

Research in pediatric emergency medicine: the research network of the Spanish Society of Pediatric Emergencies

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Traditionally, pediatric emergency departments (PEDs) were places where sick or injured child attendance was virtually the only activity carried out by medical personnel. Research in pediatric emergencies has been hampered by a number of factors intrinsic to these services and the irregular flow of patients.

The Spanish Society of Pediatric Emergencies (SEUP in Spanish) was constituted in 1995¹ and its statutes include the promotion and development of pediatric emergency care in its preventive, curative and rehabilitative functions as well as teaching and research². SEUP is bound by statute to encourage research and clinical studies. The scientific activity of SEUP members, although greatly increased in recent years, presents obvious limitations when compared with well structured multicenter research in other fields.

Status of research in pediatric emergencies worldwide

Today there are pediatric emergency research networks with great impact on current clinical practice. In addition to definite targets and methods to achieve them, they all have certain elements in common: pediatric emergency research, multicenter, defined territorial action, an operating structure and a funding system. The most important characteristics of each network are outlined below.

1. Pediatric Emergency Medicine Collaborative Research Committee (PEM CRC) of the American

Academy of Pediatrics (AAP)³. The PEM CRC is a subcommittee of the AAP emergency medicine section that provides a framework for developing multicenter research. It comprises more than 40 member sites and has an advisory committee consisting of six researchers related to different fields of PEM. The result of its research studies is a series of articles published in journals whose impact factor has steadily increased over time.

2. Pediatric Emergency Care Applied Research Network (PECARN)⁴. This is the oldest research network in PEM. It receives federal funds in the USA. It aims to conduct multi-institutional research on the prevention and management of acute disease and injuries in children and young people and has cooperation agreements with various academic medical centers and the administration. PECARN provides the leadership and infrastructure necessary to promote multicenter studies and encourage exchange of information between researchers and the administration. PECARN consists of coordination centers and more than 20 affiliated emergency departments representing academic, community, urban, general and pediatric hospitals. The whole network attends approximately 800,000 children annually. PECARN is governed by a management committee which formulates and monitors policies and procedures for all its research activities, and reviews and approves research proposals.

3. Pediatric Emergency Research Canada (PERC)⁵. PERC's vision to be a leader in PEM and its scope of action is Canada. Its objectives are: a) to acquire new knowledge through research by

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developing clinical and epidemiological studies in PEM; b) to train new researchers and grant scholars in developing research projects, c) to improve the image of PEM as an academic discipline with its own research agenda, and d) to promote cohesion among the institutions participating in the practice of PEM.

4. Paediatric Research in Emergency Departments International Collaborative (PREDICT)⁶. PREDICT provides leadership and infrastructure for multicenter research at the highest level and facilitates collaboration between institutions, other healthcare providers and researchers. This network was established in 2004 by 11 participating institutions in Australia and New Zealand. Initially it received help in its constitution from PECARN and PERC. The mission is to improve the urgent care of children and adolescents through rigorous multicenter research. Its objectives include improving the impact of multicenter research activities in PEM, creating an infrastructure to facilitate such activities at the national and international level, and tutoring new researchers to improve research skills and develop research projects.

5. Research in European Paediatric Emergency Medicine (REPEM)⁷. REPEM is a research network for Europe, although its scope also covers the Middle East. Several members of SEUP are active members of this network. The mission is to improve PEM through high-level multinational multicenter studies. The objectives are to conduct such research in Europe, improve the image of pediatric emergency medicine as an academic discipline with its own research agenda, develop cohesion between the institutions participating in the practice of PEM and create an infrastructure for PEM in participating countries.

6. Pediatric Emergency Research Networks (PERN)^{8,9}. The previous five networks are currently articulating a more globalized PERN, whose intended scope of action is the whole world. Its first research project has focused on identifying factors that may facilitate the development of severe H1N1 infection.

