

Emergency medicine in the context of Spanish research, development and innovation

ANTONIO L. ANDREU

Coordinator of the calling for FIS projects

This issue of EMERGENCIAS includes three articles on the reality of biomedical investigation in Spain within the context of Emergency Care and Emergency Medicine. Amigó presents the results of the scientific productivity of Emergency Nursing in our country with an analysis of the database CUIDEN¹. Rebollo et al describe the process of financial support for investigation at a national (FIS) and European level (Marco Programme)² and Miró et al have studied the participation of Spanish emergency physicians in scientific publications in journals indexed in the Science Citation Index (SCI) and the journal EMERGENCIAS itself³.

These studies appear at a time in which Spanish science is immersed in a profound transformation. During the period from 2004 to 2007 the Plan Nacional de I+D+i (investigation, development and innovation) established the bases for placing Spain in the forefront of world investigation. In an increasing budgetary scenario, we have gone from a budget of 1,250 million euros in 1990 to more than 9,000 million in 2008. This important leap has been particularly of note during the execution of the last Plan Nacional 2004-2007 in which investment in science and technology doubled. In addition to this increase in budget, the main novelty has been the launching of the strategic INGENIO 2010 programmes which present new opportunities of finance at the level of both projects and human resources and infrastructures for investigation. This effort related to the quantity of resources injected into the systems on behalf of the state may be seen in the improvement in all the indicators of productivity not only bibliometric but also in the transference to the productive sector (patents). It is a historical milestone that in 2006 Spain had, for the first time, more than 40,000 documents indexed in

the SCI, representing an increase of more than 10% compared to 2005. The contribution of Spain to the world total in 2004 was 2.65% and was close to 3% in 2006, placing Spain in eleventh place in the ranking, thereby surpassing and occupying the situation of Sweden in 2004. Among the 20 principal producer countries, albeit not in the world ranking, Spain maintains the thirteenth position in citations per document. In the world ranking during this period, Spain received a mean of 7.57 citations per document placing our country in the 36th place, 8 positions above its position during the period from 1994-2004.

This significant improvement has been achieved thanks to the total commitment of the system. On one hand, this commitment has been through the autonomic, national and supranational agencies as well as private initiatives and, very particularly, the pharmaceutical sector. On the other hand, the investigator community has made an effort to maintain a policy of quality improvement in the research process. In this context, it is tremendously opportune that the specialists in Emergency Care and Emergency Medicine have traditionally moved within the area of clinical practice with the design of frequently limited projects and, up to a certain point, separated from the most basic investigation court. In their article, Rebollo et al² reflect upon the elements which guide the process of evaluation of the investigation proposals at both a national and European level as a tool to improve the quality of investigation among emergency physicians and they draw a conclusion which, to my understanding, is of very important consequence. The identification of variables of results as the central element of the process of investigation in Emergency Care and Emergency Medicine may be a fundamental element for improvement in the quality of the Na-

CORRESPONDENCE: A. L. Andreu. Institut de Recerca. Hospital Universitari Vall d'Hebron. Barcelona, Spain.
E-mail: aandreu@ir.vhebron.net

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tional Healthcare Services which provide procedures in evidence-based medicine in which the patient appears as a central element of all of a process. In this context, Rebollo remembers the great initiatives which have been developed in the last years at both a national and European level. Among these initiatives the HESCUAEP project is of note. This project proposes to structure a platform for the promotion of quality investigation in Emergency Care and Emergency Medicine at the level of European space of investigation.

Miro et al³ have undertaken an interesting study of bibliometric analysis which describes the participation of Spanish emergency physicians in scientific productivity at both the level of journals included in the SCI as well as the journal EMERGENCIAS itself during a 4-year period. The data presented depict a panorama of certain optimism. The Spanish emergency physicians who publish in EMERGENCIAS contribute a similar volume of scientific work as those who publish in journals indexed in the SCI. Although the bibliometric and subject characteristics clearly vary between EMERGENCIAS and other journals of the SCI, with the participation of emergency physicians, the panorama shows a clear trend to improvement. Miró et al therefore reflect upon the impact on quality of the investigator process and add two elements of analysis which are crucial to plan the strategy of where to direct investigation in emergency care and emergency medicine. Thus, on one hand there is the fact that emergency physicians carry a particularly heavy healthcare burden and this situation has, to a certain point, diluted their role in multidisciplinary publications in which another type of specialists have more effectively capitalised on the visibility of the scientific product. On the other hand, the expectancy of the future advent of the speciality will allow more effective policies of visibility to be structured in investigation in emergency care and emergency medicine in Spain before the international scientific community.

The study by Amigó¹ analyses the scientific productivity of emergency care nurses during the period from 2000-2005 and is of great relevance for the future. Although the conclusions have a certain "negative" tone with regard to the state-

ment that scientific production of Spanish emergency care nurses is scarce, the tremendous, irreversible, effort by the nursing collective in initiating a path with the integration of I+D+I in the development of the profession as a central element of improvement and motivation has also been perceived. This step forward by the emergency care nurses has also been taken in many nursing specialties in the last years in our country. Indeed, this change has been noticed at the Fondo de Investigación Sanitaria (FIS). All the indicators of nursing projects have improved in recent years: the number of projects approved, mean project finance, number of cooperative projects. This presence is so significant that the incorporation of nursing to the Technical Commissions of Evaluation of the FIS has been totally normalised.

I believe that the nuclear element in all this process which will act as a motor to catapult investigation in emergency care and emergency medicine in Spain towards a competitive international scenario will be the future official recognition of the speciality at a medical level which we expect may be followed by that of nursing. Our National Healthcare System has undergone similar experiences (immunology, microbiology, clinical biochemistry) in which the creation of a speciality at a national level has allowed a significant improvement in all the productive indicators of I+D+i. Our managers and politicians must have the courage to continue committing themselves to the future. I+D+I mean hope for a society in which the quality of life of the citizens is the fundamental value guiding all our lives.

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