ILLNESS BEHAVIOR AND TRANSITIONAL STATES: A STUDY OF OUTPATIENT RATES AND SYMPTOM PRESENTATION IN RELATION TO TROOP DEPLOYMENT DURING PEACETIME.

TECHNICAL REPORT 2

TYPES AND RATES OF OUTPATIENT SICK CALL VISITS OF ACTIVE DUTY SOLDIERS AND THEIR FAMILY MEMBERS, JUNE 1980 - MAY 1981.

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20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

The outpatient sickcall visits during June 1980-May 1981 for soldiers and their family members in 22 companies were collected and linked to the sponsor's personnel data as part of the "Health Consequences of Deployment" study of short-term stress. Data tabulations give the numbers and rates of visits by major category, and most frequent individual reason for visit. The disposition of the visits with limitations of duty (profiles and quarters) are also presented. Changes in the rates and types of visit are presented graphically. The

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demographic characteristics and attributes of the soldier population-at-risk are presented as are the characteristics and attributes of the active duty health care utilizer.

TECHNICAL REPORT 2

Types and Rates of Outpatient Sickcall Visits of Active Duty Soldiers and their Family Members, June 1980 - May 1981

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INTRODUCTION

The findings reported here will describe the June 1980 thru May 1981 outpatient sickcall visits which were gathered for the active duty sample of 17 combat arms units and five support units and their family members in the "Health Consequences of Deployment Study" (1). It will examine these visits by general categories of visits, most frequent presenting problem, and how the types of visits and their rates change over time. It will also provide information on the dispositions of the visits with limitations of duty (profiles and quarters) as well as a general demographic description of the active duty health care utilizer.

This technical report will discuss sickcall visits of both active duty soldiers and their family members. Appendix A lists the technical reports which provide detailed and specific results for various other sub-samples of this study.

The background and general methodology for this report is found in Technical Report 1, 'The Health Consequences of Deployment. Part I: Data Gathering' (2).

METHOD

The data in this report will be discussed in terms of the total number of visits and the annual rates of visits (per 100 strength). The findings will be displayed at several different

levels of aggregation. The Category of Visits is a classification of the presenting problem into different modules as set forth in the Public Health Service's "A Reason for Visit Classification for Ambulatory Care"(3) which was used to code the visits in this study. Several of these modules represent visits for symptoms or diseases of the various body systems such as the respiratory or digestive system. Other modules represent specific types of visits regardless of body systems. For example, this classification places visits for family planning, PAP smears or pregnancy tests in the Diagnostic/Screening/ /Prevention Module as opposed to the Genito-Urinary Module. Some of the other modules (and non-inclusive examples of the types of visits they represent) are as follows: The Injury module represents injuries of all types (cuts, burns, etc.) to all parts of the body. The Diagnostic/Screening/Prevention module includes visits for a general medical check-up, various blood tests, blood pressure checks, hearing tests, pregnancy tests, PAP smears and family planning. The Treatment module includes visits for cast and suture care and bandage changes. The Administrative module includes visits made at the request of a third party, such as command psychiatric exams or annual physical exams. In order to be sure the most frequent individual reasons for visits are not overlooked in the various modules, individual presenting problems will also be arrayed according to the frequency of their occurence. The

presenting problem represents the reason for the visit provided by the patient as indicated in various clinics' sign-in log. "Complaint Not Given" was used when the reason for the visit was not indicated in the sign-in log.

Injuries and the resulting visits represent a very large fraction of the health care delivered to this population. To reflect this, we created a classification to summarize the visits into three major groups: Muscular/Skeletal Complaints and Injuries (M/S & I), Other Disease and Symptoms (O D/S), and Other visits (O). The O D/S Category represents (non-injury) "illness" visits and the O Category is a catch-all for other visits, such as Diagnostic/Screening/Prevention, Administrative, or Uncodable. Appendix B lists the specific categories included in each of these major groups.

