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2012 Post-Election Qualitative Voting Survey of Local Election Officials

Statistical Methodology Report

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**2012 POST-ELECTION QUALITATIVE VOTING
SURVEY OF LOCAL ELECTION OFFICIALS:
STATISTICAL METHODOLOGY REPORT**

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Acknowledgments

Defense Manpower Data Center (DMDC) is indebted to numerous people for their assistance with the *2012 Post-Election Qualitative Voting Survey of Local Election Officials*, which was conducted on behalf of the Office of the Under Secretary of Defense for Personnel and Readiness (OUSD[P&R]). DMDC's survey program is conducted under the leadership of Kristin Williams, Director of the Human Resource Strategic Assessment Program (HRSAP).

Staff from the Federal Voting Assistance Program (FVAP) contributed to the development of this survey.

DMDC's Statistical Methods Branch, under the guidance of David McGrath, Branch Chief, is responsible for HRSAP survey sampling and weighting methods. Eric Falk provided supervision and consultation on the sampling and weighting methods, as well as overall process control. The lead statistician on this survey was Timothy Markham, who developed the sample and weights for this survey. Timothy Markham and Eric Falk produced this methodology report.

2012 POST-ELECTION VOTING SURVEY OF ELECTION OFFICIALS: STATISTICAL METHODOLOGY REPORT

Executive Summary

The Uniformed and Overseas Citizens Absentee Voting Act of 1986 (UOCAVA), 42 USC 1973ff, permits members of the Uniformed Services and Merchant Marine, and their eligible family members and all citizens residing outside the United States who are absent from the United States and its territories to vote in the general election for federal offices. These groups include:

- Members of the Uniformed Services (including Army, Navy, Air Force, Marine Corps, Coast Guard)
- U.S. citizens employed by the federal Government residing outside the U.S., and
- All other private U.S. citizens residing outside the U.S.

The Federal Voting Assistance Program (FVAP), under the guidance of USD (P&R), is charged with implementing the UOCAVA and evaluating the effectiveness of its programs. The FVAP Office asked DMDC to design, administer, and analyze post-election surveys on Uniformed Services voter participation and local election officials. Without such surveys, the Department will not be able to assess and improve voter access. In addition, such surveys fulfill 1988 Executive Order 12642 that names the Secretary of Defense as the “Presidential designee” for administering the UOCAVA and requires surveys to evaluate the effectiveness of the program in presidential election years.

The objectives of the 2012 post-election surveys are: (1) to gauge participation in the electoral process by citizens covered by UOCAVA, (2) to assess the impact of the FVAP’s efforts to simplify and ease the process of voting absentee, (3) to evaluate other progress made to facilitate voting participation, and (4) to identify any remaining obstacles to voting by these citizens. Surveys were done of military members, military spouses, voting assistance personnel, and election officials.

This report focuses on the *2012 Post-Election Qualitative Voting Survey of Local Election Officials (2012 PEVI)*, which was designed to capture the attitudes and behaviors from the local election officials.

This report describes the sampling and weighting methodologies used in the *2012 PEVI*. Calculation of response rates is described in the final section.

The population of interest for the *2012 PEVI* consisted of the local election officials (LEOs) from the voting jurisdictions in the United States and the four territories. There were 7,303 voting jurisdictions covering the United States and the four territories.

The 2012 PEVI survey was a sample of 1,500 voting jurisdictions with the LEO as the respondent. The survey administration period lasted from November 30, 2012 to January 7, 2013. There were 388 usable questionnaires.

After the determination of eligibility for the survey and completion of a survey, analytic weights were created to account for varying response rates among population subgroups.

Location, completion, and response rates are provided in the final section of this report for both the full sample and for population subgroups. These rates were computed according to the RR3 recommendations of the American Association of Public Opinion Researchers (2011). The location, completion, and response rates were 99.1%, 49.3%, and 48.9%.

