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AN ANALYSIS OF NAVY OUTPATIENT MORBIDITY REPORTING

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BETHESDA, MARYLAND



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SUMMARY

The Navy Medical Services and Outpatient Morbidity Reporting system (NAVMED 6300/1) is described. An alternative system utilizing an updated Medical Encounter Report designed with input from the Medical Doctrine Center and analyses of injury and illness data collected during earlier studies is presented. Potential uses of the medical data captured using the alternative system are described.

AN ANALYSIS OF NAVY OUTPATIENT MORBIDITY REPORTING

Introduction

Navy-wide outpatient morbidity information is currently captured through the use of the Medical Services and Outpatient Morbidity Report. This report is prepared by all ships and stations of the Navy and Marine Corps staffed with Medical personnel, providing inpatient and/or outpatient care. These reports are used in the preparation of budget estimates, in programming, in analysis of personnel authorizations and requirements, in determining the size of replacements or additions to existing facilities, and in the evaluation of selected morbidity levels. They also provide a method for directing and measuring the results of preventative medicine programs.

Earlier reports from the Naval Health Research Center¹⁻² noted the need for an updated medical reporting system for the Navy to meet the increasing demand for accurate medical treatment information. Specifically the need for more efficient procedures and more appropriate reporting categories was identified. The alternative reporting systems tested in these previous studies utilized a standardized checklist reporting format to capture all data necessary for morbidity reporting. The demonstrated viability of these systems was considered encouraging.

This report describes the Navy Medical Services and Outpatient Morbidity Reporting System and presents an alternative system utilizing an updated Medical Encounter Report designed with input from the Medical Doctrine Center and analyses of injury and illness data collected during these earlier studies.

Current Reporting Procedures

All Navy facilities and ships staffed with medical personnel are required to mail a completed Medical Services and Outpatient Morbidity Report (see figures 1 & 2) at the end of each month to the Naval Medical Data Services Center in Bethesda, Maryland. These reports must be mailed before the end of the fifth working day following the end of the report month.

Feeder data necessary for the report are submitted by clinic personnel to the designated individual who is responsible for compiling and submitting the report. The information compiled each month includes: number of visits (inpatient and outpatient), number and types of laboratory tests performed, number of prescriptions dispensed, number of spectacles ordered, number of physical examinations performed, number of immunizations administered, average number of active duty personnel served by the reporting facility or ship, number of visits to individual clinics (if they are separately organized), and finally, the number of new cases and revisits for 70 specific diagnostic categories.

The task of gathering all this information can take anywhere from one to five days, depending on the size of the facility and the methods used to retrieve the data. Some facilities use logs or tally sheets to keep track of the data while others sift through individual health records at the end of each month in order to achieve their final counts. These present methods tend to be cumbersome, making it difficult to verify the accuracy of reported data. Finally, in terms of data utilization, cross tabular reports are not currently possible since morbidity data are reported as group totals.

Proposed Alternative Method for Capturing Medical Data

Since almost all the information needed for the Medical Services and Outpatient Morbidity Report can be derived from one basic unit of observation, a record of the patient visit, it is suggested that all pertinent data for the report be captured at that point. An instrument capable of capturing the required data has been developed by NHRC and is currently in the testing phase.

This instrument, the Patient Encounter Form, is a one-page, two-sided, standardized checklist that can be completed during or immediately following each patient visit. The standardized checklist format is incorporated into this form to allow for quick and easy capture of all information required for preparation of the Monthly Morbidity Report.

Furthermore, capturing complete Patient Encounter data on a per-visit basis allows for greater flexibility in generating summary reports and in tracking individual cases. Once the data are entered into the system, they can be processed to rapidly generate counts necessary for completion of the Monthly Morbidity Report. In addition, the computerized data can be used to compute other counts and cross tabulations, such as diagnoses by disposition, or number and type-of-accidents by paygrade or branch-of-service. An individual's medical history can also be generated, in summary form, for review by the treating corpsman or physician. Finally, because personnel strength statistics are available for each Navy command, illness rates by command can be easily computed by dividing the total number of visits for personnel from a command by the Unit Identification Code (UIC) strength data.

Use of the Patient Encounter Form

The proposed form (see figures 3 and 4) can be used at all facilities monitored by the Naval Medical Command (NAVMEDCOM) and will provide a uniform method of collecting monthly morbidity data. The form should be filled out for each patient visiting a patient care unit.

