

Pennsylvania Election Analysis

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Authors: Diana Cao, Angelo Dagonel, Pia Deshpande

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Introduction

At the outset of the COVID-19 outbreak, Pennsylvania delayed its primary election by five weeks from April 28 to June 2, 2020. It was a closed primary that featured presidential, congressional, state-level races, and various ballot measures. County officials held the main responsibility in determining polling place locations and public safety measures for the election, including what types of personal protective equipment (PPE) and social distancing to provide for poll workers and voters. At least three dozen counties announced changes to their polling places for the June 2 primary, and at least seven (Allegheny, Cameron, Delaware, Forest, Luzerne, Montgomery, Philadelphia) announced closures of more than half of their polling places.

Pennsylvania's June 2 primary also took place against the backdrop of nationwide protests against police violence, including large gatherings in Harrisburg, Philadelphia, and Pittsburgh that led to a citywide curfew and public transit shutdown in Philadelphia's city center. Voters in various counties reported issues with in-person voting that included long lines, crowded polling places, poll workers who refused to wear masks, and concerns about the presence of the National Guard.

One of the state's largest challenges was processing an unprecedented flood of mail-in ballot requests, with several counties working up until the day before the election to get ballots to voters. Ultimately, Governor Wolf extended the deadline to count mail-in ballots in six counties by one week, allowing for delays related to slower postal service and the statewide protests.

This report addresses a few key questions:

- How did voters in Pennsylvania respond to voting against the backdrop of COVID-19 and statewide protests (turnout, vote mode, and voter registration) in their June 2 primary election?
- How did Pennsylvania voting behavior differ by race, age, sex, party, and first-time voter status?
- Finally, with a dramatic increase in mail voting and challenges related to processing mail-in ballot requests, what can we learn from data gathered about mail ballot rejection reasons and qualitative voter surveys in preparation for November?

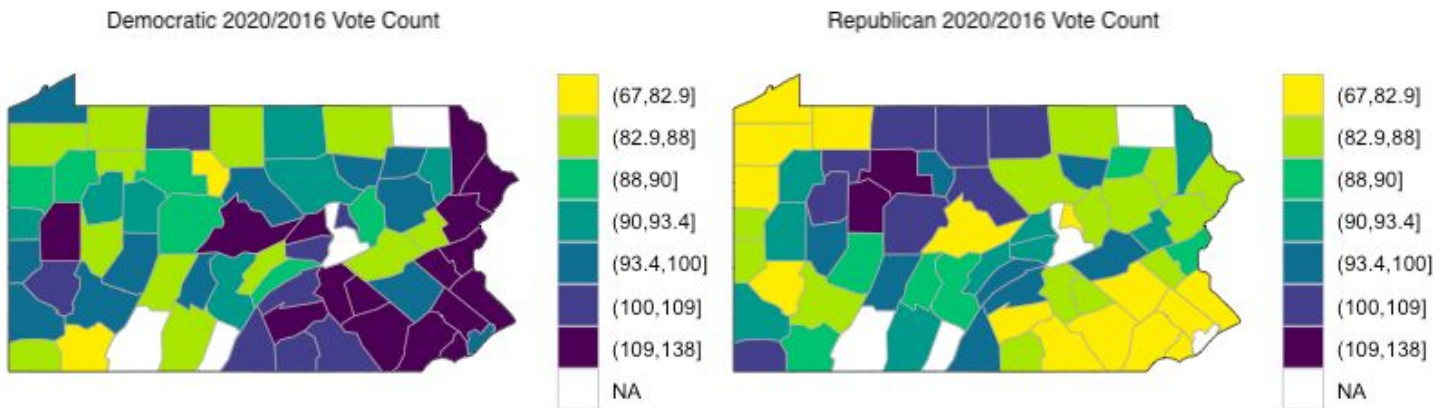
Summary of Findings

- Following the pattern across other state primaries, overall turnout was lower in Pennsylvania's 2020 primary as compared with the 2016 primary.
 - By party, however, more Democrats turned out to vote this year (1.64 compared to 1.56 million in 2016), while Republican turnout dropped from 2016, as President Trump was essentially unopposed (1.17 from 1.46 million in 2016).
 - Pennsylvania's electorate was markedly older in 2020 than it was in 2016, with the share of voters 60+ rising from 42.9% to 49.6%. The small portion of the electorate under 30 rose by a small margin from 9.1% to 9.5%.
- Voting at polling places decreased by 50% in 2020 from 2016. Mail and absentee voting combined increased from 2% in 2016 to 50% in 2020. Also in 2020:
 - Although Election Day voting declined for both parties, it declined more among Democrats, who saw a much more dramatic shift to mail voting than Republicans did in 2020.
 - Black voters relied more on voting at polls compared with other groups.
 - Older voters across party lines were more likely to vote by mail than younger ones; however, young Democrats were significantly more likely to cast a mail ballot than younger Republicans. This is in stark contrast with 2016, in which there were no differences in the use of voting modes, by age, across the two parties.
- Taken as a proportion of all Democratic ballots cast, the rejection rate of Democratic mail ballots cast is 1.7%. The rejection rate of Republican mail ballots cast is 0.8%.
- Voter registration in 2020 has trended lower than registration in 2008 and 2016, but higher than registration before the primary in 2012. The 2012 and 2020 primaries are perhaps more comparable, as they are mainly one-party primaries with the incumbent President facing no competition. Thus, while net registration in 2020 declined compared to 2008 and 2016 primaries, it increased compared to the more commensurable 2012 primary.
- Among 1,000 registered voters polled by the Healthy Election Project after the 2020 primary:
 - 91% of respondents said they intended to vote in November.
 - 63% of respondents said it was likely or very likely they would vote absentee in November, while 37% said it was unlikely or very unlikely.
 - 75% of respondents said they were very or somewhat confident about Pennsylvania's COVID preparation for voting in November.

I. Analysis of 2020 Primary

A. Turnout

Overall, 2.8 million voters turned out for the 2020 presidential preference primary, compared to 3.0 million in 2016. However, more Democrats voted in 2020 (1.64 million) compared to 2016 (1.56 million), despite concerns stemming from the pandemic, while Republican turnout fell from 1.46 to 1.17 million.

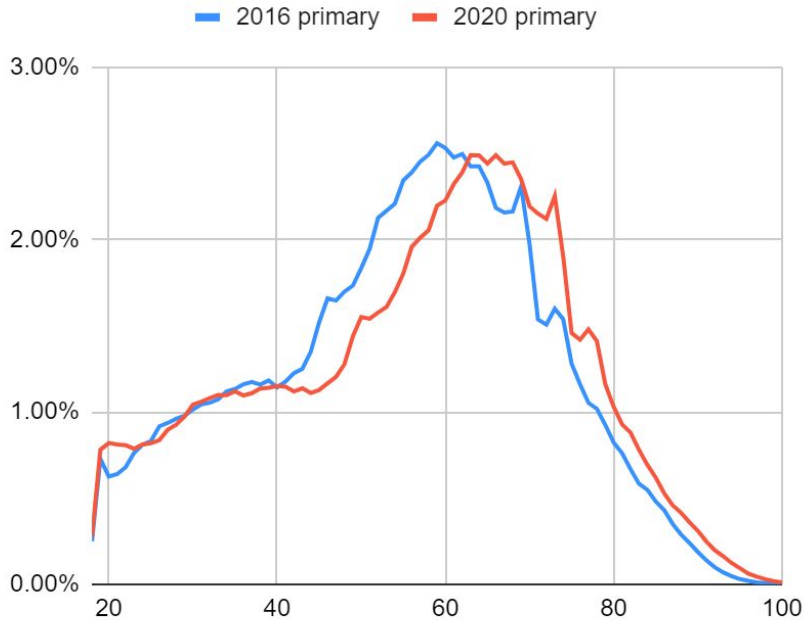


Note: The data in the map reflect the percentage change in the total number of votes cast in the Democratic and Republican primaries, comparing 2020 to 2016.

By Age: 2016 vs. 2020 Turnout

Pennsylvania's electorate was markedly older in 2020 than it was in 2016, with the share of voters 60+ rising from 42.9% to 49.6%. The small portion of the electorate under 30 rose by a small margin from 9.1% to 9.5%. Necessarily, the share of voters in the middle two age groups—those 30-44 and 45-59—decreased from 17.3% to 16.6% and 30.8% to 24.2%, respectively.

