STATEMENT OF THE RETICS COORDINATOR

RETIC CODE
RD16/0022/0001

Network (Thematic area):	MATERNAL AND INFANT HEALTH AND DEVELOPMENTAL NETWORK (SAMID)
RETIC Leader:	MAXIMO VENTO TORRES

RETIC STRUCTURE AND OBJETIVES

Importance and scope of the RETIC at national and international levels.

Max. 1 page

Background

The Spanish National Health Service guarantees an excellent health care for pregnant women and children until the end of adolescence as shown by the low rates of maternal, perinatal, neonatal and child mortality rates. However, new health problems emerge, derived from pregnancies complicated with chorioamnionitis, preeclampsia, obesity, multiple gestations, intrauterine growth retardation, diabetes, asthma, autoimmune diseases, abuse of legal or illegal substances or even transplantation. Moreover, the high immigration rates in the latter years have also contributed to increased rate of yet unknown infections (e.g.: Chagas disease), or adolescent pregnancies. Remarkably, the use of reproductive techniques has substantially increased the rate of prematurity and multiple gestations. Moreover, survival of extremely preterm infants of <28 weeks gestation with long term morbidity has supposed a burden for the follow up clinics and the pediatric subspecialist. Infant morbidities have also significantly changed in the last decades and X syndrome is becoming a very relevant issue with 25% of our children with overweight, increased number of children with hypertension or insulin resistance.

Analysis of the causes of morbidity and infant and maternal mortality and the various preventive and therapeutic strategies to be implemented, should be based on the best scientific evidence available. Without scientific support, any plan or intervention is ineffective and inefficient, or worse, counterproductive and economically wasteful in a time of scarce resources.

Retic at a National Level: Organization and Productivity

Organization

The SAMID network comprises 13 groups of clinical and experimental researchers affiliated to relevant referral centers in Spain and with a dilated experience in medical and biological research. The groups' profile comprises clinical specialists in Obstetrics, Neonatology, Pediatrics (Endocrinology; Nutrition; Genetics) and Pediatric Intensivist. In addition, the Network comprises also basic scientist specialized in Biology, Biochemistry, Chemistry, Engineering, Molecular Genetics and Epigenetics, and Microbiology.

The Network is under the leadership of a National Coordinator. However, as shown in the web page (www3.redsamid.net) the network has established a less pyramidal structure since my access to the Coordination. There is a Coordination Council with 3 members including the National Coordinator, and there are different Committees (Basic Research, Clinical Trials, Communication, Education, etc.) that are responsible for promoting these activities within the Network. We have 2 meetings per year in which scientific projects and organizational and strategical issues are discussed.

Productivity

Studies launched by the network are based on experimental models (e.g.: Zebra fish models for toxicology; mice models for oxygenation in the fetal-to-neonatal transition; rat models for pulmonary hypertension; piglet models of cardiac arrest; etc.) and also in multicenter randomized clinical trials. In this regard is is important to note that the network with 13 hospitals that altogether comprise > 50.000 deliveries/year favors recruitment of a significant number of pregnancies, newborn infants, and children allowing for high statistically powered clinical trials. The availability of sophisticated analytical methodology (mass spectrometry, genetics, epigenetics) notably increases the scientific level and productivity of the groups, and facilitates publishing in peer reviewed papers of high impact factor. The Network has published in the last 4 years (RD12/0026) more than 100 peer reviewed papers and national guidelines.. Moreover, groups from the Network have obtained a substantial financial support from national and international competitive grants. Synergy has been established among the different groups as can be deduced from common projects that have arosen in the latter years that combine groups involved in Perinatology and long term follow up.

Retic at an International Level.

The network is the official representative of the Health Research Institute Carlos III (Spanish Ministry of Economy and Competitiveness) at the European Paediatric Clinical Trials Research Infrastructure actively participating in the strategic decissions of this organization. Recently, the network joined EnPrema (European Network for Pediatric Medical Agency) and is cooperating is studies for the implementation of the development of drugs in the field of Pediatrics. Our Network has successfully applied to European Union Grants (H2020) in joint venture for multicenter multinational trials.

In the field of animal research the networks closely cooperates with groups of USA, Canadá, Australia and Europe.

