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J. Lee

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FOR REVIEW AND DISCUSSION  
SUBJECT TO CHANGE

FY90 BASED AMBULATORY WORK UNIT (AWU)  
WEIGHT DEVELOPMENT

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FOREWORD

This document briefly summarizes the results of updating the ambulatory work unit (AWU) weights using FY90 Medical Expense and Performance Reporting System (MEPRS) ambulatory cost and visit data. In addition, the impact of updating from weights based on FY85 MEPRS cost and visit data, in terms of computed ambulatory workload at the workcenter, facility, and peer group level was reviewed.

This report was prepared under contract MDA903-88-C-0147. Questions or comments should be directed to LTC Stu Baker, OASD(HA) Resource Analysis and Management Systems, (703) 756-1918.

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## 1.0 FY90 MHSS AMBULATORY WORK UNIT

This report briefly summarizes the results and impact of updating the ambulatory work unit (AWU) weights based on FY85 cost and visit data to weights based on FY90 cost and visit data. Updated weights were computed using FY90 Medical Expense and Performance Reporting System (MEPRS) ambulatory cost and visit data using the methodology described in **Military Health Service System Ambulatory Work Unit (AWU)**.<sup>1</sup> The refined methodology for computing AWU weights, described in **FY89 Military Health Service System Ambulatory Work Unit**<sup>2</sup>, was not used to compute AWU weights with FY90 data.

Exhibit 1-1 presents the FY90 based final weights (highlighted) as well as a comparison of the updated FY90 based weights to FY85 weights. The FY89 weight, and the number of FY89 and FY90 observations, are presented as supporting information in the development of the FY90 final weights. The number of observations is the number of facilities reporting both cost and visit data within each given workcenter after removing outliers as prescribed by the methodology. The process of updating the weights requires two fiscal years' data. FY89 and FY90 ambulatory cost and total visit data were used to develop FY90 based weights. A summary of the steps employed follows:

- 1) FY89 and preliminary FY90 based AWU weights were computed using the process described in Optenburg et al. These weights are presented in exhibit 1-1 as the FY89 AWU weights and FY90 AWU weights.
- 2) As prescribed by the previously developed process, the weights were compared by workcenter and the average percentage change, a 2.1% increase, and the standard deviation of the percentage

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<sup>1</sup>Military Health Service System Ambulatory Work Unit (AWU), Optenburg et al. Report HR88-001, Health Care Studies and Clinical Investigation Activities, 1 April 1988.

<sup>2</sup>FY89 Military Health Service System Ambulatory Work Unit, VRI-DMIS-2.6, WP91-4, 26 September 1991.

EXHIBIT 1-1: FY90 BASED AWU WEIGHTS AND A COMPARISON TO FY85 WEIGHTS

Workcenter	Description	FY85		FY89		FY90		FY89 - FY90		FY90		FY85 - FY90	
		AWU Weight	AWU Weight	Observations	Observations	Observations	Observations	Percentage Difference	Percentage Difference	Adjusted Weight	Final Weight	Percentage Difference	Percentage Difference
BAA	Internal Medicine	0.0395	0.0392	0.0403	158	162	2.8%	0.0403	2.0%				
BAB	Allergy	0.0083	0.0080	0.0077	137	142	-3.8%	0.0077	-7.2%				
BAC	Cardiology	0.0364	0.0252	0.0313	39	41	24.2%	0.0257	-29.4%				
BAE	Diabetic	0.0267	0.0237	0.0222	11	10	-6.3%	0.0222	-16.9%				
BAF	Endocrinology	0.0399	0.0347	0.0366	20	19	5.5%	0.0366	-8.3%				
BAG	Gastroenterology	0.0338	0.0358	0.0343	35	35	-4.2%	0.0343	1.5%				
BAH	Hematology	0.0455	0.0490	0.0480	19	19	-2.0%	0.0480	5.5%				
BAI	Hypertension	0.0232	0.0188	0.0184	14	13	-2.1%	0.0184	-20.7%				
BAJ	Nephrology	0.0629	0.0522	0.0584	19	19	11.9%	0.0584	-7.2%				
BAK	Neurology	0.0364	0.0402	0.0402	55	56	0.0%	0.0402	10.4%				
BAL	Nutrition	0.0127	0.0085	0.0090	146	145	5.9%	0.0090	-29.1%				
BAM	Oncology	0.0466	0.0370	0.0369	23	23	-0.3%	0.0369	-20.8%				
BAN	Pulmonary Disease	0.0410	0.0335	0.0341	26	27	1.8%	0.0341	-16.8%				
BAO	Rheumatology	0.0343	0.0299	0.0358	17	19	19.7%	0.0323	-5.8%				
BAP	Dermatology	0.0216	0.0216	0.0207	91	93	-4.2%	0.0207	-4.2%				
BAQ	Infectious Disease	0.0395	0.0194	0.0257	17	19	32.5%	0.0213	-46.1%				
BAR	Physical Medicine	0.0395	---	0.0352	0	11		0.0352	-10.9%				
BAZ	Medical Clinic NEC	0.0395	0.0223	0.0259	4	4	16.1%	0.0259	-34.4%				
BBA	General Surgery	0.0345	0.0333	0.0352	154	155	5.7%	0.0352	2.0%				
BBB	Cardiovascular and Thoracic Surgery	0.0377	0.0402	0.0427	18	18	6.2%	0.0427	13.3%				
BBB	Neurosurgery	0.0583	0.0464	0.0507	19	18	9.3%	0.0507	-13.0%				
BBD	Ophthalmology	0.0276	0.0273	0.0282	91	92	3.3%	0.0282	2.2%				
BBE	Organ Transplant	0.0723	0.1091	0.0990	2	2	-9.3%	0.0990	36.9%				
BBF	Otolaryngology	0.0305	0.0264	0.0247	104	108	-6.4%	0.0247	-19.0%				
BBG	Plastic Surgery	0.0406	0.0350	0.0382	20	21	9.1%	0.0382	-5.9%				
BBH	Proctology	0.0234	0.0236	0.0252	11	14	6.8%	0.0252	7.7%				
BBI	Urology	0.0397	0.0378	0.0394	86	93	4.2%	0.0394	-0.8%				
BBJ	Pediatric Surgery	0.0496	0.0232	0.0355	3	1	53.0%	0.0268	-46.0%				
BBZ	Surgical Clinics NEC	0.0345	0.0188	0.0129	2	2	-31.4%	0.0156	-54.8%				
BCA	Family Planning	0.0249	0.0274	0.0280	48	48	2.2%	0.0280	12.4%				
BCB	Gynecology	0.0236	0.0236	0.0255	174	174	8.1%	0.0255	8.1%				
BCC	Obstetrics	0.0260	0.0259	0.0265	157	152	2.3%	0.0265	1.9%				
BDA	Pediatrics	0.0200	0.0189	0.0188	183	183	-0.5%	0.0188	-6.0%				
BDB	Adolescent	0.0254	0.0211	0.0195	29	28	-7.6%	0.0195	-23.2%				
BDC	Well Baby	0.0156	0.0144	0.0137	138	144	-4.9%	0.0137	-12.2%				
BDZ	Pediatrics Clinics NEC	0.0200	0.0291	0.0493	41	13	69.4%	0.0330	65.0%				

