

MICROCOPY RESOLUTION TEST CHART
 NATIONAL BUREAU OF STANDARDS-1963-A

JULY 1983



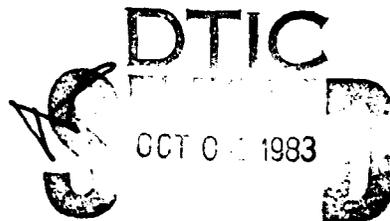
AD-A133 283

PROJECT PRIORITIZATION FOR A CAREER MANAGEMENT FIELD REVIEW
OF ARMY MEDICAL DEPARTMENT ENLISTED SPECIALTIES



INDIVIDUAL TRAINING DIVISION
DIRECTORATE OF TRAINING DEVELOPMENT
ACADEMY OF HEALTH SCIENCES, U.S. ARMY
FT. SAM HOUSTON, TX 78234

DTIC FILE COPY



This document has been approved
for public release and its
distribution is unlimited.

83 09 23 006

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER AHS - 7	2. GOVT ACCESSION NO. AD 4/33 283	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) PROJECT PRIORITIZATION FOR A CAREER MANAGEMENT FIELD REVIEW OF ARMY MEDICAL DEPARTMENT ENLISTED SPECIALTIES		5. TYPE OF REPORT & PERIOD COVERED Final 3rd & 4th Qtr FY 83
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Kenn Finstuen Donald A. Lacey		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Directorate of Training Development Academy of Health Sciences, U.S. Army Ft. Sam Houston, Tx 78234		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS Assignment Control Number ACN 85785
11. CONTROLLING OFFICE NAME AND ADDRESS Commandant Academy of Health Sciences, U.S. Army Ft. Sam Houston, Tx 78234		12. REPORT DATE July 1983
		13. NUMBER OF PAGES 58
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Career Management Field Multiple Linear Regression Iterative Decision Method Army Medic Training Enlisted Medical Specialties Group Decision Making		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The purpose of this study was to construct an ordered list of Army Medical Department enlisted occupational specialties for the prioritization of review activities in the 91 Career Management Field. A panel of seven experts identified 10 factors pertinent to the Army medical mission. Using the Iterative Decision Method (IDM), experts rendered sets of independent and group revised judgments for the priority of 30 military occupational specialties. The final Criterion List of medical jobs was examined to assess the impact of various decision factors at both the individual and group levels. Results indicated that the list was valid and defensible.		

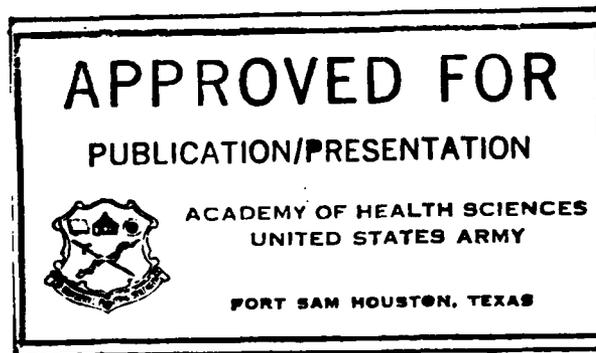
July 1983

Project Prioritization For A Career Management Field Review
Of Army Medical Department Enlisted Specialties

Kenn Finstuen, M.S., M.Ed., Ph.D.
Individual Training Division

LTC Donald A. Lacey, MSC
Chief, Program Management Office

Directorate of Training Development
Academy of Health Sciences, U.S. Army
Ft. Sam Houston, Tx 78234



DISCLAIMER NOTICE: The views of the authors are their own and do not purport to reflect the position of the Department of the Army or the Department of Defense

Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By _____	
Distribution/ _____	
Availability Codes	
Dist	Avail and/or Special
A	



Summary

PURPOSE: The major aim of this study was the systematic construction of an ordered list of medical specialties to be used to prioritize and guide an indepth review and evaluation of the enlisted occupational structure (Career Management Field 91) within the Army Medical Department (AMEDD).

METHODOLOGY:

1. A panel of seven members from the Academy of Health Sciences (AHS) staff was formed at the request of the Director of Training Development. Panel members represented a cross-section of AMEDD experiences including new equipment schedules and purchases, the Army 1990 training plan, Air Land Battle 2000, manpower authorization criteria and Table of Organization and Equipment (TOE) development, existing grade structure infeasibilities, and the diversity of AMEDD enlisted assignments.

2. Panel members met on three occasions. In the first meeting participants identified a set of possible decision factors which formed the basis for the prioritization of a list of 30 military occupational specialty (MOS) items. An attribute dictionary of 10 factors for each MOS was developed by the staff members. A second meeting was employed to set the context for judging MOS priorities and consisted of briefings concerned with new AMEDD equipment forecasts, the Army 1990 training plan, and an expected combat threat scenario presentation. The Iterative Decision Method (IDM) was used to secure two rounds of judgments from the experts (J1 - J2). Each panel member independently ranked a deck of 30 MOS item cards (J1) to indicate his or her preferred MOS order for conducting the indepth review project. Decision results were compiled and displayed in a standard feedback graph which indicated the average rank and the percent of disagreement associated with each MOS. During the final face-to-face interactive meeting (J2), agreed upon results for MOS items were reviewed and discussion was directed to the MOS item placements containing the most disagreement.

3. To ensure that the final agreed upon Criterion List of medical specialties was based upon meaningful and appropriate information, a series of multiple linear regression analyses were performed to assess the impact of various decision factors upon initial and revised judgments at both the individual and the aggregated group level.

RESULTS: An independent judgment (J1) decision equation was constructed which expressed the individual decisions as a function of separate MOS item predictors. The resultant equation produced a goodness-of-fit coefficient of $R = .86$. In addition, overall rater reliability as assessed by coefficient $\rho_{\bar{0}}$ obtained an estimate of .94. These findings indicated that the panel members independently agreed upon the relative placement of 25 of the 30 MOS items (83.33%) and that differences among the average ranks for these items were stable and consistent. Only five items required discussion and revision. Once resolved, a final Criterion List was prepared. To assess the effects of revisions on decision making, correlation comparisons were made among expert raters and among the J1 and J2 ranked lists. All correlations were positive and indicated a high level of similarity. To assess the specific impact of decision factors upon the initial

TABLE OF CONTENTS

	<u>Page</u>
Background	1
Purpose	2
Method	2
Procedure	3
Results	6
Generation and Comparisons of MOS Criterion Lists	6
Relations Between Decision Factor Attributes and Individual and Group Decisions	15
Relations between MOS attributes and individual decisions	17
Relations between MOS attributes and group decisions . .	19
Demonstration of J2 Criterion As "Gender-free"	21
Discussion and Recommendations	22
References	23
Appendix I - MOS Attribute Dictionary	24

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1	Standard IFM graphic display for 91 CMF panel judgments of AMEDD MOS.	7

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Domain of AMEDD MOS considered in 91 CMF Priority Study .	4
2	MOS Attributes Developed for 91 CMF Study	5
3	Zero-order Correlations and Disagreement Percentages Among Raters For J1 Independent MOS Ranking Decisions .	9
4	91 CMF Project Final Revised Group Priorities	12
5	Zero-order Validities For Lists	13
6	Zero-order Validities For Individual Rater Decisions . .	14
7	Decision Factor Variable Specifications and Descriptive Statistics	16
8	Multiple Linear Regression Results For Predicting Individual Decisions	18
9	Multiple Linear Regression Results For Predicting Group Decisions	19
10	Hypothesis Test Results For Possible Effects Due To Gender	21

Project Prioritization For A Career Management Field Review
Of Army Medical Department Enlisted Specialties

BACKGROUND

The Program Management Office (PMO) within the Directorate of Training Development at the Academy of Health Sciences has been tasked with conducting an indepth study and evaluation of the 91 Career Management Field (91 CMF) and two other medically related enlisted MOS. As a result of the Academy task force on the 91B proliferation and physical demands assessment issues, a study and evaluation essentially has been completed for the largest AMEDD specialties consisting of the 91A Medical Specialist, the 91B Medical Non-commissioned Officer (NCO), and the 91C Practical Nurse.

