APPENDIX A: SURVEY METHODS

This appendix includes some additional information about the survey methods used to conduct the study that was not presented in the main text of Volume 1. Volume 3 includes a detailed report of all methods used in the study.

A1. Sample Design and Selection

A1.1 Target population

Target member population sizes for the Service member and spouse surveys are presented in Table A.1.

Table A.1
Target Population Sizes for Service Member and Spouse Surveys

Component	Service Member Survey	Spouse Survey
Active Duty	1,416,741	703,586
Reserve and National Guard	831,193	370,250

Service member survey target population. The overall target population of the Service member survey included both Active Duty and Reserve Component members. Among Active Duty members, the target population was members of the Army, Navy, Marine Corps, Air Force, and Coast Guard, up to and including pay grade O-6 with at least 6 months of service as of June 15, 2010. The target population of the National Guard and Reserve members was Guard and Reserve members of the Army National Guard, the Army Reserve, the Naval Reserve, the Marine Corps Reserve, the Air National Guard, the Air Force Reserve, and the Coast Guard Reserve, up to and including pay grade O-6 with at least 6 months of service as of June 15, 2010. Service members of the National Guard or Reserve who have been activated under authority of Title 10 or Title 32 were included in the population of National Guard and Reserve Service members, not the population of Active Duty Service members.

Spouse survey target population. For the spouse survey, the target population was spouses of any married Active Duty and National Guard and Reserve members who met the criteria for inclusion in the target population of the Service member survey. Spouses of activated Reserve or National Guard members were included in the population of Reserve and National Guard spouses, not the population of Active Duty spouses. Both spouse populations

excluded spouses in dual-military marriages—that is, spouses who themselves were Active Duty, National Guard, or Reserve members.

Sampling frames. The sampling frames for both surveys consisted of records drawn primarily from January 2010 Defense Manpower Data Center (DMDC) personnel files. For both surveys, May 2010 DEERS Point in Time Extract files were used to update the Active Duty sample and Active Duty spouse sample for eligibility purposes. Cases were flagged as ineligible for the Service member survey if the Service member was deceased or had left the military. Cases were flagged as ineligible for the spouse survey if the Service member spouse was deceased, had left the military, was no longer married, or had a military spouse.

A1.2 Sample design

Both the Service member and spouse surveys used a single-stage stratified design. To determine which variables should be used to create the sampling strata, DMDC consulted members of the CRWG to determine estimation domains of interest. DMDC used DEERS data to identify low-prevalence domains, and it used the response rates from other DoD surveys of Service members and military spouses to identify low-response domains. This process resulted in the selection of the variables shown in Table A.2, which DMDC used to stratify the frames of Service members and spouses so that low-prevalence and low-response domains could be oversampled.

Table A.2
Variables for Stratifying Sampling Frames

Frame	Variables Used to Stratify
Active Duty Service Members	• Service (5 levels: Army, Navy, Marine Corps, Air Force, and Coast Guard) • Pay grade (5 levels—E1-E4, E5-E6, E7-E9, O1-O3, O4-O6—to be crossed with other variables; warrant officers put in separate stratum) • DoD duty occupation group (2 levels: combat and combat support) • Location (2 levels: US territory and overseas) • Family status (2 levels: single with children and other)
National Guard and Reserve Service Members	• Reserve Component (7 levels: Army National Guard, the Army Reserve, the Naval Reserve, the Marine Corps Reserve, the Air National Guard, the Air Force Reserve, and the Coast Guard Reserve) • Reserve program (3 levels—Troop Program Unit, Active Reserve, and Military Technicians—to be crossed with other variables; Individual Mobilization Augmentees [IMAs] put in separate stratum) • Pay grade group (5 levels to be crossed with other variables; warrant officers put in separate stratum) • DoD duty occupation group (2 levels: combat and combat support)
Married Active Duty Members	• Service (5 levels: Army, Navy, Marine Corps, Air Force, and Coast Guard) • Pay grade (5 levels to be crossed with other variables; warrant officers put in separate stratum) • Geographic location of Service member (2 levels) • Gender of Service member (2 levels)
Married National Guard and Reserve Service Members	• Reserve Component (7 levels: Army National Guard, the Army Reserve, the Naval Reserve, the Marine Corps Reserve, the Air National Guard, the Air Force Reserve, and the Coast Guard Reserve) • Pay grade (5 levels to be crossed with other variables; warrant officers put in separate stratum) • Gender of Service member (2 levels) • Reserve program (3 levels—Troop Program Unit, Active Reserve, and Military Technicians—to be crossed with other variables; Individual Mobilization Augmentees [IMAs] put in separate stratum)

