Defense Research, Surveys, and Statistics Center (RSSC)

# 2014  Post-Election Voting Survey of Local Election Officials: EAC

## Statistical Methodology Report

# 2014  POST-ELECTION VOTING SURVEY OF LOCAL ELECTION OFFICIALS: EAC STATISTICAL METHODOLOGY REPORT

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# 2014 POST-ELECTION VOTING SURVEY OF LOCAL ELECTION OFFICIALS: EAC : STATISTICAL METHODOLOGY REPORT

## Introduction

This report describes sampling, editing, weighting, and imputation methodologies for the *2014 Post-Election Voting Survey of Local Election Officials: EAC (2014 PEV8).* The first section describes the background and administration of the *2014 PEV8.* The second section describes the design of the survey. The third section describes the weighting methodology. The final section explains the edit and imputation processes, variance calculation, and estimation. Information on the survey administration can be found in the *2014 Post-Election Voting Survey of Local Election Officials: EAC: Administration, datasets, and codebook* (2015b).

### Survey Background

In 2014, FVAP collaborated with the U.S. Election Assistance Commission (EAC) to collect required quantitative data from state and local election voting officials through the *2014 EAVS.* The *EAVS* has been conducted since 2004, with the *2014 EAVS* as its sixth administration. The *EAVS* collects information on "ballots cast, voter registration, overseas and military voting, Election Day activities, voting technology, and other important issues," (EAC, 2014).[1] Specifically, the *EAVS* is divided into six sections:

A.  Voter Registration

B.  Uniformed & Overseas Citizens Absentee Voting Act (UOCAVA)

C.  Domestic Civilian Absentee Ballots

D.  Election Administration

E.  Provisional Ballots

F.  Election Day Activities

For FVAP's reporting needs, Section B is the only section (with the exception of question 1 (Q1) from Section A) related to FVAP's program. Questions from the *2012 Post-Election Quantitative Voting Survey* that DMDC conducted for FVAP in 2012 were added to Section B of the *EAVS* to obtain additional data required for FVAP. FVAP and DMDC worked to develop the additional questions for the *EAVS,* including data editing rules for survey item relationships, consistency among survey questions, and instructions for completion of the additional FVAP questions.

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[1] The *2014 EAVS* survey instrument is available from the EAC website: www.eac.gov.

## Sample Design and Selection

### Target Population

The *2014 PEV8* was a census designed to represent all voting jurisdictions in the United States and United States territories. The census population contained 8,202 voting jurisdictions identified by the EAC.

### Sampling Frame

The sampling unit was the voting jurisdiction. Voting jurisdictions are typically counties, but were defined differently from state to state. For example, the states of Alaska and Maine were considered to be one voting jurisdiction when reporting UOCAVA data, whereas, Michigan, Wisconsin, and some New England states define voting jurisdiction by individual townships. When accounting for states that only report as one jurisdiction (Alaska, Maine), the Defense Research, Surveys, and Statistics Center (RSSC) determined that there are 7,702 unique reporting UOCAVA voting jurisdictions in total.

### Sample Design

Individual voting jurisdictions were selected by EAC with certainty (probability of selection of 1). However due to historically known issues of jurisdiction non-response and non-negligible missing data rates, RSSC determined that the survey would require imputation and weighting methodologies. RSSC identified a critical value (response to question QB1a), the total number of UOCAVA ballots transmitted for the 2014 election, that could act as a stratifying variable to split the population into homogenous responders. The *2014 PEV8* population was split into eight groups based on responses to QB1a. Not all jurisdictions responded to the survey and the critical question had missing data. Where possible, RSSC imputed for the missing data with previous iterations of the EAC survey using the 2010 and 2012 data (sometimes called 'cold deck' imputation). To appropriately align with the 2014 election cycle 2010 data was preferred.[2] A total of 51 jurisdictions had missing data for the critical item and were all resolved with prior data (approximately 0.6 percent).

