IMPACT

BREAKING BOUNDARIES IN CVD RESEARCH

ERA CVD

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Impact Objectives

- Establish an international platform for implementing Joint Transnational Calls in order to fund excellent research consortia in the area of cardiovascular diseases (CVDs)
- Annually select research projects to receive funding based on a two-step evaluation process
- Develop a monitoring and evaluation framework to assess the progress of the consortium activities

Matters of the heart

Cardiovascular disease (CVD) is one of the leading causes of death in Europe. Yet despite such prevalence, research and development to reduce the mortality and morbidity rate is fragmented. A new funding network is attempting to change this. We spoke to coordinators ***Dr Wolfgang Ballensiefen*** *and* ***Dr Hella Lichtenberg*** *to find out more*

Dr Wolfgang Ballensiefen Dr Hella Lichtenberg

What was the driving force behind this project?

An effective coordination of research at a national and European level, increased cross-disciplinary interaction and research advancements are urgently needed to address the burden of cardiovascular diseases (CVDs). By gathering their forces and funding capacities, 23 partners from 18 countries hope to respond to this demand through the ERA-CVD.

In all research fields, around 85 per cent of the public research budgets of European countries are fully controlled at a national level, with probably less than one per cent being reoriented to collaboration or coordination between countries. As a consequence, individual national research programmes in the field of cardiovascular research may unnecessarily duplicate each other from an international perspective and only a few coordinated transnational calls involving multiple national funding bodies have launched.

We aim to effectively coordinate research through supporting the alignment of existing national and regional research programmes and fostering new, and extending existing, transnational cooperation in CVD research.

What are the key objectives of ERA-CVD?

We will provide an international platform for implementing Joint Transnational Calls (JTC) in order to fund excellent and innovative research consortia for the benefit of patients. This is the most effective joint activity to enhance cooperation between scientists working in Europe and beyond. ERA-CVD will encourage data sharing and use of Open Source publication, which is in line with the existing guidelines of the European Commission and the majority of national ones. We will inform funded researchers about intellectual property rights (IPR) management, related administrative hurdles and sharing of resources, data and knowledge. We will also contribute to the streamlining of national/regional and international practices in setting up research funding. Additionally, we will disseminate the achievements of the funded consortia. Scientific rigor and transparency in conducting biomedical research is key to the successful application of knowledge toward improving health outcomes. ERA-CVD implemented specific quality assurance measures for the experimental design. Grant application forms and review instructions are intended to ensure ERA-CVD is promoting the highest level of scientific integrity, public accountability and social responsibility.

A strategic research agenda (SRA) for CVD will also be developed and the ERA-CVD plans to produce a database for research projects funded in the area of CVD on the basis of the CardioScape project, in cooperation with the European Society for Cardiology (ESC).

There is a large consortium behind ERA-CVD – what are the benefits or challenges of having so many members as part of the consortium?

The ERA-CVD consortium comprises members from European, associated and non-European countries. As the cardiovascular research field can only be tackled from a global perspective, the consortium will aim to extend the collaborations into an international dimension, not only in terms of partners, but also by setting up collaborations with international initiatives.

A first international partner has already joined ERA-CVD as a third country participant – the Ministry of Science and Technology of Taiwan. Additionally, there h been contact with the Institute of Circulatc and Respiratory Health of the CIHR (Canadian Institutes of Health Research), which is interested in joining ERA-CVD for one of the planned non-co-funded JTCs.

Breaking boundaries in CVD research

Cardivascular diseases (CVDs) are a major cause of death in Europe, however the ***ERA-CVD*** *consortium hopes their work will lead to CVD research becoming an outstanding example of research driven innovation across Europe*

ERA-CVD is a European Research Area Network focusing solely on cardiovascular disease (CVD). It is made up of 23 partners from 18 countries and regions and has been granted funding from 2015 until 2020 through the current EU Framework Programme for Research and Innovation, Horizon 2020.

CVD claims the lives of more than four million people per year in the 53 member states of the WHO European Region, and around two million people in the European Union. In addition to this, recent data indicates that up to 80 per cent of all healthcare expenditure in Europe is allocated to chronic diseases, with CVD alone estimated to cost the EU economy around 200 billion euros per year. As a result, CVD research is not only a central area for health research on its own, but has the potential to lead the way for other conditions. According to Dr Wolfgang Ballensiefen and Dr Hella Lichtenberg, coordinators of ERA-CVD, a project striving to harness and coordinate CVD research: 'CVD research could become an outstanding example of research driven innovation across Europe.'