Sample allocation. To determine stratum allocations, DMDC used the Sample Design Tool developed by Research Triangle Institute (Kavee & Mason, 1997) for DMDC. This tool is based on the multivariate allocation algorithm described by Chromy (1987). This allocation method identifies the smallest total sample size that can be allocated to each stratum so that the margin of error does not exceed precision constraints. The use of the Sample Design Tool produced sample sizes satisfying the constraints that the expected maximum margins of error for proportions estimated for the identified domains of interest were less than or equal to 5%. These sample sizes were then increased at the request of the CRWG. Overall, the final Service member survey sample included 399,856 Active Duty and Reserve Component Service members and the spouse survey sample included 150,186 spouses of

Active Duty and Reserve Component Service members. Table A.3 presents the sample size for each survey by Component.

Table A.3
Sample Sizes for the Service Member and Spouse Surveys

Component	Service Member Survey	Spouse Survey
Active Duty	199,962	69,986
Reserve	199,894	80,200

Volume 3 of this report (Survey Methods) includes the fielded sample sizes for each stratum of the Active Duty and Reserve Components, respectively, of the Service member survey. It also includes similar information for Active Duty and Reserve Components of the spouse survey.

A2. Survey Design

Questionnaire development. Westat worked closely with the CRWG to create survey questionnaires for both the Service member and spouse surveys. For the Service member survey, the CRWG provided an initial question bank and terms of reference for the study (see the terms of reference at the end of this appendix). For the spouse survey, CRWG identified topics of interest and guiding principles. Westat also used information collected in early focus groups and Information Exchange Forums (IEFs) to identify important issues and concerns of Service members and spouses. The survey development process for both surveys was iterative and included reviews by the DMDC and representatives of the five Services.

Survey pretesting. Westat conducted two rounds of cognitive interviews with Service members recruited by the CRWG to pretest drafts of the Service member survey. During the first round, three Westat interviewers pretested the draft survey with nine Service members at the Pentagon. During the second round, the Westat interviewers pretested a revised draft of the survey with eight Service members at Andrews Air Force Base. The Service members included both Active Duty and Reserve Component members from the various Services. The findings from the interviews were used to improve the survey drafts. Because of time constraints, Westat was unable to conduct cognitive interviews to pretest the spouse survey.

Survey mode. Westat programmed the Service member survey for administration via a secure Web site. For the spouse survey, Westat developed a scannable paper survey for delivery by postal mail.

The Service member Web survey was programmed to allow participants to skip questions, submit incomplete surveys, and/or save a partially completed survey and return to it later. Each member of the sample received a link to the survey URL (i.e., the Web site location of the survey) and a unique SURVEY PIN number that allowed access to the survey. When respondents logged into the system, their SURVEY PINs were verified against a database in the survey management system. The firewall protecting the server also verified that the respondent's IP address was valid. Respondents could not submit more than one survey using a single user SURVEY PIN.

Survey management system. The web-base survey management system served as a case record database for survey participants for both surveys. Survey participant information was loaded into the system and was subsequently updated with changes to email or postal addresses or changes in respondent status. The system was used to assign disposition codes to returned Web surveys, track respondent status, and determine who should receive followup reminder notices and surveys.

Field period and survey communications. Survey administration for the Service member survey began on July 7, 2010, and continued through August 15, 2010. Administration of the Service member spouse survey began on August 13, 2010, and continued through September 27, 2010. Five reminder notices were sent to Service member nonrespondents, with two of the notices sent by both email and postal mail and the other three by email only. Reminder notices were sent to spouse nonrespondents, followed by a second survey and a final reminder. Table A.4 shows the type and date of notification activities for each survey.