In part, the indepth study and evaluation requires an examination of Army Regulation 611-201 (Headquarters Department of the Army, Jan 1974) in terms of descriptive MOS duties, qualifications, additional skill identifiers, and standards of grade authorizations. From the onset of the project it has been recognized that differences exist among medical specialties in regard to placement on the battlefield, strengths, grade structures, and mission criticality. Subsequently, for review purposes it was deemed necessary that the first consideration should be given to those MOS which have the greatest implications for the overall AMEDD mission. In addition, due to limitations in staff and resources, it is not possible for PMO to simultaneously conduct 29 concurrent reviews for the remainder of the AMEDD specialties. Given the level of effort required, the 91 CMF study group will be able to handle approximately four MOS reviews at a given time. With this constraint it became essential early in the project to determine the most appropriate order of medical specialties to accomodate workload schedules and project time lines.

In short, a prioritized list of the 29 AMEDD specialties was needed for submission to Academy and Office of The Surgeon General managers for their approval prior to project initiation, analysis, and review. At the request of PMO, an Iterative Decision Method (IDM) study was conducted to determine an agreed upon prioritization of specialties that could meet overall AMEDD concerns and be used to efficiently direct PMO resources during the course of the project. This study represents the second MOS prioritization effort at AHS which has used the IDM technology (see Finstuen, 1982 for details on the Soldier's Manual/Skill Qualification Test project).

PURPOSE

The PMO working group prepared an initial list of MOS based upon the general concerns they had encountered in the 91ABC study. After reviewing the original list, the Director of Training Development decided to broaden the scope of consideration for the project to provide an AMEDD-wide perspective. This required input from several other Academy functions in addition to the PMO working group. The purpose of this study was to 1) specify and examine possible decision factors relevant to the AMEDD MOS review, 2) to convene an Academy panel sanctioned by the DTD to generate a valid and reliable criterion listing of MOS for the review project, and 3) to provide a record of the decision process and final decision results.

METHOD

Participants

Several organizations within the Academy were identified as sources of information and expertise. The Collective Training Division (CTD) provided two participants, a Major involved with new equipment schedules and purchases, and a Ph.D. civilian involved with the Army 1990 training plan. Two

Lieutenant Colonels from the Directorate of Combat Developments also served as expert decision makers. One representative was from the Concepts Division and was well versed in topics related to the Air Land Battle 2000 scenarios, and new Army doctrine and threat issues. The second representative was from the Manpower Authorization Criteria (MACRIT) branch and was familiar with Table of Organization and Equipment (TOE) developments. Three members were from the PMO working group (two Sergeant Majors and a SFC) and had initially been assigned to the 91ABC task force. These three members provided information concerning existing grade structure infeasibilities and the diversity of TOE and Table of Distribution and Allowances (TDA) types of AMEDD assignments. In all, the 91CMF panel consisted of seven experts (six male and one female). The Chief, PMO, served as the presiding official for the decision-making group.

Procedure

The decision group met on three occasions. At the first meeting members were briefed by DID concerning the importance and purpose of the project. Following the initial briefing, the panel identified a list of 30 MOS which would be considered in the study. Table 1 presents the AMEDD specialties listed by Career Management Field order, MOS code, and specialty title.

The next step was to conduct a "brainstorming" session to identify as many possible types of information about medical specialties that would have an impact upon the final prioritization list. A list of ten decision factors was produced from a pool of 18 suggestions. Decision factors, or MOS attributes, were further operationally defined in quantitative and measureable terms. Each AMEDD MOS was then identified and classified according to the 10 decision factors, and a front-end analysis package was

Table 1

Domain of Army Medical Department Military Occupational Specialties
Considered in the 91 CMF Prioritization Study

Nr.	CMF Code	Title
1	01H	Biological Sciences Research Assistant
2	35G	Biomedical Equipment Repairman
3	35U	Biomedical Equipment Maintenance Chief
4	42C	Orthotic Specialist
5	42D	Dental Laboratory Specialist
6	42E	Optical Laboratory Specialist
7	71G	Patient Administrative Specialist
8	76J	Medical Supplyman
9	91D	Operating Room Specialist
10	91E	Dental Specialist
11	91F	Psychiatric Specialist
12	91G	Behavior Science Specialist
13	91H	Orthopedic Specialist
14	91J	Physical Therapy Specialist
15	91K	Urology Specialist (proposed as an MOS at time of the study)
16	91L	Occupational Therapy Specialist
17	91N	Cardiac Specialist
18	91P	X-Ray Specialist
19	91Q	Pharmacy Specialist
20	91R	Veterinary Specialist
21	91S	Environmental Health Specialist
22	91T	Animal Specialist
23	91U	Ear, Nose, and Throat Specialist
24	91V	Respiratory Specialist
25	91W	Nuclear Medicine Specialist
26	91X	Health Physics Specialist
27	91Y	Eye Specialist
28	92B	Medical Laboratory Specialist
29	92E	Cytology Specialist
30	94F	Hospital Food Service Specialist

Note: List excludes 91A, 91B, and 91C

prepared listing each medical MOS by each of the variables associated with the 10 decision factor attributes. Table 2 lists the MOS attributes developed for the study and the source and organization providing the information.

Table 2

MOS Attributes Developed For The 91 CMF Study

Attributes	Source	Organization
1. MOS Density	AMEDD Density Classification Chart	Ind. Tng. Div.
2. Organization type	TDA only versus both TDA and TOE	PMO/ ITD
3. Placement in the Medical evacuation chain	Location of MOS - proximity to the forward edge of the battle area within a theater of operations	PMO/ ITD
4. Scheduled pieces of new equipment	New equipment and development program	CTD
5. Multiple specialty	Additional skill identifiers	PMO
6. Patient care	Classified by involvement	PMO/ ITD
7. MOS Grade infeasibility	Letter from MG Schwarzkopf, DAPE-MPD-CD, 26 Jan 83 to MG Bishop, HSC	PMO
8. Projected strength change	MACRIT documents/TOE development	DCD
9. Promotion potential	Same as item 7	PMO
10. Number of training weeks in MOS course	MILPERCEN Force Management Book	PMO

NOTE: See appendix I of this report for a full listing of MOS attributes, variables, and the complete front-end analysis read-ahead package.

During the second meeting of the 91 CMF panel, three briefings were given concerning the new AMEDD equipment forecast, Army Training 1990, and a combat developments threat scenario briefing. This phase of the study was conducted to provide each of the panel members with a overall context within which they would be asked to cast their priority decisions for MOS review and evaluation.

MOS attribute dictionaries were reproduced and distributed to each of the 91 CMF panel members. In addition, MOS titles and CMF codes were transcribed to seven decks of 3 x 5 cards. Each panel member was asked to arrange the card deck according to their preference for MOS order using the attribute dictionary, the information from the briefings, and their own expert judgment. Panel members were asked to work independently of one another and to make any notes on specific issues they wished discussed at the third interactive meeting. All card decks were initially arranged in the CMF order shown in Table 1. Card decks were collected from panel members and were coded for data analysis. Regression analyses were conducted by ITD to provide feedback from the independent round of judgments (J1) at the third interactive group meeting (J2) held the following week.

When the panel reconvened, results were interpreted and discussed. The output from this final meeting was an agreed upon prioritized listing of MOS to be used in the 91 CMF review project upon approval from the Academy Force Integration Committee and the Office of The Surgeon General.

RESULTS

The overall results of this study indicated that the panel members independently agreed upon the relative placement of 25 of the 30 MOS's (83.33%), therefore only five MOS priorities required discussion and revision in the J2 group mode.

