	0.007 (0.012)		0.008 (0.012)
Undesignated/Declined	$\begin{array}{c} -0.092^{***} \\ (0.016) \end{array}$		$-0.088^{***}$ (0.015)	$-0.076^{***}$ (0.012)		$-0.073^{***}$ (0.012)
Asian/Other Race	$\begin{array}{c} -0.177^{***} \\ (0.021) \end{array}$		$-0.165^{***}$ (0.020)	$-0.140^{***}$ (0.014)		$-0.138^{***}$ (0.014)
Hispanic	$-0.238^{***}$ (0.029)		$-0.232^{***}$ (0.026)	$-0.206^{***}$ (0.025)		$-0.203^{***}$ (0.025)
Race and Ethnicity: Black	$-0.183^{***}$ (0.025)		$-0.181^{***}$ (0.023)	$-0.159^{***}$ (0.017)		$-0.155^{***}$ (0.018)
Not Registered with Major Party	$0.059^{***}$ (0.012)		$0.061^{***}$ (0.012)	$0.058^{***}$ (0.012)		$0.058^{***}$ (0.012)
Party of Registration: Republican	$0.172^{***}$ (0.017)		$0.163^{***}$ (0.016)	$0.150^{***}$ (0.015)		$0.150^{***}$ (0.015)
11/4 or Later	$0.208^{***}$ (0.043)		$0.200^{***}$ (0.045)	$\begin{array}{c} 0.201^{***} \\ (0.051) \end{array}$		$\begin{array}{c} 0.200^{***} \\ (0.051) \end{array}$
10/31 - 11/3	-0.022 (0.057)		-0.026 (0.055)	-0.066 (0.050)		-0.065 (0.049)
10/17 - 10/30	$-0.123^{**}$ (0.050)		$-0.120^{**}$ (0.052)	$-0.093^{*}$ (0.055)		$-0.094^{*}$ (0.055)
Return Date in Absentee Ballot Return Data: $10/4 \mbox{ - } 10/16$	$-0.141^{***}$ (0.050)		$-0.143^{***}$ (0.052)	-0.051 (0.039)		-0.051 (0.039)
Out of County or Emailed	$\begin{array}{c} 0.346^{***} \\ (0.038) \end{array}$		$\begin{array}{c} 0.349^{***} \\ (0.037) \end{array}$	$\begin{array}{c} 0.392^{***} \\ (0.035) \end{array}$		$\begin{array}{c} 0.389^{***} \\ (0.035) \end{array}$
Different State	$0.292^{***}$ (0.038)		$0.303^{***}$ (0.041)	$0.314^{***}$ (0.043)		$0.313^{***}$ (0.043)
Different NC County than County of Registration	$0.096^{***}$ (0.026)		0.095*** (0.023)	$0.076^{***}$ (0.024)		0.074*** (0.023)
Zip Code Mail Ballot Sent To: Not Registration Zip in County of Registration	0.059 (0.040)		0.059 (0.041)	$0.077^{**}$ (0.035)		$0.077^{**}$ (0.035)
Phone Number Recorded in Voter File	-0.019 (0.037)		$-0.044^{*}$ (0.026)	$-0.039^{***}$ (0.011)		$-0.039^{***}$ (0.011)
County Fixed Effects	Dep. Varia No	ble: 1 = Co No	unted Mail H No	Ballot, $0 = Co$ Yes	unted In-Pe Yes	erson Ballot Yes
	(1)	(2)	(3)	(4)	(5)	(6)

#### Table 4: How Did ACC-Eligible Voters Cure Their Ballots

Note: The excluded registrant is a White Democrat under the age of 30 who had their mail ballot delivered to their zip code of registration and whose ballot was included in the received absentee ballot data by 10/3. Standard errors clustered by county reported in parentheses. \*p<0.1; \*\*p<0.05; \*\*\*p<0.01.

out Democratic campaign activity, Republican registrants were just under 5 p.p. less likely than Democratic registrants to cure their ballots. By adding together this main effect with the interaction term between Democratic Party campaign activity and registered Republican, we see that this gap approximately doubled to 10 p.p. in counties with Democratic campaign activity. While we cannot estimate the main effect once we include county fixed effects, the regression reported in Column 2 reveals a similar estimate of the interaction between Democratic Party campaign activity and Republican registration when county fixed effects are added to the model. The small coefficient on the presence of Democratic Party campaign activity and not being registered with a major party, indicates that ACC-eligible voters without a major party of registration look more like Democrats than Republicans.