Patient information in Section I is normally filled in by the patient. Here, the patient is identified by Name and Social Security Number. Branch of service, pay grade, and sex are indicated by checking appropriate boxes as are the unit number and information regarding injuries. A short explanation may be required if an injury has occurred. A special section on the form is provided to specify the type of injury and injury location.

Section II provides checklists for various signs, symptoms and diagnoses. The checklists cover the areas which are needed to complete the Medical Services and Outpatient Morbidity Report. In addition, data gathered in previous studies ^{3,4}, were analyzed and those illness categories that occurred most frequently were added to the list. If a diagnosis other than one listed is reported, it must be specified on the line provided. The health care provider checks the appropriate box or boxes and then, specifies the patient's disposition (limits of duty, evacuation or hospitalization) in Section III. The backside of the form, Sections IV through VIII, contains several checklists indicating treatment provided, patient status, along with the services and testing provided.

These sections would again be checked off by the health care provider as appropriate. Once a month, the forms are to be mailed, along with a cover sheet (identifying the treatment facility and conditions during that period) to an appropriate Data Collection Center for processing.

Computer Assisted Data Collection

The Patient Encounter Form has been designed to facilitate the automatic processing of these data. To demonstrate this capability, computer software was developed which captures illness visit data with a microcomputer. After the encounter data has been entered into the microcomputer, the set of monthly encounters can then be sent via a floppy disk to the Data Center for easy uploading into the computer used to generate the Monthly Morbidity Reports. This would eliminate many data entry problems at the Data Collection Center. The primary benefit of this procedure, however, is that the local facility can retain all of its data in electronic form and utilize that information through the use of accompanying report generating programs. Patient Summary reports could be used locally or could be included as tables or attachments in outgoing reports. This data would provide facility commanders with information regarding types and extent of medical problems, lost man hours, and consumption of medical resources. Computer assisted data collection would require the facility to have a computer or computer terminal but would not require the data entry person to have more than a basic understanding of some simple keyboard functions. The Medical Encounter Report could potentially be used as a data capture instrument upon deployment of the SNAP Automated Medical System (SAMS).

In summary, the Patient Encounter Report serves to capture the pertinent medical information. Data from the report are entered into a computer and the original form can be filed in an individual medical folder as a hard copy record of the visit. The data in the computer can then be used to generate the Monthly Morbidity Report, a sick call log, and a variety of reports that the local command may find useful. Further, combining the illness data with command strength data allows illness rates to be computed for separate Navy commands. These data, in turn, can be aggregated according to type of operation or area of operation.

REFERENCES

1. La Rocco, J.M., Gunderson, E.K.E.,: A Proposed New Outpatient Data Collection System. Report No. 78-9, Naval Health Research Center, San Diego, CA, 1978.
2. Hermansen, L.A., Jones, A.P., and Butler, M.C.,: Development of an Outpatient Medical Treatment Reporting System for Shipboard Use. U.S. Navy Medicine, 71: 16-21, 1980.
3. Gunderson, E.K.E., Rahe, R.H., Arthur, R. J., The Epidemiology of Illness in Naval Environments. II. Demographic, Social Background, and Occupational Factors, Military Medicine. 135, 453-458, 1970.
4. Pugh, W.M., and Gunderson, E.K.E., Individual and Situational Predictors of Illness. Tech Report No. 75-20, San Diego, Naval Health Research Center, 1975.

NAME, ADDRESS, ZIP CODE OF FACILITY

FACILITY AND LOCATION CODE

REPORT PERIOD

F F F F F F F L L Y Y M M

SECTION I - GENERAL WORKLOAD

LINE NO		ACTIVE DUTY - U.S. UNIFORMED SERVICES					DEPENDENTS	
		A NAVY	B MARCORPS	C ARMY	D AIR FORCE	E OTHER U.S.	F NAVY	G MARCORPS
01	OUTPATIENT VISITS							
02	INPATIENT VISITS							
03	ADMITTED TO QUARTERS							
04	QUARTERS PATIENT DAYS							
		DEPENDENTS				SPECIAL CATEGORIES		
		A ARMY	B AIR FORCE	C OTHER U.S.	D RET DEC	E RET REC	F U.S. CIV	G OTHER
05	OUTPATIENT VISITS							
06	INPATIENT VISITS							