Generation and Comparisons of MOS Criterion Lists

Figure 1 presents the J1 Iterative Decision Method results for the 30 AMEDD occupational specialties. Individual MOS's (indicated by circles) are arrayed vertically along the MOS priority dimension, and are arrayed

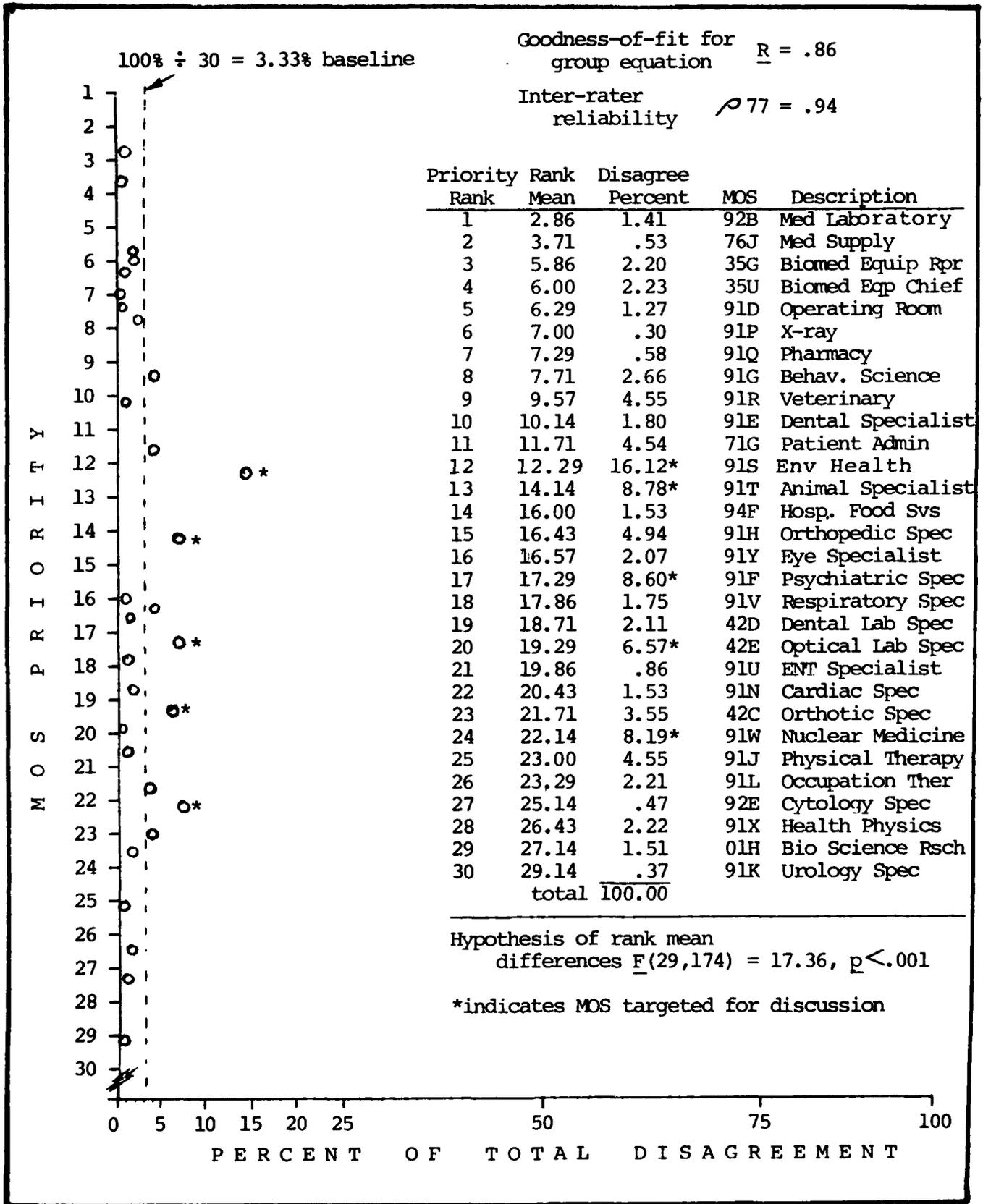


Figure 1. Standard IDM graphic display for 91 CMF panel prioritization judgments (J1 - independent decisions) of AMEDD occupational specialties.

horizontally along a percentage of disagreement dimension. Priority rank means were calculated by averaging the 7 rater's decisions for each MOS item. The percent disagreement metric was calculated as the percent of each MOS item's contribution to the lack of statistical prediction resulting from a group decision equation. The group equation took the following form:¹

$$Y = w_1M^{(1)} + w_2M^{(2)} + w_3M^{(3)} + \dots + w_{29}M^{(29)} + w_{30}M^{(30)} + c ,$$

where Y is the vector of decision scores (30 MOS \times 7 members = 210 decisions), $M^{(i)}$, $i = 1$ to 30, are MOS predictor variables coded 1 if the observed decision score was associated with a particular MOS, 0 otherwise; w_j , where $j = 1$ to 30, are the raw least squares regression coefficients associated with each MOS predictor variable, and c is the regression constant. The goodness-of-fit index is the multiple correlation resulting from the multiple linear regression equation shown above. The index is quite high -- .86. The corresponding R^2 (.7396) indicated that 73.96 percent of the variance ($100 \times R^2$) in the decision criterion vector could be accounted for by application of the group member prediction equation.

The inter-rater reliability (ρ_{77}) was also quite acceptable (.94) and indicated that panel members had been very consistent in the placement of MOS's along the priority dimension. If another set of seven AMEDD experts were to rank order the MOS's, it would be expected that their average ranks would correlate .94 with the rank averages obtained from the 91 CMF panel.

Finally, the F statistic demonstrated that there were statistically significant differences among the average ranks for MOS. This indicated that panel members had discriminated among MOS's in terms of higher and lower priorities assigned to each of the specialties.

¹Equation notation follows Ward & Jennings (1972) Hypothesis testing and computation of reliability is discussed in Guilford & Fruchter (1973)

While the overall J1 results were favorable, some MOS's were disagreed upon more than others (indicated by an asterisk in Figure 1) as to the most appropriate relative placement along the priority dimension. If MOS's had been equal in the amount of disagreement associated with their placement, then the 100% of the "lack-of-fit" would have been equally divided among the MOS's ($100\% \div 30 = 3.33\%$) and all circles would fall at the vertical baseline shown in the figure. However, MOS's were not equal in disagreement; placements for five specialties (91S, 91T, 91F, 42E, and 91W) exceeded 5% disagreement and were targeted for discussion in the interactive J2 group decision meeting.

Table 3 presents corresponding disagreement information expressed as a function of individual raters. Zero order correlations are also displayed

Table 3

Zero Order Correlations and Disagreement Percentages Among Raters

For J1 Independent MOS Ranking Decisions For 30 Items

Organization	Rater ^a		Rater							Percent of Disagreement
			1	2	3	4	5	6	7	
Collective Training Division	MAJ	1	1.00	.71	.92	.89	.48	.51	.75	13.43
	Civ	2		1.00	.70	.65	.64	.65	.59	18.47
Combat Developments(DCD) Program Management Office	LTC _m	3			1.00	.85	.57	.59	.74	11.76
	LTC _f	4				1.00	.59	.62	.82	10.84
	SGM	5					1.00	.99	.72	17.72
	SGM	6						1.00	.74	15.88
	SFC	7							1.00	11.90
									total	100.00

^a DCD raters m = male, f = female. All r 's statistically significant, $p < .01$. indicating the similarity of rank orders among pairwise sets of raters. As shown, all correlations are positive, indicating that all raters generally

ranked the MOS in the same direction. The highest instance of agreement was between the two SGM of the program management office ($r = .99$). Later discussion revealed that these two members had both independently used the original MOS listing with a few minor differences. The lowest incidence of similarity occurred between the Major from CTD and the SGM from PMO (.48). If raters had been equal in the amount of disagreement associated with their MOS priorities, then 100% of the "lack-of-fit" from the group decision equation would have been equally divided among the raters ($100\% \div 7 = 14.29\%$). Figures of less than 14.29% may be interpreted as an indication that raters' MOS priorities were more closely aligned with the entire group's independent collective decision. Those figures exceeding 14.29% indicate that the particular raters had used a slightly different policy in arranging their MOS card decks. DCD expert ranks were closest to the pooled group policy.

The rationale of the IDM technology is to examine the feedback provided by independent judgments (see Figure 1 and Table 3) in order to identify those items which merit attention during the interactive discussion phase of the decision-making process, and to identify differences among rater policies as a starting point for group discussion. Based on the results portrayed in Figure 1, placement for 25 MOS items was fairly agreed upon and did not require further argumentation or discussion.

