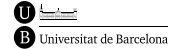
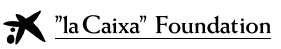


Barcelona  
Institute for  
Global Health



A partnership of:



# Letter from the Director

International solidarity is no longer part of the debate in Spain. In 2012 we witnessed a huge reduction in Spanish development cooperation, which suffered a 49% cut over the previous year's budget. The country's expenditure on cooperation now represents just 0.15% of the gross domestic product, a far cry from the target of 0.7% to which Spain is internationally committed.

Whereas the prestige of Spanish cooperation has until now been based more on the amount spent than on the quality of the projects, commitment to a new knowledge-based model has now become essential. This is the framework that guides the work of the Barcelona Institute of Global Health. Using scientific knowledge as a starting point, we stimulate reflection, analysis and action on the major problems facing global health with a single aim: to work towards reducing the equity gap in health care.

The reduction in cooperation elsewhere in Europe has been much less marked, but health has slipped down the list of priorities, a change that jeopardises recent success in reducing mortality from diseases such as malaria and AIDS.

Nevertheless, the rationale that led us to decide fifteen years ago that a major push in cooperation was necessary is no less valid today: health inequalities still result in decades of difference in life expectancy, an unjust situation that is avoidable in the 21st century. We should not forget that money spent improving health worldwide continues to be the best investment we can make in the fight against poverty and the best way we have to promote development.

**Pedro L. Alonso**  
**Director of ISGlobal**



# Board of Trustees and International Global Health Partnership Board

The Barcelona Institute for Global Health (ISGlobal) is the fruit of a collaboration between institutions from the public and private sector.

During 2012, the ISGlobal Board of Trustees membership was as follows:

**H.R.H. The Infanta Cristina de Borbón**, President of the Board Director of the International Area of the “la Caixa” Foundation

**Mr Javier Solana Madariaga**, Vice-president of the Board President of the ESADE Center for Global Economy and Geopolitics

**Ms M<sup>a</sup> Mercedes Vinuesa Sebastián**, Board Member Director General for Public Health, Quality & Innovation. Ministry of Health, Social Services and Equality, Government of Spain

**Mr Jesús Manuel Gracia Aldaz**, Board Member Secretary of State for International Cooperation and for Ibero-America, Ministry of Foreign Affairs and Cooperation, Government of Spain

**Dr Boi Ruiz**, Board Member Minister of Health, Autonomous Government of Catalonia

**Dr Didac Ramírez Sarrió**, Board Member Rector of the University of Barcelona

**Dr Isidre Fainé Casas**, Board Member Chairman of “la Caixa” and the “la Caixa” Foundation

**Mr Jaume Lanaspa Gatnau**, Board Member President and Chief Executive Officer of the “la Caixa” Foundation

**Dr Roberto Constantino Tapia Conyer**, Board Member Director General of the Instituto de la Salud Carlos Slim

**Dr Josep M<sup>a</sup> Piqué**, Board Member Director General of the Hospital Clínic de Barcelona

**Dr Enric Banda Tarradellas**, Secretary of the Board Manager of the Area of Science, Research and Environment of “la Caixa” Foundation

**Mr Carles Constante i Beitia**, Board Member Director General of Regulation, Planning and Health Resources, Department of Health, Autonomous Government of Catalonia

**Dr José M<sup>a</sup> LealVillalba**, Board Member Chairman of Caja Burgos

## International Global Health Partnership Board

The International Global Health Partnership Board is made up of individuals and institutions of recognised international prestige in the field of health and international cooperation. One of the functions of the Committee is to advise the Board of Trustees and offer a global vision of the executive strategy of the organisation.

*Aga Khan Foundation*

*Bill & Melinda Gates Foundation*

*Carlos Slim Health Institute*

*Dr Ciro de Quadros*

*Dr Graça Machel*

*Dr Jaime Sepúlveda Amor*

*Dr Marcel Tanner*

*Manhiça Foundation*

*Nelson Mandela Children’s Fund*

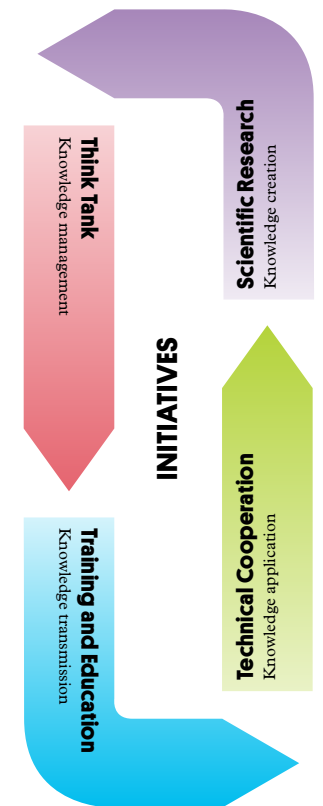
# How We Work

In the Barcelona Institute for Global Health (ISGlobal) we work to close the health inequality gaps that affect the world’s most vulnerable populations.

To achieve this goal we have launched four initiatives, each one focused on a public health issue in which the institute plays a leading role internationally or occupies a strategic position in the field of research. These initiatives draw together the activities and projects of our organisation around common goals and create synergies with our main international partners.

The initiatives are implemented across all four of ISGlobal’s areas of action: scientific research, education and training, think tank, and technical cooperation. These four areas form a value chain whose purpose is to use the knowledge generated by scientific research to create a virtuous circle.

## Our Knowledge Value Chain



## Fact

The eradication of malaria has been re-established as a long-term goal.

**99** countries where malaria is still endemic

**15** countries in the malaria pre-elimination or prevention of reintroduction stage

**4** countries have been recently certified malaria-free



## Malaria Elimination Initiative

Director  
of the Malaria  
Elimination  
Initiative:  
**Pedro L. Alonso**

About five years ago, the international community re-established the goal of the global eradication of malaria. This new challenge has led to an important paradigm shift away from a strategy of control, focused on reducing mortality and morbidity, and towards a strategy of elimination, focused on clearing remaining reservoirs of infections in order to definitively interrupt disease transmission. This new approach requires specifically designed tools and strategies.

“ In the global effort against malaria in the past ten years, Spain has played a very important role in the development of new tools and in funding major international programmes. ”

## Research

### Research in the Field of Malaria Elimination

The projects undertaken in 2012 in the area of malaria elimination ranged from basic research to epidemiologic studies. The focus was on issues related to disease transmission, with particular emphasis on malaria caused by the *Plasmodium vivax* parasite.