RESULTS & DISCUSSION

There were about five and a half thousand soldiers and their family members at risk at any one time as seen in Table 1. From this population, there were 16 thousand outpatient sick call visits yielding a gross rate of 279.6/100 visits per year. The demographics of the active duty population at-risk as of mid-year, November 1980, are seen in Table 2 to be primarily young, single, white males in the lower enlisted grades with at least a high school education and without any PULHES profile

(medical limitations on their military assignment).

ACTIVE DUTY. The soldiers' annual outpatient sickcall visit rate was 444/100 or an average of between four and five visits per soldier per year. The visit modules, shown in Table 3, that had the highest annual rates of visits and accounted for almost two thirds of the visits were Muscular/Skeletal Complaints, Injuries, Respiratory, and Skin, Hair and Nails. In rank order, the top individual presenting problems (see Table 4) which represented approximately a quarter of the total number of soldiers visits were: Knee Symptom, Head Cold, Foot Symptom, Skin Rash, Complaint Not Given, and Throat Symptom.

As seen in Figure 1 there were fluctuations in these rates and categories of visits over time. The overall active duty rates were higher for the first four months, June 1980 through September 1980, than the remaining eight months of our first year. The rates for M/S & I which alone represent four-fifths of all visits, were also most pronounced during these first four months, but peak again in April. The seasonal nature of outdoor activity and the unit training tasks (see Technical Report 5: 'Impact of Unit Activity on Sickcall Visits') are the two most likely candidates to explain this shift in rates. The increased rates for any visits and O D/S visits in December and January were accompanied by an increase in the number of respiratory visits during that time and coincided with the outbreak of influenza in the Continental United States(4).

The outcome of the health care visit is coded in the disposition field as return to duty (with or without follow-up), return to duty with temporary activity limiting profile, restriction to quarters, referred to other outpatient services, or hospitalization. Examination of dispositions for temporary profiles and quarters indicated a ratio of profiles to visits of 14.9::100 or approximately one out of seven visits resulting in an activity limiting disposition, a profile. The ratio of quarters to visits is 4.4::100 or approximately one in 23. A broad brush look at the demographic characteristics of the soldiers who had sick call visits, extracted from Table 5 showed them to be primarily young, single, white males in the lower enlisted grades with at least a high school education and without any PULHES profile. These demographics are based on the 3968 individuals who have had a visit and do not include multiple visits by any single individual. The registry of individuals and their visits which is being developed will allow us to look at demographic populations at risk as well as multiple visit individuals. (See Technical Report #7: Demography, Unit Personnel Turnover and Outpatient Visits.

FAMILY MEMBERS. The family members' annual rate of visits was 107.0/100. We are not confident that the rate for family members is based on complete and accurate numerator or denominator data. Our lack of confidence in the numerator

arises from the concern that family members may be making uncounted visits to non-Army health care facilities using CHAMPUS or private funds. The accuracy of the denominator is questionable since we used the SPF data element which reflects the total number of legal dependents and may not reflect the correct number of family members living within the catchment for our clinics.

The family members visit modules shown in Table 3 that had the highest rates of visits and accounted for three quarters of the visits were General Symptom of Illness, Injuries, Respiratory, Diagnostic/Screening/Prevention, and Digestive. In rank order, the top individual presenting problems which represent approximately a quarter of the total number of family member visits were: Fever, General Medical Exam, Skin Rash, and PAP Smear as shown in Table 6. As seen in Figure 2, the outpatient sickcall visit rate for family members was essentially constant throughout the year with an increase during January thru March 1981 in both total visits and O D/S. These increases were due to the same respiratory problems which were reflected in the Active Duty visits.

FOOTNOTES

1. Illness Behaviour and Transitional states: A Study of Outpatient Rates and Symptom Presentation in Relation to Troop Deployment During Peacetime. CPT Linda K Jellen, MSW, and Joseph M. Rothberg Ph.D., reproduced as an Appendix A to Technical Report 1, (2).

2. "The Health consequences of Deployment. Part I: Data Gathering." 82-1, Dept Mil Psychiatry, WRAIR, Washington DC, 1982.

3. A Reason for Visit Classification for Ambulatory Care, D. Schneider, DHHS-PHS 79-1352, Washington DC, 1979.

4. Influenza Update - United States, Center for Disease Control, Morbidity and Mortality Weekly Report, 31:10, 19 March 1982.