2016 vs. 2020: Age Distribution



This aging of the statewide electorate is seen in both the Republican and Democratic primaries, although it was slightly more pronounced among the Republicans. From 2016 to 2020 in the Republican primary, the share of voters over 60 increased nearly 10 percentage points, from 44.2% to 54.0%. The increase for those participating in the Democratic Party was much smaller, a 4 point increase, from 42.4% to 46.8%. Both parties saw moderate declines among voters 40-59 years of age.

| Voter Age | 2016 primary | | 2020 primary | |
|-----------|--------------|------------|--------------|------------|
| | Republican | Democratic | Republican | Democratic |
| 18-29 | 6.9% | 10.9% | 6.6% | 11.5% |
| 30-44 | 15.4% | 18.5% | 12.4% | 19.4% |
| 45-59 | 33.5% | 28.3% | 26.9% | 22.3% |
| 60+ | 44.2% | 42.4% | 54.0% | 46.8% |
| Number | 1,462,647 | 1,562,739 | 1,172,274 | 1,642,690 |

By Sex: 2016 vs. 2020 Turnout

Pennsylvania also records sex in their voter file. However, a substantial number of voters have their sex listed as “unknown.” In 2016, 22% of voters had an unknown sex, compared to 18.9% in 2020. The share of voters who were identified as male in the voter file decreased meagerly between 2016 and 2020, and the share of voters identified as female grew.

| Sex | % 2016 | Vote Count 2016 | % 2020 | Vote Count 2020 |
|---------|--------|-----------------|--------|-----------------|
| Male | 33.5% | 1,032,295 | 32.8% | 928,314 |
| Female | 39.9% | 1,226,698 | 42.0% | 1,188,200 |
| Unknown | 22.0% | 678,584 | 18.9% | 534,766 |
| Total | 100% | 3,077,554 | 100% | 2,831,718 |

By Sex and Party: 2016 vs. 2020 Turnout

The following table looks at the share of the electorate by reported sex for the Republican and Democratic primary in 2016 and 2020. A significant portion of the electorate has an unknown sex. The portion of men in both parties’ primaries stayed relatively level. The share of women increased by 3 percentage points in the Democratic primaries, and increased by less than 1 percentage point in the Republican primaries.

| Sex | 2016 | | 2020 | |
|---------|-------------|-----------|-------------|-----------|
| | Republicans | Democrats | Republicans | Democrats |
| Male | 36.8% | 29.8% | 36.9% | 29.8% |
| Female | 35.5% | 43.9% | 36.3% | 46.0% |
| Unknown | 23.2% | 21.1% | 20.7% | 17.6% |
| Total | 1,462,868 | 1,563,138 | 1,172,514 | 1,64,3157 |

I. Vote Mode

Pennsylvanians can vote by four different modes, although two of them are difficult to distinguish in practice, and another two are difficult to distinguish among the administrative records maintained by the state and made available to the public.

Prior to 2020, Pennsylvania voters could either vote on Election Day or request an absentee ballot if they satisfied one of a group of restrictive reasons. In October 2019, Governor Tom Wolf signed Act 77 into law, which allowed voters to avail themselves of a no-excuse mail ballot. However, the law did not abolish the more traditional absentee law. As a consequence, under Pennsylvania law, voters can now cast ballots via mail, “at the polls” on Election Day, or through the traditional absentee mode.

Furthermore, in early 2020, Pennsylvania election officials encouraged counties to open up in-person sites ahead of elections, to allow voters to both apply for and receive the mail ballot at the same time. For all practical purposes, this is in-person early voting, and similar to North Carolina’s “one-stop absentee voting.” Unfortunately, the Pennsylvania voter file we analyzed did not distinguish between voters who availed themselves of this one-stop option and general voting by mail.

As a consequence of recent changes in Pennsylvania election law, along with the data that are available, we were able to analyze voting on Election Day at the polls (“Polling”, including provisional votes), Absentee, and by Mail (including one-stop voters). Overall, voting at polling places decreased by 49 percentage points in 2020 from 2016. Mail and absentee voting combined increased from 2% in 2016 to 51% in 2020.

| Year | Polling | Mail | Absentee | Total vote count |
|------|------------------|------------------|---------------|------------------|
| 2016 | 3,015,511 98% | NA | 62,732 2% | 3,078,243 |
| 2020 | 1,387,972 49% | 1,210,452 43% | 232,635 8% | 2,831,059 |

By Party: 2016 vs. 2020 Vote Mode

The main story about the use of voting modes in 2020 is that Democrats overwhelmingly voted by mail, whereas Republican mainly voted on Election Day. Nonetheless, Election Day voting

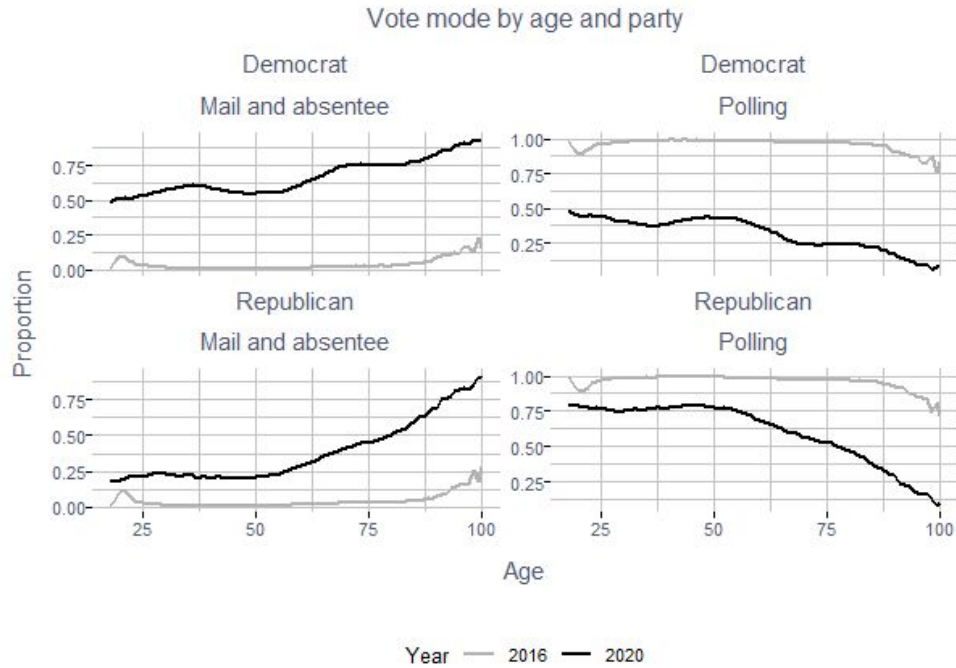
declined in both parties, even if it declined more among Democrats. Just more than half (53%) of Democrats voted by mail in 2020, while a majority (64%) of Republicans continue to vote at polling places. Combining both the mail and absentee modes, Democratic mail voting increased from 2.0% in 2016 to 63.8% in 2020. Among Republicans, voting by mail increased from 2.1% in 2016 to 33.3% in 2020.

| Party | Polling (Election Day) | | Absentee | | Mail | | Provisional | | Total vote count | |
|-------|---------------------------|-------|----------|-------|------|-------|-------------|------|------------------|-----------|
| | 2016 | 2020 | 2016 | 2020 | 2016 | 2020 | 2016 | 2020 | 2016 | 2020 |
| Dem. | 97.8% | 34.3% | 2.0% | 10.5% | NA | 53.3% | 0.2% | 2.0% | 1,563,136 | 1,642,324 |
| Rep. | 97.9% | 64.8% | 2.1% | 5.0% | NA | 28.3% | 0.1% | 2.0% | 1,462,863 | 1,172,249 |

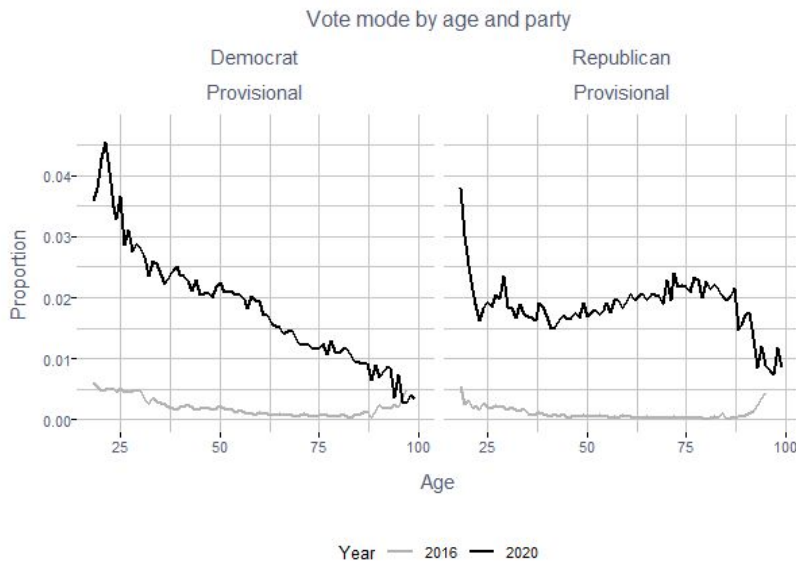
By Age: 2016 vs. 2020 Vote Mode and Party

There are notable party differences that appear when analyzing how voters of different ages voted in 2016 and 2020. Though older voters across party lines were more likely to vote by mail¹ than younger ones, young Democrats were significantly more likely to cast a mail ballot than younger Republicans. For instance, 47.9% of 18 year-old Democrats cast their ballots by mail in 2020 compared to only 17.9% of 18 year-old Republicans. This is in stark contrast with 2016 (the grey line), in which there were no differences in the use of voting modes, by age, across the two parties.