The strata definitions were determined by natural breaks based on the number of transmitted UOCAVA ballots for each jurisdiction. The strata definitions and their distribution are shown in Table 1. Stratum 1 indicates that 3,418 jurisdictions responded as not transmitting a single UOCAVA ballot; as such, much of their subsequent responses (regarding the specifics of the UOCAVA ballots they transmitted) would typically be "0." It is also important to point out 6,313 of the 7,702 jurisdictions (82.0 percent) transmitted 10 ballots or fewer in total.

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[2] Previous *EAVS* survey data are available from the EAC website: www.eac.gov.

**Table 1.**
*Stratification based on UOCAVA Transmitted Ballots*

| Stratum Number | UOCAVA Transmitted Ballots | Total | Percent |
|---|---|---|---|
| 1 | 0 | 3,418 | 44.4 |
| 2 | 1 to 10 | 2,895 | 37.6 |
| 3 | 11 to 30 | 621 | 8.1 |
| 4 | 31 to 100 | 381 | 4.9 |
| 5 | 101 to 500 | 257 | 3.3 |
| 6 | 501 to 1,000 | 52 | 0.7 |
| 7 | 1,001 to 5,000 | 61 | 0.8 |
| 8 | 5,001 or more | 17 | 0.2 |
| **Total** | | **7,702** | **100** |

## Survey Administration

The *2014 EAVS* was administered after the 2014 federal election.  States and territories were required to complete and submit the *2014 EAVS* by February 2, 2015.  Completed surveys were received by EAC and distributed to RSSC in MS-Excel files throughout the submission period.  RSSC analyzed the survey returns for data quality and had a working relationship with EAC to address data issues by asking specific States to edit or clarify their submitted data.

## Weighting

## Case Dispositions

Final case dispositions for weighting were determined using information from the returned surveys.  A jurisdiction was considered to be a complete eligible respondent if they provided enough information about the number of absentee ballots transmitted to UOCAVA voters.  Specifically, a jurisdiction needed to provide data that met at least one of the following three criteria:

1) QB1a (UOCAVA ballots transmitted),

2) Both subparts of the question (QB1b – to uniformed service voters, QB1c – non-military/civilians overseas voters),

3) QB24 – transmitted by postal mail, QB24 – transmitted by Email, and QB24 – transmitted by other.

Table 2 shows the voting jurisdictions classified by whether they were considered a complete or incomplete response.

**Table 2.**
*Case Dispositions for Weighting*

| Case Disposition (SAMP_DC) | Information Source | Conditions | Sample Size |
|---|---|---|---|
| 4. Eligible, complete response | EAC Returned Data | Jurisdiction provided a response to the key questions identified above | 7,667 |
| 5. Eligible, incomplete response | EAC Returned Data | Jurisdiction did not provide a response to key questions | 35 |
| **Total** | | | 7,702 |

*Note.* The *2014 EAVS* survey did not ask any eligibility questions. Case dispositions are shown in codes typical of RSSC statistical methodology reports, with non applicable dispositions removed.

## Completion Adjustments and Final Weights

All jurisdictions had an initial base weight of one (due to the survey being a census). Base weights were adjusted for incomplete surveys only. The eligibility-adjusted weights for eligible respondents (SAMP_DC = 4) were adjusted to account for eligible jurisdictions who had not met the criteria to be a complete respondent (SAMP_DC = 5). Weighting adjustment factors were computed as the inverse of the completion probabilities within strata. Only four of the eight strata had weighting adjustments. This is illustrated in Table 3.

**Table 3.**
*Final Weights by Stratification*

| Stratum Number | UOCAVA Transmitted Ballots | Population Total | Complete Respondents | Final Weight |
|---|---|---|---|---|
| 1 | 0 | 3,418 | 3,408 | 1.0029 |
| 2 | 1 to 10 | 2,895 | 2,879 | 1.0056 |
| 3 | 11 to 30 | 621 | 613 | 1.0131 |
| 4 | 31 to 100 | 381 | 381 | 1.0000 |
| 5 | 101 to 500 | 257 | 257 | 1.0000 |
| 6 | 501 to 1,000 | 52 | 51 | 1.0196 |
| 7 | 1,001 to 5,000 | 61 | 61 | 1.0000 |
| 8 | 5,001 or more | 17 | 17 | 1.0000 |
| **Total** | | **7,702** | **7,667** | |

