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# SUPPORT SYSTEMS FOR DECISION AND NEGOTIATION PROCESSES

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## SUPPORT SYSTEMS FOR DECISION AND NEGOTIATION PROCESSES

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### A SYSTEM OF INFORMATIONAL BACKUP FOR TREATMENT OF VICTIMS OF TECHNOGENIC AND NATURAL EMERGENCIES

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Abstract: 'A system named Health Base has been developed in Kharkov. It is intended for the informational backup of the complex examination and treatment of persons injured in technogenic and natural catastrophies. Health Base has a databank of case histories and program facilities to update the databank, as well as to retrieve needed raw and processed information.

Keywords: Computer applications, data handling, medical information processing, software development.

At present, when the information technologies have just started to develop in the USSR, any program systems applied in the humanitarian sphere (such as education or medicine) are actual. The progress in the educational sphere is relatively successful and the need in cheap school computers is steadily being satisfied. Development of computeristics in the medical sphere is much slower. It can be explained by a number of reasons, one of which being the need of installing mighty computers on the level of in- and out-

patient hospitals with a subsequent uniting them into a connected informational network (as described, e.g., in Bakker, 1990); unfortunately, such computers are not available for the Soviet medicine.

In this connection, it is actual to develop program facilities with limited functional capabilities which could be realized on relatively cheap computers. To such facilities we relate systems of functional diagnostics and informational systems for PCs.

In this framework we have developed a system named Health Base. It has been developed in Kharkov, USSR, and intended for informational backup of the process of complex examination and treatment of patients who were injured as a result of technogenic emergencies and natural catastrophies.

The main criteria we took into consideration while developing Health Base were the mobility of the system and fastness of its work. The Health Base has the following features:

- case histories are more extended and detailed than usual;
- traumas and injuries are specific;
- a relatively small number of patients (several thousands) enabled us to realize the system on IBM PC which made the system mobile.

As to fastness of the system's work, it was guaranteed by our use of a remarkable system of control of relational data-bases - Foxbase, version 2.10 (trademark of Fox

Software Co).

Health Base includes a databank of case histories structured as shown in Fig.1 and program facilities to update the bank and to input and retrieve both individual and generalized information.

The chosen format of case histories makes it possible to describe with sufficient fullness the disease, its cause, development and treatment, including the data on the patient's activities in the emergency zone. This format led to creation of a special form for the case history which is now used by physicians during the investigation of a patient. This form is convenient for input to the computer and the input is supported by powerful on-line facilities for updating and control of the databank, the examination of the patient and prescribing treatment.

Since there are no computer network in the USSR, a case history can be copied on a floppy disk and then input to any other IBM compatible computer at some other medical centre. It makes easier to consult patients in various medical centres in our country and abroad, with or without the patient's presence, and always without the need to decipher the notorious handwriting of doctors.

The first and only application of the system up to now is its running in Kharkov city hospital for computer backup of complex investigation and treatment of persons who took part

in liquidation of results of the breakdown at Chernobyl atomic power station. At present the databank of case histories is being created. The individual data and the results of statistical analysis are actively used by hospital doctors and researchers for estimating the treatment. Possibly, the information will be of interest to their colleagues abroad. The patients are satisfied because it became easy to get various medical documents, such as extracts from their case histories and other forms needed by state organizations.

The creators of Health Base regard this system as an intermediate step needed for the accumulation of information about patients, to say nothing of the fact that qualitatively the information is quite unique. The next step will be the development of a number of expert systems, based on the accumulated data. The first of such systems will be the one for choosing the optimal strategy of treatment for curing or, at least, stabilizing harmful effects of the Chernobyl catastrophe.

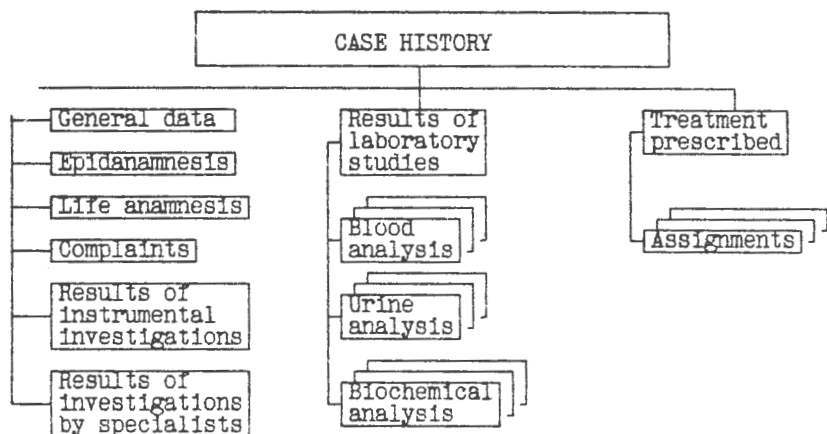


Fig.1. The format of a case history

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