

## **A Field Experiment to Examine States' Efforts to Increase Registration & Turnout**

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WORK IN PROGRESS

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## **Abstract**

Unlike citizens in nearly all other democracies, for most U.S. citizens the responsibility for registering to vote is primarily their individual responsibility. Over the last several decades, the federal government and states have sought to make the process more straightforward. In recent years some states have even moved to automatic registration. Others, through the National Voter Registration Act of 1993 (NVRA), have built voter registration into administrative transactions between citizens and the government. However, the NVRA has not led to the success its advocates had hoped for, in part due to poor implementation, as well as more restrictive voter registration policies by some states. As a result, the number of eligible but unregistered citizens remains a dilemma for proponents of participatory democracy. In this study we leverage a new program that brings states together to improve the quality of their voter registration rolls and generate lists of eligible but unregistered citizens. Working with several states we used the list of eligible but unregistered citizens to design and implement a voter registration field experiment prior to the 2016 presidential election. In this paper, we examine the effect of these official contacts on the rate of voter registration and subsequent turnout in one swing state, Pennsylvania. We test traditional theories related to lowering the costs of participation as well as new theories related to promoting government responsiveness. We find that any contact from the state led to substantively and statistically significant increases in both registration and turnout.

The requirement that citizens first register before they vote is a barrier to participation (e.g. Piven and Cloward 2000), and the United States is one of several democratic nations to leave the responsibility for registering to vote to the individual citizen (Franklin and Grier 1987; Jackman 1987; Powell 1986). This system has discouraged millions of eligible citizens in the U.S. from voting, one of the most basic political behaviors in a democratic society. What is more, those who are least likely to be registered are most likely to be from groups that are underrepresented across the political system. That is, the young, those with low incomes, and those from racial and ethnic minority groups are the least likely to be registered and turn out (Burden et al. 2014; Hall 2013; Ansolabehere and Konisky 2006; Hill 2006; Highton 2004; Schlozman et al. 2004; Piven and Cloward 2000; Highton and Wolfinger 1998; Timpone 1998; Nagler 1991; Wolfinger and Rosenstone 1980; Rosenstone and Wolfinger 1978). Moreover, research shows (see, e.g. Lijphart 1997) that elected officials design policies in-line with the preferences of those who vote and that voter registration and election laws in the United States are more difficult than in many democracies (Nickerson 2014; Powell 1986).

Several laws have sought to shift the burden from the citizen to the government by automatically registering voters such as in Oregon, or by building voter registration into other administrative transactions between citizens and the government, utilizing existing government forms to collect the information required to register to vote. The most prominent example is the National Voter Registration Act of 1993 (NVRA) which required that citizens be allowed to register to vote when they received or renewed their driver's license, but the NVRA has largely failed to deliver on its potential (e.g. Hanmer 2009). Structural problems with the agencies may be part of the reason the NVRA has been ineffective; the agencies designated to perform registration activities do so as a secondary task to their primary mission; there is little natural

connection between elections divisions and the agencies newly tasked with registration; and there is little oversight to ensure compliance (Hess, Hanmer, and Nickerson 2015).

States could be more aggressive in trying to get citizens registered to vote if they could easily identify those who are eligible, but unregistered. The role of state governments is, perhaps, particularly important in the realm of voter registration. As we discuss below, states can leverage their databases to create extensive lists of individuals who are eligible but not yet registered. To be sure, citizen groups have been successful with registration efforts but they do not have easy access to lists of unregistered citizens and thus tend to focus on smaller, though targeted, segments of that population. Moreover, candidates and parties are most likely to focus their efforts on mobilizing their base for short term electoral gain (e.g. Rosenstone and Hansen 1993).

Utilizing data from multiple agencies allows states to expand their role in the process of registering eligible citizens to vote. That is, election administrators can identify citizens who hold driver's licenses or pay property taxes, but are not currently registered to vote, and thus send registration information directly to those citizens, along with an appeal stressing the importance of voting. However, several states lack a statewide voter registration database that is accessible by multiple agencies, forcing states to transfer information between statewide databases. This transfer is often difficult and states do not have the time and resources needed to dedicate to updating registration data, making the identification of such citizens difficult. The Electronic Registration Information Center (ERIC) has been created to try and remedy this problem by matching voter registration data to data from other agencies, such as the Department of Motor Vehicles and identifying citizens that are eligible but not registered to vote. ERIC provides member states with the opportunity to improve the accuracy and integrity of voter registration rolls and requires that states attempt to increase rates of registration among the

eligible citizenry as a condition of membership in ERIC.<sup>1</sup> With more accurate rolls the government and citizenry benefit. Not only will the process of voting be more efficient, but the need for provisional ballots should also be reduced, decreasing the workload for election administrators and giving voters greater confidence that their ballot will be counted. The use of electronic systems to manage voter registration processes will also reduce the financial burden for states.

This study tests the effectiveness of a direct connection between election administrators and citizens who are eligible to register but who have not yet done so. Working with state election officials, prior to the 2016 presidential election we designed a field experiment whereby eligible but unregistered residents, identified by ERIC, received a direct contact from state election officials in Pennsylvania. The contact consisted of a personalized post card encouraging the recipients to register to vote, informing them of eligibility criteria, and providing instructions on multiple ways they could complete their registration transaction. We find that direct contact from the state can create small increases in voter registration and turnout, even in the noisy environment of the 2016 presidential election.

### **Inviting Participation**

Get out the vote (GOTV) messages and campaigns are a staple of election activity in the United States. Often these campaigns are conducted by non-partisan organizations with the singular goal of increasing turnout regardless of party or issue. GOTV messages attempt to persuade registered voters to participate, sometimes targeting individual voters, but often applying a blanket message to the general population, hoping to influence those who may not have voted otherwise. These campaigns use traditional persuasion techniques in an attempt to

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<sup>1</sup> ERIC is governed by the member states and membership is voluntary. States not wishing to increase the number of people registered to vote or turn out would likely not join ERIC.

influence behavior and a large number of field experiments over the last two decades have shown that GOTV campaigns can be effective at increasing turnout among registered voters (see Green and Gerber 2015, 2008; Green, McGrath and Aronow 2013; Michelson and Nickerson 2011; and Arceneaux and Nickerson 2009 for a review of several of these experiments).

There are far fewer studies on the effects of voter registration campaigns (Nickerson 2015; Bennion and Nickerson 2011; Nickerson 2007), several of which are yet to be published (Mann and Bryant 2015; Mann 2011; Pew Evaluation Memo 2014). The results of these studies have been mixed, leaving much for researchers and practitioners to learn.

