



Editorial

The Research Network for Inflammation and Rheumatic Diseases (RIER)[☆]



La Red de Investigación en Inflamación y Enfermedades Reumáticas (RIER)

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The Spanish system of Thematic Networks for Cooperative Research (*Redes Temáticas de Investigación Cooperativa* [RETIC]) was established in 2002 under the Spanish Plan for Scientific Research, Development and Technological Innovation (R&D&i) in the area of biomedicine. This plan included, for the first time, the possibility of participating through the creation and funding of thematic research networks, under the auspices of the Spanish health system (SHS). These networks could include research centers, units or groups associated with universities, public research organisms (PRO), the SHS or other research institutions, and were open to possible contacts with private companies in the sector.

This first call expressed the need to improve convergence through the coordination of the human, structural and financial resources of the different planners of R&D&i programs in the form of networks. The latter would promote the development of research projects of general interest, especially in the areas of diseases associated with high morbidity and mortality rates and a potential loss of quality of life and productive years.

Thus, the idea was to identify, organize and concentrate interdisciplinary and multi-institutional efforts and resources devoted to research in different health care institutions and academic and research centers by means of a synergy-generating coordination strategy. The aim was to create more potent programs of scientific cooperation that would make it possible to achieve objectives that would be difficult for individual groups to undertake. It also offered a response to the chronic problems faced by biomedical research in Spain: a reduced critical mass of investigators, with small or fragmented groups, as well as deficient links between basic and clinical researchers, and between the different institutions of the SHS, universities and other PRO. The intention of this proposal was to increase competitiveness by improving the distribution of costs and taking advantage of economies of scale, for the ultimate goals of generating better results more efficiently and reducing the times required for transfer and applicability (clinical translation) of the results in the SHS.

To gain access to funding, the proposals of the networks should include a cooperative research project of general interest and 3 years duration, in line with the research objectives of the participating groups. They should also take into account the activities necessary to carry it out and operating costs, and it should fit in with the priorities of the Spanish Plan for R&D&i in health research. Once a network had been constituted, the *Instituto de Salud Carlos III* (ISCIII), which coordinates public health research in all of Spain, granted subsidies through the participating centers to cover personnel and operating costs. These subsidies were financed by the research fund provided for in the agreement between the Spanish Ministry of Health and Consumer Affairs and Farmaindustria, the trade association of the pharmaceutical industry in Spain, signed on 31 October 2001. The main objective of that call was to assemble groups belonging to the SHS, as well as to universities and PRO, in networks capable of undertaking relevant research challenges from the health care prospective, through a cooperative, multidisciplinary approach.

In 2002, following the appropriate evaluation, 69 thematic networks comprising more than 10,000 researchers were approved and funded. In this first call for projects, in the field of rheumatology, a proposal was presented by 6 consolidated research groups directed by rheumatologists of the SHS, together with 1 group from the university and another from the Spanish Scientific Research Council (*Consejo Superior de Investigaciones Científicas* [CSIC]). They constituted the first “Network for Inflammation and Joint Damage”, coordinated by Dr. Juan Gómez Reino. Their scientific project was entitled “Humoral and cellular mechanisms involved in chronic arthritides”. This project, which was funded until 2006, made it possible to potentiate multicenter genetic and experimental studies with greater resources but, above all, with a perspective in which cooperation was an objective and a specific value of the design.

Now, years after its initiation, external and international evaluation of the network program identified the 2 aspects in which improvement was most marked:

1. The change in attitude in the different research groups, which transformed a culture of competition among each other to one of open collaboration.

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2. The incorporation in the development of collaborative research lines of a large number of groups, especially from the SHS.

The international evaluation and the experience accumulated by the ICSIII in cooperative research during this period gave rise to the need to continue and potentiate networking among the research structures. Thus, in 2006, there was a new call to the RETIC in the attempt to establish continuity and reinforce the groups mentioned above. This time, the call for projects was more demanding in terms of the number of groups, the quality of their research and the evaluation of the proposed coordination. The result was the creation of 16 thematic networks with a total funding of 25 million euros.

The preceding stage and the negative evaluation of the proposal in 2006 to constitute a new RETIC in the area of rheumatic diseases reflected certain aspects of rheumatology research in Spain at that time; neither of them has been addressed to date, but their strategic development continues to be of interest:

1. The analyses of health research needs in our clinical area and scope of knowledge recognize “musculoskeletal and connective tissue diseases” and “chronic and inflammatory diseases” as 2 of the priorities of health research, and have been reflected as such in all the calls for Strategic Action in Health, which depends on the successive Spanish research plans issued by the ISCIII. All of the scientific, public health and socioeconomic considerations, among others, justify this prominent place among the priorities of health research.
2. The critical mass of researchers and consolidated groups investigating in rheumatology was very deficient in Spain, when compared with other clinical areas with a similar or lower disease burden in this country. There were numerous small or fragmented groups, some considered emergent, but, in many cases, with little success in their attempts at consolidation.
3. Finally, the cooperation between basic and clinical research groups in our area had not been developed to the extent it had been in others, for example, cancer or cardiovascular disease, which are traditionally more attractive to basic research groups. To a certain point, it continued to be surprising that many basic research groups in Spain, which were excellent in questions like aging, inflammation and immunology, did not focus their studies on our clinical area, in which the overall success of translational research and innovation in the preceding years was unquestionable.

