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LEVEL III

EFFECT OF THE ARMY ORAL HEALTH MAINTENANCE PROGRAM ON THE DENTAL HEALTH STATUS OF ARMY PERSONNEL

(ACRONYM - AOHMP EVALUATION, PART II)

PART II. DENTAL HEALTH RECORD REVIEW OF PROGRAM PARTICIPATION AND RECURRENT CARE NEEDS

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The Army Oral Health Maintenance Program is a Department Of Army approved dental program which serves as the primary patient input device for the Army dental care system. This is one phase of a evaluation study to determine how effectively the program is working. It was designed to evaluate the patient participation beyond the mandatory examination phase of the program as well as to determine the care completion rate and recurrent care needs ratio by means of dental records audit. The findings indicate that approximately 50 percent of the sample

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received an annual examination as a direct result of the AOHMP. The need for dental care among the sample was over 90 percent with dental prophylaxis, scaling, and restorations being recorded as the most frequently delivered services. Although few eligibles participated in the AOHMP routinely on an annual basis, those participants who went beyond the examination phase and received some needed care completed their care sequences 60 percent of the time. Recurrent care needs for restorative dentistry involved 50 percent of the sample. It was recommended that the program be continued and that long term non-participants be identified and introduced into the program.

SUMMARY

The purpose of this study was to evaluate the Army Oral Health Maintenance Program 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. Although the program has been fully operational since October 1974, an evaluation of the program effectiveness has not been performed. The program is designed to annually evaluate the dental needs of soldiers during their birth month and arrange for the required preventive and corrective services. This portion of the study involved an audit of randomly selected dental health records at nine installations to determine progress of the program since 1 January 1976. The specific objectives were to determine: (a) the percentage of personnel receiving examinations as a direct result of the AOHMP, (b) the degree to which personnel receiving examinations and needing care were receiving care, (c) the categories of dental care being received, (d) the care sequence completion rate, (e) the reasons why care was not completed. A 1:50 record selection ratio was used and data was extracted from sections 15, 16, and 17 of the SF 603 by the project officers and recorded on a study form. Data was extracted from 1,981 dental records to construct the data base for this portion of the study. The following conclusions were drawn:

a. The participation rates calculated from the study data parellel but are less than the rates reported by HSC for the operating AOHMP. Both sources demonstrated substantial improvement in AOHMP participation from 1976 to 1978.

b. Slightly less than 50 percent of the eligible beneficiaries actually receive an annual examination as a direct result of the AOHMP.

c. A need for care was recorded during the AOHMP examination in more than 90 percent of the records surveyed.

d. Only a small segment of the eligible population receive annual examinations on a routine recurring basis (13 percent).

e. A high proportion (80 percent) of the sample who received an annual AOHMP examination and had care needs identified, actually received some care.

f. More than 60 percent of the beneficiaries surveyed who entered the dental care system via the AOHMP and received care beyond the examination phase, completed the care sequence.

g. Approximately 50 percent of the 1976, 1977 examinees who were found to be in need of dental care completed their care sequences by their next birth month.

h. Dental prophylaxis and scaling were the dental treatments most frequently received, followed by restorative services.

i. Annual recurrent care needs were found to exist for a high percentage of the sample (90 percent).

j. Annual recurrent care needs were found to exist in about the same proportion of personnel who had completed care the previous year as for the overall sample. However, the magnitude and severity of the needs could not be compared in this study.

k. The dental record was not an accurate measurement tool for determining why needed care sequences were not initiated or were terminated before completion.

It was recommended that:

a. The findings of this study be made available to dental planners and program managers at HSC and DASG.

b. A study be conducted to determine if the magnitude and severity of dental needs differ for routine participants of the ACHMP and for recalcitrant violators of the program.

c. The program be continued as the primary input device for the Army dental care delivery system.

d. That long-standing non-participants in the program be identified and introduced into the program.

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1. INTRODUCTION.

a. Purpose. The purpose of this 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.

b. Background. The AOHMP is the primary vehicle for introducing military personnel into the Army's dental care system. Participation in the program is for the purpose of preventing dental disease and providing routine care on a regular recurring basis. Historically, the program was introduced incrementally. Phase I of the program (designed to include only active duty personnel 25 years of age and younger) was initiated as a result of a memorandum from the Chief of the US Army Dental Corps to all Dental Corps Officers (see Appendix A). In 1971, Phase II was initiated for active duty personnel over age 25 (see Appendix B). In 1974, Phase II of the program was extended to include all active duty Army personnel thus essentially eliminating Phase I (see Appendix C). At this time guidance for implementation of the program was forwarded to all dental activities in the Army. In February 1975, US Army Health Services Command (HSC) issued information concerning the purposes, objectives, policy, required coordination, implementation models and other suggestions for operation of the program at the local level.[1] Essentially the program mandates that every active duty Army member receive a dental examination annually during the anniversary of his/her birth month. Following this examination each soldier is offered the opportunity to receive all needed preventive and corrective dental care. Although the program has been fully operational for three years, an evaluation of the program has not been conducted except for a monthly self-reported assessment of the percentage of eligible personnel who receive annual dental examinations. This information provided by each dental activity (DENTAC) to HSC indicates that there are variations among the DENTACs concerning the percentage of soldiers who receive these examinations. Personal communication with Directors of Dental Services (DDS) indicates that significant local variations exist in methods for operating the program. This evaluation of the program will assist dental planners and managers at all levels to determine if program modifications are needed and/or alternative methods of delivering dental care should be considered. This study request was initiated from the Directorate for Dental Services (HSDS) HSC, after consultation with the Office of the Surgeon General of the Army (DASG).

c. Previous Studies and Literature Review. The requirement of AR 5-5 concerning the conduct of a literature review prior to the initiation of a study was met. In addition to other literature sources the following documents/sources were utilized: Defense Documentation Center for Scientific and Technical Information (DDC); Defense Logistic Studies Information Exchange (DLSIE); and the Army Study Program (TASP). Studies of the care needs of incoming Army personnel have been conducted.[2,3] In addition, an Army conducted study has also addressed the dental care requirements of all segments of the active duty Army

population both in terms of actual care needs and in treatment time requirements.[4] However, there is no concrete data published in the literature or in official technical reports concerning the effects of the AOHMP or any previous Army care delivery programs on the dental health status of soldiers, either individually or collectively. There is also a lack of data available concerning the effects of large all-inclusive civilian dental health care delivery systems (similar to the AOHMP concept) on the oral health status of the population served.

2. OBJECTIVES.

The specific study objectives addressed in this report were to determine, by retrospective audit of Army members' dental records, (a) the percentage of eligible personnel actually receiving examinations as a result of the AOHMP; (b) the degree to which personnel receiving AOHMP examinations and needing care were receiving care subsequent to the AOHMP examination; (c) the types of care received by those members who enter the system via the AOHMP; (d) the degree to which care sequences were followed to completion by the sub-sample identified in (b) above; and (e) if the reason for members either not entering the system or not completing a sequence of care could be identified.

3. METHODOLOGY.

a. Overview. The basic approach to the portion of the study being reported upon was to randomly select dental health records of active duty personnel whose active duty entry date was on or before 1 January 1975. These records were reviewed and preselected information was extracted and entered onto the study form (at Appendix D) by HCSD personnel. Nine DENTACs representing varying dental support missions were included as study sites. The data were transferred directly from the form to punched cards and data analysis was performed using the Statistical Package for the Social Sciences (SPSS).

b. Data Collection.

(1) The data collection instrument designed specifically for this portion of the study may be found at Appendix D. The form design permitted keypunch operators to transfer the data entries directly to punched cards. This reduced clerical time and possible miscoding error by eliminating the necessity of transferring to standard coding forms prior to submission for keypunching.

(2) Records were selected for review by observing every fiftieth active duty record to determine if it was eligible for sampling. This was done by determining if the member entered on active duty on or before 1 January 1975. If this criterion was met the record was included in the sample. If the criterion was not met each successive record was inspected until a valid one was found, then 50 records were counted from the valid selection and the process repeated until the file was exhausted.

(3) The data collected consisted of demographic data which included patient identifier (last four digits of social security number) along with installation and clinic identifiers. This information was used by the project officers while on-site as a means of record control. Only the installation was coded for keypunching for subsequent retrieval and/or analysis. General information collected included year of entry on active duty, birth month, number of examinations eligible for, and number of examinations received. For each year eligible (1976, 1977, 1978) the following questions were answered from data extracted from the clinical entries found in sections 15, 16 and 17 of Standard Form 603, the dental treatment record.

(a) Was an examination received? (The examination had to occur during the birth month or within a two month period thereafter unless the record indicated a previously initiated sequence of care was in progress during the birth month.)

(b) Was there a care need indicated?

(c) If yes, was care received? If care was received, what type of care was rendered?

(d) Was the care sequence completed?

(e) If not, could a reason be established?

The answers to (a) thru (d) above were coded "1" for yes and "2" if no response was indicated. Question (e) answers ranged from code "1" for failed appointment, "2" for cancelled appointment, "3" for care still underway, and "4" no reason given. All judgements made concerning the extracted data were made by the project officers. The last entry identified the installation.

(4) Data was collected from nine HSC DENTACs which represented a variety of posts by size and mission. In general, the installations fall into categories of dental support: (a) combat division, (b) training and/or schools, and (c) medical center. Data for each installation was collected and tabulated by installation, however, it was not the intent of this study to compare individual DENTAC programs. Therefore only summary statistics were generated for analysis and interpretation.

c. Data Analysis.