One of the areas studied was the transmission of malaria in Papua New Guinea, Thailand and Brazil to identify the main obstacles to the elimination of the disease in non-African settings. Other researchers worked towards identifying molecular biomarkers that could be used to measure disease transmission. Yet others studied basic parasite biology to gain a better understanding of the process involved in their conversion to the stages of their life cycle related to transmission, or worked on identifying new therapeutic targets that could be used to develop novel antimalarial drugs.

## Think Tank

### Spain's Contribution to the Fight against Malaria and the Elimination Efforts

To mark World Malaria Day, in collaboration with the Ramon Areces Foundation, we organised a symposium in Madrid on the subject of the Spanish contribution to the fight against malaria and the elimination effort. The event was attended by nearly 100 participants, including international experts in the field of malaria, government representatives from Spain and Latin American countries as well as representatives of international organisations, such as the World Health Organisation (WHO), the Carlos Slim Health Institute, the Bill & Melinda Gates Foundation, and the Inter-American Development Bank.

During the symposium, we presented the preliminary results of a study on the Spanish contribution to the fight against malaria between 2000 and 2010, which estimated that Spain's contribution over those ten years helped to save the lives of 100,000 children worldwide.



## MESA Project

One of the most important projects that comes under the umbrella of the Malaria Elimination Initiative is the **Malaria Eradication Scientific Alliance (MESA)**, whose secretariat is located in ISGlobal. MESA was created to provide a meeting place for the international community involved in malaria eradication R&D, to promote strategic projects, and to track progress and follow up on research activities worldwide in this field.

In 2012, MESA was formally constituted and launched its initial activities:

- **Identification and analysis of existing R&D in the field of malaria eradication worldwide**
- **Systematic review of the evidence from past elimination and eradication efforts**
- **Call for applications for grants to fund priority research projects**

The MESA project, which is funded by the Bill & Melinda Gates Foundation, is considered to be the natural extension of the **Malaria Eradication Research Agenda (malERA)**, an initiative also coordinated from the offices of CRESIB, the research centre of ISGlobal.

## Training & Education

### Science of Eradication: Malaria

Together with Harvard University and the Swiss Tropical and Public Health Institute, we organised the first edition of The Science of Eradication: Malaria, a course that took place between 3 and 11 June in Boston, United States. This event marked the beginning of a long-term collaboration aimed at training future world leaders for the field of malaria to occupy key positions and further the goal of the total eradication of this disease.

The course was attended by 50 participants from 32 different countries and organisations, including health ministries and national malaria control programmes in endemic countries, research institutes, hospitals and universities, as well as representatives from international organisations such as UNICEF and the WHO. The course dealt with a broad range of topics, including the history of malaria eradication, the basic biology of the malaria parasite and how it interacts with humans and mosquitoes, strategies for reducing transmission rates, the economic repercussions of the disease, the role of the private sector, environmental issues, the tools currently available and the tools needed in the future to prevent and treat the disease, as well as communications and global governance in public health in the context of malaria.

## Technical Cooperation

### Plans for the Elimination of Malaria in Mesoamerica and West Africa

In September 2012, we completed our technical contribution to the Mesoamerica Health 2015 study on the feasibility of eliminating malaria in Central America and southern Mexico. The component completed was a proof of concept plan for the control of disease in Costa Rica and along the Nicaragua–Honduras border. This plan could be extended to other parts of the region and provide important international lessons.

We also participated in developing a plan for accelerating the control and possible elimination of malaria within the Economic Community of West African States (ECOWAS); the plan was delivered in April 2012 and included the creation of a network of research centres within the framework of the West Africa Malaria Initiative (WAMI). The implementation of the plan on a regional level and the coordination of national malaria programmes in the different countries will facilitate progress towards the possible elimination of malaria in certain areas.

## Institutional collaborations

### Strategic Institutional Agreements

In 2012 ISGlobal signed a number of strategic institutional agreements in the field of malaria, notably with the WHO. The Director of the Malaria Elimination Initiative, Dr Pedro Alonso, joined the WHO Malaria Policy Advisory Committee. The function of this committee, which held its inaugural meeting in February 2012, is to advise the WHO Director-General on recommendations related to malaria.

We also supported the WHO World Malaria Programme in the preparation of the World Malaria Report 2012. This year also saw the start of the process to make the research institute a WHO Collaborating Centre for Malaria Control, Elimination and Eradication.



## Fact

Chagas disease is one of the 17 neglected tropical diseases designated by the World Health Organisation.



**70,000**

people infected in Spain

**10,000,000**

people infected worldwide

**90,000,000**

people at risk of infection

## Chagas Initiative

Director  
of the Chagas  
Initiative:  
**Joaquim Gascon**

Chagas disease is a forgotten and neglected illness. It was first described over 100 years ago, but millions of people in the world infected with the parasite are unaware of its impact and do not receive the medical care they need.

In ISGlobal we are working to end the neglect of Chagas disease. Our goals are to improve the prevention of the disease, to increase the access of patients with Chagas to diagnosis and treatment, and to contribute to the development of new tools to fight the disease.

“ We need a global R&D agenda for Chagas to define priorities, identify gaps in our current knowledge and coordinate the efforts being made by the research community to control the disease. ”

## Research

### New Drug for Chronic Chagas Disease (E1224)

In June 2012, we completed the recruitment of 231 adult patients in a Phase II study of E1224, a new drug for the treatment of chronic Chagas disease. This study is being undertaken jointly with the Platform for the Integral Care of Patients With Chagas Disease in Bolivia and the Drugs for Neglected Diseases initiative (DNDi). The Phase II proof of concept study is being carried out in Cochabamba and Tarija, Bolivia, where the burden of Chagas disease is one of the highest in the world. The aim of the study is to determine whether E1224 is an effective, easy-to-use, safe and accessible oral treatment for Chagas disease. E1224 was developed by the Japanese pharmaceutical company Eisai and the Phase II study was sponsored by the Wellcome Trust.

We also continued to recruit patients in Cochabamba for the biomarkers study that started at the end of 2011. The study is investigating new methods for the early diagnosis of Chagas cardiomyopathy that will be useful markers for monitoring progression and cure in patients with the condition. It also aims to validate the use of a rapid test for the diagnosis of Chagas cardiomyopathy with a view to ensuring more efficient and accurate diagnosis and treatment of the condition in areas where access to health services is difficult.

## Think Tank

### Launch of the Global Chagas Disease Coalition

On 14 December 2012 we signed a declaration in New York, together with the DNDi, the Sabin Vaccine Institute, the Fundación Mundo Sano, CEADES and the Carlos Slim Health Institute, to establish the Global Chagas Disease Coalition.