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2012 POST-ELECTION QUALITATIVE SURVEY OF LOCAL ELECTION OFFICIALS: STATISTICAL METHODOLOGY REPORT

Introduction

The Uniformed and Overseas Citizens Absentee Voting Act of 1986 (UOCAVA), 42 USC 1973ff, permits members of the Uniformed Services and Merchant Marine, and their eligible family members and all citizens residing outside the United States who are absent from the United States and its territories to vote in the general election for federal offices. These groups include:

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The objectives of the 2012 post-election surveys are: (1) to gauge participation in the electoral process by citizens covered by UOCAVA, (2) to assess the impact of the FVAP’s efforts to simplify and ease the process of voting absentee, (3) to evaluate other progress made to facilitate voting participation, and (4) to identify any remaining obstacles to voting by these citizens. Surveys were done of military members, military spouses, voting assistance personnel, and election officials in the U.S.

This report describes sampling and weighting methodologies for the *2012 PEVI*. The first section describes the design and selection of the sample. The second section describes weighting and variance estimation. The final section describes the calculation of response rates, location rates, and completion rates for the full sample and for population subgroups. Tabulated results of the survey are reported by DMDC (2013a), and information on survey administration can be found in the *2012 Post-Election Qualitative Voting Survey of Local Election Officials: Administration, datasets, and codebook* (2013b).

Sample Design and Selection

Target Population

The 2012 PEVI was designed to represent all local election officials from the voting jurisdictions in the United States and the four territories. The 2012 survey was a sample of 1,500 of the 7,303 total jurisdictions compared to a census of 7,296 local election officials in the 2010 survey.

Sampling Frame

The sampling unit for this study is the local election voting jurisdiction, which are counties for most states, but were defined differently from state to state. For example, the state of Alaska is considered to be one voting jurisdiction, whereas, Michigan, Wisconsin and the New England states define voting jurisdiction by individual townships. DMDC developed the sample frame based on a file provided by FVAP. In total there are 7,303 unique voting jurisdictions determined.

Sample Design

The 2012 PEVI used a stratified sample design to select 1,500 jurisdictions. The population was grouped into six strata based on size. Because Michigan and Wisconsin have considerably more jurisdictions than other states due to the classification of towns and villages as jurisdictions, these states were classified in their own strata for smaller jurisdictions. The strata definitions are as follows: 1) Jurisdictions in Michigan and Wisconsin with fewer than 1,000 registered voters, 2) jurisdictions in all other states with fewer than 1,000 registered voters, 3) jurisdictions in Michigan and Wisconsin with 1,000-4,999 registered voters, 4) jurisdictions in all other states with 1,000-4,999 registered voters, 5) jurisdictions in all states with 5,000-25,000 registered voters, and 6) jurisdictions in all states with more than 25,000 registered voters.

Within each stratum, individuals were selected with equal probability and without replacement. However, because allocation of the sample was not proportional to the size of the strata, selection probabilities varied among strata, and individuals were not selected with equal probability overall. Non-proportional allocation was used to achieve adequate sample sizes for subpopulations of analytic interest; i.e., survey reporting domains. Stratifying variables and key reporting domain variables are shown in Table 1.

Sample Allocation

The total sample size was based on achieving precision requirements for key reporting domains. Anticipated eligibility and response rates were based on the *2010 Post-Election Survey of Local Election Officials*.

Four domains were defined for 2012 PEVI, where the goal was to achieve a reasonable precision for each of these domains. Generally, the precision requirement was that an estimated prevalence rate of 0.5 have a 95 percent confidence interval half-width no greater than 0.05. In addition, an attempt was made not to overburden LEOs within Michigan and Wisconsin.

The total 2012 PEVI sample size was 1,500. Sample sizes are shown in Table 2 for the levels of the stratification dimensions. The sample allocation is shown in Appendix A; the allocation solution for the reporting domains is shown in Appendix B.

Table 1.
Variables for Stratification and Key Reporting Domains

Variable	Categories
Registered Voters*	Less than 1,000 registered voters 1,000-4,999 registered voters 5,000-25,000 registered voters More than 25,000 registered voters
State*	Michigan and Wisconsin All other states
Jurisdiction Size	Less than 5,000 registered voters 5,000+ registered voters
Jurisdiction Type	County ^a Sub-county

Note. * denotes stratification variable.