¹ For this analysis, we have combined mail and absentee ballots, to allow meaningful comparisons across 2016 and 2020.



Provisional ballot usage was much higher in 2020 (1.96% of total ballots) than in 2016 (0.14%). Younger Democrats and Republicans (those under the age of 25 in particular) cast provisional ballots at much higher rates than older voters.



By Race: 2016 vs. 2020 Vote Mode

Analyses of vote mode by race² reveal that all groups relied less on Election Day voting in favor of voting by mail or absentee ballot in 2020. Compared to other groups, Black voters were least likely to vote by mail or absentee ballot in 2020 (44% of Black turnout), while Asian voters were most likely to choose these vote modes (60% of Asian turnout). Racial groups exhibited no difference in vote mode choices in 2016, with 98% of each group voting at polling places.

Overall turnout ("Total vote count") decreased for each group, except for Asians who voted 2% more in 2020 (76,240) than in 2016 (74,097). Overall White turnout decreased the most, by 8% from 2016 (2,476,564) to 2020 (2,246,927). Overall Black turnout decreased the least, by 1% from 2016 (317,787) to 2020 (313,103).

| Race | Polling | | Absentee | | Mail | Provisional | | Total vote count | |
|----------|---------|-------|----------|-------|-------|-------------|------|------------------|-----------|
| | 2016 | 2020 | 2016 | 2020 | 2020 | 2016 | 2020 | 2016 | 2020 |
| White | 98% | 46.7% | 2% | 8% | 43.5% | 0% | 1.9% | 2,476,564 | 2,246,927 |
| Black | 98% | 52.1% | 1% | 8.9% | 36.5% | 0% | 2.4% | 317,787 | 313,103 |
| Hispanic | 98% | 48.9% | 2% | 8.6% | 40.3% | 0% | 2.1% | 142,333 | 130,616 |
| Asian | 98% | 36.7% | 2% | 11.6% | 49.4% | 0% | 2.2% | 74,097 | 76,240 |
| Other | 98% | 45.4% | 2% | 8.7% | 43.9% | 0% | 2% | 67,463 | 64,174 |

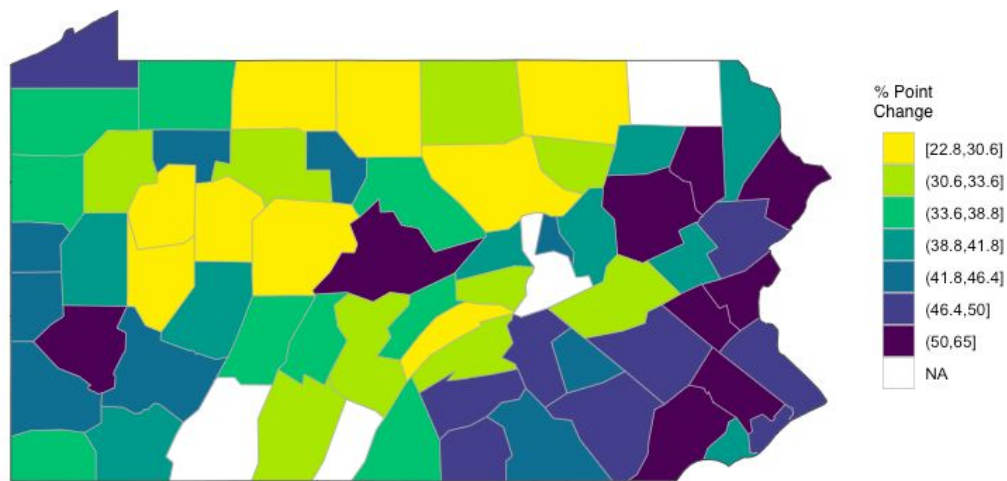
² The Pennsylvania voter file does not record race. We therefore rely on Bayesian Improved Surname Geocoding (BISG) imputation, which uses a voter's last name and residential address to assign probabilities of a voter belonging to a racial group. For more info, see Kosuke Imai and Kabir Khanna, "Improving Ecological Inference by Predicting Individual Ethnicity from Voter Registration Records," *Political Analysis* (2016): 263 -- 72.

By County and Precinct: 2016 vs. 2020 Vote Mode

As mentioned above, Governor Tom Wolf signed Act 77 into law in October 2019, which allowed voters to avail themselves of a no-excuse mail ballot. The following maps and graphs combine absentee and mail voting for purposes of comparison between the 2016 and 2020 primaries.

The increase in absentee/mail voting across counties in 2020 can likely be attributed to both the new law and the growing reliance we have seen across states holding elections during the pandemic.

Change in Absentee and Mail Vote Percentage from 2016 to 2020



II. First-time Voters

Increased turnout of first-time voters historically corresponds with more competitive primary and presidential election years. In 2008, for example, 13.6% of Democratic voters in the primary were first-time voters; that figure fell in 2012 to just 1.58%. This year saw higher first-time voter turnout from both parties relative to 2012, but lower than 2016 rates, and for Democrats, lower than 2008 as well.

Percent of First-time Voters in Presidential Election Years

| Year | Republican | Democrat | Overall |
|------|------------|----------|---------|
| 2008 | 4.66% | 13.60% | 11.25% |

| | | | |
|-------------|-------|-------|-------|
| 2012 | 2.15% | 1.58% | 1.89% |
| 2016 | 6.70% | 7.99% | 7.56% |
| 2020 | 4.89% | 5.97% | 5.58% |

2020 by Vote Mode: First-time Voters

First-time and returning voters shared similar distributions across vote modes: Voters were most likely to vote either at polls or via no-excuse mail ballot across both groups, and there were no striking differences.

| 2020 by Vote Mode: First-time and Returning Voters | | |
|---|-----------------------------|----------------------------|
| Vote Mode | % of First-Time Vote | % of Returning Vote |
| Polls | 45.49% | 47.16% |
| Mail | 42.44% | 42.78% |
| Absentee | 9.41% | 8.15% |
| Provisional | 2.67% | 1.92% |
| Total | 157,942 | 2,672,675 |

2020 by Age: First-time Voters

The portion of first-time voters that were over 60 increased by 10 percentage points from 11.1% in the 2016 primary to 20.1% in the 2020 primary. All other age cohorts of first time voters saw a decline.

| Voter Age | 2016 primary | | 2020 primary | |
|------------------|--------------------------|-------------------------|--------------------------|-------------------------|
| | First-Time Voters | Returning Voters | First-Time Voters | Returning Voters |
| 18-29 | 49.7% | 5.8% | 45.4% | 7.4% |
| 30-44 | 23.9% | 16.7% | 20.2% | 16.4% |
| 45-59 | 15.3% | 32.0% | 14.3% | 24.8% |

| | | | | |
|--------|---------|----------|---------|-----------|
| 60+ | 11.1% | 45.5% | 20.1% | 51.4% |
| Number | 232,889 | 284,4368 | 158,028 | 2,673,075 |

The portion of first-time voters over 60 increased by 10 percentage points from the 2016 Republican primary to the 2020 Republican primary. It increased by 9 percentage points for the Democrats. Both parties saw a decline in first time voters under 30, with the Democrats seeing that cohort decrease by nearly 8 percentage points compared to a less than 2 percentage point decrease for Republicans. Conversely, Republicans saw a near 7 percentage point decline in first time voters 30-44 while Democrats only saw a decline of almost 2 percentage points for the same category. The 40-59 cohort remained stable.

| Voter Age | 2016 primary | | 2020 primary | |
|-----------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| | First-Time Voters Republican Primary | First-Time Voters Democratic Primary | First-Time Voters Republican Primary | First-Time Voters Democratic Primary |
| 18-29 | 40.8% | 57.4% | 38.4% | 49.4% |
| 30-44 | 24.1% | 23.0% | 17.8% | 21.2% |
| 45-59 | 20.5% | 11.1% | 19.1% | 11.6% |
| 60+ | 14.6% | 8.5% | 24.7% | 17.7% |
| Number | 97,947 | 124,823 | 57,306 | 97,987 |

The table below shows the percentage of first time voters by age for Philadelphia which has a larger share of first-time voters who are under 30 than the state at-large. The city saw a 4 percentage point increase in first time voters over 60+ (a much smaller increase than what Pennsylvania experienced). Much of the other age cohorts follow the state's larger trends with the changes being comparatively smaller in Philadelphia than the whole state.