Table A.4
Notification Activity by Survey

Service Members			Service Member Spouses		
Notification Activity	**Type of Notification**	**Date of Notification**	**Notification Activity**	**Type of Notification**	**Date of Notification**
Survey Invitation	Email & postal	July 7–9	Pre-notification	Postal	Aug. 13
1st Reminder	Email & postal	July 19–21	1st Survey	Postal	Aug,18–Aug. 20
2nd Reminder	Email only	July 27–28	1st Reminder	Postcard	Aug. 30
3rd Reminder	Email & postal	August 3–4	2nd Survey	Postal	Sept. 7–Sept. 8
4th Reminder	Email only	August 9	Final Reminder	Postcard	Sept. 14
Final Reminder	Email only	August 12	—	—	—

For the Service member survey, the individual Services independently sent communications encouraging participation in the survey to their Service members.

Survey administration issues. DEERS was the source of initial contact information for sample members of both surveys. For the spouse survey, 9,400 sample members had no home address in the DEERS file. Westat used the Service member address for them. Also, because email addresses were available for only 73% of Active Duty Marines and 50% of Marine Corps Reserve members and email addresses were outdated for many Air Force members in the final survey sample, DMDC provided 5,000 updated Marine email addresses and 45,600 updated Air Force email addresses to Westat. In addition, the Marine Corps worked with Westat to create a Marine Online message for Marines in the sample with a Marine Online account. The message let them know they had been selected to participate in the survey and asked them to call a toll-free telephone number to get a Web survey PIN number. They were authenticated by staff in the Westat Survey Support Center to verify that they were eligible sample members.

Survey support. Throughout the survey administration of both the Service member and spouse surveys, the Westat Survey Support Center provided assistance to sample members via email and telephone. Center staff also reviewed bounce-back emails and postal notices returned as undeliverable to see if they contained new email or postal addresses.

Survey closeout and case disposition. Westat assigned final disposition codes at the end of survey operations for both surveys and created final analysis files.

Service member survey. The final analysis file included 115,052 Service member sample case records. Table A.5 shows the assignment of disposition codes to all Service member case records. 109,973 Service members had submitted complete surveys (i.e., they had gone through the entire Web survey and clicked the submit button at the end of the survey). Of these, Westat classified 80 cases as partial completes or "nonresponse eligible," including 69 cases that had answered fewer than one-half of the core survey items and 11 cases that did not answer a single item. Also, there were 10,933 surveys in progress at the end of survey operations, and 5,159 of them were classified as complete. The final analysis file consisted of 115,052 completes.

Table A.5
Final Service Member Survey Disposition Codes

Disposition Code		Total		AC Sample		RC Sample	
		Count	%	Count	%	Count	%
CO	Complete (39 or more of 77 core survey items answered)	115,052	28.8	59,494	29.8	55,558	27.8
END	E-Mail Non-Deliverable	511	0.1	454	0.2	57	0.0
IE	Ineligible	4,094	1.0	903	0.5	3,191	1.6
NC	Non-Contact (No E-Mail or Postal Address)	1,206	0.3	1,099	0.5	107	0.1
NRE	Non-Response, Eligible (went to website, but did not answer a single survey item)	103	0.0	58	0.0	45	0.0
NRU	Non-Response, Unknown Eligibility	264,420	66.1	129,712	64.9	134,708	67.4
PC	Partial Complete (1-38 of 77 core survey items answered)	5,751	1.4	3,244	1.6	2,507	1.3
PEND	Postal and E-Mail Non-Deliverable	3,126	0.8	2,030	1.0	1,096	0.5
PND	Postal Non-Deliverable	5,553	1.4	2,949	1.5	2,604	1.3
RF	Refusal	40	0.0	19	0.0	21	0.0
Total		**399,856**	**100.0**	**199,962**	**100.0**	**199,894**	**100.0**

Spouse survey. The final analysis file for the spouse survey included 44,266 spouse sample case records. Table A.6 shows the assignment of disposition codes to all spouse sample case records.

