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2008 Health Care Survey of DoD Beneficiaries:

2009 Design Report

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TRICARE Management Activity
5111 Leesburg Pike, Suite 810
Falls Church, VA 22041
(703) 681-3636

Task Order Officer:
Richard R. Bannick, Ph. D., FACHE

Submitted by:

Mathematica Policy Research, Inc.
600 Maryland Ave., SW, Suite 550
Washington, DC 20034-2512
(202) 484-9220

Project Director:
Eric Schone, Ph.D.

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Chapter 1

Introduction

The National Defense Authorization Act for fiscal year 1993 (P.L.102-48) mandates that the Department of Defense (DoD) monitor the satisfaction of beneficiaries in the military health system (MHS) with their health care and health plan. The Office of the Assistant Secretary of Defense (Health Affairs) [OASD (HA)] and TRICARE Management Activity (TMA) developed the Health Care Survey of DoD Beneficiaries (HCSDB) to fulfill that mandate.

The HCSDB was first fielded in 1995 on an annual basis. From 2001 to 2008, the survey has been fielded each quarter, as it will be in 2009. Data sets containing survey responses have been produced quarterly, along with a combined data set for each year. For the past seven years, the HCSDB has also included a survey of child beneficiaries' sponsors. Before 2006, reporting and preparation of public use data sets were performed on a calendar year basis. An annual data set and annual reports combined the results of each survey conducted in the calendar year. Beginning in 2006, reporting and analysis changed to a fiscal year basis. Reports and data sets combined results from the 4 quarters of fiscal 2006. Analysis and reporting will continue on a fiscal year basis in 2009.

Among the many surveys collecting information about the MHS, only the HCSDB measures the health care experiences of MHS beneficiaries around the world during the previous 12 months, whether or not they use TRICARE or military facilities. Recent years' results have indicated an increase in the use of TRICARE benefits. The survey presents an opportunity to explain the apparent increase and identify its causes and effects.

One of the HCSDB's most useful features is that it combines core questions that change little from year to year with supplementary questions that change each quarter. Thus, the core questions can be used to track changes in coverage, access, and satisfaction over time, while the supplementary questions can reflect survey users' changing priorities. Responses to the supplementary questions may be addressed in the Issue Brief, the TRICARE Consumer Watch, or TRICARE Annual Reports—they can also be incorporated into briefings, fact sheets, or research papers.

Though other CAHPS users have switched to CAHPS 4.0, we have continued to use CAHPS 3.0, and plan to use it in 2009. The plans described in this report reflect that decision. However, we propose to continue monitoring civilian results using CAHPS 4.0, and to conduct research on the relation between questions in versions 3.0 and 4.0.

For 2009, we propose changes to survey reporting methods that will give researchers easier access to survey results. We review changes to the survey ample design that could increase its efficiency and provide more precise estimates for high-level analytic domains such as regions, beneficiary or enrollment groups. We propose research projects that will test the methods used to analyze and report survey results and increase the timeliness, action ability and granularity of survey responses.

This report outlines the sampling plan for the quarterly and the child HCSDB surveys and describes the methods MPR uses to process the data, analyze and report on the results, and produce and document the analytic data sets created from survey responses. More specifically:

- Chapter 2 describes the methods used to draw the samples, field the survey, and produce and document the data sets. The proposed sampling plan will permit monitoring of the experience of beneficiaries at the military treatment facility (MTF) level and enable survey responses to answer research questions about the operations of the MHS relevant to policymakers. Chapter 2 contrasts a design similar to the current one with alternatives that allocate a smaller share of the sample to MTF estimates.
- Chapter 3 describes the survey databases and the database documentation. The data sets and reports created from the survey data are documented in the HCSDB Codebook and Users Guide and in the HCSDB Technical Manual.
- Chapter 4 describes the reports we will produce from the 2009 HCSDB and the changes in reporting compared to previous years. As in the 2008 HCSDB, the 2009 reports will include the TRICARE Beneficiary Reports (for adults and children), TRICARE Consumer Watch, and the HCSDB Annual Report. It includes results reported on a periodic basis to the TRICARE Regional Offices, Office of Personnel and Readiness, and MHS metrics developers. It includes results reported for the TRICARE Evaluation Report and results reported in conjunction with TRICARE's pay for performance efforts. It also includes a proposed reporting facility that will permit interactive analysis of survey data, including trending across quarterly surveys.
- Chapter 5 describes the research projects for which the HCSDB will be the data source. We propose several studies to strengthen the survey's methodological underpinnings and extend its results to the exploration of important health policy issues. The chapter also includes research to identify changes in the survey's design that will better meet the needs of survey users, and research on the relation between CAHPS 3.0 to 4.0 questions.
- Chapter 6 presents the project work plan.

Chapter 2

Survey Methods

A. SAMPLING AND WEIGHTING

This section presents our sampling and weighting plan. We present the sample selection procedures for the adult and child surveys, and list the analytic domains, such as enrollment groups and geographic areas for which we will report response rates. To address declining overall response rate occurred during the data collection we describe options for changes to the sample design that account for lower response rate for better MTF-level estimates. With the current design, some MTFs cannot be reported due to significant loss of precision and other MTFs are reported with lower precision than designed. The design change will propose to increase sample size within MTFs so that we ensure the MTF-level estimates have precision as designed but still maintaining overall sample size of 50,000 beneficiaries. The cost of this improvement would be a reduction in the number of MTFs being reported. Alternatively, the second option would be maintaining the number of MTFs being reported but relaxing the precision of MTF-level estimates.

1. Adult Survey

a. Target population

The target population for the adult survey is all adults eligible to receive military health care benefits. The sampling frame will be identified from the Defense Eligibility and Enrollment Reporting System (DEERS) maintained by DoD. Each quarter, TMA will provide an extract file including the names and addresses of all beneficiaries who are eligible for the survey as of the reference date for the quarter. The reference date will be as close as possible to the file extraction date. All beneficiaries age 18 or older and active duty personnel regardless of their age are included in the target population.

b. Sample Stratification

The adult survey will be explicitly stratified by a combination of three variables: (1) TRICARE Prime enrollment status, (2) beneficiary group, and (3) geographic area. The proposed stratification scheme ensures that we have a sufficient sample of beneficiaries from various population subgroups to support separate analysis for each. It will also permit us to make comparisons between geographic areas important to TMA leadership. Variables needed for stratification will be constructed and included in the sampling frame.

All active-duty personnel are regarded as Prime enrollees. Beneficiaries 65 and over are not allowed to enroll in Prime. Consequently, seven enrollment-beneficiary combinations are defined: (1) active-duty, (2) active-duty family members and retirees and their family members who are under age 65 and enrolled in Prime with a military PCM, (3) active-duty family member not enrolled in Prime, (4) active duty family members and retirees and their family members who are younger than 65 and enrolled in Prime with a civilian PCM, (5) retirees and their family members who are younger than 65 and not enrolled in Prime, (6) retirees and their family members 65 and over, and (7) inactive reservists and their family members enrolled in TRICARE Reserve Select. Geographic areas will be stratified according to these beneficiary groups.

Geographic strata will be defined to permit comparisons between beneficiaries receiving care at different military treatment facilities (MTFs) or from civilian providers in different regions. For Prime enrollees, geographic strata will be assigned according to the facility at which the beneficiary is enrolled, they will be considered to belong to that MTF's catchment area. For non-enrollees, geographic strata are defined by the beneficiary's place of residence. Their geographic strata will be based on TNEX regions, with one additional stratum for OCONUS regions. The strata designated according to MTF catchment areas may combine several MTFs. MTFs are combined based on administrative relationships, with child clinics rolled up to their parents. The total number of strata will be determined at the time of sampling based on the composition of the sample frame.

c. Sample Allocation

The total sample size for the 2009 adult survey is 50,000 per quarter, the same as the 2008 HCSDB. We allocate the sample among strata to meet precision requirements on key analytic domains as well as to minimize the total variance.

The planned sample design is allocated to meet the following precision objectives: (1) after combining four quarters, catchment-area-level estimates will have a 95 percent confidence interval (precision) of ±6 percentage points; (2) branch of service (Army, Navy, Air Force, Other) quarterly estimates will have a precision of better than ±5 percentage points; (3) within each of the three TNEX regions in the continental United States, each beneficiary group will have a precision of ±5 percentage points; (4) for the combined regions outside the continental United States, quarterly estimates for active duty beneficiaries, for active duty family members, and for retirees and their family members younger than age 65 will have a precision of ±6 percentage points. A sample size of 50,000 permits us to maintain the precision objectives from previous rounds of the HCSDB, even with low levels of response from most beneficiary groups. In section 2, we discuss alternatives to this design.

d. Weighting and Data File Construction

Survey responses are used to create analytic data sets that are used for reporting and research. Two data sets, a quarterly data set and a combined annual data set are produced from the adult survey. The quarterly data set contains responses from one quarter's fielding, produced soon after fielding ends. The combined data set contains responses from four consecutive quarters, including responses that arrive after the end of the fielding period for previous quarters' surveys. In order to calculate means, rates and other statistics from survey responses, we must attach weights that account for the number of each response in our sample represents.

When the sample is selected, we will calculate quarterly sampling weights equal to the inverse of the probability that a beneficiary is sampled. We will adjust these sampling weights to compensate for non-response using a weighting class adjustment method, where the weighting classes are formed based on the percentile of the propensity scores.[1] This method divides the sample into weighting classes and multiplies the sampling weight by the ratio of weighted sum of respondents and nonrespondents to the weighted sum of respondents within each group. We poststratify the nonresponse-adjusted weights to the frame totals to obtain specific domain weighted totals equal to population totals. At the end, extreme weights may also be trimmed. These adjusted weights will be included in the final deliverable database.

A data set combining adult surveys from four quarters will also be constructed along with the quarterly data sets. Because sample size in the combined data set is greater than the quarterly sample size, users of the combined data set will be able to calculate reliable estimates for smaller analytic domains, such as MTFs, than can users of a single quarterly data set.

[1] Propensity score is estimated using a logistic regression that regresses indicator of response/nonresponse to the survey on several covariates based on sample frame data.

When the data sets are combined, a combined sampling weight is needed. The method used to combine the four quarters and calculate combined weights assumes that the variation in estimates from one quarter to the next is due merely to sampling variation. That is, combined estimates can be calculated from the four independent samples by averaging the estimates for the four quarters. These combined estimates will, in fact, be more precise than the quarterly estimates because they average out the variation across the quarters.

We will calculate combined weights as an equally weighted average of quarterly weights.[2] The final data file will retain the quarterly sampling stratum variables and quarterly weight as well as the combined weight. These quarterly weights are also revised because data arriving after the end of the fielding periods for previous quarters will be incorporated. The file will also contain an indicator variable for the quarter the survey was fielded. Both combined and quarterly estimates can be calculated from this combined data set.

2. Alternate Sample Designs for the Adult Survey

This section compares the planned sample design of the HCSDB to two alternatives that change the share of the sample allocated to MTF catchment areas. The analysis compares the precision of estimates resulting from these alternative sample designs for MTF-level estimates using the estimates based on data from a survey fielded in a single quarter. We used data from Q2FY2007 to simulate differential sample allocation under the three designs.

In the HCSDB, sample size allocation takes into account differential response rates across groups. Beneficiaries with smaller propensity to respond to the survey are oversampled. First, the sample size of 50,000 is allocated to sampling strata to meet analytical objectives in terms of domains of interest and precision requirements mentioned earlier. These initial sample sizes are then adjusted by response rate so that the number of respondents across the target subpopulations is expected to meet analytical objectives by the end of data collection.

a. Planned Sample Design (Design 1)

As described above, in the proposed design for 2009, which is similar to the 2008 Adult HCSDB, suggested domains of analyses result in sampling stratification based on three stratification variables:

(1) Analytic group (GROUP) consists of five subpopulations:

- beneficiaries under age 65 enrolled in Prime with a military PCM or active duty beneficiaries (GROUP=1),
- beneficiaries under age 65 enrolled in Prime with a civilian PCM (GROUP=2),
- beneficiaries under age 65 not enrolled in Prime (GROUP=3),
- beneficiaries age 65 or older (GROUP=6),
- beneficiaries enrolled in TRICARE Reserve Select (GROUP=0).

(2) The geographic area (COM_GEO) which depends on the beneficiary's analytic group. For beneficiaries younger than 65 enrolled in Prime with a military PCM and all the active duty beneficiaries (GROUP = 1), the geographic area is defined as the Military Treatment Facility (MTF) with financial responsibility for the beneficiary. For all other beneficiaries (GROUP = 0, 2, 3, 6), the geographic area is defined as the TNEX region where the beneficiary lives.

[2] Friedman et al. (2002) compared this equal weights scheme to weighting schemes based on how recent the reference period was and the size of the domain. They evaluated the relative errors of 23 key survey estimates and found very few differences among the relative errors from each weighting scheme.

(3) Enrollment and beneficiary group (EBSMPL). For GROUP = 1, 2, 3, and 0, the value of EBSMPL is a combination of beneficiary and enrollment groups as follows: 1 = active duty; 2 = active duty family members enrolled in Prime with a civilian PCM; 3 = active duty family members enrolled in Prime with a military PCM; 4 = active duty family members not enrolled in Prime; 5 = retirees and their family members younger than 65 enrolled in Prime with a civilian PCM; 6 = retirees and their family members younger than 65 enrolled in Prime with a military PCM; 7 = retirees and their family members younger than 65 not enrolled in Prime; and 11 = beneficiaries enrolled in TRICARE Reserve Select. For GROUP = 6, this variable does not differentiate the enrollment and beneficiary group, and EBSMPL takes on the value of 99.