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EXHIBIT 1-1: FY90 BASED AWU WEIGHTS AND A COMPARISON TO FY85 WEIGHTS  
(Concluded)

Workcenter	Description	FY85		FY89		FY90		FY89 - FY90		FY90		FY85 - FY90	
		AWU Weight	Observations	AWU Weight	Observations	AWU Weight	Observations	Percentage Difference	Percentage Difference	Adjusted Weight	Final Weight	Percentage Difference	Percentage Difference
BEA	Orthopedics	0.0362	128	0.0320	137	0.0320	137	0.0%	0.0%	0.0320	0.0320	-11.6%	-11.6%
BEB	Cast	0.0200	76	0.0153	76	0.0147	77	-3.9%	-3.9%	0.0147	0.0147	-26.5%	-26.5%
BEC	Hand Surgery	0.0232	8	0.0246	8	0.0247	9	0.4%	0.4%	0.0247	0.0247	6.5%	6.5%
BED	Neuromusculoskeletal Screening	0.0133	15	0.0174	15	0.0159	14	-8.6%	-8.6%	0.0159	0.0159	19.5%	19.5%
BEE	Orthopedic Appliance	0.0326	52	0.0260	52	0.0235	49	-9.6%	-9.6%	0.0235	0.0235	-27.9%	-27.9%
BEF	Podiatry	0.0211	83	0.0173	83	0.0189	85	9.2%	9.2%	0.0189	0.0189	-10.4%	-10.4%
BFA	Psychiatric	0.0346	71	0.0335	71	0.0329	72	-1.8%	-1.8%	0.0329	0.0329	-4.9%	-4.9%
BFB	Psychology	0.0295	65	0.0276	65	0.0276	64	0.0%	0.0%	0.0276	0.0276	-6.4%	-6.4%
BFC	Child Guidance	0.0279	21	0.0270	21	0.0232	20	-14.1%	-14.1%	0.0262	0.0262	-6.1%	-6.1%
BFD	Mental Health	0.0332	146	0.0318	146	0.0313	144	-1.6%	-1.6%	0.0313	0.0313	-5.7%	-5.7%
BFE	Social Work Services	0.0213	129	0.0244	129	0.0259	131	6.1%	6.1%	0.0259	0.0259	21.6%	21.6%
BFF	Substance Abuse	0.0332	112	0.0210	112	0.0226	111	7.6%	7.6%	0.0226	0.0226	-31.9%	-31.9%
BFZ	Psychiatric Clinics NEC	0.0346	0	----	0	----	0	----	----	0.0329	0.0329	-4.9%	-4.9%
BGA	Family Practice	0.0268	118	0.0233	118	0.0245	122	5.2%	5.2%	0.0245	0.0245	-8.6%	-8.6%
BHA	Primary Care	0.0263	161	0.0251	161	0.0258	157	2.8%	2.8%	0.0258	0.0258	-1.9%	-1.9%
BHB	Medical Exams	0.0326	70	0.0309	70	0.0289	70	-6.5%	-6.5%	0.0289	0.0289	-11.3%	-11.3%
BHC	Optometry	0.0163	198	0.0160	198	0.0164	191	2.5%	2.5%	0.0164	0.0164	0.6%	0.6%
BHD	Audiology	0.0150	73	0.0154	73	0.0136	76	-11.7%	-11.7%	0.0136	0.0136	-9.3%	-9.3%
BHE	Speech Pathology	0.0232	27	0.0193	27	0.0177	27	-8.3%	-8.3%	0.0177	0.0177	-23.7%	-23.7%
BHF	Community Health	0.0389	59	0.0215	59	0.0182	58	-15.3%	-15.3%	0.0201	0.0201	-48.3%	-48.3%
BHG	Occupational Health	0.0255	94	0.0229	94	0.0224	90	-2.2%	-2.2%	0.0224	0.0224	-12.2%	-12.2%
BHH	PRIMUS/NAV CARE	0.0263	9	0.0186	9	0.0182	10	-2.2%	-2.2%	0.0182	0.0182	-30.8%	-30.8%
BHI	Immediate Care Clinic	0.0263	0	----	0	0.0236	7	----	----	0.0236	0.0236	-10.3%	-10.3%
BHZ	Primary Medical Care Clinics NEC	0.0263	0	----	0	----	0	----	----	0.0258	0.0258	-1.9%	-1.9%
BIA	Emergency Medical	0.0305	179	0.0381	179	0.0410	173	7.6%	7.6%	0.0410	0.0410	22.4%	22.4%
BJA	Flight Medicine	0.0286	175	0.0325	175	0.0328	178	0.9%	0.9%	0.0328	0.0328	14.7%	14.7%
BJA	Underseas Medicine	0.0304	2	0.0256	2	0.0133	2	-48.0%	-48.0%	0.0128	0.0128	-57.9%	-57.9%