During the discussion phase of the J2 group meeting, members presented their reasons for placing five MOS's higher or lower in their individual card decks than other members. Several issues emerged during the group discussion. First, several members of the PMO staff expressed their concern for grade structure and promotion potential issues. Collective training and

combat developments members expressed the need for considering combat criticality and field unit readiness. As a result of discussion on these topics, the group decided to place 91S as the 8th ranked MOS on the list. In addition, the group decided that MOS 91R and 91T should probably be reviewed at about the same time and should be placed together. As a result 91R was moved down to position number 12 on the list. Other revisions involved moving 91F to position 14, 42E was moved to position 24, and 91W was moved down to position number 26 on the revised list. The final J2 Criterion listing of MOS's is presented in Table 4 and represents a valid and reliable prioritization of AMEDD MOS's to be employed for the 91 CMF review.

To assess the effects of the revised group judgments upon the initial independent order of MOS's derived in the J1 phase of the study, the zero order correlation between both MOS listings was computed. The resultant coefficient ($r = .9853$) indicated that few substantive changes or revisions were made during the group interactive phase. In addition, zero order correlations were also calculated among the J1 independent decisions, the final J2 Criterion list, the original PMO list, and the CMF order of MOS's (see Table 1). These comparisons were made to determine the extent to which the 10 MOS decision factors and the IDM decision process had influenced the original PMO listing, and to determine whether the panel members had been attentive and had understood the MOS ranking procedure.

Table 5 lists the validity comparisons among the four lists. As shown, neither the original PMO list, nor the J1/J2 lists exhibited any appreciable degree of similarity with the numeric-alpha ordering of MOS's. This result indicated that factors other than CMF order had been considered for the latter three lists. While the independent judgments (J1) were similar to the original PMO list ($r = .82$), they were by no means identical. This

Table 4

91 CMF Project Final Revised Group Priorities For AMEDD Criterion MOS List

Rank	CMF Code	Title
1	92B	Medical Laboratory Specialist
2	76J	Medical Supplyman
3	35G	Biomedical Equipment Repairman
4	35U	Biomedical Equipment Maintenance Chief
5	91D	Operating Room Specialist
6	91P	X-Ray Specialist
7	91Q	Pharmacy Specialist
8	91S	Environmental Health Specialist
9	91G	Behavior Science Specialist
10	91E	Dental Specialist
11	71G	Patient Administration Specialist
12	91R	Veterinary Specialist
13	91T	Animal Specialist
14	91F	Psychiatric Specialist
15	94F	Hospital Food Service
16	91H	Orthopedic Specialist
17	91Y	Eye Specialist
18	91V	Respiratory Specialist
19	42D	Dental Laboratory Specialist
20	91U	Ear, Nose, and Throat Specialist
21	91N	Cardiac Specialist
22	42C	Orthotic Specialist
23	91J	Physical Therapy Specialist
24	42E	Optical Laboratory Specialist
25	91L	Occupational Therapy Specialist
26	91W	Nuclear Medicine Specialist
27	92E	Cytology Specialist
28	91X	Health Physics Specialist
29	01H	Biological Science Research Assistant
30*	91K	Urology Specialist

*91K has been removed from consideration as an MOS and will likely be developed as an additional skill identifier (ASI).

finding was interpreted as providing evidence for a broadened perspective in regard to the AMEDD specialty order as a result of the "brainstorming" sessions and the development of MOS attributes which intervened between the original PMO list and the J1 independent round of priority decisions.

Table 5

Zero Order Validities For Original List, CMF Order, and The
Independent and Revised Criterion MOS List

List	CMF Order	Original PMO Order	J1 Rank	J2 Rank
CMF Order	1.00	-.02 ^{n/s}	.14 ^{n/s}	.14 ^{n/s}
Original PMO Order		1.00	.82*	.77*
J1 Rank			1.00	.99*
J2 Rank (Criterion)				1.00

* indicates correlation coefficient significant from correlation of zero, $p < .01$. n/s = non-significant

As shown also, the similarity between the PMO original list and the final Criterion J2 list is slightly lower than the original-J1 rank comparison ($r = .77$). This trend indicates that panel members considered additional information over and above that which they identified during the J1 decision phase.

A final set of comparisons was made to determine the extent to which each panel member's MOS independent J1 decisions correlated with the four measures described above. Table 6 presents the zero order validities and comparisons by experts within their respective organizations. The first column of coefficients indicates that each of the raters produced an independent MOS list which was unrelated to the initial ordering of cards they received. In the second column, coefficients indicate the similarity of experts' judgments to the original PMO listing. As shown,

Table 6

Zero Order Validities For Individual Rater Decisions With The
J2 Criterion MOS Order and Three Other Lists Used In The Study

Individual J1 Decisions	CMF Card Order	Original PMO Order	Group Decision J1	(Criterion) Group Decision J2	
CTD	MAJ 1	.309	.483	.880	.898
	Civ 2	.253	.641	.812	.774
DCD	LTC _m 3	.149	.568	.885	.904
	LTC _f 4	.096	.586	.895	.928
PMO	SGM 5	-.015	1.000	.819	.770
	SGM 6	-.038	.992	.837	.793
	SFC 7	.113	.715	.879	.861

Note: N = 30 MOS items.

one PMO rater stayed with the original PMO listing, reflected by a correlation of 1.00. All correlations within column 2 and the remaining columns were statistically significant from zero and were in a positive direction. As shown in column three, individual rater decisions ranged from .812 to .895. The magnitude of these similarities for individuals parallels the percent disagreement indices reported earlier in Table 3 -- that is the DCD members appeared to array their decisions closer to the overall group MOS ranking than other panel members. This trend remains apparent in comparisons with the final J2 MOS Criterion as well. This result indicates that group revisions made to the independent round of judgments were typically in line with the J1 Directorate of Combat Developments (DCD) policies. In addition, the high degree of similarity of independent judgments from all experts with the final criterion assured that all members provided a substantive contribution to

to the outcome of the decision study.

Overall these results represent a systematic and reliably derived prioritization of AMEDD military occupational specialties. Results indicated that experts from several organizations concerned with diverse AMEDD issues agreed upon the appropriate order for MOS, and that the decisions were carefully considered through several iterations of judgments. The independent and revised group judgment results (J1 - J2) of this study provide a defensible and comprehensive record of the prioritization of 29 medical specialties to be examined during the AMEDD CMF review.

Relations Between Decision Factor Attributes and Individual and Group Decisions

The final results in Table 4 above fulfilled the major objective of this study. Additional analyses were also conducted to determine the degree to which the decision factor attribute information was associated with individual panel member decisions and with the J1 and J2 group decisions.

To accomplish this phase of the study variables were generated for nine of the ten factor decision attributes (see Table 2). Grade adjustment and promotion potential information was not used because there was not complete data on all 30 MOS. In addition to the 22 variables within the nine categories, a variable reflecting the proportion of females within each MOS was also constructed. Table 7 presents the variable coding scheme and descriptive statistics for the decision factor predictor variables. Variables are of two types. Binary coded variables are mutually exclusive and categorically exhaustive and are listed by the number of MOS's within each category set and the percentage of membership for a specific variable. Continuous variables are listed with associated means and standard deviations.

Table 7

Decision Factor Variable Specifications and Descriptive Statistics

Factor/Variable	Operational Definition of Variable	Descriptive Statistics		
		N	%	
Dichotomously Coded Variables				
MOS Density				
D ⁽¹⁾	Coded 1 if MOS = High (1000-2000), 0 otherwise	8	26.67	
D ⁽²⁾	Coded 1 if MOS = Medium (400-700), 0 otherwise	6	20.00	
D ⁽³⁾	Coded 1 if MOS = Low (100-300), 0 otherwise	11	36.67	
D ⁽⁴⁾	Coded 1 if MOS = Extremely Low (less than 100), 0 otherwise	5	16.67	
Organization				
O ⁽¹⁾	Coded 1 if MOS is TDA only, 0 otherwise	6	20.00	
O ⁽²⁾	Coded 1 if MOS is both TOE/TDA, 0 otherwise	24	80.00	
Evacuation Chain				
E ⁽¹⁾	Coded 1 if MOS is at Division level, 0 otherwise	15	50.00	
E ⁽²⁾	Coded 1 if MOS is at Corps level, 0 otherwise	8	26.67	
E ⁽³⁾	Coded 1 if MOS is Echelon Above Corps, 0 otherwise	6	20.00	
E ⁽⁴⁾	Coded 1 if MOS is CONUS only, 0 otherwise	1	3.33	
Additional Skill Identifier (ASI)				
A ⁽¹⁾	Coded 1 if MOS has no ASI, 0 otherwise	25	83.33	
A ⁽²⁾	Coded 1 if MOS has at least one ASI, 0 otherwise	5	16.67	
Patient Care				
P ⁽¹⁾	Coded 1 if MOS involves Direct care, 0 otherwise	17	56.67	
P ⁽²⁾	Coded 1 if MOS = Indirect care, 0 otherwise	8	26.67	
P ⁽³⁾	Coded 1 if MOS involves no care, 0 otherwise	5	16.67	
Strength Projections				
S ⁽¹⁾	Coded 1 if MOS will increase, 0 otherwise	5	16.67	
S ⁽²⁾	Coded 1 if MOS will remain the same, 0 otherwise	24	80.00	
S ⁽³⁾	Coded 1 if MOS will decrease, 0 otherwise	1	3.33	
Career Progression				
C ⁽¹⁾	Coded 1 if MOS is capped at upper grade	22	73.33	
C ⁽²⁾	Coded 1 if MOS has full progression, 0 otherwise	8	26.67	
Continuous Variables		Symbol	Mean	S.D.
Pieces of new equipment forecast for each MOS		N	9.77	24.76
Number of training weeks for MOS		T	16.67	11.84
Percent of females in MOS		F	24.53	17.07

