

CIBER of Respiratory Diseases (CibeRes)

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Introduction

CIBER is the Spanish acronym for the Network of Centers for Biomedical Research. The CIBER groups are research bodies that belong to the Carlos III Health Institute (ISCIII) of the Spanish Ministry of Health, in accordance with the public notice in the Official Gazette of the Spanish Government, number 38, of Friday, April 7, 2006 (p. 13 770). There are currently 9 CIBER groups in Spain (Table 1). One of them is dedicated exclusively to research on respiratory diseases—the CIBER of Respiratory Diseases (CibeRes).

The Spanish Society of Pulmonology and Thoracic Surgery (SEPAR) and the CibeRes share many scientific objectives and there are many opportunities for cooperation and synergy. In order to make the most of these opportunities, SEPAR and CibeRes signed a framework cooperation agreement in April 2008. The objective of this article is to summarize the administrative and scientific organization of CibeRes for members of SEPAR. Readers who are interested can find more information and/or contact the CibeRes central office via the website (www.ciberes.org).

Historical Background

Although CibeRes is a focus of research that is independent of SEPAR, the key role that SEPAR played in the development of CibeRes should be acknowledged. In 1999, at the urging of SEPAR's scientific committee, the board of directors of the association, then presided over by Dr Victor Sobradillo, began to debate the need to create a structure within the society that would actively promote respiratory research projects of interest to SEPAR. As a result of this debate, the Breathe Research Center (CRI) was created in 2001. At the same time, the ISCIII had been working to develop the Cooperative Research Thematic Networks (RTIC).

Thanks to the preparatory work of the CRI, SEPAR was able to submit a competitive proposal at the first

RTIC call (April 3, 2002); this proposal was approved after international evaluation, under the name “Breathe Network” (www.respira.net). The Breathe Network consisted of 69 research groups (most of which were led by researchers who were SEPAR members) in 8 different autonomous communities. From January 2003 to December 2005, the Breathe Network developed 34 cooperative research projects and published 220 original articles with an accumulated impact factor of 892.162. Members of more than 1 group were co-authors in 48 of these articles (21%)—an excellent indicator of the ability to work cooperatively. The work carried out by the Breathe Network was rated positively by international experts and this gave rise to its transformation into CibeRes.

We must mention certain essential differences between the Breathe Network and CibeRes: *a*) unlike the Breathe Network, CibeRes has its own legal status and this allows it to manage its own finances, whereas in the Breathe Network, economic resources were managed by the participating centers; *b*) the number of working groups has been substantially reduced (from 69 to 33); *c*) many of the groups that currently make up CibeRes are led by nonclinical researchers who are not members of SEPAR (Table 2).

Organizational Aspects

The 33 research groups that make up CibeRes belong to different administrative bodies, institutions, and autonomous communities, and are not in physical proximity to each other. The legal status of CibeRes is therefore that of a consortium formed by the ISCIII and the institutions that host the research groups.

Its highest administrative and governing body is the board of directors, presided over by the ISCIII and made up of representatives of the other members of the consortium (Table 3), each of whom has influence proportional to the number of groups that the entity contributes to CibeRes. The board of directors meets once or twice a year to approve the CibeRes research plan and budget.

The body responsible for the day-to-day management of CibeRes is its management committee, chaired by the scientific director (Dr Àlvar Agustí in Majorca). Members are the deputy scientific director (Dr F. Pozo in Madrid), the general manager (Ms Paloma Vaquer in Majorca), the

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TABLE 1
The 9 CIBER Currently Operating in Spain

	Website	Research Groups	Researchers
Epidemiology and Public Health	http://www.ciberesp.es	53	220
Liver and Digestive Diseases	http://www.ciberehd.org	49	300
Mental Health	http://cibersam.net	25	211
Obesity and Nutrition	http://ciberobn.es	26	250
Neurodegenerative Diseases	http://www.ciberned.es	62	240
Respiratory Diseases	http://www.ciberes.org	33	350
Diabetes and Associated Metabolic Diseases	http://www.ciberdem.org	30	150
Bioengineering, Biomaterials, and Nanomedicine	http://www.ciber-bbn.es	46	450
Rare Diseases	http://www.ciberer.es	60	500

TABLE 2
Distribution of the 33 Groups That Currently Form Part of CibeRes, by Autonomous Community and Type of Host Institution