Persuasion campaigns use psychological mechanisms in an attempt to alter behavior or “nudge” people into behaving in a certain way. When it comes to GOTV and voter registration campaigns, there is an attempt to get people to engage in a pro-social behavior (Mann and Bryant 2015) or an activity that benefits society, such as voting. When attempting to get people to change their behavior, who is delivering the message plays a role in the effectiveness of the message (Malhotra, Michelson, and Valenzuela 2012). In all of the GOTV and voter registration field experiments to date, there are only a few where researchers have partnered directly with election officials (Herrnson, Hanmer, and Koh *forthcoming*; Menger and Stein 2017; Mann and Bryant 2015; Mann and Sondheimer 2013; Stein, et al. 2012), but partnering with state election officials rather than non-profits or third parties, may remove any suspicion of maliciousness or misinformation, especially when the messages are apolitical in nature, and may be more effective at increasing registration and turnout.

Field experiments on voter registration have utilized a variety of forms of contact and produced mixed findings. Nickerson (2015) conducted door-to-door voter registration drives in six cities and found an increase in voter registration of 4.4 percentage points over the control

group. The effect was lasting, as new registrants who were brought into the voting pool through contact also turned out in higher numbers in the election than those who registered on their own, although new registrants brought into the voter pool through the campaigns turned out in lower numbers than those previously registered, who were not part of the experiment. Mann (2011) conducted a series of field experiments with non-profits that targeted young voters who were newly eligible to vote and citizens who were previously registered but had moved and not updated their voter registration, according to National Change of Address and voter registration records via direct mailers. That study also showed significant increases in voter registration and turnout when compared to the control group. Using emails to reach out to college students, Bennion and Nickerson (2011) found a negative effect on registration, where those contacted registered in lower numbers than those in the control group. All of these studies were conducted with third party organizations and chose recipients based on demographics or characteristics determined by the partner organizations.

Experiments in collaboration with state election officials to increase registration have all utilized direct mail in an effort to increase voter registration and turnout and have targeted eligible but unregistered (EBU) citizens, regardless of demographics. Prior to the 2013 election, election officials in Washington state conducted a field experiment testing two messages in an attempt to increase voter registration, specifically online voter registration (Mann, Stiles, Sui, and Pryor 2017). The first message was an instrumental message, emphasizing the ease of applying online and the second message was a persuasive message, using soft social pressure saying “76% of people like you register to vote,” inviting citizens to join the voting community. They found that the instrumental message, emphasizing ease of online registration increased registration rates by 1.6 percentage points over the control group, and the persuasion message

increased registration 1.2 percentage points over the control group. While these numbers seem small, this translates into thousands of additional registered voters given the size of the state and number of EBUs identified by ERIC.

For the 2014 election, Mann et al. (2017) tested a convenience message against one emphasizing a deadline to register and vote, i.e. ease of registration versus urgency. Both messages included identical instructions on how to register through Louisiana's online portal. They found that both messages increased registration, but by very small amounts, less than one percentage point each.

Mann and Bryant (2015) conducted research with election administrators in two ERIC states during the 2012 and 2014 elections, adding a civic duty identity component along with convenience and deadlines. The treatments were designed to test whether or not tapping into a sense of national identity along with civic duty or state identity and civic duty would result in higher rates of voter registration than a plan making reminder message or a reminder with a sense of urgency.<sup>2</sup> They found that all forms of contact from state election officials produced an average increase in voter registration of approximately 2 percentage points and a subsequent turnout increase of a similar rate when compared to a no-contact control group, but stressing plan making (2.4 percentage points) or urgency (2.1 percentage points) in a message led to the greatest increases in registrations rates.

The study in this paper builds on the results from previous studies by including urgency reminders and emphasizing the ease of online registration, which have been adopted as best practices by ERIC states, but we expand on existing research by testing a response to a citizen

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<sup>2</sup> This research was presented at a Pew sponsored election conference held at MIT in 2015, but the final reports have not been made public at this time, so state names have been withheld from this paper.

demand message and adding an additional convenience option. The text of our treatments suggests that changes to make the registration more convenient were a state response to citizen demands, and we hypothesize that the message will have a positive effect on registration and turnout. This subtle message suggests that government is working for the people by responding to the demands that voter registration should be easier. This is motivated, in part, by the idea that not knowing where or how to register is a common excuse for not being registered to vote (U.S. Census 2008) and that citizens expect governmental responsiveness with regard to elections (Kropf and Kimball 2012; Presidential Commission on Election Administration 2014). It is also motivated by research that contends policy makers can help shape citizens responses to new policy (Schneider and Ingram 1990) and successful empirical applications related to the method of voting (Herrnson, Hanmer, and Koh forthcoming; Menger and Stein 2017). We also include a treatment that makes it easier for EBUs to register from their cell phone or mobile device by scanning a quick-response code (QR code), which is a new test on convenience and provides an advantage to those using mobile technology to register. QR codes are a black and white data grid that can be scanned with a smartphone and are commonly used in interactive marketing, but have also been considered as a tool for improving government services (Lorenzi, et al, 2014). A study by Salesforce in 2014 found that 34% of smartphone owners and 46% of those who also owned a tablet had scanned a QR code or coupon with their device (Salesforce 2014). Studies have also suggested that younger adults (Radwanick 2011; Mendelson and Romano Bergstrom 2013) and men (Radwanick 2011) are most likely to use QR codes. We expect that additional ways to access online registration will increase registration. Our hypotheses can be stated as follows.

*H1: Contact from the state election officials informing citizens of registration options will increase voter registration and turnout rates.*

*H2: A new technology treatment, featuring a QR code, will result in higher rates of registration and voting than an online only treatment requiring URL entry.*

*H3: Indicating that the easier registration process was a response to citizen demand will result in higher rates of registration and turnout than a standard treatment.*

## **Research and Treatment Design**

Our research design for this study utilizes a randomized treatment and control field experiment in Pennsylvania, a large, diverse, and politically relevant U.S. state that is a member of ERIC. The primary experiment for this study uses communication from the Department of State's office, the agency in charge of elections, to an eligible but unregistered (EBU) citizen in the form of a direct mail postcard. Field experiments are useful for understanding the effects of direct communication on behavior (see, e.g., Green and Gerber 2015). In our context we can evaluate the effects of direct communication from the state, different types of messages used to encourage registration, and whether or not offering different methods of voter registration are effective in turning EBUs into registered voters. Field experiments such as ours do not suffer from over-reports (e.g. Duff et al. 2009) because we use administrative voting records rather than self-reports from observational data to determine the effectiveness of the treatments.