^aCounty describes all jurisdictions at the county level or higher, including territories and parishes.

Table 2.
Sample Size by Jurisdiction Size and Type

Stratification Variable	County	Sub-County	Total
Less than 5,000 Registered Voters	160	840	1,000
5,000+ Registered Voters	393	107	500
Total	553	947	1,500

Weighting

Case Dispositions

First, case dispositions were assigned for weighting based on eligibility for the survey and completion of the return. Execution of the weighting process as well as computation of response rates both depend on this classification.

Final case dispositions for weighting were determined using information from personnel records, field operations (the Survey Control System or SCS), and returned surveys. No single source of information is both complete and correct; inconsistencies among sources were resolved according to the order of precedence shown in Table 3. Final case disposition codes are shown in Table 4.

Table 3.
Case Dispositions for Weighting

Case Disposition (Samp_DC)	Information Source	Conditions
1. Record ineligible	Personnel record	Sample ineligible—from FVAP file.
2. Ineligible by self- or proxy-report	Survey Control System (SCS)	Not applicable.
3. Ineligible by survey self-report	First two survey questions	“No UOCAVA voters” or “Did not use FVAP services.”
4. Eligible, complete response	Item response rate	Item response is at least 50%.
5. Eligible, incomplete response	Item response rate	Survey isn’t blank but item response is less than 50%.
8. Active refusal	SCS	Reason refused is any
		Reason ineligible is "other"
		Reason survey is blank is "refused-too long", "refused-inappropriate/intrusive", "refused-other", "ineligible-other", "unreachable at this address", "refused by current resident", "concerned about security/confidentiality."
9. Blank return	SCS	No reason given.
10. PND	SCS	Postal non-deliverable or original non-locatable.
11. Non-respondent	Remainder	Remainder

Table 4.
Sample Size by Case Disposition Categories

Case Disposition Category and (Code Value)	Sample Size
Record ineligible	0
Ineligible by self- or proxy-report	0
Ineligible by survey self-report	440
Eligible—complete response	388
Eligible—incomplete response	19
Active refusal—refused, deployed, other	63
Blank return	43
PND—postal non-deliverable	13
Non-respondents	534
Total	1,500

Eligible Completed Cases

The total number of eligible, complete cases for weighting is shown in Table 5. During the fielding of the survey there were 58 responding jurisdictions that did not complete the first two survey questions. Jurisdictions needed to respond that they did have UOCAVA voters and

used FVAP services to be considered eligible. The cases that did not respond to these questions were considered as having unknown eligibility and classified as non-respondents.

Table 5.
Complete Eligible Respondents by Stratum

Stratum	Complete Eligible Respondents
Michigan and Wisconsin, fewer than 1,000 registered voters	46
All other states, fewer than 1,000 registered voters	18
Michigan and Wisconsin, 1,000-4,999 registered voters	80
All other states, 1,000-4,999 registered voters	48
All states, 5,000-25,000 registered voters	92
All states, more than 25,000 registered voters	104
Total	388

Nonresponse Adjustments and Final Weights

After case dispositions were resolved, the sampling weights were adjusted for non-response. First, the sampling weights for cases of known eligibility (SAMP_DC = 2, 3, 4, 5) were adjusted to account for cases of unknown eligibility (Samp_DC = 8, 9, 10, 11). Next, the eligibility-adjusted weights for eligible respondents (Samp_DC = 4) were adjusted to account for eligible sample members who had not returned a completed survey (SAMP_DC = 5).

The weighting adjustment factors for eligibility and completion were computed as the inverse of demonstrated probabilities. First, sample weights for cases of known eligibility were multiplied by the ratio of the total population (SAMP_DC = 2, 3, 4, 5, 8, 9, 10, 11) to the known eligibility cases (SAMP_DC= 2, 3, 4, 5). Next, the resulting weights for complete eligibility cases were multiplied by the ratio of eligible cases (SAMP_DC= 4, 5) to complete eligible cases (SAMP_DC= 4). Weights were calculated separately within strata as defined above.