(1) Descriptive statistics were used in analysis of the findings of this survey. Statistical significance tests were not applied to any of the categories such as installations or years observed since the demographic variables of the sample could not be defined and the only selection criterion was year of entry into the service. That is, the DENTAC at which the record is now filed may not have been the DENTAC to which the member was assigned during the observation period. Program

changes during this evolution period make rigid statistical testing inappropriate either for installations or by year. However, the data is considered as valid and representative of the system and the statistics describe the program during the three years it has existed. Trends can be identified from the statistical analyses that were performed and the progress of the program can be demonstrated.

(2) The data was transferred to punched cards by the Production Division, Health Information and Biostatistical Activity, HSC. The System Design and Analysis Branch, Directorate, Combat Developments and Health Care Studies, provided computer support using the in-house on-line terminal of a CDC 6500 computer located at Fort Leavenworth, KS. The preprogrammed Statistical Package for the Social Sciences was used for data analysis. Programming support was obtained from within the Health Care Studies Division.

4. FINDINGS.

a. A sample of 1981 records were examined, which represents approximately a 1 to 50 ratio of records examined to records on file. From this data base, AOHMP participation information was extracted for calendar years 1976, 1977, and 1978. Within the sample, 737 records indicated eligibility for two examinations while 1244 records indicated eligibility for three AOHMP opportunities. Since this survey was conducted during calendar year 1978 (July thru December), approximately 37 percent of the sample were eligible for only two of the three years considered. Figure 1 shows the cumulative distribution of the sample by year of entry onto active duty. It can be noted that approximately 50 percent of the sample entered prior to 1971 and that the mode was found to be in the 1974 year group (18.9 percent). Figure 2 shows the percentages of the sample in which examinations were indicated to have occurred as a direct result of the AOHMP. The data is presented by site for each year observed. Table 1 shows the distribution of need for care among personnel who received examinations as a result of the AOHMP for each year surveyed. Figure 3 shows the percentage of the sample with multiple participation in the program. The percentage for those who received three examinations has been adjusted to reflect the smaller sample size eligible for three examinations (N = 1244) while the remaining percentages were based on the total sample. Table 2 indicates the number and percent of input in the care system by those personnel who participated in their annual AOHMP examination. Table 3 indicates the care completion rates for each year, as well as the percentage of care recipients who were still undergoing a care sequence at the end of calendar years 1976 and 1977 or at the time of the survey in 1978. These calculations were based upon the number of persons who actually received some care as compared to a care completion/in progress rate based on the group identified as needing dental care at the time of their AOHMP examination (see Table 4). The distribution of care recipients by type of care received is shown in Table 5 for those personnel who actually received care subsequent to being examined and diagnosed as being in need of care.

b. The recurrent care needs were computed for persons who had completed a sequence of dental care the previous year. For example, all records for persons who completed a sequence of care in 1976 were screened to determine if an AOHMP examination was recorded for 1977 along with subsequent disposition and/or care entries. This was repeated for the following year also. Table 6 shows the recurrent care impact in 1977 for persons completing a sequence of care in 1976 while Table 7 shows similar information for the 1977 care completion group. The percent distribution of the type of care received during the year following completion of care is shown in Table 8.

c. From the sample of records examined there was a possibility, or overall opportunity, for 5206 AOHMP examinations to have been performed among the sample during the observed period (1 January 1976 until the month preceding the survey). The audit revealed that 2305 examinations were recorded yielding a 44.3 percent overall participation rate during the period sampled. The review identified that there was a need for care in 93 percent of these instances. It was further shown that 84 percent of the sample population who needed care received some care. That is, they remained in the care delivery system beyond the mandatory examination phase. The care completion rate for the overall sample was found to be approximately 50 percent.

d. Records which indicated that a needed care sequence had not been completed and was not in progress were searched to determine the last disposition entry. In 19.7 percent of these records the last entry was "failed appointment," 5.8 percent contained a "cancelled appointment" entry, and 74.5 percent contained no entry to indicate the patient disposition following the last appointment. These percentages are based on 651 record observations. When these categories are applied to the total data base of, 2305 appointments "failed appointments" were observed in 5.6 percent of the observations while "cancelled appointments" represented 1.6 percent. However, 21 percent of the time there was no entry in the dental record to explain why care was either not initiated or terminated before completion.

5. DISCUSSION.

a. The cumulative distribution of the sample as described in Figure 1 illustrates the dispersion by year of entry onto active duty. This distribution when related to years of service closely parallels the US Army Objective Force Years of Service Profile.[4] Therefore, the sample representation is considered representative of the Army population.

b. The AOHMP participation rates reported by study site (Figure 2) and for the entire study population (Table 1) reflect that in general an improvement in the rate at which examinations are received has occurred since 1976. The overall annual percent of eligible receiving

examinations (AOHMP participation rate) reported for this study differs considerably from the annual HSC participation rate for the same calendar years. As stated in the methodology portion of the report (Para 3b (3)(a)) the criteria for being a participant in the AOHMP were considerably more restrictive for this study than are exercised in the operating program. The program guidance issued by HSC indicated that if a member has been treated or has received any kind of dental treatment within the six months preceding his birth month, reexamination is not required. The intent of this study was to determine the rate at which examinations were performed as a direct influence of the AOHMP. The overall participation rates reported by DENTACs to HSC for the calendar years of the study were 62 percent for 1976, 78 percent for 1977, and 82 percent for 1978. The participation percentages for the operating system were different from those found in the study as expected because of the difference in selection criteria. By comparison the study participation rates for 1976, 1977, and 1978 are 35.3 percent, 46.4 percent, and 55.1 percent respectively. The increase in participation rates from 1976 to 1978 indicate that a 20 percent increase in program participation has occurred according to both measurement indices. Figure 2 also shows that in seven of the nine sites there has been a decided increase in participation rates. In two sites (A and C) 1978 shows a drop in participation after an improvement in 1977 over the baseline year (1976). Site A had undergone a major program reorganization to include the opening of a central AOHMP facility in early 1978 which may account for the slight decrease in 1978 participant rate. No explanation can be given for the decrease at site G. It should be reinforced that the rates reported for this study in Table 1 reflect very closely the percentage of eligible service members who received a dental examination as a direct influence of the AOHMP or were under active care during the anniversary of their annual birth month examination requirement. Although the effectiveness of the program has increased since its revision in 1975, slightly more than 50 percent of the eligible members actually receive an examination as a direct result of the AOHMP.

c. Table 1 also contains information in support of past study efforts,[3,4] which reported a high dental care needs ratio among the active duty Army population. The percentage of patients receiving annual examinations who had subsequent care needs reported exceeded 90 percent each year surveyed. It should be noted that in the segment of the population not responding to examination there are unknown need requirements which can be assumed to at least equal and probably exceed the requirements of the sample studied. Figure 3 illustrates the distribution of the multiple year participation of the sample. It should be noted that the rates for receiving two or three examinations fall far below the individual participation rates referred to in Table 1. This indicates that few eligible personnel (13.1 percent) received annual incremental type (maintenance level) care in a program

theoretically designed for that purpose. Dunning refers to substantial reductions in the cost of purchasing incremental care as opposed to sporadic care in civilian programs. The programs reported annual cost savings of 50 to 66 percent for participants in annual incremental programs.[5] Based on the information from Figure 3 and Table 1, the annual participants of the AOHMP are not comprised heavily of individuals receiving incremental care. This implies that a care needs backlog likely exists for most annual participants in the AOHMP and that the benefits derived from incremental type care are not being realized in the Army Dental Care System. Almost 30 percent of the records sampled have no indication that the AOHMP requirement had been complied with over the three year period.

d. Another critical area in the evaluation of the AOHMP as the primary patient input mechanism for the Army's Dental Care Delivery System pertained to the flow of personnel needing care from the examination phase to the treatment phase. The percent of patients receiving care, based on those identified as needing care, for each year observed, was fairly consistent for the sample period. Table 2 shows that in 1976 approximately 87 percent of the "need care" group received some care. The slight reduction in the percentage that occurred between 1976 and 1977 does not constitute a fluctuation of practical significance. However, if a decline had continued rather than stabilized in 1978 it would have constituted an area of concern. The fact that more than 80 percent of those who needed care actually received some care should be interpreted with caution. A more realistic measure of program success should consider the completion rate rather than the entrance as the principal program effectiveness measure. Table 3 contains the yearly completion rate for persons receiving care. This rate for 1976 and 1977 is quite constant at slightly over 50 percent. Since some records indicated that care sequences were still in progress when subsequently annual examinations fell due in 1976 and 1977 an in-progress category was recorded. Therefore, for those years, 60 percent of those persons who began a sequence of care either completed it or were still undergoing a treatment sequence. In 1978 the survey was conducted during the latter half of the calendar year, therefore, the lower completion rate was not unexpected. This rate is complemented by the higher in-progress (25.8 percent) which produces an overall potential completion rate of 71.8 percent if all in-progress treatment plans were to proceed to completion. Although this cannot be exactly predicted, it appears the actual 1978 completion/in-progress rate can be expected to be consistent with past years. Assuming that the system is saturated and operating efficiently this data may represent the level that should be expected for completed care sequences. If the completion rate were based on the population with care needs reported rather than on those who received some care, the completion/in-progress annual rate is somewhat less than that shown in Table 3. Forty-six percent of those personnel who were identified as needing care at their AOHMP examination in 1976 completed the care sequence prior to the next anniversary of their birth month. In 1977, 42 percent completed care prior to their next examination and almost 38 percent had completed their care at the

survey in 1978 (Table 4). With the incorporation of the in-progress of care groups the percentages increase to 52.5 percent for 1976, 49.4 percent in 1977, and 58.9 percent in 1978. Based on the sample of records observed, more than 53 percent of the AOHMP beneficiaries who were found to need care but did not necessarily receive any care either completed their sequence or were engaged in receiving care according to the study criteria. When these same criteria are applied to the sample group who entered the system and did receive some care the overall completion/in-progress rate is approximately 64 percent.