Table 5:	How	Democratic	Party	Campaign	Activity	in	County	of	Registration	Relates	to
Curing											

	(1)	(2)	(3)	(4)
		Dep. Va	iriable:	
			Countee	l Ballot
	Cast Cour	nted Ballot	Cast b	y Mail
County Fixed Effects	No	Yes	No	Yes
Registered Republican	$-0.049^{***}$	$-0.048^{***}$	$0.132^{***}$	0.111***
	(0.015)	(0.014)	(0.018)	(0.015)
Not Registered with Major Party	-0.006	-0.010	0.079***	0.057***
	(0.009)	(0.009)	(0.017)	(0.015)
Democratic Campaign Activity in County	-0.006		$-0.116^{***}$	
	(0.010)		(0.045)	
Registered Republican X	$-0.051^{**}$	$-0.050^{**}$	0.061	0.075**
Democratic Campaign Activity in County	(0.021)	(0.021)	(0.041)	(0.037)
Not Registered with Major Party X	$-0.020^{*}$	-0.013	-0.030	0.002
Democratic Campaign Activity in County	(0.011)	(0.011)	(0.033)	(0.033)
Observations	26,017	26,017	21,341	21,341
R <sup>2</sup>	0.136	0.154	0.143	0.189

Note: Regressions also include all of the independent variables listed in Table 3. Standard errors clustered by county reported in parentheses. \*\*p<0.05; \*\*\*p<0.01.

Columns 3 and 4 of Table 5 show that Democratic Party campaign activity also associates

with more in-person curing. Column 3 shows that registered Democrats who cured their ballots were about 11 p.p. more likely to cure it in-person when there was Democratic Party campaign activity in their county of registration. While registered Republicans who cured their ballots were also more likely to do it in-person when there was Democratic campaign activity in their county of registration, the difference is only 5 p.p.. Again, the small interaction term between Democratic Party campaign activity and not being registered with a major party indicates that ACC-eligible voters without a major party of registration look more like registered Democrats than registered Republicans.

Interpreting the regression results presented in Table 5 is complicated by the fact that we do not have a corresponding measure of Republican Party campaign activity in a county. Ideally, we would be looking at the difference in curing behavior of partisans in local areas where one party has a local presence and the other does not. But lacking a measure of Republican Party campaign activity, we compare the curing behavior of partisans in local areas where the Democratic Party did and did not have a local campaign presence. Especially if Republican Party campaign activity was focused on the same areas as Democratic Party campaign activity, our interaction terms likely understate the effects of asymmetry in partisan campaigns on curing behavior.

## 7 Discussion

This study examined the curing behavior of roughly 26,000 North Carolina voters who submitted mail ballots with disqualifying deficiencies that could be cured with an ACC in the 2020 general election because of a court ruling. We find that more than 20,000 of these ACC-eligible voters cast a ballot that counted. Given that ACC-eligible voters paid the costs associated with casting their initial mail ballots, we expected that many would cure their ballots if they learned of these deficiencies. But the fact that such a high percentage did so likely reflects the quality of the ballot-curing process developed by the NCBOE and the context of North Carolina's 2020 general election. The ballot-curing process developed by the NCBOE contained many features that we expect to increase the share of ballots that are cured: quickly distributing information about disqualifying deficiencies on ballots to voters through multiple channels, allowing voters to cure the deficiency without having to cast a new ballot, and making information about voters in need of curing publicly available. Moreover, North Carolina was a swing state in the presidential election and had several other hotly contested statewide races, one on which was decided by well under 1,000 votes. Consequentially, campaigns provided substantial curing assistance to voters. We suspect that without this combination of policy and electoral environment, it would be hard to get 82 percent of voters with disqualifying deficiencies on their mail ballots to cure them.

