



ESC

European Society
of Cardiology

Annual Report
2020



ESC



ES

Table of Contents

About Us	4
What We Do	6
President's Report	8
ESC Activity Reports	
• Advocacy	13
• Research	16
• Clinical Practice Guidelines	19
• Grants and Fellowships	21
• Publications	22
• Education	23
• Congresses	27
• Digital Health	31
• Membership	33
• Young Cardiologists	35
• Cardiovascular Round Table	37
• Patient Engagement	38
• Women in ESC	39
ESC Constituent Bodies and Partner Activities	
• Subspecialty Communities	40
• National Cardiac Societies	72
• Global Affairs	75
Governance	78
Financial Report	
• Secretary Treasurer's Report	80
• Auditor's Report	89

About Us

Who We Are

The European Society of Cardiology (ESC) is a not-for-profit medical society. We are a member-focused, volunteer-led institution whose activities are driven by healthcare professionals, for healthcare professionals, healthcare authorities and patients. The volunteers are supported by a team of ESC staff based at the European Heart House in France and the European Heart Agency in Brussels.

Our mission: To reduce the burden of cardiovascular disease (CVD)

We are a global network that covers the full spectrum of cardiology

Our diversity is our strength

100,000

scientists, clinicians,
nurses & allied
professions

57

**National Cardiac
Societies**

from Europe and the
Mediterranean basin

47

**Affiliated Cardiac
Societies**

from around
the globe

29

**Subspecialty
Communities**



ACVC
Association for
Acute CardioVascular Care



ACNAP
Association of Cardiovascular
Nursing & Allied Professions



EACVI
European Association of
Cardiovascular Imaging



EAPC
European Association
of Preventive Cardiology



EAPCI
European Association of
Percutaneous Cardiovascular
Interventions



EHRA
European Heart
Rhythm Association



HFA
Heart Failure
Association



ESC
Councils



ESC
Working Groups

Why We Exist

There has been significant progress in the management of cardiovascular disease, but our job is not done.

Cardiovascular disease remains the world's **number 1** killer

Source: World Health Organization

17.9 million deaths globally
(31% of all deaths)*



80% of premature heart
disease and stroke is
preventable*



CVD costs the EU economy
an estimated 210 billion
Euros per year*



19.9 million new cases
of CVD in the 54 ESC
member countries with
data available**



*World Health Organization

**ESC Atlas of Cardiology

What We Do

The ESC coordinates observational registries, creates clinical practice guidelines and organises and endorses educational programmes. We disseminate robust and independent science through our congresses, journals and educational digital tools, such as mobile apps and our website. We're the voice of the cardiology community when advocating for heart-health policies, regulations and funding. All of these things enable us to:

- Identify cardiovascular trends
- Address inequalities
- Share best practices to improve standards of care for patients
- Provide high quality, evidence-based science

Five pillars of ESC activities



Congress

Bringing together the best minds and the best science in cardiovascular medicine



Education

Delivering world-class learning and professional development



Research

Encouraging excellence and managing innovation



Advocacy

Leveraging our knowledge, network and influence to shape an environment favourable to cardiovascular health



Membership

Bringing together the global cardiovascular community



Ethical Integrity

The ESC has developed a Declaration of Interest (DOI) policy and enforces it across all its activities. This policy can be consulted at www.escardio.org/DOI. More than 2,000 cardiologist volunteers are required to complete an annual DOI and comply with the policy. The ESC also adheres to the Alliance for Biomedical Research in Europe's code of conduct.

Our values

ESC values guide our decision-making, actions and how we conduct our interactions with partners. ESC volunteers and staff commit to:

Trustworthiness | Transparency | Helpfulness | Excellence

How we're funded

A number of ESC activities generate funds, such as our congresses, journals and membership. All the income from these activities is invested in everything else the ESC does, including the development of our clinical practice guidelines, education, research, grants and advocacy. All our activities support healthcare professionals to improve patient care in their daily practices.

President's Report



The mandate of this board has been to create a 'bigger ESC'. Not the number of members or congress attendees or journal impact factors - although we have had significant results in all these areas. No, our goal has been bigger impact, involvement and aspirations.

The activities highlighted below are just some of the achievements we can celebrate from our last fiscal year, and they are testament to this society's unrelenting determination to go further and push harder.

Transparency, Trust and Inclusion

The ESC must be trustworthy and, as such, operates within a strong governance framework. This is especially true for the creation of the clinical practice guidelines. The process is continually reviewed, and this year included new Declaration of Interest (DOI) requirements for task force chairs and review coordinators; limits on their mandates; and the systematic involvement of methodologists, as well as clinicians. For the first time, we also involved the ESC Patient Forum for a critical perspective that has often been overlooked.

Education and Excellence

The ESC is constantly adapting to changing needs whilst maintaining the levels of excellence we demand and our members expect. Achievements in this reporting period included:

- The *ESC Textbook of Cardiovascular Medicine, Third Edition*, won first prize from the British Medical Association in the cardiology category;
- Our flagship publication, the *European Heart Journal*, maintained its status as the world's leader with an impact factor of 23.239. Congratulations to our outgoing Editor-in-Chief Thomas F Lüscher;
- A complete overhaul of the ESC Core Curriculum was finalised with a new focus on Entrustable Professional Activities (EPAs) to make our cardiologists fit for the future;
- A new European Heart Academy course in clinical trials received 126 applicants in the first year; and
- The purchase of a campus to host state-of-the-art education and training.

Advocating for Change

There is an unsettling complacency about the world's No. 1 killer and a false perception that nothing further can be done to significantly reduce the impact of CVD. Our aim is to challenge that perception using statistics, patient experiences and by championing legislation and regulation. In the reporting period we achieved:

- First *ESC Cardiovascular Realities* booklet to explain the gaps and inequalities in CV treatment and the need for policy change and investment;
- Advancing with regulators for better pragmatic clinical trials. The current situation is too complex, slow and expensive, which delays innovation and impairs patient safety; and
- Active participation in the European Commission's new expert panels on medical devices.

Congresses that Change Practice

Our community is global. At congresses we inspire, innovate and take learning to a new level. Nothing will ever replace that. In 2019 we celebrated:

- Record attendance at ESC Congress 2019 in Paris with more than 35,000 participants;
- The first ESC Digital Summit in Tallinn, which brought together 500 leaders in the field to shape how new technologies will impact cardiology; and
- Our first congress outside Europe - ESC Asia with AFC and APSC. This brought the latest ESC science to distant colleagues, in particular younger cardiologists who struggle to travel to Europe for ESC Congress each year.

Research

Over the last year, we have been preparing the pilot scheme for EuroHeart. This ongoing quality-of-care registry across Europe will empower National Cardiac Societies to make better use of their resources and to join with other National Cardiac Societies to conduct more impactful observational research and pragmatic randomised clinical trials.

Investing in the Next Generation

The ESC invested more than €1.8 million in grants and fellowships in 2019. These enable our members to take part in postgraduate courses, gain training, conduct research in centres of excellence, and participate in our congresses.

In addition, the ESC investment included:

- Creation of the ESC Young Committee – representing 13 ESC Young Groups at board level;
- Provision of grants and career development opportunities, special membership packages and integrations into key ESC activities at a volunteer level; and
- A platform for career development. Some 70% of abstract presenters and 25% of delegates at ESC Congress 2019 were under 40 years of age, many of them supported by ESC Educational Grants.

COVID-19

Cardiovascular health professionals and patients have been profoundly impacted by the COVID-19 pandemic. Our response to this crisis, and that of our community, was swift and impactful. To coordinate activities, the ESC created a dedicated resource page which, updated daily, was consulted by more than 300,000 visitors from around the world. Content included:

- Experiences and insights from ESC Members on the frontlines.
- The ESC guidance paper on managing cardiovascular patients in the COVID-19 context. It was consulted more than 154,000 times and continues to be updated as new evidence comes to light.
- Patient information, curated by the ESC Patient Forum, that was consulted more than 1,300 times per day.
- The results of our STEMI surveys supported a “stay at home during COVID-19 does not apply to heart attacks” campaign, championed by the ESC and National Cardiac Societies.

Through these activities we have learnt from each other, informed our patients and saved lives.

We are making great strides in our mission, though not enough in view of the number of patients still suffering from cardiovascular disease. Whatever success we do enjoy is the result of the tireless efforts of each and every one of our members and volunteers.

Special thanks to the National Cardiac Societies, the many organisations which work closely with the ESC and our industry partners, all of whom are integral to the fight against cardiovascular disease. I also offer a personal and heartfelt thank you to the 2018-2020 ESC Board. Without their expertise, passion and unwavering commitment to the ESC's activities, none of these achievements would have been possible.

I am immensely proud to have been at the helm of the ESC ship for the last two years. I now hand over this responsibility – and privilege – to my much-valued colleague and friend, Prof. Stephan Achenbach. Stephan has been a central figure at the ESC for many years and, having achieved so much for this society already, is well placed to steer us through the exciting opportunities and uncharted waters that lie ahead.

Professor Barbara Casadei, FESC
ESC President 2018-2020

European Society of Cardiology Board 2018 - 2020

Elected voting members

President

Prof. Barbara Casadei, United Kingdom

President-Elect

Prof. Stephan Achenbach, Germany
Cardiovascular Round Table

Secretary/Treasurer

Prof. Dan Atar, Norway

Vice-Presidents

Prof. Cecilia Linde, Sweden

Working Groups and Councils, Women in ESC, ESC Membership and Young Communities

Prof. Franz Weidinger, Austria

National Cardiac Societies and Advocacy

Prof. Jose Luis Zamorano, Spain

National Cardiac Societies and Global Affairs

Councillors

Prof. David Erlinge, Sweden

E-communication, Media and Registries

Prof. Stephan Gielen, Germany

Advocacy and Young Communities

Prof. Michael Glikson, Israel

Congress Programme Committee, ESC Membership, Women in ESC/Diversity

Prof. Bernard Iung, France

Congress Programme Committee, Clinical Practice Guidelines, Media

Prof. Julia Mascherbauer, Austria

Cardiovascular Round Table, Young Communities, Women in ESC/Diversity

Prof. Zuzana Motovska, Czechia

E-communications, ESC Membership

Ex-Officio voting members

Past-President

Prof. Jeroen Bax, Netherlands - *Chairman of the Nominating Committee*

Associations Representatives

Associate Prof. Tina Hansen, Denmark - *ACNAP Representative*

Prof. Susanna Price, United Kingdom - *ACVC Representative*

Prof. Thor Edvardsen, Norway - *EACVI Representative*

Prof. Paul Dendale, Belgium - *EAPC Representative*

Prof. Andreas Baumbach, United Kingdom - *EAPCI Representative*

Prof. Hein Heidbuchel, Belgium - *EHRA Representative*

Prof. Petar Seferovic, Serbia - *HFA Representative*



Non-voting members

Prof. Lina Badimon, Spain - *Advocacy*

Prof. Sarah Clarke, United Kingdom - *Media*

Prof. Donna Fitzsimons, Ireland - *Patient Engagement*

Prof. Christopher Peter Gale, United Kingdom - *EURObservational Research Programme of Registries*

Prof. Ian Graham, Ireland - *Statutes Revision Task Force*

Prof. Diederick Grobbee, Netherlands - *Global Affairs*

Prof. Tomasz Guzik, United Kingdom - *Research and Grants*

Prof. Paulus Kirchhof, United Kingdom - *Education*

Prof. Thomas Lüscher, Switzerland - *Publications*

Prof. Gunnar Olsson, Sweden - *Advisor*

Prof. Silvia Priori, Italy - *Congress Programme Committee (Chair)*

Prof. Marco Roffi, Switzerland - *Congress Programme Committee (Chair)*

Mr. Jonathan Sellors, United Kingdom - *Advisor*

Prof. Stephan Windecker, Switzerland - *Clinical Practice Guidelines*

Mrs. Isabel Bardinnet, France - *Chief Executive Officer*

Mrs. Nathalie Lefebvre, France - *ESC Chief Financial Officer*

Mrs. Marina Ximeris, France - *ESC Board Secretary*



ESC Activity Reports



Advocacy

ESC advocacy contributes to the mission of the ESC by bringing scientific knowledge about CVD to decision-makers so that they can shape evidence-based policy in support of heart health. This is of key importance as science alone is not sufficient to reduce the burden of cardiovascular disease: to achieve this mission it is essential that scientific progress be complemented by a supportive policy and regulatory environment.

In the reporting period, ESC advocacy activities included:

- **Advocacy and the ESC Community**

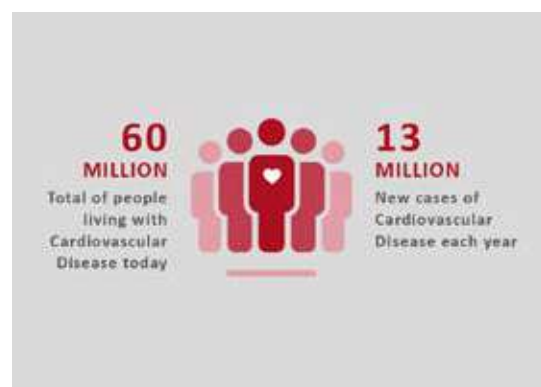
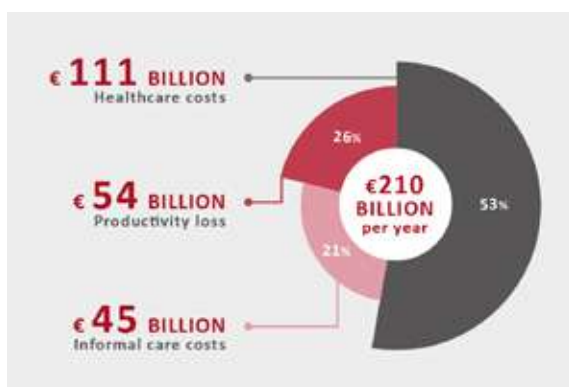
Whilst the ESC undertakes advocacy action at the European level, National Cardiac Societies have critical roles to play at a national level.

With a view to involving more ESC Member National Cardiac Societies in advocacy activities, the chair of the ESC Advocacy Committee met with leaders of National Cardiac Societies to discuss how the ESC and NCS can join forces to advocate for cardiovascular health. There was consensus that CVD is no longer perceived as a priority by decision-makers and that urgent and bold action is needed to place CVD high on policymakers' agendas.

- **Advocating for CVD To Become a Policy Priority**

Following European parliamentary elections and the appointment of a new European Commission in autumn 2019, we have been working to raise EU decision-makers' awareness of the burden of CVD and to push for EU action to address it. This has involved reaching out to the new European Commissioner for Health, as well as to the health ministers of countries holding the rotating presidency of the EU, in order to push for greater action at the EU level in support of heart health. We also launched the **MEP Heart Group**¹ in the European Parliament, composed of around 40 parliamentary members committed to championing cardiovascular health as a policy priority.

Our advocacy efforts have been supported by publication of *ESC Cardiovascular Realities 2019*², an advocacy booklet containing a call to action to decision-makers and a wealth of CVD data across several indicators from the ESC Atlas of Cardiology.



¹ www.mepheartgroup.eu/

² www.flipsnack.com/Escardio/esc-cardiovascular-realities-2019/full-view.html



- **Encourage Public Health and Preventive Cardiology**

Mobilising policymakers to develop policies to reduce the risk of developing CVD is an important advocacy objective. During ESC Congress 2019, we successfully launched the new **ESC Heart Healthy Cities** initiative which brings together scientists and city representatives to support the identification and implementation of effective measures that promote healthier urban environments. The initiative was complemented by a public event which took place in the city centre of Paris during ESC Congress to raise awareness of CVD and its risk factors.



The ESC remains an active member of the European Chronic Diseases Alliance (ECDA), founded in 2010 to reverse the alarming rise in chronic diseases by providing leadership and policy recommendations based on contemporary evidence. Our main activities include advocacy actions requesting that the new European Commission and Parliament make chronic disease a priority of EU policymaking.

- **Driving Excellence in Research and Innovation**

The burden of CVD is bigger than the societal cost related to other diseases, yet CVD research funding lags behind research funding in other clinical areas. To address this imbalance, we have worked closely with the ERA-CVD network to develop a **Strategic Research Agenda for CVD**³. We have promoted the document widely and used it to raise awareness with decision-makers at the national and European level about the importance of continuous and increased investment in cardiovascular research.

As **Horizon Europe**, the new €100 billion EU research programme for 2021-27, is being shaped, we have taken every opportunity to promote CVD as a research priority. This has included meeting the new

³ www.escardio.org/The-ESC/Advocacy/Partnerships/esc-pushing-for-more-eu-research-funding

European commissioner for research and responding to three European Commission consultations on Horizon Europe, as well as speaking at high-level EU conferences. We have also worked to make the most of the funding opportunities for CVD research under the current EU research programme, informing the ESC community of relevant calls for proposals and providing guidance for submissions. This has resulted in four successful new EU-funded projects in the last call, bringing to 12 the number of EU projects involving the ESC.

As a member of the European Commission's eHealth Stakeholder Group, the ESC contributed to the drafting of three policy reports covering the following topics: care continuum, citizen and health data, and reimbursement of digital health products and solutions. The reports have provided the European Commission with a series of recommendations to move eHealth forward at the EU level.

The ESC has also worked with the Biomedical Alliance in Europe, co-chairing a task force on open access publication and pressing for a longer transition period in order to mitigate implications and ensure a successful transition to open access.

- **Regulatory Affairs**

The activities of the ESC Advocacy Committee have been complemented by the work of the ESC Regulatory Affairs Committee (part of the Advocacy Committee), which has been working to ensure that safe, effective and innovative health technologies reach patients in a timely manner. In addition to providing extensive expertise for implementation of the new EU Medical Device Regulation, we have pressed for a new legal framework for EU cooperation on health technology assessment and explored the implications of the new EU General Data Protection Regulation on cardiac implantable electronic devices and diagnostic imaging devices.