The primary experiment consisted of the variation in the messages and ways that a citizen could register online, either by entering a URL in a browser or through mobile technology using a quick response (QR) code. With regard to the QR codes, we expected that the addition of the QR code could boost registration rates as scanning the QR code would provide quicker access to the online voter registration form and could easily be done from a mobile device. This could be especially appealing to younger citizens or those who may not have a computer at home but may have access to the Internet through their smartphone. We also expected that the message regarding citizen demand could increase registration rates by signaling to the recipient that the

state government was responsive to the citizenry. In addition to variation in the messages, we also varied when the postcards were sent to investigate whether timing influenced rates of voter registration and turnout. The details of the research process follow.

The experiment began with 2,397,384 individuals who were in the database from the Pennsylvania Department of Transportation, but did not appear to be registered in the voter registration records matched by ERIC. Per the agreement between the states, ERIC, and Pew, 95% of those who are identified as EBUs have to be contacted by the state and informed about voter registration. Thus, 95% of our EBUs were treated, leaving 5% for our control group. For research purposes, we would prefer a higher percentage but given the number of EBUs our experiment is sufficiently powered. In total, the state sent out 2,277,493 postcards, making this one of the largest, if not the largest, state led voter registration drives to date. To account for the inclusion of both English and Spanish in three of the counties and to enhance statistical precision (Nickerson 2005), we conducted the randomization process in four blocks: 1) Berks County; 2) Lehigh County; 3) Philadelphia County; and 4) all remaining counties. The number of individuals in each geographic grouping in the original database was as follows.

- Berks County: 89,176
- Lehigh County: 70,873
- Philadelphia County: 277,110
- All other counties: 1,960,225

### **Postcard Design**

The primary experiment examined four different messages on postcards the research team designed in consultation with the Department of State. The postcards provided information regarding how to register, including the deadline for registration, and the requirements one had to meet in order to register. The front of the cards was the same for all recipients. The text notified

the recipient that he/she could register to vote online. It also indicated that the deadline to register was approaching. Furthermore, it emphasized the ease with which one could register online, with text that read, “3 minutes.”, “Click.”, and “Done”, a slogan used in the Washington ERIC study in 2012 (Mann and Pryor 2013), along with images of a clock, mouse, and checkmark to reinforce that message. The color scheme was matched to the one adopted by the Pennsylvania state elections officials for their website in an attempt to maintain consistency throughout the registration experience and subtly reinforce that this was communication from the state, not a third party. Text and images of all postcards are included in Appendix A.

The backs of the postcards all shared common core elements. Each of the cards included the Department of State office seal and address, official election mail logo, and a phone number to call in case the recipient believed they received the card in error. The inclusion of the seal and phone number should have given recipients confidence that the postcard was indeed from state elections officials. Research on voter registration mailings and get out the vote mailings indicate that mailings sent from an official source such as a Secretary of State or a State Board of Elections are more effective than mailings sent by political parties or non-partisan organizations (Malhotra, Michelson, and Valenzuela 2012). All of the cards also featured text noting in bold font that state records indicated they may not currently be registered to vote and emphasized that the deadline to register online was approaching. The text then went on to indicate that registering to vote online was “quick and easy” and provided the web address to register to vote online. All of the postcards stated the following criteria for eligibility to register in the state:

- 18 years old by Election Day;
- a U.S. citizen; and

- state resident for at least (number concealed for this version) days before the next election.

Each card was personally addressed, including the recipients' first and last name and their mailing address.

The primary experiment involved four variations (treatments) of the back of the postcard.

The four treatments were as follows:

1. Postcard 1 included no extra information other than what is described above.
2. Postcard 2 included a quick response (QR) code<sup>3</sup> as a second option for registration beyond typing in the registration website. The text read as follows: "Visit [www.votespa/myvote](http://www.votespa/myvote) or scan the QR code below with your phone or tablet." The QR code followed as a secondary means by which one could register to vote.
3. Postcard 3 was similar to Postcard 1, but included additional text noting that online registration was introduced in response to citizen demand. It read, "In response to citizen demand we have made registering to vote easier than ever before."
4. Postcard 4 incorporated both the QR code and the additional text indicating that these forms of registration were included in response to citizen demand for easier methods of registering to vote.

## **Methodology**

To perform the randomization within each of the four blocks, we first grouped EBUs by household, then randomly assigned them to either the control group or one of four treatment groups. We also randomly assigned half of the households selected for any treatment into wave 1 and the other half into wave 2. The Pennsylvania elections officials sent the postcards to those

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<sup>3</sup> The state elections office set up and maintained the QR codes used for this study.

selected into wave 1 starting on September 15, 2016 and to those in wave 2 starting on September 27, 2016.<sup>4</sup> As is common in situations like the present study, we performed the randomization at the household level to ensure that the control group would not be accidentally treated or that two (or more) individuals in one household would not accidentally receive two (or more) different messages (a phenomenon called cross-contamination).

The following list summarizes the randomization procedures:

- Identify each unique household from the EBU list using the street address and zip code together.
- Randomly identify one individual from each household to be used for assignment to treatment or control.
- Generate a random value for each household, using the individual who was assigned to represent the household. These values determine who is in a treatment group and who belongs to the 5% assigned to the control group.
- At the household level, randomly assign individuals to either wave 1 or wave 2.
- Within each wave, randomly assign those who were selected in Step 3 to receive a postcard to receive one of the 4 treatment postcards.
- For remaining individuals in a given household who have not been assigned a random value, assign them the same value as the selected person in their household so that all people within a given household receive the same postcard or none at all.<sup>5</sup>

After the election, the state elections office provided us with the state voter file. We first removed from the voter file those who were known to have registered prior to the date we obtained the EBU data. We then matched the EBU data to the voter file using information on first and last name, date of birth, house number, and zip code.

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<sup>4</sup> The research team and PA elections officials had hoped for a 2 to 3 week gap between the waves. The PA officials reported that issues with the agency used for printing and mailing caused a delay with sending out the wave 1 postcards.

<sup>5</sup> Standard statistical tests showed that the randomization process was successful as treatment assignment could not be predicted by available indicators (zip code and household size).