e. The distribution of the care received by type of care is shown in Table 5. The category most often received is oral hygiene which included a prophylaxsis and scaling. This category is predominately rendered by non-dentist members of the dental team. This is the only category of care with a positive trend in the reception rate each year. The percentages of persons receiving restorative care for the three years indicated that proportionately fewer persons who received care were receiving restorative care, a trend which is also shown for oral surgery and endodontics. Although periodontics and prosthodontics increase in 1977, the 1978 data show a decrease below the 1976 level. Although these are minimal changes from a practical viewpoint, they do however expose trends that cannot be accounted for by known variables. Unpublished care needs collected in another part of this study do not indicate any lessening in the need for restorations, extractions, but do show a decline in the need for prosthodontics, endontics and periodontal care compared to a 1976 care needs survey.[4] These trends could be influenced by and also reflect changes in demand, changes in available resources, changes associated with a highly mobile military population, or be due solely to chance.

f. Little is known about the extent of recurring care needs of military populations. In order to obtain information about this area of interest a computer program was developed to scan the study for records which indicated completion of a treatment sequence followed by an examination during the subsequent birth month. Table 6 shows the results of 292 records which indicated that a care sequence had been completed in 1976. Sixty-three percent of the records also indicated a 1977 AOHMP examination. Of these, 90 percent indicated that care was needed again the following year. It was encouraging to find that 90.4 percent of those who needed care, received some care and that 66 percent completed the sequence. Table 7 shows the same breakdown for records that indicated care completion in 1977 and a 1978 AOHMP examination. The percentages receiving care (87.4 percent) and completing care (78 percent) are even more impressive than for the previous year. However, it should be noted that only a small segment of records surveyed were found to contain entries which indicated annual follow-up or incremental care patterns. Table 8 illustrates the type of care received by the sample of recurring care recipients. The high percentage receiving oral hygiene is expected since this is a recommended annual treatment process. However, the fact that almost 50 percent of the sample for each year received restorative care was not expected. It

does point out the fact that a high proportion of the military population should be expected to have high recurring restorative needs even in an incremental care program. Although the high annual recurrent restorative workload has not been previously documented on Army personnel, the potential has precedent. The Army population has been shown to have fewer missing teeth and fewer totally missing teeth than the general US population. Therefore, more teeth are present and are at risk to decay, primary and recurrent, and restorative failure. In addition, the greatest bulk of the Army forces are in the years of high carious incidence (15-24 years of age) to permanent teeth.[5,6] It can be seen that the recurrence of care needs in the other categories are substantially less than for restorative care but serve as a reminder that annual recurrent care needs tend to closely approximate those needs described in Table 5 for the entire sample. This study did not quantify the magnitude of the recurrent needs but merely addressed the percentage of the sub-samples having a care requirement. An assumption might be made that the magnitude and severity of recurrent care needs would be less than those resulting from long standing neglect. This effect has been demonstrated in studies with civilian groups.[6]

The findings of this study support the concept that the incidence of dental disease is a dynamic ongoing process and that dental treatment cannot be considered as a one-time "permanent" cure.

g. This survey of dental records indicated that in 75 percent of the cases, when a care sequence following an AOHMP examination is either not begun or is not completed, there is no disposition entry to indicate why care was not initiated or completed. The remaining 25 percent of such records indicated that an appointment failure or cancellation had occurred. The failures and cancellations represent only care sequence terminations and do not represent failed or cancelled appointments for which subsequent appointments were rescheduled. It may be assumed that the records which do not contain disposition entries may also represent a significant amount of unrecorded, failed, and cancelled appointment information. The 5.6 percent failed appointment rates, calculated from 2305 possible occurrences, must be considered as a minimal estimate since once again it must be assumed that some of the "no entry" occurrences represent unrecorded failures. This same assumption is also applied to the 1.6 percent overall cancellation ratio. The remainder of the 21 percent "no entry recorded" occurr nces cannot be accounted for. When participants in the AOHMP examination are found to need care and do not receive it, the dental record cannot be used as an accurate measurement device to determine the cause of care termination.

6. CONCLUSIONS.

It may be concluded that:

a. The participation rate calculated from the study data parallel but are less than the rates reported by HSC for the operating AOHMP. Both sources demonstrated substantial improvement in AOHMP participation from 1976 to 1978.

b. Slightly less than 50 percent of the eligible beneficiaries actually receive an annual examination as a direct result of the AOHMP.

c. A need for care was recorded during the AOHMP examination in more than 90 percent of the records surveyed.

d. Only a small segment of the eligible population receive annual examinations on a routine recurring basis (13 percent).

e. A high proportion (80 percent) of the sample who received an annual AOHMP examination and had care needs identified, actually received some care.

f. More than 60 percent of the beneficiaries surveyed who entered the dental care system via the AOHMP and received care beyond the examination phase, completed the care sequence.

g. Approximately 50 percent of the 1976, 1977 examinees who were found to be in need of dental care completed their care sequences by their next birth month.

h. Dental prophylaxis and scaling were the dental treatments most frequently received, followed by restorative services.

i. Annual recurrent care needs were found to exist for a high percentage of the sample (90 percent).

j. Annual recurrent care needs were found to exist in about the same proportion of personnel who had completed care the previous year as for the overall sample. However, the magnitude and severity of the needs could not be compared in this study.

k. The dental record was not an accurate measurement tool for determining why needed care sequences were not initiated or were terminated before completion.

7. RECOMMENDATIONS.

The following recommendations are submitted:

a. That the findings of this study be made available to dental planners and program managers at HSC and DASG.

b. That a study be conducted to determine if the magnitude and severity of dental needs differ for routine participants of the AOHMP and for recalcitrant violators of the program.

c. That the program be continued as the primary input device for the Army dental care delivery system.

d. That long-standing non-participants in the program be identified and introduced into the program.

8. REFERENCES

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6. Young, W. O. and Striffler, D. F. "The Dentist, His Practice, and His Community." W. B. Saunder Co., Philadelphia, Pennsylvania, 1969.