Figure A-1 in the Appendix A depicts stratification scheme discussed above.

Once the sample is allocated among these strata, the sample size in each stratum is adjusted to account for differential response rates by the following beneficiary groups:

- active duty,
- active duty family members enrolled in Prime with a civilian PCM,
- active duty family members enrolled in Prime with a military PCM,
- active duty family members not enrolled in Prime,
- retirees and their family members younger than 65 enrolled in Prime with a civilian PCM,
- retirees and their family members younger than 65 enrolled in Prime with a military PCM,
- retirees and their family members younger than 65 not enrolled in Prime,
- beneficiaries age 65 and older.

The response rate assumed for each beneficiary group is based on past experience. The resulting sample allocation will produce estimates expected to meet precision objectives for specified domains of analysis. For example, annual MTF-level estimates will have a 95 percent confidence interval of ± 6 percent (corresponding to quarterly estimates of ± 12 percent). Figure A-1 in the Appendix also presents precision requirements (in brackets) for each specified domain of analysis.

Design 1 specifies annual MTF estimates for about 100 MTFs, and groups the remaining MTFs by region. Precision requirement for about 100 MTFs are set prior to sampling, and sample allocation takes into account nonresponse using past response rates. The actual precision, however, is affected by response rates realized during data collection. Response rates were lower than expected for recent quarters of data collection. As a consequence, estimates in some MTFs may not meet the precision objective and some MTFs may not be reported. Currently, the TRICARE Beneficiary Beneficiary Reports (see Chapter 3) include annual estimates for MTFs with HL of less than 10 percent.

b. Reduction in the number of MTF strata (Design 2)

Design 2 combines sampling that sets a specific precision objective for fewer MTFs than does Design 1 with a proportional allocation for the remaining MTFs. The number of reporting MTFs is reduced to 70, so that larger sample size can be allocated to them and meet the designed precision of annual estimates for MTFs with HL of 6 percent or less. An equal sample of 500 is allocated to 70 large MTFs[3] and the sample is allocated proportionately to the remaining MTFs. The sample allocation is adjusted to account for differential response rates by the eight beneficiary groups as in Design 1.

[3] In this exercise, the 70 MTFs were selected as the 70 largest MTFs in term of their beneficiary size in the DEERS population.

c. Reallocate sample size across MTFs (Design 3)

In allocating sample size, strata sample sizes take into account nonresponse in data collection. The initial sample size is inflated by past response rates to obtain the final sample sizes. For example, in 2008 samples we used the median of the response rates of the first three quarters of 2007 HCSDB response rates for beneficiary groups as the expected response rates. However, due to lower actual response rates and the different response rates by the MTFs, under the current design, some MTFs did not meet the precision requirement. Design 3 will increase the sample size for MTFs with the historically lower response rates, and reduce the sample size for the other MTFs with historically higher response rates. Specifically, after finalizing strata sample sizes for the eligible respondents, we will inflate the strata sample sizes for these MTFs with lower response rates by the hypothetical lower response rates, and for the other MTFs, we will use the actual past response rates.

3. Comparison across Proposed Designs in Adult Survey

We calculate sample size for MTF-level estimates, as well as expected number of respondents and the estimates of precision. For Designs 1 and 2, to inflate the sample size to account for nonresponse we used the past response rate in the 2006 data collection. For Design 3, we used the actual response rate in the Quarter 2 of FY 2007 to simulate lower response rate than expected.

We compared the precision under the above three designs, using data from Quarter 2 of FY 2007. The precision is presented as half-length of 95 percent confidence interval computed using a conservative variance estimator:

$$v(p) = \frac{P(1-P)}{n}(DEFF)$$

where P is population proportion that is set to be 50 percent, n is the number of cases used in the analysis (number of respondents), and $DEFF$ is the design effect[4]. Table 2.1 presents the sample size allocation, expected number of respondents, and estimated half length.

There is a trade-off between the ability to report rates for many individual MTFs and the level of precision in the analysis. Currently, the TRICARE Beneficiary Reports (see Chapter 3) include annual estimates for MTFs with HL of less than 10 percent, which is larger than 6 percent expected precision. Using this less stringent precision objective for reporting with the Design 1 sample allocation, the number of MTFs that can be reported is increased (108 out of 111 MTFs). Under Design 2, most of MTFs with sample of size 500 will meet expected precision 6 percent. However, estimates for only approximately 70 MTFs may be reported with this precision level. Under Design 3, though precision in MTFs with historically low response rate is improve; however, precision in the remaining MTFs may be decreased due to smaller sample size, especially if the response rate within MTF is too low and/or the number of MTFs with low response rates is high.

Having said that, the current sample design (Design 1) is still an optimal design though the result of this design is similar to reducing precision objective for MTF-level estimates. Another alternative is to increase the overall sample size beyond 50,000.

[4] The design effect takes into account sampling stratification, sample size allocation and nonresponse across beneficiary groups. Given weighting for nonresponse adjustment, the design effect within a particular domain of analysis is calculated to reflect variability in the final weights within the domain.

TABLE 2.1

SAMPLE SIZE REALLOCATION ACROSS MILITARY TREATMENT FACILITIES AND PRECISION GAINED IN TERMS OF HALF-LENGTH CONFIDENCE INTERVAL

DM/SID	Individual MTF or Region	Sample Size			Actual # Respondents (Q2FY2007)	Expected # Respondents			Actual HL 95%-CI (Q2FY2007) (percent)	Estimated HL 95%-CI (percent)		
		Design 1 (current design)	Design 2	Design 3		Design 1 (current design)	Design 2	Design 3		Design 1 (current design)	Design 2	Design 3
0001	Redstone Ars/Ft McClellan	192	25	181	71	66	9	67	12.92	13.32	36.02	13.30
0003	Ft. Rucker	250	50	235	71	67	13	67	12.64	13.08	29.76	13.01
0004	Maxwell AFB	233	51	220	84	71	16	79	12.97	13.25	27.61	13.38
0005	Ft Wainwright	320	500	840	32	59	89	69	20.55	14.57	11.59	13.99
0006	Elmendorf AFB/Ft Wainwright	254	500	239	64	63	127	60	13.75	13.56	9.61	14.20
0008	Ft. Huachuca	246	50	231	52	66	13	50	15.16	13.41	29.38	15.46
0009	Luke AFB	229	500	216	66	64	142	62	13.68	13.43	9.09	14.12
0010	Davis-Monthan AFB	253	500	238	74	66	130	69	13.74	13.38	9.51	14.23
0013	Little Rock AFB	284	59	267	68	65	14	64	12.96	13.63	29.69	13.36
0014	Travis AFB	240	500	227	65	69	139	62	13.25	13.07	9.22	13.57
0018	Vandenberg AFB	275	30	258	65	63	7	61	14.90	13.76	40.82	15.38
0019	Edwards AFB	258	29	244	64	65	7	60	14.72	13.37	39.97	15.21
0024	NH Camp Pendleton/Ft Irwin	310	500	292	44	57	85	42	18.20	14.83	11.88	18.63
0026	Port Hueneme	258	30	243	80	67	8	76	12.23	12.89	38.10	12.55
0028	NH LeMoore	300	500	283	73	63	102	69	13.42	13.96	10.85	13.81
0029	NMC San Diego	318	500	300	45	58	91	43	17.86	15.08	11.85	18.27
0030	NH 29-Palms	314	500	295	41	50	78	38	18.88	15.62	12.32	19.61
0032	Evans ACH-Ft. Carson	280	500	264	44	60	110	42	16.91	14.07	10.35	17.31
0033	USAF Acad. Hospital	233	500	220	81	59	128	77	12.14	14.50	9.79	12.45
0037	Walter Reed AMC	301	500	284	103	90	146	97	11.47	11.73	9.21	11.82
0038	NH Pensacola	290	500	273	90	66	113	85	12.94	14.22	10.78	13.31
0039	NH Jacksonville/Key West	298	500	280	51	62	107	48	15.91	14.21	10.78	16.40

DM/SID	Individual MTF or Region	Sample Size			Actual # Respondents (Q2FY2007)	Expected # Respondents			Actual HL 95%-CI (Q2FY2007) (percent)	Estimated HL 95%-CI (percent)		
		Design 1 (current design)	Design 2	Design 3		Design 1 (current design)	Design 2	Design 3		Design 1 (current design)	Design 2	Design 3
0042	Eglin AFB	243	500	229	67	64	130	62	14.32	13.54	9.58	14.89
0043	Tyndall AFB	252	49	237	73	67	13	69	12.28	13.25	31.06	12.63
0045	MacDill AFB	240	500	227	72	73	152	67	13.01	12.83	8.96	13.48
0046	Patrick AFB	200	40	189	71	63	13	67	12.64	13.81	30.08	13.02
0047	Ft. Gordon	261	500	246	63	68	132	60	13.85	13.71	9.76	14.19
0048	Ft. Benning	287	500	270	42	53	97	39	18.32	15.62	11.57	19.02
0049	Ft. Stewart	291	500	274	53	66	104	50	15.61	13.57	10.83	16.08
0051	Robins AFB	254	500	239	67	66	131	63	13.43	13.72	9.65	13.85
0052	Tripler AMC	316	500	298	42	60	92	40	18.39	14.22	11.50	18.85
0053	Mountain Home AFB	276	41	260	66	63	9	62	12.64	13.64	35.66	13.04
0055	Scott AFB	243	500	229	75	72	147	71	12.04	12.83	9.02	12.38
0056	NH Great Lakes	321	500	303	51	52	76	48	17.78	17.82	14.06	18.33
0057	Ft. Riley	300	500	282	54	58	99	51	14.34	14.20	10.93	14.76
0058	Ft. Leavenworth	246	53	232	68	72	16	64	13.44	13.06	27.41	13.86
0060	Ft. Campbell	301	500	283	47	62	100	45	16.06	13.59	10.69	16.41
0061	Ft. Knox	302	500	284	55	68	112	51	16.49	14.11	10.82	17.12
0062	Barksdale AFB	269	61	254	65	60	14	61	13.08	14.19	29.27	13.50
0064	Ft. Polk	294	500	278	47	59	103	45	16.89	14.37	10.88	17.26
0066	Andrews AFB	241	500	227	58	69	144	54	13.88	12.91	9.01	14.38
0067	NNMC Bethesda	288	500	271	81	68	125	76	14.61	13.73	9.98	15.08
0068	NH Patuxent River	266	37	251	73	71	10	69	14.15	12.71	34.26	14.55
0069	Ft. Meade	261	500	246	73	71	136	68	13.22	12.95	9.31	13.70
0073	Keesler AFB	258	500	242	60	58	112	56	14.96	14.92	10.69	15.48
0074	Columbus AFB	295	20	277	88	83	5	83	12.18	12.77	50.04	12.54
0075	Ft. Leonard Wood	285	500	268	61	57	104	57	14.47	14.92	11.10	14.97
0076	Whiteman AFB	266	37	251	63	62	9	59	13.53	13.77	37.26	13.98

DM/SID	Individual MTF or Region	Sample Size			Actual # Respondents (Q2FY2007)	Expected # Respondents			Actual HL 95%-CI (Q2FY2007) (percent)	Estimated HL 95%-CI (percent)		
		Design 1 (current design)	Design 2	Design 3		Design 1 (current design)	Design 2	Design 3		Design 1 (current design)	Design 2	Design 3
0077	Malmstrom AFB	278	37	262	75	63	8	71	13.02	13.98	38.21	13.38
0078	Offutt AFB	247	500	233	88	63	133	83	12.12	13.70	9.45	12.48
0079	Nellis AFB	229	500	216	65	64	139	61	14.26	13.56	9.11	14.72
0083	Kirtland AFB	234	55	220	70	70	16	65	12.87	12.88	27.22	13.35
0086	West Point	316	62	298	81	59	12	77	13.43	14.74	32.63	13.78
0089	Ft. Bragg	307	500	289	52	64	102	49	15.56	13.80	10.84	16.03
0091	NH Camp Lejeune	324	500	306	39	54	80	37	19.64	15.20	12.23	20.16
0092	NH Cherry Point	288	500	271	52	55	100	49	15.23	14.63	10.85	15.69
0094	94	299	43	281	68	59	8	64	13.05	14.13	37.32	13.45
0095	Wright Patterson AFB	221	500	208	70	68	151	66	13.14	13.09	8.78	13.53
0096	Tinker AFB	263	500	248	73	65	121	69	13.48	13.64	9.99	13.86
0098	Ft. Sill	299	500	282	54	57	97	51	16.06	14.97	11.56	16.53
0101	Shaw AFB	274	54	258	64	64	12	60	12.98	13.74	31.17	13.41
0103	NH Charleston	310	500	293	60	57	91	56	15.58	14.56	11.51	16.13
0104	NH Beaufort	315	500	297	47	44	72	44	17.36	17.28	13.48	17.94
0105	Ft. Jackson	281	500	265	45	58	102	43	17.51	15.40	11.70	17.91
0108	Ft. Bliss	276	500	260	43	65	117	40	19.37	13.72	10.14	20.08
0109	Brooke AMC-Ft. Sam Houston	212	500	200	68	66	154	63	14.83	13.54	8.91	15.41
0110	Ft. Hood	322	500	303	48	62	95	45	16.73	14.33	11.48	17.28
0112	Dyess AFB	285	46	268	53	59	10	50	14.46	14.15	34.82	14.88
0113	Laughlin AFB/Sheppard AFB	249	41	234	62	64	11	58	13.96	13.19	32.63	14.43
0117	Lackland AFB	261	500	246	54	61	114	52	15.65	14.89	10.74	15.95
0118	NH Corpus Christi	280	500	264	65	67	120	61	12.94	13.44	10.00	13.36
0119	Hill AFB	258	62	243	79	64	16	74	12.92	13.54	27.64	13.35
0120	Langley AFB	281	500	265	70	68	122	66	13.82	13.43	10.07	14.23
0121	Ft. Eustis	249	500	234	65	69	138	61	13.17	12.91	9.14	13.60