Because ACC-eligible voters already cast mail ballots and could cure their ballots by attestation, we expected few would cure their ballots by voting early in-person or at a poling place on Election Day. Thus, we were surprised that about 39 percent of the counted ballots cast by ACC-eligible voters were cured using these methods. Of course, the share of voters curing their ballots in-person will likely depend on what campaigns support exists for inperson curing. We find, for example, that Democrats were about 11 p.p. more likely to cure their ballots in-person in counties with a Democratic Party curing campaign than in counties without such a campaign. Such high rates of in-person curing may not occur in other electoral environments with less support for in-person curing. But observing so many ACC-eligible voters curing in-person underscored to us the potential challenges that election officials face in getting voters to trust that ballots cured by attestation or by casting another mail ballot will necessarily be counted. After all, these voters were just told that their previous attempt to cast a mail ballot was unsuccessful. Thus, an important question for future research to examine is how can communication efforts be structured to make voters confident that their cured ballots will count.

This study is limited in several ways. More work is needed to establish what cure rates look like in less salient elections that have less campaign activity dedicated to curing ballots. Moreover, we cannot directly relate variation in the variables that we think are most consequential in determining whether voters cure their ballots to variation in curing rates. Election officials attempted to make contact with all voters who cast mail ballots with disqualifying deficiencies, and we can only observe cases in which election officials made public the identities of these voters. And while only some voters who cast mail ballots with a disqualifying deficiency were eligible to use an ACC, we do not have a reliable way to identify those voters who cast mail ballots with disqualifying deficiencies that were not eligible to be cured using an ACC. We hope that future studies are able to link information about who cured their ballots to variation over voters in how information is communicated about problematic ballots, eligibility to cure without casting a new ballot, or public dissemination of information about the need to cure. Finally, we wish we were able to distinguish voters who cured their ballots by returning the ACC from voters who cured their ballots by returning a new mail ballots to better understand the degree to which attestation facilitates curing.

Despite these limitations, we believe that this paper takes an important step toward establishing a political science literature on curing. We not aware of a single peer-review journal article focused on curing, either from a theoretical or empirical perspective. The lack of attention on curing does not seem proportionate with its potential consequences. More than 20,000 voters only had their ballots counted in the 2020 general election because a judge ruled that the NCBOE could not reject mail ballots without providing voters with notice about, and the opportunity to correct, mail ballots with disqualifying deficiencies. Recent political science scholarship has significantly improved our understanding of which voters are at-risk of having their votes lost because they return mail ballots with disqualifying deficiencies (e.g., Baringer, Herron and Smith, 2020; Cottrell, Herron and Smith, 2021; Hopkins et al., 2022; Shino, Suttmann-Lea and Smith, 2022). An important next step for this literature is to say more about how the existence and structure of curing helps to mitigate the number of these votes that are ultimately lost.

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## Table A.1: 2020 General Election Vote History of Voters Returning Mail Ballots that Were Not Initially Accepted