FIGURES

Figure 1

DISTRIBUTION OF SAMPLE BY YEAR OF ENTRY ONTO ACTIVE DUTY

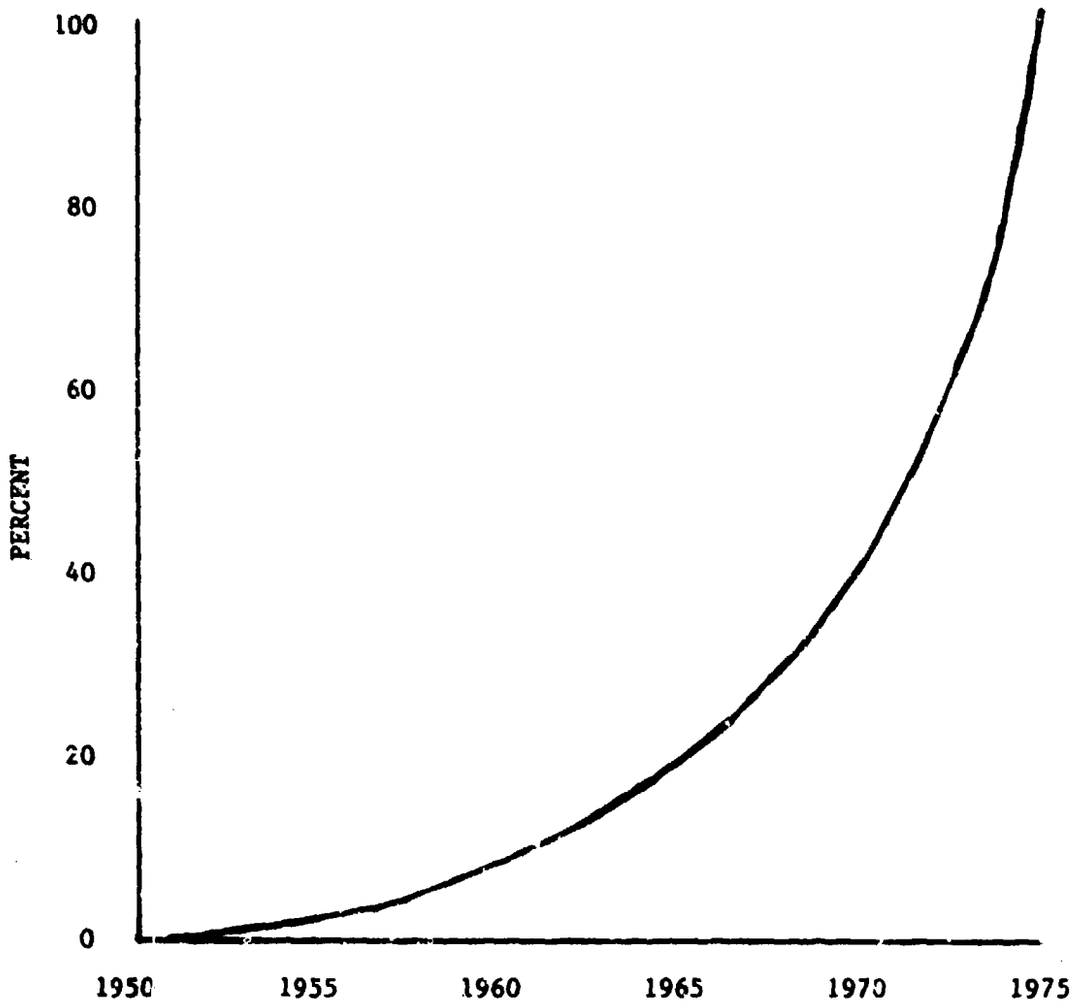


Figure 2

EXAMS RECEIVED - BY PERCENT OF ELIGIBLE INDIVIDUALS

BY SITE

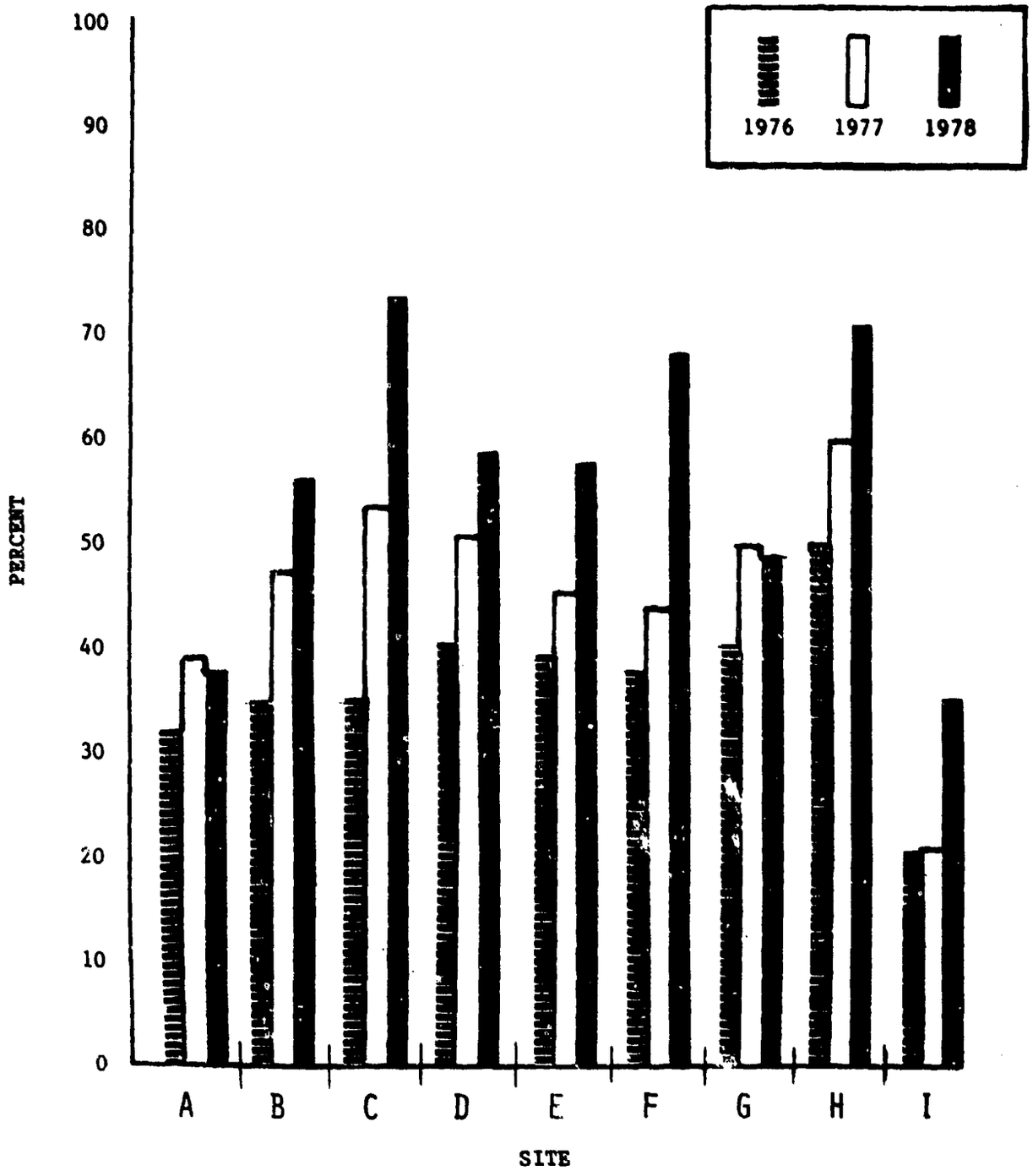
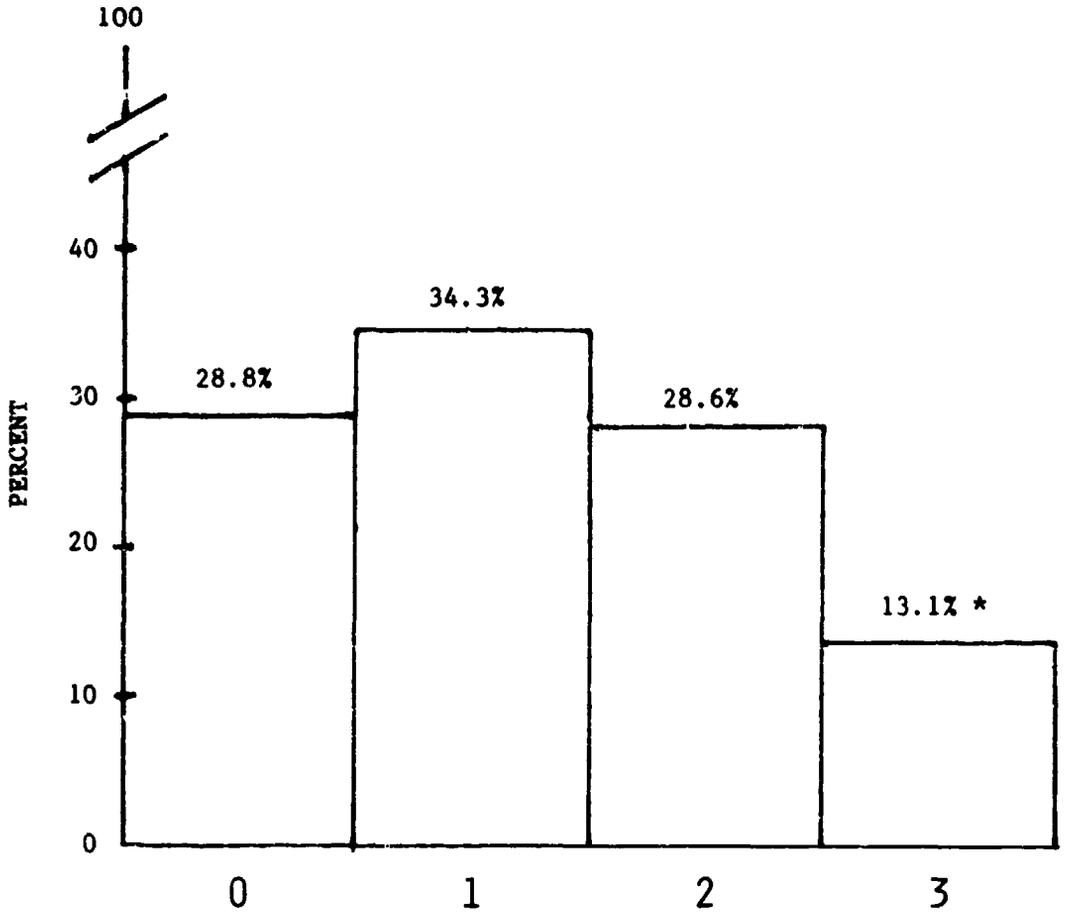


Figure 3

MULTIPLE YEAR PARTICIPATION RATE FOR THE ENTIRE SAMPLE



N= 1981

* Adjusted to reflect reduced sample (N=1244) eligible for three examinations.

