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EFFECT OF THE ARMY ORAL HEALTH MAINTENANCE PROGRAM (AOHMP) ON T--ETC(U)  
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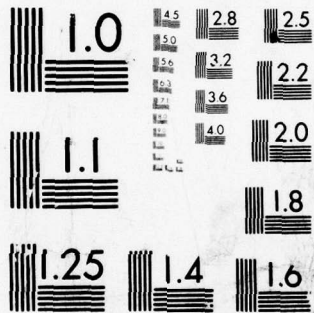
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EFFECT OF THE ARMY ORAL HEALTH MAINTENANCE PROGRAM (AOHMP) ON THE DENTAL HEALTH STATUS OF ARMY PERSONNEL  
SUBTITLE: AOHMP EVALUATION STUDY  
PART I. THE ROLE OF THE REQUIRED ANNUAL DENTAL EXAMINATION AS THE KEY TO THE DELIVERY OF NEEDED CARE

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The Army Oral Health Maintenance Program is an official Department of the Army program which is designed to determine the oral and dental health care needs of Army personnel and to provide dentally-fit soldiers. The purpose of this phase of the study was to evaluate the program as a principal patient input source. Personnel were evaluated at ten Army installations using the annual dental examination requirement as the vehicle for bringing personnel to the dental clinic. Examinations were done for a period of one full month on all persons presenting for their		

annual exam. Four months later the dental records of those persons examined were reviewed to determine how much of the needed care was received. Treatment plans were formulated for each patient examined. Dental care needed was broken down into nine categories and sample distributions were determined for both care needed and care received. Patients were evaluated according to three specific characteristics: rank, type of duty performed (combat or combat support service support), and by post to which assigned. Since those persons who were judged to need no care were not considered in this part of the study, 100 percent of the sample required some kind of dental care, either corrective or preventive.

The younger enlisted soldier generally required more routine dental care (restorations, extractions, prophylaxis), and in general this same group of individuals received no more and sometimes less care than other groups did. The combat MOS soldier has a generally greater need for dental care than does the non-combat MOS soldier. The results of this portion of the study indicate that the AOHMP provides a minimal level of definitive dental care to many beneficiaries who might not otherwise avail themselves of the opportunity for such care.

## SUMMARY

This study was requested by the Directorate of Dental Services, United States Army Health Services Command in February 1977. The Health Care Studies Division (HCSO), Academy of Health Sciences (AHS), was tasked to perform the study by the Commander, Health Services Command. The purpose of the study was to evaluate the Army Oral Health Maintenance Program (AOHMP) as the basis for improving the oral health status of Army personnel and as the principal patient input program for the Army dental care system.

The objectives/purpose of this phase of the study were to: (1) determine the dental care needs of soldiers; (2) determine the rate at which the dental care needs of the soldier are being satisfied; and (3) determine how the Army dental care system is responding to the demand, i.e., the satisfaction of the greater need. Data for the survey was collected at ten Army installations. These sites were selected to give a balance of population size and mission. The AOHMP, which required an annual dental examination for all active duty personnel, was the sample selection mechanism.

This portion of the study includes about 2650 personnel. This population represents all of those persons who were examined whose dental record could be located four months post-exam. A treatment plan had been developed for each of these persons at the time of their examination which was designed to restore them to reasonably optimal dental and oral health. At the time that the dental records were audited, some four months post-AOHMP exam, data was collected to show how much of the needed care has been received.

Distributions of the nine treatment categories for both care needed and received are provided for the total sample, and also for the sample by rank group, basic career management field, and physical location (site). Analysis of variance tests were performed to test for significant differences between means. Duncan's Multiple Range tests were also applied to rank and site subgroups to determine where (or if) significant differences occurred among the subgroup categories.

The data showed that the combat MOS soldier has a significantly greater need for dental care than does the non-combat MOS soldier. Also, the lower ranking enlisted soldier generally needs more care than other rank groups. The data also showed that, in general, dental care is delivered indiscriminately rather than to satisfy the greater need. The AOHMP was found to be an effective means to assess the dental health status of active duty personnel and it brings into the dental care system many beneficiaries who might not otherwise be there.



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## 1. INTRODUCTION.

### a. Purpose.

(1) The overall purpose of the AOHMP Study was to evaluate the Army Oral Health Maintenance Program as the primary vehicle for patient entry into the Army dental care system and concurrently to improve the oral health status of Army personnel.

(2) Because the AOHMP serves a variety of purposes the study effort was multipurpose as well. This report describes the changes in dental status which occurred in those persons who received an annual exam and whose records were reviewed four months following that exam. Two other reports will be made. One will discuss the AOHMP as the principal patient input source for the Army dental care system. The other report will address the overall participation rate in the program by Army members and the recurring need for routine dental care by active duty Army personnel.

### b. Background.

(1) The Army Oral Health Maintenance Program as it is presently known was initiated in 1968.<sup>1</sup> It is now known as Phase I of the program and was aimed only at those active duty personnel who were 25 years of age or younger. In 1971 the program was broadened to include those active duty personnel over age 25.<sup>2</sup> The program continued as a two-phase effort until 1974 when the efforts were integrated.<sup>3</sup> Since that time it has functioned as a single program whose purpose is to promote prevention and provide primary, secondary, and tertiary levels of care for oral disease and thus provide a dentally-fit soldier. Coincidentally the program also serves as the primary vehicle for the entry of military personnel into the Army dental care system.

(2) When the two phases of the program were integrated in 1974, guidance for its implementation was furnished to all Dental Activities (DENTAC) within the Army. In February 1975 the US Army Health Services Command (HSC) issued information and instructional guidance for the operation of the program at the DENTAC level.<sup>4</sup> Since the inception of the program, both Phases I and II, no evaluation has been conducted to determine if the AOHMP is fulfilling its purpose. The only measures of effectiveness have been based upon continuing updated reports from the field on the percentage of personnel who meet the requirements of the program, i.e., those who receive an annual dental examination or who are under active dental care. Though the participation goals are generally met, quarterly reports from the DENTACs indicate that there is a significant disparity among the DENTACs concerning the percentage of soldiers who participate in the program. It is important to know the rate at which needed dental care is provided to active duty personnel because this constitutes the critical measure of program effectiveness.

## 2. OBJECTIVES.

The objectives/purpose of this phase of the study were:

- a. To determine the overall dental care needs of soldiers and to identify what differences, if any, exist in the oral health status of various components of the Army personnel structure.
- b. To determine the rate at which the dental care needs of the soldier are being satisfied and to determine if the actual demand level corresponds to the potential demand level, i.e., the satisfaction of the greater need.
- c. To fulfill the recommendation of a previous dental requirements study that periodic surveys be conducted to reevaluate the effectiveness of Army dental programs and policies, in particular, the Oral Health Maintenance Program.<sup>5</sup>

### 3. METHODOLOGY.

#### a. Overview.

The data were obtained by means of a prospective clinical survey and a retrospective records audit conducted at dental services at ten DENTACs in CONUS, including dental services at two Army medical centers. The prospective clinical surveys were conducted for a period of one month at each study site, and included all persons who presented for their annual exam during that period. At the time of their annual dental examination an individual treatment plan was developed for each patient by the examining dentist, using the identified treatment needs as the basis (at Appendix 1). Four months after the initial data collection period (initial examination), the investigators visited the study sites to examine the dental records of those persons examined four months previously. Due to transfers, separations, and other causes all of the records were not available. Data was gathered from all available records and analyzed at HCSD. Determinations were made of the dental care requirements and the amount of dental care received by US Army active duty populations according to rank group, basic career management field (combat or combat support), and by the installation to which assigned. Types of dental care required and received were obtained in numbers of treatments (teeth), percent of the sample requiring the specific types of care, and the number of appointments required to deliver (receive) that care.

#### b. Sample.

(1) The sample population consisted entirely of active duty Army personnel stationed within CONUS. Ten DENTACs including MEDCENs, were involved in data collection in order to obtain a representative cross section of the population (see Figure 1 and Table 1). Factors such as installation size, mission, and types of soldiers assigned were considered in the selection. (See Figure 2 for a graphic representation of the sample population profile.) Six rank groups were identified as primary sub-populations for comparison and data analysis. They were defined as follows:

Group 1 - E1-E4  
Group 2 - E5-E6  
Group 3 - E7-E9  
Group 4 - W1-W4  
Group 5 - O1-O3  
Group 6 - O4-O6

Figure 2 and Table 2 compare the study sample rank groups with those same groups Army-wide. Subjects were also divided into two major categories regardless of rank. They were identified either as combat soldiers Type 1, or as combat support/combat service support Type 2. (See Figure 3 and Table 3.)

(2) The Army Oral Health Maintenance Program (AOHMP) was the mechanism used to select subjects for the survey. The AOHMP is a Department of the Army mandated program which requires that every Army member receive an annual dental examination during the individual's birth month anniversary. Initial data collection (care requirements) at the time of the annual examination minimized inconvenience for both the examiners and subjects, eliminated the need for additional dental resources, and did not disrupt the normal scheduling for dental care. Since the retrospective data was collected by the HCSD investigators there also was no disruption of care during this phase of the study effort.

c. Data collection procedures.

(1) Initial examination. The basic guidance provided each examining officer consisted of the following instructions: "Your examination findings should result in the formulation of a treatment plan that you feel will restore the patient to reasonably optimal oral health." A copy of the data collection instrument and instructions are at Appendices A and B. The data collection form contained twenty-five dental care related entries and personal and administrative data.

Examiners indicated the numbers of restorations, extractions, teeth needing endodontic therapy, units of crown and bridge, complete dentures, partial dentures, prophylaxis/scalings, quadrants of subgingival curettage, and quadrants of gingivectomy needed. The examiner also estimated the number of dental appointments which would be needed to accomplish those requirements. Each patient was classified according to the urgency of care required.

(2) Retrospective records audit. Four months after the initial dental examination the HCSD investigators visited each of the study sites. The purpose of these visits was to examine the dental records of those persons who had undergone an annual dental examination four months previously and to record the dental care received during the interim period. Also recorded at this time was information relating to the patients' attendance record at scheduled dental appointments. (See Appendix A for a copy of the data collection form.)

d. Data handling. Data collection forms were reviewed for completeness and correctness at HCSD prior to keypunching. Questionable data forms were evaluated by the project officers who made final disposition of them. Incomplete or inaccurate data collection forms did not present a significant problem.

#### 4. FINDINGS.

##### a. Sample characteristics.

(1) A total of 2,650 dental examinations and subsequent records audits comprise the data base for this report.

(2) The distribution of the sample among rank groups is found in Table 2. The lower enlisted rank groups comprise the largest group (1509 persons or about 57 percent of the sample). This compares very favorably to the total Army percentage of 55.7 percent for this rank grouping. Commissioned officers comprised 8.5 percent of the sample compared to a 9.0 percent share in the total Army.

The distribution of the sample by type (combat vs combat support/service support) is presented in Table 3. Combat soldiers comprised almost 59 percent of the study sample. The distribution of the sample by site or installation is shown in Table 1. Though the population sample is not balanced by site, Table 2 indicates that there was a fairly good balance among rank groups when all ten sites were grouped together. No attempt was made to balance the sample according to sex since it was felt that by including all persons who received a dental exam during a month long period this factor would be randomized.

##### b. Distribution characteristics.

(1) The distributions of the variables for the number required and received, other than prophylaxis/scaling, are all positively skewed and have a mode of zero. The mode for prophylaxis/scaling is one. Positive skewness refers to the graphic interpretation of the distributions described and indicates that the high point on the vertical axis is located toward the left side of the horizontal axis. A very positively skewed distribution describes a situation where the mode is zero and there are no negative values. Such a distribution does not fit the normal (bell-shaped) curve and therefore the mean, median, and standard deviation are not necessarily the most appropriate descriptors for such distributions. Therefore the modal response was chosen to describe the distributions cited above. The mode is a measure of central tendency which describes the value that most frequently appears. For example, the mode for the number of restorations needed is zero because more persons were reported to need zero restorations than any other number.

(2) Percentage distributions and cumulative percentages provide meaningful statistics for the number of treatments required and received for each treatment variable.

(3) The mean, in skewed distributions as described, is strongest in the application of time or cost-related measures. The time (in hours) required to provide care for the specific population from which this sample was drawn has been addressed in another report.

(4) The distribution percentages completely describe the population in terms of practical significance. The use of mean values for such data, to which time data is applied, is an appropriate method for estimating man-hour requirements to deliver needed care to a specific sub-group of the population described.

c. Reliability of data. Data reliability was determined by using the standard error of the mean to calculate the 95 percent confidence intervals for each variable ( $\bar{x} \pm 2$  standard errors). Tables 4 and 5 show the 95 percent confidence intervals for the number of each treatment variable required and received respectively by the sample population. Table 6 presents the 95 percent C.I. for the hours necessary to provide the needed care. These confidence intervals establish ranges within which the means of subsequent samples from similar populations are expected to fall 95 percent of the time.

d. Demographic analysis. Analysis of variance (ANOVA) was used to test for significant differences between categories for each sub-group for the number of treatments required and received for each treatment variable. ANOVA findings for the three sub-group categories are found in the supplemental tables at Appendix C. Duncan's Multiple Range Tests were also applied to rank and site sub-groups to determine where significant differences occurred between the sub-group categories. Results of the Duncan's tests for both care requirements and care received can also be found in the supplemental tables at Appendix C.

e. Care requirements.