Average Change	Percentage Difference	Average Change	Percentage Difference
2.1%	2.1%	16.0%	16.0%
18.1%	18.1%	18.1%	18.1%
-13.8%	-13.8%	-13.8%	-13.8%
8.5%	8.5%	20.7%	20.7%

Average Change	Percentage Difference	Average Change	Percentage Difference
16.0%	16.0%	16.0%	16.0%
18.1%	18.1%	18.1%	18.1%
-13.8%	-13.8%	-13.8%	-13.8%
20.7%	20.7%	20.7%	20.7%

change, 16.0%, were computed. Weights that changed by more than the average change plus or minus one standard deviation (-13.8% to 18.1%) were subjected to the prescribed variance adjustment. (Note, the numbers were rounded to the nearest tenths for presentation and thus the observed rounding error.)

- 3) Variance adjustment was applied to the 9 workcenters where an FY90 adjusted weight is presented in exhibit 1-1. Briefly, variance adjustment is completed by combining FY89 cost and visit data, adjusted for inflation, and FY90 cost and visit data for each workcenter and recomputing the weights.
- 4) Weights for the BAR-Physical Medicine and BHI-Immediate Care Clinic workcenters were computed using FY90 data only as cost and visit data for these workcenters were not available in FY89. Additionally, weights for BFZ-Psychiatric Clinics Not Elsewhere Classified (NEC) and BHZ-Primary Medical Care Clinics NEC could not be directly computed as there were no visits to these workcenters in FY90. Thus, the BFZ workcenter was assigned the weight computed for BFA-Psychiatric, and the BHZ workcenter was assigned the weight computed for BHA-Primary Care.
- 5) Final weights, highlighted in exhibit 1-1, were then developed using the adjusted weight and exceptions described in step 4 where appropriate.

In addition to the FY90 final weights, the FY85 weights are presented in exhibit 1-1 for comparison. Note that the FY90 based weights are to be used for updating the resource allocation models only. FY90 ambulatory workload, as reported within the Defense Medical Information System (DMIS), uses the FY85 weights as presented in exhibit 1-1.

As shown at the bottom of the second page of exhibit 1-1, the average weight decreased by 8.5% after updating the weights. The standard deviation of the percentage change, however, was 20.7% and therefore many weights changed substantially and the observed changes were frequently much different from the average change. Exhibits 1-2 through 1-4 provide greater information concerning the impact of the update.

Exhibit 1-2 presents FY90 AWUs by workcenter in order of workcenter code. Note that data for the BHG-Occupational Health and BHH-PRIMUS/NAVCARE workcenters are excluded as workload and expenses within these



EXHIBIT 1-2: FY90 AWUs USING FY85 AND FY90 BASED WEIGHTS BY WORKCENTER  
(Sorted by Workcenter Code)