TABLES

TABLE 1

Yearly Comparison of the Need for Dental Care Among Personnel who Received AOHMP Examinations

Year	Number Eligible	Received Examinations		Needed Care	
		Number	Percent	Number	Percent
1976	1981	700	35.3	634	90.6
1977	1981	920	46.4	858	93.2
1978	1244	685	55.1	647	94.5

TABLE 2

YEARLY COMPARISON OF DENTAL CARE RECEIVED BY PARTICIPANTS IN THE ANNUAL AOHMP EXAMINATION

YEAR	NUMBER WITH CARE NEEDS	RECEIVED CARE NO.	PERCENT
1976	634	554	(87.2)
1977	858	705	(81.9)
1978	647	531	(82.1)

TABLE 3

CARE COMPLETION AND IN-PROGRESS SUMMARY
FOR AOHMP CARE RECIPIENTS

Year	Number Receiving Care	Care Completed		Care In-Progress		Care Completion / In-Progress Summary	
		Number	Percent	Number	Percent	Number	Percent
1976	554	292	52.7	41	7.4	333	60.1
1977	705	361	51.2	64	9.1	425	60.3
1978	531	244	45.9	137	25.8	381	71.8

TABLE 4

CARE COMPLETION AND IN-PROGRESS SUMMARY
FOR PERSONNEL IDENTIFIED AS NEEDING CARE
AT THE TIME OF THEIR AOHMP EXAMINATION

Year	Number Needing Care	Care Completed		Care In-Progress		Care Completion/ In-Progress Summary	
		Number	Percent	Number	Percent	Number	Percent
1976	634	292	46.0	41	6.5	333	52.5
1977	858	361	42.1	64	7.4	424	49.4
1978	647	244	37.7	137	21.2	381	58.9

TABLE 5

DISTRIBUTION OF DENTAL CARE RECEIVED
BY TYPE OF CARE*

YEAR	RECEIVED CARE	TYPE OF CARE											
		ORAL HYGIENE		RESTORATIVE		ORAL SURGERY		PERIODONTICS		PROSTHODONTICS		ENDODONTICS	
		NO.	PERCENT	NO.	PERCENT	NO.	PERCENT	NO.	PERCENT	NO.	PERCENT	NO.	PERCENT
1976	554	441	(79.5)	309	(55.7)	101	(18.2)	33	(5.9)	74	(13.3)	45	(8.1)
1977	705	565	(80.0)	387	(54.7)	93	(13.2)	48	(6.8)	106	(15.1)	45	(6.4)
1978	531	446	(83.8)	254	(47.7)	56	(10.5)	28	(5.3)	54	(10.2)	30	(5.6)

*Percentages ( ) are based on the number who actually received some care subsequent to being diagnosed as needing care.

TABLE 6

RECURRING CARE NEEDS SUMMARY FOR PERSONS
COMPLETING CARE IN 1976

COMPLETED CARE IN 1976	RECEIVED EXAMINATION IN 1977 NO. PERCENT	NEEDED CARE IN 1977 NO. PERCENT	RECEIVED CARE IN 1977 NO. PERCENT	COMPLETED CARE IN 1977 NO. PERCENT
292	184 (63.0)	166 (90.2)	150 (90.4)	107 (66.0)

TABLE 7

RECURRING CARE NEEDS SUMMARY FOR PERSONS
COMPLETING CARE IN 1977

COMPLETED CARE IN 1977	RECEIVED EXAMINATION IN 1978 NO.	PERCENT	NEEDED CARE IN 1978 NO.	PERCENT	RECEIVED CARE IN 1978 NO.	PERCENT	COMPLETED CARE IN 1978 NO.	PERCENT
361	163	(45.2)	151	(92.6)	132	(87.4)	103	(78.0)

TABLE 8

PERCENT OF RECURRENT CARE RECIPIENTS
BY TYPE OF CARE RECEIVED

	ORAL HYGIENE	RESTORATIVE	ORAL SURGERY	PERIODONTICS	PROSTHODONTICS	ENDODONTICS
1977	82	49	7	6	11	6
1978	89	46	7	5	7	2

N = 150 For 1977
132 For 1978

APPENDIX A

MEMORANDUM FOR: ALL DENTAL CORPS OFFICERS

DATE: 6 DECEMBER 1968

DEPARTMENT OF THE ARMY
OFFICE OF THE SURGEON GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO:

MEDDS-PD

6 December 1968

MEMORANDUM FOR: ALL DENTAL CORPS OFFICERS

SUBJECT: Oral Health Maintenance Program

1. In order to bring the benefits of certain preventive services to all authorized personnel, directives will be forthcoming which will establish and implement an Oral Health Maintenance Program. The purpose of this Memorandum is to familiarize you with requirements of the Program to permit you to include them in your planning.

2. The Program will include several distinct program areas, related to different segments of our patient population, which place varying emphasis on services to be offered. Program areas are:

a. Active Army Personnel.

(1) Twenty-five years and older.

(2) Under 25 years.

(3) Newly commissioned, enlisted, and inducted.

b. Dependents of Active Army Personnel.

(1) Within the purview of AR 40-35.

(2) Other.

c. Retired Military and Their Dependents.

3. Underlying the varying emphasis on services to be offered different segments of the patient population are the following considerations:

a. Age-related differences in susceptibility to oral diseases.

b. Limited availability of personnel to provide certain services.

c. Maximum long-term returns to the Army for investments made in dental care.

Greatest emphasis in services given will be to active Army personnel, 25 years and older, who constitute the bulk of the career force for whom we have long-term responsibilities.

4. As you know, we long have recognized the need for effective preventive services for reducing the prevalence of oral diseases to manageable levels; but heretofore, even though we have had effective preventive services and materials, our limited personnel resources have made it impossible to implement preventive programs as fully as we would have liked. Now, development of an effective anti-cariogenic material suitable for hygienist-application or self-application makes it possible to take a major step forward.

5. Experience has shown we have a capability for providing only about 600,000 prophylaxes per year Army-wide; therefore, dependence on a hygienist-application approach to preventive services has severely limited our effectiveness. Through self-application we will be able to offer the benefits of caries prevention and control to all members of our patient population. Our hygienist capability will be used for:

a. Providing prophylaxis to more senior people-principally persons 25 years and older.

b. Providing calculus removal services to persons under 25 years who require this service.

c. Supervising or helping supervise self-application sessions.

6. The new anti-cariogenic material is being standardized as US Armed Forces Preventive Dentistry Paste. Self-application with the Paste twice a year, combined with regular use of an accepted stannous fluoride dentifrice, has been shown to reduce new caries incidence by 40-60% and to inhibit extension of enamel caries by 80% for up to two years. Also being standardized as a separate item for self-applying the Paste is a toothbrush of the type contained in the Preventive Dentistry Kit.

7. Inclosure 1 to this Memorandum outlines major requirements of the Oral Health Maintenance Program. This inclosure should be read at this point before going on to the following paragraphs which deal with phasing in of various aspects of the Program.

8. Phasing in of Program Areas.

a. Active Army personnel 25 years and older: Prototype programs now are being tested at selected Army posts to determine the best approach to administering this phase of the Program. Until a decision is made in this regard, this phase of the Program will not be officially implemented.

In the meantime any personnel 25 or over who wish to participate in self-application sessions are welcome to do so. And, of course, patients in this category who visit the dental clinic can be offered the services outlined for them in the Program.

b. Program areas in which Paste will be self-applied: Because of initial production problems often encountered with a new product, the manufacturer of the Preventive Dentistry Paste has not been able to supply it in desired quantities as quickly as we had hoped. Production problems now have been solved, but the initial delay has caused us to establish a schedule of priorities for phasing into the Program:

(1) Vietnam: First priority was given US Army, Vietnam, where a self-application program was started on 1 August. Response to the program has been so favorable that US Army, Vietnam has markedly raised initial estimates of supply requirements for the Paste. Added requirements are being met on a continuing priority basis.

(2) Newly Commissioned, Enlisted and Inducted Personnel: As you will see in the accompanying instructions, people entering on active duty will self-apply the Paste as early as possible in their training periods. Because this phase of the Program will be carried out year round rather than in the specified twice-a-year periods, this phase of the Program will be implemented as soon as Paste becomes available. For this reason, second priority for procuring the Paste has been given posts conducting Officer Basic Training or Basic Combat Training.

(3) Full Implementation of the Program: When it became obvious that sufficient quantities of Paste would not become available early enough to allow full implementation of the self-application phase of the Program during the Fall cycle, we decided to give final priority for procuring the Paste to stocking of the supply system for regular, standard requisition and issue. Presently, it is expected that the Paste will be announced as available for issue by February or March of 1969. Hopefully, the Paste will be available in time for National Childrens Dental Health Week; however, unless we are able to provide you definite assurance of this, you should not plan on it.

9. Provided the Paste becomes available for issue by March, the Spring phase of the self-application program can be carried out even if it means some shifting of months specified in the instructions.

10. We will keep you informed on the availability status of Preventive Dentistry Paste. Until you receive definite word that availability has been announced in SB 75 Series, continue your preventive dentistry programs in accordance with current regulations. Revisions in regulations to support programs outlined in the inclosed instructions will be forthcoming. In the meantime, the inclosed instructions can be used for planning purposes.

MEDDS-PD

25 November 1968

11. For planning purposes, estimate that each application of the Paste will cost $0.15 and each toothbrush, $.05. Projections of costs of the Program are suitable for inclusion as unfinanced requirements in the Mid-Year Budget Review and Analysis.

Robert B. Shira

2 Incl
as

ROBERT B. SHIRA
Major General, DC
Assistant Surgeon General
and Chief of the Dental Corps

Inclosure 1

ORAL HEALTH MAINTENANCE PROGRAM

Directives are being prepared which will establish requirements for an Army Oral Health Maintenance Program.

The following guidelines reflect minimum requirements which will be included in forthcoming directives. In all instances, more comprehensive, more extensive and more frequent services may be offered. For example, no requirement is listed for use of topical aqueous solution of stannous fluoride; however, its use, in addition to prescribed measures, would further reduce susceptibility to caries. Persons having high incidence of carious lesions, especially, would benefit from this additional protection. Furthermore, once a patient is in the dental chair (e.g., for a hygienist prophylaxis or for an operative appointment) application of the aqueous solution takes very little time. Another example would be the inclusion of persons 25 years or over who show continued susceptibility to caries in semiannual sessions for self-application of Preventive Dentistry Paste as well as providing them an annual hygienist-performed prophylaxis.