Note: N = 30 MOS items

As shown in the Table, density consisted of four variables coded from the AMEDD Density Classification Chart (1982). Eight of the 30 MOS's in the study were classified as high density and constituted 26.67% of the MOS population under consideration. The remaining variables in the Table may be interpreted in a similar fashion.

Relations between MOS attribute information and individual expert's decisions. To determine the degree of relationship between the information contained in the read-ahead front-end analysis package and the independent panel member decisions (J1), each members' decision vector was regressed upon the 22 decision predictor variables (gender information was not listed in the read-ahead package). The functional form of the regression equations employed for experts was as follows (notation is similar to Ward & Jennings, 1972):

$$\begin{aligned}
 Y = & w_1^D(1) + w_2^D(2) + w_3^D(3) + w_4^D(4) + w_5^O(1) + w_6^O(2) + w_7^E(1) \\
 & + w_8^E(2) + w_9^E(3) + w_{10}^E(4) + w_{11}^A(1) + w_{12}^A(2) + w_{13}^P(1) + w_{14}^P(2) \\
 & + w_{15}^P(3) + w_{16}^S(1) + w_{17}^S(2) + w_{18}^S(3) + w_{19}^C(1) + w_{20}^C(2) + w_{21}^N \\
 & + w_{22}^T + c ,
 \end{aligned}$$

where Y is the decision vector of interest, the predictor variables are as defined in Table 7, w_j , $j = 1$ to 22, are raw least squares regression weights associated with each of the predictor variables, and c is a regression constant. Table 8 presents the multiple linear regression results for individual experts. As shown the decision factor information was highly predictive of individual MOS rank decisions for all members of the panel. These findings indicated that panel decisions were in fact based upon meaningful information and were

Table 8

Multiple Linear Regression Results For The Prediction of Individual
Expert Decisions From Decision Factor Variables

Organization	Experts (J1 Decisions)	Multiple \underline{R}	\underline{R}^2	$100 \times \underline{R}^2$ % of variance
CTD	MAJ 1	.957	.915	91.51
	Civ 2	.921	.848	84.84
DCD	LTC _m 3	.921	.848	84.81
	LTC _f 4	.921	.849	84.94
PMO	SGM 5	.873	.762	76.20
	SGM 6	.882	.779	77.87
	SFC 7	.965	.932	93.24

Note: N = 30 MOS items, the number of linearly independent predictor variables for each equation = 15, all multiple \underline{R} 's are significantly different from a correlation of zero, $p < .01$.

arrived at in a logical and carefully thought out manner. Since complete information was not available on grade infeasibility and promotion potential, it may be speculated that panel members with lower correlations (i.e. .873 and .882) may have used such information in addition to the decision factors analyzed above. Overall, the decision factor information accounted for at least 75% of the variability of individual expert judgments ($100 \times \underline{R}^2$) as shown in the last column. These results clearly demonstrate that the independent expert judgments were aligned with the decision factors that the experts felt were important for AMEDD MOS prioritization.

Further support for the validity of decisions may be drawn from the fact that each of the seven regression equations constructed for experts resulted in a high level of predictive efficiency. Since the J1 decisions were obtained independently, these findings constitute replicated results.

Relations between MOS attribute information and expert group decisions.

To determine the degree of relationship between the information contained in the read-ahead front-end analysis package and the group derived lists, a set of twelve regression equations were constructed for each of the three formulated lists in the study; viz. the PMO original list, the J1 independent list, and the J2 Criterion MOS list. Table 9 presents the results from this series of regression analyses. As shown, separate equations were

Table 9

Multiple Linear Regression Results For The Prediction of Group Expert Decisions From Decision Factor Variables and Gender

Variable Set	NLIPV ^a	Squared Multiple R^2		
		PMO Original List	J1 MOS Rank	Criterion J2 MOS Rank
Density	4	.405**	.615**	.611**
Organization	2	.188*	.416**	.416**
Evacuation Chain	4	.351**	.747**	.696**
Pieces of Equipment	2	.058	.246**	.253**
Additional Skill ID	2	.365**	.251**	.221**
Patient Care	3	.069	.077	.075
Strength Projections	3	.087	.040	.039
Career Progression	2	.127	.301**	.273**
Training Weeks	2	.081	.122	.111
Percent female	2	.033	.057	.044
All predictors (except percent female)	15	.762**	.946**	.924**
All predictors	16	.780**	.947**	.924**

^aNLIPV = Number of Linearly Independent Predictor Vectors

^bSquared multiple R significant from correlation of zero, * $p < .05$, ** $p < .01$.

constructed for each variable data set, for the percent female variable, for all the decision factors in the read-ahead package (excluding gender information), and for all variables combined. Overall the results indicate that the J1 and J2 ranking decisions were related to the decision factors to a greater extent than the original PMO list. This finding may be interpreted as direct evidence that the panel members did indeed bring a broader perspective to the MOS prioritization than that displayed for the original list.

For the interpretation of specific results, 100 times the R^2 value is the percent of variance accounted for in the three MOS lists by a particular set of predictor variables. The strongest relations between lists and decision factors concerned MOS density, organization type, evacuation chain, equipment, career progression, and ASI's. Patient care, strength projections, and number of training weeks did not appear to be strongly related to any of the MOS lists. The fact that the percent of predictive efficiency for several variable sets, when summed account for more than 100% of the variance in a list is an indication that those variable sets (i.e. density and evacuation chain) contain a certain amount of shared variance. Note that prediction can not exceed 100% nor can R^2 exceed a value of 1.00.

Comparing the original list with the J1 and J2 lists it is evident that the iterative decision exercise depended more heavily on information concerned with new equipment (.06 original versus .25 and .25), and with career progression (.13 original versus .30 and .27). Higher levels of association were also evident for density (.41 original versus .62 and .61), organization (.19 original versus .42 and .42), and evacuation chain data (.35 original versus .75 and .70). Only one area, ASI, received less

emphasis (.37 original versus .25 and .22).

Demonstration of J2 Criterion MOS List As "Gender-free"

Regression results were also obtained for the relationship between the proportion of females within each MOS and the three lists. Gender was not contained in any of the MOS decision factor booklets, but was added as a variable during the data analysis phase of the project as a control measure. Due to women in the army issues and affirmative equal opportunity programs, the possibility existed that the Criterion J2 MOS list may have inadvertently favored males over females. As shown in Table 9 the relation between gender information and all three lists is very close to zero. Even when gender information is included with all predictor variables (see bottom of Table 9) there is little or no increase in the level of association between decision factors and the three lists. A series of statistical F tests confirms this observation as presented in Table 10.

Table 10

Hypothesis Test Results For Possible Effects Due To Gender

MOS List	R^2 full Equation	R^2 restricted Equation	df_1	df_2	<u>F</u>
PMO Original	.7804	.7620	1	14	1.17 ^{n/s}
J1 MOS Rank	.9473	.9458	1	14	.40 ^{n/s}
J2 Criterion MOS Rank	.9243	.9241	1	14	.04 ^{n/s}

The full R^2 equation contains all predictor variables, the restricted R^2 equation contains all predictor variables except gender information. As shown gender effects were not significantly related to any of the MOS orders.