	2020	General Elec	ction Vote	History
		Early	Election	No
Ballot Status in NCBOE Returned Absentee Ballots File	Mail	In-Person	Day	Record
ACCEPTED - CURED	8,863	142	65	243
	95.2%	1.5%	0.7%	2.6%
PENDING CURE	2,702	5,361	791	3,025
	22.7%	45.1%	6.7%	25.5%
ASSISTANT INFO INCOMPLETE, ID NOT PROVIDED,	1,589	1,467	417	1,431
NOT PROPERLY NOTARIZED, SIGNATURE DIFFERENT, WITNESS INFO INCOMPLETE	32.4%	29.9%	8.5%	29.2%
PENDING	920	63	12	178
	78.4%	5.4%	1.0%	15.2%
NO TIME FOR CURE - CONTACTED	0	0	8	42
	0.0%	0.0%	16.0%	84.0%
CANCELLED, CONFLICT, DUPLICATE, E-TRANSMISSION FAILURE, NOT VOTED,	12,897	251,434	1,378	11,374
RETURNED AFTER DEADLINE, RETURNED UNDELIVERABLE, SPOILED, WRONG VOTER	4.7%	90.7%	0.5%	4.1%

Note: Vote history for all registrants in NCBOE Returned Absentee Ballots File with a status other than "ACCEPTED" for at least one day. The first row are all voters with a status of "ACCEPTED - CURED" for at least one day in NCBOE returned absentee ballot file. The second row are all voters with a status of "PENDING CURE" for at least one day in NCBOE returned absentee ballot file, and no days in which the status was "ACCEPTED - CURED." The third row are all voters with one of the five listed statuses for at least one day in NCBOE returned absentee ballot file, and no days in which the status was "ACCEPTED - CURED" or "PENDING CURE." A similar definition is used to identify the voters included in rows four, five, and six. Primary sample includes voters in rows one, two, and three.

## 8 Appendix

Table A 2. Descriptive	Statistics for	Variables	Used in	the Regression	Analyses
1able 1.2, Descriptive		variabics	Uscu m	the regression	maryses

Statistic	N	Meen	St Dov	Min	Mov
Curred Dellet (1 Ver. 0 N.)	11	0 eeo	o ao t	0	Max
Cured Ballot $(1 = \text{Yes}, 0 = \text{No})$	20,088 21.207	0.820	0.384	0	1
Cured by Mall $(1 = \text{Yes}, 0 = \text{No})$	21,397	0.615	0.487	0	1
Phone Number Recorded in Voter File	26,088	0.600	0.490	0	1
Democratic Campaign Activity in County	26,088	0.581	0.493	0	1
Zip Code Mail Ballot Sent To:					
Registration Zip	26,081	0.884	0.321	0	1
Not Registration Zip in County of Registration	26,081	0.012	0.111	0	1
Different NC County than County of Registration	26,081	0.046	0.209	0	1
Different State	26,081	0.056	0.230	0	1
Out of County or Emailed	$26,\!081$	0.002	0.048	0	1
Return Date in Absentee Ballot Return Data:					
10/3 or Earlier	26.088	0.402	0.490	0	1
10/4 - 10/16	26.088	0.045	0.208	0	1
10/17 - 10/30	26,088	0.352	0.478	0	1
10/31 - 11/3	26,088	0.141	0.348	0	1
11/4 or Later	26,088	0.059	0.236	0	1
Party of Registration.					
Democratic	26.088	0.532	0 499	0	1
Benublican	26,000 26,088	0.002	0.398	0	1
Not Registered with Major Party	26,088	0.271	0.444	0	1
Dage and Ethnicity					
Race and Ethnicity:	26 000	0 514	0 500	0	1
W litte Blool	20,000	0.014	0.300	0	1
Diack	20,000	0.515	0.405 0.141	0	1
Asian /Other Page	20,088	0.020	0.141	0	1
Underignated /Declined	20,088	0.070	0.200	0	1
Undesignated/Decimed	20,088	0.074	0.202	0	1
Age:					
18-29	26,088	0.131	0.337	0	1
30-44	26,088	0.123	0.329	0	1
45-64	26,088	0.298	0.458	0	1
65+	26,088	0.448	0.497	0	1
Census Tract of Residence:					
Logged Median Income	26,018	10.933	0.432	9.383	12.383
Share of Adults with BA Degree or Higher	26,065	33.188	19.602	0.000	91.700
Share Speaking English "Less than Well"	26,065	4.407	5.135	0.000	51.000
Share of Households with Broadband Subscription	26,063	83.084	10.861	28.300	100.000
Share of Commuters who Drive to Work Alone	26,065	79.667	8.638	24.300	100.000
Standardized Population Density (higher $=$ more dense)	26,065	-0.000	1.000	-0.957	8.685

