

Opinion

Variability in clinical practice when dealing with emergency cases

E. Moreno Millán

SEVILLE

MEDICAL DECISIONS

One of the most difficult situations of medical professionals when providing medical care is undoubtedly that which involves decision making. Decision making involves combining the information the medical professional has about possible diagnoses and treatment needs. This process has an economic origin based on the utility theory which states that it is necessary to identify and choose the best option when conditioned by varying degrees of uncertainty.

Unlike doctors in other departments, emergency physicians spend a large part of the little time they have with patients trying to make the right decisions quickly with regard to their diagnosis and treatment because of the seriousness and complexity of the cases¹. Their aim is to prioritise patients in order of clinical severity to optimise the use of resources². Depending on their risk aversion, knowledge, experience or level of responsibility, emergency physicians make decisions in order to maximise the combined utility of the most important elements of the system: the patient, society and the professional himself/herself. Each decision may be followed by benefits, negative effects and different intervention costs, especially those that are related to situations known as "low probability - high morbidity" conditions¹. The professional should use the information given (clinical signs and symptoms in the first instance and test results or images later on) in order to immediately begin a process of reasoning based on probability models.

The decision that maximises the patient's utility function may not have the same effect on the doctor's utility

function, and needless to say, the decisions that increase society's utility function may differ from those which are able to maximise that of the two main elements in the medical relationship. In any case, first and foremost the intervention of the professional follows the need to obtain net benefits for the patient^{1,3}.

The work of specialists in the Department of Emergency Medicine (DEM) is extremely varied because it is based on obtaining utility functions and depends on the available resources that can be supplied and the nature of demand. The structure and organisation of the department, the technology and the professional's level of uncertainty go head to head with a series of variables (morbidity, socioeconomic conditions and level of education, age, sex) during a process that lasts for a short amount of time and that requires urgent attention.

VARIABILITY

One of the consequences of having more options available is that the doctor-patient relationship in this type of situation becomes more complicated compared with other doctor-patient interventions and, subsequently, the level of variability increases. The professionals' unique ability to apply their accumulated knowledge and experience to the situation gives the DEM very important characteristics not only in terms of the use of resources and cost but also with regard to the effect obtained in producing health (improvement, curing patients, deterioration, after effects or death). For this reason, variable

Correspondence: E. Moreno Millán
Urb. Aljamar II, 6
41940 Tomares (Sevilla)
E-mail: emorenomillan@terra.es

Received: 9-10-2006
Accepted: 29-5-2007



medical practice (VMP)³⁻⁵ in this department is more significantly marked by demand than by supply.

In the DEM it is common for there to be different levels of VMP given that professionals are sufficiently aware of the importance of the procedures that need to be implemented and most of the time they have the necessary resources for this. However, in some cases uncertainty can lead to over-using or under-providing resources which ineffectively deals with the real need. Thus, the incorrect use of health services becomes an important issue within the context of medical policy and management and generates costs which can be avoided⁶. In the DEM there are more critical situations, not only because of the level of seriousness but also because of the different diagnostic possibilities, that condition the defensive use of inappropriate technologies^{7,8} and that those in charge should know how to protect without causing more problems for the professionals.

When faced with the opinion that there are consistent norms for using diagnostic and treatment methods when dealing with similar problems within the Spanish national health service, VMP demonstrates that very different interventions take place despite the introduction of protocols, guides and other clinical tools, given that each patient is different and generates a different kind of demand. A response that is specific to their needs is required. However, this is generally subject to the varying level of available supply (structure, organisation and function, resolution capacity and the medical centre's technology, the management of professionals in relation to age, experience, training, time and day of the week, etc.).

The disagreements that are caused by different decisions do not only vary among professionals working within the same department but also among those working in other disciplines⁹⁻¹¹. Conventional VMP criteria are linked to the modifications that arise when a specific clinical procedure is being carried out, whether it involves individuals or sections of the population. This is where demand gains significant variables such as a patient's medical history, how far away they live or cultural and socioeconomic characteristics¹².

THE CONSEQUENCES

Stating these differences means questioning the effectiveness, efficiency and quality of a professional's work. Are resources used unnecessarily or are the correct resources employed depending on the service, the hospital

or the geographical area? Do those in charge encourage exaggerated activity levels? Does the pharmaceutical industry encourage doctors to prescribe more medication? What consequences can using expensive and experimental technologies all the time have on possible adverse effects and cost?