ACKNOWLEDGEMENT

The continuing efforts of Mr. Oldakowski as the project computer specialist are greatly appreciated. We also thank SP5 Harrington, SP4 Hodge, SP4 Kamoni and SP5 Rigney who have been responsible for the coding of the medical data througout this study and SP5 Helm for his assistance with generating these reports.

TABLE 1: Active Duty Soldiers (ACT) and their family member's (FM) Outpatient Sickcall visits and strengths by month Jun 80 - May 81.

MONTH	OUTPATIENT SICKCALL VISITS		MONTH-END STRENGTH	
	ACT	FM	ACT	FM
Jun 1980	1385	202	2920	2713
Jul 1980	1323	238	2875	2703
Aug 1980	1374	214	2845	2638
Sep 1980	1339	221	2842	2633
Oct 1980	1029	218	2906	2702
Nov 1980	849	191	2904	2700
Dec 1980	1031	231	2895	2656
Jan 1981	1008	278	2933	2654
Feb 1981	813	279	2931	2650
Mar 1981	915	305	3016	2695
Apr 1981	1112	243	3097	2714
May 1981	863	248	3092	2711
Jun1980-May1981	13,041	2,868	2,938	2,681

TABLE 2: DEMOGRAPHIC CHARACTERISTICS AND ATTRIBUTES OF ACTIVE DUTY SOLDIERS PRESENT IN 22 UNITS DURING NOVEMBER 1980.

GRADE		
	OFFICERS	124 (4%)
	E1-E4	1887 (65%)
	E5-E6	741 (26%)
	E7-E9	156 (5%)
SEX	FEMALE	151 (5%)
	MALE	2747 (95%)
RACE	CAUCASIAN	1854 (64%)
	NEGRO	832 (29%)
	OTHER & UNKNOWN	212 (7%)
MARITAL STATUS		
	SINGLE	1599 (55%)
	MARRIED	1133 (39%)
	OTHER	166 (6%)
EDUCATION		
	NOT HIGH SCHOOL GRADUATE	391 (13%)
	HIGH SCHOOL GRADUATE	2167 (75%)
	BEYOND HIGH SCHOOL	340 (12%)
PHYSICAL PROFILE (PULHES)		
	111111	2119 (73%)
	NOT 111111	779 (27%)
DEPENDENTS		
	NONE	1661 (57%)
	ONE	453 (16%)
	TWO OR MORE	784 (27%)
MEAN GT SCORE		106.7
(STANDARD DEVIATION)		(14.5)
MEAN AGE, YEARS		24.0
(STANDARD DEVIATION)		(5.2)
MEAN TIME AT POST, MONTHS		21.3
(STANDARD DEVIATION)		(19.2)

TABLE 3: NUMBER AND ANNUAL RATE BY CATEGORY OF VISITS FOR ACTIVE DUTY AND FAMILY MEMBERS, JUNE 1980 - MAY 1981.

	ACTIVE DUTY		FAMILY MEMBERS	
CATEGORY OF VISITS	NUMBER	RATE/100	NUMBER	RATE/100
All visits	13041	443.9	2868	107.0
Injury	2037	69.3	407	15.2
Body System				
Muscular/Skeletal	3056	104.0	99	3.7
General Symptoms	543	18.5	417	15.6
Mental Health	143	4.9	92	3.4
Nervous System	234	8.0	69	2.6
Eye and Ear	437	14.9	184	6.9
Heart and Blood	84	2.9	17	0.6
Respiratory	1601	54.5	363	13.5
Digestive	691	23.5	292	10.9
Genito-Urinary	249	8.5	165	6.2
Skin, Hair & Nails	1436	48.9	184	6.9
Test Results	30	1.0	4	0.1
Treatment	1067	36.3	108	4.0
Diagnostic-Screening	509	17.3	339	12.6
Administrative	97	3.3	3	0.1
Other & Uncodable	827	28.1	125	4.7

TABLE 4: NUMBER AND ANNUAL RATE OF VISITS OF THE 20 MOST COMMON PRESENTING PROBLEMS: ACTIVE DUTY, JUNE 1980 - MAY 1981.