Distribution of Weights and Adjustment Factors. Table 6 provides a summary of the distributions of the sampling weights, intermediate weights and final weights by eligibility status. Eligible respondents are those individuals who were not only eligible to participate in the survey, but also completed at least 50% of the survey items. There were no record ineligible cases according to administrative records.

Table 6.
Sum of Weights by Eligibility Status

Eligibility Category	Sum of Sampling Weights	Sum of Eligibility Status Adjusted Weights	Sum of Complete Eligible Response Adjusted Weights
Eligible Weighted	1,941	3,360	3,532
Ineligible Weighted	2,113	3,771	3,771
Eligible Unweighted	3,248	172	0
Record Ineligible Unweighted	0	0	0

Variance Estimation

Analysis of the 2012 PEVI data required a variance estimation procedure that accounted for the complex sample design. The final step of the weighting process was to define variance strata for variance estimation by Taylor series linearization. The 2012 PEVI survey variance estimation strata were defined identically to the sampling strata.

Location, Completion, and Response Rates

Location, completion, and response rates were originally calculated in accordance with guidelines established by the Council of American Survey Research Organizations (CASRO). The procedure was based on recommendations for Sample Type II response rates (CASRO, 1982). This definition currently corresponds to the American Association for Public Opinion Research (AAPOR) RR3 protocol (AAPOR, 2011) which estimates the proportion of eligible respondents among cases of unknown eligibility.

Location, completion, and response rates were computed for the 2012 PEVI as follows:

The *location rate* (LR) is defined as

$$LR = \frac{\text{adjusted located sample}}{\text{adjusted eligible sample}} = \frac{N_L}{N_E}.$$

The *completion rate* (CR) is defined as

$$CR = \frac{\text{eligible responses}}{\text{adjusted located sample}} = \frac{N_R}{N_L}.$$

The *response rate* (RR) is defined as

$$RR = \frac{\text{eligible responses}}{\text{adjusted eligible sample}} = \frac{N_R}{N_E}.$$

where

- N_L = Adjusted located sample
- N_E = Adjusted eligible sample
- N_R = Eligible responses.

To identify cases that contribute to the components of LR, CR, and RR, the disposition codes were grouped as shown in Table 7.

Table 7.
Disposition Codes for CASRO Response Rates

Response Category	SAMP_DC Values
Eligible Sample	4, 5, 8, 9, 10, 11
Located Sample	4, 5, 8, 9, 11
Eligible Response	4
Not Returned	11
Eligibility Determined	2, 3, 4, 5, 8, 9
Self Report Ineligible	2, 3

Ineligibility Rate

The ineligibility rate (IR) is defined as:

$$IR = \text{Self Report Ineligible} / \text{Eligibility Determined}.$$

Estimated Ineligible Postal Non-Deliverable/Not Located Rate

The estimated ineligible postal non-deliverable or not located (IPNDR) is defined as:

$$IPNDR = (\text{Eligible Sample} - \text{Located Sample}) * IR.$$

Estimated Ineligible Nonresponse

The estimated ineligible nonresponse (EINR) is defined as:

$$EINR = (\text{Not Returned}) * IR.$$

Adjusted Location Rate

The adjusted location rate (ALR) is defined as:

$$ALR = (\text{Located Sample} - \text{EINR}) / (\text{Eligible Sample} - \text{IPNDR} - \text{EINR}).$$

Adjusted Completion Rate

The adjusted completion rate (ACR) is defined as:

$$\text{ACR} = (\text{Eligible Response})/(\text{Located Sample} - \text{EINR}).$$

Adjusted Response Rate

The adjusted response rate (ARR) is defined as:

$$\text{ARR} = (\text{Eligible Response})/(\text{Eligible Sample} - \text{IPNDR} - \text{EINR}).$$

Unweighted and weighted sample counts used to compute the overall response rates are shown in Table 8. Weighted rates were computed using the original base weights.

The final response rate is the product of the location rate and the completion rate. Both weighted and unweighted location, completion, and response rates for the *2012 PEVI* survey are shown in Table 9.

Weighted location, completion, and response rates for the full sample by domain levels are shown in Table 10.

