THE USE OF A HEWLETT-PACKARD MODEL 30 CALCULATOR SYSTEM IN MEDICAL RESEARCH ENVIRONMENT

J. H. Fuller and H. Keen, Department of Medicine, Guy's Hospital Medical School, London (U.K.)

The advent of the latest generation of compact computer compatible electronic calculators has opened up new possibilities for the application of data processing techniques to medical research. The use of Hewlett-Packard Model 30 calculator in the Unit for Metabolic Medicine, Guy's Hospital, London is described, both in its "stand-alone" calculator mode and its "inteligent-terminal" mode when connected via acoustic coupler to external computer systems. The system comprises a calculator with 4*k*-words of core storage and a'BASIC' compiler, together with a 240 lines/min. thermal printer, magnetic tape cassette backing storage (32 *k*-words), tape reader, *X*-*Y* plotter and facilities for matrix algebra, string processing and terminal operation.

Applications of the calculator system are described and include the analysis of a variety of clinical, epidemiological and laboratory data using a range of statistical and curve fitting techniques. Diagnostic programs are also under development (e.g. for the evaluation of acid-base disorders) and it is hoped that these will be found useful for both student teaching and patient care. The major advantages of this type of calculator system for medical applications are in its 24-hour availability and ease of operation, two features not often found with larger computer systems.