SECTION II - ADJUNCT SERVICES

		A OUTPATIENT	B INPATIENT		C OUTPATIENT	D INPATIENT
07	LABORATORY TESTS			PHARMACY UNITS		
08	PULMONARY FUNCTION STUDIES			X-RAY FILM EXPOSURES		
09	AUDIOGRAMS			DIALYSIS PROCEDURES		
10	COBALT/CESIUM			EEGs		
11	ECGs			FLUOROSCOPIC EXAMS		
12	RADIOISOTOPE STUDIES			RADIUM & RADIOISOTOPE THERAPY		
13	OTHER DEEP THERAPY					

SECTION III - OTHER SERVICES

OPHTHALMOLOGY					MISCELLANEOUS			
A REFRACTION MC	B REFRACTION MSC	SPECTACLES ORDERED		E FABRICATED SINGLE VIS	F FLIGHT PHYS EXAM	G OTHER COMP PHYS EXAM	H IMMUNI- ZATIONS	I LIMITED SERVICES
		C SINGLE	D BIFOCAL					
14								

SECTION IV - SELECTED DATA

A FETAL DEATH	VASECTOMIES		D PEAK CENSUS
	AC N&MC	OTHER	
15			

SECTION V - ACTIVE DUTY AVERAGE STRENGTH

E NAVY	F MARCORPS	G ARMY	H AIR FORCE

SECTION VI - INDIVIDUAL CLINIC/SERVICE WORKLOAD

	A LIMITED SERVICES	VISITS		D LIMITED SERVICES	VISITS	
		B OUTPATIENT	C INPATIENT		E OUTPATIENT	F INPATIENT
16	ALLERGY			ANESTHESIOLOGY		
17	CARDIOLOGY			CHEST DISEASE		
18	DERMATOLOGY			EMERGENCY ROOM		
19	ENDOCRINOLOGY			GASTROENTEROLOGY		
20	GENERAL INTERNAL MED			GENERAL PRACTICE		
21	GENERAL SURGERY			GYNECOLOGY		
22	HEMATOLOGY			NEUROLOGY		
23	NEUROSURGERY			OBSTETRICS		
24	OCCUPAT THERAPY			OPHTHALMOLOGY		
25	ORTHOPEDICS			OTORHINOLARYNGOLOGY		
26	PEDIATRICS			PHYSICAL THERAPY		
27	PLASTIC SURGERY			PODIATRY		
28	PROCTOLOGY			PSYCHIATRY		
29	PSYCHOLOGY			THORACIC SURGERY		
30	UROLOGY					
31	FAMILY PRACTICE					

Figure 1.

No 00091

PATIENT ENCOUNTER REPORT

I PATIENT INFORMATION

TODAY'S DATE (MM DD YY)		NAME (LAST FIRST MI)		SOCIAL SECURITY NUMBER	
BIRTHDATE (MM DD YY)		BRANCH OF SERVICE		PAY GRADE	SEX
		☐ NAVY ☐ MARINE CORPS ☐ OTHER		E- O- W-	☐ MALE ☐ FEMALE
ASSIGNED TO					
SHIP NAME OR (if SHORE COMMAND) BATTALION SQUADRON UNIT					
VISIT NUMBER FOR PRESENT PROBLEM			IF INJURED		
☐ 1 ☐ 2 ☐ 3 ☐ 4 OR MORE			☐ ON DUTY ☐ OFF DUTY		
			WHERE?		
			☐ ASHORE ☐ ABOARD		
WAS INJURY CAUSED BY					
☐ MOTOR VEHICLE ☐ BATTLE CASUALTY ☐ OTHER BRIEFLY DESCRIBE CAUSE (more space on back of form if needed)					

II SIGNS, SYMPTOMS, AND DIAGNOSES

RESPIRATORY

- ☐ 450 URI
- ☐ 447 PHARYNGITIS
- ☐ 448 TONSILLITIS
- ☐ 452 INFLUENZA
- ☐ 464 BRONCHITIS
- ☐ 466 ASTHMA
- ☐ 446 SINUSITIS
- ☐ 483 OCCUPATIONAL INHALATION DISORDER
- ☐ 459 PNEUMONIA
- ☐ 474 RHINITIS