## Results

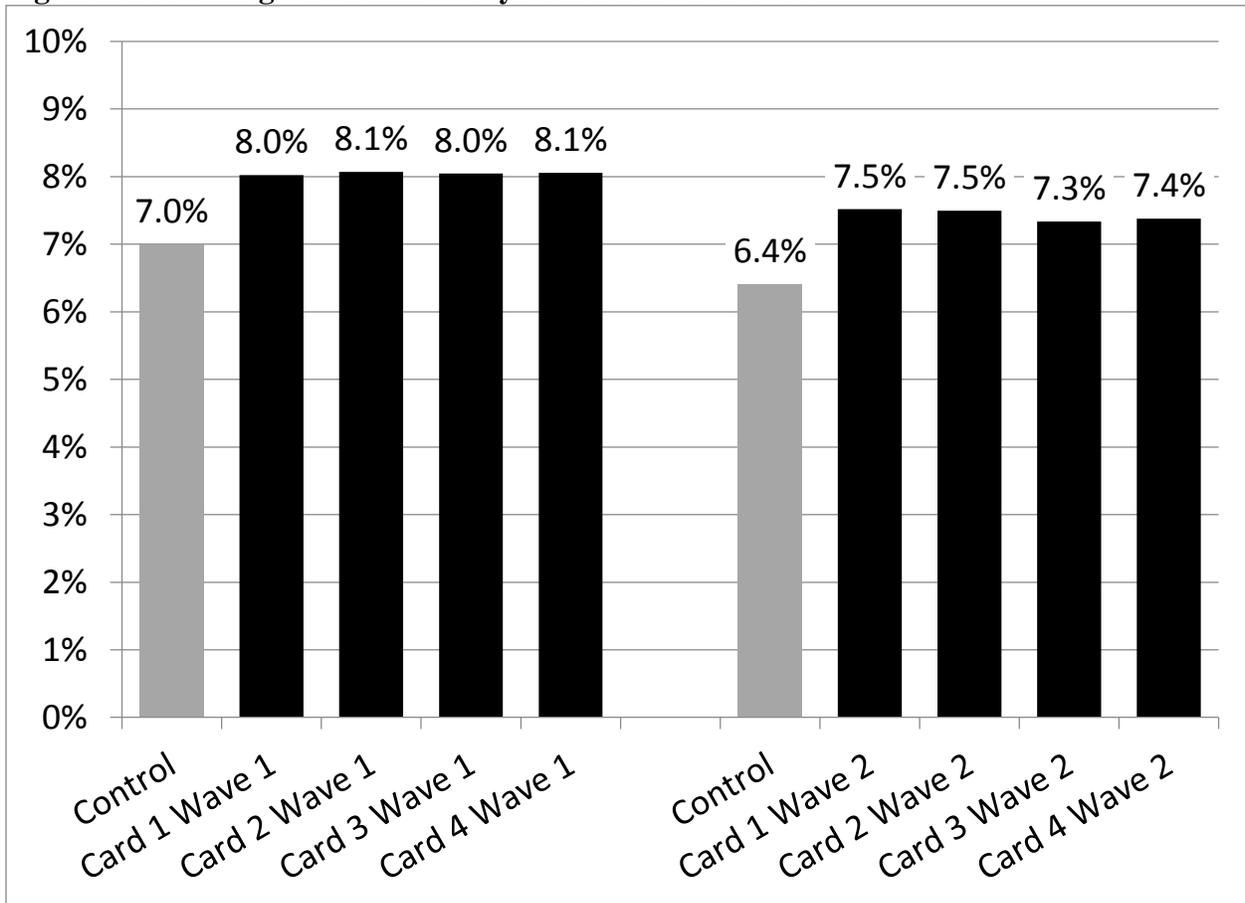
The primary outcomes of interest are the differences in the rates of voter registration and turnout across the control and treatment conditions.<sup>6</sup> We report these separately for each wave and take into account the fact that we randomized at the household level by adjusting the standard errors to reflect the similarities of individuals who live in the same household. The results discussed here combine the four groups. To see the effects broken down by wave and group, see Appendix B.

Figure 1 shows the rate of registration for the control and each treatment condition separately for wave 1 and wave 2. The primary finding is that registration increased by slightly over 1 percentage point, regardless of the type of card or whether the card was sent by the state in wave 1 or wave 2. All of the differences between treatment and control are statistically significant at  $p < 0.05$ . The 1 percentage point increase is slightly lower than in other EBU experiments (internal Pew reports) but given the low overall rate of registration of about 7% in the control condition, this represents a relatively large increase. The lack of variation in effects across message type are similar to what other experiments using treatments that are suitable for delivery by a state government (i.e. non-partisan and without the use of social pressure (Gerber, Green, and Larimer 2008)) show and are consistent with previous research on EBUs (Mann and Bryant 2015).

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<sup>6</sup> It is important to note that the state received a large number of returned postcards. Ideally, we would like to count the number of returned postcards and match these back to the original EBU data so that we could adjust the statistical analysis accordingly. Unfortunately, the volume was too large to count accurately with the resources available. If we were able to adjust the results then the effects would be larger than what we are able to report below because the current treatment population being used to determine registration and turnout rates includes those who were never treated. In other words, our estimates err on the side of being conservative.

**Figure 1. Voter Registration Rates by Condition and Wave.**



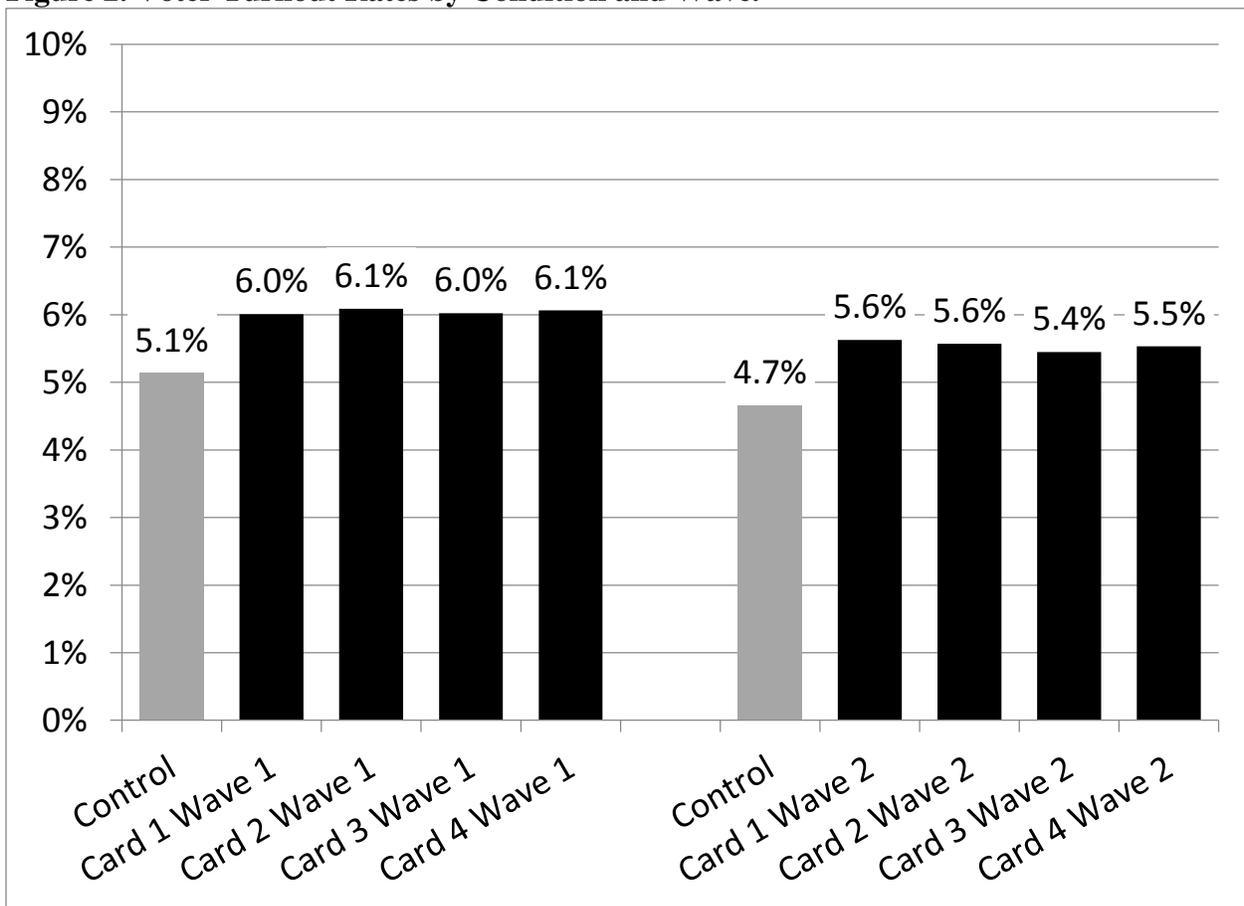
Notes: Card 1 contains basic information; Card 2 adds a QR code to the basic information; Card 3 adds a citizen demand message; and Card 4 adds a QR code to the citizen demand message.