The ESC has also advocated to improve complex and ineffective clinical trial regulation. We have pressed for the revision of the international standard for clinical trials (ICH-GCP) so that more and better clinical trials can take place, including the possibility of conducting registry-based clinical trials. Our objectives are to develop new alternative clinical practice guidelines for trials and to support researchers to use them in practice.



Guaranteeing timely access to safe, innovative and efficacious health technologies



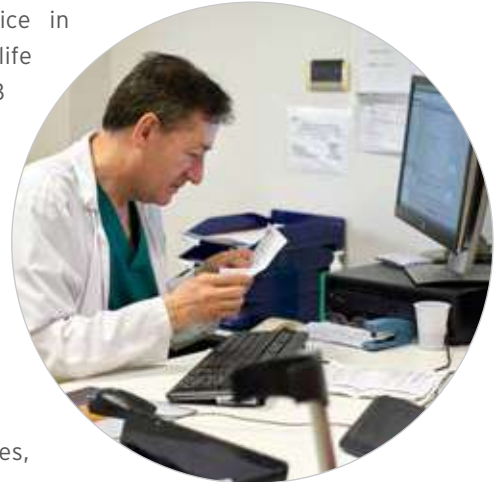
Research

ESC Registries: EURObservational Research Programme (EORP)

EORP's major goal is to record and evaluate medical practice in Europe and around the world based on the collection of real-life data. This work is conducted with the ESC's unique network of 28 subspecialty communities, 57 National Cardiac Societies and 47 Affiliated Cardiac Societies.

EORP is now demonstrating its potential with the implementation of **21 European registries** covering a large spectrum of cardiovascular diseases:

- Common diseases to assess the epidemiology and management of diseases with a major impact on public health
- Intervention to assess the impact of interventional procedures, imaging techniques and therapeutic tools/diagnostic procedures
- Rare diseases to assess the epidemiology and management of orphan, rare and complex diseases
- Cardiovascular prevention, including a structured approach to prevent disease (e.g. risk factors, epidemiology and preventative measures)



Achievements in the reporting period

- **Launch of 7 new registries:**
ROPAC, Heart Failure III, TAVI, N-STEMI, EURECA, SCAD, InterAspire Pilot
- **3 Studies DBL for main part and 3 follow-up part:** AH III, CMY, EHAFAR
- **3 Studies DBL for follow-up part:** VHD II, ACS-STEMI I, EURO-ENDO
- **34 ongoing publications submitted to journals and awaiting results**
- **1 congress - sessions and abstracts:** ESC Congress Paris - EORP SYMPOSIUM

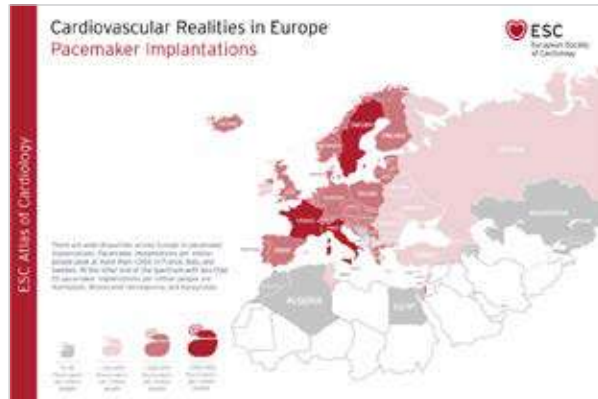
EuroHeart

The pilot project for this exciting, new, quality-care registry was announced at ESC Congress 2019. Work is ongoing to identify suitable countries to participate in the project.

Atlas of Cardiology

The ESC Atlas of Cardiology is a unique collection of qualitative and quantitative data, mapping cardiovascular health economics across ESC member countries. This comprehensive array of cardiovascular disease statistics covers major risk factors for cardiovascular disease, disease prevalence and mortality in each participating country.

In the reporting period, results from the second round of data collection were published in the second Cardiovascular Disease Statistics paper in the *European Heart Journal* in December 2019. It provides a contemporary analysis of cardiovascular disease (CVD) statistics across 56 member countries, with particular emphasis on international inequalities in disease burden and healthcare delivery, together with estimates of progress towards meeting 2025 World Health Organization (WHO) noncommunicable disease targets.



The ESC Health Policy Unit coordinates the project and maintains a central database.

In addition, the ESC continues work on two subspecialty Atlases:

- **The Heart Failure Atlas**, which represents the first systematic survey on heart failure epidemiology and resources collected from 42 national societies of heart failure, was presented at the Heart Failure 2019 congress.
- **The Atlas in Interventional Cardiology**, whose second edition collects data on interventional cardiology practice in Europe disclosing healthcare gaps and inequalities across countries.

The first scientific publications from each of these subspecialty Atlases have been drafted and are slated for publication in 2020.

Burden of Disease

The collaboration between the University of Oxford and the European Society of Cardiology (ESC) (Oxford-ESC Burden of Cardiovascular Disease) will estimate the burden of cardiovascular disease in ESC member countries.

While evaluating the overall burden of cardiovascular disease at national levels, the study will also estimate the healthcare burden of selected cardiovascular diseases at the patient level in Europe, as well as explore trends in costs of cardiovascular disease and the association between healthcare resources, treatments and patient outcomes.

CardioScope II

Since 2014, CardioScope has been the most comprehensive European database on cardiovascular research. The database outlines the cardiovascular research and innovation landscape across Europe, providing information on the distribution and focus of funding, and establishing the extent of duplication across national research programs and the existence of gaps that reduce opportunities for innovation.

To assure the continuity of this database, CardioScope II has been activated. CardioScope II will establish a reliable, comprehensive, and continuously up-to-date online database of CVD funding throughout Europe – useful for researchers, scientific organisations and funding agencies. It should guide the future of CVD research in Europe, encourage synergies and cooperation, reduce duplication of efforts, and identify gaps and priorities that need attention from funding organisations. The updated website and new functionalities are to be published in 2020.



EU Funded Projects

- **AFFECT EU:** This project involves 14 EU countries. Its major goal is to develop an accurate, risk-based and ready for implementation AF screening algorithm using digital devices, for early detection and reduction of AF-related health inequities, morbidity and mortality in Europe.
- **PROFID:** This project will develop a clinical decision support tool (risk score) to predict the individual sudden cardiac arrest risk and identify those post-myocardial infarction patients that will optimally benefit from an ICD.
- **CoroPrevention:** This project has received nearly €20 million of Horizon 2020 funding to discover the lifestyle improvements and medications needed by individual patients with coronary heart disease to prevent another cardiovascular event. It features a randomised clinical trial in high risk patients with coronary heart disease identified with a new set of risk markers. The trial will test a novel, personalised prevention programme designed by the European Association of Preventive Cardiology (EAPC).
- **TO AITION:** This project works on the hypothesis that immune-metabolic dysregulation due to genetic, lifestyle and environmental risk factors affects immunity mechanisms leading to CVD-associated depression. It will effectuate basic, preclinical and clinical research applying data-driven strategies to detect and describe immune-metabolic mechanisms responsible for CVD-depression comorbidity, aiming to improve diagnosis and management of the disease.

ESC Research Grants

ESC Research Grants are given to medical graduates and researchers to undertake specialised cardiovascular research in an ESC member country centre of excellence.

In 2019: • 7 ESC Research Grants awarded

Clinical Practice Guidelines

Bringing together the expertise of representatives from ESC subspecialties, other medical specialties and National Cardiac Societies, ESC Guidelines are a trusted reference on best practices for practitioners worldwide.

ESC Clinical Practice Guidelines published at ESC Congress 2019:

- Acute Pulmonary Embolism
- Chronic Coronary Syndromes
- Diabetes, Prediabetes and Cardiovascular Disease
- Dyslipidaemias
- Supraventricular Tachycardia

The 2019 Guidelines were downloaded more than 925,000 times between the end of August 2019 and the end of March 2020.

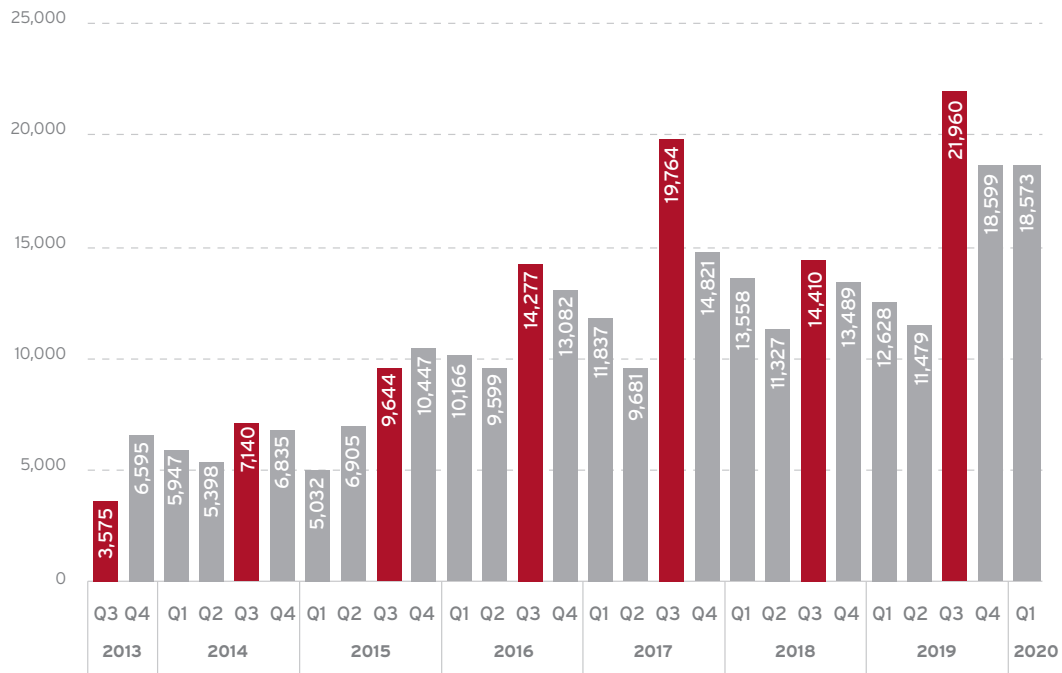
2019 Clinical Practice Guideline Downloads

Title	2019	2020	Total
2019 ESC Guidelines for the management of patients with supraventricular tachycardia	91,010	36,389	127,399
2019 ESC Guidelines for the diagnosis and management of acute pulmonary embolism developed in collaboration with the European Respiratory Society (ERS)	169,993	75,569	245,562
2019 ESC Guidelines for the diagnosis and management of chronic coronary syndromes	130,771	53,942	184,713
2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk	159,997	66,793	226,790
2019 ESC Guidelines on diabetes, prediabetes, and cardiovascular diseases developed in collaboration with the EASD	103,712	34,902	138,614

ESC Pocket Guidelines App

The ESC Pocket Guidelines Mobile App is available on all application platforms and contains algorithms, calculators, charts and scores to support the clinical decision-making of healthcare professionals working in the cardiovascular field. The app is updated whenever new ESC Clinical Practice Guidelines are published.

Figure 1. Quarterly Downloads of the Pocket Guidelines App from Android and Apple App Stores



Since its launch in August 2013, more than 143,000 unique users accessed the app, downloading over 2.8 million unique pocket guidelines (as of 31 March 2020).



Grants and Fellowships



The ESC is committed to supporting the cardiology community through a range of grants and fellowships. These are designed to support training and research in centres of excellence, as well as participation in educational courses and congresses.

In the reporting period, the ESC gave a total of €1,865,394 in grants to the cardiology community.

Grant type	Total in €
ESC Research and Training Grants	€597,917
Scholarships for MSc in Clinical Trials	€98,850
Grants for Women Transforming Leadership Course with Saïd Business School, Oxford	€52,137
ESC Congress Educational Grants	€299,200
ESC Congress Awards	€38,000
ESC Association, Council and Working Group grants and awards*	€569,290
Subspecialty congress awards	€160,000
Board donations for charities European Heart for Children	€50,000
TOTAL	€1,651,356

* A total of €276,000 was given to the ESC by industry in the form of unrestricted grants.

Publications

The *European Heart Journal* (EHJ) maintained its top journal ranking in the cardiac and cardiovascular systems category with a record impact factor (IF) of **24.889**.

Three ESC journals received their first impact factors: *European Heart Journal - Cardiovascular Pharmacotherapy* (**6.723**), *European Heart Journal - Acute Cardiovascular Care* (**3.734**); and *ESC Heart Failure* (**3.407**).

In addition, *European Journal of Heart Failure* (**12.129**), *Cardiovascular Research* (**7.014**), and *European Journal of Preventive Cardiology* (**5.64**) all obtained record impact factor scores.

Online journal usage rose by an impressive **16%** to over **18.6 million** full text article downloads in the 2019 calendar year.



2019 @ESC_Journals
data compared to 2018



+ 110% increase

in total engagement

Total engagement is the total number of likes, @replies, retweets, post link clicks, other post clicks, and other engagements.



+ 88.5% increase

in impressions



+ 173% increase

in followers

Textbooks



- In 2019 the new edition of the ESC flagship book, *The ESC Textbook of Cardiovascular Medicine* (3rd Edition), was awarded first prize in the cardiology category by the British Medical Association.
- *ESC CardioMed*, the dynamic online version of *The ESC Textbook of Cardiovascular Medicine*, saw two major updates between April 2019 and March 2020 maintaining its high quality and current status.
- Newly published books included the long-awaited *ESC Textbook of Sports Cardiology* and the popular *ESC Handbook on Cardiovascular Pharmacotherapy*, which is already available in Japanese.



Education

ESC Education Conference

The dialogue between the national directors of training and education and the ESC education committee drives the development of needs-driven, educational activities relevant to healthcare professionals in each country. The 7th ESC Education Conference was held at the European Heart House in Sophia Antipolis, France on 30 and 31 January 2020.

85 participants from 44 ESC member countries discussed the theme 'From Competence to Good Clinical Care.'

New in the reporting period

- **Core Curriculum**

The ESC Core Curriculum for the cardiologist was written over the last two years in an iterative process involving over 80 representatives from the ESC and UEMS, including education experts, specialty and subspecialty trainers, trainees, and patients. This 2020 update is the 4th edition and reflects contemporary and emerging requirements for the practice of cardiology and the resulting training needs.

The updated Core Curriculum will be released at ESC Congress 2020 - The Digital Experience.

NEW

- **ESC Campus**

The ESC has made a significant investment in its future education facilities by purchasing a dedicated campus that will provide state-of-the-art training.

- The ESC Live Educational Events Endorsement Policy was successfully deployed across the ESC family over the last two years. One single entry point is available for requesters to submit their endorsement application forms.

Online learning

- **ESC Webinar Series in general cardiology and subspecialties of cardiology**

In addition to the eight webinars in general cardiology focusing on recently published ESC Clinical Practice Guidelines and Topical Tracks, the ESC's subspecialty communities delivered 59 webinars (2019: 45) with an average of 493 participants (2019: 300) per live session in the reporting period.

- **ESC e-Learning Platform**

Seven areas of study are offered, including general cardiology, imaging, arrhythmia, acute care, PCI, prevention and heart failure. In 2019, more than 3,500 unique users engaged with the 900+ courses on the platform. There have been 9,000 CME Certificates distributed since the ESC e-Learning Platform was accredited by the UEMS EACCME in December 2017.

- **ESC Clinical Case Gallery**

The ESC Clinical Case Gallery features the nine main topics of the ESC topic list. Published cases are of high scientific and educational quality in the light of current ESC recommendations.

ESC has made a significant investment in its future education facilities by purchasing a dedicated campus that will provide state-of-the-art training



Published cases in the ESC Clinical Case Gallery are featured in the ESC's social media and newsletters. The best cases from the ESC Clinical Case Gallery are offered for publication in the *EHJ-Case Reports*. More than 200 cases have been published in the ESC Clinical Case Gallery between February 2019 and March 2020.

All the calls for clinical cases of the subspecialty congresses were hosted by the dedicated congress submission platform in 2020 (602 submissions in total). In addition, 682 cases have been submitted through the Call for Clinical Cases for ESC Congress 2020.

Face-to-face learning

European Heart Academy

Championing excellence and innovation by fostering future leaders in cardiovascular medicine.

In collaboration with renowned universities, the European Heart Academy prepares cardiology professionals to become tomorrow's leaders in their fields by providing quality, innovative executive programmes. The academy runs four successful programmes leading to recognised postgraduate degrees:

- In 2019, the European Heart Academy launched a new distance-learning course in collaboration with the University of Oxford. This programme leads to a **master's degree in clinical trials with a focus on cardiology**. It is a unique opportunity to get in-depth training and understanding of how to plan and conduct randomised clinical trials.
- **Master of Science (MSc) in Health Economics, Outcomes and Management in Cardiovascular Sciences** in collaboration with the London School of Economics. The programme counts more than 110 alumni and 60 students-in-training from 47 countries.
- **Diploma of Advanced Studies (DAS) in Cardiac Arrhythmia Management** in collaboration with Maastricht University and the European Heart Rhythm Association (EHRA). With 32 alumni and 32 participants-in-training, this one-of-a-kind programme combines state-of-the-art cardiovascular electrophysiology, health economics and leadership coaching.
- **Certificate of Advanced Studies (CAS) in Heart Failure** developed in collaboration with the University of Zurich, University Hospital Zurich and the ESC Heart Failure Association of the ESC (HFA). Some 180 cardiology professionals have already graduated and 60 more are currently participating in the programme to improve their diagnostic clinical skills and to increase their therapeutic knowledge.