☐ OTHER SPECIFY _____

GASTROINTESTINAL

- ☐ 512 ACUTE GASTROENTERITIS COLITIS
- ☐ 498 ULCER
- ☐ 010 DIARRHEA
- ☐ 52008 CONSTIPATION
- ☐ 505 APPENDICITIS
- ☐ 005 ACUTE BACILLARY DYSENTERY
- ☐ OTHER SPECIFY _____

MUSCULOSKELETAL

- ☐ 665 TENDONITIS
- ☐ 656 JOINT DERANGEMENT
- ☐ 659 INTERVERTEBRAL DISC DISORDER

☐ OTHER SPECIFY _____

BEHAVIORAL

- ☐ 27401 ANXIETY
- ☐ 297 SITUATIONAL DISTURBANCE
- ☐ 280 DRUG ABUSE
- ☐ 278 ALCOHOL ABUSE
- ☐ 27407 DEPRESSION

☐ OTHER SPECIFY _____

EYE EAR

- ☐ 357 OTITIS EXTERNA
- ☐ 358 OTITIS MEDIA
- ☐ 337 CONJUNCTIVITIS

☐ OTHER SPECIFY _____

SKIN

- ☐ 094 FUNGAL INFECTION TINEA
- ☐ 615 PYODERMA BOIL ABSCESS CARBUNCLE
- ☐ 640 ACNE
- ☐ 623 DERMATITIS RASH
- ☐ 115 SCABIES
- ☐ 618 CELLULITIS
- ☐ 636 FOLLICULITIS
- ☐ 114 PEDICULOSIS
- ☐ 621 CYST
- ☐ 06902 WART
- ☐ 62476 HEAT RASH
- ☐ 62474 THERMAL BURN

☐ OTHER SPECIFY _____

VD/GU

- ☐ 538 GONORRHEA
- ☐ 538 NON SPECIFIC URETHRITIS
- ☐ 04716 GENITAL HERPES VIRUS
- ☐ 086 SYPHILIS
- ☐ 08801 CHANCROID

☐ OTHER SPECIFY _____

OTHER MEDICAL PROBLEMS

- ☐ 012 ACTIVE CLINICAL TUBERCULOSIS
- ☐ 73710 FEVER OF UNDETERMINED ORIGIN
- ☐ 30505 GENERAL MALAISE/FATIGUE
- ☐ 739 HEADACHE
- ☐ 440 HEMORRHOIDS
- ☐ 507 HERNIA
- ☐ 047 HERPES SIMPLEX VIRUS
- ☐ 382 HYPERTENSION
- ☐ 917 IMMUNOLOGICAL REACTION
- ☐ 34209 MOTION SICKNESS
- ☐ 249 OVERWEIGHT

☐ DENTAL SPECIFY _____

☐ OTHER SPECIFY UNLISTED CONDITION _____

ACCIDENTS TRAUMA

Show TYPE OF INJURY and INJURY LOCATION by filling the space to the left with the appropriate LETTER CODE from Location Letter Code list

CODE	TYPE OF INJURY	LOCATION LETTER CODES
11	ABRASION	
12	BRUISE	
13	BURN-CHEMICAL	
14	BURN-HEAT	
15	FOREIGN BODY	
16	FRACTURE	
17	HEAT EXHAUSTION	
18	HEAT STROKE	
19	LACERATION	
20	POISONING	
21	PUNCTURE WOUND	
22	SPRAIN STRAIN	

☐ OTHER SPECIFY _____

III DISPOSITION

- ☐ 1 FULL DUTY
- ☐ 2 LIGHT DUTY (# days _____)
- ☐ 3 NO DUTY (# days _____)
- ☐ 4 EVALUATION
- ☐ 5 REEVALUATED

PLEASE TURN PAGE - MORE ON OTHER SIDE

Figure 3.

IV TREATMENT PROVIDED

- | | | |
|---|--|--|
| ☐ 01 NO TREATMENT PROVIDED | ☐ 04 SURGERY, SUTURE PROCEDURES | ☐ 08 X RAY(S) (# _____) |
| ☐ 02 EARPLUGS | ☐ 05 DRESSING | ☐ 09 REFERRAL |
| ☐ 03 PHYSICAL/EYE/HEARING EXAM | ☐ 06 EYEGLASSES | ☐ 10 COUNSELING |
| | ☐ 07 PRESCRIPTION(S) (# _____) | |

V PATIENT STATUS (CHECK ONLY ONE)