Autonomous Community	Investigation Center	Hospital	University	Total	%
Aragon			1	1	3.0
Balearic Islands	2			1	6.1
Canary Islands		1		1	3.0
Castile-León			1	1	3.0
Catalonia	1	10	1	12	36.4
Extremadura			1	1	3.0
Madrid	6	5	2	13	39.4
Basque Country		1		1	3.0
Valencia			1	1	3.0
Total	9	18	6	33	100.0
Percentage	27.3	54.5	18.2	100.0	

TABLE 3
Organizations and Institutions That Make up the CibeRes Consortium

Carlos III Health Institute
Scientific Research Council
University of Zaragoza
Caubet-Cimera Foundation, Balearic Islands
Canary Islands Health Service
University of Valladolid
University of Barcelona
IDIBELL Foundation
Catalan Health Institute
Municipal Institute for Medical Research
University of Valencia
Foundation for Training and Research for Health-Care Professionals in Caceres
Madrid Health Service
Complutense University of Madrid
Basque Foundation for Innovation and Research in Health Care
Germans Trias i Pujol Research Institute Foundation
Hospital Clínic i Provincial, Barcelona
Jiménez Díaz Foundation
Parc Taulí Health-Care Corporation

coordinators of the 5 scientific areas of CibeRes (see below) and the coordinator of the educational program (Dr J. A. Barberá in Barcelona). CibeRes also has an international scientific committee that advises the management

committee in developing the CibeRes research strategy (Table 4), and a communication department (Mr Enrique Sueiro in Pamplona).

Scientific Aspects

CibeRes is a multidisciplinary, multi-institution research center that combines basic, clinical, and population-based studies of respiratory disease. The 33 research groups that make up CibeRes are distributed in 5 scientific areas, according to their thematic affinity:

1. Allergy, Immunology, and Fibrosis (coordinator, Dr C. Picado in Barcelona).
2. Inflammation, Repair, and Cancer (coordinator, Dr F. Pozo in Madrid).
3. Molecular Bases of Pathogenicity and Virulence (coordinator, Prof C. Casals in Madrid).
4. Respiratory Failure and Hypoxia (Dr D. Navajas in Barcelona).
5. Epidemiology, Diagnosis, and Treatment of Respiratory Infections (Dr E. Bouza in Madrid).

The scientific work of CibeRes is structured around the identification and development of Corporate Research Programs. Each is a series of projects, grouped in a number of lines of research that allow the work to be ordered and periodically evaluated. Each project approaches a particular relevant health-care problem in the area of respiratory disease in a cooperative and comprehensive manner. This system is therefore a tool aimed at ordering, organizing, planning, and evaluating research activity, ensuring excellence and relevance, respecting the varied nature of the careers and research interests of its members, and contributing to the creation of a unifying identity. CibeRes is currently running 9 of these research programs (Table 5); any of the CibeRes groups interested in the scientific topics and interested groups outside CibeRes (associated groups) can take part in the programs.

Every year, CibeRes holds a scientific conference aimed at facilitating synergies between the CibeRes groups and other groups interested in taking part in projects that may be developed by associated groups. The conference is open to all SEPAR members. The second CibeRes scientific

TABLE 4
Members of the CibeRes International Scientific Committee

Position	Name	Institution	Country	Area of Experience
Chairperson	Prof B. Celli	Boston University	USA	COPD
Voting member	Prof E. Dahlen	Karolinska Institute	Sweden	Asthma
Voting member	Prof G. Giaccone	National Institutes of Health	USA	Cancer
Voting member	Prof K. Reid	Oxford University UK Immunology		
Voting member	Prof D. Gozal	University of Louisville	USA	Sleep apnea syndrome/hypoxia
Voting member	Prof A. Anzueto	University of Texas	USA	COPD, infectious disease
Voting member	Prof M. Glausser	University of Basel	Switzerland	Infectious disease

EPOC: enfermedad pulmonar obstructiva crónica; SAS: síndrome de apneas durante el sueño.

TABLE 5
Corporate Programs Currently in Operation in CibeRes and Their Respective Lines of Research