(1) Table 7 depicts the priority classification for the dental care needs of the sample population at the time of examination. Though the table shows that 0.5 percent of the population required no care, this is in error. In this aspect of the study those persons needing no care were excluded. Assuming then that 100 percent of the sample required some care, the data show that over half of these persons were classified as needing early treatment to prevent pain or premature loss of teeth (Class 3). Only two percent of the sample required extensive prosthodontic care (Class 4).

(2) Summary descriptive statistics for each treatment variable for the entire sample are shown in Tables 8, 9, and 10. The data in these tables apply to the number of each treatment variable required as it applies to the total sample population, not to every individual within that group. Table 11 contains treatment time data. The descriptive statistics included in these tables include the mean, median, mode, range, standard deviation, standard error of the mean, and skewness.

(3) The summaries of frequencies for each of the nine care need variables and for the appointments required to provide that care are presented in Tables 12 through 21. Nineteen percent of the sample required no restorations, but 56 percent needed between one and six restorations. A significant finding is that almost 55 percent of the sample required three or less restorations. The great need for this care by the two lower ranking enlisted groups (Groups 1 and 2) becomes apparent when compared to these figures. They had mean needs of 4.85 and 4.25 restorations respectively. The largest care need category was for a prophylaxis or scaling where 95.1 percent of the sample required this type of care. The smallest care need in terms of the proportion of the population requirement was for complete dentures, where only 0.1 percent of the sample had that particular care need. The three largest care need categories were dental prophylaxis/scaling, restorations, and extractions, in descending order.

(4) The distribution of the mean need for each treatment variable by rank group is shown in Table 22. ANOVA results showed that except for the care areas of endodontics and prophylaxis/scaling there were significant differences among the rank groups in the other seven care categories (at Supplemental Table 1). These differences and similarities will be discussed later in this report.

(5) The distribution of the need for each treatment variable by basic branch/career management field is shown in Table 23. Analysis of Variance tests were performed to test for significant differences between the means for each of the two fields. The ANOVA tests showed that there were highly significant differences between the two categories in the need for restorations, extractions, and crown and bridge. Combat personnel (Type 1) required significantly more restorations and extractions. Combat support/service support personnel (Type 2) required significantly more crown and bridge therapy. See Supplemental Table 2 for ANOVA results.

(6) Table 24 presents the mean need for each of the nine care need variables for the ten study sites. The raw figures seem to indicate that one or more sites had greater or lesser mean needs, and indeed the analysis of variance tests showed that there were significant differences among the sites in this regard. The figures indicate that a particular site may have greater or lesser requirements in one or several categories, but that no single site had consistently greater or lesser needs in all care categories (see Supplemental Table 3).

f. Care received during the four-month duration of the study and following an annual dental examination.

(1) The summaries of frequencies for care received in each of the nine treatment variables and for the number of appointments received are presented in Tables 25 through 34. Where almost 55 percent of the study sample required three or less restorations, 26.6 percent of those persons whose records were reviewed received between one and five restorations during the four month study period. One important area for comparison is prophylaxis/scaling. Just over 61 percent of those persons whose records were reviewed received such care. This compares to 95.1 percent of the original sample who required this type of care.



(2) The distribution of the mean number (units) of treatments received by rank group is presented in Table 35. Supplemental Table 4 shows the results of the analysis of variance tests performed to determine if there were any significant differences among the rank groups in this regard. In only three care categories were there no significant differences in the amount of care received. This finding is important because it is an indication of the dental care system's response to need. Comments in the discussion will address this facet of the study findings.

(3) Table 36 presents the mean number of treatments received according to the service members' basic branch or career management field. These means seem to say that the Type 2 soldier, who performs the combat support/service support tasks, received more care in all but two categories (extractions and full dentures). Analysis of variance testing however indicated that except for the care areas of partial dentures and prophylaxis/scaling, there were no significant differences in the amount of care received by the two types of soldiers (see Supplemental Table 5). In the two categories where there were significant differences the combat support/combat service support soldier received significantly more care than the combat soldier.

(4) Table 37 presents the mean values for each of the treatment variables for each of the study sites. It is evident that there was a wide variance in the amount of care rendered among the several installations and an analysis of variance performed on the data did confirm that significant differences did occur (see Supplemental Table 6).

## 5. DISCUSSION.

### a. Sample characteristics.

(1) The size of the sample (N = 2650) is a sufficiently large base on which inferences may be made which are statistically valid. The basis for determining the sample size was to evaluate the dental record of every individual who presented for an annual dental examination during a specific one month period and whose dental record could be located four months later. There was no attempt to select individuals by sex, rank, age, or any other limiting demographic variable because it was felt that the AOHMP mechanism would provide a balanced sample. In fact, Figure 2 demonstrates that the sample did bear a strong resemblance to the Army as a whole, particularly in regard to rank. This was important because the lower ranking enlisted grades comprise about 80 percent of the total Army, and it is this group which has extensive care needs, particularly in regard to restorative and oral surgery needs.

(2) The size of the sample population varied widely among the study sites. One obvious reason for this is that the study sites themselves vary greatly in terms of active duty population. A second but less obvious reason was the variability in the operation of the annual dental evaluation program at the different sites. The more vigorous and active programs reach a larger share of their troop populations and

so they provided a larger proportion of the study sample. However, because the Army is so mobile it is unlikely that a heavy sample at a few sites would present a distorted picture of the Army as a whole.

(3) The study population was classified into two basic categories, regardless of rank, for the purpose of analyzing the dental requirements and treatment received by combat-MOS personnel as compared to personnel who function in the combat support or combat service support MOSs. About 59 percent of the sample belonged in the combat MOSs. It was not possible to obtain accurate figures to determine if the sample mirrors that of the total Army in this regard. However, because it is vital that combat soldiers be in a good state of health, this report discusses and compares the two categories. Such information should be very useful for purposes of resource planning.

b. Study sample dental classification.

At the time of their annual dental examination, 98 percent of the study sample were in Class 2 or Class 3 which indicated the need for routine care or priority care. A small number were reported to be in Class 1, needing no care. This was due to a coding error when data was processed since all such persons were excluded from this phase of the study. Table 38 shows the dental classification of the study sample four months after their examinations. A large proportion, about 22 percent, were reported to have received all needed care. These data seem to indicate that a large number of people needed relatively little care to move them into Class 1. However, as one might expect, those persons needing more care and who were initially placed in Class 3, did not receive sufficient care to change their dental classification. Thus the percentage of persons in Class 2 is less than at the time of the initial exam. This does not indicate a worsening condition, but is the result of a large number of people who needed relatively little care moving into Class 1 while many persons initially placed in Class 3 had not yet received enough care to cause a positive change in their dental classification. Except for the Class 2 category, however, Table 38 does indicate a very favorable improvement in dental classification when compared to the status at the time of the annual exam. Table 39 portrays the change in dental status as evidenced by a change in dental classification. After only four months, just over 30 percent of the study sample had an improved classification. While about 66 percent show no change this does not imply that no care was received. Dental care can be provided without necessarily causing a change in the dental classification of the individual.

c. Patient longevity in the dental care system.

One of the important pieces of information sought by this study was to determine what happens to an individual subsequent to the annual examination. Table 40 shows that after four months only 254 persons from the original sample of 2650 were under active dental care. Discounting the 588 persons who had completed care, this left 1811 persons

who still needed care but were not receiving it. Only 14 percent of the sample who needed care were still "in the system" four months after their annual examination.

d. Restorations required and received.

Summary statistics show that the mean need for the entire study population was about 4.3 restorations. It must be emphasized again here that this figure applies to the sample at large and does not mean that every person needed that amount of care. Likewise, the mean figure for the population for restorations received was about 1.4. Approximately 81 percent of the study sample required one or more restorations, but of that group 1712 persons or 64.5 percent received none. This means that 436 people or 20.3 percent of the population which needed one or more restorations received some care of that type.

(1) Rank groups.

Duncan's Multiple Range testing shows that in general the lower ranking enlisted groups (E1-4) and (E5-6) required more restorations than other rank groups as Table 22 indicated. However, there were no significant differences in the volume of restorative care received by these two groups when compared to the other rank groups (at Supplemental Table 7).

(2) Type.

Although the combat soldiers as a group had a significantly greater need for restorations (Table 23 and Supplemental Table 2), ANOVA testing indicated that there was no significant difference in the number of restorations received among the two basic branch/career management field personnel (at Supplemental Table 5).

(3) Site.

There was a rather large variation among the ten study sites in both the need for and receipt of restorations among the personnel at those sites. Analysis of the data showed that with two exceptions there were no clear patterns. As can be seen from Table 24 and Supplemental Table 6, Site 5 reported a significantly higher mean need than all but one of the other sites. As can also be seen in Supplemental Table 17 both Sites 5 and 8 reported significantly lower means for restorations received than the other sites.

e. Extractions required and received.

The mean need among the study sample was .995 or about 1 extraction. This translates to about 2650 extractions needed by the sample population. The mean figure for extractions received was .22 or about 572 extractions among the study population during the four month post-exam period. About 37 percent of the sample required one or more extractions. Of that group, 272 or 27.6 percent of those persons

diagnosed as needing one or more extractions actually received such treatment. It should be noted that some of the diagnosed extractions were likely third molars and could possibly be classified as elective care rather than priority care.

(1) Rank groups.

Duncan's Multiple Range Test (at Supplemental Table 8) verifies the figures in Table 24 which indicate that the lowest ranking enlisted group clearly needed more extractions than any other group. However, when comparing differences between the six rank groups it is obvious that this younger group did not receive significantly more extractions than any other rank group (at Supplemental Table 8 and Table 35).

(2) Type.

Although Table 23 appears to indicate that the combat soldier (as a group) has a slightly greater requirement for extractions, the ANOVA test (at Supplemental Table 5) showed that this same group received significantly fewer extractions than did the combat support/service support group.

(3) Site.

In general, there were no significant differences among the sites either for extractions needed or received. As can be seen in Supplemental Table 18, however, Sites 9 and 10 reported a significantly greater need in this area than six of the other sites. Sites 7 and 10 appear to have provided significantly more care in this area whereas at Site 9 where there was a greater reported need the care rendered was not significantly greater than at any of the other sites, and it was less than at two other sites (at Supplemental Table 19).

f. Endodontic care needed and received.

Of the total sample only 157 persons or 6 percent required endodontic care (root canal treatment). This translates to a very low mean of only .076 root canals for the entire study population. But of this total need, 64 treatments or 40 percent of the needed endodontic care was rendered during the four month post-exam period. This is a better track record than for restorations and extractions and it represents care given to 57 persons.

(1) Rank group.

Rank groups 2 (E5-E6), and 4 (W1-W4) demonstrated the highest need for endodontics as compared to the overall mean whereas rank group 1 (E1-E4) was just about right on the mean (at Table 22). However, in terms of significant difference among the rank groups the Duncan's Multiple Range Test showed there was none, either for endodontic treatment needed or received (at Supplemental Table 9).

(2) Type.

As seen in Tables 23 and 36 the need for and receipt of endodontic care by type was almost the same. ANOVA testing confirmed that there were no significant differences in either category (at Supplemental Tables 2 and 5).

(3) Site.

There was a rather great difference among sites in both the need for endodontic care (mean .03 - .11) and the amount received (.0 - .08) as seen in Tables 24 and 37. Testing for significant differences among means showed that there were only a few differences between the sites in the amount of care needed (at Supplemental Table 20). However, when the amount of care received is analyzed (at Supplemental Table 21) it is apparent that Site 4 rendered significantly more endodontic care than most of the other sites. There are other random differences but no patterns.

g. Crown and bridge treatments needed and received.

About 12 percent of the sample was diagnosed as needing some fixed prosthodontic care (crown and bridge). The range was between 1 and 10 units per person, with one unit being the mode (137 persons) and far fewer needing 2 or more units. The mean need for the entire study population was .281 units per person (at Table 8). During the four month post-exam period 31 persons received some crown and bridge care. This represents 10.4 percent of the sample which was diagnosed as needing such care who received some. In view of the fact that there is other dental care often needed prior to crown and bridge therapy this does not seem to be a low figure.

(1) Rank groups.

As can be seen in Supplemental Table 10 there were no significant differences among the rank groups for crown and bridge care needed or received.

(2) Type.

Supplemental Table 2 indicates that the Type 2 individual (Combat Support/Combat Service Support) had a significantly greater need for crown and bridge than did the Type 1 soldier (combat). However, similar ANOVA testing showed that there was no significant difference in the amount of care rendered to either type of soldier (at Supplemental Table 5).

(3) Site.

Table 24 apparently indicates that Sites 2 and 4 had a greater mean need among their study populations for crown and bridge. Duncan's Multiple Range tests confirmed this to be true for Site 4 only (at Supplemental Table 22). However, in terms of crown and bridge

treatment received both Sites 2 and 4 rendered significantly more such care than most of the other sites. Site 3 delivered significantly more crown and bridge care than several sites but also less than some others (at Supplemental Table 23).

h. Full dentures needed and received.

The need for this service was very low. Table 16 shows that only 25 persons or .9 percent of the study population required such care. Since many persons who require such care are already wearing dentures and the service need is a replacement, it is not alarming that only three persons from the study sample had received a complete denture during the four month test period.

(1) Rank groups.

Supplemental Table 11 shows that although there are some scattered significant differences among the rank groups, Group 3 (E7-E9) has a consistent significantly greater need than most of the other rank groups.