#### Table A.3: Multinomial Logit Model of ACC-Voter Behavior

		Outcome:	
	Mail	Early In-Person	Election Da
	(1)	(2)	(3)
Phone Number Recorded in Voter File	0.008	0.278***	-0.056
	(0.039)	(0.045)	(0.070)
Zip Code Mail Ballot Sent To:	$-0.500^{***}$	$-0.811^{***}$	$-0.734^{**}$
Not Registration Zip in County of Registration	(0.142)	(0.177)	(0.296)
Different NC County than County of Registration	$-0.272^{***}$	$-0.739^{***}$	$-0.901^{***}$
	(0.079)	(0.106)	(0.176)
Different State	-0.115	$-2.398^{***}$	$-1.788^{***}$
	(0.071)	(0.164)	(0.198)
Out of County or Emailed	$\begin{pmatrix} 0.619\\ (0.390) \end{pmatrix}$	$-2.765^{***}$ (0.062)	$-8.622^{***}$ (0.00002)
Return Date in Absentee Ballot Return Data: $10/4 - 10/16$	$-0.975^{***}$	$-0.368^{***}$	0.209
	(0.093)	(0.098)	(0.173)
10/17 - 10/30	$-0.934^{***}$ (0.048)	$-0.401^{***}$ (0.052)	$\begin{array}{c} 0.156 \\ (0.099) \end{array}$
10/31 - 11/3	$-1.496^{***}$	$-2.423^{***}$	$0.877^{***}$
	(0.055)	(0.079)	(0.097)
11/4 or Later	$-2.460^{***}$	$-17.946^{***}$	$-1.662^{***}$
	(0.068)	(0.00000)	(0.189)
Party of Registration:	$-0.310^{***}$	(0.066)	$-0.809^{***}$
Republican	(0.050)		(0.103)
Not Registered with Major Party	-0.049	$-0.369^{***}$	$-0.175^{**}$
	(0.047)	(0.053)	(0.080)
Race and Ethnicity:			
Black	-0.056	0.823***	$(0.317^{***})$
	(0.052)	(0.057)	(0.088)
Hispanic	$-0.755^{***}$	$0.361^{***}$	0.026
	(0.126)	(0.134)	(0.190)
Asian/Other Race	$-0.534^{***}$	$0.216^{***}$	$0.191^{*}$
	(0.069)	(0.077)	(0.110)
Undesignated/Declined	$-0.184^{***}$	0.286***	0.107
	(0.068)	(0.083)	(0.120)
Age: 30-44	$\begin{array}{c} 0.096\\ (0.070) \end{array}$	$\begin{array}{c} 0.146^{*} \\ (0.086) \end{array}$	$\begin{array}{c} 0.026\\ (0.111) \end{array}$
45-64	$\begin{array}{c} 0.098\\ (0.062) \end{array}$	$0.185^{**}$ (0.076)	$-0.292^{***}$ (0.103)
65+	$0.280^{***}$	$0.143^{*}$	$-0.500^{***}$
	(0.061)	(0.075)	(0.106)
Census Tract of Residence:	0.07.000		
Logged Median Income	0.318*** (0.045)	$(0.140^{***})$	$(0.270^{***})$
Share of Adults with BA Degree or Higher	$\begin{pmatrix} 0.001 \\ (0.001) \end{pmatrix}$	$(0.012^{***})$ (0.002)	$\begin{pmatrix} 0.003 \\ (0.002) \end{pmatrix}$
Share Speaking English "Less than Well"	-0.0002	$0.012^{***}$	$0.018^{***}$
	(0.004)	(0.004)	(0.006)
Share of Households with Broadband Subscription	(0.003)	$0.006^{**}$	$-0.008^{*}$
	(0.002)	(0.003)	(0.004)
Share of Commuters who Drive to Work Alone	-0.00004 (0.002)	$-0.005^{*}$ (0.003)	$\begin{array}{c} 0.006\\ (0.004) \end{array}$
Standardized Population Density (higher = more dense)	$-0.102^{***}$ (0.022)	$ \begin{array}{c} 0.008 \\ (0.024) \end{array} $	$\begin{array}{c} 0.054\\ (0.036) \end{array}$
Constant	$-1.813^{***}$	$-1.150^{***}$	$-3.955^{***}$
	(0.369)	(0.292)	(0.016)
)bservations Mailea Inf. Crit	26,017	26,017 52,046,630	26,017