Although one might have expected that sending cards closer to the closing date for registration could create a greater sense of urgency and thus larger effects, our results suggest this was not the case. Of course, factors relating to the uniqueness of the 2016 election – e.g. the differences between the candidates seemed more discernable than usual – and the limited gap between waves suggests that future research should continue to explore the effect of varying the timing of contact as it relates to voter registration.

Figure 2 shows the results of receiving any treatment on voter turnout. The overall conclusions derived for voter registration also hold for turnout. That is, we find a positive statistically significant ( $p < 0.05$ ) effect for all cards across each wave. As Figure 2 shows, the

turnout rate among EBUs was very small—just about 5% of EBUs in the control condition voted in 2016. But among those who received a postcard from the state, turnout jumped by nearly 1 percentage point over those in the control group. This is a substantively significant effect given the low overall rates of participation among EBUs, and in the context of previous use of postcards to encourage participation.

**Figure 2. Voter Turnout Rates by Condition and Wave.**



Notes: Card 1 contains basic information; Card 2 adds a QR code to the basic information; Card 3 adds a citizen demand message; and Card 4 adds a QR code to the citizen demand message.

***Results by Geographic Group/Language***

The results presented thus far combine postcards that had the same message but were in either English only or English and Spanish. Although the messages were the same, the inclusion

of English and Spanish resulted in potentially meaningful differences in the postcards. That is, on the cards that included Spanish the font had to be smaller, there were 2 QR codes on cards 2 and 4 (one in the English column of text and one in the Spanish column of text), and the cards were more accessible to those who speak Spanish as their primary language. Table 1a (in Appendix B) presents the results for voter registration separately for each of the four geographic groups—Berks, Lehigh, and Philadelphia, all of which received the postcards with both English and Spanish text, and all other counties, which received the postcards in English only. Table 1b (in Appendix B) presents the corresponding voter turnout results. For both registration and turnout the effects in Philadelphia and the rest of the state consistently follow the pattern presented in the figures above, though the effects in Philadelphia are smaller. There is evidence that wave 2 had an effect in Berks but there was no effect in Lehigh. Since including both languages was a requirement, not an element that could be manipulated, we cannot assess what influence having both languages had. However, given that the results are relatively similar across the 4 areas we suspect that the additional language and subsequent changes in font had little effect.

## **Conclusion**

In this paper, we reported on a large-scale field experiment to encourage voter registration conducted via a collaboration between state elections officials and academics. While individuals in the state ultimately had to decide whether to register or not, the state sought to actively encourage voter registration among those they believed were not yet registered. This represents an important step toward greater governmental responsibility in the U.S. electoral system.

Our findings, though not game changing, are important. A single postcard sent by state election officials several weeks before the election can produce small, but meaningful increases

in both registration and turnout. But the results also underscore the difficulty of increasing voter registration. Even in the context of a hotly contested presidential election in a swing state, with candidates who were widely recognized and highly polarizing, the large number of citizens who weren't registered by late September overwhelmingly decided to remain unregistered. This should raise alarms among academics, policy makers, the media, and activists. Collectively we have much more to learn if we seek to bring about greater levels of engagement with the political system.

Future iterations of this work will expand the scope of the study in two primary ways. One addition will be the inclusion of additional states that utilized a different set of treatments. Another enhancement will be the investigation of heterogeneous effects by age.