(2) Type.

ANOVA testing shows that there were no significant differences between Type 1 and Type 2 individuals either in the number of complete dentures needed or received (at Supplemental Tables 2 and 5).

(3) Site.

At Supplemental Table 24 it can be seen that Sites 2 and 4 reported significantly greater need for complete dentures among their study populations than the other sites. With only a few exceptions there were no significant differences among the study sites in the number of full dentures received (at Supplemental Table 25).

i. Partial dentures needed and received.

The mean need for partial dentures among the study population was .097 as compared to .012 for complete dentures. One hundred eighty-eight persons or 7.1 percent of the study sample needed one or two removable partial dentures. During the four month post-exam period only 17 people or nine percent of those persons needing such care received some. But this again is not disappointing because in a dental therapy regimen a removable partial denture would be the last step in the treatment sequence (at Tables 17 and 30).

(1) Rank group.

In Table 22 rank group 4 has greater reported need for removable partial dentures than the other rank groups. However, Duncan's Multiple Range Test for comparison of differences between rank groups shows that rank group 3 actually has a significantly greater need for

partial dentures than the other five groups. There are some scattered differences among the other rank groups, but group 4 does not have a significantly greater need than any other group and in fact has a significantly lesser need than group 3 (at Supplemental Table 12). This table also shows that there were no significant differences among the rank groups for partial dentures received.

(2) Type.

At Supplemental Table 2 it can be seen that there was no significant difference in the need for partial dentures among the two types of soldier. However, Supplemental Table 5 shows that the combat support/combat service support soldier (Type 2) received significantly more care in this category.

(3) Site.

At Sites 2 and 4 there was a significantly greater reported need for removable partial dentures among the study population than at the other study sites (at Supplemental Table 26). There were a few other scattered differences among the sites, but no clear patterns. At Supplemental Table 27 it can be seen that Sites 2 and 4 also delivered significantly more care in this category than the other sites, except Site 7 which also delivered this care at a high rate. Except for these three sites there were no significant differences among the other seven sites in the quantity of partial dentures delivered to the study population.

j. Prophylaxis/Scaling needed and received.

Slightly more than 95 percent of the study sample required a prophylaxis and/or periodontal scaling. This was the only care category in which the mode for need was other than zero (at Tables 8 and 18). This indicates a preponderant need among the population for this care and it was an expected finding. Of the study population, 1623 persons or slightly more than 61 percent received this preventive care. This too was the highest rate of care delivered in any of the care categories and is indicative of the extent to which the Army dental care system is able to provide such care (Table 31).

(1) Rank group.

Table 22 shows that there was a very constant need among the rank groups for this care, the range being only .94 to .96. As can be seen in Supplemental Table 13 testing for comparison of differences between means confirmed that there were no significant differences for this preventive care among the rank groups either in care needed or care received.

(2) Type.

ANOVA testing showed that there was no significant difference between combat (Type 1) and combat support (Type 2) soldiers in the need for preventive care, but that the Type 2 soldier received significantly more such care (at Supplemental Tables 2 and 5). The reasons for this inconsistency are not readily apparent, but an assumption can be made that due to heavy training commitments the combat soldier is less able to avail him or herself of needed preventive dental care.

(3) Site.

Except for Site 7, the range of the reported need for prophylaxis/scaling at the other nine sites was fairly narrow (.89 - .99). At Site 7 the mean need was much lower (.76) (at Table 24). At Supplemental Table 28 it can be seen that except for Site 10 the other eight sites did indeed report a significantly greater need in this category than did Site 7. At Site 7 the annual exam procedure varies somewhat from the other sites in that a prophylaxis/scaling was given to the patient at the time of the annual exam and sometimes even before the actual exam was done. Despite instructions to the examiners that they record the need for such care on these patients so that a distorted picture not result, this was often not done. There was a similar situation at Site 9, but converse that at Site 7. Site 9 reported significantly greater need than all but two of the other sites.

Regarding the amount of preventive care received, Site 8 personnel received significantly less than all of the other nine sites. Sites 5 and 10 personnel also received generally less care of this type. Sites 2, 3, 7, and 9, rate on the high side of care received in that personnel at these sites received more care than personnel at five or six other sites and at none of these four sites did personnel receive less care than at any of the other sites (at Supplemental Table 29).

k. Subgingival curettage needed and received.

The overall mean need for subgingival curettage was .245 quadrants (at Table 8). This represents a fairly low average need, but it is higher than the mean need for root canals, partial and complete dentures, and gingivectomy. However, in terms of the number of individuals requiring this dental treatment it represents about 7.5 percent of the study sample whereas 7.1 percent of the sample required one or more partial dentures and 6.0 percent required some endodontic treatment (root canal). (Tables 14, 17 and 19.)

During the four month post-exam period 42 people or 21 percent of those persons needing subgingival curettage actually received therapy of this type (at Table 32). This compares to 36 percent of those needing endodontics who actually received some and nine percent of those needing a partial denture who actually received a denture. It should be borne in mind that subgingival curettage is therapy which is done before a patient is provided with removable or fixed prosthodontics, and so one would expect the latter rates to be lower.



(1) Rank groups.

Table 22 indicates that Group 3 (E7-E9) requires more subgingival curettage therapy than the other rank groups. Duncan's Multiple Range Test (at Supplemental Table 14) shows that, in fact, Group 3 requires more such care than all other groups except Group 6. This is not surprising since these groups represent the higher ranks of both officer and enlisted personnel, and thus older age groups as well. Although Group 3 needs more than most of the other groups, Group 6 (O4-O6) actually received significantly more care than all of the other groups, including Group 3 (at Supplemental Table 14).

(2) Type.

Tables 23 and 36 give the mean values for the need for and receipt of subgingival curettage therapy by combat and combat support personnel. Figures for mean need are very close while the means for therapy received appear to be more widely variant. However, as can be seen in Supplemental Tables 2 and 5, ANOVA testing shows that there are no significant differences between the two types of soldier in either care needed or received.

(3) Site.

Table 24 seems to indicate that there is a wide range among the 10 study sites in the need for subgingival curettage therapy for the study population at those sites. As seen in Table 37 it also appears that the mean values for therapy received also vary widely. However, Duncan's Multiple Range testing showed that there were no significant differences among the sites in the need for subgingival curettage (Supplemental Table 30), but that there were significant differences among the sites in terms of therapy received (Supplemental Table 31). Sites 2 and 4 delivered significantly more subgingival curettage therapy than the other sites and there were no significant differences between those two sites. Among the other sites there are some individual differences in subgingival curettage received, but there are no other clear trends.

1. Gingivectomy needed and received.

Among the entire sample only 66 persons or 2.5 percent required gingivectomy therapy (Table 20). Except for complete dentures this was the lowest reported need. The mean need was .072 quadrants of therapy needed. Of this group that had a need at the time of their annual examination, 19 people or 29 percent actually received some care.

(1) Rank groups.

Table 22 shows that the mean need for gingivectomy therapy among the six rank groups ranges from .03 to .23 quadrants. However, Supplemental Table 15 shows that except for a few scattered instances there were no significant differences among the rank groups for either

care needed or received. Rank group 3 (E7-E9) required more care than Groups 1 and 5, but there was no real trend among any of the rank groups.

(2) Type.

Tables 23 and 36 indicate that there are small differences in both gingivectomy therapy needed and received by soldiers classified as Type 1 or Type 2. However, ANOVA testing to determine significant differences between means showed that there were none between the combat soldier (Type 1) and the combat support/service support soldier (Type 2), either for gingivectomy needed or received (at Supplemental Tables 2 and 5).

(3) Site.

Although Table 24 shows that Site 3 reported a larger mean need among its study population for gingivectomy than the other sites, this was not substantiated by Duncan's Multiple Range Test for the comparison of differences between means. At Supplemental Table 32 it can be seen that Site 2 demonstrated the only significant differences from the other sites, and that where present the need was greater, even than Site 3. Supplemental Table 33 shows that Site 2 also delivered significantly more gingivectomy therapy than all of the other nine sites. Except for delivering less care than Site 2, there were no significant differences among the nine other study sites in regard to the amount of gingivectomy therapy delivered to study participants.

m. Dental appointments needed and received.

By the estimate of the examiners, 24.9 percent of those persons examined who needed some dental care required two or less appointments to have that care rendered (at Table 21). Within four months of their examinations, 41.1 percent of the study sample received at least two dental appointments and 72.6 percent received at least one dental appointment (at Table 34). The proportion of the sample that received one appointment is of interest since such a high percentage of them received a prophylaxis (64.3 percent) it might be presumed that this care category accounts for many of these appointments. It is interesting to note also that even during the short space of four months, about five percent of the sample received eight or more appointments, with the maximum of nineteen appointments being received by one person. However, the investigators learned that many of these multiple-appointment experiences were connected with oral surgery procedures, and were post-surgery follow-ups. Importantly, however, 16 percent of the sample received between four and seven appointments during the four month post-exam period.

The number of appointments received during the post-exam study period looks favorable in view of the fact that requirements for those kinds of dental care which entail multiple appointments were relatively low. For example, only .9 percent of the sample needed complete denture therapy, and only 11.2 percent required one or more units of crown and bridge. This allows the assumption that most of the

appointments received were for the delivery of preventive and restorative care, which represented the greatest need categories. About 75 percent of the sample required six or less restorations, a workload which could be accomplished in three or fewer appointments.

Another way to look at the appointment rate is to use a ratio which will be called the Appointment Opportunity Ratio (AOR). It measures the appointments actually received or made and not kept against the appointments needed. Using means from the entire study sample the AOR for the entire sample was calculated as follows:

Appointment Opportunity Ratio = Appointments Received plus the sum of the Broken Appointments and Cancelled Appointments, divided by the Appointments Needed.

$$AOR = \frac{AR + \Sigma (BA + CA)}{AN}$$

Substituting the mean figures from the study, the AOR is calculated as:

$$AOR = \frac{2.203 + (.291 + .064)}{5.159}$$

$$AOR = \frac{2.558}{5.159}$$

$$AOR = .495$$

The study sample had an Appointment Opportunity Ratio of almost 50 percent, which means that during the four month post exam period the participants, as a whole, had the opportunity to receive almost half of the appointments the examiners estimated were needed to complete their dental care.

The number of dental appointments received was 5834. Taken together broken and cancelled appointments totalled 935 which was 16 percent of the appointments actually received or 13.8 percent of all appointments made. It must be remembered, however, that some broken or cancelled appointments were probably not recorded in the patient records, so the actual ratio of unkept appointments is probably higher than that reported. If so, then the Appointment Opportunity Ratio would also be higher.

n. Treatments required and received per 1,000 personnel.

By addressing the number of treatments required and received by a specified number of people the matter of need and satisfaction of need is put into more real terms. By so doing it is also made feasible to translate the care delivery process into time required to deliver that care. This figure is of primary importance in the distribution and utilization of resources so that the greatest impact can be made on

reducing the overall prevalence of dental disease among the subject population. Time requirements have been discussed in another part of the study report.

Because the sample discussed in this part of the study report excluded all persons examined who did not need dental care, the mean need and thus the treatment requirements per 1,000 personnel are greater than for the entire population which was examined. Supplemental Tables 34 and 35 present the number of treatments required per 1,000 personnel by rank group. Similar information is given in Supplemental Tables 36 and 37 for combat and combat support soldiers, and in Supplemental Tables 38 and 39 for personnel at each of the study sites, regardless of rank or MOS. By applying times needed to deliver various types of care as found in Appendix D, the resource mix needed to satisfy the total care requirements of this specific sample can be estimated.

## 6. CONCLUSIONS.

a. The Army Oral Health Maintenance Program is an effective vehicle for assessing the dental health status of active duty personnel.

b. The program as presently structured provides a minimal level of definitive dental care to a substantial portion of the beneficiaries in need of care.

c. The combat MOS soldier has a significantly greater need for dental care than the non-combat MOS soldier.

d. The lower ranking enlisted personnel have a generally greater need for dental care than higher ranking enlisted personnel or officers.

e. There are differences among the various Army installations in both the need for care and receipt of care by assigned personnel. However, the study revealed no clear patterns in either area at particular sites.

f. Patient longevity within the dental care system is relatively brief subsequent to the annual examination.

## 7. RECOMMENDATIONS.

a. The results of this study should be made available to Army dental resource planners and managers.

b. Surveys should continue to be conducted on a periodic basis to obtain epidemiologic data, and to assess the effectiveness of Army dental programs and policies.

c. A study should be conducted to attempt to determine the reason(s) for the short life of the average patient in the Army dental care system.

8. REFERENCES.

1. Memorandum For All Dental Corps Officer, MEDDS-PD, 6 December 1968, Subject: Oral Health Maintenance Program.
2. Letter, AGDA-M (11 January 1971) MEDDS-P, 20 January 1971, Subject: Phase II Army Oral Health Maintenance Program.
3. Letter, DAAG-PAP-A(M) (DASG-DCM) 4 October 1974, Subject: Army Oral Health Maintenance Program.
4. HSC Dental Bulletin Number 2, 18 February 1975, Phase II Army Oral Health Maintenance Program.
5. Dental Care Requirements of Active Duty Army Personnel. Report HCSD-76-009R. Health Care Studies Division, Academy of Health Sciences, April 1976.