RETIC Code: **RD16/0022/0001**

POTENTIAL IMPACT

Describe the dissemination plan and the strategy for exploiting results
Describe the potential impact on Health Population and Health National System
Describe the contribution of the RETIC to national and international standards

Max. 2 pages (10,700 characters)

DISSEMINATION PLAN AND STRATEGY FOR EXPLOITING RESULTS

1) Global Dissemination through the web page SAMID

Our website (www.redsamid.net) is one of the key sources of information.
In this regard, we are at present introducing substantial changes in the network addressing relevant issues for the own members of the network such as:

- Announcing competitive grants
- Announcing scientific meetings, prizes, travel grants etc.
- Announcing podcasts, applications, or virtual conferences
- Links with relevant scientific societies and bibliographical databases
- Enhance interaction with non-network professional users especially
- Keep scientific records and CV of members of the network in the cloud
- Updated information of methodological (analytical platforms) available in the network
- Updated information on doctoral thesis and scientific papers published by the network
- Updated information on competitive grants achieved by members of the network
- Updated information on ongoing trials
- Data base of electronic registries of ongoing trials with access code
- Proposals of members of the network.

2) Dissemination for specific stakeholders:

- General public. Dissemination of results will be performed by periodical newsletters and selected press releases of important achievements.
- Parents and neonatal advocacy associations: Associations already identified will be contacted to make them aware of projects and outputs. It is plan to involve them on clinical trials right from the planning stage in aspects like importance of studies, recruitment issues and inform consent forms.
- Scientific community. This specific plan is in no way different from that detailed for the Research Programme, but for the fact that will include additional activities perform by the RETICS, mainly related to clinical trials, and training activities.
- Spanish Governmental Health Institutions, Health institutions and services. Main results that might of importance in relation to clinical care and that might change practices to improve quality of care will be directly make available to those institutions. Results of clinical trials and any guidelines and protocols that might be developed will also be disseminated to them.
- European partners as the European Clinical Trials Research Infrastructure; EMA – EnPreMa; European Society for Paediatric Research; European Association of Perinatal Medicine; Union of European Neoantal and Pediatric Societies.

POTENTIAL IMPACT ON HEALTH POPULATION AND HEALTH NATIONAL SYSTEM

Basic but especially clinical research in the field of pregnancy, perinatal and post-perinatal periods of our Network with undoubtedly have an enormous impact in the health of this segment of the population.
Guidelines for the professionals promoted by the NATIONAL HEALTH SYSTEMS and disseminated in the primary care centers and health programs in the national IT for the general public in relation to: (i) conditions relevant to pregnancy such as overweight, preeclampsia, chorioamnionitis, IUGR, abuse of toxic substances; (ii) improvement in stabilization of preterm infants and treatment of perinatal asphyxia; (iii) identification of risk factors for X syndrome in infancy; (iv) improvement in nutrition and neurological outcomes of pediatric patients; etc. altogether this information will improve the standards of medical care and the culture of health by the community.
The research activities might contribute to improvement in health, learning ability, mental capacity of the Spanish population and reduce the ongoing health and welfare costs associated with these lifetime disabilities or handicaps resulting from premature birth.

Our Network is putting great efforts to conduct pharmacological and non- pharmacological clinical trials within our network. Moreover, it aims to establish a Coordinating Centre to promote, design, develop and coordinate trials in Obstetrics and Paediatrics, and to promote in collaboration with the Spanish Scientific Societies in those fields, a Research Network for Clinical Trials in selected academic and not academic hospitals of excellence. In this regard with are involved in the European Network under the leadership of Professor Mark Turner (Liverpool; UK)

The establishment of our research network will facilitate active collaborations between partners and add value to their current activities. In addition, collaborations between other funding agencies and public and private stakeholders will be actively pursued. It can be anticipated that we could have a catalyst effect on relevant research activities and thereby enable closer integration of programs in Spain and in Europe.

We plan to propose to the National Agency for Health Quality of the Ministry of Health, evidenced-based quality-improvement interventions in key areas as complicated pregnancies, prevention of prematurity, generalization of human milk for every baby born in Spain, enhancement of security and avoidance of hospital-acquired infections (bacteremia zero program)

in neonatal and pediatric units, avoiding X syndrome in infancy, and neurocognitive outcomes in conditions related to pediatric age.