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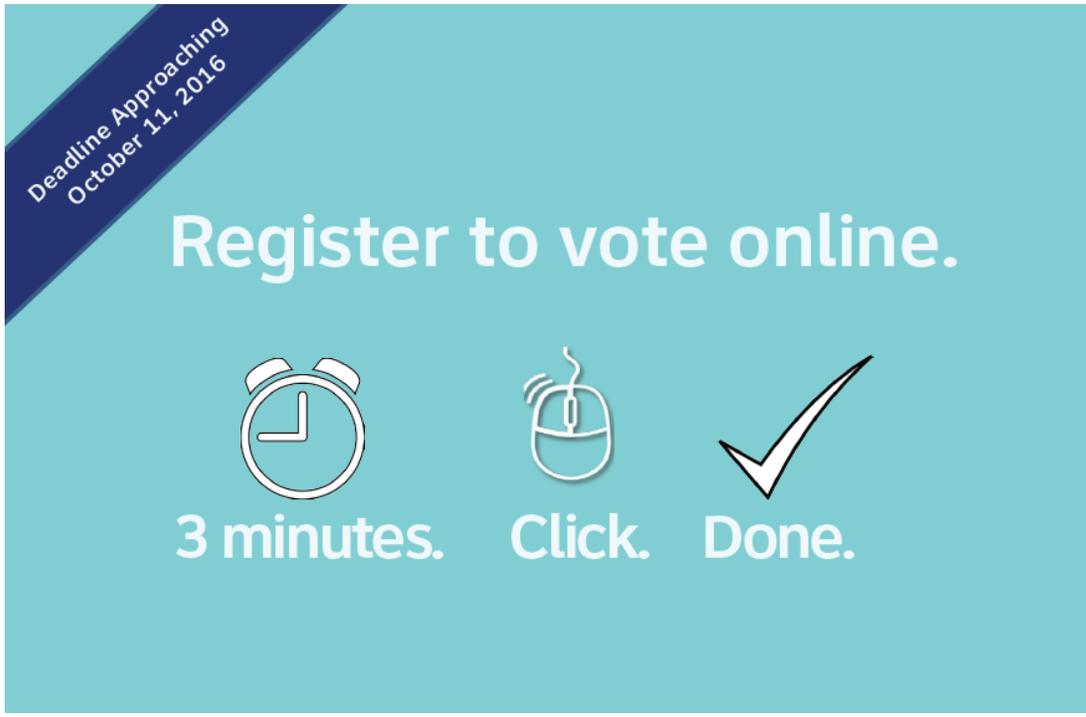
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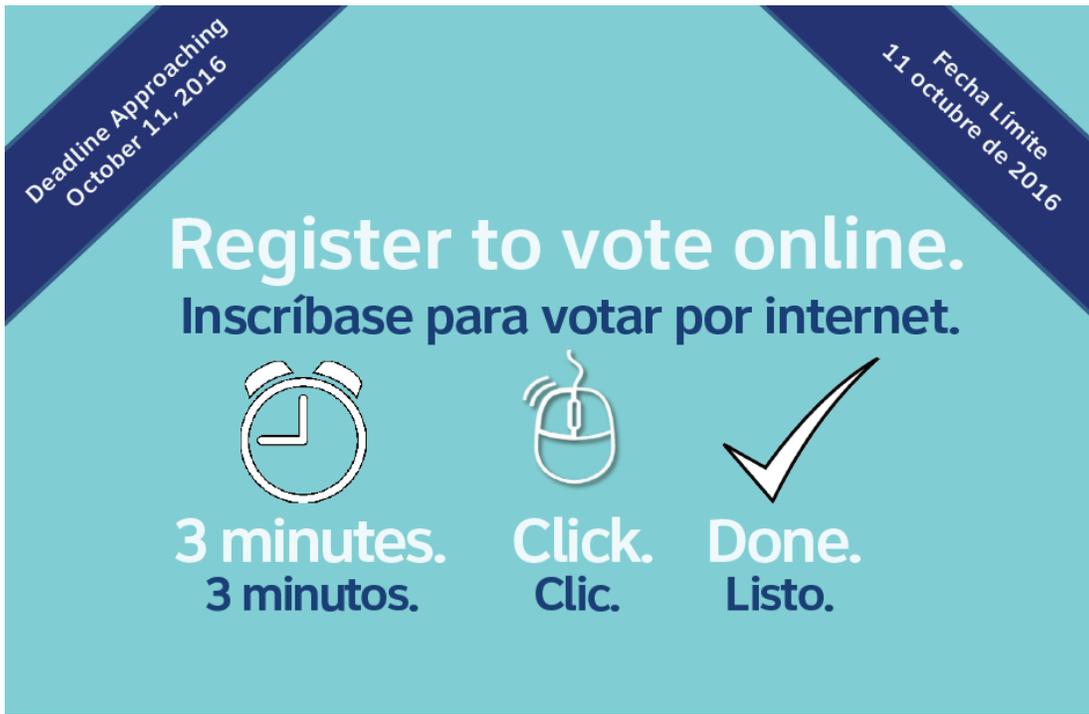
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**Appendix A**

Front of Postcard for Postcards 1-4



Front of Postcards 5-8 (Bilingual – English/Spanish)



## Back of Postcard 1



PA Department of State  
PO Box 62027  
Harrisburg, PA 17106-2027

**Our records show you may not be registered to vote. Don't wait until the October 11, 2016 deadline!**

To vote in the upcoming election, you must register by October 11. Online voter registration is quick and easy. Visit [www.votespa.com/myvote](http://www.votespa.com/myvote)



**You are eligible to register if you are:**

- 18 years old by Election Day;
- a U.S. citizen; and
- Pennsylvania resident for at least 30 days before the next election.

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If you believe you are already registered or received this postcard in error, please call 1-877-VotesPA (1-877-868-3772).

Información en Español - Si le interesa obtener esta información en español, llame al 1-877-868-3772.

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## Back of Postcard 2



PA Department of State  
PO Box 62027  
Harrisburg, PA 17106-2027

**Our records show you may not be registered to vote. Don't wait until the October 11, 2016 deadline!**

To vote in the upcoming election, you must register by October 11. Online voter registration is quick and easy. Visit [www.votespa.com/myvote](http://www.votespa.com/myvote) or scan the QR code below with your phone or tablet.



**You are eligible to register if you are:**

- 18 years old by Election Day;
- a U.S. citizen; and
- Pennsylvania resident for at least 30 days before the next election.

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If you believe you are already registered or received this postcard in error, please call 1-877-VotesPA (1-877-868-3772).

Información en Español - Si le interesa obtener esta información en español, llame al 1-877-868-3772.

## Back of Postcard 3



PA Department of State  
PO Box 62027  
Harrisburg, PA 17106-2027

**Our records show you may not be registered to vote. Don't wait until the October 11, 2016 deadline!**

To vote in the upcoming election, you must register by October 11. In response to citizen demand we have made registering to vote easier than ever before. Online voter registration is quick and easy. Visit [www.votespa.com/myvote](http://www.votespa.com/myvote)



**You are eligible to register if you are:**

- 18 years old by Election Day;
- a U.S. citizen; and
- Pennsylvania resident for at least 30 days before the next election.

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If you believe you are already registered or received this postcard in error, please call 1-877-VotesPA (1-877-868-3772).

Información en Español - Si le interesa obtener esta información en español, llame al 1-877-868-3772.

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## Back of Postcard 4



PA Department of State  
PO Box 62027  
Harrisburg, PA 17106-2027

**Our records show you may not be registered to vote. Don't wait until the October 11, 2016 deadline!**

To vote in the upcoming election, you must register by October 11. In response to citizen demand we have made registering to vote easier than ever before. Online voter registration is quick and easy. Visit [www.votespa.com/myvote](http://www.votespa.com/myvote) or scan the QR code below with your phone or tablet.



**You are eligible to register if you are:**

- 18 years old by Election Day;
- a U.S. citizen; and
- Pennsylvania resident for at least 30 days before the next election.

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If you believe you are already registered or received this postcard in error, please call 1-877-VotesPA (1-877-868-3772).

Información en Español - Si le interesa obtener esta información en español, llame al 1-877-868-3772.