FIGURES

Figure 1

SAMPLE POPULATION BY SITE PROFILE

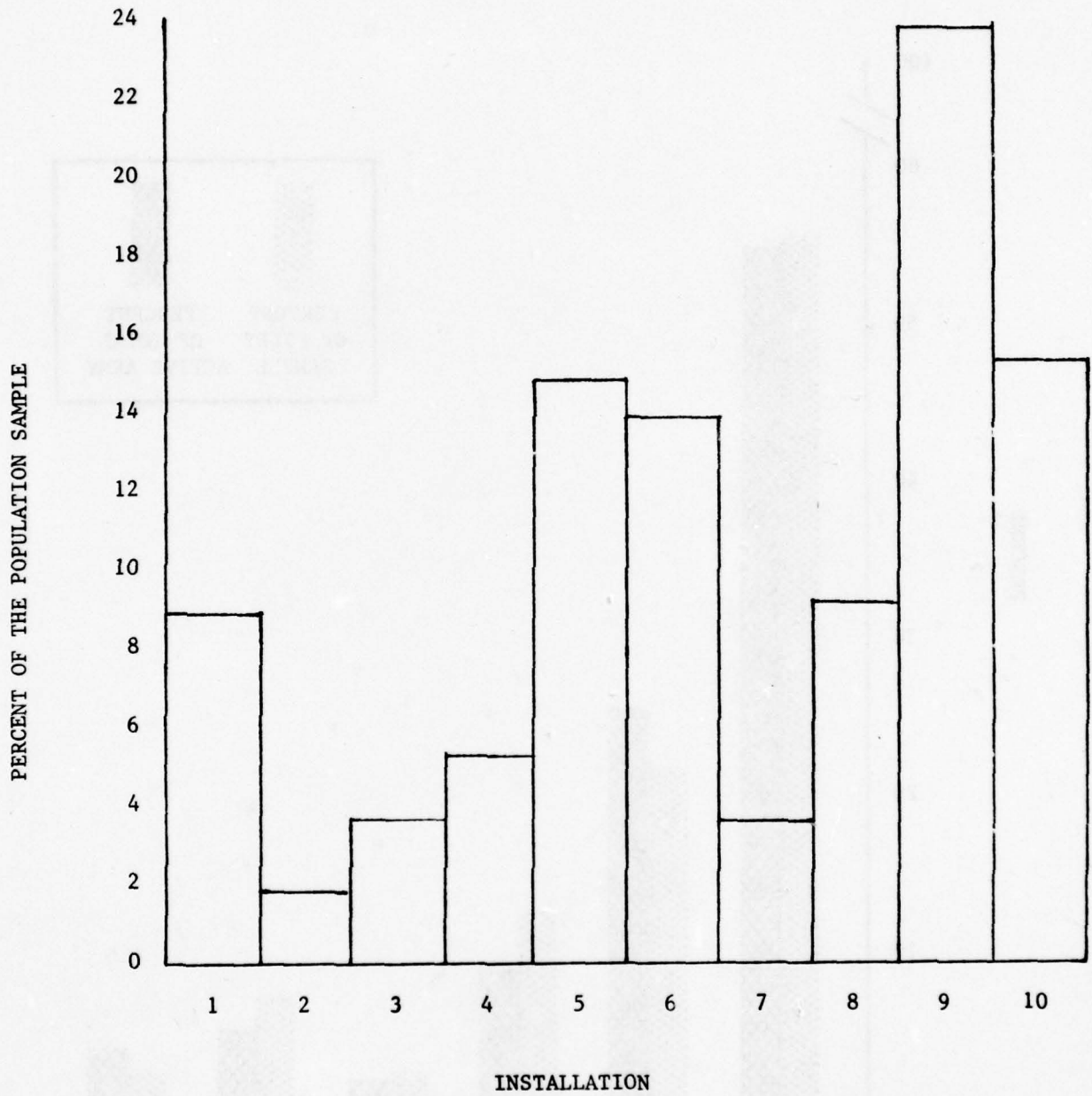


Figure 2

U S ARMY RANK GROUPING PROFILE

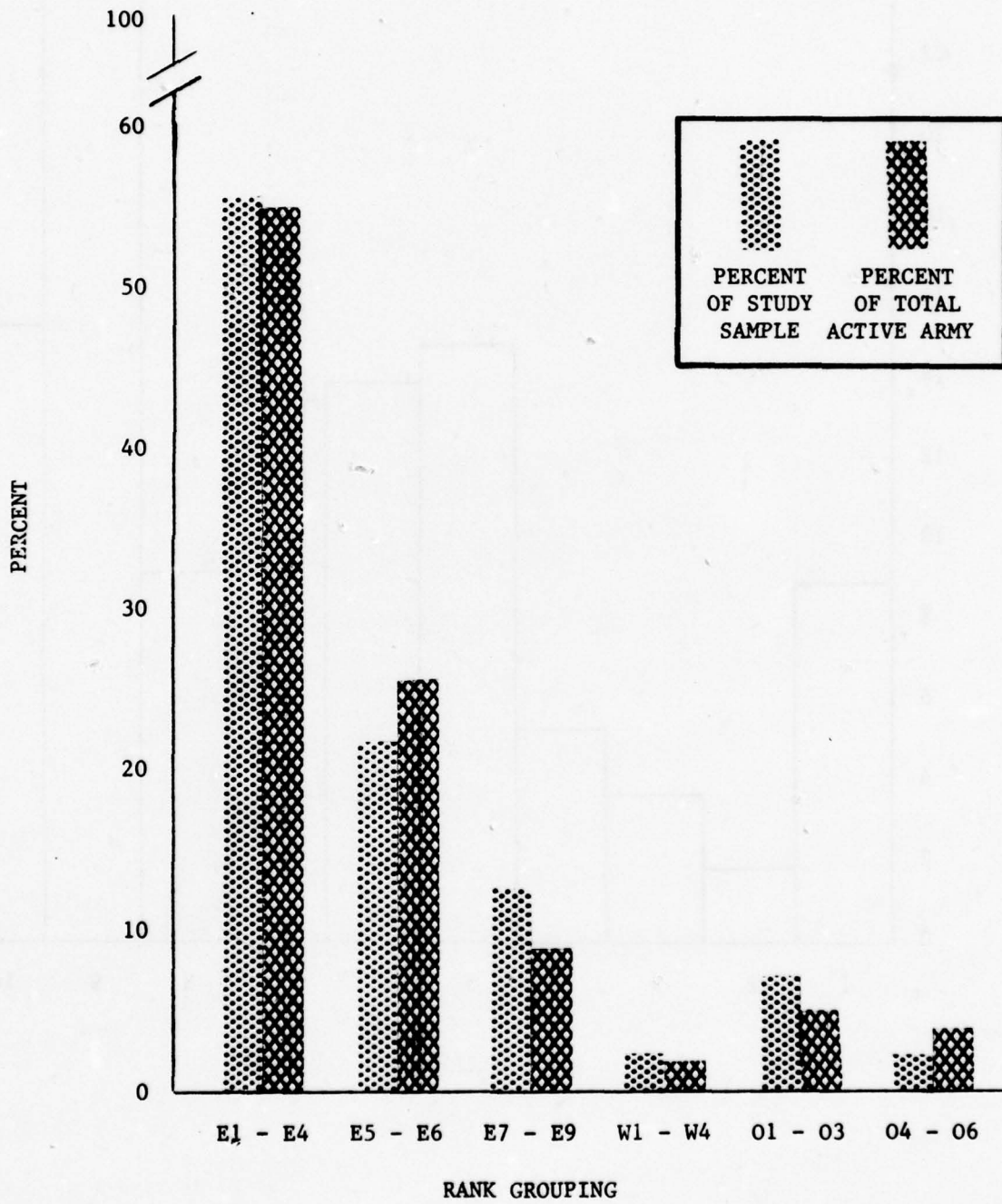
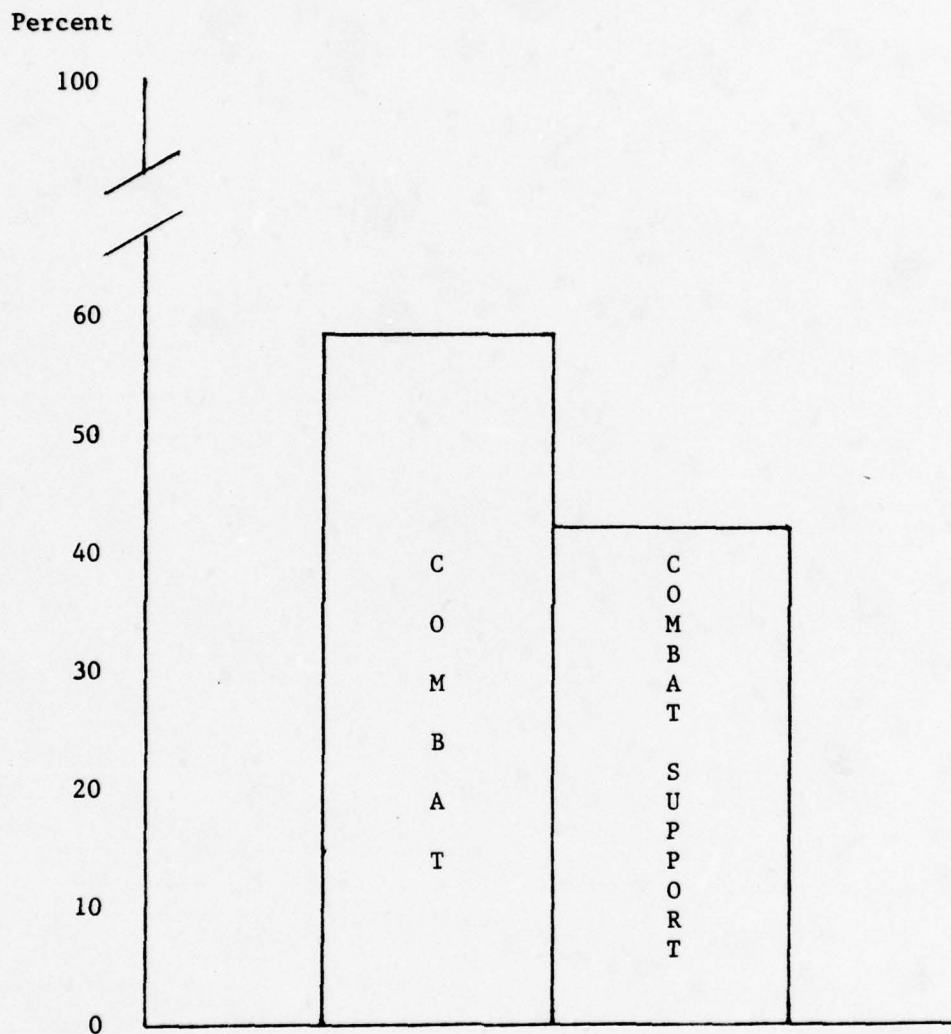




Figure 3

SAMPLE POPULATION BY  
BASIC BRANCH/CAREER MANAGEMENT FIELD PROFILE



TABLES

Table 1

SAMPLE POPULATION BY SITE

SITE	NUMBER PER SITE	PERCENT OF SAMPLE
1	229	8.6
2	44	1.7
3	92	3.5
4	134	5.1
5	387	14.6
6	366	13.8
7	95	3.6
8	238	9.0
9	656	24.7
10	410	15.5
TOTAL	2,651	

Table 2

## SAMPLE POPULATION BY RANK GROUP

RANK GROUP	NUMBER PER GROUP	PERCENT OF TEST SAMPLE	PERCENT OF TOTAL ARMY
E1 - E4	1509	56.9	55.7
E5 - E6	554	20.9	25.2
E7 - E9	313	11.8	8.3
W1 - W4	48	1.8	1.7
O1 - O3	174	6.6	4.8
O4 - O6	52	1.9	4.2

Table 3

SAMPLE SIZE BY BASIC BRANCH/CAREER MANAGEMENT FIELD

BASIC BRANCH/ CAREER MGT. FIELD	NUMBER PER GROUP	PERCENT OF SAMPLE
COMBAT	1552	58.6
COMBAT SUPPORT/ SERVICE SUPPORT	1098	41.4

Table 4

NINETY-FIVE PERCENT CONFIDENCE INTERVALS FOR CARE REQUIREMENTS  
BY TYPE OF CARE VARIABLE

TYPE OF CARE VARIABLE	MEAN	STANDARD ERROR OF THE MEAN	95% CONFIDENCE INTERVALS	
			LOWER	UPPER
Restorative	4.2597	.0839	4.0951	4.4243
Extractions	.9951	.0322	.9319	1.0583
Endodontics (Teeth)	.0758	.0066	.0630	.0887
Crown and Bridge (Units)	.2814	.0214	.2395	.3233
Full Dentures	.0117	.0025	.0069	.0165
Partial Dentures	.0970	.0073	.0827	.1112
Prophylaxis/Scaling	.9544	.0045	.9456	.9632
Subgingival Curettage (Quads)	.2456	.0178	.2106	.2805
Gingivectomy (Quadrants)	.0720	.0096	.0531	.0910