## Edit and Imputation Processes

To calculate estimated totals from the survey data, edit and imputation processes were developed for the items with missing data. Without an edit and imputation process, the estimated totals will underestimate the actual total (i.e., estimates would be biased low). For example, if a voting jurisdiction indicated they had UOCAVA voters but failed to report the

number of uniformed services members covered by UOCAVA, the uniformed service members' estimate would be underestimated since it would be assumed to be zero for this jurisdiction. The **edit** process is the inspection of collected data prior to statistical analysis. The goal of editing is to verify that the data have properties intended for the original design. An **imputation** process places an estimated answer into a data field for a record that previously had no data or had incorrect or implausible data.

## *Edit Process*

To maintain data integrity for the *2014 EAVS* a number of data validation checks and edits were performed. The scope of the editing process focused on questions that were necessary for FVAP to conduct their analysis, mostly covering questions QB19 (registered and eligible voters covered by UOCAVA) through QB35 (Federal Write-In Absentee Ballots counted). Further discussion of the questions of interest can be found in FVAP's 2014 FVAP Post-Election Survey Report to Congress[3], Where applicable, questions QB1 (absentee ballots transmitted to UOCAVA voters) through QB18 (UOCAVA ballots rejected) were also edited. Edits are indicated in the final dataset with the "_E" affixed to the end of variable name (for example, QB19a_E represents the edited/imputed value).

*Cleaning EAC file:* Data returns from EAC came in the form of Microsoft Excel files. Jurisdictions were the rows and question items were the columns. Data were cleaned based on the EAC survey control system, shown in Table 4.

**Table 4.**
*EAC Survey Control*

| EAC Control | EAC Identifier | RSSC Usage | RSSC Identifier | Additional Comment |
|---|---|---|---|---|
| No Response | (blank) | Missing | "." | |
| Not Tracked | -999,999 | Missing | "." | |
| Not Applicable | -888,888 | Missing | "." | RSSC determined that all UOCAVA questions were applicable for all jurisdictions |

*Data reconciliation with States:* Based on previous iterations of this survey, RSSC anticipated that a small number of jurisdictions would respond with illogical data that could most likely be attributed to incorrect input or misinterpretation of the question. RSSC assessed the EAC data returns as they came in and compiled a list of potential erroneous data at the jurisdiction level for each state. Inconsistent values were found by isolating each strata and looking at the maximum and minimum values as well as key ratios for several relevant questions. RSSC identified 10 critical states with inconsistent values and worked with EAC to have the states confirm or amend the data in question.

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[3] http://www.fvap.gov/info/reports-surveys

*Anomaly Removal:* After data reconciliation with states several inconsistent values remained.  RSSC opted to set these values to missing and impute them.  Overall, only four values were addressed in this manner.  For example, a jurisdiction that had 0 UOCAVA absentee ballots transmitted and received likely did not have over 10,000 UOCAVA registered and eligible members.  Please see A., Table 8 for a more detailed description.

*Edit totals:*  RSSC used two rules to edit every "Total" field on the *EAVS* survey instrument:

**Edit 1**: if a respondent entered values for some or all of the subparts of a question, but left the "Total" blank, the sum of the subparts was used as the "Total."

**Edit 2:**  For a respondent that had a "Total" value, the sums of the subparts were compared.  If the sum was less than the "Total," "Total" was used.  If the subparts were greater, "Total" was edited to summation of the subparts.

RSSC performed this process for two main types of questions on the survey instrument, shown in Figure 1 and Figure 2.  Figure 1 depicts a question from the instrument that would be edited in a straightforward manner:  (1) if QB26a was missing, the "Total" would be equal to the sum of QB26b, QB26c, QB26d, and QB26e.  (2) If subparts QB26b through QB26e were a greater sum than QB26a, the total would be edited to equal the sum of the subparts.  (3) If the automatic total field created by EAC was greater (below QB26e) that Total would be used.

**Figure 1.**
*Creating Totals - Linear*



Figure 2 illustrates a more complicated question to edit.  Each total by subpart would be corrected, before calculating the overall total.  A jurisdiction that initially might have been

considered missing but was edited would change to a respondent. This process is illustrated in Table 5 and was carried out for over fifty items.