Table A.6
Final Spouse Survey Disposition Codes

Disposition Code		Total		AC Spouse Sample		RC Spouse Sample	
		Count	%	Count	%	Count	%
CO	Complete (19 or more of 38 core survey items answered)	44,266	29.47	20,107	28.73	24,159	30.12
IE	Ineligible (i.e., divorced or widowed, spouses who are currently in the military)	7,366	4.90	3,699	5.29	3,667	4.57
NRE	Non-Response, Eligible (returned a blank survey)	27	0.02	7	0.01	20	0.02
NRU	Non-Response, Unknown Eligibility	80,656	53.70	36,764	52.53	43,892	54.73
PC	Partial Complete (1-18 of 38 core survey items answered)	68	0.05	26	0.04	42	0.05
PND	Postal Non-Deliverable	17,740	11.81	9,359	13.37	8,381	10.45
RF	Refusal	63	0.04	24	0.03	39	0.05
Total		**150,186**	**100.00**	**69,986**	**100.00**	**80,200**	**100.00**

A3. Weighting

Westat used a three-step procedure to calculate the sampling weights. First, we computed *base weights*, which are the reciprocals of the stratum-sampling rates. For example, if a sampling stratum was sampled at a rate of 20%—that is, one out of every five individuals in the particular stratum was selected for the sample—then the base weight for each of the stratum's sample cases was 1/0.20 = 5.0.

Second, we adjusted the base weights for nonresponse by dividing the base weight for a given responding case by the response rate for a group of cases similar to the given case. For most cases, the associated response rate used to adjust a given case's base weight was calculated from all cases in the same stratum as the given case. For some cases, however, there were only a few responding cases in the associated sampling stratum. When this occurred, two or more strata having the same values for most, but not all, of the stratification variables were collapsed together to calculate the response rates used to adjust the base weights. Strata containing 30 or more responding cases were never collapsed, whereas strata containing fewer than 25 responding cases were always collapsed. Most strata containing between 25 and 30 completed cases were collapsed, but some were not if the total number of responding plus nonresponding cases in the stratum was large.

Third, we further adjusted the sampling weights so that they aggregated to the known demographic totals calculated from the sampling frame file. For the Active Duty sample, the known demographic totals were for Census regions, family status, race and ethnicity, gender, age, military occupation, type of housing (on base or off base), and Service by pay grade. For the Reserves sample, the known demographic totals were for deployment status, activation status, family status, race and ethnicity, gender, age, military occupation, Reserve program, and Component by pay grade.

A4. Response Rates

Response rates were calculated by dividing the unweighted (or weighted, using base weights) counts of completed cases by the corresponding unweighted (or weighted, using base weights) counts of the number of eligible cases. (AAPOR response rate formula RR1 was used to calculate response rates—all nonresponding cases not flagged as ineligible prior to data collection were assumed to be eligible nonrespondents.)

Service member survey. The Service member survey had an overall weighted response rate of 27.7%.[1] The Active Duty sample had a slightly higher overall response rate than the Reserve Component sample: 28.2% versus 26.8%.

Spouse survey. The spouse survey had an overall weighted response rate of 29.4%.[2] The Active Duty Spouse sample had a 28.2% response rate and the Reserve Component Spouse sample had a 31.7% response rate.

References

Chromy, J. R. (1987). Design optimization with multiple objectives, Proceedings of the Section on Survey Research Methods, American Statistical Association, Alexandria, VA, pp. 194–199.

Kavee, J. D., & Mason, R. E. (1997). DMDC Sample planning tools user's manual (Version 1.2), Defense Manpower Data Center, Arlington, VA.

[1] Unweighted response rates for the Service member survey were 29.1% overall, 29.9% for the Active Duty sample, and 28.24% for the Reserve Component sample.
[2] Unweighted response rates for the spouse survey were 31.0% overall, 30.3% for the Active Duty spouse sample, and 31.6% for the Reserve Component spouse sample.

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MAR 2 2010

MEMORANDUM FOR THE GENERAL COUNSEL
COMMANDER, US ARMY EUROPE

SUBJECT: Comprehensive Review on the Implementation of a Repeal of 10 U.S.C. § 654

The President has requested that the Congress repeal 10 U.S.C. § 654, "Policy Concerning Homosexuality in the Armed Forces," and directed the Department to consider how best to implement a repeal of this law.

The Chairman of the Joint Chiefs of Staff and I owe the President an assessment of the implications of such a repeal, should it occur. We also must develop an implementation plan for any new statutory mandate. To be successful, we must understand all issues and potential impacts associated with repeal of the law and how to manage implementation in a way that minimizes disruption to a force engaged in combat operations and other demanding military activities around the globe. Should Congress take this action, strong, engaged and informed leadership will be required at every level to properly and effectively implement a legislative change.

