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United States Army Mealth Care Studies



and

Clinical Investigation Activity

SYSTEM DOCUMENTATION FOR THE U.S. ARMY AMBULATORY CARE DATA BASE (ACDB) STUDY: MAINFRAME, PERSONAL COMPUTER AND OPTICAL SCANNER FILE STRUCTURE

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> > **Executive Summary** Report HR89-002A

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19. ABSTRACT (Continue on reverse if necessary and identify by block number) The U.S. Army Ambulatory Care Data Base (ACDB) Study was conducted at six medical treatment facilities during the period January 1986. September 1987. This report outlines the optical scanning technology, personal computer and mainframe data processing support required for the project. Extensive coverage of the file structure and data element architecture used to integrate a personal and mainframe data base management system are contained in the final report. Also a description for the FOCUS Data Base Management System programs, master files, and software profiles are included in the final report. Technical support for the project was provided by the Data Processing Center, Fort Detrick, Maryland.					
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INTRODUCTION

The final report, which may be obtained through the Defense Technical Information Center, describes the Ambulatory Care Data Base (ACDB) Study data collection systems, system development techniques, and mainframe procedures and programs used in maintaining and reporting ambulatory care data.

The many program listings and explanations are directed more for a programmer or systems analyst than a reader with little computer background. However, there are tables of the data structure and historical narrative that will aid in the data analysis. This manual does not contain operational descriptions of the systems since other manuals have addressed that portion.

Historical information is sometimes furnished to illustrate the reasons why some things were done and to point out problem areas. In some cases, warnings are given to avoid certain steps or processes should the method be used in a future study or standard system. Alternatively, the manual contains instructions on the use of various development tools and programs, descriptions of the programs used, and data structure from beginning to end.

The development process continued throughout the project. A major form revision required reprogramming all scanner and BASIC programs during the spring of 1987. In some cases programs never reached completion as the data collection process ended rather abruptly in the summer of 1987. Thus this manual is similar to a snapshot of where the project had been and was by September 1987.

The development effort can be divided into four major areas. The first rarea pertained to the optical scanner which was used to read the raw data. The second area concerned the IBM XT system used to drive the scanner. This XT performed data conversions and edits while preparing data for the data base. The third major area involved the IBM XT which stored the data in a

fourth generation data base management system (DBMS) called FOCUS. FOCUS was used to load data, write reports, prepare files for shipment and perform other data maintenance activities. The fourth area related to the mainframe computer at Ft. Detrick. Here data from all the sites was collected and placed into cumulative files. The DBMS on the mainframe was also FOCUS making many mainframe load and report programs similar to those in the PC versions. Operating procedures such as uploading data, processing Standard Installation Division Personnel System (SIDPERS) data, processing Defense Eligibility Enrollment System (DEERS) data, loading data into FOCUS and downloading patient data to be sent back to the sites are covered within the final report.

Although an entire document could be written about end user support, little is discussed here. Ft. Detrick provided technical support to all sites throughout the project. The hospital site temporary employees had little or no computer experience. They quickly learned to follow detailed directions, and they provided feedback when problems occurred. Their support allowed for rapid resolution of problems preventing major disruptions. As such, these temporary employees were instrumental to the success of the study.

Lastly, the project used various computer languages and equipment with specialized documentation. The manual does not attempt to duplicate any documentation already written but provides references to such. In some cases, however, additional explanations are furnished where external documentation is lacking or insufficient.

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