**Figure 2.**
*Creating Totals - Grid*



B27. How many UOCAVA absentee ballots were **received** using the following modes of transmission, before and after the 45-day deadline? *Please EXCLUDE Federal Write-In Absentee Ballots (FWABs) from your totals.*

| | a. Postal mail | | b. Email | | c. Other | |
|---|---|---|---|---|---|---|
| | | Date not available ▼ | | Date not available ▼ | | Date not available ▼ |
| a. Sent **BEFORE** the 45 day deadline............ | | ☐ | | ☐ | | ☐ |
| b. Sent **AFTER** the 45 day deadline............ | | ☐ | | ☐ | | ☐ |
| TOTAL | | | | | | |

*Variable creation:* In some instances the instrument did not explicitly contain the necessary information for FVAP to conduct their analysis. Referring back to Figure 2, there is no overall total for "Ballots received, sent BEFORE or AFTER the 45 day deadline." RSSC calculated and edited these types of variables throughout the survey.

*Maintaining initial logical relationships:* Some questions on the *2014 PEV8* had logical relationships with each other, where one question's responses should be less than or equal to those of another question. For example, the total number of FWABs that were received (QB31e) should be greater than the total number of FWABs that were rejected (QB32e). These relationships were considered when editing the data.

A question by question break down of the edit and validation process is documented in Appendix A., Table 7.

**Table 5.**
*Editing Process Examples*

| Question | Description | Responding Jurisdictions (before editing) | Edited Jurisdictions | Edited Total | Number Imputed | Final Estimate |
|---|---|---|---|---|---|---|
| QB19a | Total Registered and eligible UOCAVA voters | 6,503 | 6,512 | 512,363 | 1,155 | 554,840 |
| QB31e | Total UOCAVA ballots returned undeliverable | 3,069 | 7,261[a] | 2,268 | 406 | 2,277 |

[a] Many of these values are edited as zero.

### *Imputation Process*

The imputation process was designed to produce estimates for respondents who did not provide a value to any item or sub-item that was required by FVAP. For this stage, a multiple weighted sequential hot deck imputation procedure was selected and executed by using PROC IMPUTE of SUDAAN®. PROC IMPUTE was based on a SAS multiple imputation macro developed by Bruce Ellis (2007). For weighted sequential hot deck imputation, the population was divided into the strata defined in Table 1. For jurisdictions with missing data, donor jurisdictions that were complete cases were selected at random from jurisdictions within the same subgroup that had answered the missing data. Imputation was carried out five times (m=5) following standard imputation practices. Datasets were produced for each imputation and a master dataset combined all five imputations. For estimation, standard procedures were used by averaging across the five data sets.

### *Variance Estimation*

Estimates from the 2014 *PEV8* have uncertainty due to unit and item nonresponse. Unit nonresponse was about 0.5 percent and item nonresponse ranged from zero to 70 percent (see Appendix A.) for most survey questions that estimated numeric totals. We used weighting to compensate for unit nonresponse and imputation to adjust for item nonresponse. To create national estimates, missing information from responding jurisdictions was imputed using PROC IMPUTE as described in the previous section and a weighting process was developed so that totals would represent all jurisdictions.

Margins of error were estimated using SAS© PROC SURVEYMEANS and followed the method illustrated by Rubin (1987), to isolate the inflation of overall variance estimates attributed to the imputations. Appendix A ., Table 6 shows the final estimates and their associated precision (displayed as 'margins of error').

# References

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Ellis, Bruce. (2007). *A Consolidated Macro for Iterative Hot Deck Imputation*. Proceedings of the 2007 Northeast SAS Users Group Conference. Arlington, VA.

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# Appendix A.