DM/SID	Individual MTF or Region	Sample Size			Actual # Respondents (Q2FY2007)	Expected # Respondents			Actual HL 95%-CI (Q2FY2007) (percent)	Estimated HL 95%-CI (percent)		
		Design 1 (current design)	Design 2	Design 3		Design 1 (current design)	Design 2	Design 3		Design 1 (current design)	Design 2	Design 3
0122	Ft. Lee	247	54	232	52	65	15	48	16.42	13.40	28.23	17.09
0123	Ft. Belvoir	222	500	209	93	77	160	88	11.52	12.39	8.66	11.84
0124	NMC Portsmouth	312	500	294	45	56	91	44	17.71	15.74	12.40	17.91
0125	Madigan AMC-Ft. Lewis	278	500	262	48	64	112	46	16.15	13.65	10.33	16.50
0126	NH Bremerton	268	500	252	73	66	118	69	13.41	13.61	10.06	13.79
0127	NH Oak Harbor	294	500	278	62	63	106	58	14.50	13.55	10.55	14.99
0128	Fairchild AFB	238	38	224	75	65	10	70	12.69	13.31	33.99	13.13
0129	F.E. Warren AFB	276	34	259	60	59	8	56	14.05	14.07	39.57	14.54
0131	Ft. Irwin	325	49	306	45	70	10	43	16.46	13.41	34.88	16.84
0231	NBHC Nas North Island	312	46	294	82	71	10	77	12.85	12.92	34.21	13.26
0248	Los Angeles Air Station	293	33	276	70	74	8	66	13.99	12.55	37.47	14.40
0252	Peterson AFB	256	500	241	74	73	140	70	12.46	12.89	9.21	12.81
0280	Pearl Harbor	290	500	274	69	69	119	65	12.80	13.04	9.87	13.19
0306	NMCL Annapolis	321	60	303	79	57	10	74	13.50	14.86	33.76	13.95
0310	Hanscom AFB	274	30	258	65	72	8	62	13.36	12.63	38.55	13.68
0330	Ft. Drum	327	500	1133	33	65	92	71	21.46	13.80	11.18	14.63
0364	Goodfellow AFB	288	23	271	60	59	5	56	14.03	14.44	49.80	14.53
0366	Randolph AFB	214	500	201	88	70	161	83	11.37	12.52	8.56	11.70
0378	Ft. Ritchie	254	59	239	73	65	16	69	12.99	13.24	26.63	13.36
0385	NMCL Quantico	274	500	258	81	69	124	77	12.81	13.03	9.71	13.14
0387	Virginia Beach	304	500	287	64	60	101	61	14.24	13.84	10.67	14.59
0405	NBHC Mayport	255	41	240	55	68	11	52	14.30	13.08	32.84	14.71
0407	NBHC Ntc San Diego	264	47	249	66	63	11	62	13.41	13.51	31.92	13.84
0508	Norfolk	360	500	339	93	79	109	87	11.42	12.50	10.52	11.80
0606	Heidelberg AMC/oth German	312	500	294	47	54	86	45	18.35	15.58	12.06	18.75
0607	Landstuhl	310	500	292	48	55	83	46	16.64	15.29	12.20	17.00

DM/SID	Individual MTF or Region	Sample Size			Actual # Respondents (Q2FY2007)	Expected # Respondents			Actual HL 95%-CI (Q2FY2007) (percent)	Estimated HL 95%-CI (percent)		
		Design 1 (current design)	Design 2	Design 3		Design 1 (current design)	Design 2	Design 3		Design 1 (current design)	Design 2	Design 3
0609	Wuerzburg	337	500	752	36	51	70	74	20.29	16.23	13.10	14.15
0612	Seoul	362	500	341	53	53	74	50	15.61	15.79	13.29	16.07
0620	Agana	270	40	255	62	53	8	58	13.71	15.10	38.86	14.17
0621	Okinawa	349	500	328	67	47	63	63	14.39	16.76	14.16	14.84
0622	NH Yokosuka/other Asian	344	500	324	69	50	76	65	13.11	15.80	12.87	13.50
0633	RAF Lakenheath/other Europe	306	500	288	56	50	80	52	14.58	15.82	12.26	15.13
0804	Kadena AFB	324	71	305	61	52	11	58	14.11	15.54	33.22	14.47
0805	Spangdahlem AB	324	51	305	56	56	9	53	14.99	15.08	38.06	15.41
0806	Spangdahlem/Ramstein AFB	328	500	309	65	58	85	62	13.28	14.72	12.15	13.59
6215	Tricare Outpat-Chula Vista	236	38	222	97	100	16	91	11.61	10.99	27.60	11.99
7139	Hurlburt Field	303	68	286	67	66	15	63	13.53	13.60	28.89	13.95

4. Child Survey

a. Target population

The target population for the child survey is composed of children who are eligible for military health care benefits and are younger than 18 as of the reference date. However, we exclude beneficiaries younger than 18 who are on active duty, and are included in the adult survey.

b. Sample Stratification

For the child survey, we will use a stratification scheme similar to the 2008 child survey. We will stratify the population into 21 groups based on the cross-classification of the two enrollment groups, four geographic areas, and three age groups.[5] Enrollment groups consist of those enrolled in Prime and those who are not. The geographic areas are the TNEX regions, North, South, and West, and OCONUS. The age groups are younger than 6 years old, 6 through 12 years old, and 13 through 17 years old. To reduce the likelihood of selecting more than one child per household, we will assign all children from a household to the same age-based sampling stratum. The assignment will use a procedure to randomly assign children within the same household to one stratum.

Figure A-2 in the Appendix A depicts child sample stratification scheme.

c. Sample Size

The total sample size for the 2009 child survey will be the same as for the 2008 child survey, 35,000. Precision objectives for the child survey are also specified in terms of the half-length (HL) of the 95 percent confidence interval for a given estimate. There are three precision goals: (1) For individual CONUS stratum-level estimates, the HLs should be about 5 percentage points; (2) for all OCONUS sampling stratum-level estimates, the HLs are 6.5 percentage points; (3) for TNEX region-level estimates (across all enrollment groups and ages) in the continental United States, the HLs should be less than 2 percentage points; (4) for the region outside the continental United States, the HLs should be less than 5 percentage points; and (5) for estimates for the entire population, the HLs should be 1 percentage point. After calculating the desired number of eligible respondents needed to achieve the precision requirements specified, we will inflate the resulting sample sizes to account for survey nonresponse. For this calculation, we will use the achieved 2008 response rates for CONUS and OCONUS strata.

d. Poststratification for the child survey

Since children from a household will be assigned to the same age-based sampling stratum in sampling step, therefore, after data collection we need to compensate for the resulting difference in population totals by using post-stratification. Post-stratification adjustments force the adjusted weight totals to population totals for the specified population groups that form the post-strata. The non-response-adjusted weight counts for a particular domain may deviate from the corresponding population counts mainly because the sampling strata were constructed such that some children were assigned an age group to which they did not belong. The post-stratification variables are age, enrollment group, and region.

5. Sample Selection

Sample selection for the adult and child surveys will be different. Each selection method takes into consideration the unique circumstances of the population and the survey methodology. The adult

[5] For OCONUS, we do not stratify by the enrollment group.

sample will be selected independently across strata using a permanent random number technique. The child sample will be selected with a stratified sequential sample design.

6. Domains for Reporting Response Rates

For the adult survey, response rates will be reported for the following domains: MHS, Continental United States, Alaska, and Hawaii (CONUS) and outside the United States (OCONUS), beneficiary group, beneficiary group by TRICARE Prime enrollment status, catchment areas, TNEX regions, sex, enrollment status by beneficiary group, beneficiary group by service and beneficiary group by sex.

For the child survey, response rates will be reported for the following domains: CONUS, OCONUS, TNEX region, TRICARE Prime enrollment status, and age group.

Two key response rate measures will be reported: the final response rate (*FRR*) and the final weighted response rate (FRR_w,). These measures will be examined to identify patterns across domains or characteristics.

The response rate in the current survey will be used in allocating sample size for the next survey. The precision of survey estimates depends on the number of completed questionnaires. To meet precision objectives, the size of the sample must be inflated above the required number of questionnaires to account for survey non-response. We assume the expected response rate will be approximately 28 percent and 25 percent for the adult and child surveys, respectively. Because response rates for the HCSDB vary substantially across beneficiary groups, different response rates will be assumed for each beneficiary group at the time of sample size determination.

Weights will be calculated as the inverse probability of selection, adjusted for nonresponse.

B. STANDARD ERROR ESTIMATION

Standard error estimation for statistics calculated from both the adult and child surveys will be similar to that of the 2008 HCSDB. Both surveys use a stratified sampling design. Taylor series linearization and resampling methods, such as jackknife replication or the balanced repeated replication method, are the customary methods to produce variance estimates for nonlinear statistics by taking into account the use of a complex sample design. We will include with the analytic datasets produced from the survey both final weights for calculating standard errors using Taylor series linearization and a full set of replicate weights for calculating standard errors using jackknife replication.

Reported estimates from the 2009 HCSDB Adult and Child surveys will be similar to estimates from previous HCSDB surveys. Estimates will incorporate weights that account for the complex sample design for the corresponding survey. Additionally, both surveys will produce estimates that will be compared with an independent benchmark. Standard errors for survey estimates will be calculated using Taylor series linearization. The test of whether the survey estimate differs significantly from the benchmark will use the appropriate hypothesis test.

In reporting survey estimates, cells that may produce unreliable estimates due to small sample size will be suppressed. In most cases, estimates with a cell count of 20 or fewer unweighted records will not be reported. For many characteristics, regional comparisons are of special interest. A series of multiple comparisons will be made to specify all regional differences.

Chapter
3

Databases and Documentation

A. DATABASES

Databases for the 2009 HCSDB for adults and children will include the following types of variables:

- Recoded questionnaire responses
- Coding scheme flags
- Constructed variables for analysis
- A new ID replacing TRICARE's identifier to protect the privacy of individuals in the sample

The change from a calendar year data set to a fiscal year data set will be complete by the end of FY 2006, and will require no changes to the 2009 data set. During 2009, if possible, we will eliminate patient and sponsor social security numbers from our sampling procedure to enhance security of beneficiaries' identities.

As in previous years, we plan to structure the final database so that all variables from a particular source are grouped together by position. We will also include only recoded variables in the public use files for the survey of adults and children.

As noted in Chapter 2, there are two kinds of data sets for the adult survey: quarterly data sets and combined annual data sets. Quarterly data sets contain the responses for one quarter, received within the first eight weeks of fielding the survey. The combined annual data sets contain responses for surveys from four quarters, and include responses received after the fielding period ends. The cumulative data set will be produced after the data from the survey fielded in the fourth quarter of FY 2009 has been processed.

Responses received from the operations vendor are cleaned, edited, and recoded to ensure that the responses to interdependent questions are consistent. Constructed variables are added. When respondents return multiple questionnaires, those containing the least information are eliminated. Then sampling weights adjusted for non-response are added. Below we describe the processes for editing the data, selecting records and creating constructed variables. See Chapter 2 for a discussion of weighting.

1. Data Cleaning and Editing

Data cleaning and editing procedures ensure that the data are free of inconsistencies and errors. The same standard edit checks that were used in the 2008 HCSDB will be applied to the 2009 HCSDB including:

- Checks for multiple surveys returned by any one person
- Checks for multiple responses to any question that should have one response
- Logic checks for consistent responses throughout the questionnaire

The Adult Coding Scheme and the Child Coding Scheme document the procedures for editing the original questionnaire and for recoding variables so that responses are consistent throughout the entire questionnaire. The Coding Scheme has three major components: variable naming conventions, missing value conventions, and coding tables. The coding scheme procedures used for previous years will be followed for the 2009 HCSDB.

MPR will create an edit flag for recoded variables that will indicate what, if any, edits were made in the cleaning and editing process. As in previous years, the different values of edit flag variables indicate exactly what pattern of the Coding Scheme was followed for a particular set of responses. These edit flags will have a unique value for each set of original and recoded values, allowing us to match original values and recoded values for any particular sequence. Additionally, MPR will prepare cross-tabulations between the original variables and the recoded variables with the corresponding edit flag so that we can identify any discrepancies that need to be addressed.

2. Record Selection

Until final records are selected, the database file will contain at least one record for every sampled beneficiary as well as additional records for respondents who returned more than one survey. The selection of final records is a three-step process. First, we will examine the survey database to determine response status. Only records for eligible beneficiaries who return questionnaires with at least one complete answer will be retained. All other records will be dropped. Next, incomplete questionnaires are dropped. Questionnaires will be considered incomplete if less than 50 percent of the key survey questions are answered. The final step in record selection is to examine multiple submissions from beneficiaries, retaining only the most complete returned questionnaire.

3. Constructed Variables

As in previous years, the variables that require special recoding and scaling include satisfaction measures, health status, preventive care, and demographic variables. MPR will also construct the same independent variables for region, enrollment status (Prime, Senior Prime, non-enrollees under age 65, and non-enrollees 65 and older), PCM (military or civilian) and catchment area as previous years.