Accordingly, you are to stand up an intra-Department, inter-Service working group to conduct a comprehensive review of the issues associated with a repeal of the law. An integral element of this review shall be to assess and consider the impacts, if any, a change in the law would have on military readiness, military effectiveness and unit cohesion, and how to best manage such impacts during implementation.

To effectively accomplish this assessment, I believe it essential that the working group systematically engage the force. The participation of a range of age, rank and warfare communities in this study including families, in addition to active outreach across the force is a critical aspect that will undoubtedly lead to insights and recommendations essential to the Department's implementation of any change.

It is critical that this effort be carried out in a professional, thorough and dispassionate manner. Given the political dimension of this issue, it is equally critical that in carrying out this review, every effort be made to shield our men and women in uniform and their families from those aspects of this debate.

OSD 02309-10

Your terms of reference are attached. By copy of this memorandum, all DoD Components will fully cooperate in the execution of this Review and be responsive to all requests for information, detail personnel, or other support. The working group shall submit its report to me by December 1, 2010.

Attachment(s):
As stated

cc:
Secretaries of the Military Departments
Under Secretary of Defense for Personnel and Readiness
General Counsel of the Department of Defense
Joint Chiefs of Staff

TERMS OF REFERENCE

Comprehensive Review on the Implementation of a Repeal of 10 U.S.C. § 654

These Terms of Reference (TOR) establish the objectives of the Secretary of Defense-directed Comprehensive Review for the Repeal of 10 U.S.C. § 654, "Policy Concerning Homosexuality in the Armed Forces." The Review will examine the issues associated with repeal of the law should it occur and will include an implementation plan that addresses the impacts, if any, on the Department.

Objectives and Scope:

The Review will identify the impacts to the force of a repeal of 10 U.S.C § 654 in the areas reflected below:

1. Determine any impacts to military readiness, military effectiveness and unit cohesion, recruiting/retention, and family readiness that may result from repeal of the law and recommend any actions that should be taken in light of such impacts.

2. Determine leadership, guidance, and training on standards of conduct and new policies.

3. Determine appropriate changes to existing policies and regulations, including but not limited to issues regarding personnel management, leadership and training, facilities, investigations, and benefits.

4. Recommend appropriate changes (if any) to the Uniform Code of Military Justice.

5. Monitor and evaluate existing legislative proposals to repeal 10 U.S.C § 654 and proposals that may be introduced in the Congress during the period of the review.

6. Assure appropriate ways to monitor the workforce climate and military effectiveness that support successful follow-through on implementation.

7. Evaluate the issues raised in ongoing litigation involving 10 U.S.C § 654.

Methodology:

1. Review all DoD directives, instructions and other issuances potentially impacted by a repeal. Identify where new directives and instructions may be needed.

2. Ensure participation in the working group by: military service leadership; appropriate OSD staff elements; cross service officer and enlisted communities; mid-grade and senior ranks; human resources/personnel specialists; pay and benefits specialists; family support programs specialists; accession point and training communities; service

academies and/or senior service schools; and medical, legal and religious support personnel.

3. In an appropriately balanced manner, engage Members of Congress, key influencers of potential service members and other stakeholder groups that have expressed a view on the current and perspective policy.

4. Research/study methods shall include systematic engagement of all levels of the force and their families, analysis of current data and information, and review the experiences of foreign militaries.

5. Engage the RAND Corporation to update the National Defense Research Institute report on "Sexual Orientation and U.S. Military Personnel Policy: Options and Assessment" (1993).

Deliverables:

▪ A Report addressing the areas above will be delivered to the Secretary of Defense not later than December 1, 2010. Prior to the delivery of the report to the Secretary of Defense, each Service Chief shall be afforded the opportunity to review and comment.

▪ The Review will provide a plan of action to support the implementation of a repeal of the law. The Review shall identify areas for further study.

Support:

▪ The Under Secretary of Defense (Comptroller)/Chief Financial Officer will provide adequate funding for the Review.

▪ The DA&M, through Washington Headquarters Services, will coordinate for and provide human resources, office/facilities, and other support to ensure success of this effort.

▪ The Military Departments and other DOD Components will provide full support to the Review with detail personnel, information (including but not limited to documents and interviews of personnel), analytical capacity as determined necessary and any other support as requested.