**Table 6.**
*Question by Final Estimate, Margin of Error and Relative Precision*

| Question | Description | Final Estimate (Weighted) | Margin of Error | Relative Precision |
|---|---|---|---|---|
| QA1a | Total Number of registered and eligible voters for the November 2014 General Election | 190,934,527 | 1,208,046 | 1% |
| QB1a_E | Total Number of absentee ballots transmitted to UOCAVA voters for November 2014 General Election | 426,635 | | |
| QB8a_E | Total number of UOCAVA ballots counted in November 2014 General Election (Include FWAB) | 143,815 | 380 | 0% |
| QB19a_E | Enter the total number of registered and eligible voters who were UOCAVA covered in the November 2014 General Election | 554,840 | 21,342 | 4% |
| QB19b | Total number of registered and eligible UOCAVA voters who were **Uniformed services voters** | 263,207 | 6,965 | 3% |
| QB19c | Total number of registered and eligible UOCAVA voters who were **Non-military/civilian** | 257,652 | 5,388 | 2% |
| QB19d | Total number of registered and eligible UOCAVA voters who were **Other (I)** | 95,592 | 15,244 | 16% |
| QB19e | Total number of registered and eligible UOCAVA voters who were **Other (II)** | 29,113 | 4,404 | 15% |
| QB20a_E | Total number of Federal Post Card Applications received from **UOCAVA voters** | 106,825 | 9,041 | 8% |
| QB20b | Total number of Federal Post Card Applications received from **Uniformed services voters** | 46,382 | 3,715 | 8% |
| QB20c | Total number of Federal Post Card Applications received from **Non-military/civilian** | 60,932 | 7,696 | 13% |
| QB20d | Total number of Federal Post Card Applications received from **Other (I)** | 2,349 | 235 | 10% |
| QB20e | Total number of Federal Post Card Applications received from **Other (II)** | 847 | 113 | 13% |
| QB21e_E | Total number of Federal Post Card Applications received that were rejected | 2,434 | 152 | 6% |
| QB21a | Federal Post Card Applications rejected from **Uniformed services voters** | 1,817 | 361 | 20% |
| QB21b | Federal Post Card Applications rejected from **Non-military/civilian** | 856 | 173 | 20% |
| QB21c | Federal Post Card Applications rejected from **Other (I)** | 508 | 92 | 18% |
| QB21d | Federal Post Card Applications rejected from **Other (II)** | - | | |
| QB22a | Total number of Federal Post Card Applications that were rejected because they were received after the absentee ballot request deadline | 677 | 89 | 13% |
| QB24ac_E | UOCAVA absentee ballots transmitted to UOCAVA voters via **Postal Mail** | 264,617 | 5,509 | 2% |
| QB24bc_E | UOCAVA absentee ballots transmitted to UOCAVA voters via **Email** | 163,789 | 3,461 | 2% |

| Question | Description | Final Estimate (Weighted) | Margin of Error | Relative Precision |
|---|---|---|---|---|
| QB24cc_E | UOCAVA absentee ballots transmitted to UOCAVA voters via **Other mode** | 4,025 | 593 | 15% |
| QB24_before | UOCAVA absentee ballots transmitted to UOCAVA voters **BEFORE** absentee ballot request deadline | 375,131 | 8,897 | 2% |
| QB24_after | UOCAVA absentee ballots transmitted to UOCAVA voters **AFTER** absentee ballot request deadline | 60,401 | 2,714 | 4% |
| QB25_E | Total number of UOCAVA absentee ballots transmitted returned as undeliverable | 15,652 | 627 | 4% |
| QB25a | Total number of UOCAVA absentee ballots transmitted returned as undeliverable via **Postal Mail** | 15,274 | 1,189 | 8% |
| QB25b | Total number of UOCAVA absentee ballots transmitted returned as undeliverable via **Email** | 1,502 | 347 | 23% |
| QB25c | Total number of UOCAVA absentee ballots transmitted returned as undeliverable via **Other** | 101 | 17 | 17% |
| QB26a_E | UOCAVA absentee ballots received for the November 2014 general election | 151,694 | 4,644 | 3% |
| QB26b | UOCAVA absentee ballots received for the November 2014 general election from **Uniformed service voters** | 74,944 | 3,840 | 5% |
| QB26c | UOCAVA absentee ballots received for the November 2014 general election from **Non-military/civilian overseas voters** | 75,350 | 1,299 | 2% |
| QB26d | UOCAVA absentee ballots received for the November 2014 general election from **Other (I)** | 8,115 | 1,378 | 17% |
| QB26e | UOCAVA absentee ballots received for the November 2014 general election from **Other (II)** | 3,560 | 974 | 27% |
| QB27ac_E | UOCAVA absentee ballots received via **Postal Mail** | 103,325 | 7,820 | 8% |
| QB27bc_E | UOCAVA absentee ballots via **Email** | 33,475 | 2,845 | 8% |
| QB27cc_E | UOCAVA absentee ballots received via **Other** | 12,780 | 8,550 | 67% |
| QB27_before | UOCAVA absentee ballots were received **BEFORE** absentee ballot request deadline | 92,306 | 5,091 | 6% |
| QB27_after | UOCAVA absentee ballots were received **AFTER** absentee ballot request deadline | 55,639 | 5,129 | 9% |
| QB28e_E | Total number of UOCAVA absentee ballots received that were rejected | 8,323 | 975 | 12% |
| QB28a | Total number of UOCAVA absentee ballots received from **Uniformed Services** voters that were rejected | 4,291 | 420 | 10% |
| QB28b | Total number of UOCAVA absentee ballots received from **Non-military/civilian overseas voters** that were rejected | 3,641 | 496 | 14% |
| QB28c | Total number of UOCAVA absentee ballots received from **Other (I)** that were | 1,357 | 17 | 1% |