ESC Subspecialty Courses

In addition to postgraduate courses, ESC subspecialty communities organised 20 live teaching courses at the European Heart House and at other centres around Europe.



Assessment and Evaluation Programmes

Certification Activity

In 2019, the ESC and ESC associations delivered 19 exams to 2,254 candidates. The European Exam in General Cardiology (EEGC) is growing in popularity, expanding from 13 to 16 participating countries. In June 2019, 575 candidates sat the examination.

Quality Improvement Programmes, Research in CME and Evidence-Based Education

The ESC education committee delivers educational interventions that improve CV outcomes. This requires a systematic approach to identifying gaps in practice and addressing them through comprehensive, instructional programmes that evaluate the impact of these educational interventions and report the findings in peer-reviewed journals. A programme on stroke prevention and management in atrial fibrillation is currently being developed. The evidence-based, blended-learning, educational intervention will be deployed in France, Germany, Italy, Poland, Spain and the United Kingdom. A quantitative study using a cluster randomised trial in patients with atrial fibrillation will be used to assess outcomes.

● **ESC Training Grants**

ESC Training and Nursing Grants allow young cardiologists and nurses to train in centres of excellence in a country other than their own.

In 2019:

- **19 Training Grants**
- **2 Nursing Grants**

Congresses



We are passionate about congresses because they are powerful platforms to disseminate highly relevant research findings and to update clinical best practices. Knowledge-sharing in this way can have a profound impact on patient care and is at the heart of our mission.

In 2019 we celebrated record attendance for many of our congresses, including our flagship event, ESC Congress.

In the reporting period, the ESC organised **six subspecialty congresses, two new congresses - the first ESC Digital Summit and ESC Asia with APSC & AFC** - as well as **ESC Congress in Paris, France**. A total of **48,366 participants from 180 different countries** took part in these events, underlining the continued value of medical congresses for the global cardiology community.

At the end of our fiscal year, we were faced with the global COVID-19 pandemic, which meant that for the first time in our history we cancelled two of our subspecialty congresses: Acute Cardiovascular Care 2020 and EHRA 2020.

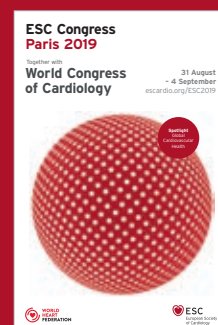
However, the ESC and its subspecialty communities remain committed to sharing the very best science and clinical practice updates with the global cardiology community. To that end, we launched EHRA and ACVC Essentials 4 You - online platforms that share Late-Breaking Science, publications, and important consensus documents.

The ESC and its subspecialty communities remain committed to sharing the very best science and clinical practice updates with the global cardiology community

ESC Congress 2019

Annual congress of the European Society of Cardiology

- Participants: **33,510**
- Abstracts submitted: **11,318**
- ESC scientific programme sessions: **646**



EuroPrevent 2019

Annual congress of the European Association of Preventive Cardiology

- Participants: **1,264**
- Abstracts submitted: **792**
- Sessions: **67**

**EuroCMR 2019**

Annual congress on CMR of the European Association of Cardiovascular Imaging

- Participants: **1,379**
- Abstracts submitted: **486**
- Sessions: **71**

**ICNC 2019**

International Conference on Nuclear Cardiology and Cardiac Computed Tomography

Organised by the European Association of Cardiovascular Imaging (EACVI), the European Association of Nuclear Medicine (EANM) and the American Society of Nuclear Cardiology (ASNC)

- Participants: **704**
- Abstracts submitted: **260**
- Sessions: **47**

**Heart Failure 2019**

Annual congress of the Heart Failure Association of the ESC

- Participants: **5,431**
- Abstracts submitted: **1,721**
- Sessions: **204**

**EuroHeartCare 2019**

Annual congress of the Association of Cardiovascular Nursing and Allied Professions

- Participants: **495**
- Abstracts submitted: **313**
- Sessions: **24**

**ESC Digital Summit 2019**

ESC's new annual summit focusing on digital health

- Participants: **540**
- Sessions: **33**

NEW



2019

NOVEMBER

ESC Asia with APSC & AFC **NEW**
ESC's new annual congress for Asian cardiologists

- Participants: **951**
- Sessions: **23**



DECEMBER

EuroEcho 2019
Annual congress on Echocardiography of the European Association of Cardiovascular Imaging

- Participants: **4,092**
- Abstracts submitted: **1,105**
- Sessions: **274**



2020

MARCH

Acute Cardiovascular Care 2020
Cancelled due to COVID-19 pandemic

Annual congress of the Association for Acute CardioVascular Care



EHRA 2020
Cancelled due to COVID-19 pandemic

Annual congress of the European Heart Rhythm Association



Digital Health

Digital health technologies are transforming healthcare - and never more so than now when COVID-19 has radically impacted the way health services, physicians and patients use technology to access and deliver patient care.

ESC Digital Summit - Leadership

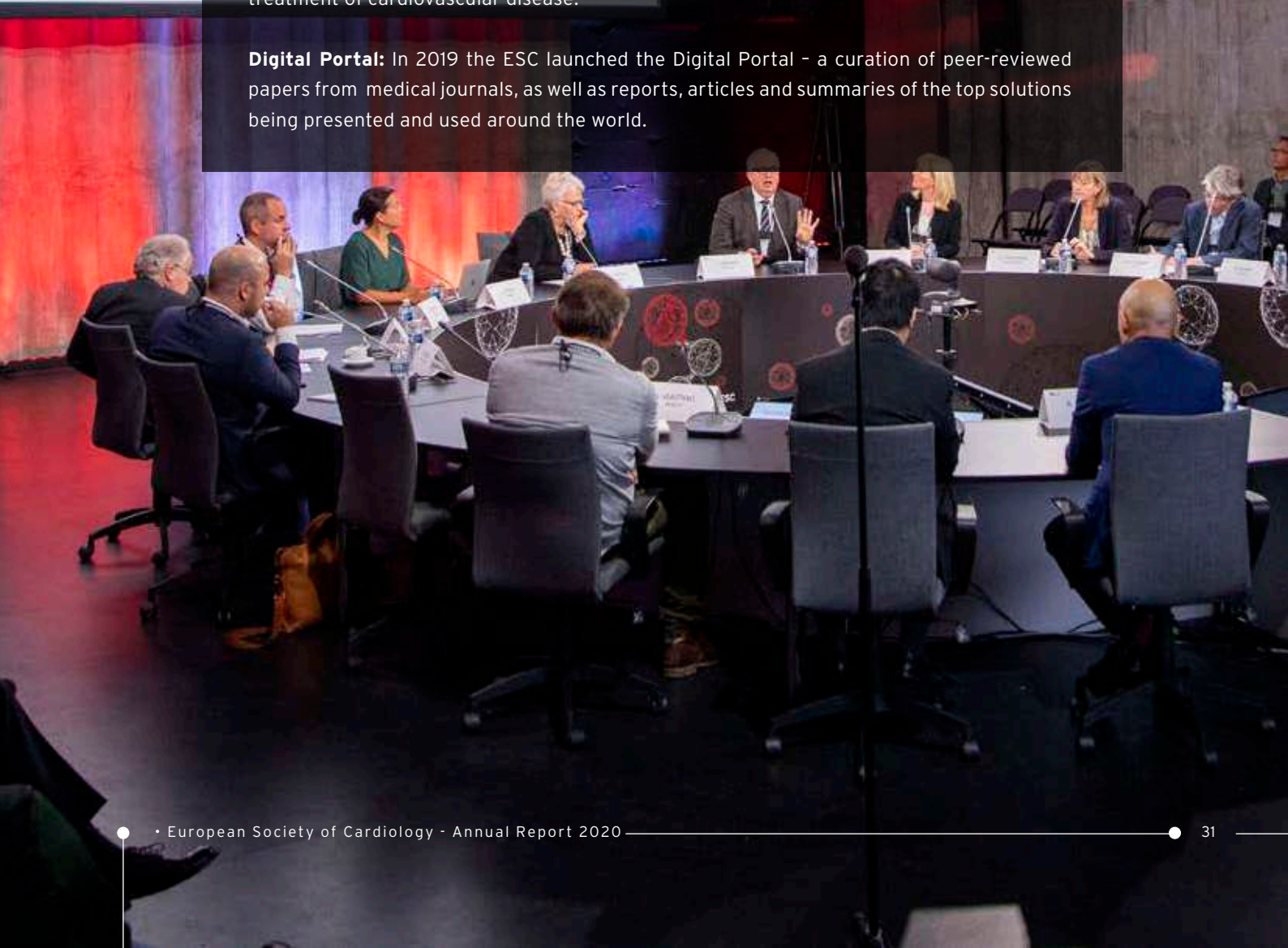
In October 2019, the first ESC Digital Summit in Tallinn, Estonia, showcased sessions, round tables and discussions with patients, politicians, innovators and academics on how to shape the way digital health should, and could, impact cardiology in the future.

- Participants: **540**
- Sessions: **33**

Best Practices Dissemination

ESC Congress: Following the success of the trial Digital Health Area in 2018, ESC Congress 2019 had phenomenal success hosting scientific sessions, presentations and information on two large stages dedicated to digital health, sharing with the cardiology community the most impactful and safe applications of digital health solutions in the prevention and treatment of cardiovascular disease.

Digital Portal: In 2019 the ESC launched the Digital Portal - a curation of peer-reviewed papers from medical journals, as well as reports, articles and summaries of the top solutions being presented and used around the world.





Exclusive networking activities created an incomparable sense of belonging among the ESC Community at ESC Congress.



Membership

Membership is one of the five pillars of the ESC's 2016-2020 strategic plan. The aim of the scheme is to provide access to scientific and educational resources for the continuing professional development of healthcare professionals worldwide while fulfilling the ESC's mission.

ESC Membership Committee

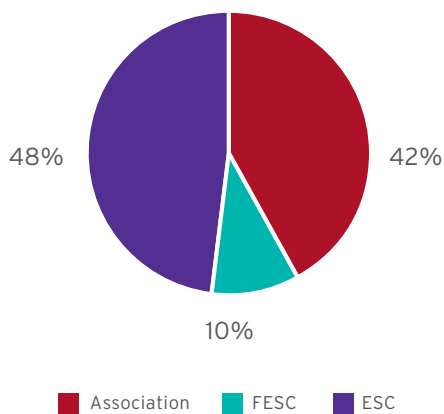
The ESC Membership Board Committee, created in August 2018, has been focusing on five priority topics addressed by dedicated subgroups:

- Socio-economic barriers in low- and middle-income (LMI) countries
- Innovative products/services
- Member recruitment and retention
- Young members and women cardiologists
- Simplification of membership scheme (with associations)

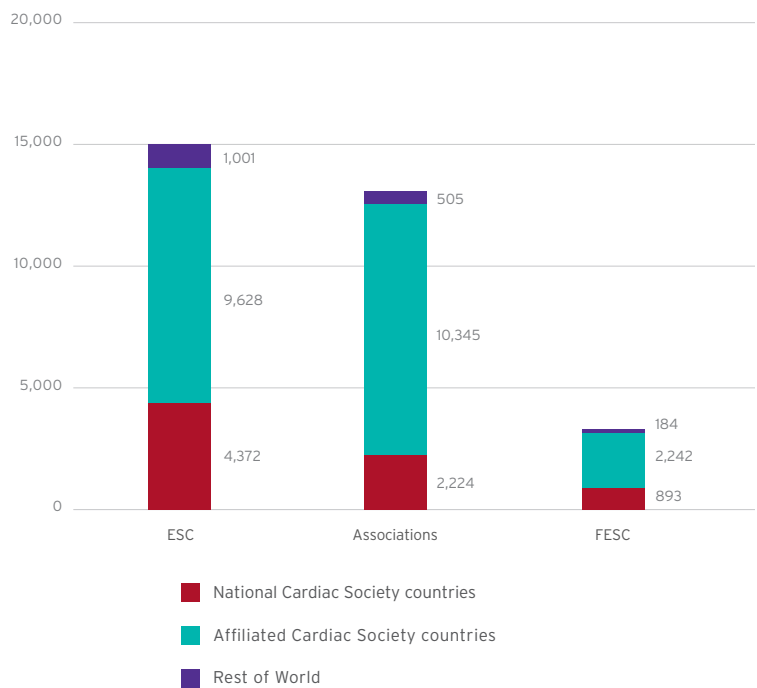
ESC Membership

At 31 March 2020, there were **26,602 active members** from around the world, including **15,001 ESC Professional Members**.

Active membership (at 31 March 2020)



Active memberships in ESC regions (at 31 March 2020)





New membership developments

- **A new global digital campaign** was an effective recruitment method showing a 280% ROAS (return on advertising spend).
- **A new trial offer** - over 2,000 cardiovascular professionals benefited from a free ESC Professional Membership for three months. After the trial period, 6.5% became paying members.
- A scientific content lead editorial calendar was developed for social media, generating further awareness about the ESC and its Membership Programme, enabling deeper interaction and engagement with existing and new members.
- **Development of ESC Membership in institutions** was explored, involving volunteers from the ESC Membership Committee.
- **Communication and representation during National and Affiliated Cardiac Societies congresses** continued to reach a diverse audience of cardiovascular professionals. A new **Membership Communication Toolkit** was developed to facilitate communication. **Automatic emails** were developed for new contacts made at ESC stands.
- Successful **promotion of ESC Membership during ESC Congress 2019** resulted in 2,006 membership subscriptions.
- Several **new membership concepts were tested during ESC Congress 2019 on-site survey** (e.g. multiyear membership, referral programme).
- Work continued to **simplify the membership scheme** across the ESC and subspecialty associations.
- New payment facilities were explored.
- A new **'education and membership' package** was developed for the Asian Pacific Society of Cardiology (APSC) and National Cardiac Societies. This enabled 685 to access the ESC Professional Membership in preparation for the EEGC.
- Joint membership development with National and Affiliated Cardiac Societies was further pursued through dedicated meetings throughout the year. The ESC is eager to continue collaboration with many national societies to provide their members with enhanced benefits when joining the ESC global cardiovascular community.

Member Experience

Professional Members at ESC Congress 2019 in Paris were offered an extremely positive on-site experience through the ESC Professional Members Lounge in the ESC Plaza. Exclusive networking activities, specific sessions, and an opportunity to work and relax in a comfortable environment created a sense of belonging among ESC community members and delegates who felt more engaged with the ESC, according to a post-congress survey. Improved member support was developed with a membership assistance desk at ESC Congress and a dedicated membership telephone number.

Young Cardiologists



The ESC Young Community represents a wide range of specialties at each career stage in cardiology. The newly created ESC Board Committee for Young Cardiovascular Professionals is here to support the ESC mission by guiding and developing activities and products for this section of the ESC community.

Acute Cardiovascular Care

Basic Science

Development, Anatomy & Pathology

Electrophysiology

Heart Failure

Imaging

Intervention

Myocardial and Pericardial Diseases

Nursing and Allied Professions

Pharmacotherapy

Prevention

Thrombosis

The ESC undertook the following activities to support these groups:

ESC Congress 2019

- **FREE registrations:** Some 1,045 cardiologists under the age of 40 (773 nominated by National Cardiac Societies and 272 by Affiliated Cardiac Societies) attended ESC Congress 2019 with free registration.
- A special registration fee was offered to those delegates 40 and under and to abstract presenters 40 and under.
- Dedicated sessions were held for Cardiologists of Tomorrow and Scientists of Tomorrow.
- Clinical case sessions provided the opportunity to present science and to network.
- Six Young Investigator Award (YIA) and one Best Clinical Case Award winners were provided with financial support from the ESC.
- A simulation workshops evening was organised with the young group of the French Society of Cardiology (six workshops in four different topics of cardiology, gathering 112 participants from 34 different countries).



- Virtual competition with a virtual patient was followed by 20 NCS young teams.
- A young social event took place in the presence of Prof. Barbara Casadei ESC President; Prof. Martine Gilard, President of the French National Cardiac Society; Prof. Stephan Achenbach, ESC President-Elect; and Prof. Cecilia Linde, ESC Vice-President for ESC Membership and Young Communities.

Mentoring Sessions

Between April 2019 and March 2020, speed mentoring sessions were organised during eight ESC congresses (EuroPrevent 2019, EuroHeartCare 2019, EuroCMR 2019, ICNC 2019, HFA 2019, ESC Congress 2019 and EuroEcho 2019). These sessions enabled face-to-face meetings between 104 mentors and 166 mentees.

ESC Spring Summit 2019

Young leaders from all National Cardiac Societies were invited for the second year to join this strategic event at the European Heart House. A group of 27 young cardiologists participated in the event.

ESC Professional Membership

The ESC supports cardiologists-in-training. A particular focus is put on career development by facilitating their access to a wide range of scientific and educational resources. ESC Professional Membership is available at a significantly reduced fee of €30, as well as in combination with any other ESC association membership for just €72.

Cardiovascular Round Table

The Cardiovascular Round Table (CRT) is a strategic forum to facilitate high-level and transparent dialogue between ESC leadership and healthcare industry partners to identify and discuss key pivotal issues for the future of cardiovascular health in Europe.

With Alnylam Pharmaceuticals joining in November 2019, the industry members of the CRT now include 21 pharmaceutical and medical equipment manufacturers.

Plenary Meetings

The CRT organised two plenary meetings in the reporting period:

- 'Innovation in Cardiovascular Medicine - a Joint Roadmap' - May 2019. The objectives were to:
 - *Discuss and align on challenges and opportunities facing the development of new medicines for CVD;*
 - *Learn from successful case studies in the past and discuss potential solutions for the future; and*
 - *Identify hurdles of implementation and approaches to overcome them.*
- 'The Digital Health Transformation: Implications on Research and Development, Patient Management and the Regulatory Framework' - October 2019.