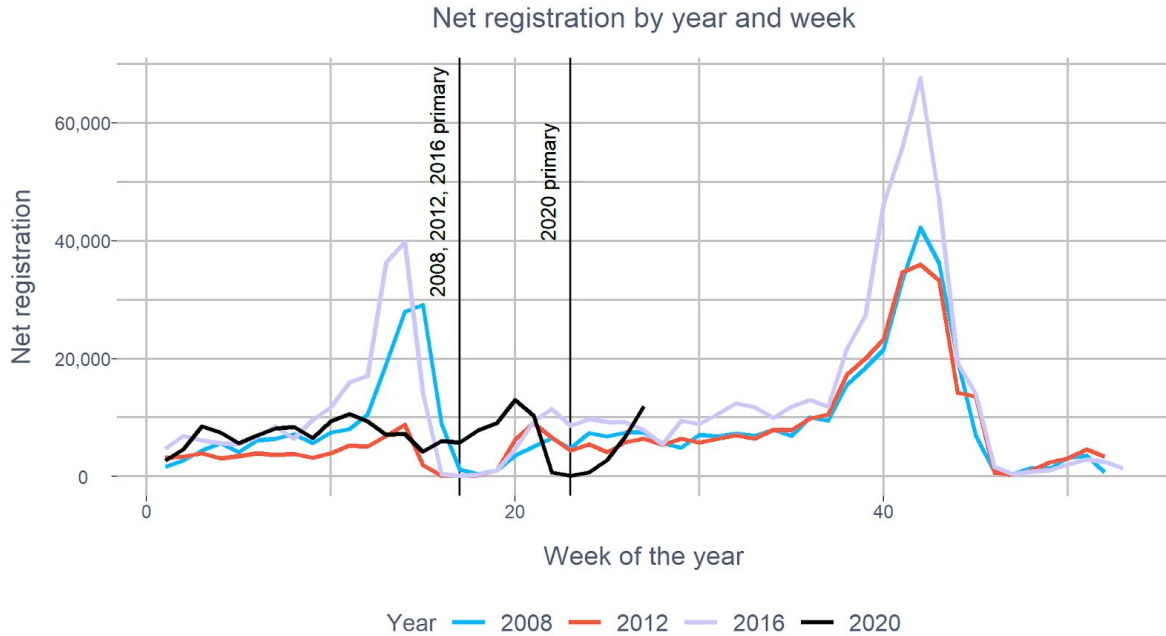
| Voter Age | 2016 primary : Philadelphia | | 2020 primary: Philadelphia | |
|-----------|-----------------------------|------------------|----------------------------|------------------|
| | First-Time Voters | Returning Voters | First Time Voters | Returning Voters |

| | | | | |
|--------|--------|---------|--------|---------|
| 18-29 | 58.6% | 10.3% | 52.9% | 12.1% |
| 30-44 | 23.8% | 23.0% | 26.9% | 27.1% |
| 45-59 | 10.8% | 30.2% | 10.1% | 23.8% |
| 60+ | 6.8% | 36.5% | 10.1% | 37.0% |
| Number | 32,705 | 332,809 | 21,646 | 323,330 |

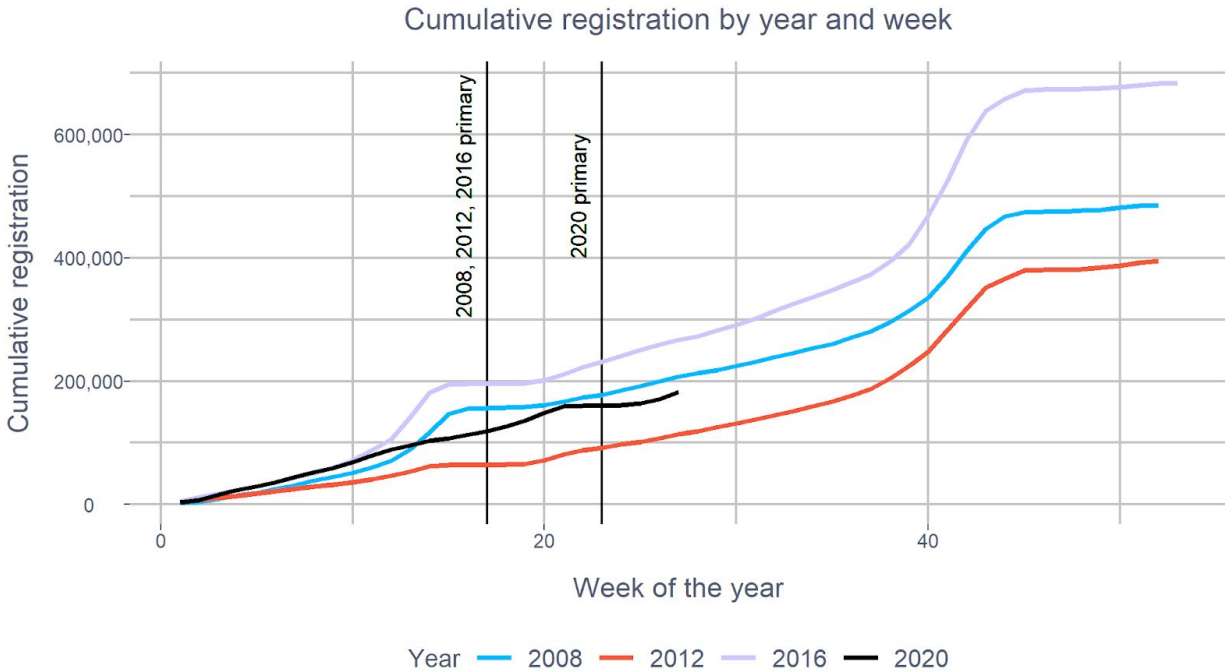
II. Voter Registration

Analysis in this section compares net and cumulative registration in the weeks leading up to the last four primary elections (2008, 2012, 2016 and 2020). Normally, the deadline to register to vote in the Pennsylvania primary is 15 days prior to the election, landing somewhere between April 7-11 with primaries scheduled around April 22-26 (17th week of the year). Due to the delay of the primary to June 2, the deadline to register in 2020 was May 18 (23rd week). Governor Tom Wolf's office sent 4.2 million postcards to voters reminding them of the new registration deadline.

The peak of net registration in 2020 was lower than peaks in 2008 and 2016, but higher than the peak for 2012. The 2012 and 2020 primaries mainly revolve around one party since the incumbent runs unopposed in their primary. Thus, while net registration in 2020 declined compared to 2008 and 2016 primaries, it increased compared to the more commensurable 2012 primary.