Status of research in SEUP

In recent decades, important changes in the EDs involved in SEUP have had a great impact on the approach to research. Today, many hospitals have adopted the mission to develop research and many PEDs consider strengthening clinical research as one of their strategic objectives. Thus, the number of studies carried out by PEDs

included in SEUP has multiplied since its creation. At the first SEUP meeting held in Bilbao, around 40 scientific papers were presented and, today, SEUP has more than 400 members and presents some 400 research works at each annual meeting. In a SWOT analysis and through a bibliometric analysis of scientific communications at SEUP meetings presented by González de Dios in 2007¹⁰, the author identified a number of positive developments, including the increasing number of conference submissions, many of them authored by PED physicians and virtually all structured. However, a number of areas for improvement were also detected: a) low presence of epidemiologists, b) limitations of statistical studies; c) the fact that less than 4% of scientific communications presented evidence of acceptable scientific quality, reflecting the overwhelming presence of descriptive studies; d) less than 3% of scientific communications used the appropriate concepts for evidence-based medicine. All this was also reflected in the low percentage of studies that ended up being published in indexed journals.

As has been done in other geographical areas, developing a research network in PEDs offers enormous advantages from the point of view of developing quality research, such as greater statistical power and impact of the studies conducted, the opportunity to establish a consensus of priorities in the field of research, or greater probability of securing finance.

The Research Network of the Spanish Paediatric Emergency Research Group (RiseUp-SPERG) arose from the proposal of the Board of Directors of SEUP. Currently, RiseUp-SPERG comprises a Steering Committee composed of 6 people, and 39 PEDs (38 Spanish and 1 American: Cincitati Children's Hospital Medical Center) (Figure 1). Its activity is disseminated through its website (www.riseup.sperg.es), Facebook and Twitter. The mission of RiseUp-SPERG is to facilitate high quality multi-institutional research, for the prevention and treatment of diseases and acute injuries in children and young people of all ages. Like other networks, RiseUp-SPERG is characterized by its focus on facilitating research in pediatric emergency medicine, with multi-center participation, within a defined territorial area, and an operating structure, while defining its financing system. Study proposals are submitted to the management team, who establish deadlines for receiving and evaluating them. In its first few months of existence three multi-center research projects have been evaluated and one has been chosen (establishing

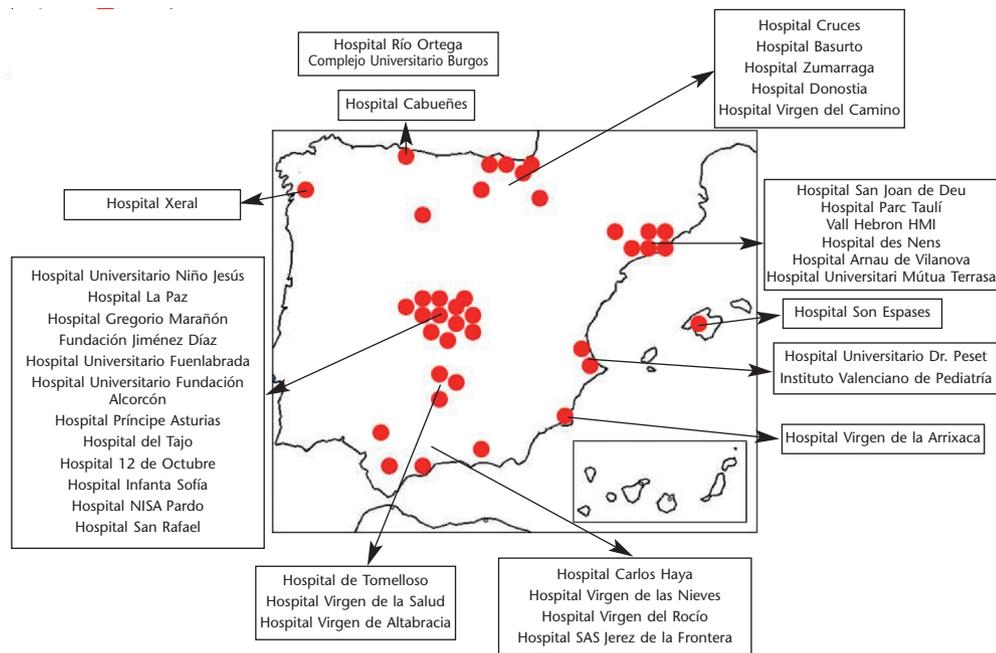


Figure 1. Distribution of the 38 Spanish centers forming part of RISEUP-SPERG.

the optimal cutoff to identify febrile infants <3 months with increased risk of invasive disease when treated in the PED): it is already underway and expected to be completed in 2012. Time will tell if the decision taken is the right one.

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