- | | | | |
|------------|--|--------------------------------------|--|
| OUTPATIENT | ☐ 1 ACTIVE DUTY | ☐ 2 DEPENDENT | ☐ 3 OTHER SPECIFY _____ |
| INPATIENT | ☐ 4 ACTIVE DUTY | ☐ 5 DEPENDENT | ☐ 6 OTHER SPECIFY _____ |

VI SERVICES (CHECK ANY THAT APPLY)

- | | | |
|---|--|--|
| ☐ 01 LAB TEST(S) (# _____) | ☐ 10 ORDER SPECTACLES (SINGLE) | ☐ 18 RADIUM /RADIOISOTOPE THERAPY |
| ☐ 02 PFT | ☐ 11 ORDER SPECTACLES (BIFOCAL) | ☐ 19 FLIGHT PHYSICAL EXAM |
| ☐ 03 AUDIOGRAM | ☐ 12 FABRICATE SINGLE VISION | ☐ 20 OTHER COMPREHENSIVE PHYS EXAM |
| ☐ 04 COBALT/CESIUM | ☐ 13 PHARMACY UNIT(S) (# _____) | ☐ 21 IMMUNIZATION(S) (# _____) |
| ☐ 05 ECG | ☐ 14 X-RAY (# exposures _____) | ☐ 22 LIMITED SERVICE |
| ☐ 06 RADIOISOTOPE STUDY | ☐ 15 DIALYSIS | ☐ 23 FETAL DEATH |
| ☐ 07 OTHER DEEP THERAPY | ☐ 16 EEG | ☐ 24 FAMILY PLANNING /CONTRACEPTION |
| ☐ 08 REFRACTION MC | ☐ 17 FLUOROSCOPIC EXAM | ☐ 25 VASECTOMY |
| ☐ 09 REFRACTION MSC | ☐ 26 OTHER SPECIFY _____ | |

VII IF THIS IS A SPECIALIZED CLINIC, CHECK TYPE OF CLINIC AND VISIT TYPE

- | | | |
|---|--|---|
| ☐ 01 ALLERGY | ☐ 11 GENERAL PRACTICE | ☐ 21 ORTHOPEDICS |
| ☐ 02 ANESTHESIOLOGY | ☐ 12 GENERAL SURGERY | ☐ 22 OTORHINOLARYNGOLOGY |
| ☐ 03 CARDIOLOGY | ☐ 13 GYNECOLOGY | ☐ 23 PEDIATRICS |
| ☐ 04 CHEST DISEASE | ☐ 14 HEMATOLOGY | ☐ 24 PHYSICAL THERAPY |
| ☐ 05 DERMATOLOGY | ☐ 15 NEUROLOGY | ☐ 25 PLASTIC SURGERY |
| ☐ 06 EMERGENCY ROOM | ☐ 16 NEUROSURGERY | ☐ 26 PODIATRY |
| ☐ 07 ENDOCRINOLOGY | ☐ 17 OBSTETRICS | ☐ 27 PROCTOLOGY |
| ☐ 08 FAMILY PRACTICE | ☐ 18 OCC THERAPY | ☐ 28 PSYCHIATRY |
| ☐ 09 GASTROENTEROLOGY | ☐ 19 OPHTHALMOLOGY | ☐ 29 PSYCHOLOGY |
| ☐ 10 GENERAL INTERNAL MEDICINE | ☐ 20 OPTOMETRY | ☐ 30 THORACIC SURGERY |
| | | ☐ 31 UROLOGY |

VISIT TYPE

- | | | |
|--|---------------------------------------|--------------------------------------|
| ☐ 1 LIMITED SERVICE | ☐ 2 OUTPATIENT | ☐ 3 INPATIENT |
|--|---------------------------------------|--------------------------------------|

VIII TUBERCULIN TESTING (CHECK ANY THAT APPLY)

- | | | |
|--|--|--|
| ☐ 1 REACTIVE SKIN TEST | ☐ 4 X-RAY SCREEN | ☐ 6 PLACED ON INH |
| ☐ 2 CONVERTER | ☐ 5 X-RAY SCREEN ABNORMAL | ☐ 7 REACTION TO INH |
| ☐ 3 NONREACTIVE SKIN TEST | | |

USE THIS SPACE FOR ANY ADDITIONAL INFORMATION COMMENT REMARKS

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Figure 4.

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