Program Areas

Distinct program areas having differing requirements will be identified with the various segments of the patient population.

A. Mandatory Program Areas for Active Duty Army Personnel.

1. Personnel 25 years and older. Annually during birth month or as close as possible thereto active Army personnel 25 and over will receive:

a. An oral health evaluation.

b. Prophylaxis and calculus removal. (Cleaning and polishing should be done by a hygienist, if possible, but self-application will suffice.)

c. Evaluation of status of oral self-care and provision of any indicated counseling.

d. Appointments for any needed corrective treatment.

Note: Inclusion of patients 25 years and older in semiannual sessions for self-applying Preventive Dentistry Paste is recommended when evidence exists of continuing susceptibility to caries, provided the patient is agreeable.

2. Personnel under 25 years.

a. Semiannually during the period September-October and the period March-April, all personnel under 25 years of age except those stationed in a theater of active combat will self-apply Preventive Dentistry Paste under supervision of Army Dental Service personnel. In theaters of active combat, schedules for application will be established by the senior dental officer in the theater in consultation with the Office of the Chief of the Army Dental Corps.

b. Requiring self-application be carried out during specified periods of time will make it possible to insure that all personnel, world-wide participate without having to maintain individual records for each patient. Unit rosters will be used for keeping track of personnel participating, with responsibility placed on unit commanders to assure participation. (A forthcoming change to AR 40-5, Preventive Medicine, will specify this responsibility.)

c. Patients under 25 years may be provided calculus removal and/or hygienist-applied prophylaxis when professionally indicated, or felt desirable.

d. Instruction in proper oral self-care will be included in instructions given during self-application. (Elaboration on this point will be found in Inclosure 2.)

3. Newly commissioned, enlisted and inducted personnel. Newly commissioned, enlisted and inducted personnel will engage in their initial self-application during Basic Officer Training or Basic Combat Training. Following completion of Basic Officer Training or of Advanced Individual Training, or upon entry into a service school, they will enter the semiannual program during the next regularly scheduled period, regardless of the time interval since initial self-application.

B. Elective Program Areas for Dependents and Retired Personnel.

1. Dependents within the purview of AR 40-35. Dependents who come within the purview of AR 40-35, "Preventive Dentistry Program for Children", will be offered semiannual opportunities to receive application of Preventive Dentistry Paste through either self-application or hygienist-application. While it appears that consent slips for participation are not absolutely necessary, they may be advisable. This matter should be checked locally with the Judge Advocate; and of course, any expressed desires of school officials should be honored.

Because most children will participate in self-application sessions with large groups, making entries in Immunization Certificates or International Certificates of Vaccination would be impractical. Requirements for such entries will be deleted from AR 40-35.

2. Other dependents. Other dependents of active or retired personnel may be offered professional application or self-application as conditions permit. In consideration of the relationship of younger years to dental caries, and of more advanced years to periodontal disease, the same types of age-related programs specified for military personnel are recommended for dependents wherever feasible.

3. Retired personnel. No specific recommendations are made for this group of patients. Most, if not all, who have remaining natural teeth will require periodic calculus removal. Accompanying cleaning and polishing of the teeth may be through either self-application or professional application depending upon local resources.

4. Self-application periods for nonmilitary patients will be October-November and April-May only.

5. Instructions on proper oral self-care will be given dependents participating in the Program.

C. Recommended Dentifrice.

For all patients, regardless of type of fluoride application program participated in, regular use of an ADA approved stannous fluoride containing dentifrice is essential for optimizing caries inhibition.

D. Reporting Self-Application.

Numbers of patients self-applying Preventive Dentistry Paste will be reported by categories listed on DD Form 447. Entries will be made in the "Remarks" section, and will be headed "Self-Application of Preventive Dentistry Paste".

Inclosure 2

SELF-APPLICATION OF PREVENTIVE DENTISTRY PASTE

Following are suggestions and recommendations for conducting self-application phases of the Oral Health Maintenance Program based upon experience gained in trial sessions conducted for both military and dependent personnel.

Facilities, Equipment and Supplies for Self-Application

Facilities. Self-application can be conducted in a variety of locales and requires no special facilities (however, in certain instances special facilities may be desirable, as will be discussed below).

a. Among locales suitable for group self-application are: Mess halls, theaters, barracks, outdoor areas, school cafeterias, school auditoriums and school classrooms.

b. Children in on-post schools can most easily be accommodated in programs conducted in the schools.

c. Special facilities. Most military personnel participating in self-application programs can do so with their military units in locales other than dental clinics. However, because of the nature of the duties of assigned personnel, some military units will not be able to assemble all or even most of their personnel at one time for self-application. Furthermore, in any unit, some personnel will miss self-application periods. To accommodate such personnel, a self-application clinic well may be the best solution. (Construction of such facilities for all personnel is a desirable long-range goal.)

Such a clinic also would be suitable for dependents not included in school programs. As will be seen when administration of a self-application session is described, it is not necessary to have any special equipment to organize a self-application clinic. However, inclusion of sinks, shelves and mirrors can add to the effectiveness of such a clinic.

Equipment and Supplies

Equipment. No special equipment is necessary although for large groups a public address system and a vehicle for transporting supplies are helpful.

Supplies. Supplies needed depend upon where the self-application is being conducted. The following list is suggested for locales where sinks are not available but tables are available. Recommended supplies for each patient are:

a. Large paper cup for expectoration (8 oz.)

b. Small paper cup for rinse water (4 oz.)

c. Two dental napkins - one for the patient to use as a bib, and one to protect the table.

d. Preventive Dentistry Paste

e. Toothbrush

f. Mirror

g. Two disclosing tablets

In addition, pitchers of water are needed for filling the rinse cups, and trash cans are needed for cleaning up. (Part of the clean-up consists of disposing of patients' rinse water. If trash cans with plastic liners are used, rinse water can be disposed of in them along with the other materials; otherwise buckets of some type are needed.)

Method for Self-Application

A copy of the following instructions will be found in each can of Preventive Dentistry Paste:

a. Self-application is intended to be performed under professional* supervision, the paste being applied with a toothbrush. Preferably the brush should have a flat head; and multitufted, soft nylon bristles having rounded polished tips. (A brush having these characteristics soon will be provided in standard preventive dentistry kits, and is being standardized for requisition as a separate item.) In order to assure all tooth surfaces are treated with the paste, application should follow a specific sequence.

b. A sequence in which the dentition is divided into five areas for brushing has been found to work well. When using this sequence, about one-fifth of the paste in the tube should be used for each area.

(Note: It is recommended for any sequence used, brushing should be performed first on the occlusal surfaces in order to soften the toothbrush bristles before they come in contact with the gingivae. Further at least one area should be brushed without paste to familiarize patients with the method before brushing with paste. Children should "dry-brush" several areas.)

(1) Each brushing area is subdivided into several sub-areas. The first step in brushing an area is to spread the paste over all of the sub-areas. Then each of the sub-areas is brushed for five seconds by the clock; or for twenty rapid strokes, which takes 5 seconds or slightly longer.

*Of a dental officer, a hygienist, or a specially trained assistant.

(2) Areas and sub-areas are as follows:

(a) First area: Occlusal surfaces of posterior teeth.

Sub-areas:

1 Mandibular left.
2 Mandibular right.
3 Maxillary left.
4 Maxillary right.

(b) Second area: Lingual surfaces of mandibular arch.

Sub-areas:

1 Left molars.
2 Left bicuspids.
3 Left anteriors.
4 Right anteriors.
5 Right bicuspids.
6 Right molars.

(c) Third area: Buccal-labial surfaces of mandibular arch.

Sub-areas:

1 through 6 as above

(d) Fourth area: Lingual surfaces of maxillary arch.

Sub-areas:

1 through 6 as above.

(e) Fifth area: Buccal-labial surfaces of maxillary arch.

Sub-areas:

1 through 6 as above.

(f) Finally: If any paste is left, instruct patients to brush any areas they feel they may have missed.

c. Brushing Method. Brushing should be performed vigorously with a back and forth motion using short strokes.

d. Rinsing. One thorough rinsing following the final application is all that is necessary, accompanied by emptying of the mouth at least following brushing of each of the five areas. (Caution against swallowing until after the final rinse.)

e. Protection of Clothing. Clothing should be protected from spattering. Ingredients of paste may bleach certain color unstable dyes.

f. Hygienist Application. Apply in the sequence described above. For maximum dental caries preventive effect, tooth surfaces must be exposed to the paste for at least five seconds. Patients may be permitted to rinse whenever convenient, but should be cautioned not to swallow. Although ingestion of the paste is safe except in massive doses, swallowing it may cause nausea in some persons.

Instruction in Oral Self-Care

The back and forth brushing stroke recommended for self-application is an acceptable toothbrushing method when used with a soft or medium nylon multitufted toothbrush. In fact, in a survey conducted among specialty trained Army periodontists, it was the method recommended by a sizable majority. It also is the most natural of the several recommended methods, and therefore is the easiest method for a patient to learn.

Regular daily effective removal of the plaque from the teeth is essential for preventing and/or controlling both dental caries and periodontal disease; therefore instruction in proper oral self-care will be included as a part of all self-application sessions. Because the method of brushing recommended for self-application is acceptable for regular oral care, instruction in self-care can be combined with instruction in self-application.