Workcenter	Description	FY90 AWUs (FY85 Weights)	FY90 AWUs (FY90 Weights)	%Age Difference	FY90 Total Visits	FY90 Share of Visits
BAA	Internal Medicine	62,756	64,027	2.0%	1,588,758	3.7%
BAB	Allergy	5,940	5,510	-7.2%	715,610	1.6%
BAC	Cardiology	12,231	8,635	-29.4%	336,007	0.8%
BAE	Diabetic	468	389	-16.9%	17,535	0.0%
BAF	Endocrinology	4,943	4,535	-8.3%	123,896	0.3%
BAG	Gastroenterology	6,683	6,782	1.5%	197,722	0.5%
BAH	Hematology	3,508	3,701	5.5%	77,096	0.2%
BAI	Hypertension	713	566	-20.7%	30,734	0.1%
BAJ	Nephrology	7,411	6,881	-7.2%	117,827	0.3%
BAK	Neurology	8,343	9,214	10.4%	229,209	0.5%
BAL	Nutrition	6,277	4,448	-29.1%	494,221	1.1%
BAM	Oncology	8,951	7,088	-20.8%	192,075	0.4%
BAN	Pulmonary Disease	6,566	5,461	-16.8%	160,154	0.4%
BAO	Rheumatology	3,159	2,975	-5.8%	92,105	0.2%
BAP	Dermatology	14,991	14,367	-4.2%	694,037	1.6%
BAQ	Infectious Disease	5,024	2,709	-46.1%	127,192	0.3%
BAR	Physical Medicine	1,401	1,249	-10.9%	35,480	0.1%
BAZ	Medical Clinic NEC	998	655	-34.4%	25,274	0.1%
BBA	General Surgery	31,862	32,509	2.0%	923,544	2.1%
BBB	Cardiovascular and Thoracic Surgery	1,821	2,062	13.3%	48,301	0.1%
BBC	Neurosurgery	3,430	2,983	-13.0%	58,842	0.1%
BBD	Ophthalmology	14,011	14,315	2.2%	507,633	1.2%
BBE	Organ Transplant	486	666	36.9%	6,724	0.0%
BBF	Otolaryngology	14,423	11,680	-19.0%	472,894	1.1%
BBG	Plastic Surgery	2,472	2,326	-5.9%	60,882	0.1%
BBH	Proctology	453	488	7.7%	19,365	0.0%
BBI	Urology	16,143	16,021	-0.8%	406,622	0.9%
BBJ	Pediatric Surgery	26	14	-46.0%	518	0.0%
BBZ	Surgical Clinics NEC	354	160	-54.8%	10,274	0.0%
BCA	Family Planning	1,687	1,898	12.4%	67,768	0.2%
BCB	Gynecology	39,370	42,540	8.1%	1,668,218	3.8%
BCC	Obstetrics	38,955	39,704	1.9%	1,498,281	3.4%
BDA	Pediatrics	67,243	63,209	-6.0%	3,362,162	7.7%
BDB	Adolescent	3,406	2,615	-23.2%	134,086	0.3%
BDC	Well Baby	5,922	5,201	-12.2%	379,629	0.9%
BDZ	Pediatrics Clinics NEC	2,405	3,967	65.0%	120,226	0.3%
BEA	Orthopedics	40,718	35,994	-11.6%	1,124,813	2.6%
BEB	Cast	6,563	4,824	-26.5%	328,143	0.8%
BEC	Hand Surgery	660	703	6.5%	28,466	0.1%
BED	Neuromusculoskeletal Screening	852	1,019	19.5%	64,086	0.1%
BEE	Orthopedic Appliance	6,625	4,775	-27.9%	203,209	0.5%
BEF	Podiatry	8,154	7,304	-10.4%	386,444	0.9%
BFA	Psychiatric	14,076	13,385	-4.9%	406,832	0.9%
BFB	Psychology	8,512	7,964	-6.4%	288,547	0.7%
BFC	Child Guidance	2,533	2,378	-6.1%	90,772	0.2%
BFD	Mental Health	21,215	20,001	-5.7%	639,000	1.5%
BFE	Social Work Services	18,073	21,976	21.6%	848,512	1.9%
BFF	Substance Abuse	13,531	9,211	-31.9%	407,563	0.9%
BGA	Family Practice	113,751	103,989	-8.6%	4,244,453	9.8%
BHA	Primary Care	264,399	259,372	-1.9%	10,053,185	23.1%
BHB	Medical Exams	23,293	20,649	-11.3%	714,497	1.6%
BHC	Optometry	30,082	30,266	0.6%	1,845,516	4.2%
BHD	Audiology	9,477	8,592	-9.3%	631,801	1.5%
BHE	Speech Pathology	1,375	1,049	-23.7%	59,275	0.1%
BHF	Community Health	18,300	9,456	-48.3%	470,435	1.1%
BHI	Immediate Care Clinic	3,374	3,028	-10.3%	128,285	0.3%
BIA	Emergency Medical	134,857	165,048	22.4%	4,025,569	9.2%
BJA	Flight Medicine	43,644	50,054	14.7%	1,526,027	3.5%
BKA	Underseas Medicine	317	133	-57.9%	10,418	0.0%
	Total	1,189,215	1,172,720	-1.4%	43,526,749	100.0%

workcenters are not included within the resource allocation methodology. The net impact of updating the AWU weights was a 1.4% decrease in AWUs.

The observed difference between the average weight decline of 8.5% and computed workload decline of 1.4% is due to the distribution of visits across workcenters. While the average weight declined by 8.5%, the weight within BHA-Primary Care, where 23.1% of all visits occurred, decreased by only 1.9%. Additionally, the weight for BIA-Emergency Medical, where 9.2% of all FY90 visits occurred, increased by 22.4%. The observed increase in the weight for visits to the emergency medical care clinic may be due to the appropriate limitation of emergency care for medical emergencies only.