## Back of Postcard 5 (Spanish Translation for Postcard 1)



PA Department of State  
PO Box 62027  
Harrisburg, PA 17106-2027

**Our records show you may not be registered to vote. Don't wait until the October 11, 2016 deadline!**

To vote in the upcoming election, you must register by October 11. Online voter registration is quick and easy. Visit [www.votespa.com/myvote](http://www.votespa.com/myvote)

**You are eligible to register if you are:**

- 18 years old by Election Day;
- a U.S. citizen; and
- Pennsylvania resident for at least 30 days before the next election.

If you believe you are already registered or received this postcard in error, please call 1-877-VotesPA (1-877-868-3772).

**Nuestros registros indican que usted no se ha inscrito para votar. ¡No espere hasta la fecha límite del 11 de octubre de 2016 para hacerlo!**

Para votar en las próximas elecciones, se debe inscribir en o antes del 11 de octubre. La inscripción en línea es rápida y fácil. Visite [www.votespa.com/myvote](http://www.votespa.com/myvote)

**Usted cumple los requisitos para inscribirse si:**

- Tiene al menos 18 años de edad el día de las elecciones;
- Es ciudadano estadounidense; y
- Ha vivido en Pennsylvania al menos 30 días antes de las próximas elecciones.

Si cree que ya está inscrito o recibió esta postal por error, por favor llame al 1-877-VotesPA (1-877-868-3772).



## Back of Postcard 6 (Spanish Translation for Postcard 2)



PA Department of State  
PO Box 62027  
Harrisburg, PA 17106-2027

**Our records show you may not be registered to vote. Don't wait until the October 11, 2016 deadline!**

To vote in the upcoming election, you must register by October 11. Online voter registration is quick and easy. Visit [www.votespa.com/myvote](http://www.votespa.com/myvote) or scan the QR code below with your phone or tablet.



**You are eligible to register if you are:**

- 18 years old by Election Day;
- a U.S. citizen; and
- Pennsylvania resident for at least 30 days before the next election.

If you believe you are already registered or received this postcard in error, please call 1-877-VotesPA (1-877-868-3772).

**Nuestros registros indican que usted no se ha inscrito para votar. ¡No espere hasta la fecha límite del 11 de octubre de 2016 para hacerlo!**

Para votar en las próximas elecciones, se debe inscribir en o antes del 11 de octubre. La inscripción en línea es rápida y fácil. Visite [www.votespa.com/myvote](http://www.votespa.com/myvote) o escanee el siguiente código QR utilizando su teléfono móvil o tableta.



**Usted cumple los requisitos para inscribirse si:**

- Tiene al menos 18 años de edad el día de las elecciones;
- Es ciudadano estadounidense; y
- Ha vivido en Pennsylvania al menos 30 días antes de las próximas elecciones.

Si cree que ya está inscrito o recibió esta postal por error, por favor llame al 1-877-VotesPA (1-877-868-3772).



## Back of Postcard 7 (Spanish Translation for Postcard 3)



PA Department of State  
PO Box 62027  
Harrisburg, PA 17106-2027

**Our records show you may not be registered to vote. Don't wait until the October 11, 2016 deadline!**

To vote in the upcoming election, you must register by October 11. In response to citizen demand we have made registering to vote easier than ever before. Online voter registration is quick and easy. Visit [www.votespa.com/myvote](http://www.votespa.com/myvote)

**You are eligible to register if you are:**

- 18 years old by Election Day;
- a U.S. citizen; and
- Pennsylvania resident for at least 30 days before the next election.

If you believe you are already registered or received this postcard in error, please call 1-877-VotesPA (1-877-868-3772).

**Nuestros registros indican que usted no se ha inscrito para votar. ¡No espere hasta la fecha límite del 11 de octubre de 2016 para hacerlo!**

Para votar en las próximas elecciones, se debe inscribir en o antes del 11 de octubre. En respuesta a la demanda popular, hemos hecho la registración para votar más fácil que nunca. La inscripción en línea es rápida y fácil. Visite [www.votespa.com/myvote](http://www.votespa.com/myvote)

**Usted cumple los requisitos para inscribirse si:**

- Tiene al menos 18 años de edad el día de las elecciones;
- Es ciudadano estadounidense; y
- Ha vivido en Pennsylvania al menos 30 días antes de las próximas elecciones.

Si cree que ya está inscrito o recibió esta postal por error, por favor llame al 1-877-VotesPA (1-877-868-3772).



## Back of Postcard 8 (Spanish Translation for Postcard 4)



PA Department of State  
PO Box 62027  
Harrisburg, PA 17106-2027

**Our records show you may not be registered to vote. Don't wait until the October 11, 2016 deadline!**

To vote in the upcoming election, you must register by October 11. In response to citizen demand we have made registering to vote easier than ever before. Online voter registration is quick and easy. Visit [www.votespa.com/myvote](http://www.votespa.com/myvote) or scan the QR code below with your phone or tablet.



**You are eligible to register if you are:**

- 18 years old by Election Day;
- a U.S. citizen; and
- Pennsylvania resident for at least 30 days before the next election.

If you believe you are already registered or received this postcard in error, please call 1-877-VotesPA (1-877-868-3772).

**Nuestros registros indican que usted no se ha inscrito para votar. ¡No espere hasta la fecha límite del 11 de octubre de 2016 para hacerlo!**

Para votar en las próximas elecciones, se debe inscribir en o antes del 11 de octubre. En respuesta a la demanda popular, hemos hecho la registración para votar más fácil que nunca. La inscripción en línea es rápida y fácil. Visite [www.votespa.com/myvote](http://www.votespa.com/myvote) o escanee el siguiente código QR utilizando su teléfono móvil o tableta.



**Usted cumple los requisitos para inscribirse si:**

- Tiene al menos 18 años de edad el día de las elecciones;
- Es ciudadano estadounidense; y
- Ha vivido en Pennsylvania al menos 30 días antes de las próximas elecciones.

Si cree que ya está inscrito o recibió esta postal por error, por favor llame al 1-877-VotesPA (1-877-868-3772).