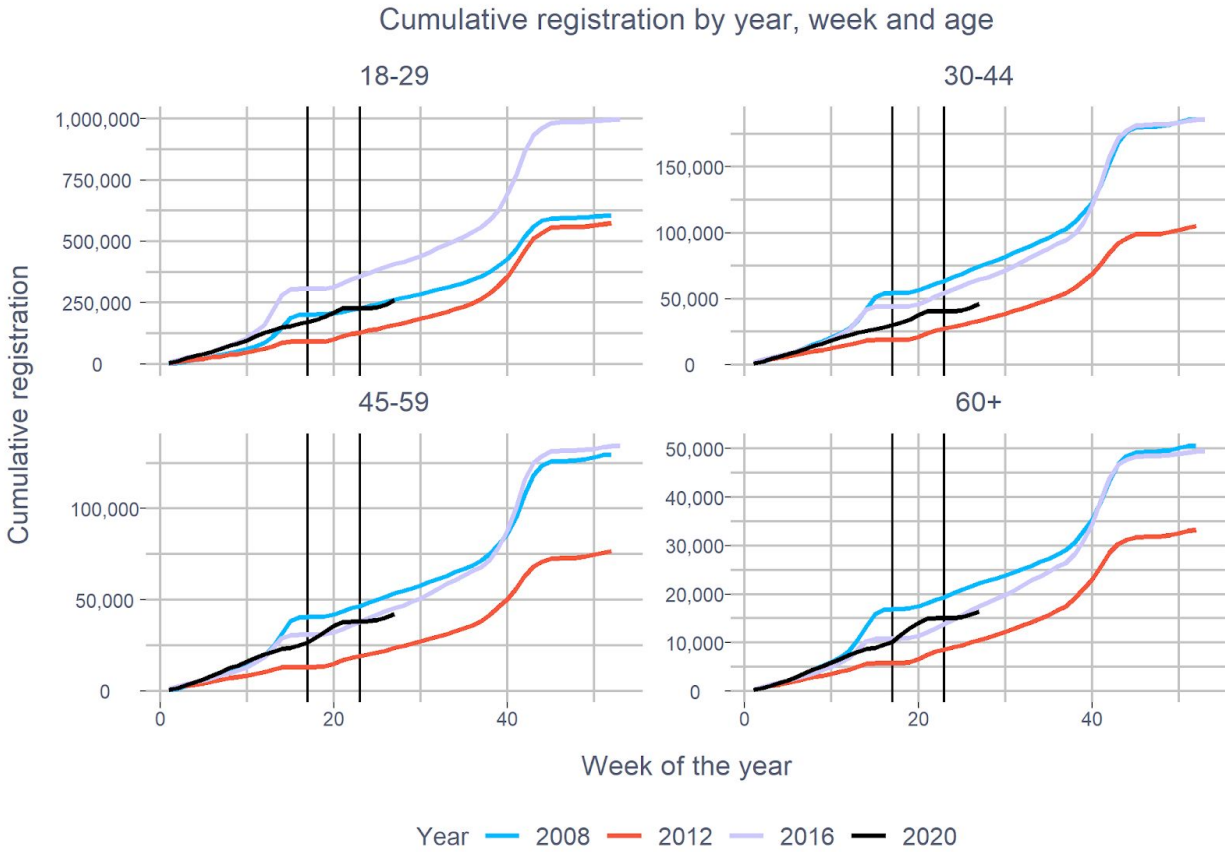
When examining cumulative registration from the new year to the primary, the number of new registrants in 2020 (160,034) only lags behind that of 2016 (195,620). Otherwise, cumulative registration at primary week in 2020 increases by 2% compared to 2008 (156,349) and 149% compared to 2012 (64,077). Despite the pandemic and reduced net registration peaks, cumulative registration up until the 2020 primary was higher than in 2008 and 2012.



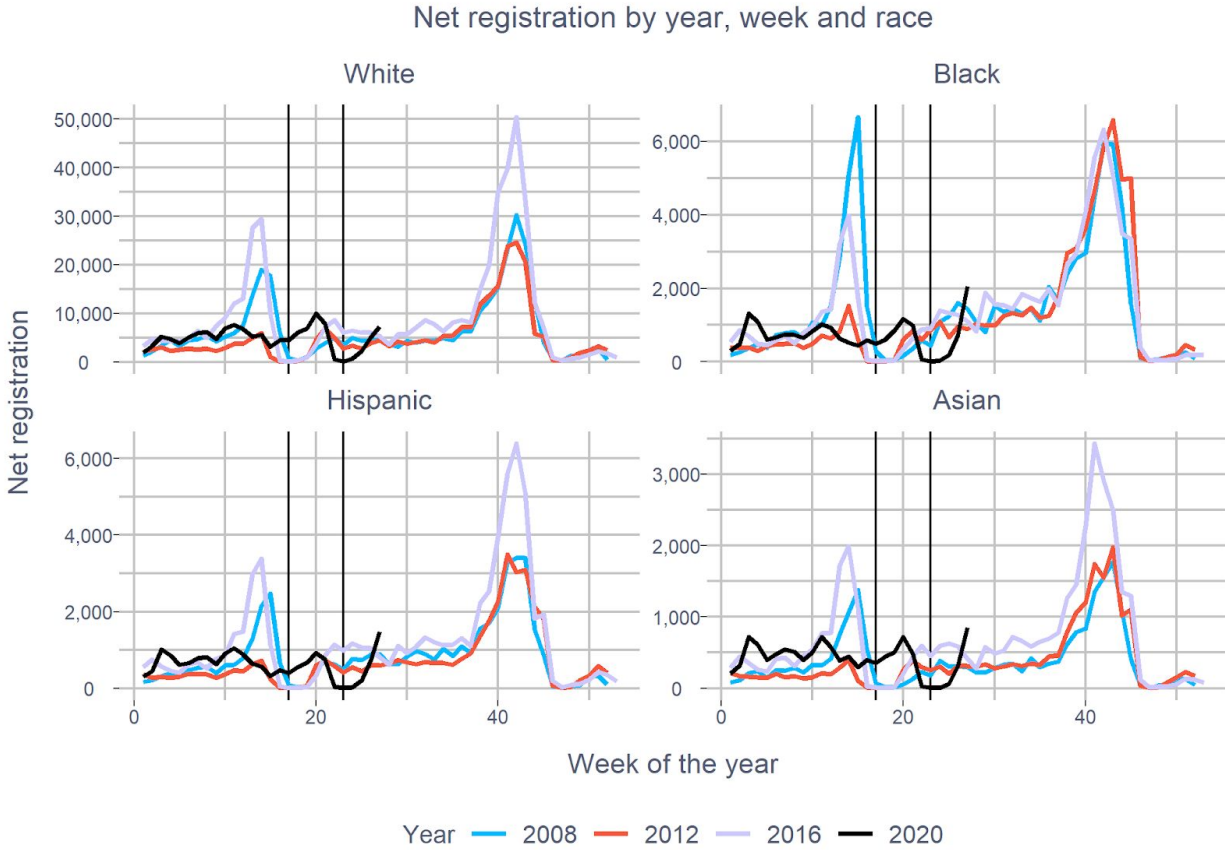
Trends in net registration persist when analyzing specific age groups. For all groups except voters aged 18-29, peaks in net registration leading up to the primary are lower for 2020 than in 2008 and 2016, but higher than peaks in 2012. Net registration peaks in 2012 and 2020 are of similar magnitude for voters aged 18-29, however registration in weeks further from the primary is higher for this group in 2020.



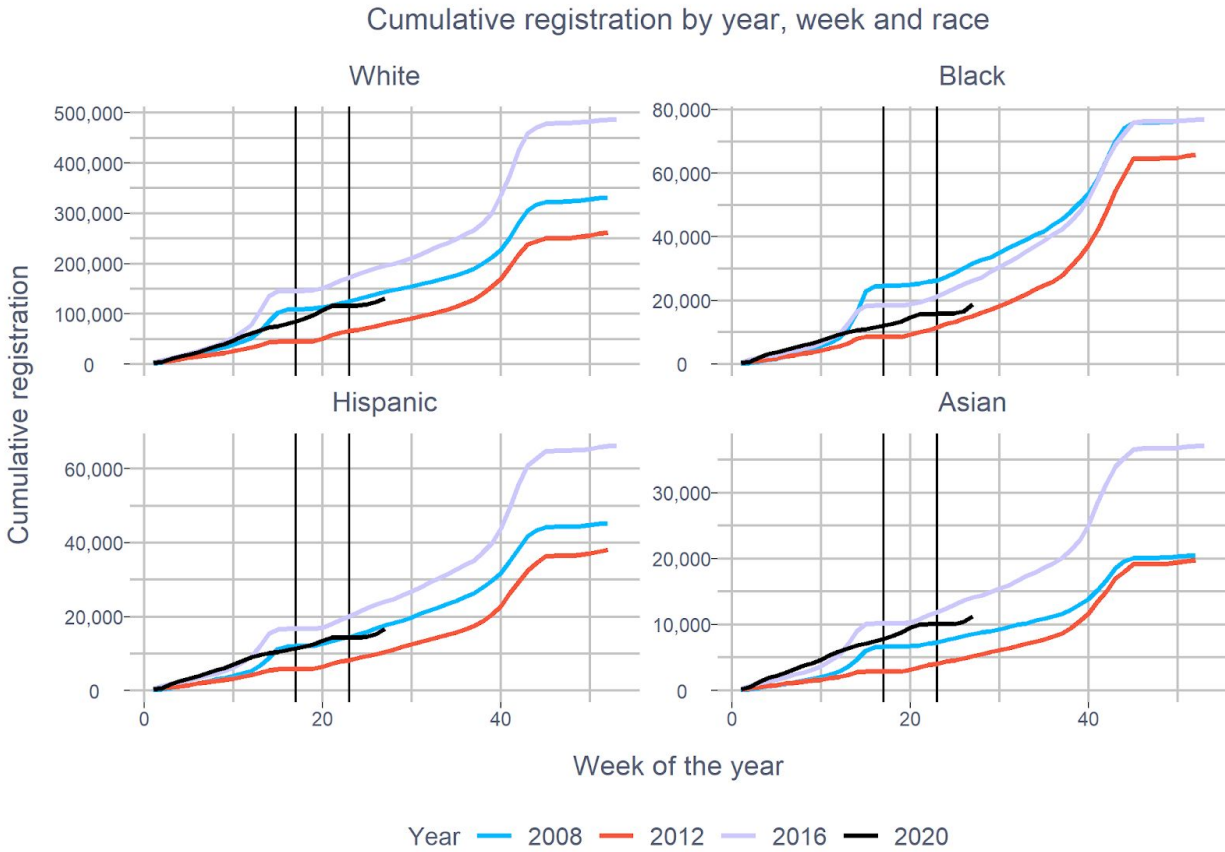
All age groups had higher cumulative registration leading up to the 2020 primary than in 2012. In particular, young and old voters in 2020 surpassed the cumulative registration of two primary years. Voters aged 18-29 registered by 12% and 150% more in 2020 (226,726) than in 2008 (200,816) and 2012 (90,600), respectively, and by 25% less than in 2016 (305,692). Voters aged 60 and above registered by 159% and 38% more in 2020 (15,026) than in 2012 (90,600) and 2016 (108,832), respectively, and by 11% less than in 2008 (16,902).