Program	Coordinator	Lines
Asthma	Dr César Picado (Hospital Clínic, Barcelona)	Line 1. Epidemiology, diagnosis, and classification Line 2. Biopathology Line 3. Etiology and pathogenesis Line 4. Genetics
Pulmonary fibrosis	Dr Antoni Xaubet (Hospital Clínic, Barcelona)	Line 1. Pathobiology Line 2. Genetics Line 3. New alternative therapies
Lung disease	Dr J. Gea (Hospital del Mar, Barcelona)	Line 1. Chronic obstructive natural history (COPD) Line 2. Pathobiology Line 3. Systematic effects and polymorbidity Line 4. Exacerbations Line 5. Management
Cancer	Dr Luis Paz-Ares (Hospital 12 de Octubre, Madrid)	Line 1. Molecular and clinical characterization of lung cancer Line 2. Inflammation and cancer Line 3. Cancer of the pleura
New therapeutic targets	Dr José Antonio Bengoechea (Fundación Caubet-Cimera, Baleares)	Line 1. Study of innate responses to infectious agents and the effect of stress and drugs Line 2. Cell factors implicated in pathogen replication
Sleep apnea syndromes	Dr J.M. Monserrat (Hospital Clínic, Barcelona)	Line 1. Pathophysiology Line 2. Clinical consequences Line 3. Diagnosis and treatment
Acute lung injury	Dr Andrés Esteban (Hospital Universitario de Getafe)	Line 1. Pathophysiological mechanisms Line 2. Treatment of lung damage caused by mechanical ventilation Line 3. Treatment of sepsis Line 4. Repair Line 5. Diagnosis
Pneumonia and respiratory sepsis	Dr Emilio Bouza (Hospital Gregorio Marañón, Madrid)	Line 1. Nosocomial pneumonia Line 2. Health-care associated pneumonia Line 3. Community-acquired respiratory pneumonia
Tuberculosis	Dr Vicente Ausina (Hospital Universitario Germans Trias i Pujol, Badalona)	Line 1. Live vaccines Line 2. Intrinsic resistance in mycobacteria Line 3. Spanish Network for the Surveillance of Multidrug Resistant Tuberculosis Line 4. Molecular epidemiology in immigrants Line 5. Latent tuberculosis Line 6. New diagnostic methods

conference was held on June 26 and 27, 2008 in the Spanish National School of Health Care (Calle Sinesio Delgado, 6, Madrid). The next conference will be held in late June 2009. The program can be downloaded from The CibeRes website (www.ciberes.org). The next conference will be held in late June 2009.

Educational Program

CibeRes has an educational program with 3 basic objectives:

1. To promote the acquisition of integrated clinical and basic knowledge by CibeRes researchers, so that basic researchers obtain clinical training in respiratory medicine and clinical researchers learn about the study opportunities provided by basic research, in order to facilitate a translational approach to meeting the scientific objectives.

2. To foster interest in research on respiratory disease among young people training in biomedicine so that they can contribute to future CibeRes research teams, and to attract more talented researchers.

3. To facilitate mobility of people between CibeRes teams in order to improve the technical skills and scientific knowledge of the researchers.

The educational committee, chaired by Dr J. A. Barberá (in Barcelona) and including Dr C- Prat (at Hospital Germans Trias i Pujol), Dr J. Liñares (at Hospital Príncipes de España), Dr X. Muñoz (at Hospital Vall d'Hebron), and Dr A. Obeso (at the Institute of Biology and Molecular Genetics), is responsible for achieving these teaching goals. The titles of the 3 programs they have implemented are as follows:

1. Researcher Training Program
2. Advanced Training and Exchange Program
3. Program to Foster Interest in Respiratory Research

More information is available on the CibeRes website (www.ciberes.org).

The Future

CibeRes began operating in January 2007 and is therefore still very new, and still in the process of development in many ways. The CibeRes board of directors believes that cooperation and synergy with SEPAR is essential for its development and beneficial to both institutions. It therefore signed a framework cooperation agreement between the 2 institutions in April 2008—an agreement that requires content. Two initiatives that were implemented in 2008 and that would give the agreement scientific content are the establishment and implementation of a national lung tissue biobank and the development of the platform for randomized clinical trials.

The former is at a very advanced stage. The software that will make it possible to manage a multicenter tissue bank of this kind is already available and a coordinator (Dr C. Villena) has been hired. The bank is expected to be in operation by October 2008. The second project is at a far more preliminary stage but its objective is to develop a platform for randomized clinical trials that will provide answers to relevant clinical questions and have a high level of clinical and social impact, including the critical evaluation of standard clinical practice; to obtain results on the efficacy (short term) and safety (long term) of specific therapies. The platform will also aim to transfer to standard clinical practice the advances arising from basic research as quickly, effectively and safely as possible. These objectives coincide strongly with those of the recent Innovative Medicines Initiative of the European Union.

We invite and encourage any members of SEPAR who are interested in contributing to the development of quality research on respiratory disease in Spain to take part in all the activities of CibeRes. Contact us (info@ciberes.org) for further information or to send suggestions or comments.