## Appendix B

**Table 1a. Voter Registration by Treatment, Wave, and Geographic Location**

		Philadelphia	Lehigh	Berks	Rest of State
		Registration	Registration	Registration	Registration
Overall	Control	6.36%	7.44%	6.22%	7.47%
	Treatment	7.32%	7.37%	6.73%	8.58%
	Effect	<b>0.95%</b>	-0.07%	0.51%	<b>1.12%</b>
Wave 1	Control	5.93%	7.15%	6.07%	7.19%
	Treatment	7.00%	7.10%	6.43%	8.31%
	Effect	<b>1.08%</b>	-0.05%	0.36%	<b>1.11%</b>
Wave 2	Control	5.47%	6.61%	5.35%	6.58%
	Treatment	6.32%	6.57%	6.12%	7.69%
	Effect	<b>0.85%</b>	-0.04%	<b>0.77%</b>	<b>1.10%</b>
Overall	Control	6.36%	7.44%	6.22%	7.47%
	Card 1/5	7.29%	7.72%	6.66%	8.62%
	Card1/5 Effect	<b>0.93%</b>	0.28%	0.45%	<b>1.15%</b>
	Card 2/6	7.35%	7.61%	6.80%	8.63%
	Card 2/6 Effect	<b>0.99%</b>	0.17%	0.58%	<b>1.16%</b>
	Card 3/7	7.38%	6.99%	6.57%	8.53%
	Card 3/7 Effect	<b>1.01%</b>	-0.45%	0.36%	<b>1.06%</b>
	Card 4/8	7.25%	7.18%	6.88%	8.56%
Card 4/8 Effect	<b>0.89%</b>	-0.26%	0.67%	<b>1.09%</b>	
Wave 1	Control	5.93%	7.15%	6.07%	7.19%
	Card 1/5	6.91%	7.17%	6.41%	8.29%
	Card1/5 Effect	<b>0.98%</b>	0.02%	0.34%	<b>1.10%</b>
	Card 2/6	6.96%	7.70%	6.37%	8.32%
	Card 2/6 Effect	<b>1.04%</b>	0.56%	0.30%	<b>1.12%</b>
	Card 3/7	7.05%	6.29%	6.23%	8.34%
	Card 3/7 Effect	<b>1.13%</b>	-0.86%	0.16%	<b>1.14%</b>
	Card 4/8	7.10%	7.22%	6.70%	8.30%
Card 4/8 Effect	<b>1.17%</b>	0.08%	0.63%	<b>1.11%</b>	
Wave 2	Control	5.47%	6.61%	5.35%	6.58%
	Card 1/5	6.40%	7.11%	5.99%	7.78%
	Card1/5 Effect	<b>0.93%</b>	0.49%	0.64%	<b>1.20%</b>
	Card 2/6	6.36%	6.53%	6.30%	7.75%
	Card 2/6 Effect	<b>0.89%</b>	-0.08%	<b>0.95%</b>	<b>1.17%</b>
	Card 3/7	6.34%	6.61%	5.95%	7.57%
	Card 3/7 Effect	<b>0.87%</b>	0.00%	0.60%	<b>0.98%</b>
	Card 4/8	6.18%	6.03%	6.22%	7.65%
Card 4/8 Effect	<b>0.71%</b>	-0.58%	<b>0.87%</b>	<b>1.07%</b>	

Notes: **Bold** font indicates that the effect was statistically significant at  $p < 0.05$ . Cards 1-4 were English language only while cards 5-8 contained both English and Spanish. Cards 1/5 contain basic information;

Cards 2/6 adds a QR code to the basic information; Cards 3/7 add a citizen demand message; and Cards 4/8 add a QR code to the citizen demand message.

**Table 1b. Voter Turnout by Treatment, Wave, and Geographic Location**

		Philadelphia	Lehigh	Berks	Rest of State
		Turnout	Turnout	Turnout	Turnout
Overall	Control	4.35%	5.21%	4.34%	5.55%
	Treatment	5.05%	5.40%	5.04%	6.50%
	Effect	<b>0.69%</b>	0.19%	<b>0.69%</b>	<b>0.94%</b>
Wave 1	Control	4.05%	5.08%	4.24%	5.34%
	Treatment	4.85%	5.30%	4.81%	6.30%
	Effect	<b>0.80%</b>	0.22%	0.57%	<b>0.96%</b>
Wave 2	Control	3.69%	4.62%	3.64%	4.85%
	Treatment	4.32%	4.74%	4.58%	5.79%
	Effect	<b>0.64%</b>	0.12%	<b>0.94%</b>	<b>0.93%</b>
Overall	Control	4.35%	5.21%	4.34%	5.55%
	Card 1/5	5.01%	5.50%	4.95%	6.53%
	Card1/5 Effect	<b>0.66%</b>	0.30%	0.60%	<b>0.97%</b>
	Card 2/6	5.11%	5.73%	4.98%	6.53%
	Card 2/6 Effect	<b>0.76%</b>	0.52%	0.63%	<b>0.98%</b>
	Card 3/7	5.04%	5.05%	4.96%	6.43%
	Card 3/7 Effect	<b>0.69%</b>	-0.16%	0.61%	<b>0.87%</b>
	Card 4/8	5.02%	6.27%	5.27%	6.50%
Card 4/8 Effect	<b>0.66%</b>	1.07%	<b>0.92%</b>	<b>0.95%</b>	
Wave 1	Control	4.05%	5.08%	4.24%	5.34%
	Card 1/5	4.76%	5.21%	4.63%	6.28%
	Card1/5 Effect	<b>0.70%</b>	0.13%	0.40%	<b>0.94%</b>
	Card 2/6	4.89%	5.81%	4.70%	6.33%
	Card 2/6 Effect	<b>0.83%</b>	0.73%	0.46%	<b>1.00%</b>
	Card 3/7	4.85%	4.64%	4.71%	6.30%
	Card 3/7 Effect	<b>0.80%</b>	-0.44%	0.47%	<b>0.96%</b>
	Card 4/8	4.91%	5.53%	5.18%	6.29%
Card 4/8 Effect	<b>0.86%</b>	0.45%	<b>0.94%</b>	<b>0.95%</b>	
Wave 2	Control	3.69%	4.62%	3.64%	4.85%
	Card 1/5	4.41%	4.93%	4.56%	5.87%
	Card1/5 Effect	<b>0.72%</b>	0.31%	<b>0.91%</b>	<b>1.02%</b>
	Card 2/6	4.33%	4.99%	4.59%	5.81%
	Card 2/6 Effect	<b>0.64%</b>	0.37%	<b>0.95%</b>	<b>0.95%</b>
	Card 3/7	4.29%	4.70%	4.47%	5.68%
	Card 3/7 Effect	<b>0.60%</b>	0.08%	<b>0.83%</b>	<b>0.83%</b>
	Card 4/8	4.27%	4.35%	4.70%	5.79%
Card 4/8 Effect	<b>0.58%</b>	-0.26%	<b>1.06%</b>	<b>0.94%</b>	

Notes: **Bold** font indicates that the effect was statistically significant at  $p < 0.05$ . Cards 1-4 were English language only while cards 5-8 contained both English and Spanish. Cards 1/5 contain basic information; Cards 2/6 adds a QR code to the basic information; Cards 3/7 add a citizen demand message; and Cards 4/8 add a QR code to the citizen demand message.