Ongoing Activities:

The CRT continues to work with academia, industry and regulatory authorities on the requirements for registration in specific therapeutic areas. Four workshops were organised:

- 'Novel Oral Anticoagulant (NOAC) Research and Development for Paediatric Use' - June 2019. Jointly organised with the Association for European Paediatric and Congenital Cardiology to provide input to an EMA public consultation.
- 'Development, Validation and Implementation of Biomarkers in Cardiovascular Medicine'- June 2019
- 'The Cancer Patient and Cardiology' - January 2020
- 'Chronic Coronary Syndromes' - February 2020

The CRT has developed articles arising from discussions at the following workshops or meetings:

- 'Cardiovascular care of patients with stroke and high risk of stroke. The need for interdisciplinary action: a consensus report from the European Society of Cardiology Cardiovascular Round Table'
European Journal of Preventive Cardiology - October 2019
- 'Understanding the use of observational and randomised data in cardiovascular medicine'
European Heart Journal - February 2020

CRT participating companies

Abbott Amgen AstraZeneca Bayer Boehringer-Ingelheim Bristol-Myers Squibb Daiichi-Sankyo	Edwards Lifesciences GE Healthcare Medtronic MSD Novartis Pharma Novo Nordisk Pfizer	Philips Roche Diagnostics Sanofi Servier Siemens Vifor Pharma
---	--	--

Patient Engagement



Patient engagement allows the ESC to combine its collective professional expertise with the unique insights provided by patients, helping to achieve more effectively its mission of reducing the burden of cardiovascular disease. This is why the ESC Patient Forum was established in 2018 as the mechanism facilitating patient engagement across the range of ESC activities.

The Patient Forum currently counts 20 members from 12 countries living with different cardiac conditions, with recruitment still ongoing. The patients participate in their personal capacities, not as representatives of patient organisations. Patients are invited by ESC volunteers to join the Patient Forum with membership criteria being fluency in English and sufficiently stable health to travel internationally. In the second year since its establishment, the ESC Patient Forum has made substantial progress. It has engaged in a broad range of ESC activities, establishing strong links with ESC associations, councils, working groups and committees. These activities include:

- Two patients sitting on the 2021 Heart Failure Guidelines Task Force and one patient sitting on the 2021 CVD Prevention Guidelines Task Force;
- Two patients sitting on the ESC Core Curriculum Task Force for the 2020 update;
- Holding a dedicated patient engagement session at ESC Congress 2019 in Paris with Patient Forum members among the speakers and chairs;
- Three Patient Forum members participating in Round Table discussions at the first ESC Digital Summit in Tallinn in October 2019;
- Three patients attending the HFA Patient Care Workshop in Dubrovnik in October 2019 and providing feedback on an HFA position paper on palliative care;
- Up to eight patients participating in the EORP Symposium, National Guidelines Coordinators Meeting and the 7th ESC Education Conference during Scientific Affairs Week in January 2020;
- Patient Forum members providing feedback on an EAPCI animated video on PCIs;
- Two patients contributing to the EHRA Task Force on Quality Indicators in Atrial Fibrillation; and
- Developing a dedicated Q&A document on COVID-19 by and for heart patients.

Major objectives planned for the year ahead include recruiting more patients to the Patient Forum; patients serving as reviewers for the 2021 ESC Clinical Practice Guidelines; patients becoming members of the 2022 ESC Clinical Practice Guidelines Task Forces, and the Patient Forum getting more involved in ESC advocacy activities.

Women in ESC

The ESC aims to achieve gender equity in the cardiology profession so that patients benefit from the contribution of ALL talented cardiovascular professionals.

For the fifth consecutive year, the ESC sponsored eight grants for members to attend the **Women Transforming Leadership Programme**. This innovative executive education offering was established by the Saïd Business School in Oxford to assist women in achieving their full career potential. In 2019, 85 members applied for the grant, underlining the need for this type of training within cardiology.

Dedicated sessions and networking events were organised at ESC Congress 2019. These included a session entitled 'ESC Grants - Women Transforming Leadership Programme', a networking reception and speed-mentoring sessions allowing ESC Members to exchange with - and receive guidance from - their peers and ESC leadership.





Constituent Bodies and Partner Activities

ESC Subspecialty Communities



Association of Cardiovascular Nursing and Allied Professions (ACNAP)

President: Associate Professor Tina Hansen, FESC (August 2018-August 2020)

Mission: *To support nurses and allied professionals throughout Europe to deliver the best possible care to patients with cardiovascular disease and their families. We do this through the creation and delivery of a diverse programme of activities, including education, research and mentorship.*

Highlights

- ACNAP is a growing community of more than **10,000 active cardiovascular professionals**.
- EuroHeartCare 2019 attendance was in the Top 3 since its creation with a **record number of abstracts submitted** (310+).
- **Six live webinars** were produced with 940+ participants and **10,000+ views** of recordings.
- *European Journal of Cardiovascular Nursing* (EJCN): Impact Factor of 2.497- a new record.
- More than **2,100 members joined ACNAP** with a high renewal rate of 50%.
- **Creation of the Young Community** (YoCo) and 19 national ambassadors already appointed.
- Mapping completed for **72 nursing groups** - total of 122 national representatives.
- Leading the ESC Task Force for Allied Professionals and the ESC paper on patient reported outcomes in which the seven associations are actively involved.

Membership

The new membership model was launched a year ago, and a renewal process was introduced for the first time in 2019 to allow a stronger engagement of members. Efforts will be maintained to develop new and attractive benefits to better meet the needs of the ACNAP communities and to retain them in the association.

ACNAP counted more than 2,200 members by 31 March 2020.

- 55% nurses, 20% allied professionals, 13% physicians and 12% in other categories
- 80% are Regular Members (free) and 20% are Silver Members (fee of €45)
- 30% are under 40 years of age

ACNAP's goal is to have a strong group of 4,000 members all year long - independent of the renewal period - and double the number of allied professionals in its community.

ACNAP continued to lead the ESC Task Force on Allied Professions comprising 11 members from ESC associations and selected representatives from the main professions.





In March 2019, the task force conducted important market research to learn more about this group, identifying their needs regarding education programmes and understanding their perception of the ESC Membership offer and their willingness to subscribe, as well as their attendance at ESC events. In total, over 530 questionnaires were collected.

In June 2019, the first ESC Summit for Allied Professionals was organised during the EuroHeartCare congress in Milan - a unique opportunity for them to meet and exchange under the ESC umbrella.

Based on the outcome of the survey and discussions during the summit, the task force set up an action plan including joint webinars with EAPC and HFA, one position paper and a video series to be produced in autumn 2020.

Congress

EuroHeartCare 2019 (Milan, 2-4 May) welcomed 495 participants from 45 countries. In total 80 international faculty took part in the programme with 255 abstracts and 29 clinical cases accepted. There were 50 travel grants provided by ACNAP (€500 each) to cover travel expenses of selected candidates.

The three-day programme was entirely reshaped and composed of 24 sessions. The congress was the perfect place to set up an interactive stage, run mentoring sessions and launch the ACNAP Young Community (YoCo). These brand new initiatives encouraged a strong interaction among delegates and provided active networking opportunities for the next generation of nurses and allied professionals.

As EuroHeartCare 2019 was the first congress of ACNAP since the association was created, there was a strong branding effort to increase awareness and to align congress services with ESC standards, offering delegates 'a new experience'.

The congress programme committee will continue to design a programme representing a multidisciplinary audience and welcoming not only nurses, but also allied cardiovascular professionals. The programme will include special tracks for each subspecialty (for example, heart failure, imaging, intensive care), as well as technology innovation through Digital Health sessions and links to advocacy.

Education and Certification

The ACNAP education committee focused on:

- Producing additional webinars to support its members in their professional development. In total six live sessions were organised, with 940+ participants and 10,000 page views for on-demand webinars;
- Updating the core curriculum for nurses expected by end of 2020; and
- Writing the first chapters of the ESC Textbook for Cardiovascular Nurses, expected by summer 2021.

Another major project was a survey to measure the need for, and definition of, a certification process for nurses. In total, 245 respondents participated in the survey with an outstanding completion rate of 96%. With few exceptions, respondents (92%) expressed support for ACNAP to develop a certification programme, which 39% of those surveyed indicated should be valid for five years. ACNAP will now work on different options to meet the expressed desires and needs of nurses for training.

Research and Publications

- *The European Journal of Cardiovascular Nursing* (EJCN) is dedicated to the advancement of knowledge in the field of cardiovascular nursing, promoting evidence-based clinical practice. In 2019, the journal reached a record number of submissions (330+) and registered over 244K downloads.
- In spring 2019, ACNAP submitted a manuscript on 'Evaluating the extent of patient-centred care in a selection of ESC Guidelines' to the *European Heart Journal - Quality of Care and Clinical Outcomes*.

ACNAP actively contributed to the following subjects in the **ESC Guidelines**:

- Diabetes, prediabetes and cardiovascular disease
- Acute pulmonary embolism
- Supraventricular tachycardia
- Chronic coronary syndromes

Ongoing Projects:

- Barriers and facilitators to use of injectable therapy in patients with cardiovascular disease
- Exercise survey (mapping of educational needs and interests in nurses in cardiology)
- Sleep apnoea in patients with atrial fibrillation (with EHRA)
- Participation in the ESC Prevention of CVD Programme
- Involvement in the ESC Patients' Forum



Association for Acute CardioVascular Care (ACVC) - formerly ACCA

President: Prof. Susanna Price, FESC (2018 - 2020)

Mission: *To improve the quality of care and outcomes of patients with acute cardiovascular diseases.*

Highlights

- New association branding (ACCA becomes ACVC)
- AcuteCVDays campaign - Focused case presentation and free access to all ACVC educational resources
- ACVC School
- New scientific posters
 - Fourth Universal Definition of Myocardial Infarction Essentials for clinical practice
 - Frailty and the management of patients with acute cardiovascular disease
 - Lung ultrasound in cardiology
- New scientific group on CTACC (clinical trial in acute cardiovascular care)

Membership

With over 4,200 members - 55% of them under 40 - the association welcomes all professionals involved in the management of patients with acute cardiovascular diseases. Four levels of membership are available to best answer the needs of each subcommunity. In particular, the Silver Membership offers specific opportunities for networking and career development, including access to ESC educational resources, as well as online access to the *European Heart Journal - Acute Cardiovascular Care*.



Congresses

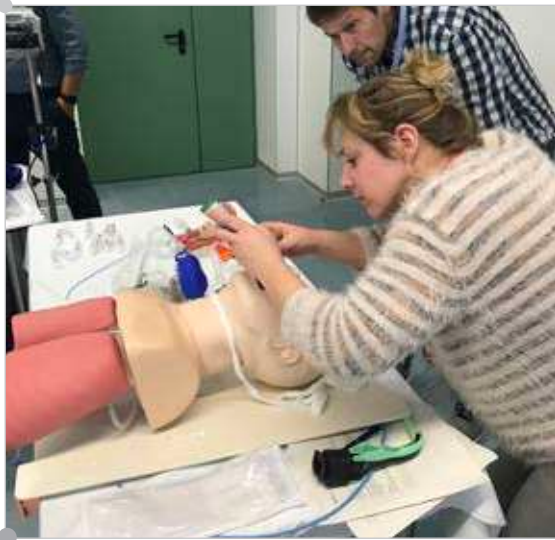
The Acute Cardiovascular Care annual congress scheduled to take place in Athens was cancelled due to the COVID-19 outbreak.



Education and Certification

- Certification exams, originally organised for the Acute Cardiovascular Care 2020 congress, have been cancelled.
- ESC e-learning programme in acute cardiovascular care:
 - More than 40 topics available (100 plus courses)
 - IACC textbook chapters and CME Credits made available
- Webinars:
 - 'How to individualise DAPT duration after an acute coronary syndrome'
 - 'Implementation of the ESC 1-hour algorithm for the evaluation of chest pain'





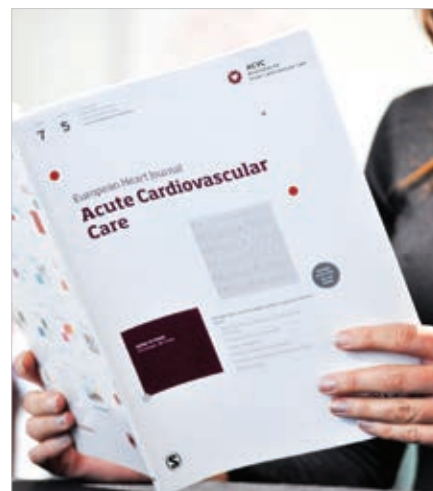
- ACVC School 2019 in Barcelona : one plenary session (out of hospital cardiac arrest management) and five hands-on sessions (echo-guided vascular access, pulmonary echo, ECMO, difficult airway management, clinical case simulation - 48 delegates from 19 countries

Publication : *The European Heart Journal - Acute Cardiovascular Care (EHJ-ACVC)*

- Achieved impact factor 3.734
- New editor-in-chief appointed in March 2020

Position papers published by ACVC

- Atrial fibrillation in acute heart failure: a position statement from the Acute Cardiovascular Care Association and European Heart Rhythm Association of the European Society of Cardiology
- Organisation of intensive cardiac care units in Europe: results of a multinational survey
- Diagnosis and risk stratification of chest pain patients in the emergency department: focus on acute coronary syndromes. A position paper of the Acute Cardiovascular Care Association
- Acute Cardiovascular Care Association position statement for the diagnosis and treatment of patients with acute myocardial infarction complicated by cardiogenic shock: A document of the Acute Cardiovascular Care Association of the European Society of Cardiology



Research

- New scientific group on CTACC (Clinical Trial in Acute Cardiovascular Care) creating ideas for large-scale clinical projects/trials in acute cardiovascular care to close the current gaps in evidence
- Five study groups: biomarkers; acute heart failure; quality of care; prehospital; SCAD

Advocacy

- Collaboration with sister societies to promote a multidisciplinary approach in patient care for emergency physicians (EUSEM), anaesthesiologists (EACTA), intensive care (ERC, EuroELSO, ESICM), and many more specialists involved in saving lives.
- Collaboration with North American healthcare professionals to develop transatlantic educational programmes.
- Collaboration with national acute cardiovascular care working groups: a network of +50 national representatives in the field.

Communication

- Monthly bulletin with Topic of the Month (readership of 48,000 healthcare professionals).
- AcuteCVDays campaign to increase awareness and access to all resources developed by the association. This campaign created an uplift in membership and use of educational and scientific resources.

Strategic Trends

Consolidate the association's position as global leader in the field, which means:

- Offering the leading journal in the field;
- Being the best (not necessarily largest) subspecialty congress in the world; and
- Being the reference body and go-to place for teaching and training in the subspecialty.

Specific lines of development:

- Reduce inequity in acute cardiovascular care;
- Promote a patient-centric approach in acute cardiovascular care;
- Value acute cardiovascular care as a specialty and its educational standards; and
- Promote research and define evidence gaps in the field of acute cardiovascular care.



European Association of Cardiovascular Imaging (EACVI)

President: Prof. Thor Edvardsen, FESC, FEACVI (2018-2020)

Mission: *To promote excellence in clinical diagnosis, research, technical development and education in cardiovascular imaging.*

Highlights

- Launch of fellowship programme: FEACVI
- Publication of online tutorials on FoCUS echo in collaboration with ACVC
- Creation of a taskforce on digital health
- New courses: one on the latest advances on echocardiography, one on cardiac CT

Membership

The EACVI offers two levels of membership, as well as combined membership offers with ESC Professional Membership and other subspecialty membership programmes. The EACVI welcomed almost 10,000 new members in 2019, half of whom were trainees and young professionals. It has also launched a fellowship programme to recognise excellence and professional achievements.

The collaboration with national working groups on imaging is expanding from year to year, with more than 50 active representatives and with increasing participation from HIT (Heart Imagers of Tomorrow) Ambassadors.

Congresses

The EACVI organised three congresses dedicated to all modalities: EuroCMR 2019, ICNC 2019, and EuroEcho 2019.

- EuroCMR 2019 took place in Venice (2-4 May) with more than 1,300 delegates representing 72 countries. Some 71 scientific sessions were held during three days of programmes, with the participation of 186 faculties. In total, 259 abstracts and 166 clinical cases were accepted. The EACVI allocated 10 travel grants (€300 each) to selected applicants.
- The International Conference on Nuclear Cardiology and Cardiac CT (ICNC) is held every two years and is organised by the American Society of Nuclear Cardiology (ASNC), the European Association of Cardiovascular Imaging (EACVI) and the European Association of Nuclear Medicine (EANM). ICNC 2019 took place in Lisbon (12-14 May) with over 700 participants and 53 countries represented. Scientific programmes included 47 sessions with 117 faculty members. There were 194 abstracts and 41 clinical cases accepted. A total of 54 educational grants were allocated by EACVI, ASNC and EANM.



-
- EuroEcho 2019 held in Vienna (4-7 December) welcomed over 4,000 participants from 112 countries. The four-day programme was composed of 274 sessions. In total 412 international faculties took part in the programme with 966 abstracts and 372 clinical cases accepted. EACVI offered 30 educational grants (€300 each) to selected applicants.

During EuroEcho 2017, it was agreed that a unified multi-imaging congress would be held in December 2020 in Barcelona with a special patient-centred focus, creating bridges between professionals and enhancing their competencies. Preparations for this new congress, EACVI 2020, which we anticipate will be held every few years, are ongoing and will incorporate educational tracks on the technical aspect of each modality.

Education

Every year the EACVI develops a range of educational courses and publications to maintain professional excellence among imaging specialists.

Textbooks

The EACVI published a successful textbook on CMR and is working on an update of the echo handbook, as well as a new handbook on transoesophageal echocardiography, and handbooks on cardiac CT and nuclear cardiology.

eLearning

The EACVI has produced, in collaboration with ACVC, online tutorials about the use of FoCUS echo.