RANK	PRESENTING PROBLEM	NUMBER	RATE/100
1.	Knee Symptom	632	21.5
2.	Head Cold	623	21.2
3.	Foot Symptom	583	19.8
4.	Skin Rash	566	19.3
5.	Complaint not Given	538	18.3
6.	Throat Symptom	482	16.4
7.	Back Symptoms	377	12.8
8.	Ankle Symptoms	340	11.6
9.	Flu	255	8.7
10.	Leg Symptoms	240	8.2
11.	Eye Exam	238	8.1
12.	Stomach Problems	235	8.0
13.	Other Growths of Skin	206	7.0
14.	Progress visit	202	6.9
15.	Consult to Dental Clinic	187	6.4
16.	Headache	185	6.3
17.	Lower Back Symptoms	175	6.0
18.	Hand Symptoms	169	5.8
19.	Foot Injuries	164	5.6
20.	Consult Unspecified Clinic	159	5.4

TABLE 5: DEMOGRAPHIC CHARACTERISTICS OF ACTIVE DUTY SICKCALL VISITORS JUNE 1980 - MAY 1981 AS OF THE LAST VISIT PER SOLDIER.

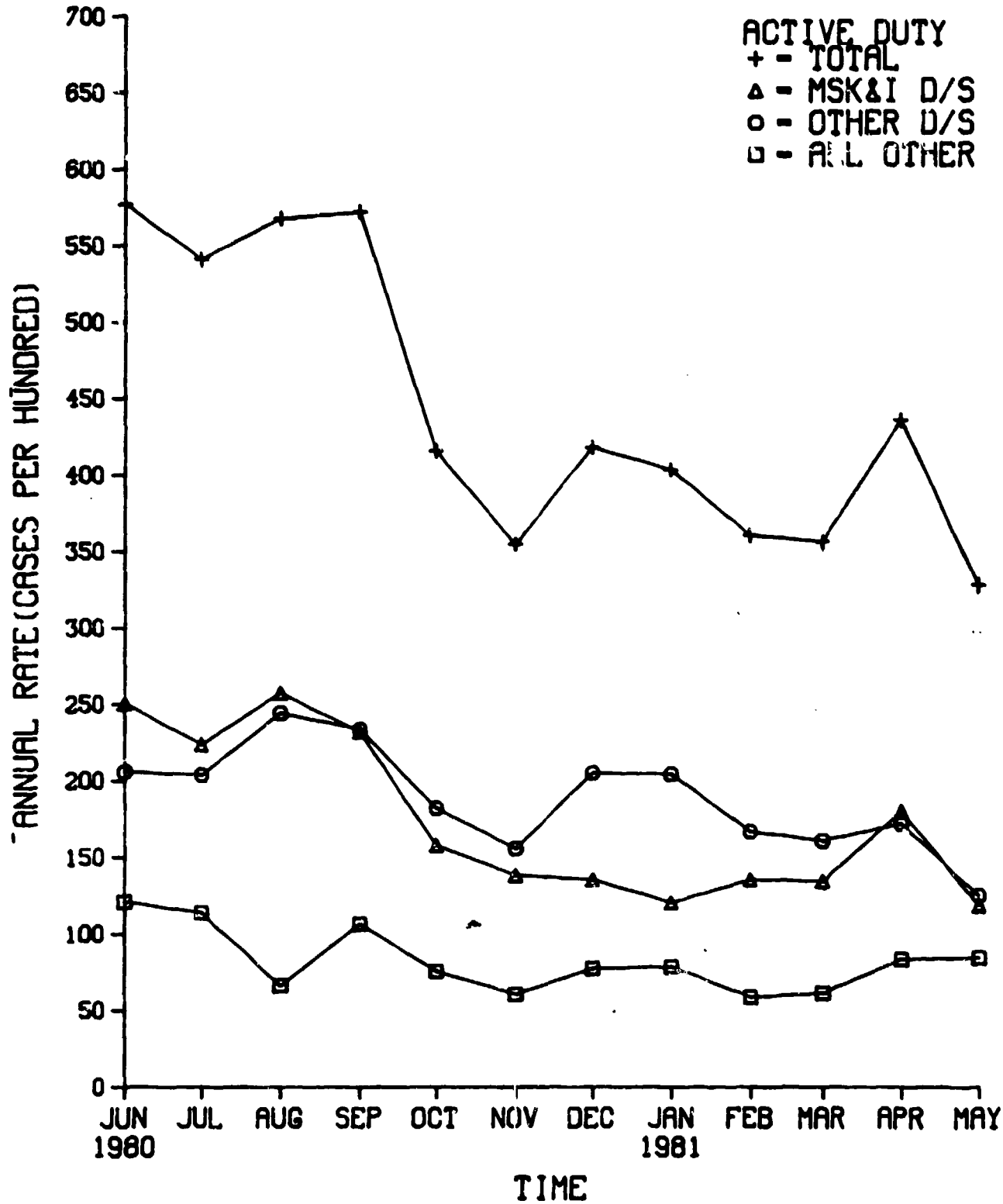
GRADE		
OFFICERS	112	(4%)
E -E4	2030	(66%)
E5-E6	779	(25%)
E7-E9	137	(4%)
SEX		
FEMALE	149	(5%)
MALE	2909	(95%)
RACE		
CAUCASIAN	2005	(66%)
NEGRO	848	(28%)
OTHER & UNKNOWN	205	(7%)
MARITAL STATUS		
SINGLE	1730	(57%)
MARRIED	1172	(38%)
OTHER	156	(5%)
EDUCATION		
NOT HIGH SCHOOL GRADUATE	406	(13%)
HIGH SCHOOL GRADUATE	2333	(76%)
BEYOND HIGH SCHOOL	319	(10%)
PHYSICAL PROFILE (PULHES)		
111111	2268	(74%)
NOT 111111	790	(26%)
DEPENDENTS		
NONE	1780	(58%)
ONE	501	(16%)
TWO OR MORE	777	(25%)
MEAN GT SCORE	107.1	
(STANDARD DEVIATION)	(14.7)	
MEAN AGE, YEARS	23.7	
(STANDARD DEVIATION)	(5.0)	
MEAN TIME AT POST, MONTHS	19.3	
(STANDARD DEVIATION)	(19.3)	