4. Changes to Databases for the 2009 HCSDB

In 2009, as in prior years, we propose providing the HCSDB public-use and restricted-use data files on CDs. We propose these data continue to be provided in a variety of formats including SPSS, SAS, and STATA.

B. DOCUMENTATION

The adult and child databases for the 2009 HCSDB will be documented separately and provided on CDs. There will be three documents for each: a Technical Manual, a Codebook and a User's Guide. Although the following descriptions primarily focus on the adult survey, the documentation for the Child HCSDB will be similar. The Adult Technical Manual, the Child Technical Manual and the Child Codebook will be produced once each year. The Adult Codebook will be produced each quarter.

The 2009 HCSDB Technical Manual (described in Section 1) and the Codebook and User's Guide (described in Section 2) will be provided in printed form as well as in electronic form on CDs. The 2009 HSCDB will be provided on a web-based CD with data and documentation (described in Section 3). This web-based CD centralizes the location of and facilitates access to all documentation along with the HCSDB databases.

1. Technical Manual

The technical manual will explain the survey's fielding process and database development. Chapter 1, the introduction, will provide a brief overview of the HCSDB and will describe the organization of the manual. In Chapter 2, MPR will describe the creation of the analysis database each quarter, including editing and cleaning, selecting records, constructing variables for analysis, and weighting. Chapter 3 will explain the procedures involved in calculating response rates and developing independent and dependent variables for analysis, provide the methods used to estimate the variance of the statistics, and describe the content and format of the TRICARE Beneficiary Report, TRICARE Consumer Watch, and TRICARE Annual Report. The Appendix contains response rate tables, and SAS code for file development and for production of the Beneficiary Reports.

2. Codebook and User's Guide

The Codebook and User's Guide will provide programmers and analysts with instructions for creating tabulations, cross-tabulations, and basic statistical estimates. The codebook will also contain information on survey fielding, including a report on response rates and a report on fielding. The survey operations vendor will write the section that describes the quarterly fielding procedures. The Adult Codebook will be produced each quarter and will contain data from the reference quarter. The Annual Codebook will contain frequency distributions for the fourth fiscal quarter's data as well as cumulative data from the full year.

The User's Guide will be organized into three chapters. Chapter 1 will describe the HCSDB and the sample design. Chapter 2 will contain the fielding report. Chapter 3 will explain the variable naming conventions and briefly describe the weighting procedures. Chapter 4 will help individuals with limited programming experience create tables using SAS or SPSS.

The Codebook will provide weighted and unweighted frequency distributions for each variable in the database as well as variable descriptions. In addition, it will provide: (1) an annotated questionnaire which will also contain frequencies along each question as shown in figure 3.2, (2) the data quality coding scheme and coding tables, (3) a crosswalk between questions from each year of the survey, (4) a SAS PROC Contents arranged in alphabetical order, (5) a SAS PROC Contents arranged by position in the database and (6) response rate tables.

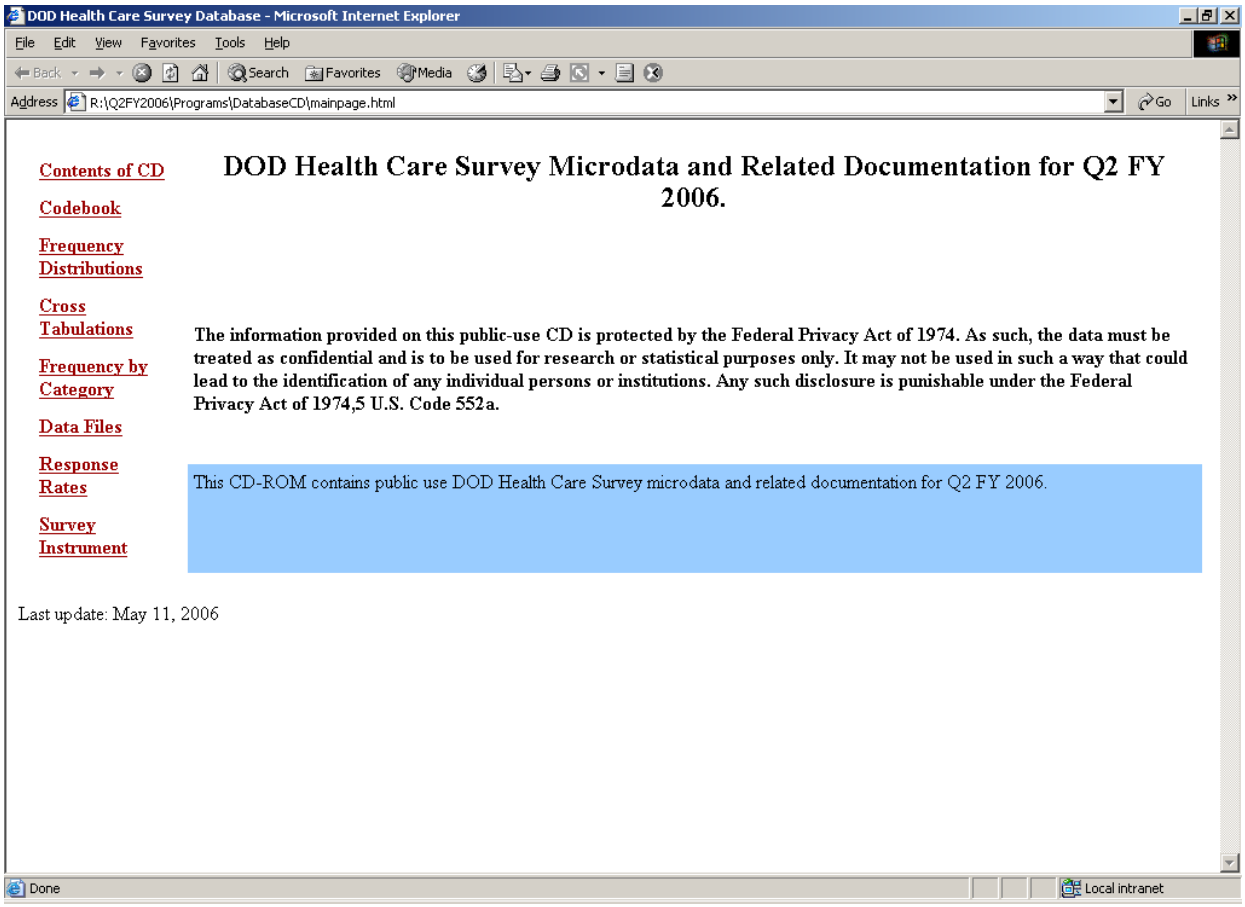
3. Online Data and Documentation System

As in 2008, we will produce a web-based CD with data and documentation that improves access to the survey data for the general public and for TRICARE leadership. The CD will enable users to view summary counts of survey item responses, either in the aggregate or disaggregated by one of several user-specified variables. The documentation described in sections 1 and 2 of this chapter will be delivered on web-based CD(s).

No changes are being proposed for the main page of the web-based data and documentation system shown below. The screen contains a list of data file and documentation options that are available on the CD.

FIGURE 3.1

ONLINE DATA AND DOCUMENTATION – MAIN SCREEN



The first option, “Contents of CD,” provides a file inventory of data and documentation available on the CD ROM. The second option, “Codebook,” opens the PDF format codebook and users guide. The third option, “Frequency Distributions,” provides counts of all variables contained in the HCSDB database. The fourth option, “Cross Tabulations, “ provides a breakdown of counts for each HCSDB database variable by other key variables of interest. The fifth option, “Frequency by Category”, provides standard errors for each HCSDB database variable by other key variables of interest. The sixth option, “Data Files,” provides the user with a list of downloadable files (i.e. the HCSDB database in a variety of formats). The seventh option, “Response Rates,” provides the user with weighted and unweighted response rates for key variables in spreadsheet format. The eighth option, “Survey Instrument,” opens the PDF format annotated questionnaire.

FIGURE 3.2

ANNOTATED QUESTIONNAIRE WITH FREQUENCIES

For the remainder of this questionnaire, the term <u>health plan</u> refers to the plan you indicated in Question 6.

7. How many months or years in a row have you been in this health plan?

2%	1☐	Less than 6 months	H06007
6%	2☐	6 up to 12 months	See Note 1
9%	3☐	12 up to 24 months	
24%	4☐	2 up to 5 years	
21%	5☐	5 up to 10 years	
27%	6☐	10 or more years	

YOUR PERSONAL DOCTOR OR NURSE

The next questions ask about <u>your own</u> health care. <u>Do not</u> include care you got when you stayed overnight in a hospital. <u>Do not</u> include the times you went for dental care visits.

8. <u>A personal doctor or nurse</u> is the health provider who knows you best. This can be a general doctor, a specialist doctor, a nurse practitioner, or a physician assistant. Do you have one person you think of as your personal doctor or nurse?

67%	1☐	Yes	H06008	
32%	2☐	No ➔ **Go to Question 11**	See Note 2	

9. Using <u>any number from 0 to 10</u>, where 0 is the worst personal doctor or nurse possible and 10 is the best personal doctor or nurse possible, what number would you use to rate your personal doctor or nurse?

0%	0☐	0 Worst personal doctor or nurse possible	
0%	1☐	1	H06009
0%	2☐	2	See Note 2
0%	3☐	3	
1%	4☐	4	
3%	5☐	5	
3%	6☐	6	
7%	7☐	7	
12%	8☐	8	
11%	9☐	9	
22%	10☐	10 Best personal doctor or nurse possible	
30%	-6☐	I don't have a personal doctor or nurse.	

10. Did you have the same personal doctor or nurse before you joined this health plan?

20% 1☐ Yes ➔ **Go to Question 12** H06010
47% 2☐ No See Note 2

11. Since you joined your health plan, how much of a problem, if any, was it to get a personal doctor or nurse you are happy with?

11% 1☐ A big problem H06011
18% 2☐ A small problem See Note 2
47% 3☐ Not a problem

GETTING HEALTH CARE FROM A SPECIALIST

When you answer the next questions, do not include dental visits.

12. Specialists are doctors like surgeons, heart doctors, allergy doctors, skin doctors, and others who specialize in one area of health care.

In the last 12 months, did you or a doctor think you needed to see a specialist? H06012

56% 1☐ Yes See Note 3
43% 2☐ No ➔ **Go to Question 14**

13. In the last 12 months, how much of a problem, if any, was it to see a specialist that you needed to see?

6% 1☐ A big problem H06013
10% 2☐ A small problem See Note 3
37% 3☐ Not a problem
38% -6☐ I didn't need a specialist in the last 12 months.

14. In the last 12 months, did you see a specialist? H06014

55% 1☐ Yes See Note 4
44% 2☐ No ➔ **Go to Question 16**

Chapter
4

Reporting

The following reports, described in this chapter and summarized in Table 4.1, will be produced from or receive contributions from the 2009 HCSDB. We will continue to produce:

- TRICARE Beneficiary Reports
- TRICARE Consumer Watch
- HCSDB Annual Report

We will continue to contribute to:

- Hot Metrics
- TRICARE Evaluation Report

We propose the following additional report:

- HCSDB Data Analysis/Reporting Tool

As needed we will apply the results of our research into the relation between CAHPS 3.0 and 4.0 questions to incorporate version 4.0 in our reports.

TABLE 4.1

2009 HEALTH CARE SURVEY OF DOD BENEFICIARIES
DESCRIPTION OF REPORTS

ADULT TRICARE BENEFICIARY REPORTS
The TRICARE Beneficiary Reports, prepared as tables in HTML, provide TRICARE Regional Offices (TROs) and MTF commanders with a comprehensive description of TRICARE beneficiaries' access, preventive care services, and satisfaction across the MHS regions and catchment areas and relative to relevant national benchmarks. The quarterly report presents the most recent quarter's results for each region, service, and CONUS MHS. The Annual Report presents cumulative MTF, service, and regional results from all quarters along with previous HCSDB findings.
TRICARE CONSUMER WATCH
The TRICARE Consumer Watch provides TROs, the surgeons general, OASD(HA) and TMA with a summary of quarterly survey results for each region and service. Topics covered include access to care, customer service, communication with providers, and ratings of health plan, health care, and PCMs. Appended to the Consumer Watch is an issue brief, a two-page report on a topic of interest to TMA.

HCSDB ANNUAL REPORT
The HCSDB Annual Report, which will include the results presented in the issue briefs and an executive summary, will describe TRICARE from the point of view of its beneficiaries. The body of the report will include the issue briefs originally published in Consumer Watch and a presentation of results from ad hoc research conducted during the year. The report will also contain a summary of metrics found in the Consumer Watch and Beneficiary Reports.
HOT METRICS
The preliminary results cover MHS level and adjusted service-level health plan ratings and unadjusted MHS-level composite scores. Released each quarter as soon as final weights are calculated, the results are presented in slides.
TRICARE EVALUATION REPORT
The annual report to Congress on the performance of TRICARE includes results taken from the HCSDB. The switch to a fiscal-year reporting period will facilitate contributing to this report, which is prepared at the end of the calendar year based on fiscal -year results.
HCSDB DATA ANALYSIS/REPORTING TOOL
The HCSDB Data Analysis/Reporting Tool will give the user the ability to interactively generate tables, bar charts and spreadsheets showing the breakdown of scores by region, enrollment group, and service affiliation. This tool will provide a graphical and targeted approach for analyzing data currently represented by the TRICARE beneficiary reports.