These tutorials complement the numerous live and on-demand webinars that are provided throughout the year.

Certification and Accreditation

The number of candidates sitting EACVI exams is increasing year after year. EACVI launched a certification programme on cardiac CT and has extended its programme on nuclear cardiology. In 2018 EACVI laid the groundwork to offer recertification in CMR, and since 2019 has been assessing laboratory excellence through its new laboratory accreditation in CMR.

Research

- EACVI contributed to the EURObservational Research Programme (EORP), participating in the Euro-Endo and EURECA surveys.
- The first paper from Euro-filling (one of the EACVI's multicentre studies) was published in *European Heart Journal - Cardiovascular Imaging*.
- EACVI continued to provide research grants to young doctors who want to expand their research experiences abroad.
- EACVI published several position papers and/or consensus documents in its journal, with an Impact Factor of 5.260.



Advocacy

- EACVI took part in 19 international and European imaging congresses. These events were attended by the leadership, which presented joint sessions. We are also proud to welcome global partners at EACVI congresses.
- EACVI launched a new committee for scientific initiatives which provides a global view of progress across Europe about guideline implementation, management of patients needing imaging, and the use of imaging in daily clinical practice. This is done mainly through the EACVI research network centres short surveys, snapshot registries and patient surveys. The first published surveys are on aortic stenosis, cardiac chambers quantification by TTE, and multimodality training.
- EACVI launched a task force on digital health to establish a picture of the current situation in terms of digital health in imaging, to define/anticipate the potential perspectives regarding digital health in imaging and to evaluate its impact on patients, healthcare professionals, as well as on healthcare systems and governance.
- EACVI is also focused on defining the training requirements for multi-imagers and how multi-imaging is implemented across Europe.

Strategic Trends

- New jobs and technologies were identified during 2019 which should enable EACVI to build its European network through training, education, certification, standards of practice, and recommendations. These include imagers in the cath lab and the use of artificial intelligence.



European Association of Preventive Cardiology (EAPC)

President: Prof. Paul Dendale, FESC (2018–2020)

Mission: *To promote excellence in research, practice, education and policy in cardiovascular health, primary and secondary prevention.*

Highlights

- Healthy-heart.org website for patients launched in nine languages
- ESC CVD Risk Calculation App for healthcare professionals now available
- European Summit on CVD Prevention held in November 2019
- Live EAPC courses on cardiopulmonary exercise testing in cardiology and sports cardiology
- Submissions to the *European Journal of Preventive Cardiology* (EJPC) increased by 43%
- Eight centres accredited for preventive cardiology
- CoroPrevention: EU-funded project on personalised secondary prevention
- Creation of EAPC task forces on aviation and occupational cardiology, and for physiotherapists/sports scientists in rehabilitation

Membership

With four membership levels, combined membership offers and a special offer for young professionals, the EAPC is a vibrant community, attracting over 3,680 healthcare professionals in 2019. The association developed several activities for its young community, including special sessions, networking events and a young ambassadors programme with 31 countries represented in its second year.



Congress

EuroPrevent, the EAPC annual congress, is the leading congress in preventive cardiology.

The 2019 edition was held in Lisbon (11-13 April), with more than 1,200 participants from 73 countries and 186 international faculty members. In total 67 sessions were held and 612 abstracts were presented on the latest advances in the field during the three days of scientific exchanges. During the event it was announced that the congress will be renamed 'ESC Preventive Cardiology'.



Education

The EAPC is leading the ESC's Prevention of CVD Programme in collaboration with ACVC and ACNAP. Resources for patient awareness (healthy-heart.org) and risk management tools for healthcare professionals (ESC CVD Risk Calculation App, educational papers) were developed in 2019, along with reports on dyslipidaemia, hypertension, lipids, obesity and physical activity. A CVD prevention summit and a workshop were organised to discuss national implementation strategies.



The EAPC Diabetes and CVD Educational Programme was rolled out in 2019 with webinars, case-based online quizzes, publication of practical recommendations and an *EJPC* supplement on diabetes and cardiovascular risk, which received over 14,000 views in the first six months. Phase 1 of this programme will conclude in 2020 with a hands-on course.

The association also delivered two educational courses covering cardiopulmonary exercise testing and sports cardiology, as well as webinars on cardiovascular risk scores and guidelines implementation. Practical 'How To' articles were also made available online about the management of dyslipidaemia, heart rate, and exercise in patients after a heart transplant.

Research

The EAPC contributes to CoroPrevention, a programme on personalised secondary prevention for patients with established CHD which kicked off in January 2019 and is supported by the European Union's Horizon 2020 research and innovation programme.

The EAPC journal, the *European Journal of Preventive Cardiology*, achieved a noteworthy Impact Factor rating of 5.640. Submissions are steadily growing, with over 1,650 manuscripts received in 2019 (+44%).

The EAPC published several position papers and consensus documents on translational research for personalised exercise-based cardiovascular rehabilitation, on risk prediction tools in cardiovascular disease prevention, and on secondary prevention through comprehensive rehabilitation.

Advocacy

The EAPC CVD Prevention Summit (November 2019, European Heart House) brought together key opinion leaders and national representatives from 36 countries, together with advocacy experts, to discuss resources and strategies that can be adapted to help translate guidelines into daily practice and support healthcare professionals in the development of an effective clinical and political implementation plan adapted to socio-economic and cultural conditions.



Delegates at the CVD Prevention Summit



The EAPC contributed to the ESC's patient engagement activities and consulted the ESC Patient Forum for the development of healthy-heart.org and patient resources.

The EAPC extended its Country of the Month project to ESC Affiliated Cardiac Societies, with a first report published for Argentina.

A survey of EAPC national CVD prevention coordinators led to the publication of an overview of cardiac rehabilitation in ESC Member Countries.

Expert EAPC spokespersons provided input for the ESC's advocacy initiatives.

Strategic Trends (2018-2020 mandate)

Bringing lifelong prevention to the heart of cardiology:

- With the new primary care and risk factor management section, further to the merger with the ESC Council on Cardiovascular Primary Care, unite preventive practitioners and scientists under a common umbrella: 'preventive cardiology';
- Establish a long-term strategy highlighting key risk factors, (nutrition, hypertension, lipids, diabetes, obesity, smoking, sedentary lifestyle);
- Broaden the scope of the association from CV disease prevention to include CV health promotion, patient empowerment initiatives and the co-creation of tailored preventive strategies in primary care and expand preventive efforts to primary care physicians, nurses and allied professionals
- Create new alliances outside traditional industry channels to include insurance, biotech, technology and 'big data / analytics' companies; and
- Map EAPC competencies, accommodate entry of representatives from new clinical and scientific disciplines, such as nutrition and occupational health, and foster talent development through the EAPC Young Community.



European Association of Percutaneous Cardiovascular Interventions (EAPCI)

President: Prof. Andreas Baumbach, FESC (2018-2020)

Mission: *To reduce the burden of cardiovascular disease through percutaneous cardiovascular interventions.*

Highlights

- First certification exam for nurses and allied professions
- Development of two patient videos and an information leaflet explaining angiography and angioplasty procedures
- Patient focus initiative
- EAPCI Atlas 1st edition manuscript preparation
- 2022 Renewal of Heads of Agreement with PCR/Europa put on hold by ESC

Membership

At the end of 2019, the EAPCI community represented a large network of over 6,000 professionals **from more than 115 countries**.

Congresses

EAPCI Members made a major contribution to ESC Congress 2019 in Paris, as well as to the two official EAPCI annual courses:

- EuroPCR, the world's leading course in interventional medicine, welcomed 11,206 participants from 125 countries.
- At PCR London Valves, the heart team course focusing on transcatheter therapies for valvular heart disease was attended by 3,063 participants.

Education and Certification

EAPCI expanded its certification portfolio with the launch of a certification exam in interventional cardiology for nurses and allied professions which will take place every year at EuroPCR. In addition, the association supported young interventional cardiologists by holding the sixth EAPCI Fellows Course in May 2019 to prepare the next generation of EAPCI leaders.

EAPCI supported 10 one-year education and training grants, thanks to industry's educational grants. As part of the strategy to support female cardiologists, a goal of distributing 50% of the support to female cardiologists was continued this year. EAPCI also made significant contributions to the PCR-EAPCI Textbook in Interventional Cardiology, as well as to their monthly journal EuroIntervention, which has achieved an Impact Factor of 4.018





Research

EAPCI continued to support the acute coronary syndrome registries (NSTEMI, STEMI), the spontaneous coronary artery dissection registry (SCAD) and the valve durability registry through the EURObservational Research Programme (EORP).

In addition, the association initiated data collection for the second edition of the Atlas in Interventional Cardiology, mapping interventional cardiology across Europe. It will complement the ESC Atlas of Cardiology by providing updated, high-quality data on interventional and structural cardiology.

Through its scientific documents and initiatives committee, EAPCI created, supported and endorsed multiple, important position statements. A total of 13 manuscripts were initiated or published in the last 12 months.

Advocacy

Advocacy activities include the Valve for Life initiative launched in Poland, France, Portugal and the United Kingdom since January 2020. Valve for Life, which remains a top priority, will increase awareness of valvular heart disease, allowing patients with valvular heart disease to receive a guidelines-recommended diagnostic and therapeutic workup.

Since May 2018, EAPCI has been working on the Patient Focus Initiative which puts the patient at the centre, making the best invasive cardiovascular treatment available to all patients, ensuring optimal care pathways for improved outcomes. Two videos to support consent for invasive procedures were produced along with information leaflets, both with direct contribution from patients.

In addition, EAPCI strongly stands by the ESC in promoting patient advocacy initiatives aimed at improving patients' access to novel and more effective therapies in all EU regions.

Strategic Trends

- Align the Patient Focus Initiative with the ESC advocacy strategy.
- Develop strategic membership benefits for EAPCI Members.
- Increase dialogue and collaboration with National Cardiac Societies.
- Adapt Valve for Life to country-specific realities and industry funding.
- Renegotiation of Heads of Agreement to maintain EAPCI status.



European Heart Rhythm Association (EHRA)

President: Prof. Hein Heidbuchel, FESC, FEHRA
(September 2018 - August 2020)

Mission: *To improve the quality of life and reduce sudden cardiac death by limiting the impact of heart rhythm disturbances.*

Highlights

- 510 cardiologists attended EHRA training courses
- 2,585 cardiologists participated in EHRA webinars
- 16 new courses uploaded on the ESC e-Learning Platform
- More than 3,900 paying members, including 93 Fellows of EHRA (FEHRA)
- Redesigned patient website afibmatters.org available in nine languages
- Involved in two new successful EU calls

Membership

EHRA Members benefit from international expertise through EHRA's close collaboration with its 63 EP National Cardiac Societies and EP Working Groups, as well as its sister societies, including the Asia Pacific Heart Rhythm Society (APHRS), the Heart Rhythm Society (HRS) in the United States and the Latin America Heart Rhythm Society (LAHRS).

Nine joints sessions were held in ESC countries and three at the international level.

In 2019, more than 670 young electrophysiologists from some 70 countries joined the young EP network. Through the EHRA, electrophysiologists under 40 years of age gain scientific exposure and networking opportunities which support career development and accelerate their early careers.

Congresses

Due to the COVID crisis, EHRA 2020 scheduled for 29-31 March in Vienna, Austria was cancelled.

Education

Every year, the EHRA designs and provides the latest educational training programmes to help maintain professional excellence among cardiologists specialising in pacing and arrhythmias. Due to the COVID-19 pandemic, some activities have been cancelled, like the certification exams scheduled for March 2020.





- Interventional EP and Examination Preparatory Course; Advanced EP with Focus on AF Ablation; Advanced EP with Focus on VT Ablation; Cardiac Pacing, ICD and Cardiac Resynchronisation
- 13 webinars
- 27 centres joined the EHRA Recognised Training Centres
- 14 EHRA Observational Training Programme Grants were awarded to physicians from across Europe
- Diploma of Advanced Studies in Cardiac Arrhythmia Management (DAS-CAM) course with Maastricht University
- STEER-AF, an ESC cluster-randomised education trial for treating and managing AF, for which the EHRA played an active role in the final study design and is now coprincipal investigator. The trial deals with stroke prevention and rhythm control therapy. Next steps include the design and deployment of educational activities and the evaluation of participants to assess program effectiveness.

Research

EHRA published five scientific documents, including the yearly joint document with EHRA sister societies in the 2019 HRS/EHRA/APHS/LAHS expert consensus statement on catheter ablation of ventricular arrhythmias.

Major EHRA documents are included on the 'EHRA Key Messages App'. In 2019 over 13,000 key messages were downloaded by over 1,700 users from 119 countries.

EHRA routinely conducts online surveys involving more than 150 European centres (part of the EHRA Scientific Research Network) and publishes the results in EP Europace. Among their surveys:

- 'Contemporary management of patients with AF and CKD', conducted jointly with the European Renal Association
- 'EHRA educational needs assessment study on lead management', conducted jointly with the European Federation of Internal Medicine and the ESC Working Group on Cardiovascular Surgery
- 'Obstructive sleep apnea management in atrial fibrillation care'

EHRA works with EORP on the ESC AFib registries and contributes to several other important registries and trials.

EHRA is involved in three Horizon 2020 EU-funded projects:

- **European Sudden Cardiac Arrest network** (ESCAPE-NET) dealing with prevention, education, and new effective treatments. EHRA helps disseminate outcomes into European clinical practices for the prevention of sudden cardiac arrest (SCA).
- **PROFID** will develop a clinical decision-support tool (risk score) to predict the sudden cardiac death risk and identify those post-MI patients who will benefit optimally from an implantable cardioverter-defibrillator (ICD).
- The **AFFECT-EU** project involves 14 EU countries. Its major goal is to develop an accurate, risk-based and ready for implementation AF screening algorithm using digital devices, for early detection and reduction of AF-related health inequities, morbidity and mortality in Europe.

Advocacy

- The website for patients, available in nine different languages, has been completely redesigned.
- The scientific network of female EP experts reached 250 members. The network includes 200 women who are interested in actively participating in EHRA congresses and other scientific meetings as chairs or speakers.

Journal: *EP Europace* is the official journal of the EHRA, as well as the ESC Working Group on Cardiac Cellular Electrophysiology, and the ESC Working Group on e-Cardiology. Its Editor-in-Chief is G. Hindricks, FESC (Germany). Impact Factor of 5.047.





Heart Failure Association of the ESC (HFA)

President: Prof. Petar M. Seferovic, FESC (2018–2020)

Mission: *To improve quality of life and longevity through better prevention, diagnosis and treatment of heart failure, including the establishment of networks for its management, education and research.*

Highlights

- HFA Atlas data presented in a session and demo available on the HFA Stand at Heart Failure 2019
- HFA Summit in Croatia hosted the signing of The Declaration of the Croatian Ministry of Health and the Croatian Cardiac Society on Heart Failure
- First HFA Patient Forum held in October
- *ESC Heart Failure* journal awarded first-ever Impact Factor: 3.407
- *European Journal of Heart Failure* Impact Factor rose to 12.129
- 17 position papers and Heart Failure Registry papers published
- 10 webinars produced

Membership

The HFA has more than 5,000 members around the world. Member benefits include access to ESC 365 and discounted HF congress registration.

Congresses

Heart Failure 2019

Heart Failure 2019 took place in Athens (25-28 May) and attracted more than 5,400 participants from 102 countries. HF is the world's leading congress for experts in cardiology to discuss strategies for a multidisciplinary approach to heart failure. Over four days, 204 scientific sessions were held with the participation of 296 international faculties. A total of 1,499 abstracts and 206 clinical cases were presented at the congress.

Preparations for Heart Failure 2020 were halted and the congress was cancelled due to COVID-19.





HFA Winter Meeting

HFA Winter Meeting 2020

The HFA winter meeting on translational heart failure research is held annually in January. It is a longstanding tradition and has emerged as one of the best basic and translational heart failure meetings in Europe. The 2020 meeting was attended by 130 participants. This year, the renowned Dirk Brutsaert Lecture was presented by Prof. Jean-Luc Balligand.

HFA Summit

The annual HFA Summit was held in Dubrovnik, Croatia and attended by the presidents of national societies of heart failure and working groups. Discussions focused on involving heart failure groups in major HFA projects. The HFA was honoured to have the Croatian Minister of Health actively participate in the summit.

Education and Certification

Online Education

- 11 webinars were released from 1 April 2019 to 31 March 2020 with 500 participants on average
- 27 modules are available in the online HFA education programme on the ESC e-Learning Platform: updating of the modules is ongoing

Certification Exam

A new pilot project was put in place for 2020. As well as the annual exam due to take place in Barcelona during Heart Failure Congress 2020, off-site exams were to be organised in Brazil, China, India, Japan, Korea and Mexico.

Unfortunately, due to the spread of COVID-19, all exams were postponed.

Postgraduate Course in Heart Failure (European Heart Academy course with Zurich University)

The postgraduate course in heart failure is a two-year programme with eight modules of 2.5 days each, a total of 160 lecture hours and 140 hours of self-study. Each module is chaired by an internationally recognised expert. In 2020, a new intake started in January.

Quality of Care Centres (QCCs)

The Heart Failure Association Quality of Care Centres Programme: our design and accreditation document was published, and the project presented at the HFA Summit.

Research

The HFA counts 15 committees covering all aspects of heart failure from basic cutting-edge science to patient care management. A total of 12 workshops were organised by HFA Board members to write key position papers.

The HFA has two official journals: the *European Journal of Heart Failure* and the open access *ESC Heart Failure*.

Advocacy

Heartfailurematters.org

The HFA patient website attracts more than 2.5 million visitors a year. Revisions to the content were continuous throughout this period. As soon as the COVID-19 virus was announced a pandemic, the HFA published a new page on the site: 'COVID-19 Virus and Heart Failure: Information and Practical Tips'.