Note: The excluded outcome is ballots that were not cured. The excluded registrant is a White Democrat under the age of 30 who had their mail ballot delivered to their zip code of registration and whose ballot was included in the received absentee ballot data by 10/3. Standard errors reported in parentheses. \*p<0.1; \*\*p<0.05; \*\*p<0.01.

Figure A.1: Absentee Cure Certification (ACC) used by Wake County in the 2020 General Election



TEL 919 404 4040 FAX 919 231 5737

P.O. Box 695 Raleigh, NC 27602-0695

www.wakegov.com/elections

#### Absentee Cure Certification

#### There is a problem with your absentee ballot – please sign and return this form.

#### Instructions

You are receiving this affidavit because your absentee ballot envelope is missing information. For your absentee ballot to be counted, complete and return this affidavit as soon as possible. **The affidavit must be received by your county board of elections by no later than 5 p.m. on Thursday, November 12, 2020.** You, your near relative or legal guardian, or a multipartisan assistance team (MAT), can return the affidavit by:

- Email: voter@wakegov.com (you can email a picture of the form)
- Fax: 919.231.5737
- Deliver in person to the county board of elections office: 1200 N. New Hope Road, Raleigh, NC 27610
- Mail or commercial carrier: PO Box 695, Raleigh, NC 27602-0695

If this affidavit is not returned to the county board of elections by the deadline, your absentee ballot will not count. If you decide not to return this affidavit, you may still vote in person during the early voting period (October 15-October 31) or on Election Day, November 3, 2020. To find the hours and locations for in-person voting, visit <u>ReadyToVote.com</u>.

#### READ AND COMPLETE THE FOLLOWING:

I am submitting this affidavit to correct a problem with missing information on the ballot envelope. I am an eligible voter in this election and registered to vote in Wake County, North Carolina. I solemnly swear or affirm that I voted and returned my absentee ballot for the November 3, 2020 general election and that I have not voted and will not vote more than one ballot in this election. I understand that fraudulently or falsely completing this affidavit is a Class I felony under Chapter 163 of the North Carolina General Statutes.

(Print name and sign below)

	FOR OFFICE USE ONLY
	VOTER'S NAME:
Voter's Printed Name (Required)	STREET ADDRESS:
	CITY, STATE, ZIP:
	CIV NUMBER:
Voter's Signature* (Required)	

\* A wet ink signature is not required, but the signature used must be unique to the individual. A typed signature is not acceptable, even if it is in cursive or italics such as is commonly seen with a program such as DocuSign.

Figure A.2: 2020 General Election Vote History for Cure-Eligible Voters by Presence of Democratic Party Curing Campaign in County



Party of Registration and Presence of NC Democrats Coordinated Campaign in County

Voters First Appeared in Returned Absentee Ballot Data By 10/3

Appendix-5

Figure A.3: 2020 General Election Vote History for Cure-Eligible Voters by Presence of Democratic Party Curing Campaign in County (continued)



Party of Registration and Presence of NC Democrats Coordinated Campaign in County

Appendix–6

Figure A.4: 2020 General Election Vote History for Cure-Eligible Voters by Party of Registration