Procedure

Have patients stain their teeth with disclosing tablets and examine them in a mirror, then give a short discussion of dental plaque and its role in oral disease. Following self-application, have patients stain their teeth again and again examine them in a mirror, and they can judge the effectiveness of their efforts.

In most instances, some small areas of plaque still will be found (this is true following professional application also). These are areas not brushed thoroughly enough.

Have the patients brush these areas with the dry brush. This will remove the remaining plaque and two teaching points can be made:

a. Plaque can be effectively removed with a toothbrush and,

b. It is a good idea occasionally to check on the effectiveness of one's brushing.

In some situations (combat units in the field, e.g.) providing mirrors for demonstration of plaque and its removal may not be possible. Even in these instances, however, instruction in proper oral self-care still will be given during self-application exercises.

Instruction on Interproximal Cleaning During Self-Application

Although the importance of regular, effective interproximal cleaning with floss or tape cannot be emphasized too strongly, it is not yet known whether:

a. Such instruction can be given effectively to groups of persons, or

b. Flossing in conjunction with self-application will abrade the soft tissues sufficiently to produce irritation from the chemicals in the paste.

Test programs are being conducted to evaluate these points, and recommendations based upon results will be forthcoming. In the meantime, the importance of interproximal cleaning should be mentioned and a statement made that individual instruction in interproximal cleaning should be requested by the patient during his next dental visit.

Patients Having Gingivitis

Two series of clinical tests have been conducted to assess the effect of self-application of Preventive Dentistry Paste on inflammed gingivae. Patients with all degrees of inflammation have been included in these tests. In no case observed has self-application caused an exacerbation of the condition. In fact, in most cases, an improvement has occurred. It is possible that longer experience with the paste will bring out instances of adverse reactions. For now, however, it appears that professional screening of patients prior to self-application is not necessary.

Cleaning Effectiveness

Tests conducted to assess the cleaning effectiveness of the Preventive Dentistry Paste when applied by a hygienist have shown the paste to be as effective for removing plaque as is paste made from Zircate powder. Furthermore, patients and hygienists involved in the tests universally prefer the Preventive Dentistry Paste--hygienists because of its handling properties, and patients because of its flavor.

Conducting a Self-Application Session

Following is an outline of workable methods, suggested by United States Army Institute of Dental Research investigators who have experimented with a number of approaches. These methods are offered as suggestions. Individual dental services well may develop methods more suitable for their own needs. Suggestions for improving conduct of such sessions are suitable items for inclusion in General Shira's "Memorandum for Army Dental Corps Officers".

Approaches suggested are as follows:

SELF-APPLICATION WITH US ARMED FORCES PREVENTIVE DENTISTRY PASTE

In Classroom, Multi-Purpose Room, Mess Hall, or Outside Area.

1. Supplies: Large paper cup - 1 per individual
   Small paper cup - 1 per individual
   Toothbrush - 1 per individual
   US Armed Forces Preventive Dentistry Paste (7 gm tube) - 1 per individual
   Mirrors - 1 per individual
   Disclosing tablets - 2 per individual
   Disposable dental napkins - 2 per individual
   Water container, pitchers, water bags, or individual canteens
   Waste containerswith plastic liners

2. Personnel:

   a. School Children:

      (1) Classroom:

         (a) 1 Dental Officer or Dental Hygienist to direct brushing.

         (b) 2 Dental Assistants or Red Cross Volunteers to dispense materials, pour water and circulate to assist children with brushing (more than two helpers in the classroom cause confusion and helpers get in each others' way, but one helper is not enough).

      (2) Multi-Purpose Room:

         (a) 1 Dental Officer or Dental Hygienist to direct brushing.

         (b) 4 to 5 Dental Assistants or Red Cross Volunteers to dispense materials, etc. (1 helper per 20-25 children.)

b. Troops:

(1) Mess Hall.

(a) 1 Dental Officer or Hygienist as Instructor. The number required will vary with size of treatment group and whether the troops bring their own water in canteens or it must be poured into cups. (Should require fewer helpers than in school situation.)

(2) Outside Areas (same as above)

3. Time Required:

a. Classroom: 30 minutes per classroom.

b. Multi-Purpose Room or Mess Hall:

(1) 30 minutes for initial setup.

(2) 30 minutes per group (brushing and cleanup)

c. Outside: Same as b above.

4. Methods of Dispensing Materials:

a. Classroom*:

(1) Materials brought to classroom on a rolling table.

(2) Materials may be dispensed in one of several ways:

(a) Have children file past table and be handed materials, then return to seat, or

(b) Pass out materials to each child at seat; or

(c) Pass out materials by rows (front to back).

(3) Dental Assistants or Volunteers pour water into small cups after children are seated.

* It is suggested that the room teacher be consulted as to the manner in which supplies and materials are usually passed out to the class. Some teachers indicated that in the lower grades (1-3) it was preferable to have the children remain in their seats to reduce confusion.

b. Multi-Purpose Room:

(1) Materials are placed on table at entrance and as the children pass by they are given cups, brush, paste, napkins and disclosing wafers, and then are directed to seats by teachers, dental assistants or volunteers.

(2) Children are seated immediately after they enter the room. Sufficient amounts of each item required, previously placed on ends of cafeteria table are passed along the line of students upon directions of the instructor. (Impression: This method required more personnel and made it more difficult to control the group.)

(3) For either method, assistants or volunteers pour water in small cups after the children have received their materials, and have been seated.

c. Mess Hall:

Materials, including prefilled cups of water, can be dispensed from a table as troops enter the mess hall. The larger of the two cups may be used as receptacle to carry the napkins, paste, brush and disclosing tablets.

d. Outside:

(1) If tables, or boxes or some other objects with suitable flat surfaces are available for patients to set the materials on, the same system as described in the mess hall can be used.

(2) If no flat surfaces are available, only the brush, paste and bib are dispensed. (If patients are careful, bibs are not needed.) Following application, the troops can use water from their canteens for rinsing and for cleaning their brushes. (Expectorating on the ground did not bother troops who took part in the test programs, but this should be done only in nonpublic areas. Ideally expectorating should be done into a shallow trench which then can be covered over.) If canteens are not available, water cups can be placed on a table, then the men can file past, pick one up, and proceed back into formation to rinse. An alternative might be to have the water cups passed out by assistants or squad leaders. (Might use cup carriers such as those used by football teams to carry juice and water onto the field during time-out periods.)

5. Seating:

a. Children:

(1) It is important that all children face the instructor at the front of the room. When children are allowed to face each other, they are more difficult to control and to instruct. Also they are more apt to swallow the paste and to have adverse reactions (nausea, vomiting and headache).

(2) Teachers should be requested to remain with their students.

(3) In Multi-Purpose rooms the mixture of grade levels does not seem to be important. That is, a mixture of upper and lower grades in the elementary schools caused no problem for the instructor in directing the session. However, students should be seated with their classmates.

b. Troops:

(1) If possible, it would be advantageous to have all troops facing the instructor also. This may mean rearranging tables and chairs, however, and might not be feasible.

(2) When outside, the troops should be in open ranks formation. If they are to expectorate on the ground, they can be lined up along a shallow trench(es) which can readily be covered over.

6. Suggestions for Application Instructions:

a. The instructor should gain and hold the attention of the group as soon as possible. (If attention is lost, especially with children, regaining it has been found to be difficult.)

b. The following sequence was followed in our trials.

(1) Explain what will take place and <u>why</u> (the benefits), and a comment on the taste. Example: Compare it to raspberry kool-aid.

(2) Direct the setup of material.

(a) One napkin as a tablecloth.

(b) Put big cup on napkin with brush, tube of paste, disclosing tablets and mirrors.

(c) Put small cup off napkin, where it will not be knocked over.

(d) Use second napkin as a <u>bib</u>.

(3) Have patients stain with disclosing tablet: discuss plaque; its role in oral disease, and the importance of removing it regularly. Have patients open brush packages then explain the brushing technique and sequence. <u>Point out this is an effective method for daily toothbrushing</u>. (We found that pointing to one side of the room or the other was preferable to saying, "right side or left side of the mouth". We also referred to the surfaces of the teeth as: "biting surface, cheek side, and tongue side".

(4) Trial brushing is important. At least one brushing area should be "dry-brushed", (preferably two for children) in order to establish the routine.

(5) Individuals may expectorate into the large cup as necessary, but should not rinse until all brushing is completed. Frequent rinses may cause swallowing of excessive amounts of paste, thereby increasing the likelihood of "adverse reactions".

(6) Instructor may count out loud for twenty strokes in each sub-area (worked well for us) and/or brush (without paste) along with the groups. Pace should be as rapid as possible; a lagging brushing pace will allow groups to get out of control and not follow instructions.

(7) When brushing is completed and all patients have rinsed, have them restain with the second disclosing tablets, examine themselves for areas they may have missed, and brush remaining plaque from these areas.

(8) Have patients rinse, clean their brushes in the remaining rinse water, then empty this water into the expectorant cup.

7. Cleanup Instructions:

a. Remove large cup and brush from the table napkin and set on the table. Put small cup, tube and bib on table napkin and fold into a bundle.

b. Place brush back in its cellophane wrapper.

c. File past GI can and throw large cup and napkin bundle away in plastic-lined trash can. An alternate method is to carry the can through the aisles and have waste deposited as the can passes.

d. In one classroom, where a plastic-lined can was not available, the teacher had the children take their large cups to the washrooms to pour the contents out. Then as the children returned they deposited their cups in the GI can.

e. If plastic-lined cans or washrooms are not available, buckets can be used to collect expectorant rinse water.