Heart Failure Awareness Days

Heart Failure Awareness Days in May 2019 saw participation by 25 countries. For this edition, new award categories were implemented to recognise the diversity and importance of both large and smaller efforts:

- Best campaign overall: Italy, France, Slovak Republic
- Best innovative initiative: Belarus
- Best media coverage: Cyprus
- Best newcomer: Syria
- Best animated public event: Lithuania, Lebanon
- Best outdoor activities: Greece
- Best open house/clinic: Germany, Russia
- Most patients involved: Hungary, Egypt

HFA Atlas

During the reporting period, the HFA Atlas team continued to work on data from Heart Failure working groups to prepare the first HFA Atlas publication. As with the ESC Atlas of Cardiology, this project identifies gaps and inequalities in patient management across ESC member countries.

The publication, '*The Heart Failure Association Atlas: Rationale, Objectives, and Methods*', was published in March 2020.

HFA Patient Forum

The first Patient Care Forum was organised to discuss issues related to living with heart failure and improving future patient care. Patients and health care professionals (cardiologists, nurses, and general practitioners) participated. Patients were encouraged to share their personal perspective to bring unique insights to the workshop, especially regarding communication with patients and shared decision making.

Councils

Highlights

- **Council on Basic Cardiovascular Science:** organised the renowned basic science summer school in 2019 for early stage researchers
- **Council of Cardio-Oncology:** delivered two highly successful webinars in different areas of cardio-oncology
- **Council on Cardiovascular Genomics:** created the Cardiovascular Genomics Council in September 2019
- **Council for Cardiology Practice:** e-Journal of Cardiology Practice now has 45,000 subscribers
- **Council on Hypertension:** organised a Hypertension Guidelines Implementation Programme including webinars and an educational learning course
- **Council on Stroke:** successful third edition of ESC Heart & Stroke Conference
- **Council on Valvular Heart Disease:** developed a Core Curriculum on Valvular Heart Disease



Council on Basic Cardiovascular Science (CBCS)

Chair: Prof. Johannes Waltenberger, FESC (2018-2020)

Aim: *Enhancing basic research and its importance to clinical cardiology.*

Membership

In early 2020 the council launched its direct individual membership scheme. The council also brings together basic science organisations and ESC Working Groups in Europe.

The Scientists of Tomorrow (SoT) is a group of young, proactive, basic and clinical researchers who work closely with the Council on Basic Cardiovascular Science. This community reached 900 members by March 2020 via the LinkedIn platform, where basic scientists from around the world are able to discuss major issues and discoveries. The SoT contributed to the organisation of the basic science summer school in June 2019.



Congresses

Basic science continued to be delivered at ESC Congress in a dedicated village. In 2019, the council collected 60 proposals for ESC Congress 2020 that it refined for submission as part of its prescope process.

During ESC Congress 2019, the council held its annual Basic Science Poster Reception, an informal event where young basic scientists can meet with poster authors and recipients of council grants and awards, as well as basic science colleagues from around the globe.



A total of 58 ESC Travel Grants were awarded by the Council on Basic Cardiovascular Science for abstract presenters to attend ESC Congress 2019.



Education

In June 2019, the council organised its biennial summer school for early stage researchers. There were 67 participants and 29 faculties from 23 different countries.

Cardiovascular Research (CVR) is the ESC's international journal for basic and translational research, (IF 7.014). The *Cardiovascular Research* editorial team and the Scientists of Tomorrow collaborate to produce CVR Onlife, an online platform linking cardiovascular research with the wider scientific community.

Research

During 2019-2020, the council awarded:

- Five First Contact Initiative Grants to allow young scientists to establish contact with hosting institutions to obtain a fellowship or research affiliate position;
- One Basic Research Fellowship to enable a researcher to spend one year in a European research laboratory; and
- Two Outstanding Achievement Awards to recognise investigators of exceptional merit.

Council of Cardio-Oncology

Chair: Dr. Riccardo Asteggiano, FESC (2018-2020)

Aim: *To reduce the burden of cardiovascular diseases by improving the standard of care in oncology patients and cancer survivors treated with cardiotoxic cancer therapies or radiotherapy.*

Membership

By March 2020, the council had attracted over 1,200 members from multiple disciplines, equating to a 99% increase over the last 12 months.

The council reaches out to members via its quarterly e-newsletter and a series of articles which investigate the cardio-oncology situation in various countries. To further facilitate interaction between different healthcare professionals, the council has a Facebook group which had almost 2,000 members as of March 2020.



Congresses

During 2019-2020, the council continued to be involved in joint sessions at ESC subspecialty congresses: in May at Heart Failure 2019 and in December at EuroEcho 2019. Other sessions were planned, but could not take place due to cancellation of different congresses.

Education

The council developed a series of cardio-oncology audio interviews which can be consulted via its web pages. The council also organised two webinars in 2019-2020 entitled: 'How, when and why advanced cardiac echo is needed in cardio-oncology', and 'Amyloidosis and heart failure'. Both had exceptionally high attendance rates. The council has been involved in developing consensus documents led by ACVC and HFA.

Research

At the end of 2019, the council conducted a survey on 'atrial fibrillation management in cardio-oncology' involving 1,146 respondents worldwide.

The results of a previous survey, carried out in early 2019, have been published in an article entitled, 'Cardiology care delivered to cancer patients: The results of a questionnaire survey by the Council for Cardio Oncology and Council for Cardiology Practice of the European Society of Cardiology', published by the European Heart Journal in January 2020

Advocacy

The council was involved in the EU cancer research mission and Europe's beating cancer plan via contributions to the following articles, 'Making cancer-related complications and comorbidities an EU health priority', and 'Shaping EU's Beating Cancer Plan. Understanding interactions between cancer and cardiovascular disease' - sent to Dods publishing group and to Politico.

Several council nucleus members were involved in the ESC Cardiovascular Round Table on Cardio-Oncology held in January 2020.



Council for Cardiology Practice (CCP)

Chair: Dr. Dimitrios Richter, FESC (2018-2020)

Aim: *To improve the standard of care in the clinical cardiology practice of office-based general cardiologists.*

Membership

The council improves the standard of care in the clinical cardiology practice of office-based general cardiologists. As of March 2020, council members numbered more than 1,500. As 60% of council members are under 40 years of age, the council has continued to develop its social media strategy and has launched a Facebook group which had over 1,600 members as of March 2020.

Congresses

In 2019, the council continued to contribute to the ESC Congress Scientific programme with General Cardiology for Physicians, Technicians and General Practitioners. This programme included a congress condensed general cardiology session.

The council also participated in a joint session at the annual ESC Heart & Stroke Conference in January 2020.

Education

The council has continued to share knowledge and best practices through its *e-Journal of Cardiology Practice* and its e-newsletter. The e-journal keeps subscribing professionals up to date with recent findings and techniques via a weekly email. In 2020, there were over 45,000 subscribers to the e-journal. Its success is attributed to the high quality of submissions covering a wide range of subjects. In 2019-2020, the *e-journal* published a series on hypertension, aortic stenosis, and atrial fibrillation.

In December 2019, the council developed a webinar entitled '*2019 ESC Guidelines on dyslipidaemias: which LDL target for your patients?*'

Research

The Council for Cardiology Practice conducts surveys within the ESC to understand today's management of cardiovascular diseases, as well as knowledge of, and compliance with, ESC Clinical Practice Guidelines by cardiologists throughout Europe. In 2019, the council published results of the following survey: '*Cardiology care delivered to cancer patients*'.



Council on Hypertension

Chair: Prof. Giovanni de Simone, FESC (2018-2020)

Aim: *To encourage research, teaching, communication of knowledge and participation in education, focusing on the cardiovascular aspects of hypertension.*

Membership

In March 2020, membership in the Council on Hypertension rose to over 1,800 healthcare professionals from multiple fields. Almost 40% of the members are under 40 and, consequently, the council has continued to develop its social media strategy via creation of a Facebook group dedicated to hypertension-related discussions and news.

The council encourages its members to engage in council activities, such as the writing of scientific documents and the collection of proposals for the Scientific Programme at ESC Congress through its pre-SCOPE process.

Congresses

The council was heavily involved in developing the hypertension topic programme for ESC Congress 2019.

Council nucleus members participated in joint sessions at several worldwide congresses to help disseminate the 2018 ESC/ESH Guidelines on Arterial Hypertension.

Education

In 2019-2020, the council developed a Hypertension Guidelines Implementation Programme which included a webinar and an educational course. This course included 39 participants from 30 different countries and 12 faculties.

In March 2020, the council held an additional webinar entitled '*Arterial hypertension guidelines implementation. A case-based approach*'.

In 2019, the Council on Hypertension supported young healthcare professionals by providing 10 travel grants for ESC Congress.

Between 2019 and 2020, the council was active in producing position papers and consensus documents providing practical clinical information. A consensus document on the peripartum management of hypertension was published in the *European Heart Journal of Cardiovascular Pharmacotherapy* in January 2020.

The council also prepared the following statement in March 2020: '*Position Statement of the ESC Council on Hypertension on ACE-Inhibitors and Angiotensin Receptor Blockers*'.



Council on Stroke

Chair: Prof. Wolfram Doehner, FESC (2018-2020)

Aim: *To promote multidisciplinary cooperation, education and research on stroke.*

Membership

In March 2020, the council counted more than 2,000 members. It is composed of multidisciplinary physicians and specialists including neurologists, vascular specialists, neurosurgeons, radiologists and interventional cardiologists.

Congresses

In January 2020, the council organised its third international conference: ESC Heart & Stroke. The conference was designed to stimulate a multidisciplinary approach to stroke prevention and treatment and to educate cardiologists. Endorsed by the European Stroke Organisation, a total of 312 participants from 63 countries took part. The Scientific Programme was delivered by a faculty of 30 experts.



In 2019-2020, the council participated in joint sessions with external neurological societies: the European Stroke Organisation and the European Society for Vascular Surgery and also at EuroPCR in May 2019. The council participated in the ESC Congress 2019 Scientific Programme, including a joint session with the European Stroke Organisation.

Education

In 2019, the council developed a webinar entitled, 'Implantable loop recording to prevent stroke'.

The council developed the following position paper: 'Cardiovascular Care of Patients with Stroke and High Risk of Stroke: the Need for Interdisciplinary Action - a Consensus Report from the European Society of Cardiology Cardiovascular Round Table' (Eur J., Prev Cardiol), September 2019.

The council has also contributed to the consensus document entitled: 'Oral Anticoagulation in Patients with Atrial Fibrillation and a CHA2DS2-VASc Score of 1', led by the Working Group on Cardiovascular Pharmacotherapy, published in July 2019.

Research

The Council on Stroke is involved in the educational program / interventional study on stroke prevention and rhythm control (STEEER-AF).

Advocacy

The board of the council includes representatives from other ESC constituent bodies and external societies (stroke, neurological, neurosurgical, vascular surgical, neuroradiological).

The council continues to work on simplifying the neuro-specific training requirements for interventional cardiologists.



Council on Valvular Heart Disease

Chair: Prof. Patrizio Lancellotti, FESC (2019-2022)

Aim: *To be a multidisciplinary forum for the heart valve team, to encourage research, knowledge exchange, teaching and other educational activities relating to valvular heart disease.*

Membership

As of March 2020, the council had 1,750 members and continues to reach out via a quarterly e-newsletter and a members directory.

Through close ties with the EuroValve congress, the council was able to offer reduced registration fees to its members for both the 2019 and 2020 EuroValve congresses.

Congresses

The council was involved with developing sessions on valvular heart disease for the scientific programme of ESC Congress 2019.

Education

In 2019-2020, the council has continued to participate as reviewers and/or writers in developing the ESC Clinical Practice Guidelines.

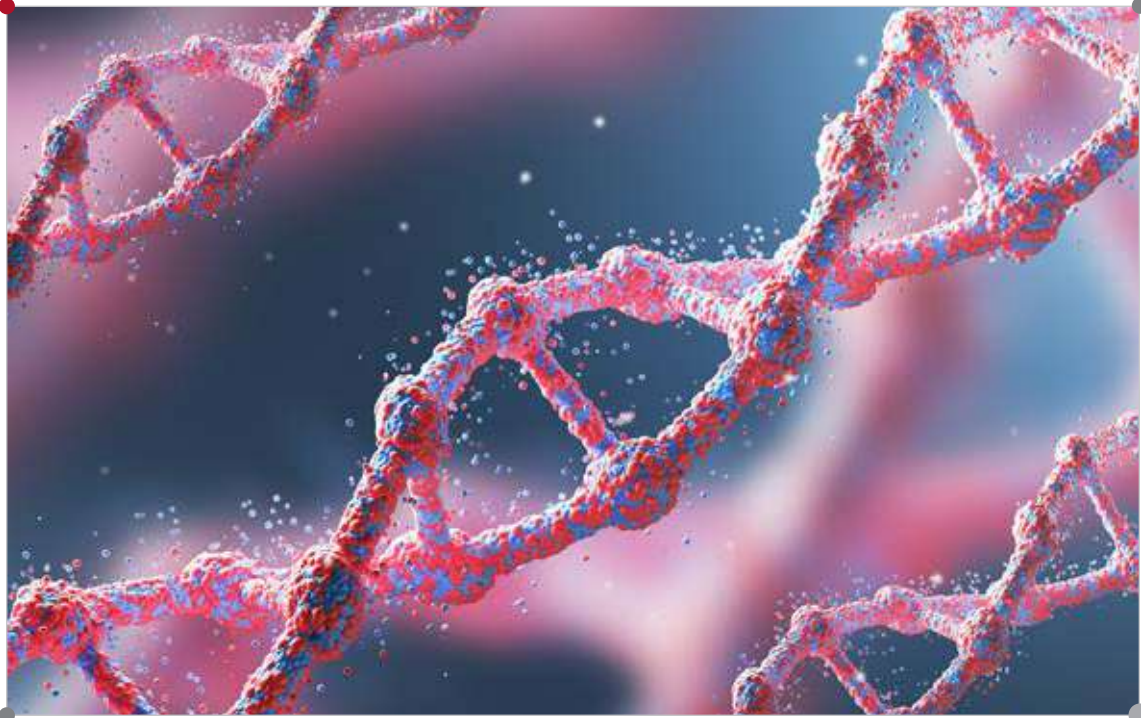
In 2020, the council developed a core syllabus on VHD which is pending publication.

Council nucleus members have been involved in developing consensus documents and position papers which will be published shortly in collaboration with other ESC constituent bodies.

Council on Cardiovascular Genomics

Chair: Prof. Perry Elliott, FESC (2019-2022)

Aim: *To improve cardiovascular health through research, education and training in cardiovascular genomics.*



Membership

The creation of the Council on Cardiovascular Genomics was officially approved at the ESC General Assembly in September 2019. By March 2019, the council had attracted almost 300 members from multiple disciplines.

The council reaches out to members via its quarterly e-newsletter.

Congress

Since its creation in September 2019, the council has actively sought to develop joint sessions at EHRA 2020 and FCVB 2020. Unfortunately, these congresses could not take place as planned, but the council is looking to develop additional joint sessions for 2020-2021.

Advocacy

The council has invited representatives from the Association for European Paediatric Cardiology (AEPC) and the European Society of Human Genetics (ESHG) as non-voting board members.

The council is developing joint initiatives with these external societies for delivery during 2020-2021.



The ESC has 15 Working Groups focused on the remaining subspecialty areas defined by the cardiology core curriculum that are not addressed by the associations or councils. Working groups provide education, share expertise, and facilitate exchange of best practices and ongoing medical developments. As the scientific backbone of the ESC, working groups contribute to the ESC's overall mission by taking an active part in core research and publications, contributing to the ESC Congress, and in organising and promoting their own symposia, courses, and meetings in specific areas of expertise.

Membership

Total membership of the ESC's 15 Working Groups has risen to over 9,274 during the last year.

Congresses

Five of the ESC Working Groups organised their annual meetings, attracting 1,000 international delegates. These meetings have become the European 'best in class' in their respective cardiology subspecialties.

- Annual meeting on adult congenital heart disease: EuroGUCH, April 2019, Zagreb, HR
- Biennial meeting on myocardial function and cellular biology of the heart: May 2019, Naples, IT
- Symposium on imaging of the vulnerable atherosclerotic plaque - biological insights, May 2019, Maastricht, NL
- Annual meeting on myocardial and pericardial diseases: October 2019, A Coruña, SP
- Annual meeting on development, anatomy and pathophysiology: October 2019, Malaga, SP

ESC Working Groups also actively participate in international meetings with joint sessions, promoting best practices in their area of expertise throughout Europe, North and South America and Asia.

Advocacy

ESC Working Groups are engaged in European projects and public awareness initiatives, such as the Women Transforming Leadership Programme, the Cardiovascular Round Table (CRT) Workshops, the European Medicines Agency consultations, the angina awareness programme, the study group for adult congenital heart disease in Central and South-Eastern Europe, and the **European Commission H2020 funded Centre of Excellence (ComBioMed)**.

Research & Publications

The ESC Working Groups are involved in EURObservational Research Programmes, such as the registry of pregnancy and cardiac disease, the cardiomyopathy and myocarditis registry, and the epicardial/hybrid atrial fibrillation ablation registry. They also published more than 10 position papers this year and drove the following ESC publications:

- *European Heart Journal - Cardiovascular Pharmacotherapy*
- *ESC Handbook of Cardiovascular Pharmacotherapy*
- *ESC Textbook of Vascular Biology*
- *ESC Textbook of Cardiovascular Development*
- Clinical Case Gallery in Myocardial and Pericardial Diseases

Education

Education is a major focus of the working groups.

The ESC Working Groups endorse, organise, and contribute to webinars, courses and educational programmes.