Racial groups demonstrate distinct trends in net registration leading up to the 2020 primary. Peaks in net registration for all groups are lower in 2020 than in 2008 and 2016. Peaks in net registration in 2020 are higher than in 2012 for Whites, Asians and Hispanics. This is especially true for Whites, who register nearly twice the amount of voters in 2020 than in 2012. For Blacks, the peak in net registration in 2020 is actually lower than in 2012.



Cumulative registration leading up to the 2020 primary increased compared to 2008 and 2012 for all racial groups except Black voters. Cumulative registration in 2020 increased the most compared to 2012. Asian voters registered by 50% and 249% more in 2020 (10,045) than in 2008 (6,662) and 2012 (2,876), respectively, and only 1% less than in 2016 (10,156). Hispanic voters registered by 18% and 145% more in 2020 (14,347) than in 2008 (12,062) and 2012 (5,836), respectively, and 14% less than in 2016 (16,689). Black voters registered by 83% more in 2020 (15,752) than in 2012 (8,585), and by 36% and 14% less than in 2008 (24,637) and 2016 (18,387), respectively.



III. Voter Survey

Immediately following the primary, the Healthy Elections Project administered questions from the [Survey of the Performance of American Elections](#) to registered voters in Pennsylvania, to gauge their experience in voting during the election, and to understand why those who did not vote decided not to cast a ballot. The following analysis compares the results from the 2020 primary to answers to the same questions following the 2016 presidential election. Note that the number of observations from the 2020 post-primary survey was 1,000 registered voters. There were 200 respondents to the 2016 survey.

Tables are provided in the appendix so readers can delve into findings in detail. The topline results for Pennsylvania voters are:

2016 and 2020 Primaries: Characteristics of voters and voting

- In 2016, 5% of voters polled voted absentee or by mail compared to 59% in 2020.

- In the 2020 primary, the most common type of polling place was a school building (25%). In 2016, it was a church (25%).

2016 and 2020 Primaries: Voter Experience

- The vast majority of voters reported that it was “very easy” to find their polling place in both 2020 and 2016. However, that majority *shrank* from 91% to 85%.
- The vast majority of voters reported that their polling place was run very well and that they had not seen any problems. However, this majority *increased* significantly, from 78% in 2016 to 80% in 2020.
- In 2020, most voters (57%) did not have to wait in a line to vote. In 2016, that portion was 33% (and the plurality of sample voters needed to wait less than 10 minutes in line).
- In 2020, 97% of voters experienced no problems with voting equipment. In 2016, 98% experienced no problems.
- In 2020, 66% of polled voters rated poll worker performance as “excellent.” 69% of voters polled in 2016 said the same.

2020 Primary: Absentee Voting Experience

- 96% of voters polled reported no problems receiving a mail ballot.
- 98% of voters polled reported no problems marking a mail ballot

2020 Primary: Voter Concerns

- The most common reason for not voting in 2020 (not including the “Other” category) was anxiety about the COVID-19 virus.
- The most common reason (76%) for requesting an absentee ballot in 2020 was anxiety about COVID-19.
- In 2020, 70% of voters were very confident that their vote was counted as intended, down slightly from 73% in 2016.
- In 2020, 45% of voters were very confident that their county votes were counted as intended, down from 55% in 2016.
- In 2020, 33% of voters were very confident that votes in their state were counted as intended, down from 38% in 2016.

Voter Projections for 2020

- 91% of 2020 respondents said they intended to vote in November.
- 63% of respondents said it was likely or very likely they would vote absentee in November, while 37% said it was unlikely or very unlikely.

- 75% of respondents said they were very or somewhat confident about Pennsylvania’s COVID preparation for voting in November.

IV. Mail Ballot Rejections

Taken as a proportion of *all ballots cast*, the rejection rate of Democratic mail ballots cast was 1.7%. The rejection rate of Republican mail ballots cast was 0.8%.

The most common reason for rejection, by far, was that a ballot was returned after the deadline. It is unclear how much of this is due to late postal service or voters mailing their ballots late.

| Reason for Cancelled Ballot | Democrat Ballots | Republican Ballots | Other | Total Ballots Rejected By Cause | Dem Rejection Rate | Repub Rejection Rate |
|-----------------------------|------------------|--------------------|-------|---------------------------------|--------------------|----------------------|
| Returned After Deadline | 11,572 | 3,740 | 298 | 15,610 | 0.71% | 0.32% |
| Undeliverable | 5,152 | 1,338 | 131 | 6,621 | 0.31% | 0.11% |
| Label Cancelled | 4,605 | 1,661 | 17 | 6,283 | 0.28% | 0.14% |
| Replaced | 4,341 | 1,727 | 3 | 6,071 | 0.26% | 0.15% |
| No signature | 1,393 | 340 | 35 | 1,768 | 0.08% | 0.03% |
| Vote Cancelled | 44 | 561 | 2 | 607 | 0.00% | 0.05% |
| Email Ballot Und Batch | 60 | 10 | 0 | 70 | 0.00% | 0.00% |
| No ID | 18 | 23 | 0 | 41 | 0.00% | 0.00% |
| Email Ballot Undeliverable | 35 | 4 | 0 | 39 | 0.00% | 0.00% |
| Vote Challenged | 1 | 8 | 0 | 9 | 0.00% | 0.00% |
| Total | 27,221 | 9,412 | 486 | 37,119 | 1.66% | 0.80% |

V. Conclusion

The COVID-19 pandemic prompted Pennsylvania legislators to delay their election by five weeks and encourage voters to cast their ballots in the mail. The resulting surge of mail-in ballot requests, statewide protests, and lagging postal service impacted if and how individuals voted and if those votes were counted.

There was a slight decline in turnout from Pennsylvania's 2016 primary to the state's 2020 primary, but turnout changes differed between Democrats and Republicans. Pennsylvania Democrats actually saw an increase in turnout from 2016 to 2020 despite concerns over the pandemic. Amidst a noncompetitive election, Republican turnout expectedly fell.

Those who showed up for Pennsylvania's 2020 primary were notably older than the state's 2016 electorate, following patterns established in other states like Ohio. White turnout decreased the most and Black turnout the least from 2016 to 2020. This in part can be explained by White individuals being Republican far more often than Black individuals.

Prior to showing up to vote, voters of different races registered at different rates. White voters registered nearly twice the number of individuals in 2020 than they did in 2012, for example. The peak in registration this year was smaller than 2008 and 2016 but larger than 2012, which was an election year with a remarkably low peak for registration.

Of course, the pandemic also changed the way voters cast their ballot this primary. Mail and absentee voting jumped from 2% of all ballots cast in 2016 to 50% of all ballots cast in 2020, though Democrats saw a much more substantial shift to mail voting than Republicans did. Though older voters were more likely to vote by mail across party lines, younger Democrats were far more likely to cast their ballot in the mail than young Republicans. In 2016, older voters were still more likely to vote by mail than younger ones, but no such party divide existed. Engagement with different vote modes also varied by race. Black voters were the least likely to vote by mail and Asian voters were the most likely.