A. ADULT TRICARE BENEFICIARY REPORTS

1. Purpose and Content

The purpose of the Adult TRICARE Beneficiary Reports is to provide TRICARE leadership, TROs, services and MTF commanders with a comprehensive profile of TRICARE beneficiaries' satisfaction with care, access to care, and use of preventive care across the MHS regions, service, and catchment areas, and relative to relevant national benchmarks. This information will be presented in terms of 12 scores for each region, service, and catchment area, and for the MHS overall. The scores rate MHS performance in the following areas: getting needed care, getting care quickly, how well doctors communicate, customer service, claims processing, healthy behavior, rating of the health plan, health care, personal doctor, and specialist, and preventive care standards. There will be three types of scores—CAHPS composites, ratings, and TMA composites (see Table 4.2)—that will be calculated and adjusted as in the past but with the changes described in Section 2 below.

TABLE 4.2

CONTENT OF THE TRICARE BENEFICIARY REPORTS

CAHPS COMPOSITES
The CAHPS composites group survey responses to a set of related HCSDB questions taken from CAHPS. Scores expressed as CAHPS composites profile TRICARE beneficiaries' satisfaction with their ability to get needed care, the speed with which they receive care, interactions with their doctor, and their experience with doctors' offices, customer service representatives, and claims processing. Scores will be presented in relation to national benchmarks.
SATISFACTION RATINGS
Scores expressed as ratings reflect beneficiaries' self-rated satisfaction with their health plan, health care, and personal providers. Adjusted for patient age and health status, the scores will be presented relative to national benchmarks.
TMA COMPOSITES
Currently there are two TMA composites scores. The preventive care composite score will be based on how the preventive care received by beneficiaries compares with Healthy People 2010 standards. Preventive care indicators to be combined are prenatal care, hypertension screening, mammography, and Pap smears. We also developed a healthy behavior composite using questions on non-smoking rates, smoking cessation counseling and height and weight

We will continue to prepare the reports as HTML web pages accessible on TRICARE's website, and readers will be able to print them from the TMA website and/or download results into a spreadsheet. Each report will consist of several thousand pages of tables. The procedures for navigating through the web pages will be the same as in 2008. Scores that differ significantly from the national benchmark will be identified by color, bold type, and italics. Scores significantly above the benchmark will be green and bold. Scores significantly below the benchmark will be red and italicized.

There are two types of Adult Beneficiary Reports: quarterly and annual.

a. Quarterly Reports

The quarterly reports comprise five sets of tables. One set presents the findings for a single quarter, expressed as composites and ratings, for all enrollment and beneficiary groups by region, service, and CONUS MHS as a whole. For instance, a table in this set will show scores health care scores given by Prime enrollees in each of the MHS regions and in CONUS MHS, for each performance area mentioned in Section A.1 above. Another table in this set will show the same kind of information for active-duty enrollees. Each row in this set of tables is a region broken down by service affiliation in the MHS; there is also a row for CONUS MHS and for the national benchmark. The columns in this set of tables are the scores.

The second set of tables presents the findings for the current quarter and for past quarters for each enrollment and beneficiary group by region, service, and CONUS MHS as a whole on a single score. For instance, a table in this set will show composite scores given by Prime enrollees in the current and in previous quarters for getting care quickly. These tables will also indicate whether the changes shown are statistically significant.

The third set of tables will present findings for each enrollment and beneficiary group and service in a given region or CONUS MHS. The enrollment and beneficiary groups form the rows. Columns consist of the composite scores and ratings from the first set of tables or the current and previous quarters' scores contained in the second set.

The fourth set of tables will show findings for the current quarter on each question that makes up a composite, and the fifth set of tables will show the findings for of each question compared to findings from past quarters.

b. Annual Report

Like the quarterly report, the annual report will consist of tables prepared in HTML format. There will be five sets of tables. One set will show cumulative scores for the HCSDB by region and service for all beneficiary and enrollment groups. These scores will be expressed as composites and ratings. The second set of tables will show scores for health care areas reflected in the questions that make up the composites, and the third set will compare current scores with scores for composites or ratings from previous surveys. The fourth set of tables will compare current and past values for individual questions. The last set will show scores of each catchment area affiliated to a particular service in a region and beneficiary groups in each region, service, or catchment.

Like the quarterly report, the annual report will be modified to account for discontinuities in CAHPS questions. Based on research conducted during the fiscal years, adjustments may be performed on past composite scores and question responses to permit comparisons over time.

The child Beneficiary Reports present composites and ratings similar to those in the adult report. These scores are presented for each TNEX region. OCONUS scores will be included. There will be four sets of tables: one showing composites and ratings, another comparing current and previous scores, a third showing questions that make up composites and a fourth showing trends in responses to those individual questions. Scores will be shown for Prime enrollees, Standard/Extra users and all users.

2. Changes

For 2009, we plan the following changes:

- Update reporting software to accommodate CAHPS Version 4.0Adult Questionnaire and Version 4 Benchmark data
- Develop a new dynamic reporting system as described in Section G

B. TRICARE CONSUMER WATCH

1. Purpose

The purpose of the TRICARE Consumer Watch is to provide TROs, services and MTF commanders with a timely snapshot of TRICARE beneficiaries' satisfaction with care, and several other performance metrics. Consumer Watch will be produced quarterly for each region and for the Army, Navy, Air Force, and CONUS MHS. Consumer Watch for the MHS overall will be produced annually and will include results for each MTF catchment area. All results will be shown in comparison with relevant national benchmarks.

2. Content

Each quarter, Consumer Watch will present scores for six CAHPS composites, four ratings, and seven preventive care indicators.

The six CAHPS composites will be getting needed care, getting care quickly, courteous and helpful office staff, how well doctors communicate, customer service, and claims processing. The four ratings scores will be health care rating, health plan rating, specialist rating and personal provider rating. The preventive care indicators will be mammography, Pap smear, hypertension, prenatal care, smoking rate, obesity rate and smoking cessation counseling rate.

3. Format

The 2009 version of the quarterly Consumer Watch that presents results for prime enrollees, delivered as a PDF file, will consist of two pages of text and graphs and will be similar to the 2008 version. Beginning in 2007 a second version of the Consumer Watch was added that presents direct and purchased care results. For 2009, we will continue to produce both versions of the Consumer Watch and we will add numbers to the line graphs.

4. Technical Description

Data for the ratings, CAHPS composites and preventive care measures will come from the SAS data set compiled for the Adult TRICARE Beneficiary Reports. A second version of this data is being maintained for the direct and purchased care version of the Consumer Watch.

C. HCSDB ISSUE BRIEF

Each quarterly Consumer Watch will be accompanied by an HCSDB Issue Brief developed from responses to the supplemental questions in that quarter's survey. This Issue Brief will examine issues that are not addressed in the TRICARE Beneficiary Reports.

- The topic addressed by the Issue Brief changes quarterly, reflecting the changes in the supplemental questions from quarter to quarter. Examples of Issue Brief topics included in the 2008 TRICARE Consumer Watch are use of alternative tobacco products, and beneficiaries' sick call experiences. Proposed topics for the 2009 issue briefs include:
- Colon cancer screening
- Behavioral health
- Trust in providers and health plan
- Use of civilian health insurance

D. HCSDB ANNUAL REPORT

MPR will also produce a 25 to 30-page Annual Report that will feature a custom-designed color front cover, an executive summary, an introduction and a methods section. Each issue brief will appear as a chapter. Topics in addition to those covered by the issue briefs may include:

- Active Duty health care
- TRICARE Standard and Extra
- Children's health care

- Women's health care and comparison of access and satisfaction by gender
- Racial and ethnic disparities in access and satisfaction

E. HOT METRICS AND ADDITIONAL QUARTERLY RESULTS

The Hot Metrics are a set of PowerPoint slides based on the most recent survey results and including metrics monitored by Health Affairs leadership. The slide format will be the same throughout the year. Results from the most recent quarter will be added to previous results and e-mailed to TMA.

The design and content of the slides will be determined by discussions with TMA. Current topics are:

- Ratings given to health plan
- Women's preventive care
- Health-related behaviors
- Flu shot rate

Potential new topics are

- Ratings of civilian contractors

In addition, results will be provided on a quarterly or annual basis to assist TRICARE in quality improvement goals. These results will include

- Purchased care results provided to the TROs
- MTF-level rates and scores calculated from a rolling 4-quarters database
- Designation of the region or regions eliciting the greatest degree of customer satisfaction

F. CONTRIBUTIONS TO THE TRICARE EVALUATION REPORT

The TRICARE Evaluation Report—compiled from survey and administrative data sources to show the program's progress in ensuring its beneficiaries' access and satisfaction—is presented to Congress each year. The report tracks several metrics from the HCSDB, including rating of health care, health plan, and personal physician; problems seeing a specialist; and customer service problems. It also includes several preventive care metrics. Data for the report will be contributed after the fiscal-year data set is created. We will recommend changes or additions to the report based on HCSDB data.

G. HCSDB DATA ANALYSIS/REPORTING TOOL

Currently (as described in Section A) the Health Care Survey of DOD Beneficiaries (HCSDB) reports are a set of static (pre-fabricated) HTML pages generated each quarter and annually. For the 2009 surveys MPR proposes the development of a dynamic web-based query driven system. This query driven system will make use of existing historical data and will provide the user with a variety of report selection options such as enrollment group, beneficiary group and service affiliation (See Figures 4.2.1 and 4.2.2 for details).

An interface that permits the user to generate reports will serve as the home page. Option 1 (Figure 4.2.1) and Option 2 (Figure 4.2.2) are two possible configurations for this interface. Both options permit the user to view trends and make comparisons across services and regions, enrollment groups and beneficiary groups. Option 1 provides the user more flexibility in designing a table or graph, while option 2 permits the user to submit queries through maps of the US or TRICARE Regions.

As illustrated by (Option 1) Figure 4.2.1, after the user makes his/her selections and clicks the 'Submit Request' button, the application will construct and execute a query to generate the reporting request. Reporting options will consist of Show Trend (See Figure 4.3.1), Generate Spreadsheet, Show Table (See Figure 4.3.2), and Show Bar Chart (See Figure 4.4). As illustrated by (Option 2) Figure 4.2.2, after the user makes his/her selections and clicks on the map, the application will construct and execute a query to generate the reporting request (See Figure 4.5).

The 'Show Trend' and 'Show Table" options' output will be the same as the current system's reports except they will be limited to the users selection criteria and they will be generated dynamically. The 'Generate Spreadsheet' option's output spreadsheet will be the same as the current system's except it will contain multiple tables dependent on the user's selection criteria. The 'Show Bar Chart' option is a new feature that provides a graphical view of the data contained in the tables. Multiple bar charts will be displayed dependent on the user's selection criteria. Other graphical options may be provided if desired.

MPR recommends that it host this new system on our server to reduce costs and at the same time take advantage of its in-house systems development and network professionals. During the initial development stage, the new system would be developed independent of the current system and the two systems would operate in parallel. Ultimately the new dynamic system would replace the existing system. When this new system is fully implemented, TMA will be able to remove the old system's static files.

FIGURE 4.2.1

HCSDB DATA ANALYSIS/REPORTING TOOL (OPTION 1)

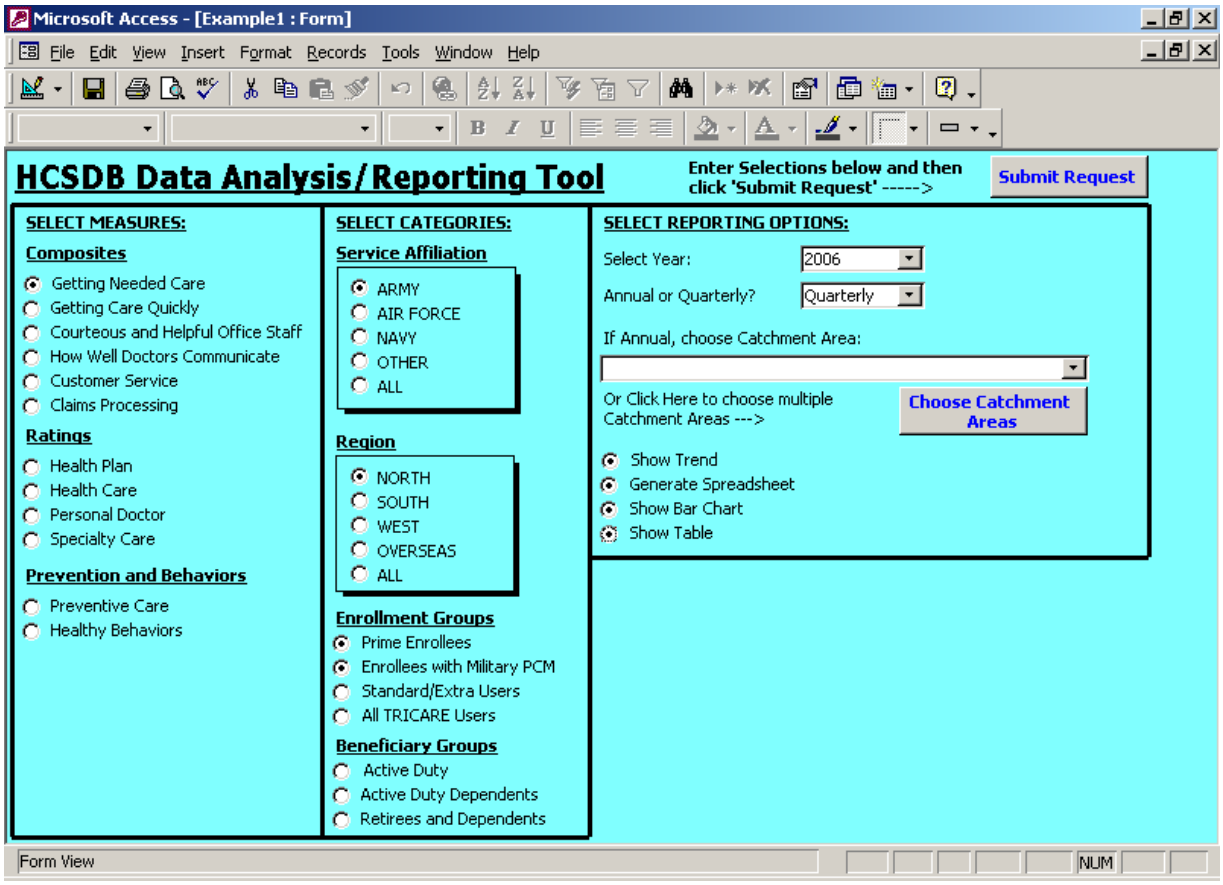


FIGURE 4.2.2

HCSDB DATA ANALYSIS/REPORTING TOOL (OPTION 2)