Exhibit 1-3 presents the same information as exhibit 1-2 except the workcenters are sorted by each workcenter's share of total visits. Exhibit 1-4 presents the information sorted by the percentage difference in AWUs. A closer look at exhibit 1-4 shows that 35% of all visits were within workcenters that had an increase in weight, and less than 7% of all visits were within workcenters where the AWU weight decreased by more than 20%.

The AWU is intended to provide a measure of facility workload and ambulatory resource requirements. While weights within a few particular workcenters may change substantially, the resulting impact on facility computed AWUs may be minor. This was the case observed with FY90 data. Exhibit 1-5 presents a histogram of the percentage change in facility AWUs when AWUs using FY85 and FY90 weights are compared. No facility had greater than a 10.0% change in AWUs, and only 31 of the 212 facilities compared had greater than a 5.0% change in AWUs.

Lastly, exhibit 1-6 presents the impact of updating the AWU weights by model peer group. Air Force facilities had less of a decline in ambulatory workload than did Army and Navy facilities for two reasons:

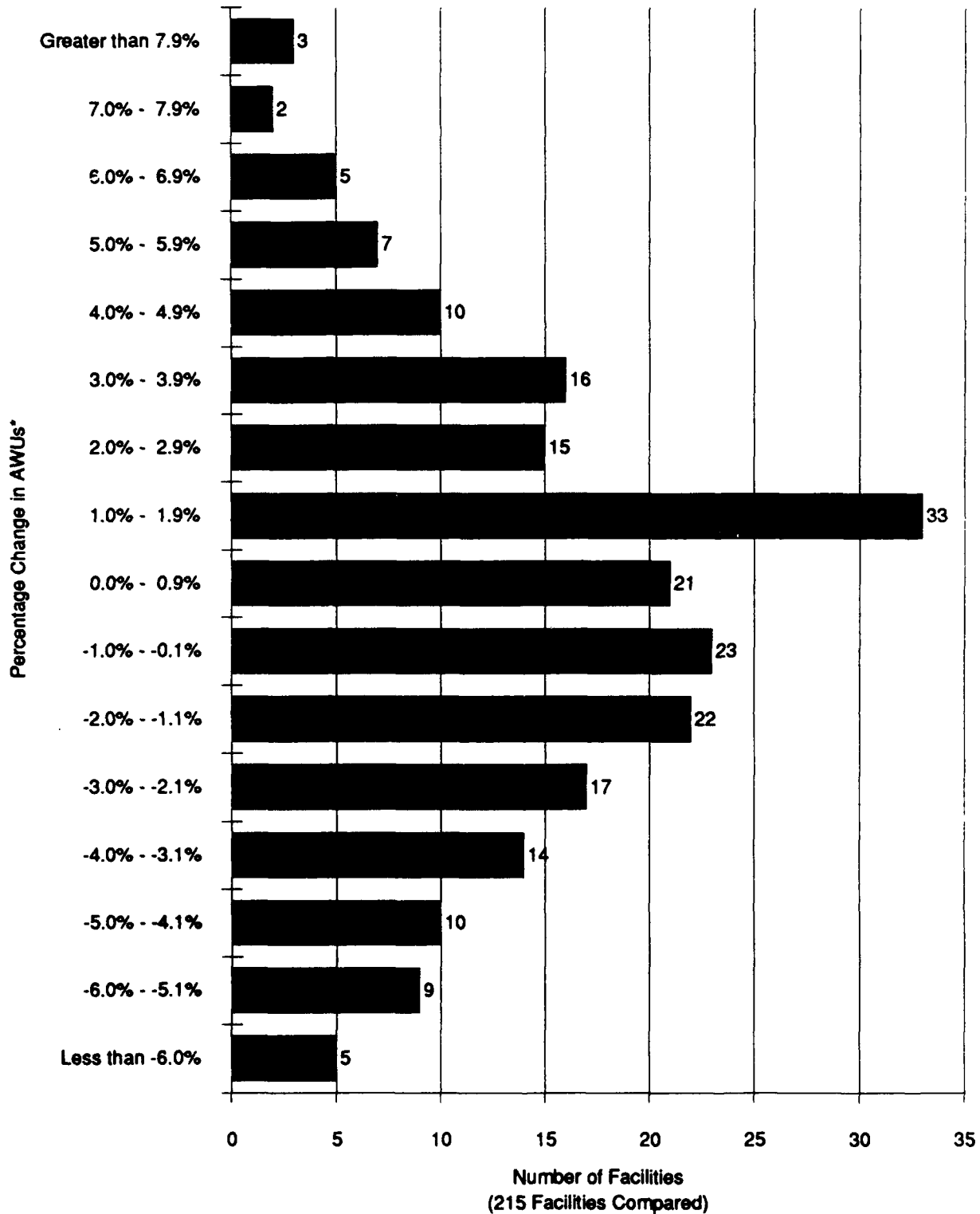
**EXHIBIT 1-3: FY90 AWUs USING FY85 AND FY90 BASED WEIGHTS BY WORKCENTER**  
 (Sorted by Workcenter Share of Visits)