With the New York Declaration, the coalition established the goals of increasing the access of patients with Chagas disease to diagnosis and treatment and expanding global efforts to stimulate innovation in the development of new and improved tools to fight the disease.

Through research and the development and distribution of new health technologies, the aim is to contribute to the achievement—within the next eight years—of the World Health Organisation’s targets relating to the control and elimination of Chagas disease.

## Training & Education

### 8th Workshop on Chagas Disease

Working with the Fundación Mundo Sano, we organised the 8th Workshop on Imported Chagas Disease, which was held on 5 March 2012 in the Casa del Mar in Barcelona. More than 150 professionals from Europe and Latin America attended the workshop to analyse the latest advances in the management of this disease.

During the workshop an announcement was made that benznidazole, the main treatment for Chagas disease, was once again available and that a new paediatric dose formulation had also been launched.

Convincing data were presented on the effectiveness of antiparasitic treatment in adults and children, and the preliminary results of late-stage clinical trials with new drugs highlighted the need for new biomarkers to monitor therapeutic efficacy and treatment.

## Technical Cooperation

### Expansion of the Chagas Platform in Bolivia

The Platform for the Integral Care of Patients With Chagas Disease in Bolivia is a project undertaken by ISGlobal in collaboration with various Bolivian counterparts—the Ministry of Health, CEADES Health and Environment, and the Universidad Mayor de San Simón in Cochabamba—and funded by the Spanish Agency for International Development Cooperation (AECID). In March 2012, the Platform expanded its presence with the inauguration of a new health care centre in the Bolivian city of Sucre located in the department of Chuquisaca.

The new centre in Sucre is the fifth health care facility opened in the country by the Platform, and its activities in 2012 included the provision of routine care for adult patients with Chagas disease (diagnosis, treatment and vector control), training courses for health professionals, and advocacy and awareness-raising activities.



© Juan Millás



## Fact

Indirect factors, such as infection with HIV or malaria, are the principal cause of maternal mortality in **sub-Saharan Africa** where:

**Malaria in pregnancy is responsible every year for:**

**400,000**

cases of severe maternal malaria

**200,000**

neonatal deaths

**90%**

of the children and pregnant women in the world who are infected with HIV have their homes

## Maternal, Infant and Reproductive Health Initiative

Director  
of the Maternal,  
Infant and  
Reproductive  
Health Initiative:  
Clara Menéndez

Despite advances in health care over the last decade, levels of maternal mortality are still unacceptable in certain regions of the world, such as sub-Saharan Africa and South Asia. Furthermore, in areas where health systems are weak, children and pregnant women have poor access to health care and treatment, making these groups even more vulnerable.

This initiative focuses its efforts mainly on three areas: malaria in pregnancy, the causes of maternal mortality, and the human papillomavirus vaccine.

“ It is estimated that every year some 10,000 women and 200,000 children die because of malaria infection during pregnancy. ”

## Research

### Malaria in Pregnancy

In 2012, we continued to coordinate two major international research consortiums: PregVax (malaria caused by *Plasmodium vivax* in pregnancy) and MiPPAD (Malaria in Pregnancy Preventive Alternative Drugs).

This year marked the end of the **PregVax** study, a collaborative project initiated in 2008 to study the clinical and epidemiological characteristics of *P vivax* infection in pregnancy in five endemic countries (Brazil, Colombia, Guatemala, India and Papua New Guinea). In January, the participating researchers met for the last time to analyse the objectives achieved and to evaluate the preliminary results from a study that has obtained 77,000 biological samples from a cohort of nearly 10,000 pregnant women.

The **MiPPAD** project completed recruitment of over 5,800 pregnant women who volunteered to take part in clinical trials assessing the efficacy and safety of drugs used to prevent malaria during pregnancy. MiPPAD is a consortium of research partners in eight countries (Benin, Gabon, Kenya, Tanzania, Mozambique, France, Germany and Spain) formed to evaluate the efficacy and safety of antimalarial preventive interventions in pregnancy and to promote collaboration between European and African research centres.



## Think Tank

### Report on the Role of Research in Maternal and Infant Health Care

In June 2012 we presented a report in Madrid entitled “More Than Half the World: R&D in Maternal Health as a Tool for Development Cooperation.” The report analysed the main factors that have slowed down progress towards achieving Millennium Development Goal 5 on the reduction of maternal mortality.

Among the key factors cited by the author were the need for greater political will and effective financial commitment to implement successful interventions and for a research agenda designed to address gaps in our existing knowledge and adapt proven, effective solutions to low-resource settings.

The report also highlighted the need to incorporate an R&D component into Spanish development cooperation to improve Spain’s maternal health interventions in the field.

## Training & Education

### Training in Maternal and Neonatal Health in Morocco

In 2012, ISGlobal signed a cooperation agreement with the Mohammed V - Souissi University in Rabat, Morocco to jointly develop a series of training and research programmes. Two university diploma courses have already been created under this agreement, one in medicine and neonatal reanimation aimed at paediatricians in residency training or physicians who want to specialise in neonatal care, and the other in emergency obstetric and neonatal care aimed at midwives and general practitioners.

The initiative, which is funded by the “la Caixa” Foundation, forms part of the Moroccan Ministry of Health’s 2012-2016 action plan to accelerate the reduction in maternal and neonatal mortality. It also forms part of a strategy initiated by ISGlobal over 10 years ago to improve women’s and children’s health in Morocco.

“ The human papillomavirus vaccine is a safe and effective way to prevent cervical cancer, a disease that causes 275,000 deaths each year, most of which occur in developing countries. ”

## Technical Cooperation

### Technical Support Related to Malaria in Pregnancy and Human Papilloma Virus

During 2012, we supported the World Health Organisation’s Global Malaria Programme by contributing to the creation of new guidelines on intermittent preventive therapy against malaria in pregnancy. The guidelines were published in September 2012.

In Mozambique, working with the Manhica Health Research Centre (CISM), we provided assistance in drafting the technical proposal presented by the government of Mozambique in response to the call issued by the GAVI Alliance for the introduction of the human papillomavirus vaccine.



## Fact

While the effectiveness of antibiotics is increasingly threatened by bacterial resistance, in recent decades we have witnessed a steady decline in the number of new drugs approved.



## Antibiotic Resistance Initiative

Director  
of the Antibiotic  
Resistance  
Initiative:  
Jordi Vila

Bacterial resistance to antimicrobial drugs is a problem that increasingly threatens our ability to treat infectious disease and poses a serious risk to the progress made over recent decades in global health. The use—and particularly the misuse—of antibiotics contributes to the rise in bacterial resistance to these drugs, a phenomenon that has become increasingly common and generates an ever greater need for alternative treatments.