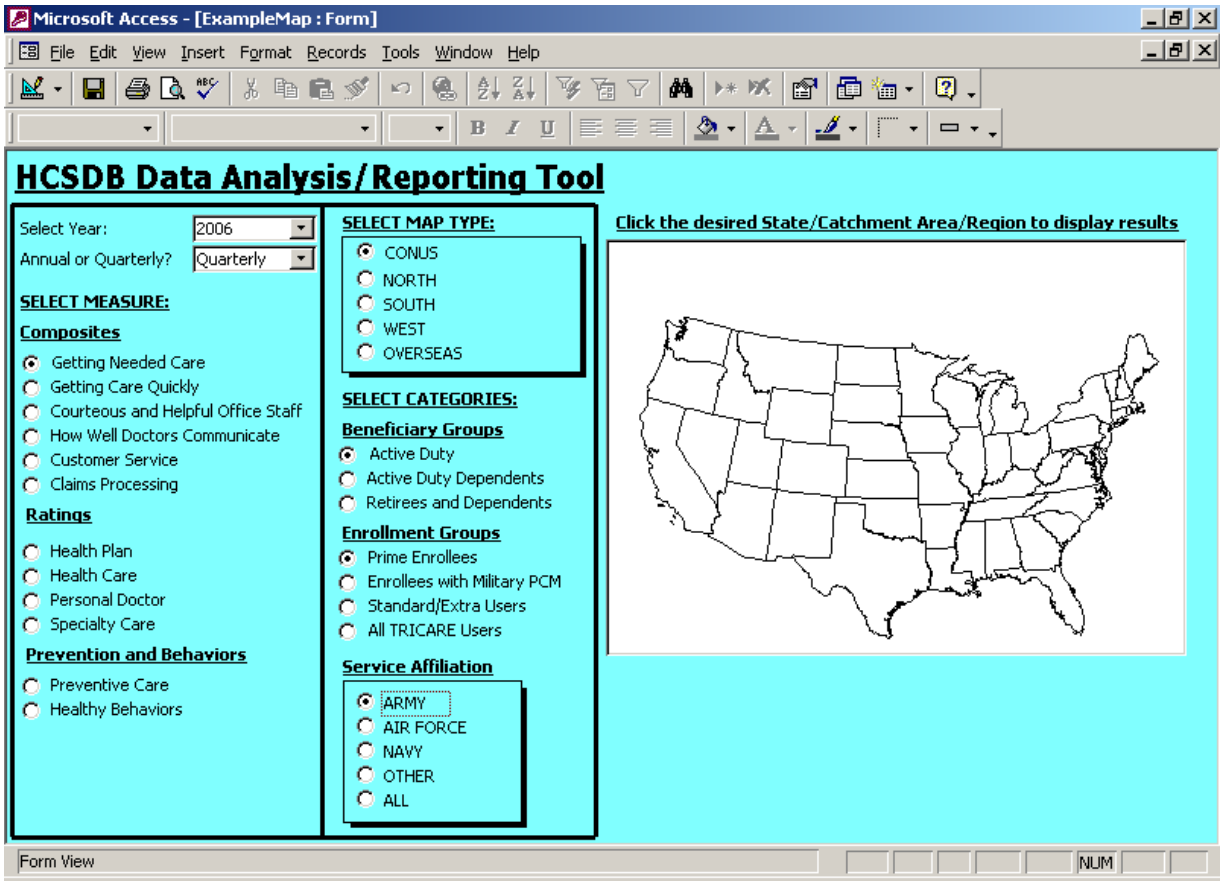


Figure 4.3.1

Tabular Results for 'Show Trend' Reporting Option

Getting Needed Care					
Prime Enrollees					
	January, 2006	April, 2006	July, 2006	October, 2006	Est. Quarterly Rate of Change
Benchmark	77	77	77	77	0
ARMY	*65*	*66*	*65*	*64*	0
NORTH	*65*	*68*	*68*	*65*	0
North Army	*63*	*67*	*64*	*63*	0
Enrollees with Military PCM					
ARMY	*64*	*65*	*63*	*64*	0
NORTH	*63*	*65*	*64*	*62*	0
North Army	*61*	*65*	*61*	*62*	0

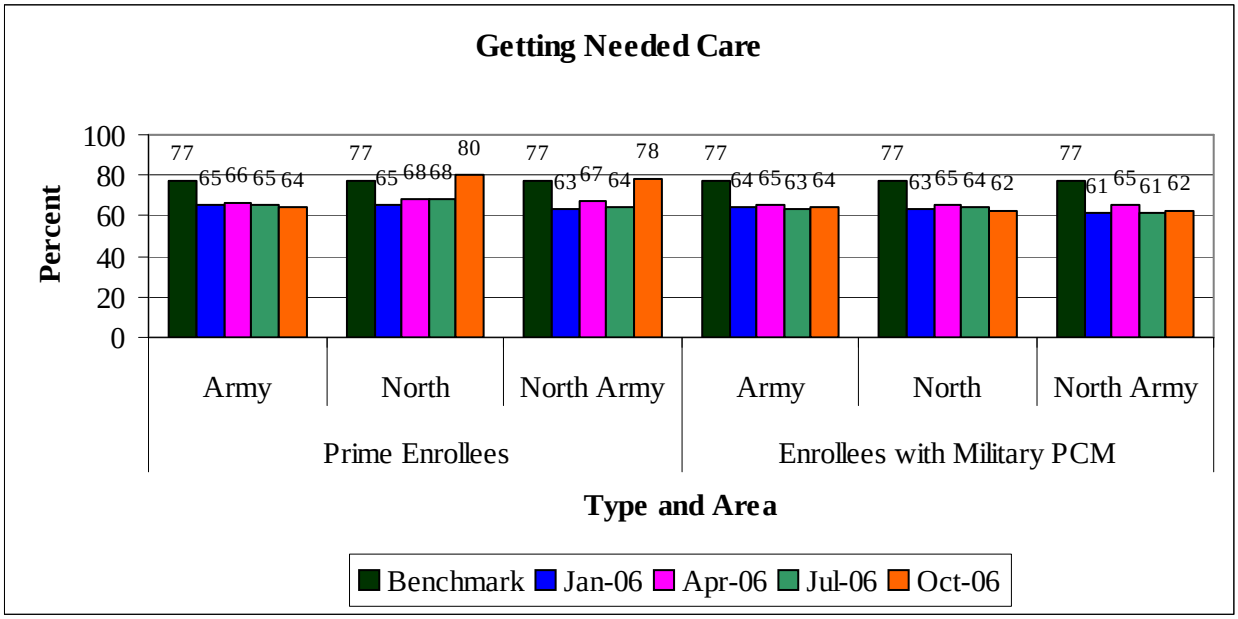
FIGURE 4.3.2

TABULAR RESULTS FOR 'SHOW TABLE' REPORTING OPTION

Getting Needed Care				
Prime Enrollees - January, 2006				
	Problems Getting Personal Doctor/Nurse	Problems Getting To See Specialist	Problems Getting Necessary Care	Delays In Care While Awaiting Approval
Benchmark	68	72	81	86
ARMY	*51*	*53*	*67*	84
NORTH	*48*	*53*	*68*	*79*
North Army	*45*	*51*	*70*	82
Enrollees with Military PCM – January, 2006				
Repeats for April, July and October 2006				

FIGURE 4.4

BAR CHART REPORTING OPTION



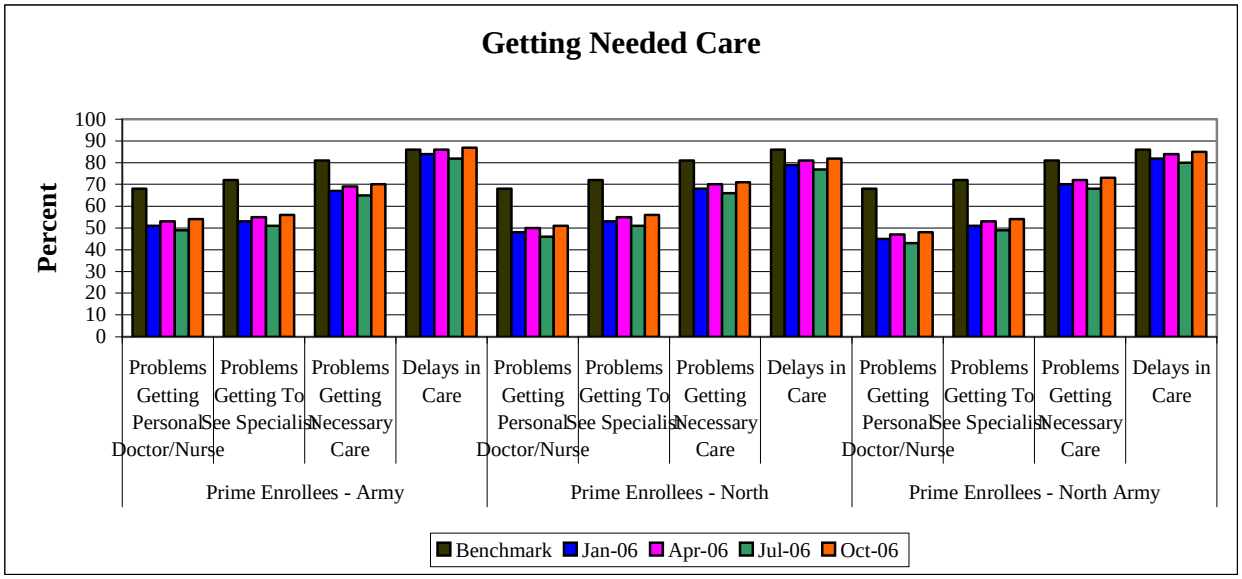
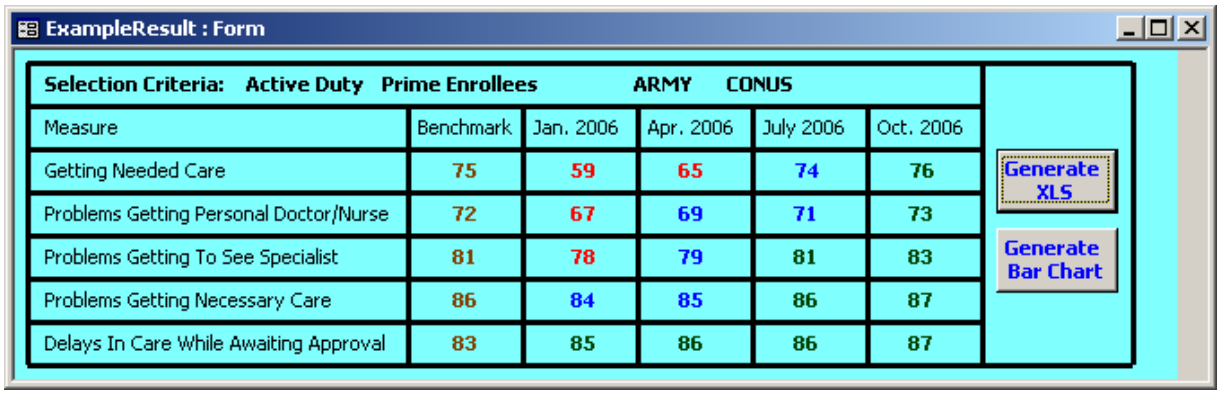


FIGURE 4.5

RESULTS OF MAP-DRIVEN REPORTING REQUEST



Chapter
5

Research

Data from the HCSDB can shed light on a variety of questions of interest to policymakers and administrators of the MHS. The public use data sets and the reports described in Chapter 4 are two vehicles through which the answers to these questions will be made available to these groups of users. Another way to exploit the survey data is through policy research. In addition, research can identify ways to improve survey methods and survey reports and documentation.

Because of the continually evolving needs of TMA, some of the most important research proposals for 2009 are methodological. We propose to conduct research on the CAHPS questions that make up most of the core HCSDB questionnaire, and how to track the performance of TRICARE, when the civilian community has moved to CAHPS 4.0 questions that do not appear suitable for the HCSDB. We also propose to conduct a series of interviews with survey users to identify improvements to the HCSDB program, including sampling, questionnaire design, reporting and documentation.

Other research may address important policy questions using data from the HCSDB and other sources. Policy research may include studies on: use of civilian providers overseas, and use of civilian health insurance.

A. QUESTIONNAIRE CHANGES

1. Background

Most of Health Care Survey of DoD Beneficiaries' (HCSDB) Core Questions now come from Consumer Assessment of Healthcare Providers and Systems (CAHPS) Health Plan Survey. Many metrics tracked by survey users are part of CAHPS. That survey questionnaire is revised periodically to reflect the input of users and changes in the healthcare marketThough most CAHPS users switched from 3.0 to 4.0, HCSDB questions have not changed. We propose to use the HCSDB and the National CAHPS Benchmarking Database (NCBD) to address the following research questions:

- What adjustments will permit access and satisfaction measures to be compared between CAHPS 3.0 and 4.0?
- Can CAHPS 3.0 measures be compared to CAHPS 4.0 benchmarks?
- Can CAHPS 4.0 questions be used in the HCSDB?