One last comment is in order regarding the comparison of multiple R squared values between the J1 rank list and the J2 Criterion list. Overall the J2 Criterion list values are slightly lower than the J1 coefficients. While both lists were substantially related to decision factors of density, organization, evacuation chain, equipment, ASI, and career progression, the J2 Criterion list was also influenced by information exchanged during the interactive group discussion and revision session. It is not possible to express the quantitative effects that qualitative influences such as group interaction and group compromise may have had upon the final decision outcome directly. We can only infer that the slight decrease in influence of the listed decision factors is due to the additional verbal information and expertise exchanged during the J2 revised group judgment session. Nevertheless, the final validity coefficient of .924 for all decision factors ensures that the final J2 Criterion ranking of MOS is a stable and appropriately prioritized listing of MOS's for the 91 CMF project.

DISCUSSION AND RECOMMENDATIONS

The results of this study represent a defensible, systematically derived, and reliably prioritized listing of AMEDD MOS's for the 91 CMF review and evaluation project. The Iterative Decision Method was employed to model over 200 expert decisions from seven Academy members representing Army Medical Department policies and issues including Army Training 1990, new equipment, Air Land Battle 2000, Manpower and Authorization Criteria, TOE developments, TOE and TDA assignments, and grade structure and promotion issues. The final Criterion list (Table 4) represents the compromises and decision trade-offs necessary to produce a unified and carefully planned procedural schedule for the indepth study of the 91 Career Management Field. The recommendation is

made to Academy and to the Office of The Surgeon General managers that the results of this study be considered and adopted to structure milestones and to develop work schedules for the 91 OMF indepth study.

REFERENCES

- Academy of Health Sciences. (1982). Army Medical Department MOS density classification chart - extracted from The Army Authorization Documents System (authorized strength figures). Ft. Sam Houston, Tx.: Individual Training Division, Directorate of Training Development.
- Finstuen, K. (1982). AMEDD MOS priorities for development of soldier's manuals and skill qualification tests (Technical Report AHS-2). Ft. Sam Houston, Tx.: Academy of Health Sciences, Directorate of Training Development.
- Guilford, J. P., & Fruchter, B. (1972). Fundamental statistics in psychology and education (5th ed.). New York: McGraw-Hill.
- Headquarters Department of the Army. (1974). Army Regulation 611-201: Enlisted Career Management Fields and Military Occupational Specialties. Washington, D.C.: U.S. Government Printing Office.
- Letter - MG H. Schwarzkopf, DAPE-MPD-CD (26 Jan 83). To MG Bishop, HSC.
Subject: Grade structure infeasibilities and promotion potential for Army MOS.
- Department of the Army. (April 1983). Force management book. Alexandria, Va.: MilPerCen.
- Ward, J. , & Jennings, E. (1972). Introduction to linear models. Englewood Cliffs, N.J.: Prentice-Hall.

APPENDIX I. MOS ATTRIBUTE DICTIONARY

Attribute	Variables
1. Density	(Ultra High 91B=15,000 91C= 5,000) High 1,000 to 3,000 Medium 400 to 700 Low 100 to 300 Extremely Low Less than 100
2. Type of organization	TDA only Both TOE and TDA
3. Evacuation Chain Proximity to FEBA	Division (Regiment) Corps Echelon above corps CONUS only
4. Scheduled pieces of new TOE equipment	Number
5. Multiple Specialty (ASI/SSI)	None One
6. Patient Care	Direct Indirect None
7. MOS Grade Infeasibility Adjustments needed by grade	Plus or minus E1 through E9
8. Projected Strength Change in MOS	Increase Stay the same Decrease
9. Promotion Potential Proportions by grade and Capped vs. Full Progression	Proportions for E3 through E9 Capped at E7 Full progression
10. Number of training weeks in MOS Course	Number of weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

1. MOS: 01 Hotel Biological Science Research Assistant

1. Density: LOW

2. Type of organization: TDA ONLY

3. Evacuation Chain: CONUS ONLY

4. Scheduled pieces of
new TOE equipment: 0

5. Multiple specialty: NONE

6. Patient care: NONE

7. MOS Grade Infeasibility
Adjustments by grade:

E4 + 6

E5 -34

E6 +28

8. Projected Strength
Change in MOS: STAY THE SAME

9. Promotion potential
Proportions by grade:

E4 .89

E5 .46

E6 .46

Capped vs. Full
Progression: CAPPED AT E6

10. Length of course: NO weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE2. MOS: 35 Golf Biomedical Equipment Repairman1. Density: LOW2. Type of organization: BOTH3. Evacuation Chain: DIVISION4. Scheduled pieces of
new TOE equipment: 100+5. Multiple specialty: NONE6. Patient care: NONE7. MOS Grade Infeasibility
Adjustments by grade:

E3 +45

E4 +91

E5 -82 (Includes both 35 G and 35U)

E6 -56

E7 + 1

E8 + 1

8. Projected Strength
Change in MOS: STAY THE SAME (with a potential increase)9. Promotion potential
Proportions by grade:

E3 1.00

E4 1.00

E5 .88 (Includes both 35G and 35U)

E6 .55

E7 .56

E8 .84

Capped vs. Full
Progression:FULL10. Length of course: 15 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE**3. MOS: 35 Uniform Biomedical Equipment Maintenance Chief**1. Density: MEDIUM2. Type of organization: BOTH3. Evacuation Chain: DIVISION4. Scheduled pieces of
new TOE equipment: 100+5. Multiple specialty: NONE6. Patient care: NONE7. MOS Grade Infeasibility
Adjustments by grade:

See 35G

8. Projected Strength
Change in MOS: STAY THE SAME (with a potential increase)9. Promotion potential
Proportions by grade:

See 35G

Capped vs. Full
Progression: FULL10. Length of course: 30 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

4. MOS: 42 Charlie Orthotic Specialist

1. Density: EXTREMELY LOW
2. Type of organization: TDA ONLY
3. Evacuation Chain: ECHELON ABOVE CORPS
4. Scheduled pieces of new TOE equipment: 0
5. Multiple specialty: NONE
6. Patient care: INDIRECT
7. MOS Grade Infeasibility Adjustments by grade:
- | | |
|----|-----|
| E3 | + 6 |
| E4 | +15 |
| E5 | - 8 |
| E6 | -14 |
| E7 | + 1 |
8. Projected Strength Change in MOS: STAY THE SAME
9. Promotion potential Proportions by grade:
- | | |
|----|------|
| E4 | 1.00 |
| E5 | 1.00 |
| E6 | .44 |
| E7 | .58 |
- Capped vs. Full Progression: CAPPED AT E7
10. Length of course: 52 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE5. MOS: 42 Delta Dental Laboratory Specialist1. Density: MEDIUM2. Type of organization: BOTH3. Evacuation Chain: CORPS4. Scheduled pieces of
new TOE equipment: 25. Multiple specialty: NONE6. Patient care: INDIRECT

7. MOS Grade Infeasibility
Adjustments by grade:

E3	+19
E4	-45
E5	+23
E6	- 2
E7	+ 5

8. Projected Strength
Change in MOS: STAY THE SAME

9. Promotion potential
Proportions by grade:

E3	1.00
E4	.80
E5	1.00
E6	.54
E7	1.00

Capped vs. Full
Progression: CAPPED AT E710. Length of course: 8 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

30

6. MOS: 42 Echo Optical Laboratory Specialist1. Density: LOW2. Type of organization: BOTH3. Evacuation Chain: DIVISION4. Scheduled pieces of
new TOE equipment: 05. Multiple specialty: NONE6. Patient care: INDIRECT7. MOS Grade Infeasibility
Adjustments by grade: E3 - 1
E4 + 6
E5 -14
E6 + 2
E7 + 7
E8 + 28. Projected Strength
Change in MOS: STAY THE SAME9. Promotion potential
Proportions by grade: E3 1.00
E4 1.00
E5 .74
E6 .85
E7 1.00
E8 .55Capped vs. Full
Progression: FULL10. Length of course: 21 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

31

7. MOS: 71 Golf Patient Administrative Specialist1. Density: HIGH2. Type of organization: BOTH3. Evacuation Chain: DIVISION4. Scheduled pieces of
new TOE equipment: 45. Multiple specialty: NONE6. Patient care: INDIRECT

7. MOS Grade Infeasibility
Adjustments by grade:

E3	+161
E4	-179
E5	- 6
E6	+ 21
E7	+ 2
E8	+ 1

8. Projected Strength
Change in MOS: STAY THE SAME

9. Promotion potential
Proportions by grade:

E3	1.00
E4	.64
E5	.72
E6	.78
E7	.87
E8	.48

Capped vs. Full
Progression: CAPPED AT E810. Length of course: 8 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

8. MOS: 76 Juliett Medical Supplyman

1. Density: HIGH
2. Type of organization: BOTH
3. Evacuation Chain: DIVISION
4. Scheduled pieces of new TOE equipment: 23
5. Multiple specialty: ONE
6. Patient care: NONE
7. MOS Grade Infeasibility Adjustments by grade:

Data not available

8. Projected Strength Change in MOS: STAY THE SAME
9. Promotion potential Proportions by grade:

Data not available

Capped vs. Full Progression: ?