Table 5

NINETY-FIVE PERCENT CONFIDENCE INTERVALS FOR CARE RECEIVED  
BY TYPE OF CARE VARIABLE

TYPE OF CARE VARIABLE	MEAN	STANDARD ERROR OF THE MEAN	95% CONFIDENCE INTERVALS	
			LOWER	UPPER
Restorative	1.4119	.0532	1.3076	1.5162
Extractions	.2233	.0212	.1817	.2649
Endodontics (Teeth)	.0257	.0036	.0185	.0328
Crown and Bridge (Units)	.0204	.0044	.0117	.0291
Full Dentures	.0015	.0009	-.0003	.0033
Partial Dentures	.0072	.0018	.0036	.0107
Prophylaxis/Scaling	.6115	.0095	.5929	.6300
Subgingival Currtage (Quads)	.0294	.0054	.0189	.0400
Gingivectomy (Quadrants)	.0151	.0040	.0072	.0230

Table 6

NINETY-FIVE PERCENT CONFIDENCE INTERVALS FOR TIME REQUIRED TO PROVIDE NEEDED CARE  
 BY TYPE OF CARE VARIABLE (IN HOURS, APPLIED TO THE TOTAL SAMPLE)

TYPE OF CARE VARIABLE	MEAN	STANDARD ERROR OF THE MEAN	95% CONFIDENCE INTERVALS	
			LOWER	UPPER
Restorative	2.7267	.0537	2.6214	2.8320
Extractions	.2389	.0077	.2238	.2541
Endodontics (Teeth)	.1896	.0164	.1575	.2218
Crown and Bridge (Units)	.5544	.0421	.4718	.6370
Full Dentures	.0378	.0080	.0222	.0534
Partial Dentures	.1903	.0143	.1623	.2183
Prophylaxis/Scaling	.5347	.0025	.5297	.5396
Subgingival Currerage (Quads)	.3070	.0223	.2633	.3506
Gingivectomy (Quadrants)	.1801	.0241	.1328	.2274



Table 7

PATIENTS' DENTAL CLASSIFICATION AT TIME OF ANNUAL EXAMINATION:  
 ABSOLUTE FREQUENCY, RELATIVE FREQUENCY (PCT),  
 AND CUMULATIVE FREQUENCY (PCT)

CODE *	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY	CUMULATIVE FREQUENCY
1 **	12	.5	.5
2	1219	46.1	46.6
3	1358	51.4	98.0
4	54	2.0	100.0

\* Explanation of Codes:

Code 1 - Requires no care

Code 2 - Requires non-priority routine care

Code 3 - Requires early care to preclude loss of teeth  
 or prevent pain

Code 4 - Requires prosthetic care to restore normal dental function

\*\* Coding error - individuals needing no care were not considered  
 in this phase of the study

Table 8

## DENTAL CARE REQUIREMENTS: DESCRIPTIVE STATISTICS FOR EACH TREATMENT VARIABLE

TYPE OF TREATMENT	MEAN	MEDIAN	MODE	RANGE	STD DEV	STD ERROR	SKENNESS
Restorations	4.257	3.013	0	26	4.320	.084	1.448
Extractions	.995	.297	0	30	1.658	.032	3.555
Endodontics	.076	.032	0	5	.337	.007	6.008
Crown and Bridge	.281	.063	0	20	1.101	.021	6.615
Complete Dentures	.012	.005	0	2	.127	.002	12.118
Partial Dentures	.097	.038	0	2	.374	.007	4.060
Prophylaxis/Scaling	.954	.975	1	1	.231	.004	- 2.186
Subgingival Currutage (Quads)	.245	.041	0	4	.917	.018	3.683
Gingivectomy (Quadrants)	.072	.013	0	4	.496	.010	7.337
Dental Appointments	5.159	4.470	3.000	29	3.659	.071	1.594

Table 9

DENTAL CARE RECEIVED: DESCRIPTIVE STATISTICS FOR EACH TREATMENT VARIABLE

TYPE OF TREATMENT	MEAN	MEDIAN	MODE	RANGE	STD DEV	STD ERROR	SKEWNESS
Restorations	1.411	.275	0	24	2.738	.053	2.682
Extractions	.223	.057	0	10	1.092	.021	20.108
Endodontics	.026	.011	0	3	.187	.004	8.774
Crown and Bridge	.020	.006	0	6	.229	.004	15.599
Complete Dentures	.002	.001	0	2	.048	.001	35.024
Partial Dentures	.007	.003	0	2	.093	.002	14.381
Prophylaxis/Scaling	.612	.683	1	1	.487	.009	-.459
Subgingival Curettage (Quads)	.029	.008	0	4	.277	.005	11.803
Gingivectomy (Quadrants)	.015	.004	0	4	.207	.004	16.334
Dental Appointments	2.203	1.379	0	19	2.590	.050	1.978

Table 10

DENTAL CARE REQUIRED AND RECEIVED: SUMMARY STATISTICS FOR EACH TREATMENT VARIABLE FOR THE SAMPLE

TYPE OF TREATMENT	MEAN		MEDIAN		MODE	
	REQUIRED	RECEIVED	REQUIRED	RECEIVED	REQUIRED	RECEIVED
Restorations	4.257	1.411	3.013	.275	0	0
Extractions	.995	.223	.297	.057	0	0
Endodontics (Teeth)	.076	.026	.032	.011	0	0
Crown and Bridge (Units)	.281	.020	.063	.006	0	0
Complete Dentures	.012	.002	.005	.001	0	0
Partial Dentures	.097	.007	.038	.003	0	0
Prophylaxis/Scaling	.954	.612	.975	.683	1	1
Subgingival Curettage (Quads)	.245	.029	.041	.008	0	0
Gingivectomy (Quadrants)	.072	.015	.013	.004	0	0
Dental Appointments	5.159	2.203	4.470	1.379	3.0	0

Table 11

DENTAL TREATMENT TIME REQUIREMENTS: DESCRIPTIVE STATISTICS FOR EACH GROUP  
(IN HOURS, APPLIED TO THE ENTIRE SAMPLE)

TYPE OF TREATMENT	MEAN	MEDIAN	MODE	RANGE	STD DEV	STD ERROR	SKEWNESS
Restorations	2.725	1.928	0	16.640	2.765	.054	1.448
Extractions	.239	.071	0	7.200	.398	.008	3.555
Endodontics	.189	.080	0	12.500	.843	.016	6.008
Crown and Bridge	.554	.124	0	39.400	2.168	.042	6.615
Complete Dentures	.038	.015	0	6.460	.410	.008	12.118
Partial Dentures	.191	.075	0	3.940	.736	.014	4.060
Prophylaxis/Scaling	.534	.546	.560	2.240	.129	.003	- 2.186
Subgingival Currretage (Quads)	.307	.051	0	5.000	1.147	.022	3.683
Gingivectomy (Quadrants)	.180	.032	0	10.000	1.241	.024	7.337

Table 12

VARIABLE 01 - RESTORATIONS NEEDED  
ABSOLUTE FREQUENCIES AND CUMULATIVE PERCENTAGES

NUMBER OF RESTORATIONS NEEDED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	505	19.0	19.0
1	348	13.1	32.2
2	336	12.7	44.9
3	266	10.0	54.9
-	-	-	-
-	-	-	-
6	150	5.7	75.7
7	133	5.0	80.7
-	-	-	-
-	-	-	-
10	90	3.4	90.9
-	-	-	-
-	-	-	-
-	-	-	-
26	1	.0	100.0

N = 2653

Table 13

VARIABLE 02 - EXTRACTIONS NEEDED, ABSOLUTE  
 FREQUENCIES AND CUMULATIVE PERCENTAGES

NUMBER OF EXTRACTIONS NEEDED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	1664	62.7	62.7
1	263	9.9	72.6
2	251	9.5	82.1
3	147	5.5	87.6
4	281	10.6	98.2
-	-	-	-
-	-	-	-
-	-	-	-
9	3	.1	99.9

N = 2653

Table 14

VARIABLE 03 - NUMBER OF TEETH REQUIRING ENDODNTICS  
 ABSOLUTE FREQUENCIES AND CUMULATIVE PERCENTAGES

NUMBER OF TEETH REQUIRING ENDODONTICS	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	2493	94.0	94.0
1	128	4.8	98.8
2	24	.9	99.7
3	4	.2	99.9
-	-	-	-
5	1	.0	100.0

N = 2653



Table 15

VARIABLE 04 - CROWN AND BRIDGE NEEDED (UNITS)  
 ABSOLUTE FREQUENCIES AND CUMULATIVE PERCENTAGES

UNITS OF CROWN AND BRIDGE NEEDED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	2357	88.8	88.8
1	137	5.2	94.0
2	54	2.0	96.0
3	48	1.8	97.9
4	18	.7	98.5
-	-	-	-
-	-	-	-
8	3	.1	99.6
-	-	-	-
10	5	.2	100.0

N = 2653

Table 16

VARIABLE 05 - FULL DENTURES NEEDED, ABSOLUTE  
FREQUENCIES AND CUMULATIVE PERCENTAGES

FULL DENTURES NEEDED	ABSOLUTE FREQUENCIES	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	2625	99.1	99.1
1	19	.7	99.8
2	6	.2	100.0

N = 2653

Table 17

VARIABLE 06 - PARTIAL DENTURES NEEDED, ABSOLUTE  
FREQUENCIES AND CUMULATIVE PERCENTAGES

PARTIAL DENTURES NEEDED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	2464	92.9	92.9
1	119	4.5	97.4
2	69	2.6	100.9

N = 2653

Table 18

VARIABLE 07 - PROPHYLAXIS/SCALINGS NEEDED, ABSOLUTE  
FREQUENCIES AND CUMULATIVE PERCENTAGES

PROPHYLAXIS/SCALING NEEDED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	130	4.9	4.9
1	2523	95.1	100.0

N = 2653

Table 19

VARIABLE 08 - QUADRANTS SUBGINGIVAL CURETTAGE NEEDED  
ABSOLUTE FREQUENCIES AND CUMULATIVE PERCENTAGES

QUADRANTS CURETTAGE NEEDED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	2453	92.5	92.5
1	30	1.1	93.6
2	27	1.1	94.6
3	5	.2	94.8
4	138	5.2	100.0

N = 2653

Table 20

VARIABLE 09 - QUADRANTS GINGIVECTOMY NEEDED, ABSOLUTE  
 FREQUENCIES AND CUMULATIVE PERCENTAGES

QUADRANTS GINGIVECTOMY NEEDED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	2587	97.5	97.5
1	17	.6	98.2
2	10	.4	98.5
3	2	.1	98.6
4	37	1.4	100.0

N = 2653

Table 21

VARIABLE 10 - DENTAL APPOINTMENTS REQUIRED, ABSOLUTE  
FREQUENCIES AND CUMULATIVE PERCENTAGES

APPOINTMENTS REQUIRED (ESTIMATED BY EXAMINER)	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0 *	18	.7	.7
1	307	11.6	12.3
2	336	12.7	24.9
3	362	13.6	38.6
4	313	11.8	50.4
5	307	11.6	61.9
6	278	10.5	72.4
7	203	7.7	80.1
-	-	-	-
-	-	-	-
12	51	1.9	95.9
-	-	-	-
-	-	-	-
20	10	.4	99.5
-	-	-	-
-	-	-	-
27	2	.1	100.0

Mean for the entire sample - 5.159

Mode for the entire sample - 3.000

\* Due to data processing error. Individuals not in need of care at time of examination were eliminated from this phase of the study.

Table 22

DISTRIBUTION OF THE MEAN NEED FOR EACH TREATMENT VARIABLE BY RANK GROUP

TREATMENT VARIABLE	GROUP 1 E1 - E4	GROUP 2 E5 - E6	GROUP 3 E7 - E9	GROUP 4 W1 - W4	GROUP 5 O1 - O3	GROUP 6 O4 - O6
Restorations	4.85	4.25	3.18	2.33	2.43	1.60
Extractions	1.26	.76	.45	.27	.83	.19
Endodontics (Teeth)	.08	.10	.05	.10	.03	.02
Crown and Bridge (Units)	.23	.41	.32	.15	.25	.50
Full Dentures	.001	.020	.054	.021	.000	.000
Partial Dentures	.07	.14	.22	.63	.23	.000
Prophylaxis/Scaling	.96	.95	.96	.94	.94	.94
Subgingival Curettage (Quadrants)	.20	.27	.52	.21	.07	.27
Gingivectomy (Quadrants)	.04	.09	.23	.08	.03	.10

Table 23

DISTRIBUTION OF THE MEAN NEED FOR EACH TREATMENT VARIABLE  
 BY TYPE (COMBAT OR COMBAT SUPPORT/SERVICE SUPPORT)

TREATMENT VARIABLE	TYPE 1 COMBAT	TYPE 2 OTHER
Restorations	4.56	3.83
Extractions	1.06	.91
Endodontics (Teeth)	.08	.07
Crown and Bridge (Units)	.23	.36
Full Dentures	.01	.01
Partial Dentures	.09	.10
Prophylaxis/Scaling	.96	.95
Subgingival Curretage (Quadrants)	.26	.22
Gingivectomy (Quadrants)	.06	.09

Table 24

## DISTRIBUTION OF THE MEAN NEED FOR EACH TREATMENT VARIABLE BY SITE

TREATMENT VARIABLE	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	SITE 10
Restorations	4.28	3.52	2.47	3.96	5.10	4.34	2.59	4.23	4.74	3.61
Extractions	.62	.61	.54	.63	.92	1.01	.96	.52	1.32	1.29
Endodontics (Teeth)	.10	.09	.03	.06	.07	.11	.09	.03	.05	.11
Crown and Bridge (Units)	.37	.50	.13	.69	.20	.42	.33	.04	.22	.30
Full Dentures	.01	.05	0	.05	.01	.01	.01	.01	.01	.01
Partial Dentures	.04	.36	.04	.21	.07	.10	.11	.04	.12	.09
Prophylaxis/Scaling	.92	.89	.98	.91	.97	.95	.76	.95	.99	.96
Subgingival Curettage (Quads)	.26	.43	.29	.42	.15	.28	.16	.13	.37	.10
Gingivectomy (Quadrants)	.06	.12	.27	0	.09	.04	.05	.11	0	.11