GETTING A HEART-START

The increasing societal and economic burden of CVD is a global, not merely a European challenge. In order to address this burden, the ERA-CVD aims to work at a national and cross-national level to support the coordination of CVD research. It is predominantly doing this through a Joint Transnational Call (JTC), in which it seeks projects around specific topics to come forward for funding.

The first ERA-CVD JTC was focused on heart failure and was launched in January 2016. The winning consortia of this first call began their work in early 2017. Subsequent calls will be implemented on a yearly basis until the end of the project.

The objective of these calls is to increase understanding of the causes of CVD and develop new innovative treatments and improve medical technology. The activities of ERA-CVD will do this by reducing the fragmentation of cardiovascular research and enhancing European collaboration with countries outside Europe.

WORKING TOGETHER

Cooperating with the European Society of Cardiology and the European Heart Network, the ERA-CVD divide their endeavours into work packages, with an entire work package dedicated to consortium coordination and management. This is logistically critical given it has 23 members. However, all of the partners have a shared understanding of the importance and potential of internationally coordinated funding, and this common belief motivates the work of the consortium.

The Joint Call Secretariat (JCS) for the first call was established shortly after the project began, and is one of the reasons why the consortium has been successful in its work so far. The JCS is responsible for all of the logistics behind the respective call, including the publication and all communications with applicants. It was also the task of the JCS to set up the international Scientific Evaluation Board (SEB), which is made up of internationally recognised scientists, chosen for their scientific, technical and/or disease-specific expertise in the field of cardiovascular research. This expertise is invaluable to the project.

FIXING FAILURES

Through the work of the SEB, 14 transnational projects were selected in the first joint call (JTC2016). Incorporating 66 research teams from 20 countries, these projects targeting heart failure were provided with funding for three years from a total budget of around 14 million euros. They were chosen in accordance with the call specification, selected through a two-step peer-review process.

The chosen projects included subjects such as the early detection and prevention of cardiac dysfunction and heart failure induced by cancer chemotherapeutics,

and the development of a gene-profiling test to identify patients with acute and chronic heart failure. The ultimate aim is to establish new treatments and standards of care for those suffering from CVD.

ASSESSING OUTCOMES

To ensure the ERA-CVD is meeting its objectives, it has in place a structured monitoring process of the consortium's activities. This evaluation role will be carried out by partners of the consortium, with the responsible JCS reviewing the administrative and operational mechanisms, peer review, funding of projects and scientific follow-up.

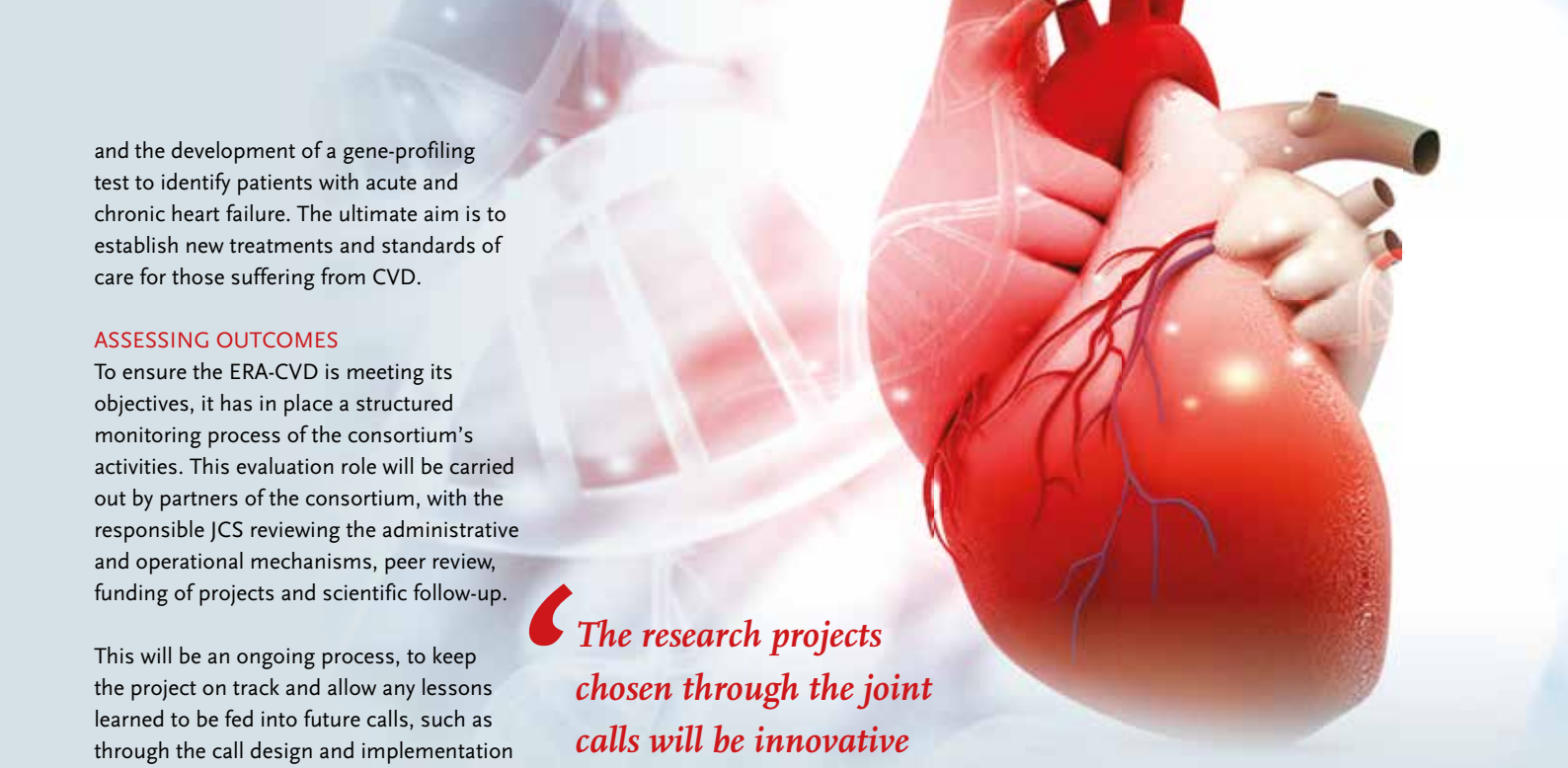
This will be an ongoing process, to keep the project on track and allow any lessons learned to be fed into future calls, such as through the call design and implementation of the next joint calls. While this network focuses on CVD, ultimately the work of the ERA-CVD could be translated into other areas, so it is important that their activities are formed in a way that will not confine them to just the current project scope. This means it is crucial for the consortium to be analytical in its work and address any changes that need to be made. As Ballensiefen and Lichtenberg highlight: 'The first call is a solid basis for future transnational consortia in other EC funding programmes under Horizon 2020.'