“ To reverse the current situation, we need to allocate more resources and raise awareness of the seriousness of this problem, which can only be resolved with the participation and responsible action of all members of society. ”

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## Launch of the Antibiotic Resistance Initiative

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On 18 November 2012, European Antibiotic Awareness Day, we launched our Antibiotic Resistance Initiative. The aim of this initiative is to gain a better understanding of the risk factors for antibiotic resistance and its causes as well as to contribute to the development of new drugs to address the growing problem.

The following are the key challenges we face in the effort to combat antibiotic resistance:

- **Strengthening the systems currently in place for tracking and monitoring antibiotic resistance**
- **Improving access to and the quality of essential medicines and promoting the rational use of antibiotics in both humans and animals**
- **Improving the prevention and control of infections**
- **Promoting innovation, research and the development of new tools (new antibiotics, vaccines, etc.)**



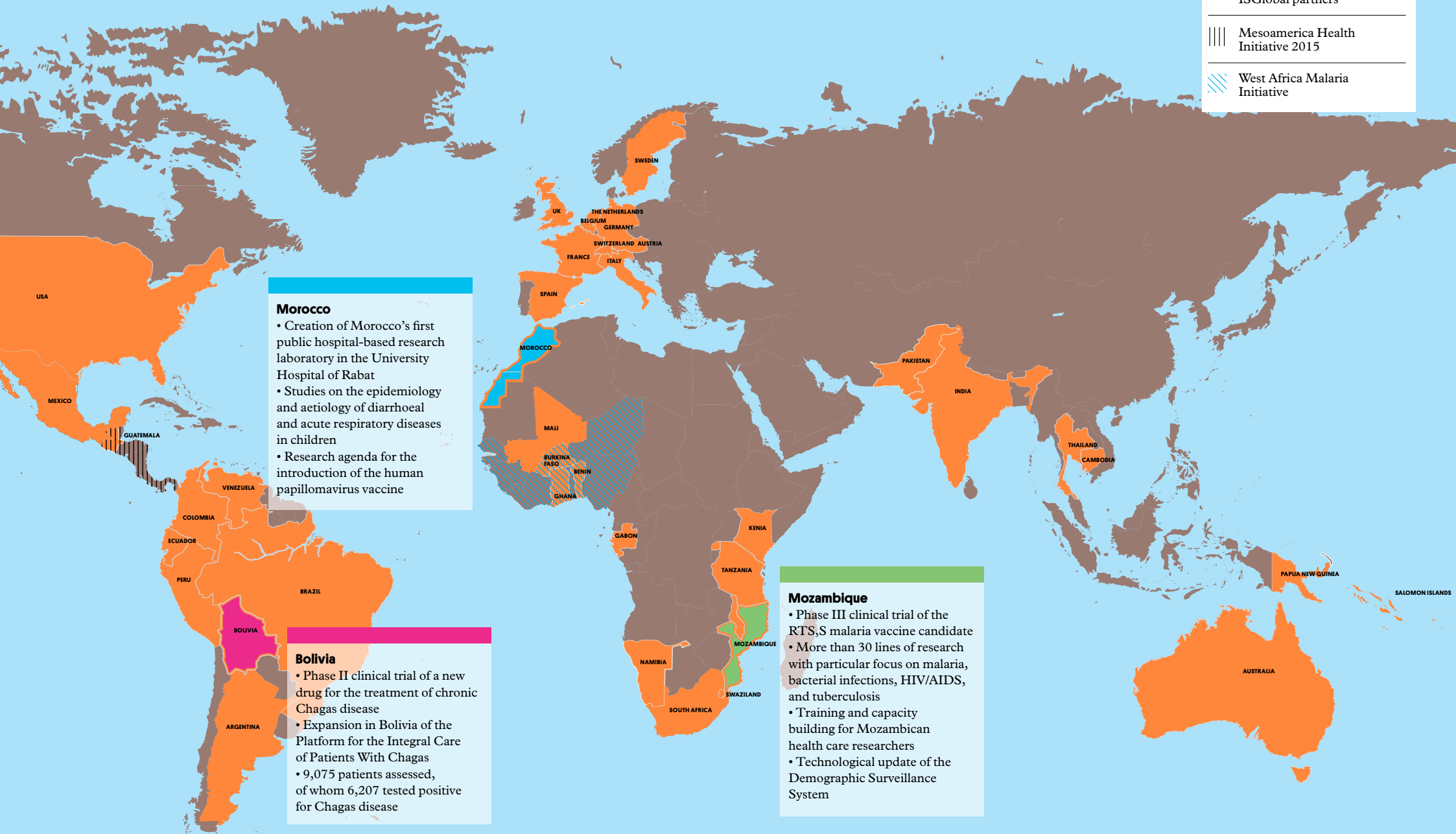
 Countries with main ISGlobal partners

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 Mesoamerica Health Initiative 2015

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 West Africa Malaria Initiative



**Morocco**

- Creation of Morocco's first public hospital-based research laboratory in the University Hospital of Rabat
- Studies on the epidemiology and aetiology of diarrhoeal and acute respiratory diseases in children
- Research agenda for the introduction of the human papillomavirus vaccine

**Bolivia**

- Phase II clinical trial of a new drug for the treatment of chronic Chagas disease
- Expansion in Bolivia of the Platform for the Integral Care of Patients With Chagas
- 9,075 patients assessed, of whom 6,207 tested positive for Chagas disease

**Mozambique**

- Phase III clinical trial of the RTS,S malaria vaccine candidate
- More than 30 lines of research with particular focus on malaria, bacterial infections, HIV/AIDS, and tuberculosis
- Training and capacity building for Mozambican health care researchers
- Technological update of the Demographic Surveillance System

# Our Global Presence

## Stable Partnerships

ISGlobal works to improve global health all over the world through long-standing stable partnerships. We work in three geographical regions of particular importance:

- Sub-Saharan Africa: in **Mozambique** we work with the Manhica Health Research Centre and the Manhica Foundation.
- Latin America: in **Bolivia** we work with the University of Cochabamba, the non-governmental organisation CEADES and the Bolivian Ministry of Health.
- Maghreb: in **Morocco** we work with the Ministry of Health and the University Hospital of Rabat.