2. Technical Approach

We begin with an analysis of questions in CAHPS 3.0. Table 5.1 compares questions in the six composites based on CAHPS 3.0 with their equivalents in CAHPS 4.0. The new questionnaire includes only 2 questions for each of the two access composites: Getting Needed Care and Getting Care Quickly. Using data from the NCBD construct a composite from the CAHPS 3.0

versions of these questions that can be tracked back to 2004. Questions from the composite How Well Doctors Communicate refer to the beneficiary's personal doctor rather than all physicians seen. We will estimate regression models predicting responses to questions in CAHPS 3.0 and similar responses to questions in CAHPS 4.0. We will compare the standardized regression coefficients of the two models and estimate a shift parameter corresponding to the transition between the questionnaires.

TABLE 5.1

COMPARISON OF QUESTIONS IN CAHPS 3.0 COMPOSITES TO CAHPS 4.0

CAHPS 3.0 Question	CAHPS 4.0 Question
Getting Needed Care	
Since you joined your health plan, how much of a problem, if any, was it to get a personal doctor or nurse you are happy with? A big problem, a small problem, no problem.	
In the last 12 months, how much of a problem, if any, was it to see a specialist that you needed to see? A big problem, a small problem, no problem.	In the last 12 months, how often was it easy to get appointments with a specialist? Never, sometimes, usually, always
In the last 12 months, how much of a problem, if any, was it to get the care, tests or treatment you or a doctor believed necessary? A big problem, a small problem, no problem.	In the last 12 months, how often was it easy to get the care, tests or treatment you thought you needed through your health plan? Never, sometimes, usually, always.
In the last 12 months, how much of a problem, if any, were delays in health care while you waited for approval from your health plan? A big problem, a small problem, no problem.	
Getting Care Quickly	
In the last 12 months, when you called during regular office hours, how often did you get the help or advice you needed? NEVER, SOMETIMES, USUALLY, ALWAYS.	
In the last 12 months, did you have an illness, injury, or condition that needed care right away in a clinic, emergency room, or doctor's office? Yes, no	In the last 12 months, did you have an illness, injury, or condition that needed care right away in a clinic, emergency room, or doctor's office? Yes, no
In the last 12 months, when you needed care right away for an illness, injury, or condition, how often did you get care as soon as you wanted? Never, sometimes, usually, always.	In the last 12 months, when you needed care right away, how often did you get care as soon as you thought you needed? Never, sometimes, usually, always.
In the last 12 months, not counting times you needed health care right away, how often did you get an appointment for health care as soon as you wanted? Never, sometimes, usually, always.	In the last 12 months, not counting times you needed health care right away, how often did you get an appointment for health care as soon as you thought you needed? Never, sometimes, usually, always.
In the last 12 months, how often were you taken to the exam room within 15 minutes of your appointment? Never, sometimes, usually, always.	

Courteous and Helpful Office Staff	
In the last 12 months, how often did office staff at a doctor's office or clinic treat you with courtesy and respect? Never, sometimes, usually, always.	
In the last 12 months, how often were office staff at a doctor's office or clinic as helpful as you thought they should be? Never, sometimes, usually, always.	
Doctors' Communication	
In the last 12 months, how often did doctors or other health providers listen carefully to you? Never, sometimes, usually, always.	In the last 12 months, how often did your personal doctor listen carefully to you? Never, sometimes, usually, always.
In the last 12 months, how often did doctors or other health providers explain things in a way you could understand? Never, sometimes, usually, always.	In the last 12 months, how often did your personal doctor explain things in a way that was easy to understand? Never, sometimes, usually, always.
In the last 12 months, how often did doctors or other health providers show respect for what you had to say? Never, sometimes, usually, always.	In the last 12 months, how often did your personal doctor show respect for what you had to say? Never, sometimes, usually, always.
In the last 12 months, how often did doctors or other health providers spend enough time with you? Never, sometimes, usually, always.	In the last 12 months, how often did your personal doctor spend enough time with you? Never, sometimes, usually, always.
Customer Service	
In the last 12 months, did you look for any information about how your health plan works in written material or on the Internet? Yes, No	
In the last 12 months, how much of a problem, if any, was it to find or understand this information? A big problem, a small problem, no problem.	In the last 12 months, how often did the written material or the Internet provide the information you needed about how your plan works? Never, sometimes, usually, always.
In the last 12 months, how much of a problem, if any, was it to get the help you needed when you called your health plan's customer service? A big problem, a small problem, no problem.	In the last 12 months, how often did your health plan's customer service give you the information or help you needed? Never, sometimes, usually, always.
In the last 12 months, how much of a problem, if any, did you have with paperwork for your health plan? A big problem, a small problem, no problem.	In the last 12 months how often were the forms from your health plan easy to fill out? Never, sometimes, usually, always.
	In the last 12 months, how often did your health plan's customer service staff treat you with courtesy and respect? Never, sometimes, usually, always.
Claims Handling	
In the last 12 months, how often did your health plan handle your claims in a reasonable time? Never, sometimes, usually, always.	In the last 12 months, how often did your health plan handle your claims quickly? Never, sometimes, usually, always.
In the last 12 months, how often did your health plan handle your claims correctly? Never, sometimes, usually, always.	In the last 12 months, how often did your health plan handle your claims correctly? Never, sometimes, usually, always.

Table 5.2 contains new questions from the CAHPS 4.0 questionnaire. We propose including these questions in the HCSDB as a supplement. We will conduct factor analysis including these questions and those already part of the HCSDB core, to determine whether these questions provide new information and whether they can be the basis of a new composite.

TABLE 5.2

NEW QUESTIONS APPEARING IN CAHPS 4.0

In the last 12 months, how often did your personal doctor seem informed and up-to-date about the care you got from these doctors and other health providers? Never, sometimes, usually, always.
In the last 12 months, how often were you able to find out from your health plan how much you would have to pay for a health care service or equipment? Never, sometimes, usually, always.
In the last 12 months, how often were you able to find out from your health plan how much you would have to pay for specific prescription medicines? Never, sometimes, usually, always.
In the last 12 months, how often did a doctor or other health provider talk about specific things you could do to prevent illness? Never, sometimes, usually, always.
In the last 12 months, did a doctor or other health provider talk with you about the pros and cons of each choice for your treatment or health care? Definitely yes, somewhat yes, somewhat no, definitely no.
In the last 12 months, when there was more than one choice for your treatment or health care, did a doctor or other health provider ask which choice you liked best? Definitely yes, somewhat yes, somewhat no, definitely no.

We will conduct a literature review of survey activities among managed care plans, including survey questions used outside the U.S. to identify alternatives to CAHPS. The evaluation will address the quality of the science underlying the questions, the appropriateness of the questions for TRICARE, and the existence of benchmarks. Questions from alternative questionnaires may be incorporated into the 2009 HCSDB as supplements.

3. Results

The results of the analysis will be summarized in memos describing comparison methods, potential changes to the composites used in reporting, and possible changes to the questionnaire. An additional memo will describe how changes any proposed recommendations would affect the design of the 2009 Beneficiary Reports and Consumer Watch.

B. STAKEHOLDER INTERVIEWS

1. Background

Results from the HCSDB are used by several groups of stakeholders to get a population-based perspective on the MHS. The survey is the only one that includes all beneficiary groups and enrollment groups eligible for TRICARE. As such it permits comparisons and monitoring of access and satisfaction that other surveys do not permit. Results are potentially useful to TMA leadership, the offices of the service surgeons general, TRICARE regional offices, beneficiaries and MTF commanders. Yet the survey also competes for resources and attention with many other survey

efforts specifically intended to address the concerns of each of these stakeholders. For that reason, input from potential users is needed to ensure that the survey's design, and reporting fill their needs.

Therefore, we propose to conduct interviews with a representative group of survey users or potential survey users to identify what changes would do most to make the survey valuable to them. Within the broad constraint of a survey in which all TRICARE beneficiaries have a probability of selection, and are questioned on the mandated topics of access and satisfaction, we will address possible changes to sample design, questionnaire, reports and documentation.

2. Technical Approach

Key elements of the technical approach are identifying the appropriate contacts for each stakeholder interview and developing an interview protocol.

Identifying contacts

To identify contacts we will attend a meeting of the survey working group, describing the purpose of our investigation, and asking each representative to identify the contacts within their organization who are most likely to use information from the HCSDB in the course of their duties. We also ask that HPA&E convey to the TRICARE regional offices and others in TMA who have contacted HPA&E in the past year over information from the survey, describing our research goals, and requesting contacts for interviews.

Developing protocols

If the location of these contacts and the number of interviews scheduled permit, we will conduct interviews on site. Otherwise we will conduct interviews by phone. Our protocol will include a brief description of each key element of the HCSDB program, including exhibits. We will develop the protocol by reviewing all requests for information made in the past year, and analyzing the themes of these request, and how they relate to they key program elements of sample design, questionnaire, reporting and documentation.

3. Report

The results of stakeholder interviews will be summarized in a memo describing stakeholders' evaluations of the HCSDB's sample design, questionnaire, reports and documentation. The memo will include the changes recommended by each group, and a set of proposals for the 2009 HCSDB. If desired a briefing with these results can also be prepared.

C. SUBSTITUTION OF CIVILIAN INSURANCE FOR TRICARE

1. Background

Many TRICARE beneficiaries have the option of using civilian health insurance instead of or in addition to their TRICARE benefits. Civilian health insurance may be offered through a family member or employer. Other beneficiaries may opt for Veterans Administration coverage. TRICARE benefits have increased, compared to civilian benefits, because civilian plans' cost sharing and premiums have risen while TRICARE's out-of-pocket cost has not. These factors encourage beneficiaries to shift coverage from other insurance to TRICARE. The use of other coverage options has important implications for the costs borne by the MHS. We propose using data from the HCSDB to test the hypothesis that beneficiaries would choose civilian coverage if

given a financial incentive, to estimate the financial incentive needed to switch significant numbers of beneficiaries from TRICARE to civilian insurance, and to measure how much that switching would save the MHS. Because the military has made a large investment in providing lifetime health care benefits to career personnel and their families, the value that beneficiaries assign to their benefits relative to their cost is also important.

2. Technical Approach

The approach selected will identify beneficiaries with the option of choosing other insurance, the cost of using that option, and their willingness to forgo TRICARE. We will investigate the following research questions

- What is the offer rate for alternative civilian insurance?
- What is the take-up rate?
- How do offers and take up vary with insurance characteristics, beneficiary characteristics and state insurance regulations?
- How is take up affected by changes in TRICARE benefits?

a. Selection of survey measures

We will identify civilian options through survey questions that ask beneficiaries the options available to them, the generosity of benefits, whether they use civilian insurance, and if they do not, the TRICARE premium or civilian health insurance premium that would induce them to choose civilian insurance.

b. Measures of use and medical conditions

Using HCSRs, Standard Ambulatory Data Records (SADRs) and Standard Inpatient Data Records (SIDRs), we will measure the cost of care provided to survey subjects. We will look at the prevalence of conditions related to choice of TRICARE.

c. Comparison of cost and use

Using identifiers of sample members, we will extract service records from administrative databases of the MHS: SIDRs, SADRs and HCSRs. To estimate the resource costs that each beneficiary might incur, we will use imputed and actual cost numbers contained in these administrative data sets and projected and current expenditures from the clinical data payment system (CDPS) of Kronick et al. (2000). Using survey responses and evidence from claims, we will classify beneficiaries by those with TRICARE only, civilian coverage and TRICARE, and civilian coverage only. Finally, we will estimate predictive models to measure the elasticity of choice among different options according to projected expenditures, premium cost, and availability of coverage options. These elasticities and the estimates of the cost of care, will permit us to calculate the cost effects of financial inducements for choosing civilian coverage.

3. Reporting

The final report will:

- Describe respondents' coverage options and the relation of those options to service use and beneficiary characteristics
- Estimate to beneficiaries who have choices of coverage the value of their TRICARE benefit option

- Project the impact of policy changes on those choices and their cost to the MHS

D. USE OF OVERSEAS CIVILIAN PROVIDERS

1. Background

Most overseas TRICARE beneficiaries use direct care facilities for the care. However, other active duty and retired families rely on local civilian providers. The sample design of the HCSDB is not well suited to capturing the experience of these overseas beneficiaries. For that reason, we propose to conduct research that will 1) measure the extent of overseas use; 2) learn reasons for using overseas providers, 3) identify changes in sample design that will permit consistent measurement of overseas civilian care performance.

2. Technical Approach

We propose to investigate the following questions:

- How many overseas TRICARE beneficiaries use civilian providers for most of their care?
- Where are overseas civilian care users located?
- Why do overseas beneficiaries use civilian providers?
- How do access and satisfaction of overseas civilian care users compare to access and satisfaction of other groups?

a. Literature review

We will conduct a review of TRICARE policies and procedures for overseas beneficiaries. We will also conduct a review of government publications, journalism and the scholarly literature to learn what has been written about TRICARE overseas. Other research will address the structure of the health care systems in nations where many TRICARE beneficiaries use civilian providers.

b. Sample design

We will conduct interviews with MHS experts to learn how to best identify overseas users of civilian care from TRICARE administrative data. That data may include DEERS or other data sources. Using this information, we will oversample beneficiaries likely to be users of overseas civilian providers and administer to them the HCSDB. The HCSDB will also include supplemental questions addressed specifically for overseas users, designed to elicit their reasons for choosing civilian providers and details of their experience.

c. Analysis

We will compare CAHPS measures for overseas users with CAHPS measures of other users. We will also perform a descriptive analysis of this population compared to other MHS beneficiaries, including overseas direct care users, CONUS users of civilian care, and Standard/Extra users.