- **Master's degree:** 'MSc in clinical trials' in collaboration with the European Heart Academy and Oxford University
- Teaching courses: 'All About Clinical Trials', 'Pharmacotherapy in Older People' and 'Antithrombotic Therapies'
- Webinars series: 'New concepts in cardiac regeneration: basic concepts and translational insights'; 'LEAD', and 'Pulmonary hypertension'
- Webinars: 'Cardiac cellular electrophysiology: back to basics'
- Basic Science Summer School
- Workshops: '**OMICS bootcamp**' during HFA winter meeting in translational science and 'Myocardial regeneration. Reality and therapeutic potential. Realistic roadmap'.

The 15 Working Groups of the ESC are:

- Working Group on Adult Congenital Heart Disease
- Working Group on Aorta and Peripheral Vascular Diseases
- Working Group on Atherosclerosis and Vascular Biology
- Working Group on Cardiac Cellular Electrophysiology
- Working Group on Cardiovascular Pharmacotherapy
- Working Group on Cardiovascular Regenerative and Reparative Medicine
- Working Group on Cardiovascular Surgery
- Working Group on Cellular Biology of the Heart
- Working Group on Coronary Pathophysiology and Microcirculation
- Working Group on Development, Anatomy and Pathology
- Working Group on e-Cardiology
- Working Group on Myocardial and Pericardial Diseases
- Working Group on Myocardial Function
- Working Group on Pulmonary Circulation and Right Ventricular Function
- Working Group on Thrombosis

ESC National Cardiac Societies



The National Cardiac Societies (NCS) are the founders and main constituent bodies of the ESC. Their knowledge and expertise underpin all ESC activities. This unique partnership with so many nations makes diversity one of the ESC's major strengths.

Strategic Collaboration

Spring Summit 2020

This ESC's annual strategic meeting welcomed 155 delegates, including 34 representatives from 26 National Cardiac Societies to collaborate on ways to make our institutions stronger and more relevant to our members. The Spring Summit focused on how to implement learning and change to adapt to new needs.

Individual Leadership Meetings

Discussions on common scientific and economic challenges, as well as regulations impacting relations with industry have been top priorities on the agenda of leadership meetings held with NCS boards. Identifying opportunities to strengthen collaboration around the five strategic pillars of the ESC has also been an area of focus.

ESC Representation at NCS Congresses ESC/ NCS Joint Sessions

The ESC actively contributed to 31 joint sessions at NCS annual events, enhancing the exchange of scientific knowledge and the implementation of ESC Clinical Practice Guidelines.



ESC Stand

NCS Members were welcomed on the ESC Stand at 15 NCS congresses where they learned more about the ESC and how NCS Members could gain access to a wide range of highly relevant scientific and educational resources for better patient care by upgrading their existing ESC Membership to ESC Professional Membership.

Membership

Members of ESC National Cardiac Societies are automatically part of the ESC cardiovascular community, representing almost 75,000 individual members.

By upgrading to ESC Professional Membership, they can access an enhanced range of scientific and educational resources. To support mutual growth, a cardiologist working in an ESC member country wishing to become an ESC Professional Member must be a member of their National Cardiac Society. The ESC is also further engaging with NCS on joint membership development activities.

Congress

At ESC Congress 2019, 37.2% of abstracts were submitted by NCS Members and 32% of delegates were NCS Members. The active contribution of NCS was also reflected in the Scientific Programme, with 61% of chairpersons, 60% of graders and 51% of speakers made up of NCS Members.

Research

ESC Atlas of Cardiology: 46 National Cardiac Societies contributed to the second edition of ESC Atlas of Cardiology. 'ESC Cardiovascular Realities 2019', a unique publication that provides compelling arguments for policy action in support of cardiovascular health, was given to each National Cardiac Society.

A strong collaboration has been developed with National Cardiac Societies on the following registries of the EURObservational Research Programme (EORP):

- **N-STEMI:** recruiting status
- **HF_III:** recruiting status
- **CICD - chronic ischemic cardiac disease long term:** In follow-up
- **AF III:** in follow-up
- **VHDII registry:** published in *Circulation*

Education

National Cardiac Societies play a major role in developing Continuing Medical Education (CME) and knowledge assessment at the ESC. In January 2020, 85 participants from 44 ESC member countries gathered to discuss 'From competence to good clinical care'. The prefinal version of the ESC Core Curriculum for the Cardiologist 2020 update was shared with the national directors of training and education. Discussion of ESC Core Curriculum in national contexts followed presentations and workshops on methodology and content.

National Cardiac Societies are also critical partners in the dissemination of the European Exam in General Cardiology (EEGC).





Advocacy

A 2019-2020 action plan has been implemented on how to integrate advocacy into the National Cardiac Societies strategy. The ERA CVD Strategic Research Agenda was circulated to NCS presidents, and a roadmap of collaboration with the NCS was also presented during the NCS presidents' meeting at ESC Congress 2019.

Guidelines

The NCS are involved in the review process of all ESC Clinical Practice Guidelines.

In 2019, 52 National Cardiac Societies participated in the review process of the ESC Guidelines, to be published in 2020. The NCS also can endorse, translate and distribute ESC Clinical Practice Guidelines and Pocket Guidelines in their respective countries with a six-month exclusivity period from date of publication. In 2019, the Full Text and Pocket Guidelines were translated by many ESC National Cardiac Societies soon after publication. Numerous articles, editorials and summaries directly related to the ESC Guidelines were also published in the official NCS journals. On average, the ESC Guidelines and/or Pocket Guidelines are available in more than 12 languages.

Global Affairs

ESC global scope

The ESC created the Global Affairs Committee in 2010 with the objective of developing ESC relations globally, realising that the ESC could bring a wider approach to its mission. Consequently, the ESC revised its mission statement to reduce the burden of cardiovascular disease without being restricted to Europe.

The 47 Affiliated Cardiac Societies which now belong to the ESC community are a sign of success.

To facilitate opportunities for collaboration and joint developments, and to serve each ESC Affiliated Cardiac Society effectively, Global Affairs regional ambassadors and deputy ambassadors have been nominated **by geographic region** with **key strategic components** allocated to the different groups:

Strategic component	Education/ Guidelines	Events (aims, format, content)	Affiliations/ Membership	Research/ Monitoring	Prevention/ Implementation	Promotion/ Advocacy
Region	Africa	Asia	Australia & NZ	Canada/US	Central/South America	India & Middle East
GA Ambassador (2018-2020)	R. Grobbee (NL) Global Affairs Committee Chair	M. Komajda	J. Bax (NL)	C. Bucciarelli-Ducci (UK)	C. Aguiar (PT)	M. Roffi (CH)
GA Deputy Ambassador (2018-2020)	B. Cupido (SA)	C. Lam (SG)	S. Price (UK)	C. Leclercq (FR) / J. Bax (NL)	V. Delgado (NL)	M. Kayikcioglu (TR)



Presidents and their teams from ESC Affiliated Cardiac Societies at ESC Congress 2019 in Paris

Collaboration with other Learned Societies

Through Affiliated Cardiac Societies and global partners, the ESC can make a difference in the prevention and management of cardiovascular disease on a global scale through:

- Joint sessions at international and national cardiovascular meetings;
- Development of educational programmes; and
- Close collaboration between society leaders to establish common goals and find ways of achieving them.

Cardiologists from our global network are increasingly looking to the ESC for science and education. We are seeing an increase in membership, in ESC congress attendance and in the use of ESC Guidelines in these countries.

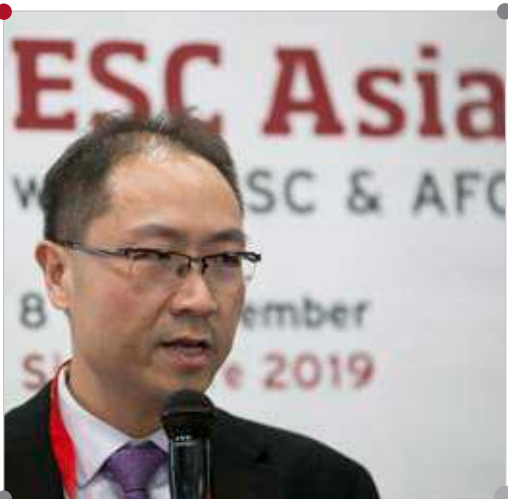
Focus on Asia

The ESC is proud of its longstanding collaboration with a number of cardiology partners across Asia. In the last 12 months, we have been developing our activities with these groups by bringing ESC science and education to the region and by sharing Asian expertise through ESC platforms. ESC Congress consistently receives more abstract submissions from Japan than any other country.



ESC Asia with APSC & AFC

In 2019, the ESC worked closely with the Asian Pacific Society of Cardiology (APSC) and the ASEAN Federation of Cardiology (AFC) on a new joint initiative - ESC Asia with APSC & AFC. This groundbreaking, three-day scientific event was held in Singapore on 8-10 November 2019 and allowed the ESC to further expand the boundaries of cardiovascular medicine, delivering the very latest science to those Asian cardiologists (with a special focus on the young community) unable to attend ESC Congress 2019.



Global Affairs Events from April 2019 to March 2020

During these events, joint sessions were organised and leadership meetings took place to discuss opportunities for further collaboration and joint development. ESC staff were also present on the ESC Stands to promote ESC activities to local audiences.

	Name of Society	Country	Name of Event
May 2019			
Global Partner	InterAmerican Society of Cardiology	Dominican Republic	ESC at IASC 2019
Global Partner (APSC) & Affiliated Cardiac Society (Philippines)	Asia Pacific Society of Cardiology & Philippines Society of Cardiology	Philippines	ESC in Philippines @ APSC 2019
AUGUST 2019			
Affiliated Cardiac Society	Cardiac Society of Australia & New Zealand	Australia	ESC in Australia @ CSANZ 2019
SEPTEMBER 2019			
Global Partner (AFC) & Affiliated Cardiac Society (Indonesia)	Indonesian Heart Association	Indonesia	ESC in Indonesia @ AFCC 2019
Affiliated Cardiac Society	Brazilian Society of Cardiology	Brazil	ESC in Brazil 2019
OCTOBER 2019			
Global Partner	Great Wall International Cardiology Congress	China, People's Republic of	ESC in China @ GWICC 2019 (GA event)
Affiliated Cardiac Society	Argentine Society of Cardiology	Argentina	ESC in Argentina 2019
Affiliated Cardiac Society	Canadian Cardiovascular Society	Canada	ESC in Canada 2019
Affiliated Cardiac Society	South African Heart Association	South Africa	ESC in South Africa 2019
NOVEMBER 2019			
Global Partner	Asia Pacific Society of Cardiology & Asean Federation of Cardiology	Singapore	ESC ASIA together with APSC & AFC
Affiliated Cardiac Society	Mexican Society of Cardiology	Mexico	ESC in Mexico 2019
DECEMBER 2019			
Affiliated Cardiac Society	Cardiovascular Society of India	India	ESC in India 2019

Governance

Ethics Committee

The Ethics Committee has an advisory role for the ESC Management Group and Board.

The Constituent Bodies of the ESC, but also individual members, may raise an issue with the ESC Ethics Committee.

The Committee manages specific issues of professional or scientific misconduct of individual members or, of ESC bodies, if it affects the ESC as an organisation.

The ESC Ethics Committee conducts its activities in accordance with a Charter approved by the Board of the ESC.

It now comprises ESC expert volunteer members, (non-ESC) legal and ethics experts but also representatives of the Association of Nursing and Allied Professionals and ESC Patient Forum.

Declaration of Interest (DOI) Policy

In 2019, the ESC collected 2,197 Declarations of Interest (DOI) from volunteers working on 286 different ESC tasks or committees. This generated 4,047 DOI reviews.

A total of 72 reviewers took part in this oversight to ensure ESC scientific documents are produced in full compliance with the ESC Declaration and Management of Conflict of Interest Policy.

The process identified 149 potential conflicts of interest. Upon further investigation, 145 of those cases were deemed not to be conflicts and the volunteers were confirmed in their ESC position. In four instances, volunteers were asked to step down from their ESC position because their declarations did not comply with ESC DOI policy.

ESC Audit Committee

The Audit Committee provides an oversight of financial, ethical and general governance by reviewing compliance with relevant policies and procedures. Particular attention is given to the approval of the yearly Financial Statements, the assessment of risks, the management of financial assets and the implementation of the Declaration of Interest Policy. The Audit Committee also validates the checks and balances of the general Governance of the ESC.

The Audit Committee consists of five members, three of them external members with experience in business, law, financial affairs, marketing and other professions. This external expertise ensures that best practices are implemented and that no prejudice or bias affects their decisions and deliberations. The other two members are elected and are ESC volunteers, representing National Cardiac Societies, Associations, Councils and Working Groups.

The Audit Committee meets with the ESC Management Group and Board but reports directly to the ESC General Assembly, further strengthening the Audit Committee's independence within the ESC structure.

This year's report by the Audit Committee includes the following actions and recommendations to:

- approve the 2019 - 2020 financial statements
- review the ESC Statutes
- regularly monitor (monthly) the ESC financial situation, with particular attention to the medium-term investments, while complying with the low-risk profile set in the existing Financial Policy



Financial Report

Secretary Treasurer's Report

The activities of the European Society of Cardiology are shared between two legal entities:

- **The European Society of Cardiology**, which is the not-for-profit professional medical association and learned society including the revenue generating activities such as congresses
- The **Maison Européenne du Coeur**, a real estate property company which owns the European Heart House, campus and surrounding land.

The figures reported below are the consolidated financial statements including both entities, prepared in accordance with French GAAP (Generally Accepted Accounting Principles), certified by the Statutory Auditors and reviewed by the Audit Committee. The Secretary Treasurer report includes a three-year period of the Group statement of incomes and expenditures together with the Consolidated Balance Sheet, business reporting analysis and graphs on the evolution of the revenue, profit, headcount and net assets.

ESC GROUP STATEMENT OF INCOMES AND EXPENDITURES

31 March 2020 - Euros

	31/03/2018	31/03/2019	31/03/2020
Turn over	64,986,347	59,378,354	50,025,700
Other operating income	7,003,856	7,969,151	5,851,276
Consumables	-84,523	-295,955	-584,031
Compensations and wages	-14,329,960	-15,433,476	-17,295,507
Others charges	-53,824,679	-51,125,876	-40,307,250
Fiscal Charges	-1,047,935	-1,045,783	-975,911
Depreciation and provisions	-577,693	222,483	-522,291
OPERATING PROFIT	2,125,413	-331,102	-3,808,015
Financial Result	439,887	296,121	-1,305,382
RESULT BEFORE TAX	2,565,300	-34,981	-5,113,397
Extraordinary items	-23,260	-22,659	-18,197
Taxes	-793,458	-21,114	389,458
RESULT AFTER TAX	1,748,582	-78,754	-4,742,136
Notes : Operating income and expenses include sales and purchases of hotel rooms for	K Euros 13,828	K Euros 13,532	K Euros NA

ESC GROUP BALANCE SHEET CONSOLIDATED

31 March 2020 - Euros

ASSETS	31/03/2018	31/03/2019	31/03/2020
Intangible assets	192,626	158,218	142,945
Tangible assets	4,423,899	4,539,117	9,726,093
Financial Assets	52,895	51,799	51,246
TOTAL FIXED ASSETS AND INVESTMENTS	4,669,419	4,749,133	9,920,284
Deffered taxation	155,131	118,936	436,512
Inventories and WIP	3,189,764	4,163,738	1,482,489
Accounts receivable / Suppliers downpayments	13,890,283	9,082,379	10,859,451
Fiscal and social debtors	1,545,300	2,406,715	1,158,425
Other current assets	3,402,333	5,160,937	7,270,444
Cash and Cash equivalents	61,136,049	51,514,321	44,984,271
TOTAL CURRENT ASSETS	83,318,860	72,447,026	66,191,592
TOTAL ASSETS	87,988,279	77,196,159	76,111,877
LIABILITIES	31/03/2018	31/03/2019	31/03/2020
Non refundable funds	4,849,260	4,849,260	4,849,260
Investments reserves	38,049,303	39,797,886	39,719,133
Surplus for the year	1,748,582	-78,754	-4,742,136
TOTAL NET ASSETS	44,647,144	44,568,392	39,826,256
Deffered taxation	47,481	32,400	20,519
Provisions for liabilities and charges	192,637	182,000	1,471,050
Financial long term debt	0	0	3,673,044
Accounts payable	4,586,077	4,975,798	4,402,879
Fiscal and social creditors	5,141,486	4,818,988	4,603,805
Other Creditors	33,373,454	22,618,581	22,114,324
TOTAL LIABILITIES	43,341,134	32,627,767	36,285,621
TOTAL LIABILITIES AND NET ASSETS	87,988,279	77,196,159	76,111,877
WORKING CAPITAL	39,977,726	39,819,259	29,905,972
WORKING CAPITAL REQUIREMENTS	21,158,323	11,695,062	15,078,300
CASH AND CASH EQUIVALENTS	61,136,049	51,514,321	44,984,271

Commentaries on ESC Group Consolidated Accounts:

The accounts reported by the European Society of Cardiology group for the fiscal year 2019-2020 show a result before tax of €-5.1 million, which compares unfavourably to the budget of €-2.7 million.

Net result after tax is €-4.7 million.

Total ESC group revenue was €55.9 million.

The Covid-19 health crisis and the promulgation of the state of health emergency by Law No. 2020-290 of 23 March 2020 had a strong impact on the association's financial statements for the year ended 31 March, 2020.

Main financial impacts of the year ended 31 March 2020 are as follows:

- **Congress organisation activity :**

During the year ended 31 March 2020, two congresses (EHRA 2020 and Acute Cardiovascular Care 2020) were cancelled.

The loss recognised due to these cancellations amounts to € 1,136,292 against an estimated profit of € 1,282,506.