## Multicentre Projects

Throughout 2012, we have also coordinated various multicentre projects:

- Three projects studying the immunological mechanism of RTS,S, the first-ever malaria vaccine candidate, in 18 reference centres in Europe, Africa and America.
- A study of the causes of mortality in developing countries with the participation of five partners in Africa, one in Brazil, and one in Pakistan.
- A project undertaken to characterise gastrointestinal markers of acute HIV infection involving five institutions located in Germany, Spain, Australia, South Africa and Mozambique.
- A consortium studying the *Plasmodium Vivax* parasite and a research project on malaria transmission in non-African contexts with partners in Brazil, Papua New Guinea, India and Thailand.
- Two large international consortiums, involving 19 institutions in 17 countries, which are researching malaria in pregnancy and seeking to develop new strategies for its control.

## Strategic Alliances

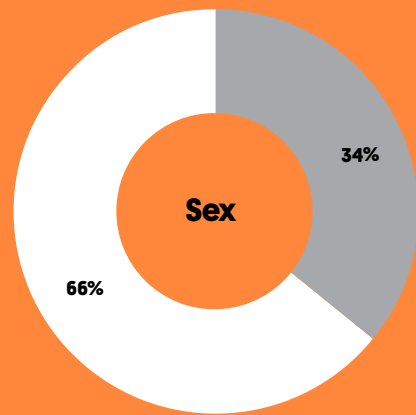
In the field of Chagas disease, we also coordinate **NHEPACHA**, an Ibero-American network created in 2011 by 12 groups from 9 countries dedicated to the development and improvement of new tools and biomarkers for the diagnosis, treatment and assessment of patients with Chagas disease and management of the disease.

The **Malaria Eradication Scientific Alliance (MESA)**, whose secretariat is in ISGlobal, funded six research projects in Africa, Asia, Latin America and Australasia relevant to both *P falciparum* and *P vivax* malaria.

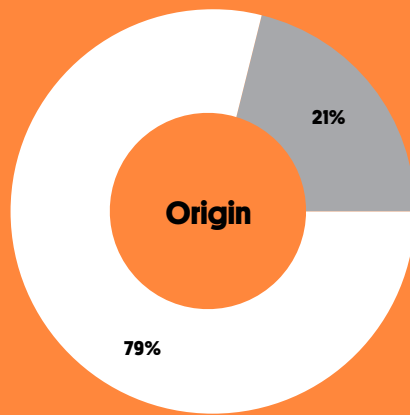
Finally, in the course of 2012 we completed our technical contribution to two malaria elimination initiatives in West Africa and Mesoamerica: the **West Africa Malaria Initiative** and the **Mesoamerica Health Initiative 2015**.



## Human Resources Total 187 people



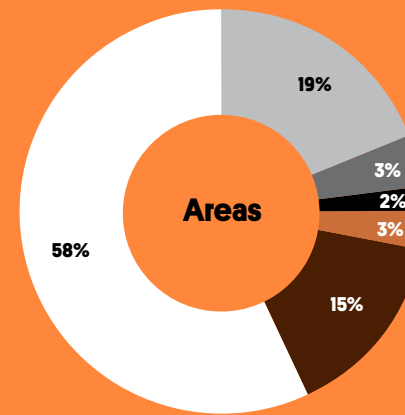
Female  
Male



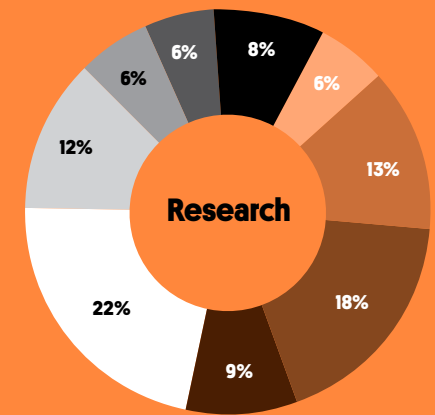
National  
International



Average age



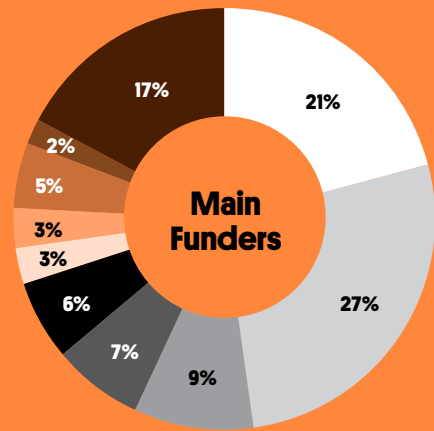
Research  
Research Support  
Think Tank & Communication  
Education & Training  
Technical Cooperation Management



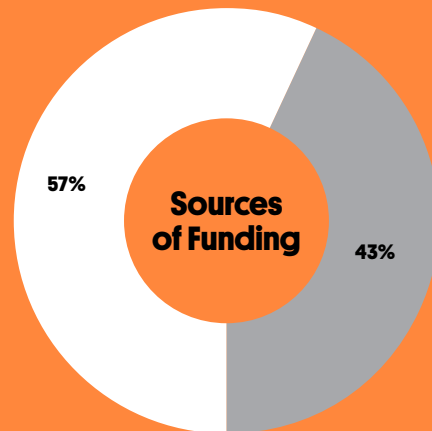
Predoctoral Fellow  
Associated Researcher  
Research Assistant  
Master Student  
Research Professor  
Associate Research Professor  
Assistant Research Professor  
Medical Research Fellow  
Postdoctoral Fellow

# Facts & Figures 2012

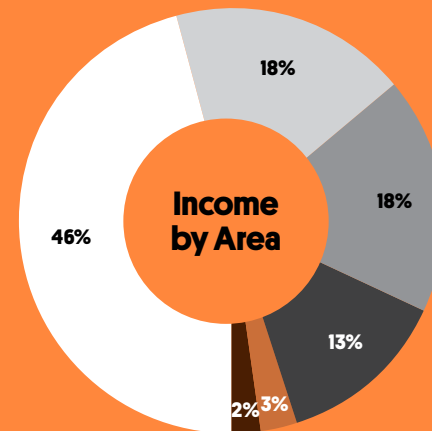
**Total budget**  
**€17,180,224**



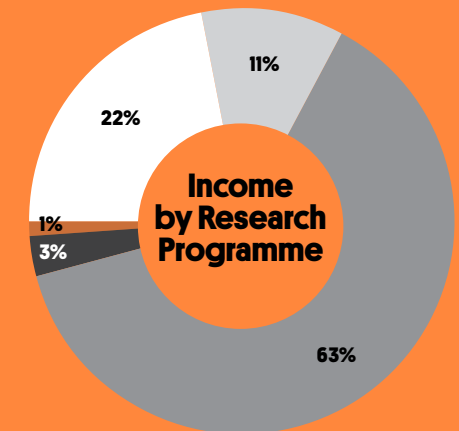
- Spanish Agency for International Development Cooperation
- Bill & Melinda Gates Foundation
- The Generalitat (Catalan Government)
- Program for Appropriate Technology in Health
- "la Caixa" Foundation
- Drugs for Neglected Diseases Initiative
- Instituto de Salud Carlos III
- Seventh European Union Framework programme
- Spanish Ministry of Economy and Competitiveness
- Others



- Private
- Public



- Research
- Technical Cooperation
- Administration & Communication
- Think Tank Initiatives
- Training & Education



- Viral and Bacterial Infections
- Imported Diseases
- Malaria
- HIV/AIDS and Sexually Transmitted Diseases
- Emerging Activities





## Research

Technical Director  
of CRESIB, ISGlobal's  
Research Centre:  
Antoni Plasència

“This publication is perhaps the most important on yaws in the past 50 years, and could facilitate the elimination of this ancient scourge.”