3. Report

The results of this research will be documented in a research report. The report will contain:

- A description of analysis results
- Recommendations for changes to HCSDB sample design

E. CONFIDENCE INTERVAL ESTIMATION

1. Background

Parameter estimation is often presented as a confidence interval (CI). When data are gathered from a complex survey, the CI is usually computed under a normality assumption. However, when the parameter of interest is a proportion, and the estimate of the proportion is extremely small (close to zero) or large (close to one), this approximation becomes less accurate. Alternatively, different approaches have been suggested, among them the binomial approach, exact confidence interval, Poisson approach, Logit transformation approach, and Wilson methods (see Korn and Graubard 1998; and Kott, Anderson and Nerman 2001).

2. Technical Approach

MPR will evaluate the accuracy of these methods under a complex survey setting for two-sided CIs. We will demonstrate application of these methods with data from the quarterly Health Care Survey of DoD Beneficiaries. We will compare and simulate to investigate how well each method works in terms of coverage probability.

3. Report

Proportions are important parameters for HCSDB analysis. With this proposed research, we will report on the performance of alternative methods to construct CIs of proportion estimates in HCSDB analysis, especially for small domains like catchment areas and for moderate or small proportions. We will make recommendations for methods used in reporting and analysis of the HCSDB.

Chapter
6

Management Plan

This chapter outlines the management plan for sampling and reporting in the 2009 HCSDB. This plan covers the work plan for each task, the project organization, and the schedule of deliverables.

A. TASK WORK PLAN

The period of performance for the work described in this section is January 2009 to January 2010. Figure 6.1 presents a timeline for the tasks during this period of performance. The proposed schedule of deliverables appears in Table 6.1.

1. Task 1: Adult and Child Sampling

As in past years, each quarter, MPR will develop a sampling frame and draw a representative sample of the adult MHS population. MPR will receive a population extract from DoD Defense Manpower Data Center (DMDC) 12 weeks before each quarterly survey is mailed. The survey vendor will mail the survey during the first week of each calendar quarter in 2009. MPR will provide the sample to the survey operations contractor six weeks before the questionnaire is mailed in each quarter.

The sampling frame for the 2009 Child HCSDB will be developed annually— the sample frame will be requested 10 weeks before the fielding period. The sample will be delivered to the survey operations contractor six weeks before the questionnaire is mailed. The questionnaire will be fielded in the third quarter of FY 2009, at approximately the same time as the adult survey.

We recommend a quarterly meeting be convened at TMA with vendors responsible for data extraction and others knowledgeable about TRICARE's enrollment data. The agenda would focus on changes in programs, eligibility, and practices affecting the data needed for sampling, such as changes to the variables, the impact of BRAC decisions on geographic stratification, and TRS.

2. Task 2: Preparation of Databases

Each quarter, MPR will prepare the adult data for analysis. As specified in Chapter 3, this process includes editing and cleaning the data, implementing the coding scheme, weighting the data, and constructing the analytic variables. MPR will deliver five copies of the final/public-use data set each quarter to DoD 10 weeks after receiving data from the survey operations vendor. Three copies of the restricted-use version, which includes ZIP code and pay-grade data, will also be delivered. The child data will be processed in the same way the adult data is processed. Five copies of the final/public-use data set will be delivered to DoD 15 weeks after MPR receives the data.

3. Task 3: Preparation of Reports

MPR will produce a number of deliverables that document our analysis of the data from the 2009 Adult HCSDB and the 2009 Child HCSDB. Analysis of the quarterly data will be presented in the

Adult TRICARE Beneficiary Reports, TRICARE Consumer Watch, and in the HCSDB Annual Report. Analysis of data from the 2009 Child HCSDB will be presented in the HCSDB Annual Report and Child Beneficiary Reports.

a. Adult TRICARE Beneficiary Reports

The web-based Beneficiary Reports will present our analysis of the survey results for each quarter. The reports will be available for public use on TMA's website. Each quarter, MPR will deliver the Beneficiary Reports nine weeks after receiving the data from the survey operations vendor. The delivery date is contingent upon timely receipt of the data from the survey operations vendor. Findings will be based on the previous four quarters of data and will be presented by the overall MHS population, beneficiary group, region, service, and catchment area.

b. TRICARE Consumer Watch

The TRICARE Consumer Watch will present results from the quarterly surveys in a combination of graphs and text. This deliverable, created as a PDF file, will be a four-page report highlighting six CAHPS composite scores, four CAHPS ratings, and seven preventive care indicators. In addition, each quarterly publication will include an issue brief on a different health care topic of importance to the MHS population. Like the Beneficiary Reports, Consumer Watch will also be available on the TMA website for public use. MPR will deliver the TRICARE Consumer Watch 10 weeks after receipt of the data.

c. HCSDB Annual Report

The issue briefs appended to Consumer Watch each quarter will be chapters in the Annual Report. Each brief will address health care issues salient to the military health system in a timely manner. MPR staff will work with the project officer each quarter to develop topics and storylines. In the fourth quarter, the issue briefs will be combined into the Annual Report along with an executive summary, a methods section, and a master bibliography. The Annual Report will be due 15 weeks after receipt of the fourth-quarter data set.

d. Hot Metrics

This report, presented as PowerPoint slides, will provide TMA with the most timely figures possible. Each quarter, MPR will prepare slides reflecting preliminary findings and designed in consultation with the project officer. This file will be due three weeks after receipt of the data set from the survey operations vendor.

e. Reporting and Analysis Tool

A prototype will be developed within 15 weeks of delivery of data from Quarter 2, FY 2009. The final version will be available at the same time as the Quarter 4 Beneficiary Reports, 10 weeks after receipt of Quarter 4 data.

4. Task 4: Documentation

The adult and the child databases will be documented separately. For the adult database, a Codebook and User's Guide will be developed each quarter and included with the final/public-use data set sent to the client. MPR will deliver the Codebook and User's Guide 10 weeks after receipt of the data. Both will only contain information regarding the reference quarter, and the documentation for the fourth quarter will contain frequency distributions for that fourth quarter as well as cumulative data from the previous three quarters. Documentation will also include the Adult

Technical Manual, which will be due 12 weeks after receipt of data from the fourth fiscal quarter, will contain information for all four quarters.

MPR will also deliver a Codebook, User's Guide, and technical manual for the child data. MPR will deliver all documents to the client 15 weeks after the receipt of the data set from the survey operations vendor.

5. Task 5: Research

MPR will conduct up to three studies using data from the quarterly surveys and the child survey. Topics include TRICARE Standard/Extra access, factors affecting health-related behaviors, and the impact of using an abbreviated questionnaire on non-response. Results from the studies will be presented in shorter fact sheets or conference papers. In addition to papers and fact sheets, MPR will conduct ad hoc evaluations at DoD's request. The degree to which MPR is able to perform these shorter studies will depend on project resources. The subject of fact sheets and the delivery date will be negotiated with the client.

6. Task 6: Update for 2009 HCSDB

In preparation for the 2009 HCSDB, MPR will prepare a work plan outlining the modifications necessary for next year's survey. At the end of the second quarter of the calendar year, the MPR project director and the DoD project officer will discuss proposed changes to the survey for the following year. Task leaders will present proposed changes to the questionnaires, sampling, software, and documentation to the project officer. Based on the client's comments, MPR will prepare a revised design for the following year's survey.

TABLE 6.1

ESTIMATED SCHEDULE OF DELIVERABLES

All dates here are relative and depend on the timely delivery of both the population extract from DMDC and the data from the survey operations vendor.

DELIVERABLE	DUE DATE
SAMPLING	
Sample for Quarter 3, FY09	2/18/09
Sample for Quarter 4, FY09	5/20/09
Sample for Quarter 1, FY10	8/18/09
Sample for 2009 Child HCSDB	2/18/09
Sample for Quarter 2, FY10	11/20/09
DATABASES	
Final/Public-Use File for Quarter 1, FY09	2/23/09
Final/Public-Use File for Quarter 2, FY09	5/22/09
Final/Public-Use File for Quarter 3, FY09	8/21/09
Final/Public-Use File for Quarter 4, FY09	11/24/09
Final/Public-Use File for FY09	11/24/09
Final/Public-Use File for 2009 Child HCSDB	10/9/09

DELIVERABLE	DUE DATE
REPORTS	
ADULT TRICARE BENEFICIARY REPORTS	
Quarter 1, FY09	2/23/09
Quarter 2, FY09	5/22/09
Quarter 3, FY09	8/21/09
Quarter 4, FY09	11/24/09
ADULT TRICARE CONSUMER WATCH	
Quarter 1, FY09	2/23/09
Quarter 2, FY09	5/22/09
Quarter 3, FY09	8/21/09
Quarter 4, FY09	11/24/09
2010 HCSDB DESIGN REPORT	7/31/09
2009 CHILD BENEFICIARY REPORT	10/9/09
HOT METRICS	
Quarter 1, FY09	1/5/09
Quarter 2, FY09	4/3/09
Quarter 3, FY09	7/3/09
Quarter 4, FY09	11/24/09
TRICARE ANNUAL REPORT	
ANNUAL REPORT	
Quarter 4, FY09	2/28/10
DOCUMENTATION	
DATA BASE AND DATA DOCUMENTATION SYSTEM	
Quarter 1, FY09	2/23/09
Quarter 2, FY09	5/22/09
Quarter 3, FY09	8/21/09
Quarter 4, FY09	11/24/09
ADULT CODEBOOK AND USER'S GUIDE	
Quarter 1, FY09	2/23/09
Quarter 2, FY09	5/22/09
Quarter 3, FY09	8/21/09
Quarter 4, FY09	11/24/09
ADULT TECHNICAL MANUAL	
Final	12/8/09
CHILD DATA, CODEBOOK AND USER'S GUIDE	10/9/09
CHILD TECHNICAL MANUAL	10/9/09

DELIVERABLE	DUE DATE
RESEARCH	
SELECTED STUDY	
Draft Report	
Final Report	
SELECTED STUDY	
Draft Report	
Final Report	

Critical Assumptions

The timely completion of each task depends on the following critical assumptions and on the timely receipt of requested materials from the government and/or other contractors:

- DMDC will provide the DEERS extract, as specified by MPR under Task 1, within four weeks of when MPR's submits the specifications for the extract.
- Timely delivery of the Adult TRICARE Beneficiary Reports and the TRICARE Consumer Watch is contingent on the timely receipt of the data from the survey vendor.
- Deliverables for the child survey are conditional upon timely receipt of the child data sets.

B. PROJECT ORGANIZATION

As project director, Eric Schone will be the primary contact for DoD at MPR. He will also coordinate the efforts of the task leaders and of the project team overall. Jacqueline Agufa will oversee all programming tasks, including the production of databases, and the Annual Report. Justin Oh will lead the production and design of the Adult Beneficiary Reports. Amang Sukasih will coordinate the sampling. Keith Rathbun will lead the design of the databases and the on-line documentation each quarter. Lucy Lu will manage the production of the TRICARE Consumer Watch.

FIGURE 6.1

ESTIMATED DELIVERABLE SCHEDULE FOR 2009 HCSDB

	2008		2009												2010			
	Quarter 4		1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			1st Quarter			2nd Quarter
Task/Subtask	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
Deliver sample to Synovate	▲																	
Quarter 2, FY 2009																		
Fielding period			▲	▲	▲													
Receipt of data					▲													
Preliminary results						▲												
Data sent to client							▲											
Analytic tables							▲											
Beneficiary Reports					▲	▲	▲											
Consumer Watch					▲	▲	▲											
Codebook					▲	▲	▲											
Deliver Sample to Synovate				▲														
Deliver Child Sample to Synovate				▲														
Quarter 3, FY 2009																		
Fielding period						▲	▲	▲										
Receipt of data								▲										
Preliminary results									▲									
Data sent to client										▲								
Analytic tables										▲								
Beneficiary Reports								▲	▲	▲								
Consumer Watch								▲	▲	▲								
Codebook								▲	▲	▲								
Deliver sample to Synovate							▲											
2010 Design Report								▲										
Quarter 4, FY 2009																		
Fielding period									▲	▲	▲							
Receipt of data											▲							
Preliminary results												▲						
Data sent to client													▲					
Analytic tables													▲					

	2008		2009												2010			
	Quarter 4		1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			1st Quarter			2nd Quarter
Task/Subtask	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
Beneficiary Reports											▲	▲	▲					
Consumer Watch											▲	▲	▲					
Codebook											▲	▲	▲					
Deliver sample to Synovate										▲								
Technical Manual													▲	▲				
Annual Report														▲				
Quarter 1, FY 2010																		
Fielding period												▲	▲	▲				
Receipt of data														▲				
Preliminary results															▲			
Data sent to client																	▲	
Analytic tables																	▲	
Beneficiary Reports															▲	▲	▲	
Consumer Watch															▲	▲	▲	
Codebook															▲	▲	▲	
Technical Manual - Draft																	▲	
Child 2009																		
Fielding period						▲	▲	▲										
Receipt of data								▲										
Data sent to client												▲						
Beneficiary Reports									▲	▲	▲	▲						
Codebook									▲	▲	▲	▲						
Technical Manual												▲						

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