Table 25

## VARIABLE 31 - RESTORATIONS RECEIVED

RESTORATIONS RECEIVED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	1712	64.5	64.5
1	218	8.2	72.7
2	214	8.1	80.8
3	113	4.3	85.1
4	95	3.6	88.7
5	72	2.7	91.4
-	-	-	-
-	-	-	-
-	-	-	-
10	25	.9	98.0
-	-	-	-
-	-	-	-
-	-	-	-
18	3	.1	100.0

N = 2653

Table 26

VARIABLE 32 - EXTRACTIONS RECEIVED

NUMBER OF EXTRACTIONS RECEIVED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	2381	89.7	89.7
1	133	5.0	94.8
2	68	2.6	97.3
3	28	1.1	98.4
4	31	1.2	99.5
-	-	-	-
-	-	-	-
-	-	-	-
10	1	.1	100.0

N = 2653

VARIABLE 33 - ENDODONTICS RECEIVED (TEETH)

ABSOLUTE FREQUENCIES AND CUMULATIVE PERCENTAGES

NUMBER OF TEETH RECEIVING ENDODONTICS	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	2596	97.9	97.9
1	48	1.8	99.7
2	7	.3	99.9
3	2	.1	100.0

N = 2653

Table 28

VARIABLE 34 - CROWN AND BRIDGE RECEIVED (UNITS)

ABSOLUTE FREQUENCIES AND CUMULATIVE PERCENTAGES

UNITS OF CROWN AND BRIDGE RECEIVED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	2622	98.8	98.8
1	20	.8	99.6
2	4	.2	99.7
3	4	.2	99.9
4	2	.1	100.0
6	1	.0	100.0

N = 2653

Table 29

VARIABLE 35 - FULL DENTURES RECEIVED  
ABSOLUTE FREQUENCIES AND CUMULATIVE PERCENTAGES

FULL DENTURES RECEIVED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	2650	99.9	99.9
1	2	.1	100.0
2	1	.1	100.0

N = 2653

Table 30

VARIABLE 36 - PARTIAL DENTURES RECEIVED  
ABSOLUTE FREQUENCIES AND CUMULATIVE PERCENTAGES

PARTIAL DENTURES RECEIVED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	2636	99.4	99.4
1	15	.6	99.9
2	2	.1	100.0

N = 2653

Table 31

VARIABLE 37 - PROPHYLAXIS/SCALING RECEIVED  
ABSOLUTE FREQUENCIES AND CUMULATIVE PERCENTAGES

PROPHYLAXIS/SCALING RECEIVED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	1030	38.8	38.8
1	1623	61.2	100.0

N = 2653

Table 32

VARIABLE 38 - QUADRANTS SUBGINGIVAL CURRETAGE RECEIVED  
ABSOLUTE FREQUENCIES AND CUMULATIVE PERCENTAGES

QUADRANTS CURRETAGE RECEIVED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	2610	98.4	98.4
1	25	.9	99.3
2	7	.3	99.6
3	1	.0	99.7
4	9	.3	100.0

N = 2653

Table 33

VARIABLE 39 - QUADRANTS GINGIVECTOMY RECEIVED  
 ABSOLUTE FREQUENCIES AND CUMULATIVE PERCENTAGES

QUADRANTS GINGIVECTOMY RECEIVED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	2632	99.3	99.3
1	9	.3	99.6
2	4	.2	99.8
3	1	.0	99.8
4	5	.2	100.0

. N = 2651

Table 34

VARIABLE 40 - DENTAL APPOINTMENTS RECEIVED  
 ABSOLUTE FREQUENCIES AND CUMULATIVE PERCENTAGES

APPOINTMENTS RECEIVED	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	727	27.4	27.4
1	682	25.7	53.1
2	408	15.4	68.5
3	278	10.5	79.0
4	164	6.2	85.1
5	114	4.3	89.4
6	87	3.3	92.7
7	59	2.2	94.9
-	-	-	-
-	-	-	-
10	21	.8	98.3
-	-	-	-
-	-	-	-
-	-	-	-
18	2	.1	100.0

Mean for the entire sample - 2.203

Mode for the entire sample - 0

Table 35

## DISTRIBUTION OF THE MEAN TREATMENTS RECEIVED BY TREATMENT VARIABLE FOR RANK GROUPS

TREATMENT VARIABLE	GROUP 1 E1 - E4	GROUP 2 E5 - E6	GROUP 3 E7 - E9	GROUP 4 W1 - W4	GROUP 5 O1 - O3	GROUP 6 O4 - O6
Restorations	1.44	1.61	1.22	.65	1.24	.75
Extractions	.25	.24	.17	.06	.15	.04
Endodontics (Teeth)	.02	.03	.03	.04	.02	.02
Crown and Bridge (Units)	.009	.016	.058	0	.063	.019
Full Dentures	0	.005	.003	0	0	0
Partial Dentures	.003	.016	.019	0	0	0
Prophylaxis/Scaling	.57	.64	.72	.54	.70	.73
Subgingival Curettage (Quads)	.02	.04	.06	0	.02	.19
Gingivectomy (Quadrants)	.009	.009	.054	0	.006	.077



Table 36

DISTRIBUTION OF THE MEAN TREATMENTS RECEIVED BY TREATMENT VARIABLE  
 BY TYPE (COMBAT OR COMBAT SUPPORT/SERVICE SUPPORT)

TREATMENT VARIABLE	TYPE 1 COMBAT	TYPE 2 OTHER
Restorations	1.36	1.47
Extractions	.23	.21
Endodontics	.023	.027
Crown and Bridge (Units)	.015	.028
Full Dentures	.0019	.0009
Partial Dentures	.004	.012
Prophylaxis/Scaling	.58	.65
Subgingival Curettage (Quadrants)	.025	.035
Gingivectomy (Quadrants)	.011	.021

Table 37

## DISTRIBUTION OF THE MEAN VALUES FOR EACH TREATMENT VARIABLE RECEIVED BY SITE

TREATMENT VARIABLE	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	SITE 10
Restorations	2.39	1.98	1.88	2.22	.96	1.37	1.68	.87	1.40	1.16
Extractions	.20	.30	.22	.29	.14	.24	.58	.08	.16	.38
Endodontics (Teeth)	.02	.05	.07	.08	.01	.04	.01	0	.03	.01
Crown and Bridge (Units)	0	.18	.08	.18	.005	.006	.04	0	.01	.002
Full Dentures	0	0	0	.01	0	0	0	.01	0	0
Partial Dentures	.01	.07	0	.04	.01	.002	.03	0	.005	0
Prophylaxis/Scaling	.57	.80	.76	.68	.42	.63	.88	.32	.86	.45
Subgingival Curettage (Quads)	.02	.02	.25	.08	.23	.02	.01	.03	.02	.002
Gingivectomy (Quadrants)	0	.18	.04	.03	0	0	.02	.02	.02	.01

Table 38

PATIENTS' DENTAL CLASSIFICATION FOUR MONTHS  
AFTER ANNUAL EXAMINATION

CODE	ABSOLUTE FREQUENCY	ABSOLUTE CHANGE FROM INITIAL EXAM DATE	RELATIVE FREQUENCY	CUMULATIVE FREQUENCY
1	600	+ 588	22.7	22.7
2	963	- 256	36.4	59.0
3	1047	- 311	39.5	98.6
4	38	- 16	1.4	100.0

Table 39

CHANGE IN DENTAL STATUS OF EXAMINEES AS EVIDENCED BY  
A CHANGE IN DENTAL CLASSIFICATION FOUR MONTHS  
AFTER ANNUAL DENTAL EXAMINATION

STATUS	ABSOLUTE FREQUENCY	ADJUSTED FREQUENCY (PCT)
No Change	1754	66.5
Improved	823	31.3
Worsened	61	2.2

Table 40

PATIENT LONGEVITY IN THE DENTAL CARE SYSTEM

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Number of dental records surveyed four months after AOHMP exam:	2653
Number of persons in the above group who were under active care at that time:	254
Number of persons who had completed need care:	588
Number of persons needing dental treatment who were not under active care four months post-exam:	1811
Percent of sample needing care still in "the system":	14.0

---

APPENDIX A  
DATA COLLECTION FORM

AOHMP STUDY

DENTAL CARE NEEDS AND TREATMENTS DATA

A. Participant Identifier \_\_\_\_\_ B. SSN \_\_\_\_\_  
 C. (1) Post \_\_\_\_\_ D. Unit \_\_\_\_\_  
 (2) Dental Clinic where record filed \_\_\_\_\_

COLUMN

- E. Rank \_\_\_\_\_ (see code sheet)  1
- F. Basic Branch/Career Management Field/Type of Assignment:
- (1) Infantry, Armor, Field Artillery, Air Defense, Engineer, PLUS all individuals currently assigned to Airborne, Ranger or Special Forces Units \_\_\_\_\_  2
- (2) All other Personnel \_\_\_\_\_
- G. Length of Assignment to Present Post
- (1) Less than 12 Months \_\_\_\_\_  3
- (2) 12 Months or More \_\_\_\_\_
- H. Data Collected at Time of AOHMP Examination:
- (1) Number of Restorations needed   4,5
- (2) Number of Extractions needed   6,7
- (3) Number of Teeth needing root canal therapy   8,9
- (4) Number of units of crown and bridge needed (to include single crowns and fixed bridges)   10,11
- (5) Number of full dentures needed  12
- (6) Number of partial dentures needed  13
- (7) Number of prophys/scalings needed (0 or 1)  14
- (8) Number of quadrants subgingival currettage needed  15
- (9) Number of quadrants gingivectomy/gingivoplasty needed  16
- (10) Number of dental appointments needed in order to accomplish requirements listed in 1-9   17,18
- (11) Patient's Dental Classification \_\_\_\_\_  19

I. Data Collected Four Months Following AOHP Examination:

(DO NOT COMPLETE THIS SECTION)

	COLUMN		
(1) Number of Fillings received since examination	<input type="checkbox"/>	<input type="checkbox"/>	20,21
(2) Number of Extractions received since examination	<input type="checkbox"/>	<input type="checkbox"/>	22,23
(3) Number of <u>Teeth</u> receiving root canal therapy since exam	<input type="checkbox"/>	<input type="checkbox"/>	24,25
(4) Number of units of Crown and Bridge recieved (to include single crowns and fixed bridges)	<input type="checkbox"/>	<input type="checkbox"/>	26,27
(5) Number of Full Dentures received		<input type="checkbox"/>	28
(6) Number of Partial Dentures recieved		<input type="checkbox"/>	29
(7) Number of Prophys/Scalings received (0 or 1)		<input type="checkbox"/>	30
(8) Number of Quadrants subginival currettage received		<input type="checkbox"/>	31
(9) Number of Quadrants gingivectomy/gingivoplasty received		<input type="checkbox"/>	32
(10) Number of Dental appointments received since exam	<input type="checkbox"/>	<input type="checkbox"/>	33,34
(11) Patient's Dental Classification		<input type="checkbox"/>	35
(12) If patient still needs treatment, is the patient actively receiving care? (Yes=1, No = 2)		<input type="checkbox"/>	36
(13) Number of broken appointments		<input type="checkbox"/>	37
(14) Number of cancelled appointments		<input type="checkbox"/>	38
(15) Number of days from start of treatment to finish	<input type="checkbox"/>	<input type="checkbox"/>	39-41
(16) Number of months from last appointment to AOHP Examination	<input type="checkbox"/>	<input type="checkbox"/>	42,43
(17) Post, Clinic	<input type="checkbox"/>	<input type="checkbox"/>	44,45



APPENDIX B

INSTRUCTIONS FOR USE OF DATA  
COLLECTION FORM

Instructions for Recording Data in Part I of the AOHMP Study

1. Be sure that all of the following questions are completely answered (A through H-11). Do NOT complete question I-1 through I-12.
2. Question A "Participants Identifier" - Print the patients name (first name, middle initial, last name).
3. Under questions C (2), enter the name/number of the dental clinic when the patient receives routine dental therapy.
4. Be sure to enter the patients unit in order that he can be found at a later date.
5. Question E concerning rank. In the box under column enter the proper number using the following code:

E 1 - E 4	= 1
E 5 - E 6	= 2
E 7 - E 9	= 3
W 1 - W 4	= 4
O 1 - O 3	= 5
O 4 - O 6	= 6
6. Question F and G. In the box under column enter 1 or 2 as appropriate.
7. Question H-1 through H-10, enter the appropriate number of dental treatment needed.
8. Question H-3, enter number of teeth needing root canal therapy. Disregard the number of canals.
9. Question H-4, enter total number of units of crown and bridge needed. Include single crowns plus units of fixed bridge therapy.
10. Questions H-8 and H-9. Enter number of Quadrants of therapy needed.
11. Question H-10, enter the number of appointments needed. This will be a best estimate of the examiner.
12. Question H-11, enter the patients dental classification in the blank behind the question. Do NOT enter it in the box under column.
13. At the end of each week, all completed AHS Forms 291 OT will be forwarded by the DDS to:

Health Care Studies Division  
Academy of Health Sciences, US Army  
Fort Sam Houston, Texas 78234  
Autovon # 471-3116/3331

APPENDIX C  
SUPPLEMENTAL TABLES

SUPPLEMENTAL TABLES

Supplemental Table 1

MEANS AND STANDARD DEVIATIONS FOR CARE NEED VARIABLES

FOR THE SIX RANK GROUPINGS \*

CARE NEED	MEAN	S.D.	SIGNIFICANCE
1. Restorations	4.2597	4.3208	p < .00001
2. Extractions	.9951	1.6585	p < .00001
3. Endodontics	.0758	.3375	p < .1081 **
4. Crown and Bridge	.2814	1.1010	p < .0106
5. Full Dentures	.0117	.1269	p < .00001
6. Partial Dentures	.0970	.3738	p < .00001
7. Prophylaxis/Scaling	.9544	.2311	p < .8230 **
8. Subgingival Curretage	.2456	.9176	p < .00001
9. Gingivectomy	.0720	.4965	p < .00001

\* Analysis of variance was performed to determine differences between means for the six rank groupings.