(David Mabey, The Lancet)

### CRESIB Consolidates Its Position as ISGlobal’s Research Centre

In Spain, 2012 will be remembered as a difficult year for science. However, despite the austere climate, ISGlobal’s research centre, CRESIB, increased its research activities and output. Last year, CRESIB researchers produced **174 original scientific articles**—the highest annual output in its short history—and 116 of these were published in top-quartile journals. The cumulative impact factor was 816, which corresponds to a mean impact factor of 4.7 per article.

As a result of the effort they invested in the area of scientific policy, CRESIB researchers were assigned the role of principal investigators in **important multicentre projects**. Of particular note are two projects with funding from

the US National Institutes of Health and the European Union’s Seventh Framework Programme that will study the immunological mechanism of RTS,S, the first-ever malaria vaccine candidate. The Bill & Melinda Gates Foundation provided the funding necessary to launch two other projects: one with the aim of designing and assessing new tools for investigating infectious causes of death and the other with the goal of developing gastrointestinal biomarkers for use in acute HIV infection.

We also became part of two large European research consortiums funded by the Innovative Medicines Initiative. The aims of these two consortiums are to improve R&D in the field of antimicrobial resistance through open sharing of knowledge and data, and to promote the development

of new tools to treat patients with antimicrobial-resistant infections.

As part of **ISGlobal’s emerging leaders programme**, designed to further develop research as the cornerstone of the centre’s activity by harnessing the skills of talented young scientists, two researchers, Krijn Paaijmans and Albert Picado, joined CRESIB as Assistant Research Professors. Dr Paaijmans has initiated a line of research on the ecology of vector-borne diseases, while Dr Picado is investigating methods to prevent, diagnose, and treat different forms of leishmaniasis. Finally, Alfred Cortés, an expert in transcriptional regulation in *Plasmodium* species, won a senior researcher contract with the Catalan Institute for Research and Advanced Studies (ICREA), thereby consolidating his position as research group leader.

### Malaria Vaccine Candidate Shows Moderate Efficacy in Babies

The efficacy and safety results from the phase III clinical trial of RTS,S, the first-ever malaria vaccine candidate, were presented in November 2012. The results obtained in babies aged 6 to 12 weeks old showed moderate efficacy, with a 31% reduction in the risk of developing malaria. The data were published in the *New England Journal of Medicine* and presented at the International African Vaccinology Conference in South Africa.

The RTS,S trial is being conducted in 11 research centres in seven sub-Saharan African countries, including the Manhica Health Research Centre in Mozambique. CRESIB collaborated in the assessment of the candidate vaccine by undertaking the first proof of concept studies, which demonstrated the safety and partial efficacy of RTS,S prior to the launch of the phase III study, which is the first of its kind to be conducted in Africa.

### New Treatment for Yaws Discovered

A study led by CRESIB researchers in Papua New Guinea demonstrated for the first time that a single dose of the oral antibiotic azithromycin is effective against the neglected tropical disease yaws. The clinical trial was conducted at the Lihir Medical Centre under the direction of Oriol Mitjà, a specialist in infectious diseases and first author of the study, and Quique Bassat, a paediatrician specialised in tropical medicine and international health, who was the senior author.

The fact that the treatment is effective after a single oral dose means that it could be easily used in mass drug administration campaigns, paving the way for the elimination of yaws. On learning of the results of the study, the World Health Organisation called a meeting with experts in Switzerland to draw up new policies for the treatment of yaws and to design a revamped strategy for eradicating the disease by 2020.

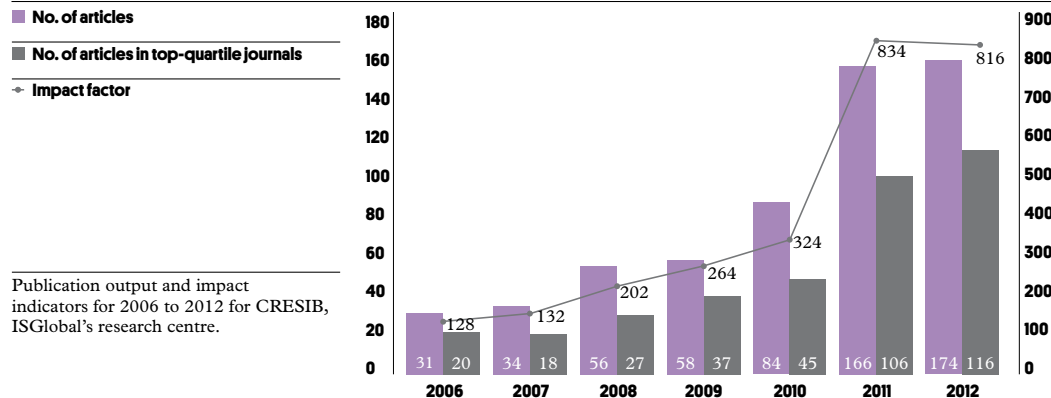
### ISGlobal Alliance

The Barcelona Institute of Global Health (ISGlobal) was created to address the key challenges in the area of global health through a multidisciplinary approach. As part of its strategy, the Institute incorporated the Barcelona Centre for International Health Research (CRESIB), founded in 2006, as its research centre. During 2012, in an increasingly competitive and difficult climate, ISGlobal took the first steps towards expanding this strategic alliance by reaching an agreement with the Barcelona-based Centre for Research in Environmental Epidemiology (CREAL).

The aim of this alliance, which has received support under the Catalan Government’s SUMA programme, is to consolidate excellence and build critical mass in a single institution that will be better positioned to take on a global leadership role in research, innovation and training.

Following favourable review by the Catalan Government of the proposal presented by the three institutions, ISGlobal, CRESIB and CREAL started work on the executive project and the first joint working session of the three centres was held in October 2012.