The consortium has plans to apply for a second funding period of five years from the European Commission. By refining each call they undertake as part of the current project, and implementing changes to make further improvements, their work will benefit the recipients of the research projects currently being funded, and many more to come.

THE NEXT GENERATION

Recognising that there needs to be a long-term focus within research, there are plans to highlight the role of young scientists within CVD research as part of this project: the third call will be specifically for early career CVD researchers. All research consortia funded by ERA-CVD will be invited to mid-term symposia with dedicated network meetings and poster presentations to provide a communication platform.

Furthermore, an 'Excellent Paper in Cardiovascular Research Award (EPCA)' will be established as an instrument to support outstanding young researchers in CVD research. This award will enhance their visibility and aims to boost their career through the recognition of their work within the scientific community.



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THE FUTURE OF RESEARCH

Looking ahead to the results that are anticipated, there is a sense of excitement around the projects already underway. The current research environment has a number of challenges due to the requirement of large sample sizes, shared infrastructures, cutting-edge technologies and more personalised approaches. This requires collaboration, which is being fulfilled in part by the ERA-CVD. It is providing a vital and unique level of support for the CVD research community in Europe, crossing borders and breaking boundaries within its work.

While the benefit for patients and the potential savings may not be fully revealed within the next five to 10 years, expectations are high. The research projects chosen through the joint calls will be innovative and groundbreaking in the field of CVD, so the question is not whether the work of the ERA-CVD will make a difference, but how significant it will be. As Ballensiefen and Lichtenberg conclude: 'ERA-CVD is expected to have an impact on national and transnational programmes, and will contribute to the improvement of preventive, diagnostic and therapeutic strategies for cardiovascular diseases.'

Project Insights

FUNDING

ERA-CVD is an ERA-Net co-fund supported by the EC and the partners (grant number: 680969).

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NETWORK INFORMATION

ERA-CVD is a European Research Area Network (ERA-Net) comprising 23 ministries and funding agencies from 18 countries and regions, that has been granted funding through the current EU Framework Programme for Research and Innovation 'Horizon 2020'. It will run until September 2020 and contribute to a European Research Area in which cardiovascular research is conducted and funded across countries, allowing research groups to jointly work on specific problems, exchange ideas and benefit from cross-border expertise. Therefore the main task of ERA-CVD is the development and implemenation of up to four Joint Transnational Calls (JTC) until 2020.

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