| Question | Description | Final Estimate (Weighted) | Margin of Error | Relative Precision |
|---|---|---|---|---|
| | rejected | | | |
| QB28d | Total number of UOCAVA absentee ballots received from **Other (II)** that were rejected | 67 | 8 | 11% |
| QB29_before | Total number of absentee ballots that were rejected because they were received after the statutory deadline and sent **BEFORE the 45 day deadline** | 2,427 | 173 | 7% |
| QB29_after | Total number of absentee ballots that were rejected because they were received after the statutory deadline and sent **AFTER 45 day deadline** | 3,081 | 333 | 11% |
| QB29ab | Total number of absentee ballots sent via **Postal Mail** after the 45 day deadline that were rejected because they were received after the statutory deadline | 2,023 | 245 | 12% |
| QB29bb | Total number of absentee ballots sent via **Email** after the 45 day deadline that were rejected because they were received after the statutory deadline | 1,207 | 64 | 5% |
| QB29cb | Total number of absentee ballots sent via **Other** mode after the 45 day deadline that were rejected because they were received after the statutory deadline | 115 | 6 | 5% |
| QB29ac_E | Total number of absentee ballots that were rejected, how many were rejected because they were received after the statutory deadline: **Postal Mail** | 3,175 | 341 | 11% |
| QB29bc_E | Total number of absentee ballots that were rejected, how many were rejected because they were received after the statutory deadline: **Email** | 2,206 | 225 | 10% |
| QB29cc_E | Total number of absentee ballots that were rejected, how many were rejected because they were received after the statutory deadline: **Other** | 178 | 149 | 84% |
| QB29_Total | Total number of absentee ballots that were rejected, how many were rejected because they were received after the statutory deadline | 5,171 | 248 | 5% |
| QB30ac_E | Total number of UOCAVA ballots counted in your jurisdiction by the following modes of transmission: **Postal Mail** | 95,559 | 6,601 | 7% |
| QB30bc_E | Total number of UOCAVA ballots counted in your jurisdiction by the following modes of transmission: **Email** | 31,638 | 2,916 | 9% |
| QB30_before | Total number of UOCAVA ballots counted in your jurisdiction: **Sent BEFORE 45 day deadline** | 95,674 | 13,090 | 14% |
| QB30_after | Total number of UOCAVA ballots counted in your jurisdiction: **Sent AFTER 45 day deadline** | 44,667 | 3,569 | 8% |
| QB31e_E | Total number of Federal Write-In Absentee Ballots (FWAB) received from UOCAVA voters | 2,277 | 342 | 15% |
| QB31a | Total number of Federal Write-In Absentee Ballots (FWAB): **Uniformed services voters** | 1,206 | 74 | 6% |
| QB31b | Total number of Federal Write-In Absentee Ballots (FWAB): **Non-** | 1,198 | 252 | 21% |