## Publications



Publication output and impact indicators for 2006 to 2012 for CRESIB, ISGlobal’s research centre.



# Think Tank

**Think Tank**  
**Director:**  
**Rafael Vilasanjuan**

“ We know vaccines work to save and improve lives. We must urgently work to reach all children with the vaccines they need. ”

(Dr Chris Elias, Bill & Melinda Gates Foundation)

## Portfolio of Publications

During 2012, the work of the ISGlobal Think Tank started in earnest in all its areas of action, but prioritising two key undertakings in particular: 1) the introduction of indicators to assess the impact of development cooperation in health and of measures to improve the quality of this cooperation. 2) the launch of a programme to analyse world governance and policies in the area of health care, diplomacy and global health, and innovation and access.

The Think Tank increased its portfolio of publications and forged alliances with key national and international players.



ISGlobal Publications:

- **“More Than Half the World: R&D in Maternal Health as a Tool for Development Cooperation”**
- **“Govern, Innovate, Progress. The Importance of the G20 for development”**, coproduced with Intermón Oxfam.
- **“Health and Globalisation”**
- **“International Governance and Global Health”**, coproduced with Harvard University.
- **“Global Health Diplomacy: Health Promotion and Smart Power”**, coproduced with FRIDE.
- **“Medical and Health Innovations Within a Global Health Framework”**, coproduced with CRASH (MSF Foundation).
- **“The Private Sector as Project Implementer and Public Fund Receptor for the International Development”**
- **“Less Is More? The Effectiveness of Spanish Health Aid and Cooperation”**

## Tribuna ISGlobal. Malaria: the Story of a Vaccine

The second edition of Tribuna ISGlobal, entitled Malaria: the Story of a Vaccine, was held on 7 February 2012 at the CosmoCaixa museum in Barcelona. In recognition of the progress made on RTS,S, the first-ever malaria vaccine candidate, ISGlobal’s director, Dr Pedro Alonso, gave a presentation on the history of the malaria vaccine to show how innovation applied to human development can offer real benefits to the world’s most disadvantaged populations and have a major impact on development policies.

The event was attended by over 270 people and concluded with a discussion between Dr Alonso and Spanish journalist, Gemma Nierga. Later that evening, key representatives of Catalan society came together at a dinner to learn more about ISGlobal.



## Seminar on Global Health and Globalisation

On 13 and 14 September, we organised an international seminar to discuss the main challenges facing the health and globalisation agenda, to define the interests and added value of southern European and middle-income countries, and to draw up a research work-plan for the next few years.

The seminar was a multisectoral event attended by experts from over 40 international organisations. It was structured around three themes:

- Current problems and future challenges in global health governance
  - The growing interest in health as a strategic component of diplomatic negotiations that can be used to secure other political, economic and social goals
  - The new treaty on innovation and development drawn up by the WHO Expert Advisory Group on Research and Development to promote innovation and improve access to essential medicines
- The participants in the seminar included leading public-private partnerships, the United Nations, foundations working in the area of global health, international nongovernmental organisations, think tanks, and representatives from other civil society organisations.

## New Plan for Increasing Global Access to Vaccines

Health Ministers from 194 countries unanimously endorsed the Global Vaccine Action Plan (GVAP) at the 65th World Health Assembly held in Geneva, Switzerland in May 2012. The GVAP is a roadmap to prevent millions of deaths by 2020 through more equitable access to existing vaccines in all countries, regions and communities.

The GVAP is the product of the Decade of Vaccines Collaboration, a consultation process coordinated by ISGlobal, PATH, and the Sabin Vaccine Institute. It represents the collective vision of hundreds of global health experts on how to extend the full benefits of immunisation to all people, regardless of where they are born, who they are, or where they live.

The plan consists of four mutually reinforcing goals:

- To strengthen immunisation to meet vaccination coverage targets
- To accelerate control of vaccine-preventable diseases with polio eradication as the first milestone
- To introduce new and improved vaccines
- To spur research and development for the next generation of vaccines and technologies



# Training & Education

**Training & Education  
Director:  
Núria Casamitjana**

## New Postgraduate Programmes

The first edition of the **University of Barcelona–ISGlobal Master of Global Health**, one of the first postgraduate programmes to address health from a global and multidisciplinary perspective in Spain, started in September 2012. It is the successor of the Master in Tropical Medicine and International Health, a much acclaimed course that ran for many years. The Master of Global Health is a joint initiative launched by ISGlobal, its research centre CRESIB, the University of Barcelona, and institutions such as MSF, Intermón Oxfam, and CREAL.

The **Diploma of Global Health Fundamentals** was also launched in September 2012. This is a postgraduate course that forms part of the Master of Global Health (first module) but can be taken separately. It is accredited by the European Network for Education in International Health (tropEd).

October 2012 saw the launch of the **Master of Clinical Research**, whose international health component is coordinated by ISGlobal and CRESIB. The course is aimed at students who wish to follow a career in clinical research in areas related to key international health challenges. ISGlobal also participated in the last edition (2011-12) of the Master of International Health run by the University of Barcelona and the Autonomous University of Barcelona.

## Education in Global Health

ISGlobal offered numerous courses and workshops on a range of global health issues throughout 2012:

- **VIII Workshop on Imported Chagas Disease** (5 March)

- **Prevention, Detection and Management of Arboviral Diseases** (organised with the US Centers for Disease Control and Prevention, 23-27 April)

- **Science of Eradication: Malaria** (organised with Harvard University and the Swiss Tropical Public Health Institute, 3-8 June)

- **International Policies and Global Health** (University of Barcelona International Summer School, 9-13 July)

- **31st European Course in Tropical Epidemiology** (27 August-14 September)

- **Imported Diseases: From Travel Medicine to Immigrant Diseases** (29-30 November)

## Training for Researchers

Through our research centre, CRESIB, we coordinate the international health component of the **Doctorate in Medicine Programme run by the University of Barcelona**.

ISGlobal is also a member of a consortium of academic institutions that offers a doctorate programme in transdisciplinary global health (Trans Global Health). The doctorate forms part of the European Union's new **Erasmus Mundus Joint Doctorate Programme**. Our partners in this initiative are the University of Amsterdam, the VU University Amsterdam, the Amsterdam Medical Centre, the Amsterdam Institute for Global Health and Development, the University of Bordeaux Segalen (France), and the Institute of Tropical Medicine of Antwerp.

The Trans Global Health programme tackles the challenges of global health using a transdisciplinary approach, which was described by the European Union as a model of excellence that was both “original and innovative”. The course will start in 2013 but the first call for PhD applications went out in November 2012.