Workcenter	Description	FY90 AWUs (FY85 Weights)	FY90 AWUs (FY90 Weights)	%Age Difference	FY90 Total Visits	FY90 Share of Visits	FY90 Cum. Share of Visits
BHA	Primary Care	264,399	259,372	-1.9%	10,053,185	23.1%	23.1%
BGA	Family Practice	113,751	103,989	-8.6%	4,244,453	9.8%	32.8%
BIA	Emergency Medical	134,857	165,048	22.4%	4,025,569	9.2%	42.1%
BDA	Pediatrics	67,243	63,209	-6.0%	3,362,162	7.7%	49.8%
BHC	Optometry	30,082	30,266	0.6%	1,845,516	4.2%	54.1%
BCB	Gynecology	39,370	42,540	8.1%	1,668,218	3.8%	57.9%
BAA	Internal Medicine	62,756	64,027	2.0%	1,588,758	3.7%	61.5%
BJA	Flight Medicine	43,644	50,054	14.7%	1,526,027	3.5%	65.0%
BCC	Obstetrics	38,955	39,704	1.9%	1,498,281	3.4%	68.5%
BEA	Orthopedics	40,718	35,994	-11.6%	1,124,813	2.6%	71.1%
BBA	General Surgery	31,862	32,509	2.0%	923,544	2.1%	73.2%
BFE	Social Work Services	18,073	21,976	21.6%	848,512	1.9%	75.1%
BAB	Allergy	5,940	5,510	-7.2%	715,610	1.6%	76.8%
BHB	Medical Exams	23,293	20,649	-11.3%	714,497	1.6%	78.4%
BAP	Dermatology	14,991	14,367	-4.2%	694,037	1.6%	80.0%
BFD	Mental Health	21,215	20,001	-5.7%	639,000	1.5%	81.5%
BHD	Audiology	9,477	8,592	-9.3%	631,801	1.5%	82.9%
BBD	Ophthalmology	4,011	14,315	2.2%	507,633	1.2%	84.1%
BAL	Nutrition	6,277	4,448	-29.1%	494,221	1.1%	85.2%
BBF	Otolaryngology	14,423	11,680	-19.0%	472,894	1.1%	86.3%
BHF	Community Health	18,300	9,456	-48.3%	470,435	1.1%	87.4%
BFF	Substance Abuse	13,531	9,211	-31.9%	407,563	0.9%	88.4%
BFA	Psychiatric	14,076	13,385	-4.9%	406,832	0.9%	89.3%
BBI	Urology	16,143	16,021	-0.8%	406,622	0.9%	90.2%
BEF	Podiatry	8,154	7,304	-10.4%	386,444	0.9%	91.1%
BDC	Well Baby	5,922	5,201	-12.2%	379,629	0.9%	92.0%
BAC	Cardiology	12,231	8,635	-29.4%	336,007	0.8%	92.8%
BEB	Cast	6,563	4,824	-26.5%	328,143	0.8%	93.5%
BFB	Psychology	8,512	7,964	-6.4%	288,547	0.7%	94.2%
BAK	Neurology	8,343	9,214	10.4%	229,209	0.5%	94.7%
BEE	Orthopedic Appliance	6,625	4,775	-27.9%	203,209	0.5%	95.2%
BAG	Gastroenterology	6,683	6,782	1.5%	197,722	0.5%	95.6%
BAM	Oncology	8,951	7,088	-20.8%	192,075	0.4%	96.1%
BAN	Pulmonary Disease	6,566	5,461	-16.8%	160,154	0.4%	96.4%
BDB	Adolescent	3,406	2,615	-23.2%	134,086	0.3%	96.7%
BHI	Immediate Care Clinic	3,374	3,028	-10.3%	128,285	0.3%	97.0%
BAQ	Infectious Disease	5,024	2,709	-46.1%	127,192	0.3%	97.3%
BAF	Endocrinology	4,943	4,535	-8.3%	123,896	0.3%	97.6%
BDZ	Pediatrics Clinics NEC	2,405	3,967	65.0%	120,226	0.3%	97.9%
BAJ	Nephrology	7,411	6,881	-7.2%	117,827	0.3%	98.2%
BAO	Rheumatology	3,159	2,975	-5.8%	92,105	0.2%	98.4%
BFC	Child Guidance	2,533	2,378	-6.1%	90,772	0.2%	98.6%
BAH	Hematology	3,508	3,701	5.5%	77,096	0.2%	98.8%
BCA	Family Planning	1,687	1,898	12.4%	67,768	0.2%	98.9%
BED	Neuromusculoskeletal Screening	852	1,019	19.5%	64,086	0.1%	99.1%
BBG	Plastic Surgery	2,472	2,326	-5.9%	60,882	0.1%	99.2%
BHE	Speech Pathology	1,375	1,049	-23.7%	59,275	0.1%	99.3%
BBC	Neurosurgery	3,430	2,983	-13.0%	58,842	0.1%	99.5%
BBB	Cardiovascular and Thoracic Surgery	1,821	2,062	13.3%	48,301	0.1%	99.6%
BAR	Physical Medicine	1,401	1,249	-10.9%	35,480	0.1%	99.7%
BAI	Hypertension	713	566	-20.7%	30,734	0.1%	99.7%
BEC	Hand Surgery	660	703	6.5%	28,466	0.1%	99.8%
BAZ	Medical Clinic NEC	998	655	-34.4%	25,274	0.1%	99.9%
BBH	Proctology	453	488	7.7%	13,365	0.0%	99.9%
BAE	Diabetic	468	389	-16.9%	17,535	0.0%	99.9%
BKA	Underseas Medicine	317	133	-57.9%	10,418	0.0%	100.0%
BBZ	Surgical Clinics NEC	354	160	-54.8%	10,274	0.0%	100.0%
BBE	Organ Transplant	486	666	36.9%	6,724	0.0%	100.0%
BBJ	Pediatric Surgery	26	14	-46.0%	518	0.0%	100.0%
Total		1,189,215	1,172,720	-1.4%	43,526,749	100.0%	100.0%