| Question | Description | Final Estimate (Weighted) | Margin of Error | Relative Precision |
|---|---|---|---|---|
| | **military/civilian** | | | |
| QB31c | Total number of Federal Write-In Absentee Ballots (FWAB): **Other (I)** | 1,007 | 99 | 10% |
| QB31d | Total number of Federal Write-In Absentee Ballots (FWAB): **Other (II)** | - | | |
| QB32e_E | FWABs received from UOCAVA voters how many were rejected | 589 | 113 | 19% |
| QB32a | FWABs received from UOCAVA voters how many were rejected: **Uniformed services voters** | 280 | 82 | 29% |
| QB32b | FWABs received from UOCAVA voters how many were rejected: **Non-military/civilian** | 260 | 104 | 40% |
| QB33a | Total number of FWABs received that were rejected, how many were rejected because they were received after the ballot receipt deadline | 116 | 33 | 29% |
| QB34a | Total number of FWABs received that were rejected, how many were rejected because the voter's regular absentee ballot was received and counted | 156 | 68 | 43% |
| QB35e_E | Total number of FWABs received from UOCAVA voters that were counted | 1,683 | 123 | 7% |
| QB35a | Total number of FWABs received from UOCAVA voters that were counted: **Uniformed services voters** | 892 | 75 | 8% |
| QB35b | Total number **o**f FWABs received from UOCAVA voters that were counted: **Non-military/Civilian** | 906 | 107 | 12% |

*Note:* QB1a was imputed using 2010 and 2012 EAC data, with a preference for 2010 to match election cycles.  More information regarding QB1a is covered in the Sample Design section.  Relative Precision refers to the percentage of the Margin of Error in relation to the Final Estimate: ((Margin of Error/ Final Estimate) * 100)

**Table 7.**
*Question by Unedited, Edited and Imputed Totals*

| Question | Method | Responding Jurisdictions (before editing) | Unedited Total (Unweighted) | Edited Jurisdictions | Edited Total (Unweighted) | Number Imputed | Imputed Total (Unweighted) |
|---|---|---|---|---|---|---|---|
| QA1a | DI | 7,609 | 188,815,648 | | 188,815,648 | 58 | 190,188,509 |
| QB1a | EI | 7,596 | 424,475 | 71 | 425,731 | - | 425,731 |
| QB8a | EI | 7,460 | 140,442 | 187 | 143,173 | 20 | 143,442 |
| QB19a | EI | 6,503 | 496,155 | 9 | 512,363 | 1,155 | 553,480 |
| QB20a | EI | 3,468 | 88,660 | 3 | 90,143 | 4,196 | 106,500 |
| QB20b | DI | 3,209 | 36,501 | | 36,501 | 4,458 | 46,247 |
| QB20c | DI | 3,160 | 49,500 | | 49,500 | 4,507 | 60,780 |
| QB21a | DI | 2,948 | 1,369 | | 1,369 | 4,719 | 1,814 |
| QB21b | DI | 2,933 | 644 | | 644 | 4,734 | 853 |
| QB21e | EI | 2,901 | 2,143 | 605 | 2,202 | 4,161 | 2,429 |
| QB22a | DI | 2,605 | 472 | | 472 | 5,062 | 676 |
| QB24ac | EI | 3,042 | 243,028 | 4,198 | 250,798 | 427 | 264,175 |
| QB24bc | EI | 2,922 | 143,327 | 4,197 | 149,248 | 548 | 163,371 |
| QB24cc | EI | 2,634 | 3,511 | 4,125 | 3,647 | 908 | 4,007 |
| QB24_before | C | 7,148 | 351,366 | | 351,366 | 519 | 374,422 |
| QB24_after | C | 6,879 | 52,339 | | 52,339 | 788 | 60,191 |
| QB25a | DI | 6,753 | 13,316 | | 13,316 | 914 | 15,247 |
| QB25 | EI | 2,846 | 14,234 | 4,126 | 14,306 | 695 | 15,621 |
| QB26a | EI | 7,228 | 136,358 | 101 | 140,179 | 338 | 151,301 |
| QB26b | DI | 7,154 | 67,619 | | 67,619 | 513 | 74,757 |
| QB26c | DI | 7,072 | 68,651 | | 68,651 | 595 | 75,159 |
| QB27ac | EI | 2,801 | 75,832 | 4,194 | 78,807 | 672 | 103,079 |
| QB27bc | EI | 2,488 | 21,109 | 4,194 | 24,365 | 985 | 33,367 |
| QB27cc | EI | 2,129 | 8,701 | 4,125 | 8,945 | 1,413 | 12,760 |
| QB27_before | C | 6,897 | 69,937 | | 69,937 | 770 | 92,118 |
| QB27_after | C | 6,773 | 42,055 | | 42,055 | 894 | 55,464 |
| QB28a | DI | 6,876 | 3,389 | | 3,389 | 791 | 4,280 |
| QB28b | DI | 6,815 | 2,821 | | 2,821 | 852 | 3,630 |