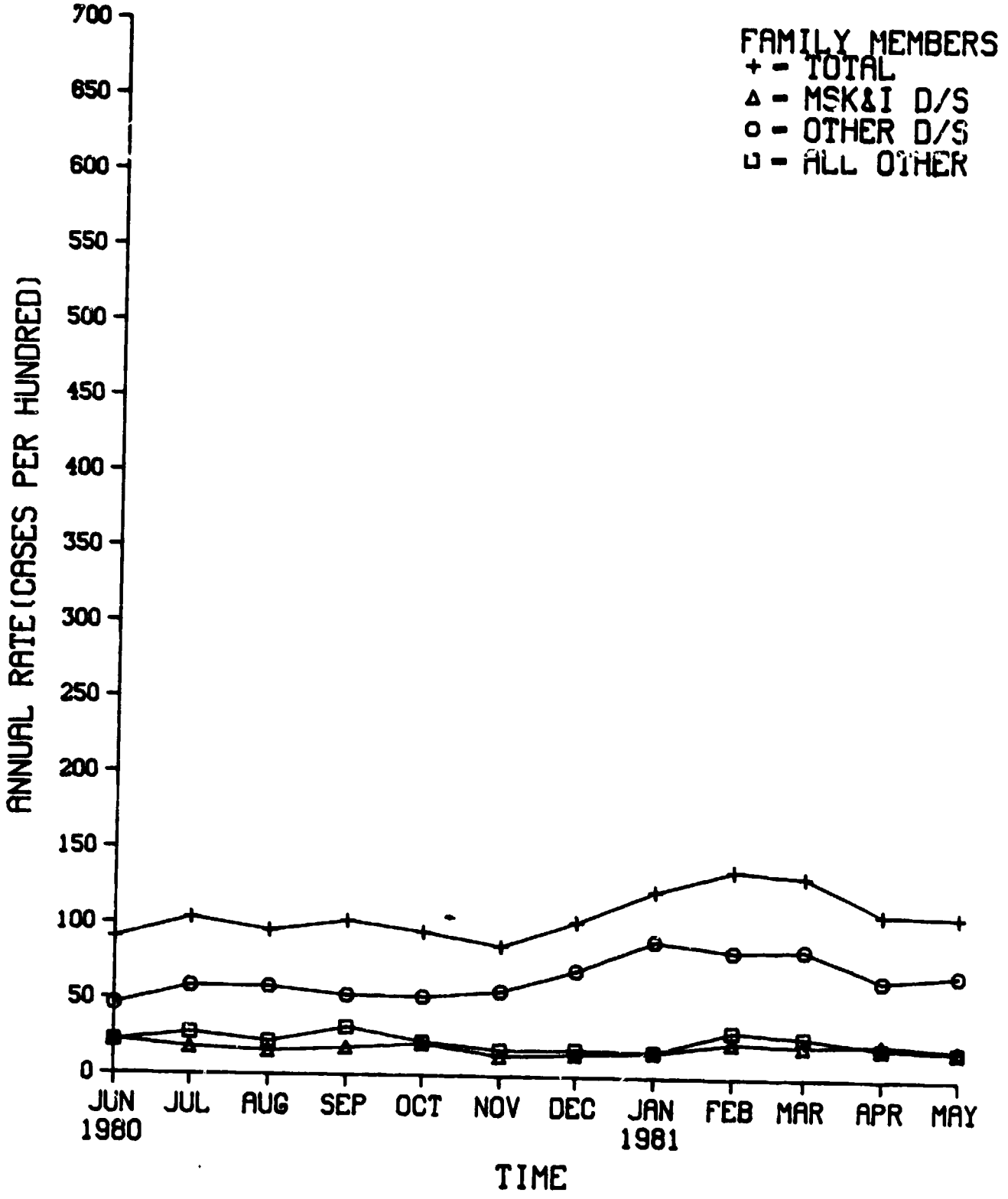
TABLE 6: NUMBER AND ANNUAL RATE PER 100 OF THE 20 MOST COMMON PRESENTING PROBLEMS: FAMILY MEMBERS, JUNE 1980 - MAY 1981.