10. Length of course: 6 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

9. MOS: 91 Delta Operating Room Specialist

1. Density: HIGH
2. Type of organization: BOTH
3. Evacuation Chain: DIVISION
4. Scheduled pieces of
new TOE equipment: 19
5. Multiple specialty: NONE
6. Patient care: DIRECT
7. MOS Grade Infeasibility
Adjustments by grade: E3 +64
 E4 +29
 E5 + 1
 E6 -96
 E7 + 2
8. Projected Strength
Change in MOS: INCREASE
9. Promotion potential
Proportions by grade: E3 1.00
 E4 1.00
 E5 .90
 E6 .38
 E7 .64

Capped vs. Full
Progression: CAPPED AT E8

10. Length of course: 12 weeks

10. MOS: 91 Echo Dental Specialist

1. Density: HIGH

2. Type of organization: BOTH

3. Evacuation Chain: DIVISION

4. Scheduled pieces of new TOE equipment: 7

5. Multiple specialty: ONE

6. Patient care: DIRECT

7. MOS Grade Infeasibility Adjustments by grade:

E3	-20
E4	- 1
E5	+ 1
E6	+ 1
E7	+18
E8	+ 1

8. Projected Strength Change in MOS: STAY THE SAME

9. Promotion potential Proportions by grade:

E3	.98
E4	.98
E5	.82
E6	.65
E7	1.00
E8	.79

Capped vs. Full Progression: FULL

10. Length of course: 6 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

11. MOS: 91 Foxtrot Psychiatric Specialist1. Density: MEDIUM2. Type of organization: BOTH3. Evacuation Chain: CORPS4. Scheduled pieces of
new TOE equipment: 25. Multiple specialty: NONE6. Patient care: DIRECT7: MOS Grade Infeasibility
Adjustments by grade: E3 -43
E4 +31
E5 + 3
E6 + 98. Projected Strength
Change in MOS: STAY THE SAME9. Promotion potential
Proportions by grade: E3 .60
E4 .96
E5 .80
E6 1.00
E7 .63Capped vs. Full
Progression: CAPPED AT E710. Length of course: 12 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE12.MOS: 91 Golf Behavior Science Specialist1. Density: HIGH2. Type of organization: BOTH3. Evacuation Chain: DIVISION4. Scheduled pieces of
new TOE equipment: 15. Multiple specialty: NONE6. Patient care: DIRECT7. MOS Grade Infeasibility
Adjustments by grade: E3 +119
E4 + 57
E5 -178
E6 + 1
E7 + 18. Projected Strength
Change in MOS: DECREASE9. Promotion potential
Proportions by grade: E3 1.00
E4 1.00
E5 .60
E6 .66
E7 .61Capped vs. Full
Progression: CAPPED AT E710. Length of course: 10 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

37.

13. MOS: 91 Hotel Orthopedic Specialist1. Density: LOW2. Type of organization: BOTH3. Evacuation Chain: DIVISION4. Scheduled pieces of
new TOE equipment: 45. Multiple specialty: NONE6. Patient care: DIRECT7. MOS Grade Infeasibility
Adjustments by grade:

E3 +38

E4 +20

E5 -60

E6 + 1

E7 + 1

8. Projected Strength
Change in MOS: STAY THE SAME9. Promotion potential
Proportions by grade:

E3 1.00

E4 1.00

E5 .57

E6 .69

E7 .80

Capped vs. Full
Progression: CAPPED AT E710. Length of course: 12 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

14. MOS: 91 Juliett Physical Therapy Specialist

1. Density: LOW

2. Type of organization: BOTH

3. Evacuation Chain: CORPS

4. Scheduled pieces of
new TOE equipment: 0

5. Multiple specialty: NONE

6. Patient care: DIRECT

7. MOS Grade Infeasibility
Adjustments by grade:

E3 + 9
E4 + 6
E5 -17
E6 + 1
E7 + 1

8. Projected Strength
Change in MOS: STAY THE SAME

9. Promotion potential
Proportions by grade:

E3 .88
E4 1.00
E5 .61
E6 .48
E7 .53

Capped vs. Full
Progression: CAPPED AT E7

10. Length of course: 21 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

39

15. MOS: 91 Kilo Urology Specialist

1. Density: LOW
2. Type of organization: TDA ONLY
3. Evacuation Chain: ECHELON ABOVE CORPS
4. Scheduled pieces of new TOE equipment: 0
5. Multiple specialty: NONE
6. Patient care: DIRECT
7. MOS Grade Infeasibility Adjustments by grade:

Data not available

8. Projected Strength Change in MOS: STAY THE SAME
9. Promotion potential Proportions by grade:

Data not available

Capped vs. Full Progression: ?

10. Length of course: To be determined weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

16. MOS: 91 Lima Occupational Therapy Specialist

1. Density: EXTREMELY LOW
2. Type of organization: TDA ONLY
3. Evacuation Chain: ECHELON ABOVE CORPS
4. Scheduled pieces of new TOE equipment: 0
5. Multiple specialty: NONE
6. Patient care: DIRECT
7. MOS Grade Infeasibility Adjustments by grade:
- | | |
|----|-----|
| E3 | + 1 |
| E4 | 0 |
| E5 | - 3 |
| E6 | + 1 |
| E7 | + 1 |
8. Projected Strength Change in MOS: INCREASE
9. Promotion potential Proportions by grade:
- | | |
|----|-----|
| E3 | .96 |
| E4 | .91 |
| E5 | .62 |
| E6 | .86 |
| E7 | .36 |
- Capped vs. Full Progression: CAPPED AT E7
10. Length of course: 26 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

41

17. MOS: 91 November Cardiac Specialist

1. Density: LOW
2. Type of organization: BOTH
3. Evacuation Chain: CORPS
4. Scheduled pieces of new TOE equipment: 0
5. Multiple specialty: NONE
6. Patient care: DIRECT
7. MOS Grade Infeasibility Adjustments by grade:
- | | |
|----|-----|
| E3 | +27 |
| E4 | +20 |
| E5 | -51 |
| E6 | + 1 |
| E7 | + 3 |
8. Projected Strength Change in MOS: STAY THE SAME
9. Promotion potential Proportions by grade:
- | | |
|----|------|
| E3 | 1.00 |
| E4 | 1.00 |
| E5 | .46 |
| E6 | .82 |
| E7 | .66 |

Capped vs. Full Progression: CAPPED AT E7

10. Length of course: 4 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE18. MOS: 91 Papa X-Ray Specialist1. Density: HIGH2. Type of organization: BOTH3. Evacuation Chain: DIVISION4. Scheduled pieces of
new TOE equipment: 65. Multiple specialty: NONE6. Patient care: DIRECT

7. MOS Grade Infeasibility
Adjustments by grade:

E3	+126
E4	+ 24
E5	-185
E6	+ 33
E7	+ 2

8. Projected Strength
Change in MOS: STAY THE SAME

9. Promotion potential
Proportions by grade:

E3	1.00
E4	1.00
E5	.42
E6	.99
E7	.63

Capped vs. Full
Progression: CAPPED AT E710. Length of course: 19 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