| Question | Method | Responding Jurisdictions (before editing) | Unedited Total (Unweighted) | Edited Jurisdictions | Edited Total (Unweighted) | Number Imputed | Imputed Total (Unweighted) |
|---|---|---|---|---|---|---|---|
| QB28e | EI | 3,123 | 6,311 | 4,192 | 6,771 | 352 | 8,302 |
| QB29_Total | C | 6,394 | 3,857 | | 3,857 | 1,273 | 5,154 |
| QB29ab | DI | 6,250 | 1,366 | | 1,366 | 1,417 | 2,016 |
| QB29bb | DI | 5,929 | 733 | | 733 | 1,738 | 1,202 |
| QB29cb | DI | 5,465 | 57 | | 57 | 2,202 | 115 |
| QB29ac | EI | 2,543 | 2,115 | 3,841 | 2,277 | 1,283 | 3,165 |
| QB29bc | EI | 2,331 | 1,311 | 3,841 | 1,469 | 1,495 | 2,198 |
| QB29cc | EI | 1,977 | 110 | 3,774 | 111 | 1,916 | 178 |
| QB29_after | C | 6,258 | 2,156 | | 2,156 | 1,409 | 3,070 |
| QB30ac | EI | 2,589 | 65,238 | 3,843 | 67,949 | 1,235 | 95,344 |
| QB30bc | EI | 2,243 | 19,088 | 3,842 | 20,509 | 1,582 | 31,558 |
| QB31a | DI | 3,178 | 844 | | 844 | 4,489 | 1,201 |
| QB31b | DI | 3,161 | 851 | | 851 | 4,506 | 1,193 |
| QB31e | EI | 3,069 | 1,771 | 4,192 | 1,932 | 406 | 2,268 |
| QB32a | DI | 3,026 | 202 | | 202 | 4,641 | 279 |
| QB32b | DI | 3,008 | 193 | | 193 | 4,659 | 259 |
| QB32e | EI | 2,893 | 481 | 4,192 | 485 | 582 | 587 |
| QB33a | DI | 6,007 | 80 | | 80 | 1,660 | 116 |
| QB34a | DI | 2,109 | 106 | | 106 | 5,558 | 155 |
| QB35a | DI | 3,032 | 599 | | 599 | 4,635 | 888 |
| QB35b | DI | 3,010 | 656 | | 656 | 4,657 | 901 |
| QB35e | EI | 2,932 | 1,282 | 4,193 | 1,430 | 542 | 1,676 |

*Note:* Most edits involved correctly transferring "0's"; this can be seen by comparing "Unedited Total" and "Edited Total."

EI = This group of questions was edited and cleaned to preserve the maximum amount of correct data.

DI = These questions often would stand alone or be part of a sub-item. The solution of handling missing data for these questions was to impute directly.

C = These items are created variables based on questions. They do not exist on the original survey instrument but can be calculated with the EAC returned dataset.

**Table 8.**
*Anomalies Removed*

| Question | Number of Jurisdictions | Reason for Setting to Missing |
|---|---|---|
| QB19a | 4 | The number of registered and eligible UOCAVA voters was identical to the registered and eligible population – all jurisdictions in question transmitted 0 UOCAVA ballots, but had jurisdiction sizes of all over 10,000. These incongruous values were resolved to missing. |

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# Defense Research, Surveys, and Statistics Center (RSSC)