**EXHIBIT 1-4: FY90 AWUs USING FY85 AND FY90 BASED WEIGHTS BY WORKCENTER**  
(Sorted by Percentage Difference in AWUs)

Workcenter	Description	FY90 AWUs (FY85 Weights)	FY90 AWUs (FY90 Weights)	%Age Difference	FY90 Total Visits	FY90 Share of Visits	FY90 Cum. Share of Visits
BDZ	Pediatrics Clinics NEC	2,405	3,967	65.0%	120,226	0.3%	0.3%
BBE	Organ Transplant	486	666	36.9%	6,724	0.0%	0.3%
BIA	Emergency Medical	134,857	165,048	22.4%	4,025,569	9.2%	9.5%
BFE	Social Work Services	18,073	21,976	21.6%	848,512	1.9%	11.5%
BED	Neuromusculoskeletal Screening	852	1,019	19.5%	64,086	0.1%	11.6%
BJA	Flight Medicine	43,644	50,054	14.7%	1,526,027	3.5%	15.1%
BBB	Cardiovascular and Thoracic Surgery	1,821	2,062	13.3%	48,301	0.1%	15.3%
BCA	Family Planning	1,687	1,898	12.4%	67,768	0.2%	15.4%
BAK	Neurology	8,343	9,214	10.4%	229,209	0.5%	15.9%
BCB	Gynecology	39,370	42,540	8.1%	1,668,218	3.8%	19.8%
BBH	Proctology	453	488	7.7%	19,365	0.0%	19.8%
BEC	Hand Surgery	660	703	6.5%	28,466	0.1%	19.9%
BAH	Hematology	3,508	3,701	5.5%	77,096	0.2%	20.1%
BBD	Ophthalmology	14,011	14,315	2.2%	507,633	1.2%	21.2%
BBA	General Surgery	31,862	32,509	2.0%	923,544	2.1%	23.3%
BAA	Internal Medicine	62,756	64,027	2.0%	1,588,758	3.7%	27.0%
BCC	Obstetrics	38,955	39,704	1.9%	1,498,281	3.4%	30.4%
BAG	Gastroenterology	6,683	6,782	1.5%	197,722	0.5%	30.9%
BHC	Optometry	30,082	30,266	0.6%	1,845,516	4.2%	35.1%
BBI	Urology	16,143	16,021	-0.8%	406,622	0.9%	36.1%
BHA	Primary Care	264,399	259,372	-1.9%	10,053,185	23.1%	59.2%
BAP	Dermatology	14,991	14,367	-4.2%	694,037	1.6%	60.8%
BFA	Psychiatric	14,076	13,385	-4.9%	406,832	0.9%	61.7%
BFD	Mental Health	21,215	20,001	-5.7%	639,000	1.5%	63.2%
BAO	Rheumatology	3,159	2,975	-5.8%	92,105	0.2%	63.4%
BBG	Plastic Surgery	2,472	2,326	-5.9%	60,882	0.1%	63.5%
BDA	Pediatrics	67,243	63,209	-6.0%	3,362,162	7.7%	71.2%
BFC	Child Guidance	2,533	2,378	-6.1%	90,772	0.2%	71.4%
BFB	Psychology	8,512	7,964	-6.4%	288,547	0.7%	72.1%
BAJ	Nephrology	7,411	6,881	-7.2%	117,827	0.3%	72.4%
BAB	Allergy	5,940	5,510	-7.2%	715,610	1.6%	74.0%
BAF	Endocrinology	4,943	4,535	-8.3%	123,896	0.3%	74.3%
BGA	Family Practice	113,751	103,989	-8.6%	4,244,453	9.8%	84.1%
BHD	Audiology	9,477	8,592	-9.3%	631,801	1.5%	85.5%
BHI	Immediate Care Clinic	3,374	3,028	-10.3%	128,285	0.3%	85.8%
BEF	Podiatry	8,154	7,304	-10.4%	386,444	0.9%	86.7%
BAR	Physical Medicine	1,401	1,249	-10.9%	35,480	0.1%	86.8%
BHB	Medical Exams	23,293	20,649	-11.3%	714,497	1.6%	88.4%
BEA	Orthopedics	40,718	35,994	-11.6%	1,124,813	2.6%	91.0%
BDC	Well Baby	5,922	5,201	-12.2%	379,629	0.9%	91.9%
BBC	Neurosurgery	3,430	2,983	-13.0%	58,842	0.1%	92.0%
BAN	Pulmonary Disease	6,566	5,461	-16.8%	160,154	0.4%	92.4%
BAE	Diabetic	468	389	-16.9%	17,535	0.0%	92.4%
BBF	Otolaryngology	14,423	11,680	-19.0%	472,894	1.1%	93.5%
BAI	Hypertension	713	566	-20.7%	30,734	0.1%	93.6%
BAM	Oncology	8,951	7,088	-20.8%	192,075	0.4%	94.0%
BDB	Adolescent	3,406	2,615	-23.2%	134,086	0.3%	94.3%
BHE	Speech Pathology	1,375	1,049	-23.7%	59,275	0.1%	94.5%
BEB	Cast	6,563	4,824	-26.5%	328,143	0.8%	95.2%
BEE	Orthopedic Appliance	6,625	4,775	-27.9%	203,209	0.5%	95.7%
BAL	Nutrition	6,277	4,448	-29.1%	494,221	1.1%	96.8%
BAC	Cardiology	12,231	8,635	-29.4%	336,007	0.8%	97.6%
BFF	Substance Abuse	13,531	9,211	-31.9%	407,563	0.9%	98.5%
BAZ	Medical Clinic NEC	998	655	-34.4%	25,274	0.1%	98.6%
BBJ	Pediatric Surgery	26	14	-46.0%	518	0.0%	98.6%
BAO	Infectious Disease	5,024	2,709	-46.1%	127,192	0.3%	98.9%
BHF	Community Health	18,300	9,456	-48.3%	470,435	1.1%	100.0%
BBZ	Surgical Clinics NEC	354	160	-54.8%	10,274	0.0%	100.0%
BKA	Underseas Medicine	317	133	-57.9%	10,418	0.0%	100.0%
	<b>Total</b>	<b>1,189,215</b>	<b>1,172,720</b>	<b>-1.4%</b>	<b>43,526,749</b>	<b>100.0%</b>	<b>100.0%</b>