Recent, comprehensive literature on VMP has demonstrated that up to 30% of the total cost of medical care in the United States could be avoided without negatively affecting people's health¹³. Even though there are significant limitations which prevent comparing Medicare in the United States and the Spanish national health system, it is evident that eliminating a number of interventions that are partially or totally ineffective and that entail more risks than benefits, would undoubtedly help to reduce costs and partially minimise the deficit¹⁴⁻¹⁶.

An efficient planning strategy in the health sector should always be accompanied by a good information system that allows professionals to make the correct decision at the best time when faced with a number of specific options. Adopting clinical management, cost effective methods and tools ties will benefit policies which try to reduce the over-use of unnecessary resources and increase the use of those which are actually effective. The quality of information and VMP are inversely linked so that if the information varies significantly the quality drops accordingly.

However, when dealing with systems that are funded by the public as is the case in Spain, the decision making mechanisms should be closely linked to more precise action with a lower clinical risk for patients and fewer costs for the rest of the population. Technological innovation cannot be used to justify the existence of VMP with its wide and dangerous margins. The scientific evidence regarding efficiency should be followed by its application in specific situations. The risk associated with lack of productivity and the added costs of discretionary medical interventions or those conditioned by supply or demand should be prevented.

On an individual level, patients should also play a more active role in decision making when it comes to their own conditions and chose the best option when presented with uncertainty, sufficient information and medical training. Collectively, the population should be more active in selecting the most cost effective provisions which could help obtain the highest level of utility for everyone involved, or at least for an important section of society without implying declining, marginal performance or reducing the quality of medical care.

REFERENCES

- 1- Schrager DL, Brown TB. Decisions, decisions: emergency physician evaluation of low probability-high morbidity conditions. *Ann Emerg Med* 2005;46:534-5.
- 2- Marks MK, Steinfert D, Barnett PL. Inappropriate use of hospital emergency departments. *Med J Austr* 2003;178:187-8.
- 3- Marión J, Peiró S, Márquez S, Menéu R. Variaciones en la práctica médica: importancia, causas e implicaciones. *Med Clin (Barc)* 1998;110:382-90.
- 4- Delgado R. La variabilidad en la práctica clínica. *Rev Cal Asistencial* 1996;11:177-83.
- 5- Verdaguer A, Peiró S, Librero J. Variaciones en el uso de recursos hospitalarios tratando pacientes con enfermedad pulmonar obstructiva crónica. *Arch Bronconeumol* 2003;39:442-8.
- 6- Peiró S, Menéu R, Lorenzo S, Restuccia JD. Assessing the necessity of hospital stay means of the appropriateness evaluation protocol: a different perspective. *Int J Qual Health Care* 2001;13:341-3.
- 7- DeKay M, Asch D. Is the defensive use of diagnostic tests good for patients, or bad? *Med Decis Making* 1998;18:19-28.
- 8- Anderson R. Billions for defense: the pervasive nature of defensive medicine. *Arch Intern Med* 1999;159:2399-402.
- 9- Nakagawa J, Ouk S, Schwartz B, Schrager DL. Interobserver agreement in emergency department triage. *Ann Emerg Med* 2003;41:191-5.
- 10- Gill JM, Reese CL, Diamond JJ. Disagreement among health care professionals about the urgent care needs of emergency department patients. *Ann Emerg Med* 1996;28:474-9.
- 11- O'Brien GM, Shapiro MJ, Fagan MJ, Woolard RW, O'Sullivan PS, Stein MD. Do internists and emergency physicians agree on the appropriateness of emergency department visits? *J Gen Intern Med* 1997;12:188-91.
- 12- Solsona JF, Miró G, Ferrer A, Cabré L, Torres A. Los criterios de ingreso en UCI en pacientes con EPOC. Documento de reflexión SEMICYUC-SEPAR. *Med Intensiva* 2001;25:107-12.
- 13- Greenfield S, Nelson EC, Zubkoff M, Manning W, Rogers W, Kravitz RL et al. Variations in resource utilization among medical specialties and systems of care: results from the medical outcomes study. *JAMA* 1992; 267:1624-30.
- 14- Fiscella K, Franks P, Zwanziger J, Mooney C, Sorbero M, Williams GC. Risk aversion and costs: a comparison of family physicians and general internists. *J Fam Pract* 2000;49:12-7.
- 15- Wennberg JE, Gittelsohn A. Small area variation in health care delivery. *Science* 1973;182:1102-8.
- 16- Latour J, Colomina F. Toma de decisiones de índole diagnóstica en el campo de la medicina de urgencias. En Argimón JM, Brotóns C, Gabriel R, Gil V, Gómez de la Cámara A, Jimenez V et al, eds. *Tratado de epidemiología clínica*. Madrid: Dupont-Pharma, 1995, pp 507-519.