43

19. MOS: 91 Quebec Pharmacy Specialist1. Density: MEDIUM2. Type of organization: BOTH3. Evacuation Chain: DIVISION4. Scheduled pieces of
new TOE equipment: 25. Multiple specialty: ONE6. Patient care: INDIRECT7. MOS Grade Infeasibility
Adjustments by grade: E3 +92
E4 +115
E5 -208
E6 + 18. Projected Strength
Change in MOS: INCREASE9. Promotion potential
Proportions by grade: E3 1.00
E4 1.00
E5 .44
E6 .75
E7 .58Capped vs. Full
Progression: CAPPED AT E710. Length of course: 17 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE20. MOS: 91 Romeo Veterinary Specialist1. Density: HIGH2. Type of organization: BOTH3. Evacuation Chain: DIVISION4. Scheduled pieces of
new TOE equipment: 05. Multiple specialty: ONE6. Patient care: INDIRECT

7. MOS Grade Infeasibility
Adjustments by grade:

E3 - 11
E4 + 61
E5 - 51
E6 0
E7 + 1

8. Projected Strength
Change in MOS: STAY THE SAME

9. Promotion potential
Proportions by grade:

E3 1.00
E4 1.00
E5 .87
E6 .78
E7 .51
E8 .69

Capped vs. Full
Progression: FULL10. Length of course: 8 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

45

21. MOS: 91 Sierra Environmental Health Specialist1. Density: MEDIUM2. Type of organization: BOTH3. Evacuation Chain: DIVISION4. Scheduled pieces of
new TOE equipment: 135. Multiple specialty: NONE6. Patient care: INDIRECT

7. MOS Grade Infeasibility
Adjustments by grade:

E3 + 5
E4 - 7
E5 0
E6 0
E7 + 1
E8 0
E9 +1

8. Projected Strength
Change in MOS: STAY THE SAME

9. Promotion potential
Proportions by grade:

E3 1.00
E4 .87
E5 .83
E6 .56
E7 .74
E8 .32

Capped vs. Full
Progression: FULL10. Length of course: 15 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

22. MOS: 91 Tango Animal Specialist

1. Density: LOW

2. Type of organization: BOTH

3. Evacuation Chain: CORPS

4. Scheduled pieces of
new TOE equipment: 0

5. Multiple specialty: NONE

6. Patient care: NONE

7. MOS Grade Infeasibility
Adjustments by grade: E3 +24

E4 -46

E5 - 6

E6 +21

E7 + 7

8. Projected Strength
Change in MOS: INCREASE

9. Promotion potential
Proportions by grade: E3 .99

E4 .55

E5 .44

E6 .74

E7 1.00

Capped vs. Full Progression: CAPPED AT E7

10. Length of course: 9 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE23.MOS: 91 Uniform Ear, Nose, and Throat Specialist1. Density: LOW2. Type of organization: BOTH3. Evacuation Chain: CORPS4. Scheduled pieces of
new TOE equipment: 05. Multiple specialty: NONE6. Patient care: DIRECT7. MOS Grade Infeasibility
Adjustments by grade: E3 + 1
E4 -18
E5 +10
E6 + 6
E7 + 18. Projected Strength
Change in MOS: STAY THE SAME9. Promotion potential
Proportions by grade: E3 .85
E4 .49
E5 .79
E6 .96
E7 .58Capped vs. Full
Progression: CAPPED AT E710. Length of course: 13 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE24. MOS: 91 Victor Respiratory Specialist1. Density: LOW2. Type of organization: BOTH3. Evacuation Chain: CORPS4. Scheduled pieces of
new TOE equipment: 05. Multiple specialty: NONE6. Patient care: DIRECT7. MOS Grade Infeasibility
Adjustments by grade: E3 +46
E4 + 1
E5 -28
E6 -21
E7 +28. Projected Strength
Change in MOS: STAY THE SAME9. Promotion potential
Proportions by grade: E3 —
E4 1.00
E5 .86
E6 .41
E7 .56Capped vs. Full
Progression: CAPPED AT E710. Length of course: 19 . weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE25. MOS: 91 Whiskey Nuclear Medicine Specialist1. Density: EXTREMELY LOW2. Type of organization: TDA ONLY3. Evacuation Chain: ECHELON ABOVE CORPS4. Scheduled pieces of
new TOE equipment: 05. Multiple specialty: NONE6. Patient care: DIRECT7. MOS Grade Infeasibility
Adjustments by grade:
E3 +17
E4 + 8
E5 -17
E6 -10
E7 + 28. Projected Strength
Change in MOS: STAY THE SAME9. Promotion potential
Proportions by grade: E3 --
E4 1.00
E5 .79
E6 .44
E7 .36Capped vs. Full
Progression: CAPPED AT E710. Length of course: 19 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

50

26. MOS: 91 X-ray Health Physics Specialist

1. Density: EXTREMELY LOW
2. Type of organization: TDA ONLY
3. Evacuation Chain: ECHELON ABOVE CORPS
4. Scheduled pieces of
new TOE equipment: 0
5. Multiple specialty: NONE
6. Patient care: DIRECT
7. MOS Grade Infeasibility
Adjustments by grade:

Data not available

8. Projected Strength
Change in MOS: STAY THE SAME
9. Promotion potential
Proportions by grade:

Data not available

Capped vs. Full
Progression: ?

10. Length of course: 32 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

51

27.MOS: 91 Yankee Eye Specialist

1. Density: LOW
2. Type of organization: BOTH
3. Evacuation Chain: DIVISION
4. Scheduled pieces of new TOE equipment: 3
5. Multiple specialty: NONE
6. Patient care: DIRECT
7. MOS Grade Infeasibility Adjustments by grade:
- | |
|--------|
| E3 + 6 |
| E4 -47 |
| E5 +19 |
| E6 +20 |
| E7 + 2 |
8. Projected Strength Change in MOS: STAY THE SAME
9. Promotion potential Proportions by grade:
- | |
|--------|
| E3 .89 |
| E4 .40 |
| E5 .68 |
| E6 .80 |
| E7 .94 |
- Capped vs. Full Progression: CAPPED AT E7
10. Length of course: 12 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

52

28. MOS: 92 Bravo Medical Laboratory Specialist1. Density: HIGH2. Type of organization: BOTH3. Evacuation Chain: DIVISION4. Scheduled pieces of
new TOE equipment: 75. Multiple specialty: ONE6. Patient care: DIRECT7. MOS Grade Infeasibility
Adjustments by grade: E3 + 9
E4 - 5
E5 +35
E6 -69
E7 0
E8 +308. Projected Strength
Change in MOS: STAY THE SAME9. Promotion potential
Proportions by grade: E3 .87
E4 .91
E5 1.00
E6 .45
E7 .90
E8 1.00Capped vs. Full
Progression: FULL10. Length of course: 15 weeks BASIC COURSE
50 weeks ADVANCED COURSE

FRONT END ANALYSIS READ-AHEAD PACKAGE29. MOS: 92 Echo Cytology Specialist

1. Density: EXTREMELY LOW
2. Type of organization: BOTH
3. Evacuation Chain: ECHELON ABOVE CORPS
4. Scheduled pieces of new TOE equipment: 0
5. Multiple specialty: NONE
6. Patient care: INDIRECT
7. MOS Grade Infeasibility Adjustments by grade:
- | | |
|----|----|
| E3 | -- |
| E4 | -- |
| E5 | +1 |
| E6 | -3 |
| E7 | +2 |
8. Projected Strength Change in MOS: STAY THE SAME
9. Promotion potential Proportions by grade:
- | | |
|----|-----|
| E3 | -- |
| E4 | -- |
| E5 | .99 |
| E6 | .35 |
| E7 | .58 |
- Capped vs. Full Progression: CAPPED AT E7
10. Length of course: 50 weeks

FRONT END ANALYSIS READ-AHEAD PACKAGE

54

30. MOS: 94 Foxtrot Hospital Food Service Specialist

1. Density: MEDIUM
2. Type of organization: BOTH
3. Evacuation Chain: CORPS
4. Scheduled pieces of new TOE equipment: 0
5. Multiple specialty: NONE
6. Patient care: DIRECT
7. MOS Grade Infeasibility Adjustments by grade:

Data not available

8. Projected Strength Change in MOS: INCREASE
9. Promotion potential Proportions by grade:

Data not available

Capped vs. Full Progression: ?10. Length of course: 5 weeks

END

FILMED

10-83

DTIC