\*\* No significant difference.

Supplemental Table 2

MEANS AND STANDARD DEVIATIONS \* FOR THE CARE NEED VARIABLES  
BY TYPE (COMBAT VS COMBAT SUPPORT/SERVICE SUPPORT)

CARE NEED	MEAN	S.D.	SIGNIFICANCE
1. Restorations	4.2252 <sup>1</sup>	4.3196	p < .00001
2. Extractions	.9959 <sup>2</sup>	1.6585	p < .0182
3. Endodontics	.0758	.3375	p < .4000 **
4. Crown and Bridge	.2814 <sup>3</sup>	1.1010	p < .0030
5. Full Dentures	.0117	.1269	p < .3285 **
6. Partial Dentures	.0970	.3738	p < .3692 **
7. Prophylaxis/Scaling	.9547	.2303	p < .1116 **
8. Subgingival Curretage	.2456	.9176	p < .3101 **
9. Gingivectomy	.0720	.4965	p < .0693 **

\* Analysis of variance was performed to determine differences between means for the two basic career management field.

\*\* No significant difference.

<sup>1</sup> Type 1, Combat, had significantly greater need

<sup>2</sup> Type 1, Combat, had significantly greater need

<sup>3</sup> Type 2, Combat Support/Service Support, had significantly greater need

Supplemental Table 3

MEANS AND STANDARD DEVIATIONS FOR THE CARE NEED VARIABLES  
FOR THE TEN STUDY SITES \*

CARE NEED	MEAN	S.D.	SIGNIFICANCE
1. Restorations	4.2605	4.3201	p < .00001
2. Extractions	.9955	1.6586	p < .00001
3. Endodontics	.0758	.3375	p < .0104
4. Crown and Bridge	.2814	1.1010	p < .00001
5. Full Dentures	.0117	.1269	p < .0265
6. Partial Dentures	.0966	.3734	p < .00001
7. Prophylaxis/Scaling	.9547	.2303	p < .00001
8. Subgingival Curretage	.2456	.9176	p < .00001
9. Gingivectomy	.0720	.4965	p < .0054

\* Analysis of variance was performed to determine differences between means for the ten sites.

Supplemental Table 4

MEANS AND STANDARD DEVIATIONS FOR CARE RECEIVED  
FOR THE SIX RANK GROUPINGS \*

TREATMENT VARIABLE	MEAN	S.D.	SIGNIFICANCE
1. Restorations	1.4115	2.7387	p < .0337
2. Extractions	.2222	1.0913	p < .4322 **
3. Endodontics	.0257	.1866	p < .9412 **
4. Crown and Bridge	.0204	.2289	p < .0030
5. Full Dentures	.0015	.0476	p < .3141 **
6. Partial Dentures	.0072	.0929	p < .0078
7. Prophylaxis/Scaling	.6118	.4874	p < .00001
8. Subgingival Curretage	.0294	.2773	p < .0001
9. Gingivectomy	.0151	.2069	p < .0025

\* Analysis of variance was performed to determine differences between means for the six rank groupings.

\*\* No significant difference.



Supplemental Table 5

MEANS AND STANDARD DEVIATIONS \* FOR THE CARE RECEIVED  
BY TYPE (COMBAT VS COMBAT SUPPORT/SERVICE SUPPORT)

CARE NEED	MEAN	S.D.	SIGNIFICANCE
1. Restorations	1.4081	2.7369	p < .3076 **
2. Extractions	.2233	1.0927	p < .6341 **
3. Endodontics	.0257	.1866	p < .6982 **
4. Crown and Bridge	.0204	.2289	p < .1372 **
5. Full Dentures	.0015	.0476	p < .5863 **
6. Partial Dentures	.0072 <sup>a</sup>	.0929	p < .0295
7. Prophylaxis/Scaling	.6118 <sup>b</sup>	.4874	p < .0002
8. Subgingival Curretage	.0294	.2773	p < .4193 **
9. Gingivectomy	.0151	.2069	p < .2202 **

\* Analysis of variance was performed to determine differences between means for the two basic career management fields.

\*\* No significant difference.

a - Type 2, Combat Support/Service Support received significantly more care in this category.

b - Type 2, Received significantly more care in this category.

Supplemental Table 6

MEANS AND STANDARD DEVIATIONS FOR CARE RECEIVED

FOR THE TEN STUDY SITES \*

TREATMENT VARIABLE	MEAN	S.D.	SIGNIFICANCE
1. Restorations	1.4119	2.7386	p < .00001
2. Extractions	.2233	1.0927	p < .0009
3. Endodontics	.0257	.1866	p < .0004
4. Crown and Bridge	.0204	.2289	p < .00001
5. Full Dentures	.0015	.0476	p < .0361
6. Partial Dentures	.0072	.0929	p < .00001
7. Prophylaxis/Scaling	.6115	.4875	p < .00001
8. Subgingival Curretage	.0294	.2773	p < .00001
9. Gingivectomy	.0151	.2069	p < .00001

\* Analysis of variance was performed to determine differences between means for the ten sites.

Supplemental Table 7

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
RANK GROUPS FOR THE NEED FOR AND RECEIPT OF RESTORATIONS

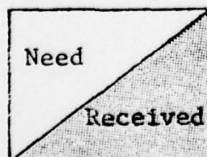
RANK GROUP		1	2	3	4	5	6
E1 - E4	1	0	+	+	+	+	+
E5 - E6	2	-	0	+	+	+	+
E7 - E9	3	-	-	0	0	0	+
W1 - W4	4	-	-	0	0	0	0
O1 - O3	5	-	-	0	0	0	0
O4 - O6	6	-	-	-	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference



Supplemental Table 8

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
RANK GROUPS FOR THE NEED FOR AND RECEIPT OF EXTRACTIONS

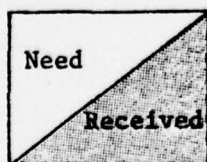
RANK GROUP		1	2	3	4	5	6
E1 - E4	1	0	+	+	+	+	+
E5 - E6	2	-	0	0	0	0	+
E7 - E9	3	-	0	0	0	0	0
W1 - W4	4	-	0	0	0	0	0
O1 - O3	5	-	0	0	0	0	+
O4 - O6	6	-	-	0	0	-	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference



Supplemental Table 9

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
RANK GROUPS FOR THE NEED FOR AND RECEIPT OF ENDODONTICS

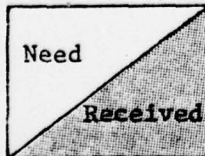
RANK GROUP		1	2	3	4	5	6
E1 - E4	1	0	0	0	0	0	0
E5 - E6	2	0	0	0	0	0	0
E7 - E9	3	0	0	0	0	0	0
W1 - W4	4	0	0	0	0	0	0
O1 - O3	5	0	0	0	0	0	0
O4 - O6	6	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference



Supplemental Table 10

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN RANK GROUPS FOR THE NEED FOR AND RECEIPT OF CROWN AND BRIDGE

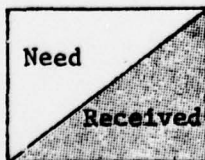
RANK GROUP		1	2	3	4	5	6
E1 - E4	1	0	0	0	0	0	0
E5 - E6	2	0	0	0	0	0	0
E7 - E9	3	0	0	0	0	0	0
W1 - W4	4	0	0	0	0	0	0
O1 - O3	5	0	0	0	0	0	0
O4 - O6	6	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference



Supplemental Table 11

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
RANK GROUPS FOR THE NEED FOR AND RECEIPT OF FULL DENTURES

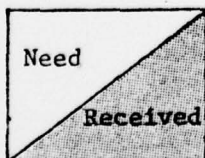
RANK GROUP		1	2	3	4	5	6
E1 - E4	1	0	0	-	0	0	0
E5 - E6	2	0	0	-	0	0	0
E7 - E9	3	+	+	0	0	+	+
W1 - W4	4	0	0	0	0	0	0
O1 - O3	5	0	0	-	0	0	0
O4 - O6	6	0	0	-	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference



Supplemental Table 12

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN RANK  
GROUPS FOR THE NEED FOR AND RECEIPT OF PARTIAL DENTURES

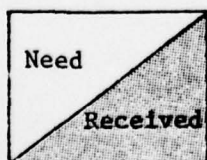
RANK GROUP		1	2	3	4	5	6
E1 - E4	1	0	0	-	0	0	0
E5 - E6	2	0	0	-	0	+	+
E7 - E9	3	+	+	0	+	+	+
W1 - W4	4	0	0	-	0	0	0
O1 - O3	5	0	-	-	0	0	0
O4 - O6	6	0	-	-	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference





Supplemental Table 13

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN RANK GROUPS FOR THE NEED FOR AND RECEIPT OF PROPHYLAXIS/SCALINGS

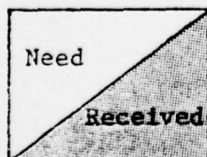
RANK GROUP		1	2	3	4	5	6
E1 - E4	1	0	0	0	0	0	0
E5 - E6	2	0	0	0	0	0	0
E7 - E9	3	0	0	0	0	0	0
W1 - W4	4	0	0	0	0	0	0
O1 - O3	5	0	0	0	0	0	0
O4 - O6	6	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference



Supplemental Table 14

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN RANK GROUPS FOR THE NEED FOR AND RECEIPT OF SUBGINGIVAL CURETTAGE

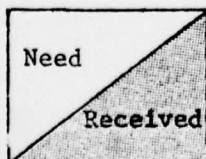
RANK GROUP		1	2	3	4	5	6
E1 - E4	1	0	0	-	0	0	0
E5 - E6	2	0	0	-	0	0	0
E7 - E9	3	+	+	0	+	+	0
W1 - W4	4	0	0	-	0	0	0
O1 - O3	5	0	0	-	0	0	0
O4 - O6	6	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference



AD-A073 890

ACADEMY OF HEALTH SCIENCES (ARMY) FORT SAM HOUSTON TX--ETC F/G 6/5  
EFFECT OF THE ARMY ORAL HEALTH MAINTENANCE PROGRAM (AOHMP) ON T--ETC(U)  
JUN 79 R V MAYOTTE, W A PARKER, G P BARNES

UNCLASSIFIED

HCSO-79-004-A

NL

2 OF 2

AD  
A073890



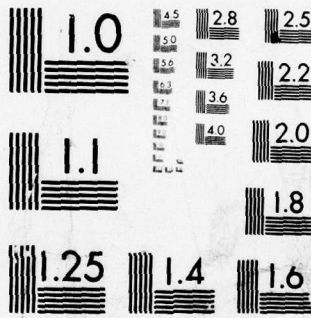
END

DATE

FILMED

-10-19

DDC



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

Supplemental Table 15

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
RANK GROUPS FOR THE NEED FOR AND RECEIPT OF GINGIVECTOMY

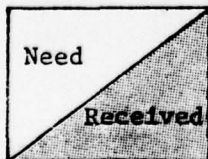
RANK GROUP		1	2	3	4	5	6
E1 - E4	1	0	0	-	0	0	0
E5 - E6	2	0	0	0	0	0	0
E7 - E9	3	+	0	0	0	+	0
W1 - W4	4	0	0	0	0	0	0
O1 - O3	5	0	0	-	0	0	0
O4 - O6	6	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference



Supplemental Table 16

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR RESTORATIONS NEEDED (VO1)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	0	+	0	-	0	+	0	0	0
2	0	0	0	0	-	0	0	0	0	0
3	-	0	0	-	-	-	0	-	-	-
4	0	0	+	0	-	0	+	0	0	0
5	+	+	+	+	0	+	+	+	0	+
6	0	0	-	0	-	0	+	0	0	0
7	-	0	0	-	-	-	0	-	-	-
8	0	0	+	0	-	0	+	0	0	0
9	0	0	+	0	0	0	+	0	0	0
10	0	0	+	0	-	0	+	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 17

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR RESTORATIONS RECEIVED (V31)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	0	0	0	+	+	0	+	+	+
2	0	0	0	0	+	0	0	+	0	0
3	0	0	0	0	+	0	0	+	0	0
4	0	0	0	0	+	+	0	+	+	+
5	-	-	-	-	0	-	-	0	-	0
6	-	0	0	-	+	0	0	+	0	0
7	0	0	0	0	+	0	0	+	0	0
8	-	-	-	-	0	-	-	0	-	0
9	-	0	0	-	+	0	0	+	0	0
10	-	0	0	-	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 18

