A common standard
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A standard of medical management is not a rule that must be obeyed. It is simply a reference, helping us to evaluate the medical action taken.

A recent discussion with Professor Medahoui from Rabat, Morocco, convinced us of the striking need to raise authoritative standards of medical behaviour and decision-making. These standards would not only relate to medical schools of the world, but could be applied all over the world, including the developing countries. They would also apply within community hospitals and primary care delivery centres.

In fact the combined use of relatively cheap personal computers with some hypermedia software tools would constitute the kind of easy-to-use device that would be appropriate even in very remote areas. Such instruments could become part of the tools of WHO’s worldwide programme: “Leadership development for Health for all” which emerged from the 41st World Health Assembly’s Technical Discussions in May 1988.

Several experts have stressed that even in large teaching hospitals there are obvious needs for something more than the intern’s personal “cook books”: in other words, to have a tool of diffusion of institutionally standard medical management charts through an EDP-Communication Network. Even if there are many difficulties involved in including a particular patient within any predefined scheme, this approach is useful to the management of the patient — providing one keeps in mind the gap between him and the scheme. The first main advantage that the formulation of standard medical management would have is to promote a standard controlled vocabulary throughout the hospital, thus making it easier to define the medical entities and the measurement of the clinical state of the patients.

Our initial intention was not to provide some short cut that might replace the need to consult existing medical and health literature collated on such international databases as MEDLINE (from the National Library of Medicine, Washington D.C.). The intention was rather to provide quick and easy references to papers, and even summaries based on the selection of key words.

The ideas was simply to formulate precisely and diffuse as widely as possible the basic medical knowledge that every physician knows or should know. And where can one obtain such knowledge? This knowledge is simply that which is used in the day-to-day life of every specialised department of a teaching hospital. From the cardiologists, for example, will come the management of a patient with an arrhythmic heart, and the digestive surgeons will explain how to handle gastro-intestinal bleeding. This simple
knowledge is elementary to a physician who often sees patients with such problems, but will be very useful to other physicians who only rarely have to manage them – which is often the case in a teaching hospital where the different medical departments are separated and even widely scattered.

Besides, a particular advantage of an on-line system or of the regular production of diskettes is to have immediate availability to the latest updates.

Of course a standard of medical management is not a “rule” with an absolute “must” to be obeyed. It is simply a reference, helping us to evaluate the medical action, and it may offer both warnings and recommendations. For example: given ten physicians and ten patients with acute pulmonary oedema, there will be ten different approaches. Some differences are due to the particularities of the patient, but others will depend more on the physicians. If we now try to compare two patients with acute pulmonary oedema who have a favourable issue with ‘the usual treatment’ what do we really compare? Nothing indeed if the ‘usual treatment’ varies between one physician and another.

The basic software that we have started to use in our own initial mainframe environment has been designed for supporting on-line charts or manuals with the following basic features:

- hierarchically, with the table of contents presented as usual as a “menu,”
- sequentially, as a book, allowing one to see successive “pages” on a given subject,
- with an index, giving access to the “pages” by means of appropriate keywords.

It is advisable to select a schema as close as possible to the state of the patient under investigation, taking into consideration the following elements or built-in check list:

- determine the stage of severity of the disease;
- determine the management of the patient at this stage (including diagnostic and therapeutic procedures);
- determine patient monitoring in order to detect the onset of a complication or of a wrong diagnostic direction (“diagnostic monitoring”);
- determine adequate reference to specialists (neither too soon nor too late);
- provide precise information about practical procedures (for instance, how to prepare an insulin infusion, rate of infusion, dilution and so on).

Hypertext is a set of mechanisms for connecting pieces of text to one another in such a way that one can traverse the links that connect these text units. In a hypertext system, information is stored in a small unit, variously called a frame, a node, a card or a note. For example, a laboratory test result in a patient’s record may be connected to a laboratory medicine textbook which describes the test and the proper interpretation of its results. That textbook section may in turn be connected to other documents, such as the specialist journal where the test was first reported or a clinical handbook suggesting the preferred treatment for specific types of test result. Each note contains individual text items and links to other notes, so that a user may navigate through a set of notes by selecting the right links.

Hypertexts, or more broadly “hypermedia”, can become the appropriate tool making it easy for new charts to be recorded on microcomputers.

Basic knowledge of the management of patients in emergency situations can be learned before the physicians join the emergency room, which greatly facilitates and improves the teaching. Since this chart system was introduced in our own emergency room, simultaneously with a medical reorganization, the mean cost of out-patient stay has decreased by about 15 per cent, mainly due to a better balance between the patient’s situation and the investigational approach, that is, a decrease in the “routine investigational package”.

There are no rules in medicine about the management of particular patients, yet we need them. Teaching hospitals lack medical standards that apply to all the diversity of their departments; what we have described here is a system for distributing medical standards throughout. The availability of new means such as hypermedia, as well as the popularity of microcomputers in general, lead us to foresee considerable use of our charts system with its special emphasis on medical standards.