**EXHIBIT 1-5: HISTOGRAM OF PERCENTAGE CHANGE IN FACILITY  
FY90 AWUs USING FY85 AND FY90 BASED WEIGHTS**



\* A percentage change less than zero indicates the AWUs using FY90 weights are less than that using FY85 weights

**EXHIBIT 1-6: FY90 AWUs USING FY85 AND FY90 BASED WEIGHTS  
BY PEER GROUP**

Service and Facility Type	FY90 AWUs (FY85 Weights)	FY90 AWUs (FY90 Weights)	%Age Difference
<b>ARMY</b>			
Medical Centers	170,824	162,292	-5.0%
CONUS Comm. Hospitals	262,584	254,591	-3.0%
Overseas Hospitals	90,279	89,675	-0.7%
Clinics	5,628	5,354	-4.9%
<b>Total Army Facilities</b>	<b>529,314</b>	<b>511,912</b>	<b>-3.3%</b>
<b>NAVY</b>			
Medical Centers	86,437	83,513	-3.4%
CONUS Comm. Hospitals	133,278	131,959	-1.0%
Overseas Hospitals	29,289	29,440	0.5%
Clinics	18,701	18,238	-2.5%
<b>Total Navy Facilities</b>	<b>267,705</b>	<b>263,149</b>	<b>-1.7%</b>
<b>AIR FORCE</b>			
Medical Centers	79,803	78,645	-1.5%
CONUS Comm. Hospitals	225,971	231,019	2.2%
Overseas Hospitals	31,443	31,985	1.7%
Clinics	54,980	56,009	1.9%
<b>Total USAF Facilities</b>	<b>392,196</b>	<b>397,659</b>	<b>1.4%</b>
<b>DoD</b>			
Medical Centers	337,063	324,450	-3.7%
CONUS Comm. Hospitals	621,833	617,569	-0.7%
Overseas Hospitals	151,011	151,100	0.1%
Clinics	79,308	79,601	0.4%
<b>Total ALL Facilities</b>	<b>1,189,215</b>	<b>1,172,720</b>	<b>-1.4%</b>

- 11.4% of all Air Force FY90 visits were reported through the BIA-Emergency Medical workcenter, where the AWU weight increased by 22.4%, while Army and Navy facilities reported 8.4% and 7.8% of their visits within this workcenter, respectively; and
- 7.9% of all Air Force FY90 visits were reported through the BJA-Flight Medicine workcenter, where the AWU weight increased by 14.7%, while Army and Navy facilities reported 1.1% and 1.7% of their visits within this workcenter, respectively.

Similarly, observed differences between medical centers and other facilities are due to differences in visit mixes including the fact that medical centers tend to have fewer ER visits relative to other facilities.

In summary, while an 8.5% decrease in the overall average AWU weight was observed, only a 1.4% decrease in measured ambulatory workload resulted. The impact at the facility level was relatively small, with no facility having greater than a 10% change in AWU credit and only 31 of 212 facilities had greater than a 5% change in workload credit. The FY90 final weights as presented in exhibit 1-1 were employed as input weights to obtain the ambulatory workload measure used for completing the FY90 resource allocation cost model update.