Table 8.
Comparison of the Final Sample Relative to the Drawn Sample

Case Disposition Categories	Sample Counts		Weighted Estimates ¹	
	n	%	n	%
Drawn sample & Population	1,500		7,303	
Ineligible on master files	0	0.00%	0	0.00%
Self-reported ineligible	-440	29.33%	-2,113	28.94%
Total: Ineligible	-440	29.33%	-2,113	28.94%
Eligible sample	1,060	70.67%	5,190	71.06%
Not located (estimated ineligible)	-6	0.40%	-30	0.41%
Not located (estimated eligible)	-7	0.47%	-36	0.49%
Total not located	-13	0.87%	-65	0.90%
Located sample	1,047	69.80%	5,124	70.16%
Requested removal from survey mailings	-63	4.20%	-294	4.03%
Returned blank	-43	2.87%	-184	2.52%
Skipped key questions	-19	1.27%	-99	1.36%
Did not return a survey (estimated ineligible) ²	-247	16.44%	-1,188	16.27%
Did not return a survey (estimated eligible) ²	-287	19.16%	-1,417	19.40%
Total: Nonresponse	-659	43.93%	-3,183	43.58%
Usable responses	388	25.87%	1,941	26.58%

¹ The observed counts of the various response categories are somewhat skewed by the oversampling employed in the sample design. Consequently, weighted counts are also provided because they are more representative of response propensity in the entire population.

² The categories labeled 'Not located . . .' and 'Did not return a survey . . .' have been broken down into additional subcategories labeled '(estimated ineligible)' and '(estimated eligible)'. The ineligible counts are based on an ineligible rate = Self-report ineligibles / (Eligible Respondents + Unusable responses + Self-reported ineligibles). Unusable responses include sample members who requested removal, returned blank surveys, or skipped key questions. The eligible counts are the complement of the ineligible count.

Table 9.
Location, Completion, and Response Rates

Type of Rate	Computation	Unweighted Rate	Weighted Rate
Location	Adjusted located sample/Adjusted eligible sample	99.1%	99.1%
Completion	Usable responses/Adjusted located sample	48.5%	49.3%
Response	Usable responses/Adjusted eligible sample	48.1%	48.9%

Table 10.
Rates for Full Sample and Domain Level

Domain Variable	Domain	Sample	Usable Responses	Sum of Weights	Location %	Completion %	Response %
Sample	Sample	1,500	388	7,303	99.1%	49.3%	48.9%
Jurisdiction Size	Less than 5,000 Registered Voters	1,000	192	4,206	98.7%	45.0%	44.4%
	5,000+ Registered Voters	500	196	3,097	99.6%	53.1%	52.8%
Jurisdiction Type	County	553	190	2,858	99.7%	52.0%	51.9%
	Sub-County	947	198	4,445	98.7%	46.8%	46.2%

References

- American Association for Public Opinion Research. (2011). *Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys (7th edition)*. AAPOR.
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Appendix A. Sample Allocation

Table A1.
Sample Allocation

Strata	Stratum Size	Expected Respondents	Sample Size	Percent Sampled	Label
1	2,310	210	350	15%	MI & WI, Fewer than 1000 registered voters
2	296	90	150	51%	All other states, fewer than 1000 registered voters
3	780	150	250	32%	MI & WI, 1,000-4,999 registered voters
4	820	150	250	30%	All other states, 1,000-4,999 registered voters
5	1,944	150	250	13%	All states, 5,000-25,000 registered voters
6	1,153	150	250	22%	All states, more than 25,000 registered voters
Total	7,303	900	1,500	21%	

Appendix B.
Allocation Solution for Reporting Domains

Table B1.
Allocation Solution for Reporting Domains

Domain	Label	Pop Count	Expected Responses	Estimated Sample Size	Pct Sampled
1	All Domains	7,303	900	1,500	21%
2	Less than 5,000 Registered Voters	4,206	600	1,000	24%
3	5,000+ Registered Voters	3,097	300	500	16%
4	County	2,851	332	553	19%
5	Sub-County	4,452	568	947	21%

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