Accrued assets from the cancellation insurance which covers these two congresses is € 2,418,798.

- **Financial investments :**

An unrealised loss of € 2,063,676 is recorded in the financial statements corresponding to the valuation of financial investments as of 31 March 2020.

- **Terminal losses on future congresses :**

Six congresses planned after 31 March 2020 were cancelled and/or postponed following the health crisis. Provision was made for terminal losses of these six cancelled congresses for a total amount of €1,827,771.

The association has implemented a business continuity plan using the following measures:

- implementation of a cost reduction programme in order to secure results and cash flow;
- implementation of partial activity (furlough) for a majority of the staff;

Thanks to these measures and the situation of the association as of 31 March 2020, it considers that there is no mid to long term risk.

Operating result:

As mentioned in the ESC business reporting an €-3,808K operating result has been generated this year and can be explained by referring to the various activities of the ESC:

- **Scientific documents and Educational activities** - The ESC has continued its investments in the development of Clinical Practice Guidelines.
 - o During the year, €982K were spent on related activities and five new Guidelines were approved and released

The Education Department provides services (methodology, process, exams...) focusing on the following areas:

- Standards: ESC Core Curriculum, Live Event Endorsement Policy, ESC Education Conference, Council on Standards sections (Accreditation/ Certification/ Quality of Care)
- Certification: Development and management of all certification programmes at ESC (exams, skills assessment).
- Instructional design: Conception of educational interventions in three phases, blended learning activities, design learning journeys, outcome measurement.
- Online Education (distance learning platform, clinical case gallery, webinars)

The ESC has continued its investment in the development of its online educational platform, its quality improvement programmes as well as its certification activities. In addition, the ESC and subspecialty communities have continued to invest in the development of educational materials.

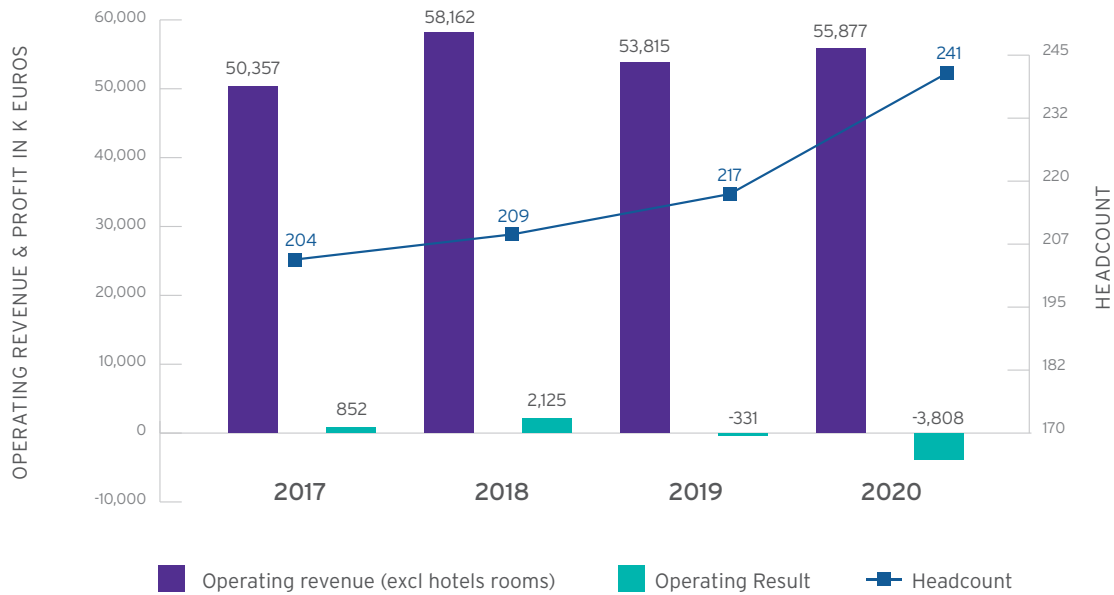
The ESC has continued its collaboration with European Universities and the implementation of post-graduate courses. It is also supporting and developing the European Examination in General Cardiology.

- **EORP (Registries)** - The multi-registries and multi-sponsor programme (EORP: **EURObservational Research Programme**) started in October 2009 and has continued its implementation. Currently 21 registries are on-going or in the publication process and will provide the scientific community significant insights into Clinical Practice Guidelines adherence and where investment in further education is required. The registries are distributed in four categories: Common diseases, Rare diseases, Intervention and Prevention. Up to now 34 publications have been accepted in scientific journals.. Costs have been assessed at €2,408K during the current fiscal year for the EORP main programme and €2,756K for the overall costs of the prevention programme (Euroaspire V) ended this year.
- **Journals and publishing activities** - The ESC Journal Family and publishing activities have generated a total contribution of €2,567K and have increased their international coverage, impact and influence. This year, the *European Heart Journal* (EHJ) remains the highest earner with a contribution of €1,207K. Regarding book publishing, sales of Pocket Guidelines generated revenues of €887K and the ESC launched a new book, the *ESC Handbook on Cardiovascular Pharmacotherapy*.
- **Congresses** - Nine congresses were organised this fiscal year: ESC Congress 2019, Heart Failure 2019, EuroEcho 2019, EuroHeartCare 2019, EuroPrevent 2019, ICNC 2019, EuroCMR 2019, ESC Asia with APC & AFSC 2019 & ESC Digital Summit 2019. Two congresses were cancelled due to COVID-19: Acute Cardiovascular Care 2020 and EHRA 2020.

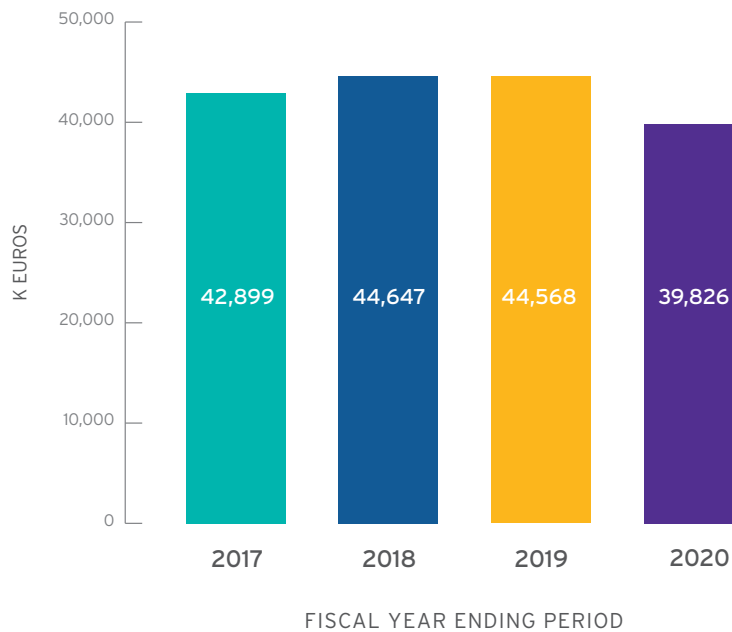
ESC Congress 2019 in Paris was a significant scientific and financial success with 11,318 abstracts submitted (acceptance rate 40%), 33,510 participants and 151 countries represented.

-
- **Membership** - The ESC membership activities have generated a result of €+1,427K with 26,602 paying members. 10% of these members are ESC Fellows, 48% are related to the ESC professional members and 42% to the subspecialties' associations, with a breakdown of €+1,061K for ESC and €366K for the subspecialty associations.
 - **Board and committees** - Board and committee expenses reached €-1,537K
A travel policy for volunteers' travels is implemented together with the cost containment principles in order to adapt the association with its more and more challenging environment.
 - **Associations and Working Groups** - The seven Associations and the 15 Working Groups have continued the development of their activities and projects, participating in the improvement of the overall ESC position. They have generated a €3,192K contribution during the reporting period. The allocation of the support functions (Human Resources, Finance, IT, Direct support...) amounts to €2,727K.
 - **Financial investments** - The Board maintained the ESC financial investment policy that is characterised by a prudent, capital conservation profile. Cash & cash equivalents are mainly invested in corporate bonds, a €-denomination fund with protected contract, short term deposits, and saving accounts in major banks.

Growth in Group Annual Revenue, Result and Headcount



Evolution of the Net Assets



Based on European Medicines Agency guidelines, the overall proportion of industry and non-industry income is detailed below, taking into account the highest contribution from a single company represents 5% of the overall income.

INDUSTRY RELATED INCOME		
Source of funding	Amount of income - Euros	% of overall organisation's income
Congresses	22,904,463	41,0%
Others seminars	5,858,731	10,5%
Studies and registers	5,661,996	10,1%
Publications	1,145,103	2,0%
Miscellaneous: sponsoring for CRT, sub-specialties fellowship training...	450,798	0,8%
SUBTOTAL:	36,021,091	64,5%

NON-INDUSTRY RELATED INCOME		
Source of funding	Amount of income - Euros	% of overall organisation's income
Congresses	12,042,904	21,6%
Journal royalties	3,558,989	6,4%
Membership fees	3,484,934	6,2%
Others seminars	1,066,261	1,9%
Donations	269,318	0,5%
Publications	872,620	1,6%
Others	-1,439,142	-2,6%
SUBTOTAL:	19,855,884	35,5%
TOTAL:	55,876,975	100%

ESC FINANCIAL RESULTS

By division (ESC reporting) - Euros

Description	FY 2019-2020 ACTUALS	FY 2020-2021 BUDGET
INCOME :		
CONGRESSES & EVENTS MANAGEMENT	34,871,366	39,081,162
EDUCATION IN CARDIOLOGY	314,472	1,556,764
REGISTRIES	5,657,756	2,092,873
RESEARCH	262,729	0
EUROHEART	0	0
PRACTICE GUIDELINES	107,500	0
JOURNALS & PUBLICATIONS	4,881,832	4,412,502
SCIENTIFIC DOCUMENT	0	0
ADVOCACY	1,188,558	565,473
MEMBERSHIP	2,729,656	2,691,397
EUROPEAN HEART AGENCY, ACADEMY & INSTITUTE	579,997	1,038,662
BOARD & COMMITTEES	2,897	0
COMMUNICATION & MARKETING	0	0
MGT / FINANCE / HR / OFFICES	-1,498,473	35,000
BUSINESS DEVELOPMENT	0	840,000
PROJECTS & SYSTEMS	0	0
ASSOCIATIONS, WGs & COUNCILS	6,778,686	6,561,470
OPERATING INCOME	55,876,976	58,875,304
EXPENSE :		
CONGRESSES & EVENTS MANAGEMENT	-21,154,171	-24,479,471
EDUCATION IN CARDIOLOGY	-1,125,887	-2,426,350
REGISTRIES	-4,842,610	-2,129,316
RESEARCH	-693,174	-777,849
EUROHEART	0	0
PRACTICE GUIDELINES	-1,089,991	-1,163,175
JOURNALS & PUBLICATIONS	-2,314,754	-2,072,170
SCIENTIFIC DOCUMENT	-27,296	-126,284
ADVOCACY	-1,703,995	-1,535,932
MEMBERSHIP	-1,668,558	-1,649,030
EUROPEAN HEART AGENCY, ACADEMY & INSTITUTE	-1,184,745	-2,252,838
BOARD & COMMITTEES	-1,537,434	-1,767,647
COMMUNICATION & MARKETING	-2,616,855	-2,896,159
MGT / FINANCE / HR / OFFICES	-5,734,898	-4,212,122
BUSINESS DEVELOPMENT	-1,522,167	-1,964,937
PROJECTS & SYSTEMS	-3,827,971	-4,185,873
ASSOCIATIONS, WGs & COUNCILS	-8,640,485	-9,385,592
OPERATING EXPENSE	-59,684,991	-63,024,744

ESC FINANCIAL RESULTS

By division (ESC reporting) - Euros

Description	FY 2019-2020 ACTUALS	FY 2020-2021 BUDGET
RESULT :		
CONGRESSES & EVENTS MANAGEMENT	13,717,195	14,601,692
EDUCATION IN CARDIOLOGY	-811,415	-869,586
REGISTRIES	815,146	-36,443
RESEARCH	-430,445	-777,849
EUROHEART	0	0
PRACTICE GUIDELINES	-982,491	-1,163,175
JOURNALS & PUBLICATIONS	2,567,078	2,340,333
SCIENTIFIC DOCUMENT	-27,296	-126,284
ADVOCACY	-515,437	-970,459
MEMBERSHIP	1,061,098	1,042,367
EUROPEAN HEART AGENCY, ACADEMY & INSTITUTE	-604,748	-1,214,176
BOARD & COMMITTEES	-1,534,537	-1,767,647
COMMUNICATION & MARKETING	-2,616,855	-2,896,159
MGT / FINANCE / HR / OFFICES	-7,233,371	-4,177,122
BUSINESS DEVELOPMENT	-1,522,167	-1,124,937
PROJECTS & SYSTEMS	-3,827,971	-4,185,873
ASSOCIATIONS, WGs & COUNCILS	-1,861,799	-2,824,121
OPERATING RESULT	-3,808,015	-4,149,440
FINANCIAL INCOME	948,191	362,264
FINANCIAL EXPENSES	-2,253,573	-85,991
FINANCIAL RESULT	-1,305,382	276,273
RESULT before Tax	-5,113,396	-3,873,167
EXTRAORDINARY ITEMS	-18,197	
TAXES	389,458	
RESULT after Tax	-4,742,136	-3,873,167

Auditor's Report

Year ended 31 March 2020

Statutory auditor's report on the consolidated financial statements

To the Annual General Meeting of S.E.C.

Opinion

In compliance with the engagement entrusted to us by your Annual General Meeting, we have audited the accompanying financial statements of S.E.C for the year ended 03/31/2020. These financial statements were approved by the Board of Directors, on 07/01/2020, on the basis of the elements available at that date, in the evolving context of the health crisis related to Covid-19.

In our opinion, the financial statements give a true and fair view of the assets and liabilities and of the financial position of the Company as at March 31, 2020 and of the results of its operations for the year then ended in accordance with French accounting principles.

Basis for Opinion

- **Audit Framework**

We conducted our audit in accordance with professional standards applicable in France. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our responsibilities under those standards are further described in the Statutory Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report.

- **Independence**

We conducted our audit engagement in compliance with independence rules applicable to us, for the period from April 1, 2019 to the date of our report and specifically we did not provide any prohibited non-audit services referred to in the French Code of Ethics (Code de déontologie) for statutory auditors.

Justification of Assessments

In accordance with the requirements of Articles L.823-9 and R.823-7 of the French Commercial Code (Code de commerce) relating to the justification of our assessments, we inform you of the assessments that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period.

These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on specific items of the consolidated financial statements.

Accounting principles

Note "Notes on the operating account / Explanations on the accounting of certain revenues" to the consolidated financial statements sets out the accounting standards and methods used with regard to long-term contracts. As part of our assessment of the accounting standards and methods applied by your Association, we appreciated the appropriateness of the accounting methods described above, of the information given in said note, and of their correct implementation.

Accounting estimates

Your Association constitutes provisions to cover contingencies as described in Note "Notes concerning liabilities / Provisions" to the consolidated financial statements. As part of our assessment of these estimates, we appreciated the reasonableness of the assumptions adopted and the resulting evaluations.

Specific verifications

We have also performed, in accordance with professional standards applicable in France, the specific verifications required by laws and regulations.

We have no matters to report as to the fair presentation and the consistency with the financial statements of the information given in the management report of the Board of Directors, as approved on 07/01/2020, and in the other documents with respect to the financial position and the financial statements provided to the general assembly. Regarding the events that occurred and the elements known after the date of approval of the financial statements relating to the effects of the Covid-19 crisis, Management has informed us that such events and elements will be communicated to the annual general meeting called to decide on these financial statements.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the European Union and for such internal control as Management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, Management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless it is expected to liquidate the Company or to cease operations.

The consolidated financial statements were approved by the Board of Directors.

Statutory Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our role is to issue a report on the consolidated financial statements. Our objective is to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with professional standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As specified in Article L.823-10-1 of the French Commercial Code (Code de commerce), our statutory audit does not include assurance on the viability of the Company or the quality of management of the affairs of the Company.

As part of an audit conducted in accordance with professional standards applicable in France, the statutory auditor exercises professional judgment throughout the audit and furthermore:

- Identifies and assesses the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, designs and performs audit procedures responsive to those risks, and obtains audit evidence considered to be sufficient and appropriate to provide a basis for his opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtains an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal control.
- Evaluates the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by Management in the consolidated financial statements.
- Assesses the appropriateness of Management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. This assessment is based on the audit evidence obtained up to the date of his audit report. However, future events or conditions may cause the Company to cease to continue as a going concern. If the statutory auditor concludes that a material uncertainty exists, there is a requirement to draw attention in the audit report to the related disclosures in the consolidated financial statements or, if such disclosures are not provided or inadequate, to modify the opinion expressed therein.
- Evaluates the overall presentation of the consolidated financial statements and assesses whether these statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtains sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. The statutory auditor is responsible for the direction, supervision and performance of the audit of the consolidated financial statements and for the opinion expressed on these consolidated financial statements.

Nice, 07/15/2020

The Statutory Auditor
French original signed by
ERNST & YOUNG Audit
Camille de Guillebon

This is a translation into English of the statutory auditor's report on the consolidated financial statements of the Company issued in French and it is provided solely for the convenience of English-speaking users.

This statutory auditor's report includes information required by French law, such as the verification of the information concerning the Group presented in the management report. This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.





For all other information please contact:
European Society of Cardiology
The European Heart House
Les Templiers, 2035 Route des Colles
CS 80179 Biot, 06903 Sophia Antipolis Cedex,
FRANCE

Tel: +33 (0)4 92 94 76 00
Fax: +33 (0)4 92 94 76 01
Website: www.escardio.org