Rank	PRESENTING PROBLEM	# Visits	RATE/100
1.	Fever	322	12.0
2.	General Medical Exam	148	5.5
3.	Skin Rash	130	4.8
4.	PAP Smear	120	4.5
5.	Earache/Infection	119	4.4
6.	Throat Symptom	102	3.8
7.	Abdominal Symptoms	95	3.5
8.	Head Cold	83	3.1
9.	Vomiting	77	2.9
10.	Head Injuries	57	2.1
11.	Diarrhea	46	1.7
12.	Headache	46	1.7
13.	Progress Visit	42	1.6
14.	Complaint Not Given	41	1.5
15.	Stomach Symptom	35	1.3
16.	Foot Injuries	33	1.2
17.	Cuts Upper Extremities	32	1.2
18.	Parent/Child Problems	30	1.1
19.	Medication	30	1.1
20	Flu	30	1.1

Figure 1: Annual Rate of visits by Type of Visit and Total; Active Duty, June 1980 May 1981.

Figure 2: Annual Rate of Visits by Type of Visit and Total: Family Member, June 1980 May 1981.


ACTIVE DUTY
+ = TOTAL
Δ = MSK&I D/S
o = OTHER D/S
□ = ALL OTHER
ANNUAL RATE(CASES PER HUNDRED)
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
JUN 1980
JUL
AUG
SEP
OCT
NOV
DEC
JAN 1981
FEB
MAR
APR
MAY
TIME


FAMILY MEMBERS
+ - TOTAL
Δ - MSK&I D/S
o - OTHER D/S
□ - ALL OTHER
ANNUAL RATE(CASES PER HUNDRED)
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
JUN 1980
JUL
AUG
SEP
OCT
NOV
DEC
JAN 1981
FEB
MAR
APR
MAY
TIME

APPENDIX A: AREAS OF FUTURE REPORTS

The following are working titles of technical reports for which data is currently being analyzed:

T1: The Health Consequences of Deployment. Part I: Data Gathering. Department of Military Psychiatry, WRAIR, WASHINGTON DC. 20012. 1982.

