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## FOREWORD AND CNIC MISSION

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The CNIC's mission is to discover the causes of cardiovascular disease (CVD), translate basic research discoveries into clinical practice, promote health in society, and foster training and mentoring of up-and-coming scientists and physicians. In 2019, 415 researchers and technicians carried out their scientific activity at the CNIC. These scientists are members of 31 Research Groups and 11 Technical Units distributed across three multidisciplinary Research Areas: Vascular Physiopathology, Myocardial Physiopathology, and Cell Developmental Biology. These areas constitute and connect the CNIC's two research departments: Basic Research and Clinical Research.

Over its relatively short existence, the CNIC has built an unrivalled infrastructure and a powerful, cross-disciplinary research base that embraces many disciplines and includes population and patient studies. A key factor in this achievement is the commitment of the Spanish government to building a flagship research institute to tackle the CVD epidemic. Most importantly, the CNIC is supported through an innovative public-private initiative financed by the Carlos III Institute of Health and the Pro CNIC Foundation. The CNIC also benefits from the external support and advice of its recently renewed Scientific Advisory Board, composed of leading international experts who provide guidance on strategy and recruitment and regularly evaluate the performance of the Center and its group leaders. In 2019, Rodrigo Fernández and Maria A. Moro joined the Center as Assistant Health Scientist and Full Professor, respectively.

At the heart of the CNIC's mission is a shift from the traditional emphasis on treating clinical events to a strategy focused on identifying CVD in its preclinical stages and promoting health. This vision fosters a cohesive and flexible strategy that embraces research infrastructure, professional training, and a clear focus on cross-disciplinary collaborations between basic and clinical researchers to ensure that acquired knowledge is translated into real health benefits.

In 2019, the CNIC was the top ranked European cardiovascular research center according to the Scimago institutions ranking, and the second ranking center worldwide, just behind the US National Heart, Lung and Blood Institute (NIH). Likewise, the CNIC was identified as one of four European Union centers of excellence in cardiovascular biomedical research by the European Research Area Network on Cardiovascular Diseases in its 2019 Strategic Research Agenda for Cardiovascular Diseases (SRA-CVD): Challenges and Opportunities for Cardiovascular Disease Research, which analyzes the current status of research in this area.

This CNIC Scientific Report offers an overview of how our young, energetic team of dedicated scientists, clinicians, and technicians is bringing our mission to reality. Reading these pages, what gives us the greatest pleasure is to see how the breadth of the CNIC's research activity integrates the Center into society at so many levels.



As you would expect, 2019 saw breakthroughs at the frontiers of basic and clinical research. These discoveries range from studies showing delays in the appearance of Alzheimer's disease in mice treated with an oral anticoagulant to a description of a new method to improve treatment of atrial fibrillation.

The recently launched Clinical Trials Coordination Unit has been established to enhance Spanish leadership in the field of clinical trials in the cardiovascular area. This unit is already supervising eleven clinical studies and trials. The Center's translational studies bear testimony to the enthusiastic participation of healthy volunteers, patients, and emergency service personnel in efforts to define the causes and risk factors of CVD. This commitment of citizens and professionals outside the research community is making essential contributions to advancing the use of noninvasive imaging technology for diagnosis and research.

The CNIC's commitment to public health promotion is also evident in training programs that start with children from an early age, teaching core health knowledge and instilling a positive emotional attitude. The Center's public outreach links seamlessly with our strong commitment to training at all levels, from programs to encourage a scientific vocation among high school students to continuing professional training programs for scientists and physicians.

Through these endeavors, the CNIC is making a comprehensive, across-the-board investment for societal benefit that integrates biomedical research into the wider society. This is fitting, since we are all stakeholders in our health and in the health of the next generation. As we move forward, the CNIC will maintain the drive and focus established in its initial phases and ensure that the Center's basic and clinical scientists continue to work closely together to devise innovative projects that help reduce the health care and socioeconomic burden associated with CVD.