The large uptick in voting by mail is extra strain on any election official. In Pennsylvania, the rate of rejection differed by party with Democratic mail votes (out of all Democratic votes cast) rejected 1.7% of the time compared to Republican mail votes rejected 0.8% of the time. The most common reason for a ballot to be rejected for both parties was that it arrived late.

As we look towards November, findings from a Healthy Elections poll of 1,000 Pennsylvanians shortly after their primary may be useful. Only 45% said they were somewhat confident about Pennsylvania's COVID preparation, a factor that may come into play motivating some voters to vote by mail and others to not vote at all. Those polled seemed to be split on their vote method with 36% stating that it was unlikely they would vote absentee in the presidential election and 27% stating it was very likely that they would vote absentee. 91% of voters said they intended to vote again come November.

Appendix A

The following tables summarize responses to a survey taken of a sample of 1,000 Pennsylvania voters in the days immediately following the presidential primary. The questions asked are identical to those asked in the [Survey of the Performance of American Elections](#). Comparisons with 2016 are with Pennsylvania responses to the 2016 SPAE, which was administered in the days immediately following the presidential election. The sample size in that case was 200.

Note: In the frequency counts below, the counts are non-integer because sampling weights have been applied, so that the respondents are representative of the known demographic characteristics of the Pennsylvania adult population.

Reason for not voting (asked of respondents reporting not voting).

| Reason for Not Voting | 2020 Primary | |
|---|--------------|---------|
| | Count | Percent |
| Other | 66.1 | 22% |
| I was worried about the COVID-19 virus | 44.1 | 15% |
| I forgot | 24.4 | 8% |
| Did not like the candidates | 21.0 | 7% |
| I requested but did not receive an absentee ballot | 20.0 | 7% |
| I did not feel that I knew enough about the choices | 19.7 | 7% |
| I'm not interested | 16.1 | 5% |
| Sick or disabled | 14.0 | 5% |
| Too busy | 13.7 | 5% |
| Out of town | 11.7 | 4% |
| Don't know | 11.1 | 4% |
| Transportation | 8.3 | 3% |
| I was worried about unrest associated with protests | 7.1 | 2% |
| I am not registered | 5.8 | 2% |
| I was not allowed to vote at the polls, even though I tried | 4.0 | 1% |
| I did not have the correct form of identification | 3.3 | 1% |
| The line at the polls was too long | 2.1 | 1% |

| | | |
|------------------------------|--------------|-------------|
| I did not know where to vote | 1.8 | 1% |
| Bad weather | 0.9 | 0% |
| Total | 295.1 | 100% |

Mode of voting

| Voting Method | 2020 Primary | | 2016 | |
|--|--------------|-------------|--------------|-------------|
| | Count | Percent | Count | Percent |
| Voted by mail or absentee ballot by mail | 428.2 | 59% | 8.4 | 5% |
| In person on Election Day (at polling place or precinct) | 283.1 | 39% | 169.0 | 94% |
| I don't know | 12.1 | 2% | 0 | 0% |
| In person before Election Day | 6.0 | 1% | 1.8 | 1% |
| Total | 729.2 | 100% | 179.1 | 100% |

Difficulty finding polling place

| Difficulty Finding Polling Place | 2020 Primary | | 2016 | |
|----------------------------------|--------------|-------------|--------------|-------------|
| | Count | Percent | Count | Percent |
| Very easy | 245.5 | 85% | 157.0 | 91% |
| Fairly easy | 30.9 | 11% | 10.8 | 6% |
| Somewhat difficult | 8.3 | 3% | 1.7 | 1% |
| Very difficult | 3.5 | 1% | 1.2 | 2% |
| I don't know | 0.7 | 0% | 0 | 0% |
| Total | 289.0 | 100% | 170.8 | 100% |

Polling Place Type

| | 2020 Primary | 2016 |
|--|--------------|------|
| | | |

| Polling Place Type | Count | Percent | Count | Percent |
|--|--------------|----------------|--------------|----------------|
| School building | 67.3 | 23% | 28.1 | 16% |
| Church | 52.9 | 18% | 42.3 | 25% |
| Police/Fire Station | 46.7 | 16% | 32.0 | 19% |
| Community center | 40.6 | 14% | 17.1 | 10% |
| Other government office (court house, municipal building, city hall, etc.) | 40.2 | 14% | 27.7 | 16% |
| Other | 16.0 | 6% | 7.4 | 4% |
| Senior center | 9.7 | 3% | 8.6 | 5% |
| Library | 8.0 | 3% | 3.3 | 2% |
| Private business | 4.3 | 1% | 3.6 | 2% |
| A store or shopping mall | 3.4 | 1% | 0.9 | 0% |
| Total | 289.0 | 100% | 170.8 | 100% |

How well the polling place was run

| How well were things run at the polling place where you voted? | 2020 Primary | | 2016 | |
|--|---------------------|----------------|--------------|----------------|
| | Count | Percent | Count | Percent |
| Very well — I did not see any problems at the polling place | 231.6 | 80% | 133.4 | 78% |
| Okay — I saw some minor problems, but nothing that interfered with people voting | 43.7 | 15% | 32.1 | 19% |
| Not well — I saw some minor problems that affected the ability of a few people to vote | 7.7 | 3% | 3.1 | 2% |
| Terrible — I saw some major problems that affected the ability of many people to vote | 5.2 | 2% | 1.2 | 1% |
| I don't know | 0.8 | 0% | 0.9 | 1% |

| | | | | |
|-------|--------------|-------------|--------------|-------------|
| Total | 289.0 | 100% | 170.8 | 100% |
|-------|--------------|-------------|--------------|-------------|

Line length

| | 2020 Primary | | 2016 | |
|---|--------------|-------------|--------------|-------------|
| Approximately, how long did you have to wait in line to vote? | Count | Percent | Count | Percent |
| Not at all | 166.1 | 57% | 55.6 | 33% |
| Less than 10 minutes | 89.3 | 31% | 59.3 | 35% |
| 10- 30 minutes | 27.8 | 10% | 34.3 | 20% |
| 31 minutes - 1 hour | 2.8 | 1% | 20.6 | 12% |
| More than 1 hour | 0.0 | 0% | 0.9 | 1% |
| I don't know | 3.0 | 1% | 0.0 | 0% |
| Total | 289.0 | 100% | 170.8 | 100% |

Encounter voting equipment problems

| | 2020 Primary | | 2016 | |
|--|--------------|-------------|--------------|-------------|
| Did you encounter any problems with the voting equipment or the ballot that may have interfered with your ability to cast your vote as intended? | Count | Percent | Count | Percent |
| No | 279.8 | 97% | 167.2 | 98% |
| Yes | 9.2 | 3% | 3.6 | 2% |
| Total | 289.0 | 100% | 170.8 | 100% |

Poll worker performance

| | 2020 Primary | | 2016 | |
|-------------------------|--------------|-------------|--------------|-------------|
| Poll worker performance | Percent | Number | Count | Percent |
| Excellent | 191.0 | 66% | 117.3 | 69% |
| Good | 18.5 | 6% | 5.9 | 3% |
| Fair | 75.3 | 26% | 46.7 | 27% |
| Poor | 0.8 | 0% | 0.9 | 1% |
| I don't know | 3.4 | 1% | 0 | 0% |
| Total | 289.0 | 100% | 170.8 | 100% |

Reason for absentee ballot

| | 2020 Primary | |
|---|--------------|-------------|
| | Count | Percent |
| I was worried about the COVID-19 virus | 326.8 | 76% |
| Other | 48.5 | 11% |
| I have a physical disability that makes it difficult for me to get to the polls | 29.2 | 7% |
| I could not get to the polls on Primary Day because of my work or school schedule | 10.3 | 2% |
| I was out of town for this primary | 9.3 | 2% |
| I was an election official or poll worker | 4.1 | 1% |
| Total | 428.2 | 100% |

Problems getting mail ballot

| | 2020 | 2016 |
|--|------|------|
| | | |

| Response | Count | Percent | Count | Percent |
|--------------|-------|---------|-------|---------|
| No | 409.9 | 96% | 7.3 | 88% |
| Yes | 18.3 | 4% | 1.0 | 12% |
| Total | 1000 | 100% | 8.4 | 1 |

Written reasons for those who responded “Yes”:

2020

- “Sent 2 by mistake, sent absentee ballots instead of mail-in which would have been invalid if not for a special emergency order”

2016

- “Timing”

Problem marking mail ballot

| Response | 2020 | | 2016 | |
|--------------|-------|---------|-------|---------|
| | Count | Percent | Count | Percent |
| No | 421.2 | 98% | 8.4 | 100% |
| Yes | 6.0 | 1% | 0.0 | 0% |
| I don't know | 0.9 | 0% | 0.0 | 0% |
| Total | 428.2 | 100% | 8.4 | 100% |

How returned mail ballot

| Response | 2020 | | 2016 | |
|--|-------|---------|-------|---------|
| | Count | Percent | Count | Percent |
| Mailed back | 412.2 | 96% | 7.3 | 88% |
| Taken to an official election location (such as a polling place, early voting center, or dropbox). | 11.6 | 3% | 1.0 | 12% |
| I don't remember | 4.4 | 1% | 0.0 | 0% |
| Total | 428.2 | 100% | 8.4 | 100% |

Who returned ballot

| Response | 2020 | | 2016 | |
|-------------------|--------------|-------------|------------|-------------|
| | Count | Percent | Count | Percent |
| I did, personally | 393.6 | 92% | 7.4 | 89% |
| Someone else did | 28.9 | 7% | 1.0 | 11% |
| I don't remember | 5.7 | 1% | 0.0 | 0% |
| Total | 428.2 | 100% | 8.4 | 100% |

Where absentee ballot returned

| Response | 2020.0 | | 2016.0 | |
|---|--------------|-------------|------------|-------------|
| | Count | Percent | Count | Percent |
| Post office box at a U.S. Postal Service location | 167.8 | 39% | 3.9 | 47% |
| Picked up by the postal worker who delivers mail to my home | 158.7 | 37% | 0.8 | 10% |
| Official post office box not at a U.S. Postal Service location | 63.9 | 15% | 0.9 | 11% |
| Main election office | 12.0 | 3% | 2.7 | 33% |
| Other | 10.8 | 3% | 0.0 | 0% |
| I don't know | 6.2 | 1% | 0.0 | 0% |
| Dropbox used only for ballots, not located at an election office or polling place | 5.3 | 1% | 0.0 | 0% |
| Neighborhood polling place | 2.6 | 1% | 0.0 | 0% |
| Voting center, not a neighborhood polling place | 0.9 | 0% | 0.0 | 0% |
| Total | 428.2 | 100% | 8.4 | 100% |

Ease filling out absentee ballot

| Response | 2020 | | 2016 | |
|-----------|-------|---------|-------|---------|
| | Count | Percent | Count | Percent |
| Very easy | 358.7 | 84% | 6.4 | 77% |

| | | | | |
|------------------|--------------|-------------|------------|-------------|
| Somewhat easy | 58.5 | 14% | 1.9 | 23% |
| Somewhat hard | 5.6 | 1% | 0.0 | 0% |
| I don't remember | 2.9 | 1% | 0.0 | 0% |
| Very hard | 2.5 | 1% | 0.0 | 0% |
| Total | 428.2 | 100% | 8.4 | 100% |

Confidence Vote Counted as Intended

| Response | 2020 | | 2016 | |
|----------------------|--------------|-------------|--------------|-------------|
| | Count | Percent | Count | Percent |
| Very confident | 493.3 | 70% | 130.2 | 73% |
| Somewhat confident | 153.9 | 22% | 40.7 | 23% |
| Not too confident | 24.5 | 3% | 2.6 | 1% |
| Not at all confident | 18.9 | 3% | 1.3 | 1% |
| I don't know | 14.4 | 2% | 4.3 | 2% |
| Total | 704.9 | 100% | 179.1 | 100% |

Confidence County Votes

| Response | 2020 | | 2016 | |
|----------------------|-------------|-------------|------------|-------------|
| | Count | Percent | Count | Percent |
| Very confident | 450.8 | 45% | 110.7 | 55% |
| Somewhat confident | 331.4 | 33% | 69.5 | 35% |
| I don't know | 90.0 | 9% | 7.0 | 3% |
| Not too confident | 76.0 | 8% | 7.4 | 4% |
| Not at all confident | 51.9 | 5% | 5.5 | 3% |
| Total | 1000 | 100% | 200 | 100% |

Confidence State Votes

| | 2020 | 2016 |
|--|------|------|
| | | |

| Response | Count | Percent | Count | Percent |
|----------------------|--------------|----------------|--------------|----------------|
| Very confident | 329.8 | 33% | 76.8 | 38% |
| Somewhat confident | 373.3 | 37% | 74.2 | 37% |
| Not too confident | 143.9 | 14% | 24.0 | 12% |
| Not at all confident | 70.5 | 7% | 12.2 | 6% |
| I don't know | 82.6 | 8% | 12.8 | 6% |
| Total | 1000 | 100% | 200 | 100% |

Vote intention for November

| Response | Count | Percent |
|-----------------|--------------|----------------|
| Yes, definitely | 907.6 | 91% |
| Probably | 50.0 | 5% |
| Undecided | 24.6 | 2% |
| No | 17.9 | 2% |
| Total | 1000 | 100% |

Absentee Vote in November

| Response | Count | Percent |
|-------------------|--------------|----------------|
| Very likely | 262.3 | 27% |
| Somewhat likely | 227.0 | 24% |
| Somewhat unlikely | 122.6 | 13% |
| Very unlikely | 345.7 | 36% |
| Total | 957.5 | 100% |

Confidence about County COVID Preparation

| Response | Count | Percent |
|--------------------|--------------|----------------|
| Very confident | 374.6 | 37% |
| Somewhat confident | 411.9 | 41% |

| | | |
|----------------------|-------|------|
| Not too confident | 109.3 | 11% |
| Not at all confident | 45.9 | 5% |
| I don't know | 58.3 | 6% |
| Total | 1000 | 100% |

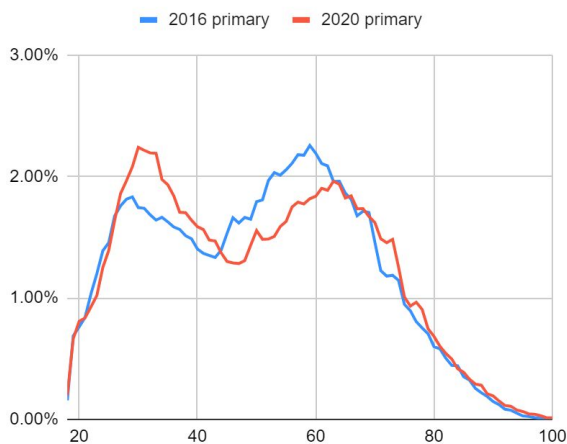
Confidence about State COVID Preparation

| Response | Count | Percent |
|----------------------|--------------|----------------|
| Very confident | 298.8 | 30% |
| Somewhat confident | 448.8 | 45% |
| Not too confident | 132.4 | 13% |
| Not at all confident | 56.8 | 6% |
| I don't know | 63.2 | 6% |
| Total | 1000 | 100% |

Appendix B

Philadelphia’s electorate saw different changes in the age of its electorate than the state at-large. Though the share of Philadelphia’s electorate under 30 stayed the same at 14.6%, the share of those 30-44 increased from 23.1% to 27.1%. This pattern did not hold for the next oldest cohort, those voters 45-59, which shrank from 28.5% to 23.1%.

2016 vs. 2020: Age Dist. in Philadelphia



The table below hones in on Philadelphia. The share of voters in the Republican primary who were over 60 increased by 7 percentage points, while the share of voters in the Democratic primary in the same age cohort increased by less than 2. The youngest age cohort shrank in the Republican primaries (by a little over 2 percentage points) and barely changed at all in the Democratic primaries. Voters 30-44 shrank in the Republican primaries, but grew by 4 percentage points for Democrats. Both parties saw a substantial decline in voters 45-59 years of age.

| | 2016 primary | | 2020 primary | |
|-----------|--------------|------------|--------------|------------|
| Voter Age | Republican | Democratic | Republican | Democratic |
| 18-29 | 10.9% | 14.8% | 8.7% | 14.7% |
| 30-44 | 18.7% | 23.2% | 17.8% | 27.4% |
| 45-59 | 29.5% | 28.6% | 26.3% | 22.8% |

| | | | | |
|--------|--------|---------|--------|---------|
| 60+ | 40.9% | 33.5% | 47.2% | 35.0% |
| Number | 40,296 | 314,651 | 27,124 | 304,484 |