T2: Types and Rates of Outpatient Sickcall Visits of Active Duty and Their Family Members. Department of Military Psychiatry, WRAIR, WASHINGTON DC. 20012. 1982.

T3: Comparison of Outpatient Sickcall Visits for a Sample of Combat Arms and Support Soldiers.

T4: Additional Survey of Injuries of Combat Soldiers.

T5: Impact of Activity and Transitional States on Combat Arms Soldiers Outpatient Sickcall Rates.

T6: Variation in Outpatient Sickcall Visits Among Matched Combat Arms Battalions.

T7: Demography, Unit Personnel Turnover and Outpatient Visits.

T8: Identification of Repeated Users of Health Care Resources

T9: Characterization of Active Duty and Family Members Who Make Mental Health Visits.

APPENDIX B: REASON FOR VISIT CODES AND MODULES INCLUDED IN MAJOR SUMMARY CATEGORIES.

INJURY	J001-J999	Injuries and Adverse Effects Module
MUSCULAR/SKELETAL	S900-S999	Symptoms Referrable to the Musculoskeletal System
	D900-D949	Diseases of the Muscloskeletal System and Connective Tissue
GENERAL SYMPTOMS	S001-S099	General Symptoms
MENTAL HEALTH	S100-S199	Symptoms Referable to Psychological amd Mental Disorders
	D300-D349	Mental Disorders
	T700-T799	Social Problem Counseling
NERVOUS SYSTEM	S200-S259	Symptoms Referable to Nervous System (excluding sense organs)
	D350-D399	Diseases of the Nervous System
EYE AND EAR	S300-S399	Symptoms Referable to the Eyes and Ears
	D400-D499	Disease of the Eye and Ear
HEART AND BLOOD	S260-S299	Symptoms Referable to the Cardiovascular and Lymphatic System
	D250-D299	Disease of the Blood and Blood-Forming Organs
	D500-D599	Disease of the Circulatory System
RESPIRATORY	S400-S499	Symptoms Referrable to the Respiratory System
	D600-D649	Diseases of the Respiratory System

DIGESTIVE	S500-S639	Symptoms Referrable to the Digestive System
	D650-D699	Diseases of the Digestive System
	S640-S829	Symptoms Referable to the Genito-Urinary System
	D700-D799	Diseases of the Genito-Uninary System
SKIN,HAIR & NAILS	S830-S899	Symptoms Referrable to the Skin, Nails and Hair
	D800-D899	Diseases of the Skin and Subcutaneous Tissue
TEST RESULTS	R100-R700	Test Results Module
TREATMENT	T100-T699, T800-T899	Medications, Preoperative and Postoperative Care, Specific Types of Therapy, Specific Therapeutic Procedures, Medical Counseling, Progress Visit NEC
DIAGNOSTIC-SCREENING	X100-X599	Diagnostic, Screening and Preventive Module
ADMINISTRATIVE	A100-A140	Administrative Module
OTHER AND UNCODABLE	D001-D249	Infective and Parasitic Diseases, Neoplasms, and Endocrine, Nutritional and Metabolic Diseases.
	D950-D999	Congenital Anomalies, Perinatal Morbidity and Motality Conditions
	U990-U999	Uncodable Entries Module

(M/S & I) MUSCULAR/ SKELETAL COMPLAINTS AND INJURIES	J001-J999	Injuries and Adverse Effects Module
	S900-S999	Symptoms Referrable to the Musculoskeletal System
	D900-D949	Diseases of the Muscloskeletal System and Connective Tissue
(O D/S) OTHER DISEASES AND SYMPTOMS	S001-S899	Symptoms, NEC
	D001-D899	Diseases, NEC
(O) OTHER	X100-X599	Diagnostic, Screening and Preventive Module
	T100-T899	Treatment Module
	R100-R700	Test Results Module
	A100-A140	Administrative Module
	U990-U999	Uncodable Entries Module