CONTRIBUTION OF THE NETWORK TO NATIONAL E INTERNATIONAL STANDARDS

The network through its participation in International Organizations and publications of Scientific Reports in Peer Reviewed Journals is contributing to relevant aspects such as:

- PREVENTION OF PREMATURITY
- DIAGNOSIS, PREVENTION and TREATMENT OF INTRAUTERINE GROWTH RETARDATION, CHORIOAMNIONITIS, GESTATIONAL DIABETES
- DIAGNOSIS AND INTERVENTION IN FETAL CARDIAC MALFORMATIONS
- INTERNATIONAL GUIDELINES FOR STABILIZATION OF PRETERM INFANTS IN THE DELIVERY ROOM
- NATIONAL GUIDELINES FOR HYPOTHERMIA IN HYPOXIC ISCHEMIC ENCEPHALOPATHY
- NATIONAL GUIDELIES FOR MILK BANKING AND PROMOTION OF HUMAN MILK FOR PRETERM INFANTS
- GUIDELINES FOR PASTEURIZATION OF HUMAN MILK IN THE MILK BANKS
- GUIDELINES FOR THE IDENTIFICATION OF INFANTS AT RISK OF X SYNDROME
- NUTRITIONAL APPROACH TO OVERWEIGHT IN INFANCY
- ASSESSMENT OF BIOMARKERS RELEVANT TO NEUROLOGICAL DAMAGE IN THE PERINATAL PERIOD, INFANCY AND CHILDHOOD
- PROBIOTIC SUPPLEMENTATION AND MICROBIOME
- EPIDEMIOLOGICAL INFORMATION ON LEGAL AND NON LEGAL TOXICS
- PHARMOKINETICS AND PHARMACODYNAMICS OF COMMONLY USED DRUGS DURING GESTATION

RETIC Code: RD16/0022/0001

ORGANIZATION AND MANAGEMENT

Max. 2 pages (10,700 characters)

The management structure of the project is shown in a diagram in the web www3.redsamid.es and is closely connected to its Scientific Coordination and therefore the overall organisational structure and management procedures will benefit from this structure that has been designed with the following components:

1. Network Governing Council (NGC): A body gathering all 13 partners participating in the network with decision making responsibility in matters affecting the overall strategy and composition of the Consortium.
2. Executive Board (EB): An executive body comprising Work Package leaders, including the Scientific Coordinators, with decision powers on technical development, work plan updates and dissemination plan.
3. Scientific Coordination (SciC): A key role in charge of the global scientific leadership, quality assurance policy and assessment of the project.
4. Project Management Team (PMT): A management team for daily management of the project.
5. External Scientific Advisory Board: An independent advisory board will be established to provide input on the scientific aspects of the projects which will also be included in the annual report to the Commission. The same body will also assist the Executive Board for ethical and data protection issues.
6. Work Package Leaders (WPL): Leading participants of each work package.

This structure will be complemented as needed with ad-hoc working groups to deal with issues that require particular attention or expert's advice.

1, Network Governing Council (NGC). A general assembly of all project partners will be set up, chaired by the RETICS and Scientific and Training Programme Co-ordinator. It will be a decision-making body dealing with issues affecting all participants and/or the project as a whole, such as overall strategy and all other matters that the Executive Board (EB) opts for referring to a higher level. It will overview the management structure, and the decision-making principles and responsibilities of all management bodies. It will also have the right to propose amendments to such structure as the project progresses. Typically, the NGC will deal with major amendments to the work plan

For decision-making purposes, each partner in the project will have one representative and one vote in the NGC. NGC members will be required to have the authority to make decisions on behalf of their respective organisation. Two thirds of the project partners attending a NGC meeting will constitute a quorum. Simple majority of the attendants will be sufficient for decision adoption. In the event of a tied vote, the RETICS Coordinator will have an additional vote. NGC meetings will be regularly held at least every six months.