Final Notes

1. Preschool Children:

Test programs have been successfully conducted in which a parent using a toothbrush has applied Preventive Dentistry Paste to teeth of preschoolers. Parents or older brothers or sisters are instructed in

the procedure in the same step by step fashion previously outlined, and are instructed to be sure the children expectorate the paste rather than swallow it. Test programs were carried out with small groups of 4-6 children. Parents sat while children stood facing the parents. In some instances partners found it convenient to use their knees to steady children.

2. Adverse Reactions:

No intraoral reactions of any type have been observed during test programs. However, if patients swallow any quantity of the paste, they may feel nauseous or complain of slight headache. Such reactions are more apt to be found among children. If self-application is properly controlled, few if any reactions will occur. In one test program more than 600 children (grades 1-6) participated with no complaints of adverse effects.

3. Instruction on Interproximal Cleaning During Self-Application:

Although the importance of regular, effective interproximal cleaning with floss or tape cannot be emphasized too strongly, it is not yet known whether the combination of flossing and the Preventive Dentistry Paste will cause adverse reactions to the periodontium, and there may be problems in teaching flossing techniques to large groups. Therefore, until further studies are completed, concurrent flossing and self-application of the Preventive Dentistry Paste is not recommended.

APPENDIX B

HQDA LTR 20 JANUARY 1971

SUBJECT: PHASE II ARMY ORAL HEALTH MAINTENANCE PROGRAM

DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGDA (M) (11 Jan 71) MEDDS-P

20 January 1971

SUBJECT: Phase II - Army Oral Health Maintenance Program

SEE DISTRIBUTION

1. Your support is requested for implementation of Phase II of the Army Oral Health Maintenance Program designed to provide optimum oral health care for active Army personnel in the age group 25 years and over.

2. Phase I of the program, designed for personnel in the under 25 age group, a group having a high susceptibility to dental caries, is now in full operation. Phase II is designed to optimize care for personnel in the age group especially susceptible to periodontal disease; personnel for whose health the Army has a long range commitment.

3. The degree of success of Phase II of the program will depend upon the degree of command support it receives. The basic premise, upon which the program is built, is that regular periodic oral health maintenance is much less costly in time and resources than is irregularly scheduled repair of disease conditions. Command emphasis is needed to assure that personnel report for oral health maintenance procedures on schedule.

4. Personnel in the over 25 age group will receive an annual evaluation of oral health status, counseling and instruction in oral disease prevention and control measures, and appointments for any corrective or restorative care needed. The annual evaluation will be conducted during the birth month, and it is anticipated that for persons required to have periodic physical examinations, this annual evaluation will replace the dental portion of the periodic physical examination.

5. A change in AR 40-3 to formally establish Phase II of the Oral Health Maintenance Program is now being published. Publication of this change will not of itself bring about the desired results without command backing, however; furthermore, rather than await publication of the above-mentioned regulation change, Phase II of the Oral Health Maintenance Program should be started now as part of the Army's shift in posture as Army activities in Vietnam are phased down.

MEDDS-P
SUBJECT: Phase II - Army Oral Health Maintenance Program

6. Therefore, you are directed to initiate Phase II of the Oral Health Maintenance Program as outlined in the inclosed extract from the proposed regulation change. Persons to be included initially in this phase of the program will be active duty personnel 25 years of age or older.

BY ORDER OF THE SECRETARY OF THE ARMY:

Verne L. Bowers

1 Incl
as

VERNE L. BOWERS
Major General, USA
Acting The Adjutant General

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The Surgeon General
ATTN: MEDDS-P and MEDAO-P

ATMED (20 Jan 71) 1st Ind
SUBJECT: Phase II - Army Oral Health Maintenance Program

Headquarters, United States Continental Army Command, Fort Monroe, Virginia 23351, 11 February 1971

TO: Commanding Generals, CONUSAMDW

1. Forwarded for necessary action.

2. This program will be implemented at installations based upon recommendations of the Installation Dental Surgeon. Establishment and maintenance of this program will be a matter of interest during Inspector General and Medical Technical Inspections.

FOR THE COMMANDER:

1 Incl
nc

E. THOMAS
Colonel, AGC
Adjutant General

AKASU-D (20 Jan 71) 2d Ind

HQ, Fourth US Army, Fort Sam Houston, Texas 78234 25 February 1971

TO: Commanding General, III Corps and Fort Hood, ATTN: Dental Surgeon
Commanding General, US Army Air Defense Center and Fort Bliss, ATTN: Dental Surgeon
Commanding General, US Army Training Center and Fort Polk, ATTN: Dental Surgeon
Commanding General, US Army Field Artillery Center and Fort Sill, ATTN: Dental Surgeon
Commanding General, US Army Primary Helicopter Center/School and Fort Wolters, ATTN: Dental Surgeon

1. Forwarded for compliance.

2. To facilitate rapid implementation, commanders at all levels will insure maximum support is provided to the program and monitor progress as a matter of command interest.

FOR THE COMMANDER:

1 Incl
nc

FOSTER B. WATSON
Colonel, AGC
Adjutant General

ORAL HEALTH MAINTENANCE PROGRAM

PHASE II - PERIODONTAL DISEASE SUSCEPTIBLE GROUP

REFERENCE: Memorandum for Dental Corps Officers

SUBJECT: Oral Health Maintenance Program dated 6 December 1968

The following is extracted from a change to AR 40-3:

(2) Periodontal disease susceptible groups. Groups most susceptible will, in general, be the older age groups, and in addition to their susceptibility to periodontal disease such groups will often show accumulated ravages of earlier periods of high caries susceptibility. For these groups, the following mandatory procedures will be carried out annually during their month of birth or as close as possible thereto:

(a) A complete dental examination.

(b) Evaluation of status of oral self-care and provision of any indicated counseling.

(c) Prophylaxis and calculus removal and appointments for any needed corrective treatment, if indicated.

Specific instructions on age grouping to be included in the periodontal disease susceptible category will be furnished by OTSG through technical channels.

INCL 1

APPENDIX C

HQDA LTR 4 OCTOBER 1974

SUBJECT: ARMY ORAL HEALTH MAINTENANCE

HQDA Ltr 40-74-14

DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

DAAG-PAP-A (M) (26 Sep 74) DASG-DCM 4 October 1974

Expires 4 October 1975

SUBJECT: Army Oral Health Maintenance Program

SEE DISTRIBUTION

1. References:

a. Paragraph 10-3d(2), AR 40-3.

b. Letter, AGDA(M)(11Jan71)MEDDS-P, HQDA, subject: Phase II - Army Oral Health Maintenance Program, 20 January 1971.

2. Reference 1a above requires military personnel in the periodontal disease susceptible age group to receive an annual evaluation of their oral health status during the anniversary month of birth. The evaluation includes a complete dental examination, counseling concerning oral self-care, prophylaxis and calculus removal, and an appointment for follow-up care, if required. This program was initiated by HQDA letter, 20 January 1971, reference paragraph 1b above, which indicated that personnel in the over 25 age group would initially receive this annual evaluation.

3. In order to continue to reduce the incidence of oral disease in the Army, it is appropriate to extend the benefits of the annual evaluation of oral health status to all military personnel, regardless of age group.

4. Therefore, you are directed to require all military personnel in your command to receive an annual evaluation of oral health status during their anniversary month of birth. The scope of the evaluation is included in reference paragraph 1a above.

5. The requirement for annual oral health evaluations for all military personnel will be included as a monthly suspense item in the Standard Installation/Division Personnel System (SIDPERS) management reporting subsystem to assist commanders in insuring that all personnel receive the evaluation when required.

For the

SUBJECT: Army Oral Health Maintenance Program

6. No additional manpower authorizations are provided for this program. Where necessary, commanders will consider the basis of entitlement to dental care for the various categories of personnel specified in figure 2-1, AR 40-3, in order to insure the accomplishment of this annual requirement for all active duty military personnel.

7. Letter, AGDA(M) (11 Jan 71) MEDDS-P, HQDA, subject: Phase II - Army Oral Health Maintenance Program, 20 January 1971, is hereby rescinded.

BY ORDER OF THE SECRETARY OF THE ARMY:

VERNE L. BOWERS
Major General, USA
The Adjutant General

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APPENDIX D

FORM FOR RETROSPECTIVE RECORD AUDIT

AOHMP STUDY - PART 2

RETROSPECTIVE RECORD AUDIT

ANNUAL DENTAL EXAM - SUBSEQUENT CARE RECEIVED

IDENTIFIER NO. _____ POST _____ CLINIC _____

Year EAD	1	2										
Birth Month	3	4										
Exams Eligible For	5											
Exams Received	6											
1976 Exam	7											
Care Need Indicated	8											
Care Received	9	10 OH	11 R	12 S	13 PE	14 PR	15 E					
Care Completed	16											
If No, Why?	17											
1977 Exam	18											
Care Need Indicated	19											
Care Received	20	21 OH	22 R	23 S	24 PE	25 PR	26 E					
Care Completed	27											
If No, Why?	28											
1978 Exam	29											
Care Need Indicated	30											
Care Received	31	32 OH	33 R	34 S	35 PE	36 PR	37 E					
Care Completed	38											
If No, Why?	39											
Installation	40											

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