Over the following years, the constitution of new RETIC was made possible in areas not covered by those already established: new networks were funded and research groups joined those existing. Funding rose to 30 million euros for 2007 and to 38 million in 2008, by which time nearly all the RETIC existing today had been organized: <http://www.isciii.es/ISCIII/es/contenidos/fd-investigacion/fd-ejecucion/fd-centros-participados/centros-participados-redes-retics.shtml>

It was not possible to constitute a new rheumatology research network until the call for projects by Strategic Action in Health of 2008. It was called the Research Network for Inflammation and Rheumatic Diseases (*Red de Investigación en Inflamación y Enfermedades Reumáticas* [RIER]), and was comprised of 21 research groups (13 in the SHS and 8 in universities or the CSIC) and 180 researchers, and was funded from 2008 to 2012 with nearly 4 million euros. Its success was the result of the efforts of the different consolidated rheumatology research groups, of numerous groups of rheumatologists, referred to in the call for projects as “clinical care groups”, which were less experienced or less structured, but made important contributions to the cooperative projects, and of a greater number of basic researchers in universities or the CSIC,

who joined the proposal. As the RIER was financed by public funds, it underwent evaluation in 2011. Collectively, during that period, the RIER obtained excellent results, which were presented in over 400 indexed publications (30% cooperative) of high impact (55% in the 1st quartile for their impact in the field of rheumatology). In addition, 6 patents were obtained and network members participated in 82 commercial and non-commercial clinical trials between 2009 and 2011. During that phase, the network made important contributions in genetics, clinical research and experimental or translational research related to chronic joint diseases and autoimmune diseases.

After that period, in 2012, the continuity of the RIER was approved and refinanced for the period from 2013 to 2016. This time, given the general problems affecting research funding in Spain, the RIER was unable to further increase its resources to permit the incorporation of more groups. Another negative change encountered in this call for projects was the disappearance of the “clinical care” groups, which, together with the overall reduction of resources, limited the number of participating groups to 12.

At the present time, the RIER has a single scientific program entitled Translational Research in Rheumatoid Arthritis, which is comprised of 4 work packages. Each is headed by a scientific coordinator who guarantees the development of the investigations in accordance with the program, supervises the specific work plan of the package for which he or she is responsible, and oversees the achievement of the proposed objectives. The following work packages are included in the current RIER: rheumatoid arthritis biomarkers (coordinator: Dr. Javier Martín [Instituto de Parasitología y Biomedicina “López-Neyra”-CSIC, Granada]); therapeutic biomarkers (coordinator: Dr. Antonio González [Instituto de Investigación Sanitaria, Santiago de Compostela]); cardiovascular risk in rheumatoid arthritis (coordinator: Dr. Miguel Ángel González-Gay [Instituto de Investigación Marqués de Valdecilla, Santander]); and pathophysiology (coordinator: Dr. José Luis Pablos [i+12, Madrid]). More detailed information on the present structure of the RIER and its activity can be found at <http://www.red-rier.org>

The current program of the RIER involves the development of multiple aspects of the knowledge about rheumatoid arthritis at the basic, clinical and therapeutic levels, as a model of a disease process—chronic inflammation—that has an enormous social and health impact. This program is clearly aimed at translational research and seeks knowledge that can lead to new diagnostic, prognostic and therapeutic tools that will bring us closer to a more individualized and efficient approach to rheumatic diseases. Moreover, the RIER has an important teaching component, intended especially for research personnel in this field, and is involved in the organization of numerous national and international scientific meetings, either alone or in coordination with other institutions like the ISCIII or the Fundación Areces, a private foundation in Spain that finances research projects, among other social activities.

Over these 13 years, despite the turbulence affecting research funding, the RIER has consolidated itself as the representative cooperative research structure in rheumatology in Spain, with an important role at the international level. The interaction among the different groups through cooperative projects has proved to be highly rewarding and has stimulated progress toward a setting much more favorable for scientific cooperation. However, rheumatology research in Spain remains subject to the limitations described above. It still needs to improve the structuring and consolidation of groups that facilitates growth and renewal, fueled by emergent teams of investigators. The present challenges are to increase our competitiveness in the difficult task of obtaining public and private resources and our research efficiency in responding to the important gaps in our knowledge of rheumatic diseases.