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR EXTRACTIONS NEEDED (V02)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	0	0	0	0	0	0	0	-	-
2	0	0	0	0	0	0	0	0	-	-
3	0	0	0	0	0	-	0	0	-	-
4	0	0	0	0	0	0	0	0	-	-
5	0	0	0	0	0	0	0	0	-	-
6	0	0	+	0	0	0	0	+	0	0
7	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	-	0	0	-	-
9	+	+	+	+	+	0	0	+	0	0
10	+	+	+	+	+	0	0	+	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference



Supplemental Table 19

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR EXTRACTIONS RECEIVED (V32)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	0	0	0	0	0	-	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	-	0	0	0
4	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	-	0	0	-
6	0	0	0	0	0	0	-	0	0	0
7	+	0	+	0	+	+	0	+	+	0
8	0	0	0	0	0	0	-	0	0	-
9	0	0	0	0	0	0	-	0	0	-
10	+	0	+	0	+	+	0	+	+	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 20

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR ENDODONTICS NEEDED (V03)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	0	0	0	0	0	0	+	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	+	0	0
7	0	0	0	0	0	0	0	0	0	0
8	-	0	0	0	0	-	0	0	0	-
9	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	+	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 21

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR ENDODONTICS RECEIVED (V33)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	0	0	-	0	0	0	+	0	+
2	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	+	0	+
4	+	0	0	0	+	+	+	+	+	+
5	0	0	0	-	0	0	0	0	0	0
6	0	0	0	-	0	0	0	0	0	0
7	0	0	0	-	0	0	0	0	0	0
8	0	0	-	-	0	0	0	0	0	0
9	0	0	0	-	0	0	0	0	0	0
10	0	0	-	-	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 22

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR CROWN AND BRIDGE NEEDED (V04)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	0	0	-	0	0	0	+	0	0
2	0	0	0	0	0	0	0	+	0	0
3	0	0	0	-	0	0	0	0	0	0
4	+	0	+	0	+	+	+	+	+	+
5	0	0	0	-	0	0	0	0	0	0
6	0	0	0	-	0	0	0	+	0	0
7	0	0	0	-	0	0	0	0	0	0
8	-	-	0	-	0	-	0	0	0	0
9	0	0	0	-	0	0	0	0	0	0
10	0	0	0	-	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 23

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR CROWN AND BRIDGE RECEIVED (V34)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	-	-	-	0	0	0	0	0	0
2	+	0	+	0	+	+	+	+	+	+
3	+	-	0	-	+	+	0	+	+	+
4	+	0	+	0	+	+	+	+	+	+
5	0	-	-	-	0	0	0	0	0	0
6	0	-	-	-	0	0	0	0	0	0
7	0	-	0	-	0	0	0	0	0	0
8	0	-	-	-	0	0	0	0	0	0
9	0	-	-	-	0	0	0	0	0	0
10	0	-	-	-	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 24

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR FULL DENTURES NEEDED (V05)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	-	0	-	0	0	0	0	0	0
2	+	0	+	0	+	+	+	+	+	+
3	0	-	0	-	0	0	0	0	0	0
4	+	0	+	0	+	+	+	+	+	+
5	0	-	0	-	0	0	0	0	0	0
6	0	-	0	-	0	0	0	0	0	0
7	0	-	0	-	0	0	0	0	0	0
8	0	-	0	-	0	0	0	0	0	0
9	0	-	0	-	0	0	0	0	0	0
10	0	-	0	-	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 25

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR FULL DENTURES RECEIVED (V35)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	0	0	-	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0
4	+	0	0	0	0	0	0	0	0	+
5	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0
10	0	0	0	-	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 26

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR PARTIAL DENTURES NEEDED (V06)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	-	0	-	0	0	0	0	0	0
2	+	0	+	+	+	+	+	+	+	+
3	0	-	0	-	0	0	0	0	0	0
4	+	-	+	0	+	+	+	+	+	+
5	0	-	0	-	0	0	0	0	0	0
6	0	-	0	-	0	0	0	0	0	0
7	0	-	0	-	0	0	0	0	0	0
8	0	-	0	-	0	0	0	0	-	0
9	0	-	0	-	0	0	0	+	0	0
10	0	-	0	-	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference



Supplemental Table 27

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR PARTIAL DENTURES RECEIVED (V36)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	-	0	-	0	0	-	0	0	0
2	+	0	+	0	+	+	+	+	+	+
3	0	-	0	-	0	0	-	0	0	0
4	+	0	+	0	+	+	0	+	+	+
5	0	-	0	-	0	0	-	0	0	0
6	0	-	0	-	0	0	-	0	0	0
7	+	-	+	0	+	+	0	+	+	+
8	0	-	0	-	0	0	-	0	0	0
9	0	-	0	-	0	0	-	0	0	0
10	0	-	0	-	0	0	-	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 28

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR PROPHYLAXIS/SCALING NEEDED (V07)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	0	0	0	0	0	+	0	-	0
2	0	0	0	0	0	0	+	0	-	0
3	0	0	0	0	0	0	+	0	0	0
4	0	0	0	0	0	0	+	0	-	0
5	0	0	0	0	0	0	+	0	0	0
6	0	0	0	0	0	0	+	0	-	0
7	-	-	-	-	-	-	0	-	-	-
8	0	0	0	0	0	0	+	0	-	0
9	+	+	0	+	0	+	+	+	0	+
10	0	0	0	0	0	0	-	0	+	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 29

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR PROPHYLAXIS/SCALINGS RECEIVED (V37)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	-	-	-	+	0	-	+	-	0
2	+	0	0	0	+	+	0	+	0	+
3	+	0	0	0	+	+	0	+	0	+
4	-	0	0	0	-	0	+	-	+	-
5	-	-	-	-	0	-	-	+	-	0
6	0	-	-	0	+	0	-	+	-	+
7	+	0	0	+	+	+	0	+	0	+
8	-	-	-	-	-	-	0	-	-	-
9	+	0	0	+	+	+	0	+	0	+
10	-	-	-	-	0	-	-	+	-	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 30

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR SUBGINGIVAL CURRETAGE NEEDED (V08)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 31

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR SUBGINGIVAL CURETTAGE RECEIVED (V38)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	-	0	-	0	0	0	0	0	0
2	+	0	+	0	+	+	+	+	+	+
3	0	-	0	-	0	0	0	0	+	0
4	+	0	+	0	+	+	+	+	+	+
5	0	-	0	-	0	0	0	0	0	0
6	0	-	0	-	0	0	0	0	0	0
7	0	-	0	-	0	0	0	0	0	0
8	0	-	0	-	0	0	0	0	0	0
9	0	-	-	-	0	0	0	0	0	0
10	0	-	0	-	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 32

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR GINGIVECTOMY NEEDED (V09)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	0	0	0	0	0	0	0	0	0
2	0	0	+	0	+	+	0	+	0	+
3	0	-	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0
5	0	-	0	0	0	0	0	0	0	0
6	0	-	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0
8	0	-	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0
10	0	-	0	0	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 33

SIGNIFICANCE MATRIX FOR COMPARISON OF DIFFERENCES BETWEEN  
SITES FOR GINGIVECTOMY RECEIVED (V39)

SITE	1	2	3	4	5	6	7	8	9	10
1	0	-	0	0	0	0	0	0	0	0
2	+	0	+	+	+	+	+	+	+	+
3	0	-	0	0	0	0	0	0	0	0
4	0	-	0	0	0	0	0	0	0	0
5	0	-	0	0	0	0	0	0	0	0
6	0	-	0	0	0	0	0	0	0	0
7	0	-	0	0	0	0	0	0	0	0
8	0	-	0	0	0	0	0	0	0	0
9	0	-	0	0	0	0	0	0	0	0
10	0	-	0	0	0	0	0	0	0	0

Duncan's multiple range test ( $p < .05$ ) was performed

+ Significantly Greater

- Significantly Less

0 No Significant Difference

Supplemental Table 34

TREATMENTS REQUIRED PER 1000 PERSONNEL BY RANK GROUP

TREATMENT VARIABLE	GROUP 1 E1 - E4	GROUP 2 E5 - E6	GROUP 3 E7 - E9	GROUP 4 W1 - W4	GROUP 5 O1 - O3	GROUP 6 O4 - O6
Restorations	4854	4245	3175	2333	2425	1596
Extractions	1261	764	454	271	833	192
Endodontics (Teeth)	79	97	48	104	35	19
Crown and Bridge (Units)	226	412	322	146	247	500
Full Dentures	1	19	54	20	0	0
Partial Dentures	67	144	217	63	23	0
Prophylaxis/Scaling	958	950	959	938	937	942
Subgingival Curettage (Quads)	200	269	517	208	74	269
Gingivectomy (Quadrants)	36	90	233	83	29	96



Table 35

TREATMENTS RECEIVED PER 1000 PERSONNEL BY RANK GROUP

TREATMENT VARIABLE	GROUP 1 E1 - E4	GROUP 2 E5 - E6	GROUP 3 E7 - E9	GROUP 4 W1 - W4	GROUP 5 O1 - O3	GROUP 6 O4 - O6
Restorations	1444	1612	1224	646	1241	750
Extractions	246	240	166	63	155	39
Endodontics (Teeth)	23	29	32	42	23	19
Crown and Bridge (Units)	10	16	57	0	63	19
Full Dentures	0	5	3	0	0	0
Partial Dentures	3	16	19	0	0	0
Prophylaxis/Scaling	568	637	722	542	701	731
Subgingival Curretage (Quads)	17	36	61	0	23	192
Gingivectomy (Quadrants)	9	9	54	0	6	77

Supplemental Table 36

TREATMENTS REQUIRED PER 1000 PERSONNEL  
BY BASIC BRANCH/CAREER MANAGEMENT FIELD

TREATMENT VARIABLE	TYPE 1 COMBAT	TYPE 2 COMBAT SUPPORT/ SERVICE SUPPORT
Restorations	4556	3830
Extractions	1060	905
Endodontics (Teeth)	81	69
Crown and Bridge (Units)	228	357
Full Dentures	10	15
Partial Dentures	92	105
Prophylaxis/Scaling	961	946
Subgingival Curretage (Quadrants)	261	224
Gingivectomy (Quadrants)	57	93

Supplemental Table 37

TREATMENTS RECEIVED PER 1000 PERSONNEL  
BY BASIC BRANCH/CAREER MANAGEMENT FIELD

TREATMENT VARIABLE	TYPE 1 COMBAT	TYPE 2 COMBAT SUPPORT/ SERVICE SUPPORT
Restorations	1363	1473
Extractions	232	211
Endodontics (Teeth)	25	27
Crown and Bridge (Units)	15	28
Full Dentures	2	1
Partial Dentures	4	12
Prophylaxis/Scaling	582	654
Subgingival Curretage (Quadrants)	26	35
Gingivectomy (Quadrants)	11	21

Supplemental Table 38

TREATMENTS REQUIRED PER 1000 PERSONNEL BY SITE

TREATMENT VARIABLE	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	SITE 10
Restorations	4284	3523	2467	3955	5096	4336	2590	4227	4742	3612
Extractions	625	614	544	627	917	1014	958	517	1322	1288
Endodontics (Teeth)	105	91	33	60	75	107	95	29	47	115
Crown and Bridge (Units)	371	500	130	694	199	415	326	42	217	298
Full Dentures	13	45	0	52	8	11	11	9	9	7
Partial Dentures	90	44	364	44	209	72	99	105	42	117
Prophylaxis/Scaling	917	886	978	910	974	945	758	954	997	961
Subgingival Curettage (Quads)	98	258	432	294	418	150	276	158	135	372
Gingivectomy (Quadrants)	56	118	273	0	90	44	46	105	0	111

Supplemental Table 39

TREATMENTS RECEIVED PER 1000 PERSONNEL BY SITE

TREATMENT_VARIABLE	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	SITE 10
Restorations	2389	1977	1880	2224	961	1372	1684	870	1402	1163
Extractions	201	296	217	291	137	238	579	80	159	381
Endodontics (Teeth)	18	46	65	82	13	41	11	0	31	10
Crown and Bridge (Units)	0	181	76	179	5	6	42	0	9	2
Full Dentures	0	0	0	15	0	0	0	8	0	0
Partial Dentures	9	68	0	37	5	3	32	0	5	0
Prophylaxis/Scaling	568	796	761	679	419	628	884	315	855	446
Subgingival Curettage (Quads)	18	250	76	233	16	6	32	21	2	20
Gingivectomy (Quadrants)	0	182	44	30	0	0	21	17	18	15

APPENDIX D

WEIGHTED TREATMENT TIME FACTORS  
FOR SPECIFIC DENTAL PROCEDURES

WEIGHTED TREATMENT TIME FACTORS

FOR SPECIFIC DENTAL PROCEDURES

<u>TREATMENT</u>	<u>TREATMENT TIME IN HOURS</u>
Restoration	0.64
Extraction	0.24
Root Canal Therapy (per tooth)	2.50
Crown and/or Bridge (per unit)	1.97
Full Denture	3.23
Partial Denture	1.97
Prophylaxis and Scaling	0.56
Subgingival Currettage (per quadrant)	1.25
Gingivectomy/Gingivoplasty (per quadrant)	2.50

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