## Training in Mozambique and Morocco

We completed two training programmes in Mozambique and Morocco in 2012. The first, run in collaboration with the Universidade Eduardo Mondlane in Maputo, Mozambique, was designed to enhance teaching and research skills, and the second was aimed at creating a diploma in epidemiology and biostatistics at the National Health Administration Institute of the Moroccan Ministry of Health.

We also continued with our higher education programme for women in collaboration with the Mozambican Foundation for the Development of the Community and launched a new programme in maternal and neonatal health in Morocco with the participation of the Moroccan Ministry of Health and Mohammed V-Souissi University in Rabat. All the above programmes were funded by the “la Caixa” Foundation.

Finally, we provided year-long support to students from Mozambique and Morocco enrolled in the Training Fellowship Programme in the two countries.

## Defence of Five Doctoral Theses

- *Role of the spleen in Plasmodium vivax: a reticulocyte-prone non-lethal malaria*, **Mireia Ferrer Almirall** 24 January 2012, Faculty of Medicine, University of Barcelona  
Director: Dr Hernando A. del Portillo

- *Expressió proteica diferencial en l'endometri humà durant la finestra d'implantació*, **Helena Suárez Cisneros** 5 March 2012, Faculty of Medicine, University of Barcelona  
Directors: Dr Jaume Ordi and Dr Jaume Balasch

- *Epidemiologia de las fases tempranas de la infección por el VIH en pacientes ambulatorios de una zona semi-rural del sur de Mozambique*, **Celia Serna Bolea** 8 May 2012, Faculty of Medicine, University of Barcelona  
Director: Dr Denise Nanche

- *Estratègies pel control del Pian i altres malalties oblidades a les illes del Pacífic Sud*, **Oriol Mitjà Villar** 1 June 2012, Faculty of Medicine, University of Barcelona  
Director: Dr Quique Bassat

- *Virus del Papil·loma Humà com a factor pronòstic en les Neoplàsies Malignes de la Vulva i de la Vagina*, **Maria Victòria Fusté Chimisana** 29 June 2012, Faculty of Medicine, University of Barcelona  
Director: Dr Jaume Ordi





# Technical Cooperation

Technical  
Cooperation  
Director:  
Eric Grau

## Bolivia

The joint research agenda pursued by researchers from Bolivia and Barcelona includes a study on E1224, a new drug for Chagas disease that has shown potent activity against the parasite responsible for the disease, in addition to studies on digestive Chagas disease, entomological control, biomarkers to assess cure, and vertical transmission of the disease.

In the area of healthcare delivery, the centres run by the Bolivian Platform for the Integral Care of Patients With Chagas Disease, in collaboration with the National Chagas Disease Programme and the universities of Cochabamba, Tarija and Sucre, launched a health care programme that offers patients long-term, personalised care and support, including educational activities, diagnosis, treatment, prevention of reinfection and follow-up. The programme has attracted high demand among the local populations.

## Morocco

2012 saw the conclusion of the projects funded by the Spanish Development Cooperation Agency (AECID) that have strengthened national research capacities in Morocco thanks to the creation of the first public hospital-based research laboratory at the University Hospital of Rabat. During the year joint studies in maternal and child health were carried out by researchers from Barcelona and Rabat focusing on the epidemiology and aetiology of diarrhoeal and acute respiratory diseases in children under 5 years of age. Other research being conducted in collaboration with the Moroccan Health Ministry and researchers from the university hospitals of Rabat and Fez focuses on maternal and infant health, with studies on neonatal infections and the human papillomavirus.

In the area of healthcare, we supported the creation of a perinatology network at the University Hospital of Rabat, which included the fitting out of a neonatology unit, the establishment of protocols and emergency referral systems for newborns, and the implementation of an information and data management system.

## Mozambique

The Manhica Health Research Centre (CISM) maintained a high level of research activity in 2012. Apart from the clinical trial of the malaria candidate vaccine, RTS,S, the centre is also participating in two major projects studying the immunological mechanisms of RTS,S, with funding from the US National Institutes of Health and the European Union's Seventh Framework Programme. In the area of HIV, the CISM has started to collect epidemiological data for two projects. One of these is being conducted in collaboration with the IeDEA (International epidemiologic Databases to Evaluate AIDS), and the other, which is funded by the Bill & Melinda Gates Foundation, seeks to develop gastrointestinal biomarkers for use in acute HIV infection. In the field of respiratory diseases, the centre is undertaking a study on nasopharyngeal pneumococcal carriage to measure the impact of the introduction of the pneumococcal vaccine in Mozambique.

The CISM also played an active role in the training of Mozambican health professionals in 2012 and strengthened its international exchange programme with professionals and students from Spain, Brazil, Germany and Holland.

Finally, the Manhica Foundation consolidated its role as the managing body of the CISM and as adviser on national health policies and programmes thanks to continued funding from the Spanish Agency for International Development Cooperation.




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# Collaborating Bodies

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 **"la Caixa" Foundation**

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BARCELONA  
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Agència Catalana de Cooperació al Desenvolupament  
Agència de Cooperació Internacional de les Illes Balears  
Agència de Gestió d'Ajuts Universitaris i Recerca  
Ajuntament de Barcelona  
AstraZeneca  
Fundación Cellex  
Centers for Disease Control and Prevention  
CEPHEID  
Drugs for Neglected Disease initiative  
Education, Audiovisual and Culture Executive Agency  
European & Developing Countries Clinical Trial Partnership  
European Society of Clinical Microbiology and Infectious Diseases  
Fundación Caja Navarra  
Fundación Mundo Sano  
Fundación Ramón Areces  
GlaxoSmithKline Biologicals  
IMS Health, SA  
Innovative Medicines Initiative  
Institució dels Centres de Recerca de Catalunya  
Instituto de Salud Carlos III  
International Society of Travel Medicine  
Johnson & Johnson, SA  
Laboratorios LETI  
Malaria in Pregnancy Consortium, Liverpool School of Tropical Medicine  
Medicines for Malaria Venture  
Merck Sharp & Dohme de España, SA  
Open Lab Foundation, Tres Cantos Madrid  
Operon, SA  
Program for Appropriate Technology in Health  
REGISTRAT-MAPI  
Seventh Framework Programme, European Union  
Sociedad Española de Medicina Tropical y Salud Internacional  
Spanish Ministry of Economy and Competitiveness  
Spanish Ministry of Education, Culture and Sport  
Stichting Pathologie, Onderzoek en Ontwikkeling  
The Hib Initiative, John Hopkins University  
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