2. Executive Board (EB). An Executive board will be established consisting of WP Leaders plus the Project Manager, and chaired by the RETICS Coordinator. EB members will be required to have the authority to take corrective actions as necessary within their respective organisations. The EB will be an executive body responsible for decisions regarding the project development, or that must be dynamically made to avoid endangering research and training programmes objectives. In particular, changes in the work plan will be a prerogative of the EB. It will also be able to make recommendations regarding any other project issue, including evolution. It will also monitor and review the progress of the programmes, ensure that objectives are met. For these purposes, will meet at least every three months, either face-to-face or via Internet or teleconferences.

The EB will be allowed to require specific actions or reports from the project manager (PM) and/or WPL in order to solve any issues that cannot be clarified or agreed at a lower level. These include in particular resolution of disagreements, as well as situations in which the project efficiency might be endangered. At the initiative of any of its members, the EB will also be able to constitute committees for matters that require specific attention (such as particular scientific problems/areas, training, etc.), and to establish working procedures for such committees. For decision purposes, each member of the EB will be allocated one vote. Two thirds of the participants attending a meeting of the EB will constitute a quorum. Simple majority of the attendants will be enough for decision adoption. In the event of a tied vote, the RETICS Coordinator will have an additional vote.

As regards to communication, a Consortium communication policy will be established, making extensive use of electronic resources. The EB will take care of the definition and execution of a Dissemination Plan to ensure an effective communication with major stakeholders.

3. Scientific Co-ordination (SciC) This position will be decided at the first NGC meeting. The SciC main task will be to ensure that the work is technically performed according to the overall strategy by:

- Detecting any potential risk factors
- Following up that the expected deliverables and milestones are accomplished with the maximum quality level and that the work is implemented within the expected start and end dates
- Ensuring that each participant fulfils their commitment to each Work Package in direct

collaboration with the Work package leaders
• Calling for establishment of a Corrective Action Plan, if one is warranted, to the EB.

4. Project Management Team (PMT) As the partner responsible for management, BIOEF, represented by Prof Valls-i-Soler will appoint a PM which will support the SciC to follow-up activities and monitor compliance with the work plan, planned resources and time schedule. The PMT will also support WP Leaders in day-to-day management, promoting synergy and efficiency throughout. It will facilitate communication among partners, ensuring timely delivery of the project deliverables and tracking milestone achievements. The PMT will also drive risk management (identification, assessment of threats and opportunities, mitigation and contingency plans), and will manage quality control procedures on deliverables. It will deal with partnership management and relationships with external collaborators. It will closely co-operate with the SciC and WPL in periodic reporting. The PMT will be responsible of overall financial management of the resources assigned for Coordination and Training (cost control and justification, budget management, payments control), supporting the EB in administrative tasks. Finally, it will support meetings organisation and the production of the corresponding minutes.

5. External Scientific Advisory Board (ExAB) The ExAB, with consultative functions, will be formed by independent experts external to the project, so that the expertise and knowledge could assist the EB on scientific and technical grounds. In addition to monitor scientific aspects of the project, will oversee ethical issues for all activities. The ExAB will hold annually teleconferences.

6. Work Package Leaders (WPL), Each WP is the responsibility of one or two partners, as per the work plan. WPL will ensure permanent follow-up of activities, in direct contact with involved participants and will report on a quarterly basis to the SciC. The WPL will have responsibility for day-to-day management of specific work related to individual WP. This includes implementation of the WP tasks as defined by the Work Plan, resolution of technical problems, follow-up and coordination of the participants involved, production of the corresponding outputs, and delivery to the PMT, preliminary identification of risks and reporting of progress against the plan.

RETIC Code: **RD16/0022/0001**

TRAINING ACTIVITIES

Describe the objectives, activities scheme, evaluation of results plan, and budget coordination

Max. 2 pages (10,700 characters)

OBJECTIVES

The main objective of the Formation Program is to facilitate the research tools to the Network members and thus enhance the research activities of the network members especially the young investigators
Activities are driven in the following areas:

1) Clinical study design and epidemiological methodologies.
The program has been developed by members of the groups 4 and 5 and consists of a training course in clinical research methodology including: (i) design and performance pharmacological and non-pharmacological clinical trials in perinatology and pediatrics; (ii) design and conduct non-interventional, high-quality epidemiological studies; (iii) data management and statistical analysis; (iv) design of a research protocol; (v) proposal for peer-review funding.
2) Analytical methodologies.
Analytical course put forward by groups 1, 7, 11 and 13 including external professor with a very practical approach to –omics, imaging (confocal microscopy; electronic microscopy); immunohistochemistry and flow cytometry.
3) Experimental models
The first course on experimental animal models was already put forward by group 8 and took place at the animal laboratory of the Hospital Gregorio Marañón (Madrid) under the leadership of Professor J López-Herce. It included active participation of other groups (1, 7, 9) that instructed on basic knowledge of animal experimentation, and performed practices with real models of mice, rats and piglets. The second edition of this course will take place this year. A monography including the theoretical aspects of the course has been published.
4) Support to meeting of excellence
In the last year we have supported IpoKrates Seminars These meetings are well reknown worldwide for their excellence with top lecturers worldwide. We have economically contributed to the Seminar of Frontiers in Neurointensive Care and Neonatal Neurology. In doing so, we have also contributed to the design of the program and selection of speakers trying always to include speakers from the network and including the logo and a sentence of support from the network (ISCIII and European Community)

ACTIVITIES SCHEME

Research fellows and technicians of the different groups will have compulsory to complete the Clinical Study Design and Epidemiology Course in order to improve their competence in their daily activity.
Research fellows and technicians implied in animal research will have compulsory to complete the Analytical and Experimental model courses.
The courses will be announced in the web page and in links from scientific and clinical societies, and opened to basic and clinical researchers interested. Grants will be given in order to promote participation of young clinicians and investigators.

In addition the scientific formation will be promoted with the following initiatives
1) Mobility Program.
Will facilitate the interaction between individuals of the different groups, enhance "benchmarking" and improve the technical skills and scientific capabilities and to learn new techniques and methodologies. A number of applications will be available for all members, and financial aid will be sought through the Coordination funds.

2) Attendance to Courses and Conferences.
Apart from the "mandatory" courses, researchers will be prompted to actively participate in courses and conferences organized by external groups and share the research conducted in the network. Financial support will be provided by fundings from the Network Coordination.

3) Attendance to the Research Workshop organized by the Network.
All groups are obliged to present their research results and projects every 6 months in a general Research Workshop from the Network. In the Workshop the different areas of clinical and experimental research are represented and the young researcher have oral presentations and active discussions. Relevant senior investigators, representatives of the ISCIII or Pharma enterprises are usually invited. In addition, small and very interactive meetings addressing very specific issues that involve a reduced number of groups are also considered.

EVALUATION OF TRAINING ACTIVITIES

All training program activities (courses, conferences, workshops, symposiums,…) are reported to the **Network Manager** who displays them in the web page for dissemination to all interested stakeholders.
To evaluate the results of the program each researcher who performs a training activity will complete a short report in a predesigned template form that will include a summary of the activities, attendees, and an evaluation of the activity survey by

assistants in a standardized Network template.
In addition, after each annual workshop the Coordinator, through the Project Manager, will perform a summary of activities developed during the workshop that will also be displayed in the website.
Participants will fulfill a questionnaire answering to the pros-and-cons of the seminar, workshop etc., and results will be made open to improve the quality and exploitation of the meetings.

BUDGET COORDINATION
The budget coordination is under the control of the **Network Manager** in close coordination with the network coordinator. The money is devoted to the organization of the Annual Workshop, Web Page updating and improvement, funding of research fellow invited stages at research centers, publication of monographies, and dissemination of the network.
Proposals are received by the management and coordination and after consulting with the ISCIII are approved or rejected.
Budget for the Training Programme,
The budget assigned for this program is approximately of € 15.000 for the first year of 2014 and 2015. We have not been able to increase this budget due to economic restrictions. We are fully aware that this is a much limited budget that constrains the development of the trainings activities that would be required. For this reason, great efforts will be dedicated to identify possible alternatives sources to complement the Training Programme activities especially addressing Pharma Industry, Private Funding or funding agencies at European level (DG SANCO, EC´s Tempus programme...).
The RETICS Training Programme Board, through the **Network Manager** will be responsible for the management of the budget dedicated to training, financial coordination, preparation of an annual report of activities, preparation and dissemination of meeting and funding calls and requirements for the proper operation of the network external relations and partner liaison, coordination of training activities, final report, and the coordinating of meeting agenda and arrangements.